24th NATIONAL CONGRESS OF SURGERY ABSTRACTS

ORAL PRESENTATIONS

[S-001]

Clinical outcomes after resident-performed single- vs. double-layer bowel anastomosis: A retrospective comparative study

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Objective: Single-layer bowel anastomosis has been associated in the literature with similar safety outcomes and shorter procedure times compared to double-layer anastomosis. However, this success is only poorly documented for resident surgeons. This report aims to investigate whether these results are applicable to resident surgeons and to allow residents to review and comparatively evaluate single-layer and double-layer bowel anastomoses performed manually.

Material and Methods: This study evaluated patients who underwent manual single or double-layer bowel anastomosis at University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital between January 2022 and December 2025. Patients who underwent isoperistaltic and side-to-side anastomoses; those who used 3/0 Prolene sutures for single-layer anastomoses and 3/0 PDS and 3/0 silk sutures for double-layer anastomoses; and those whose stumps were stapled and the stump line embedded with 3/0 silk sutures were included in the study. Patients who underwent protective ileostomy or colostomy were excluded. The primary endpoints of the study were anastomotic leakage, anastomotic stricture, and intraabdominal abscess.

Results: Of the 197 patients included, 62.9% (n=124) underwent elective surgery and 37.1% (n=73) emergency surgery. Anastomosis types were ileocolic in 80.7% (n=159), colocolic in 11.7% (n=23), and enteroenteric in 7.6% (n=15). Overall, 29.4% (n=58) received a single-layer and 70.6% (n=139) a double-layer anastomosis. In elective cases, single-layer was used in 33.1% (n=41) and double-layer in 66.9% (n=83). Elective outcomes were: Single-layer—leak 2.4% (n=1), intra-abdominal abscess 4.9% (n=2), no stricture; double-layer—leak 6.0% (n=5), abscess 1.2% (n=1), stricture 6.0% (n=5), with no significant difference between groups (p>0.05). In emergency cases, single-layer was performed in 23.3% (n=17) and double-layer in 76.7% (n=56). Emergency outcomes were: single-layer—leak 5.9% (n=1) and abscess 5.9% (n=1), no stricture; double-layer—leak 12.5% (n=7) and abscess 3.6% (n=2), again with no significant difference (p>0.05). As elective and emergency subgroups did not differ significantly, a pooled cohort analysis was performed to increase statistical power. In the overall cohort, leak rates were 3.4% (n=2) for single-layer and 8.6% (n=12) for double-layer (p>0.05); intra-abdominal abscess rates were 5.2% (n=3) vs. 2.2% (n=3) (p>0.05). Anastomotic stricture occurred only in the double-layer group (3.6%, n=5; p>0.05).

Conclusion: Single-layer anastomoses performed by residents showed clinical outcomes comparable to double-layer anastomoses. With appropriate case selection and under expert supervision, they can be performed safely.

Keywords: Single-layer anastomosis, double-layer anastomosis, surgical resident

Table 1. Presence of comorbidities according to operation type

Comorbidity	Emergency surgery	Elective surgery
Present	56.2% (n=41)	65.3% (n=81)
Absent	43.8% (n=32)	34.7% (n=43)
There was no statistically significant difference in the presence of comorbidities between the emergency and elective surgery groups (p>0.05).		

Table 2. Presence of comorbidities according to anastomosis technique

Comorbidity	Single-layer anastomosis	Double-layer anastomosis
Present	69% (n=40)	59% (n=82)
Absent	31% (n=31)	41% (n=57)
There was no statistically significant difference in the presence of comorbidities between the single-layer and double-layer anastomosis groups.		

Table 3. Hemoglobin level (g/dL) according to anastomosis layer (single-layer vs. double-layer)

Parameter	Single-layer anastomosis	Double-layer anastomosis
Hemoglobin level (g/dL)	12.18±2.61	11.66±2.23
There was no statistically significant difference in preoperative hemoglobin levels between the two groups (p>0.05)		

Table 4. Albumin (g/dL), CRP (mg/L), and leukocyte count (×10³/mL) according to operation type

Parameter	Emergency surgery	Elective surgery
Albumin (g/dL)	2.94±0.56	3.38±0.68
CRP (mg/L)	41 (18-150)	10 (3-25.5)
Leukocyte count (×10³/mL)	12.11±5.53	8.19±2.27
When emergency and elective cases were compared in terms of laboratory parameters, albumin levels were lower and CRP and leukocyte counts were significantly higher in the emergency group (p<0.001).		

[S-002]

The effect of percutaneous endoscopic gastrostomy on early nutritional parameters: A single-center retrospective study

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Objective: Percutaneous endoscopic gastrostomy (PEG) is a safe and effective method widely used to provide long-term enteral nutrition in patients with insufficient or impossible oral intake. It plays an important role in maintaining nutritional support, particularly in patients with cerebrovascular events, neurodegenerative diseases, and those requiring prolonged intensive care. Data evaluating early changes in nutritional laboratory parameters following PEG placement are limited. Therefore, this study aimed to present our center's experience with PEG and to evaluate the effects of PEG placement on nutritional indicators such as albumin and hemoglobin over a 30-day period.

Material and Methods: This retrospective study was conducted by reviewing the medical records of patients who underwent PEG between 2023 and 2025 at University of Health Sciences Türkiye, Gülhane Training and Research Hospital. A total of 83 patients who underwent PEG during the study period were included. Patients' demographic characteristics, comorbid conditions, indications for PEG placement, 30-day in-hospital mortality, and post-PEG complications were recorded. Laboratory parameters at the time of PEG placement, including albumin, hemoglobin, platelet count, neutrophil count, lymphocyte count, and C-reactive protein, were evaluated in all patients.

Results: A total of 83 patients were analyzed. The 30-day in-hospital mortality rate was 22.9% (n=19). The overall complication rate after PEG was 12%, with most being minor complications (10.8%). The most common complication was peristomal leakage (6%). One patient (1.2%) developed a major complication, gastrointestinal bleeding. To evaluate the effect of PEG on nutritional parameters, only the 64 patients who survived for at least 30 days were analyzed. In these patients, mean serum albumin levels increased significantly from 2.65±0.48 g/dL before PEG to 2.88±0.66 g/dL at day 30 (p=0.004). Mean hemoglobin levels also increased significantly from 9.39±1.45 g/dL to 9.78±1.71 g/dL (p=0.002). Mean platelet counts showed no statistically significant change (p=0.113) (Tables 1, 2).

Conclusion: In our center's PEG experience between 2023 and 2025, the procedure was found to be safe with a low rate of major complications. In patients who survived for 30 days after PEG placement, statistically significant increases in albumin and hemoglobin levels were observed. These findings suggest that PEG not only provides enteral nutrition but may also have positive early effects on nutritional and hematological parameters. In conclusion, when appropriate patient selection is performed, PEG is both a safe intervention and an effective nutritional method that contributes to the improvement of early nutritional parameters. Larger and prospective studies are required to determine the impact of these biochemical improvements on clinical outcomes.

Keywords: Enteral nutrition, percutaneous endoscopic gastrostomy

Table 1. Comparison of laboratory values before PEG placement and at day 30 in patients who survived for 30 days (n=64)

Variables	Median	Mean	Standard deviation	Minimum	Maximum	p-value*
Albumin (g/dL)	2.5	2.65	0.48	1.9	3.9	0.004
Albumin at 30 days (g/dL)	2.95	2.88	0.66	1.5	4.0	
Hemoglobin (g/dL)	9.4	9.39	1.45	6.9	13.2	0.002
Hemoglobin at 30 days (g/dL)	9.5	9.78	1.71	6.9	14.0	
Platelet count ($\times 10^9$/L)	264.5	288.14	141.64	12	880	0.113
Platelet count at 30 days ($\times 10^9$/L)	290	296.33	98.97	93	520	

Table 2. Demographic and clinical characteristics and pre-PEG laboratory values of all patients (n=83)	
Parameters	**Values**
Gender	
Female	34 (41%)
Male	49 (59%)
Age (years)	76 (18-97)
Body mass index (kg/m²)	24.4 (17.6-44.4)
Diabetes mellitus	
Present	19 (22.9%)
Absent	64 (77.1%)
Indications for PEG placement	
Cerebrovascular event	31 (37.3%)
Prolonged intensive care stay	24 (28.9%)
Dementia/Alzheimer's disease	12 (14.5%)
Multiple sclerosis	6 (7.2%)
Head and neck trauma	4 (4.8%)
Esophageal cancer	3 (3.6%)
Head and neck cancer	2 (2.4%)
Motor neuron disease	1 (1.2%)
30-day in-hospital mortality	
Survived	64 (77.1%)
Died	19 (22.9%)
Post-PEG complications	
None	73 (88%)
Any complication	10 (12%)
Minor complications	9 (10.8%)
Peristomal leakage	5 (6%)
Peristomal infection	2 (2.4%)
Accidental tube dislodgement	2 (2.4%)
Major complications	1 (1.2%)
Gastrointestinal bleeding	1 (1.2%)
Albumin (g/dL)	2.5 (1.9-3.9)
Hemoglobin (g/dL)	9.1 (6.8-15.1)
Platelet count (×10⁹/L)	239 (12-880)
Neutrophil count (×10⁹/L)	78.8 (19.1-95.6)
Lymphocyte count (×10⁹/L)	13.1 (1.9-46.5)
C-reactive protein (mg/L)	79 (11-332)

[S-003]

Preoperative indications, postoperative transition to enteral autonomy, and management of parenteral nutrition dependence in patients undergoing surgical feeding tube placement: A single-center experience

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Objective: Surgical feeding jejunostomy is a widely used method of nutritional support in patients with insufficient oral or enteral intake. Postoperative transition to enteral feeding, achievement of enteral autonomy, and management of parenteral nutrition requirements are critical determinants of clinical outcomes. This study aimed to evaluate preoperative characteristics, the postoperative transition to enteral autonomy, and the management of parenteral nutrition dependence in patients who underwent surgical feeding jejunostomy.

Material and Methods: Patients aged ≥18 years who underwent surgical feeding jejunostomy at University of Health Sciences Türkiye, İzmir City Hospital between 1, January, 2024, and 31, December,2025,were retrospectively analyzed. Patients were divided into two groups according to enteral autonomy status: Achieved (n=34) and not achieved (n=8). Demographic data, preoperative clinical and nutritional characteristics, surgical and postoperative processes, and discharge and mortality outcomes were analyzed. Categorical variables were presented as number (%) and compared using appropriate statistical tests. A p-value <0.05 was considered statistically significant.

Results: Forty-two patients were included. Postoperative enteral autonomy was achieved in 34 patients (81%) and not achieved in 8 (19%). Patients without enteral autonomy were older (median 69.5 vs. 62.5 years) and all were male (100% vs. 58.8%; p<0.05). Overall, 88.1% of patients were classified as ASA III-IV, and 92.9% had at least one comorbidity. No significant differences were observed between groups regarding ASA score, comorbidities, admission type,or ward of hospitalization (p>0.05). Bedridden status was more common in patients without enteral autonomy (p<0.05). Preoperative clinical indications were similar between groups (p>0.05). The median preoperative albumin level was 2.95 (2-4) g/dL in the entire cohort and 3.0 (2.3-4) g/dL versus 2.75 (2-3.6) g/dL in patients with and without enteral autonomy, respectively, with no significant difference (p>0.05). Preoperative TPN use rates were also similar (p>0.05), and no major TPN-related complications were observed. All patients underwent open Witzel jejunostomy. In 32 patients (76.2%), the procedure was performed during primary surgery, while in 10 patients (23.8%) it was performed as an additional procedure. Early jejunostomy-related complications occurred in four patients, all due to leakage,and were more frequent in patients without enteral autonomy (37.5% vs. 2.9%; p<0.05). Three patients required reoperation. Failure to initiate postoperative enteral feeding was significantly higher in patients without enteral autonomy (p<0.001). Postoperative TPN was required in all patients without enteral autonomy (100% vs. 55.9%; p<0.05). All patients without enteral autonomy died, whereas most patients with eneral autonomy were discharged (p<0.001).

Conclusion: Failure to achieve enteral autonomy is associated with advanced age, male sex, and low functional status. Although preoperative clinical and nutritional characteristics were largely similar, inability to initiate enteral feeding, postoperative TPN dependence, early jejunostomy-related complications, and adverse clinical outcomes were prominent. TPN was administered safely without major complications. Early initiation of enteral feeding was not associated with increased complications or mortality, and delayed enteral feeding could not be identified as an independent predictor of mortality.

Keywords: Surgical feeding jejunostomy, enteral autonomy, jejunostomy-related complications, Witzel jejunostomy, parenteral nutrition dependence

Table 1. Demographic and preoperative clinical characteristics

Değişken	Toplam (n=42)	Otonomi VAR (n=34)	Otonomi YOK (n=8)	p değeri
Yaş (yıl)	64,14 (24–88)	62.64 (24–85)	70,5 (54–88)	0.18
Cinsiyet				0.04
Erkek	28 (66.7%)	20 (58.8%)	8 (100.0%)	
Kadın	14 (33.3%)	14 (41.2%)	0 (0.0%)	
ASA Skoru				0.11
II	5 (11.9%)	5 (14.7%)	0 (0.0%)	
III	28 (66.7%)	20 (58.8%)	8 (100.0%)	
IV	9 (21.4%)	9 (26.5%)	0 (0.0%)	
Başvuru				0.29
Elektif	36 (85.7%)	30 (88.2%)	6 (75.0%)	
Acil	6 (14.3%)	4 (11.8%)	2 (25.0%)	
Jejunostomi kararı alındığında yatış yeri				0.99
Servis	37 (88.1%)	30 (88.2%)	7 (87.5%)	
YBÜ	5 (11.9%)	4 (11.8%)	1 (12.5%)	
Mobilizasyon				0.48
Bağımsız	20 (47.6%)	17 (50.0%)	3 (37.5%)	
Yardımla	7 (16.7%)	6 (17.6%)	1 (12.5%)	
Yatağa bağımlı	15 (35.7%)	11 (32.4%)	4 (50.0%)	
Bilinç durumu				0.61
Açık	35 (83.3%)	29 (85.3%)	6 (75.0%)	
Konfüze	4 (9.5%)	3 (8.8%)	1 (12.5%)	
Entübe/sedatize	3 (7.1%)	2 (5.9%)	1 (12.5%)	
Preop Albümin (g/dL)	2.95 (2–4)	3 (2.3–4)	2.75 (2–3.6)	0.21
Preop klinik endikasyon				0.87
Onkolojik GİS	25 (59.5%)	20 (58.8%)	5 (62.5%)	
Nörolojik yutma disfonksiyonu	4 (9.5%)	4 (11.8%)	0 (0.0%)	
Diğer	13 (31.0%)	10 (29.4%)	3 (37.5%)	
Komorbidite 1'den fazla	38 (%90,5)			0.66
Komorbidite: DM	9 (21.4%)	7 (20.6%)	2 (25.0%)	
Komorbidite: HT	17 (40.5%)	16 (47.1%)	1 (12.5%)	
Komorbidite: KAH	8 (19.0%)	6 (17.6%)	2 (25.0%)	
Komorbidite: Kalp yetmezliği	2 (4.8%)	2 (5.9%)	0 (0.0%)	
Komorbidite: KOAH	2 (4.8%)	2 (5.9%)	0 (0.0%)	
Komorbidite: KBY	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Komorbidite: Kronik karaciğer hastalığı	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Komorbidite: Nörolojik hastalık	2 (4.8%)	2 (5.9%)	0 (0.0%)	
Komorbidite: Aktif malignite	33 (78.6%)	26 (76.5%)	7 (87.5%)	
Komorbidite: Diğer	11 (26.2%)	10 (29.4%)	1 (12.5%)	
Komorbidite yok	4 (9.5%)	3 (8.8%)	1 (12.5%)	

Table 2. Preoperative nutritional and TPN characteristics

Değişken	Toplam (n=42)	Otonomi VAR (n=34)	Otonomi YOK (n=8)	p değeri
Alım yolu				0.235
Oral	9 (21.4%)	8 (23.5%)	1 (12.5%)	
Enteral	3 (7.1%)	3 (8.8%)	0 (0.0%)	
TPN	13 (31.0%)	11 (32.4%)	2 (25.0%)	
Kombine	17 (40.5%)	12 (35.3%)	5 (62.5%)	
Jejunostomi öncesi SON beslenme				0.688
TPN	26 (61.9%)	20 (58.8%)	6 (75.0%)	
NG	3 (7.1%)	3 (8.8%)	0 (0.0%)	
Oral	12 (28.6%)	11 (32.4%)	1 (12.5%)	
Oral düzey (R1/R2/R3)				0.195
R1	12 (28.6%)	8 (23.5%)	4 (50.0%)	
R2	11 (26.2%)	9 (26.5%)	2 (25.0%)	
R3	6 (14.3%)	6 (17.6%)	0 (0.0%)	
oral kapalı	13 (31.0%)	11 (32.4%)	2 (25.0%)	
Preop TPN kullanımı				0.398
Hayır	13 (31.0%)	12 (35.3%)	1 (12.5%)	
Evet	29 (69.0%)	22 (64.7%)	7 (87.5%)	
Preop TPN süresi				0.686
≤7 gün	19 (45.2%)	15 (44.1%)	4 (50.0%)	
8–14 gün	8 (19.0%)	7 (20.6%)	1 (12.5%)	
>14 gün	13 (31.0%)	10 (29.4%)	3 (37.5%)	
Bilinmiyor	2 (4.8%)	2 (5.9%)	0 (0.0%)	
Preop TPN komplikasyonu	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: CLABSI	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Kateter trombozu	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Hiperglisemi	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Elektrolit bozukluğu	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Refeeding sendromu	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Hipertrigliseridemi	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Kolestaz	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: LFT anlamlı yükselme	0 (0.0%)	0 (0.0%)	0 (0.0%)	
TPN komplikasyonu: Diğer	0 (0.0%)	0 (0.0%)	0 (0.0%)	

Table 3. Surgical technique and early complications

Değişken	Toplam (n=42)	Otonomi VAR (n=34)	Otonomi YOK (n=8)	p değeri
Cerrahi yaklaşım(Açık,Laparaskopik,Robotik)				
Açık	42 (100.0%)	34 (100.0%)	8 (100.0%)	
Jejunostomi tekniği(Stamm,Janeway,Witzel)				
Witzel	42 (100.0%)	34 (100.0%)	8 (100.0%)	
Eşlik eden cerrahi var mı				0.075
Yok -Primer beslenme tüpü cerrahisi	32 (76.2%)	28 (82.4%)	4 (50.0%)	
Var -Eşlik eden cerrahi bölgesi	10 (23.8%)	6 (17.6%)	4 (50.0%)	
Özofagus	3 (7.1%)	1 (2.9%)	2 (25.0%)	
Gastroözefegaeal	1 (2.4%)	1 (2.9%)	0 (0.0%)	
Mide	3 (7.1%)	2 (5.9%)	1 (12.5%)	
Kolon/rektum	2 (4.8%)	2 (5.9%)	0 (0.0%)	
Hepatobilier	1 (2.4%)	0 (0.0%)	1 (12.5%)	
Erken jejunostomi komplikasyonu (≤30 gün)				0.018
Var -Erken komplikasyon nedeni:	4 (9.5%)	1 (2.9%)	3 (37.5%)	
Erken komplikasyon: Enfeksiyon	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Erken komplikasyon: Sızıntı	4 (9.5%)	1 (2.9%)	3 (37.5%)	
Erken komplikasyon: Tüp dislokasyonu	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Erken komplikasyon: Tüp tıkanıklığı	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Erken komplikasyon: Barsak perforasyonu	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Erken komplikasyon: Diğer	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Komplikasyon nedeniyle reoperasyon				0.088
Evet	3 (7.1%)	1 (2.9%)	2 (25.0%)	
Hayır	39 (92.9%)	33 (97.1%)	6 (75.0%)	

Table 4. Postoperative nutritional course and enteral autonomy

Değişken	Toplam (n=42)	Otonomi VAR (n=34)	Otonomi YOK (n=8)	p değeri
Jejunostomi enteral beslenmeye başlama günü (Postop Gün)				<0.001
0–1	12 (28.6%)	11 (32.4%)	1 (12.5%)	
2–3	17 (40.5%)	16 (47.1%)	1 (12.5%)	
≥4	7 (16.7%)	7 (20.6%)	0 (0.0%)	
Hiç başlanamadı	5 (11.9%)	0 (0.0%)	5 (62.5%)	
Takip Dışı	1 (2.4%)	0 (0.0%)	1 (12.5%)	
Enteral otonomi sağlandı mı				<0.001
Hayır	8 (19.0%)	0 (0.0%)	8 (100.0%)	
Evet	34 (81.0%)	34 (100.0%)	0 (0.0%)	
Enteral otonomi günü (Postop Gün)				
1–3	13 (31.0%)	13 (38.2%)	0 (0.0%)	
4–7	13 (31.0%)	13 (38.2%)	0 (0.0%)	
8–14	5 (11.9%)	5 (14.7%)	0 (0.0%)	
>14	3 (7.1%)	3 (8.8%)	0 (0.0%)	
Sağlanmadı	8 (19.0%)	0 (0.0%)	8 (100.0%)	
Postop TPN kullanımı				0.035
Hayır	15 (35.7%)	15 (44.1%)	0 (0.0%)	
Evet	27 (64.3%)	19 (55.9%)	8 (100.0%)	
Toplam postop TPN süresi				0.21
0–1	9 (21.4%)	9 (26.5%)	0 (0.0%)	
2–4	15 (35.7%)	12 (35.3%)	3 (37.5%)	
5–7	3 (7.1%)	0 (0.0%)	3 (37.5%)	
8–14	3 (7.1%)	1 (2.9%)	2 (25.0%)	
>14	2 (4.8%)	2 (5.9%)	0 (0.0%)	
Takip Dışı	10 (23.8%)	10 (29.4%)	0 (0.0%)	
Uzamış TPN (>14 gün) ana neden				0.99
Enteral otonomi sağlanamadı	1 (2.4%)	1 (2.9%)	0 (0.0%)	
Diğer GİS komplikasyonu	3 (7.1%)	2 (5.9%)	1 (12.5%)	
Sepsis/hemodinamik instabilite	5 (11.9%)	1 (2.9%)	4 (50.0%)	
Takip Dışı	33 (78.6%)	30 (88.2%)	3 (37.5%)	

Table 5. Discharge and mortality outcomes

Değişken	Toplam (n=42)	Otonomi VAR (n=34)	Otonomi YOK (n=8)	p değeri
Taburculuk durumu				<0.001
Taburcu	30 (71.4%)	30 (88.2%)	0 (0.0%)	
Exitus	12 (28.6%)	4 (11.8%)	8 (100.0%)	
Taburculukta beslenme yolu				<0.001
Enteral (jejunostomi)	30 (71.4%)	30 (88.2%)	0 (0.0%)	
Takip Dışı	12 (28.6%)	4 (11.8%)	8 (100.0%)	
Taburculukta enteral otonomi mevcut mu				<0.001
Evet	27 (64.3%)	27 (79.4%)	0 (0.0%)	
Hayır	3 (7.1%)	3 (8.8%)	0 (0.0%)	
Takip Dışı	12 (28.6%)	4 (11.8%)	8 (100.0%)	
Taburculukta jejunostomi durumu				<0.001
Aktif (HEN)	30 (71.4%)	30 (88.2%)	0 (0.0%)	
Takip Dışı	12 (28.6%)	4 (11.8%)	8 (100.0%)	

[S-004]

Initial clinical outcomes of the nutrition unit established within the first ERAS outpatient clinic in Türkiye: A single-center experience

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Objective: Malnutrition in surgical patients is closely associated with postoperative complications, infection rates, prolonged hospital stay, and increased costs. One of the key components of enhanced recovery after surgery (ERAS) protocols is the optimization of preoperative and postoperative nutrition. This study aimed to evaluate the initial five-month clinical outcomes of the nutrition unit established within the multidisciplinary ERAS outpatient clinic—including preoperative anemia clinic, smoking cessation clinic, physiotherapy unit, and nutrition unit—set up for the first time in Türkiye at University of Health Sciences Türkiye, İstanbul Haseki Training and Research Hospital.

Material and Methods: Patients who were referred for nutrition consultation from our general surgery clinic between October 2025 and February 2026 were retrospectively analyzed. Duplicate records were counted as a single patient. The timing of consultation was classified as preoperative or postoperative based on text content analysis. Nutritional risk was assessed using the NRS-2002 score, and biochemical response was evaluated via serum albumin levels. Reconsultation was analyzed as an indicator of failure to achieve nutritional goals.

Results: A total of 90 patients were included in the study (mean age 62.7±15.2 years). Among them, 35.6% had an oncological diagnosis. Postoperative consultations accounted for 93.3% of all consultations. Among the 59 patients with available NRS data, 72.9% were found to be at high nutritional risk (NRS ≥3). Repeat evaluations were performed in 27.8% of patients. Of the 7 patients who underwent repeat consultation and had biochemical follow-up, 5 patients (71.4%) showed an increase in albumin levels, with a mean increase of +9.0 g/L. These findings suggest that targeted nutritional interventions can lead to significant improvements in biochemical parameters. The table presents the demographic and clinical characteristics of 90 surgical patients included in the study, the distribution of preoperative and postoperative nutrition consultations, oncological status, NRS-2002 nutritional risk scores, and changes in albumin levels during repeat consultations. Parameters such as the proportion of patients at high nutritional risk (NRS ≥3), albumin follow-up during repeats, and mean albumin increase illustrate the effectiveness of targeted nutritional interventions.

Conclusion: The nutrition unit within the ERAS outpatient clinic, established for the first time in Türkiye, revealed a high prevalence of malnutrition risk in surgical patients and demonstrated biochemical improvement in those who were followed. The fact that consultations were predominantly conducted in the postoperative period indicates the need to increase preoperative nutrition optimization. Due to the limited number of patients and the absence of mortality during the analysis period, data on mortality and major complications were not evaluated in this study. These parameters are planned to be analyzed in a larger patient series in the future and presented at the next national congress.

Keywords: Malnutrition, ERAS, nutrition

Table 1. Demographic and clinical characteristics and nutritional outcomes of surgical patients receiving nutrition consultation

Parametre	Sonuç
Toplam hasta	90
Yaş (ortalama ± SS)	62.7 ± 15.2 yıl
Tekrar konsültasyon	25 hasta (%27.8)
Preop hasta	6 (%6.7)
Postop hasta	84 (%93.3)
Onkolojik hasta	32 (%35.6)
Benign / Diğer hasta	58 (%64.4)
NRS verisi olan hasta	59
NRS ≥3 (yüksek risk)	43/59 (%72.9)
Tekrarlarda albumin takibi olan	7 hasta
Albumin artışı saptanan	5/7 (%71.4)
Tekrarlarda ort. albumin değişimi	+9.0 g/L
Preop–Postop karşılaştırılabilir hasta	3

[S-006]

The relationship between preoperative nutritional parameters and anastomotic leakage in bowel resections: A single-center experience

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Objective: Anastomotic leakage is a major complication following colorectal surgery and is associated with increased morbidity and mortality. Anastomotic healing depends on adequate tissue perfusion, inflammatory response, and immune function. Preoperative malnutrition may impair collagen synthesis and weaken immune defense, thereby compromising anastomotic integrity. The prognostic nutritional index (PNI) and the controlling nutritional status (CONUT) score, calculated using serum albumin, total lymphocyte count, and total cholesterol levels, are commonly used to objectively assess nutritional status in surgical patients. However, evidence regarding their association with anastomotic leakage is limited. This study aimed to evaluate the relationship between preoperative nutritional parameters and anastomotic leakage in patients undergoing bowel resection at our center.

Material and Methods: Patients who underwent anterior or low anterior resection were retrospectively analyzed. Preoperative serum albumin, total lymphocyte count, total cholesterol, and pre-albumin levels were recorded. PNI was calculated using the established formula, and CONUT scores were determined based on albumin, lymphocyte, and cholesterol values. Anastomotic leakage was diagnosed according to clinical, laboratory, and radiological findings. Patients were divided into leakage and non-leakage groups. Continuous variables were expressed as mean ± standard deviation and compared using the independent samples t-test. A p-value <0.05 was considered statistically significant. Only patients with complete data were included in the CONUT analysis.

Results: Continuous variables were expressed as mean ± standard deviation. Comparisons between patients with and without anastomotic leakage were performed using the independent samples t-test. Due to incomplete data in some patients, the CONUT analysis included only those with complete relevant parameters. A p-value <0.05 was considered statistically significant for all analyses.The mean serum albumin level was 3.78 g/dL in patients who developed anastomotic leakage and 3.91 g/dL in those who did not, with no statistically significant difference between the groups. The mean total lymphocyte count was 1.48×10^9/L in the leakage group and 1.64×10^9/L in the non-leakage group, also showing no significant difference. The mean PNI scores were 45.18 and 47.23 in the leakage and non-leakage groups, respectively, without reaching statistical significance. The mean CONUT score was 7 in patients with anastomotic leakage and 1.8 in those without leakage.

Conclusion: Serum albumin, total lymphocyte count, and PNI were not significantly associated with anastomotic leakage. However, patients who developed leakage tended to have poorer preoperative nutritional status. Higher CONUT scores may represent a potential risk indicator. Larger prospective studies are needed to confirm these findings.

Keywords: CONUT scoring system, PNI scoring system, surgical nutrition

[S-007]

Preference dynamics in medical specialty quotas: The role of time, institution, and geography in TUS placements

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Objective: This study aims to identify structural trends in specialty training planning by examining the occupancy rates and score dynamics of the Turkish Medical Specialty Exam (TUS) quotas in terms of years, exam periods, hospital types, geographic regions, and city characteristics.

Material and Methods: The study analyzed a total of 2.617 placement records obtained from the ÖSYM TUS placement guides published between 2019 and 2025. The TUS year, exam period (spring/fall), additional placement status, hospital type, geographic region, metropolitan status, number of vacancies opened and remaining vacant, and vacancy rates were evaluated. Minimum and maximum scores were analyzed by year using descriptive statistics. The analyses were performed using descriptive statistics only.

Results: During the period under review, overall bed occupancy rates exhibited a downward trend, particularly after 2021. Capacity utilization varied significantly by hospital type; city hospitals maintained the highest occupancy levels, whereas university hospitals faced substantial underutilization. Geographically, while the Marmara, Mediterranean, and Central Anatolia Regions remained relatively advantaged, the Eastern and Southeastern Anatolia regions, along with Cyprus, reported high rates of entirely vacant centers. Furthermore, occupancy was higher in metropolitan areas compared to non-metropolitan provinces. Notably, additional placement quotas remained almost entirely unfilled. Classification of center occupancy revealed that nearly half of the institutions were completely vacant, a trend most evident in university hospitals. Scale analysis further indicated that centers with smaller quotas (1-2 persons) had lower occupancy compared to larger-scale centers, especially within city hospitals. Finally, despite fluctuating base and ceiling scores, instances where ceiling scores remained high while occupancy declined suggest a marked concentration of demand in limited centers.

Conclusion: This study demonstrates that TUS quotas are not merely a matter of numerical planning; instead, preferences are clearly polarized along institutional and geographical lines. Despite high occupancy rates in city hospitals, quotas in university hospitals and non-metropolitan provinces frequently remain unfilled, revealing a systemic "quotas exist but demand is absent" paradox. While the Marmara, Mediterranean, and Central Anatolia regions maintain a relative advantage, high rates of vacant centers in Eastern Anatolia and Cyprus suggest structural settlement dynamics rather than seasonal fluctuations. Furthermore, the failure to fill additional placement quotas implies that these vacancies cannot be effectively compensated for later. The persistence of high maximum scores alongside declining occupancy further confirms that demand is concentrated in limited prestigious centers. Consequently, TUS policies require a refined planning approach that simultaneously addresses institutional prestige, regional attractiveness, and candidate preference behavior alongside quantitative adjustments.

Keywords: Capacity utilization rate, lowest-highest score, regional distribution, specialist training policies, specialty exam in medicine

Table 1: TUS Yılı ve Sınav Dönemine Göre Kontenjan Doluluk Oranları (%)

TUS Yılı	İlkbahar Dönemi (%)	Sonbahar Dönemi (%)
2019	53.58	66.07
2020	58.83	68.47
2021	38.99	42.00
2022	57.67	46.08
2023	50.02	39.59
2024	41.09	39.92
2025	46.09	40.04

Table 2. Hastane Türüne Göre Kontenjan Doluluk Durumu
A) Ortalama Doluluk Oranı (%)

A) Ortalama Doluluk Oranı (%)

Hastane Türü	Ortalama Doluluk (%)
Üniversite Hastanesi	40.54
EAH	59.24
Şehir Hastanesi	**82.83**

B) Kontenjanın Tamamen Dolma Oranı (%)

Hastane Türü	Tam Doluluk (%)
Üniversite Hastanesi	37.6

Table 3. Coğrafi Bölgelere Göre Kontenjan Doluluk Durumu
A) Ortalama Kontenjan Doluluk Oranı (%)

A) Ortalama Kontenjan Doluluk Oranı (%)

Bölge	Ortalama Doluluk (%)
Marmara	**60.87**
Akdeniz	58.09
İç Anadolu	53.89
Ege	47.81
Güneydoğu Anadolu	35.64
Karadeniz	28.77
Doğu Anadolu	26.69
Kıbrıs	**3.33**

B) Kontenjanın Tamamen Dolma Oranı (%)

Bölge	Tam Doluluk (%)
Marmara	**58.3**
Akdeniz	57.1
İç Anadolu	52.1
Ege	43.1
Güneydoğu Anadolu	31.4
Karadeniz	26.5
Doğu Anadolu	18.8
Kıbrıs	**0.0**

Table 4. Büyükşehir Durumuna Göre Kontenjan Doluluk Oranları

A) Ortalama Kontenjan Doluluk Oranı (%)

İl Durumu	Ortalama Doluluk (%)
Büyükşehir değil	23.76
Büyükşehir	**54.68**

B) Kontenjanın Tamamen Dolma Oranı (%)

İl Durumu	Tam Doluluk (%)
Büyükşehir değil	20.2
Büyükşehir	**51.8**

Table 5. TUS Yılı ve Hastane Türüne Göre Kontenjan Doluluk Oranları (%)

TUS Yılı	Üniversite	EAH	Şehir Hastanesi
2019	53.17	85.37	95.45
2020	55.69	88.89	95.65
2021	32.40	59.94	88.62
2022	44.56	67.09	86.56
2023	34.76	56.09	82.50
2024	30.20	46.83	79.17
2025	34.09	51.10	70.37

Table 6. Açılan Kontenjan Sayısına Göre Kontenjan Doluluk Oranları

Kontenjan Grubu	Ortalama Doluluk (%)
1 kişi	41.72
2 kişi	44.01
3–5 kişi	57.70
≥6 kişi	**63.35**

Table 7. Coğrafi Bölgelere Göre Tamamen Boş Kalan Merkez Oranı (%)

Bölge	Tamamen Boş Kalan Merkez (%)
Kıbrıs	**93.3**
Karadeniz	67.3
Doğu Anadolu	62.8
Güneydoğu Anadolu	57.4
Ege	48.4
İç Anadolu	43.8
Akdeniz	40.0
Marmara	**36.1**

Table 8. Hastane Türüne Göre Tamamen Boş Kalan Merkez Oranı (%)

Hastane Türü	Tamamen Boş Kalan Merkez (%)
Üniversite Hastanesi	**55.5**
EAH	36.5
Şehir Hastanesi	**15.6**

Table 9. Büyükşehir Durumuna Göre Tamamen Boş Kalan Merkez Oranı (%)

İl Durumu	Tamamen Boş Kalan Merkez (%)
Büyükşehir değil	**70.9**
Büyükşehir	41.9

Table 10. Sınav Dönemine Göre Tamamen Boş Kalan Merkez Oranı (%)

TUS Dönemi	Tamamen Boş Kalan Merkez (%)
İlkbahar	47.5
Sonbahar	48.3

Table 11. TUS Yıllarına Göre Taban Puanların Dağılımı

TUS Yılı	n	Ortalama	Medyan	Min–Maks
2019	207	51.49	50.45	45.12 – 66.34
2020	203	49.65	48.12	45.12 – 63.45
2021	174	52.40	51.54	45.09 – 68.90
2022	198	51.89	50.59	45.09 – 68.22
2023	175	49.88	48.45	45.09 – 65.62
2024	182	48.77	47.88	45.12 – 61.12
2025	225	**53.36**	**53.00**	45.05 – 68.90

Table 12. TUS Yıllarına Göre Tavan Puanların Dağılımı

TUS Yılı	n	Ortalama	Medyan	Min–Maks
2019	207	52.86	51.88	45.12 – 69.12
2020	203	50.98	49.88	45.12 – 66.34
2021	174	**55.82**	**55.25**	45.12 – 73.68
2022	198	54.92	54.68	45.12 – 73.68
2023	175	53.36	52.13	45.13 – 73.68
2024	182	50.81	50.67	45.12 – 61.12
2025	225	**55.65**	**55.25**	45.10 – 70.12

Table 13. Hastane Türüne Göre Merkez Doluluk Durumu Dağılımı (%)

Hastane Türü	Tam dolu (%)	Kısmen dolu (%)	Tamamen boş (%)
Şehir Hastanesi	**82.0**	2.5	15.6
EAH	54.9	8.6	36.5
Üniversite Hastanesi	37.6	7.0	**55.4**

Table 14. Hastane Türüne Göre Ek Yerleştirmeye Kalma Oranı (%)

Hastane Türü	Ek yerleştirme yok (%)	Ek yerleştirme var (%)
Şehir Hastanesi	**88.1**	11.9
EAH	75.7	24.3
Üniversite Hastanesi	**60.6**	**39.4**

[S-008]

The contribution of surgeon specialty in 5-year survival rate in breast cancer: A multi-center study

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Objective: Our objective in this study was to study the effect of surgeon factor on survival in breast cancer treatment.

Material and Methods: This was planned as a multi-centered and retrospective study. Demographic data, tumor and patient related factors, surgery type and surgeon specialty were evaluated. The training condition, surgical experience, fields of interest within general surgery, the number of patients treated every year with breast cancer diagnosis were determined for the surgeons conducting the primary surgical treatment of the disease. Breast specific surgeons and general surgeons were compared for 5-year survival. Multivariable and univariate survival analyses were conducted on survival.

Results: The study covered a total of 1280 breast cancer patients. Mean age of the patients was 54.7 years. 1.8% of the patients (n=23) had local recurrence, 1.8% (n=23) had regional recurrence and 7.7% (n=98) had distant organ metastasis. In survival analysis, breast cancer stage, lymphovascular invasion, distant metastasis and regional recurrence presence were observed to affect 5-year survival ($p<0.05$). Patient age, surgical technique method, surgery type and surgical border positivity were not observed to be effective ($p>0.05$).

Conclusion: The stage of the disease and tumoral factors are the most effective parameters on 5-year survival in breast cancer. Breast-specific field of working does not provide an advantage on survival in the surgical treatment of breast cancer.

Keywords: Breast cancer, surgeon speciality, breast spesicific surgeon

Table 1. Evaluation of surgeon factor in terms of survival in all BC patients (Kaplan-Meier survival analysis)

	Estimated	Std. error	95% confidence interval	
			Lower bound	Upper bound
Breast specific surgeons	117.649	1.419	114.868	120.429
General surgeons	127.263	1.486	124.351	130.175
Overall	127.440	1.096	125.292	129.588
	Chi-square	df	Sig.	
Log-rank (Mantel-Cox)	0.019	1	**0.890**	

Table 2. Five-year survival analysis based on gender in patients who had BCS and mastectomy

Kaplan-Meier survival					
Mastectomy	**Mean**	**SEM**	**95% CI**		**P (Long-rank)**
Breast specific surgeons	107.2904	1.58645	104.1809	110.3998	**0.587**
General surgeons	125.0034	1.933712	121.2133	128.7935	
BCS	**Mean**	**SEM**	**95% CI**		**P (Long-rank)**
Breast specific surgeons	121.2898	1.19192	118.9537	123.626	**0.152**
General surgeons	124.0192	0.971293	122.1155	125.923	

[S-009]

Is de-escalation of axillary surgery safe in young patients with T1-T2 breast cancer?

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Objective: In recent years, breast cancer surgery has trended toward de-escalation for axillary biopsy and surgery, supported by the SOUND and INSEMA trials. However, these studies typically focus on low-risk populations. Young patients carry a high risk for "occult metastasis" due to dense breast tissue and aggressive biological features. This study aimed to analyze the reliability of radiological data in predicting axillary metastasis and the appropriateness of de-escalation in patients under 45 years old with T1-T2 tumors.

Material and Methods: The data of 180 patients with pathological T1-T2 operated on between 2022 and 2025, were retrospectively analyzed. The success of preoperative imaging (USG, MRI, PET, MG) in predicting axillary metastasis—in conjunction with tumor biology—was compared with pathological results. Pearson Correlation Analysis, chi-square, and Fisher's Exact tests were utilized. The efficacy of imaging modalities was evaluated via sensitivity and specificity analyses. Statistical significance was defined as $p<0.05$.

Results: Tumor types were identified as Luminal B (51.1%), Luminal A (37.8%), triple negative (6.7%), and HER2-positive (4.4%). 84.9% of patients had Grade 2-3 tumors; a Ki-67 index of ³20% was found in 55.1%. Regarding tumor diameter, the correlation between imaging and pathology was weak ($r=0.264$, $p=0.001$). In axillary evaluation, pathologic metastasis (pN+) was detected in 33.3% of patients whom USG classified as "negative" (cN0). Within this "false negative" group, 23.4% had >2 positive lymph nodes (high nodal burden). The sensitivity for detecting metastasis was 41.5% for USG, 52.7% for MRI, and 43.4% for mammography. Even in the "triple negative" imaging group (where USG, MRI, and PET were all negative), the occult metastasis rate was found to be 29.6%.

Conclusion: This study demonstrates that in young T1-T2 patients, one in three axillae appearing radiologically N0 actually harbors metastatic lymph nodes. An occult metastatic burden of up to 30%—even with combined imaging (USG, MRI, PET)—and high biological aggressiveness suggest that aggressive de-escalation strategies may be oncologically risky in this population. While avoiding axillary surgery may be possible in selected cases, the decision for de-escalation in the young age group must be individualized.

Keywords: Breast cancer, axilla, de-escalation

[S-010]

Incidence of goblet cell carcinoma, treatment strategies, and follow-up outcomes in patients undergoing appendectomy for presumed acute appendicitis: A single-center experience

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Objective: Goblet cell carcinoma (GCC) of the appendix is a rare and aggressive tumor entity, and its optimal management remains controversial. It is characterized by a tendency for early peritoneal dissemination, and patients with peritoneal spread generally have a poor prognosis. This study aimed to evaluate the incidence of GCC in patients undergoing appendectomy for presumed acute appendicitis, as well as the post-diagnostic treatment approaches, recurrence patterns, and survival outcomes.

Material and Methods: Patients who underwent surgery with a preoperative diagnosis of acute appendicitis between 2018 and 2024 were retrospectively reviewed. Those with a histopathological diagnosis of GCC were included in the study. Patients were analyzed in terms of demographic, clinical, pathological, and follow-up characteristics.

Results: Among 1.574 patients who underwent appendectomy, GCC was identified in 4 patients (0.25%). The median age was 44 years (range: 30-60), and all patients were male. Histopathological examination of the appendectomy specimens revealed T3 disease in three patients and T4 disease in one patient. All four patients subsequently underwent right hemicolectomy. Lymph node metastasis was detected in the patient with T4 disease, whereas no residual malignancy was identified in the right hemicolectomy specimens of the remaining three patients. Three patients received adjuvant chemotherapy, while one patient with T3N0 disease and histological grade 1 tumor was managed with observation alone. During a median follow-up of 29 months (range: 13-52), no local recurrence, distant metastasis, or mortality was observed.

Conclusion: Although goblet cell carcinomas are generally described in the literature as having an aggressive clinical course, long-term survival can be achieved in incidentally detected cases with appropriate surgical management.

Keywords: Acute appendicitis, goblet cell carcinoma

[S-011]

Outcomes of elective hemicolectomy in patients aged 75 years and older: Does the risk increase?

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Objective: The incidence of colon cancer increases with age, and a substantial proportion of patients undergoing elective hemicolectomy belong to the elderly population. Reduced physiological reserve, increased comorbidity burden, and frailty in elderly patients may influence surgical outcomes. However, whether chronological age alone represents an independent surgical risk factor remains controversial. This study aimed to evaluate early postoperative clinical outcomes following elective hemicolectomy in patients aged 75 years and older and to compare them with those of younger patients.

Material and Methods: Patients who underwent elective right or left hemicolectomy at a single center between 2020 and 2025 were retrospectively analyzed. Patients were divided into two groups: <75 years and ≥75 years. Demographic characteristics, ASA score, comorbidity status, operative time, length of hospital stay (LOS), 30-day morbidity, and major complication rates (Clavien-Dindo ≥3) were compared between groups. Statistical analyses included chi-square test, Student's t-test or Mann-Whitney U test, and multivariable logistic regression. A p-value <0.05 was considered statistically significant.

Results: A total of 286 patients were analyzed, of whom 78 (27.3%) were in the ≥75 years group. The proportion of patients with ASA ≥3 was significantly higher in the elderly group (56.4% vs. 28.1%; p<0.001). Operative time was similar between groups (median 145 minutes vs. 138 minutes; p=0.312). The 30-day overall morbidity rate was higher in the ≥75 years group (38.5% vs. 24.2%; p=0.018). The rate of major complications (Clavien-Dindo ≥3) was 14.1% in the elderly group and 7.3% in the younger group (p=0.041). Length of hospital stay was longer in the elderly group (median 9 days vs. 7 days; p=0.009). In multivariable analysis, ASA score and presence of comorbidity were identified as independent risk factors, whereas age ≥75 years was not an independent predictor of major complications (OR 1.38; 95% CI 0.71-2.69; p=0.334) (Table 1).

Conclusion: Although morbidity rates appear higher in patients aged 75 years and older following elective hemicolectomy, chronological age alone was not identified as an independent risk factor in multivariable analysis. In surgical risk assessment, consideration of physiological reserve and comorbidity burden rather than age alone may be more appropriate.

Keywords: Colon cancer, geriatric surgery, hemicolectomy

Table 1. Baseline characteristics and postoperative outcomes according to age group

Variable	<75 years (n=208)	≥75 years (n=78)	p-value
Age (years, mean ± SD)	63.4±7.8	78.6±3.1	<0.001
Female sex (%)	46.2%	48.7%	0.721
ASA ≥3 (%)	28.1%	56.4%	<0.001
Presence of comorbidity (%)	41.8%	67.9%	0.002
Operative time (min, median)	138	145	0.312
30-day overall morbidity (%)	24.2%	38.5%	0.018
Major complication (Clavien-Dindo ≥3) (%)	7.3%	14.1%	0.041
Length of hospital stay (days, median)	7	9	0.009

[S-012]

The impact of histological subtype on clinical course in retroperitoneal adipose tumors: A comparison of dedifferentiated liposarcoma and benign adipose tumor

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Objective: Retroperitoneal adipose tumors are rare, and preoperative differentiation between benign and malignant lesions is often challenging. Because these tumors can remain asymptomatic for a long time within the wide retroperitoneal space, they are usually diagnosed after reaching a large size. Histological subtype, particularly the presence of dedifferentiated liposarcoma, has a significant impact on clinical course, local recurrence risk, and prognosis. In this study, two retroperitoneal adipose tumors with different biological behaviors were compared to highlight the impact of histological subtype on clinical outcomes.

Material and Methods: This study is a retrospective evaluation of two patients who presented with abdominal pain and were found to have retroperitoneal adipose tumors. The patients were assessed using contrast-enhanced computed tomography (CT), and open surgical resection was performed following a multidisciplinary board decision. Resected specimens were examined histopathologically and immunohistochemically. Postoperatively, the patients were followed up with clinical and radiological evaluations.

Results: In both cases, preoperative contrast-enhanced CT revealed retroperitoneal adipose tumors. In the first case, the mass measured 36×24×13 cm and showed a heterogeneous appearance with thick septations and solid nodular components. En-bloc surgical resection was performed, and histopathology revealed FNCLCC grade 3 dedifferentiated liposarcoma with positive margins. At six months, follow-up CT demonstrated local recurrence involving the left kidney, and the patient underwent reoperation with concomitant nephrectomy. In the second case, a 22×11 cm retroperitoneal mass with homogeneous fat density and thin septations was observed, and complete resection was achieved. Histopathology showed no cellular atypia or mitotic activity, consistent with a benign adipose neoplasm (lipoma), and surgical margins were negative. During one-year follow-up, no local recurrence or complications were detected. When the cases were compared, early local recurrence occurred in the dedifferentiated liposarcoma case, whereas no recurrence occurred in the benign case. Positive margins and aggressive histology adversely affected the clinical course. No perioperative mortality or major complications were observed.

Conclusion: Histological subtype is one of the most important factors determining the clinical course and risk of local recurrence in retroperitoneal adipose tumors. Dedifferentiated liposarcoma exhibits aggressive biological behavior with early local recurrence, whereas benign adipose tumors generally have a favorable postoperative prognosis. In malignant cases, achieving negative surgical margins and close long-term follow-up are critical for disease-free survival. Therefore, a histology-based surgical approach and regular surveillance are recommended in the management of retroperitoneal adipose tumors.

Keywords: Retroperitoneal tumor, liposarcoma, adipose neoplasia

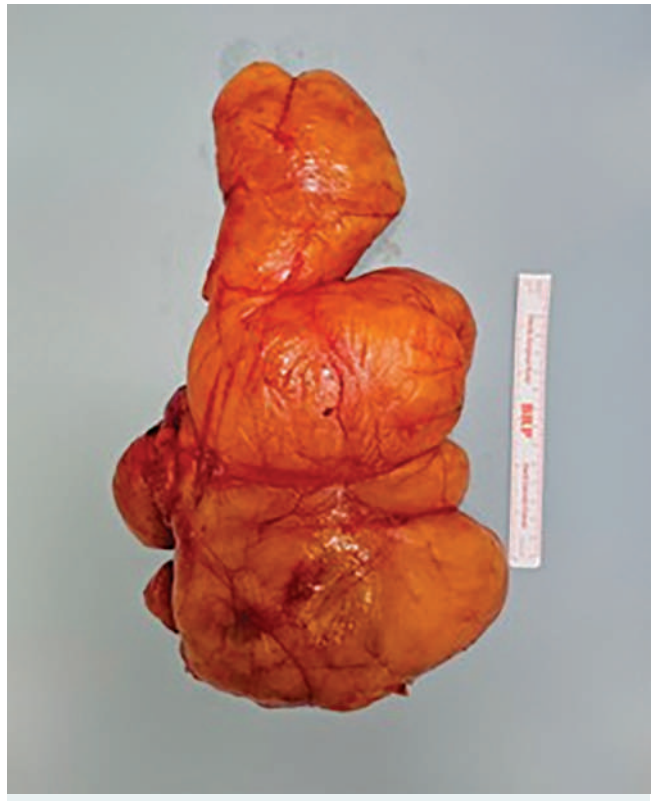

Figure 1. Adipose neoplasm.

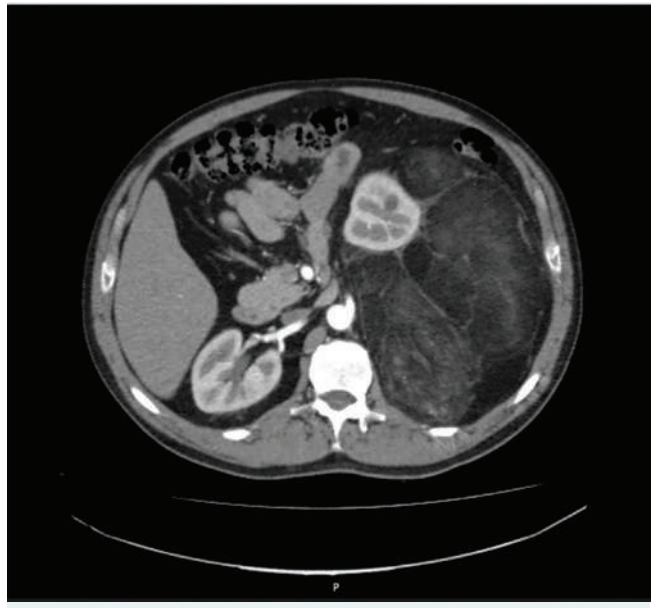

Figure 2. Dedifferentiated liposarcoma.

[S-013]

Predictive factors in determining postoperative complications after lower gastrointestinal surgery: A two-center study

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Objective: Malign or benign diseases of the lower gastrointestinal tract present an indication for emergency or elective surgery by general surgeons. In these diseases, correlation between the patient's etiological factors and laboratory findings, as well as the need for reoperation after surgery, early survival, and length of hospitalization, can be important indicators for predicting potential complications and mortality risks. In our study, we evaluated early postoperative blood test results in patients along with findings obtained during the patients' recovery period.

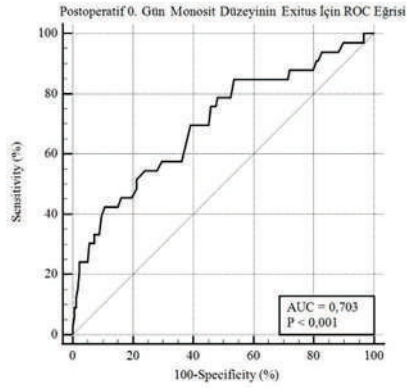
Material and Methods: Our study included emergency and elective lower gastrointestinal tract cases involving anastomosis that were operated on between 01.01.2023, and 01.10. 2025, at University of Health Sciences Türkiye, İzmir Bozyaka Training and at the General Surgery Clinic 1 of University of Health Sciences Türkiye, İzmir City Hospital. In our study, we investigating relationship between postoperative first day glucose, lymphocyte, monocyte, neutrophil counts in blood samples and postoperative hospitalization length, need for reoperation after surgery and mortality rate in the operated patients using with multivariate regression analysis, Mann-Whitney U test and ROC analysis.

Results: A total of 212 cases were included in our study; 77 were women and 135 were men. The average age of the cases included in our study was 56.2. The mortality rate in operated cases was %15, and the rate of patients requiring reoperation was %23. Postoperative hospital stay was significantly longer in patients who underwent reoperation (p<0.001). monocyte levels were found to be significantly higher in the group that did not undergo reoperation (p=0.018). In the multivariate logistic regression analysis, the odds ratio adjusted for age and gender (OR=0.89) shows that every 100-unit increase in monocyte levels on postoperative day 0 is associated with approximately an 11% decrease in the probability of reoperation, independent of age and gender. The fact that the entire confidence interval is below 1 supports the protective nature of this relationship. This finding suggests that monocyte levels may be an indicator of early postoperative immune response rather than a direct cause of reoperation, and could be considered a potential biomarker in clinical risk assessment. In patients who did not require reoperation a weak but statistically significant positive correlation was found between postoperative day 0 glucose level and postoperative length of stay (r=0.220; p=0.005).

Conclusion: In our study, we found that early immunomodulatory use after surgery was associated with complications and hospital stay durations in patients. More specific studies with more defined sample groups are needed on this topic.

Keywords: Lower gastrointestinal system, monocytes, predictability of complication risks, reoperation rate

EXİTUS İÇİN ÇOK DEĞİŞKENLİ LOJİSTİK REGRESTON ANALİZİ SONUCUNDA ANLAMLI OLARAK BELİRLENEN BELİRLENEN POSTOPERATİF 0. GÜN MONOSİT DÜZEYİ İÇİN ROC ANALİZİ



Parametre	Değer
Örneklem büyüklüğü (n)	212
Ex (n, %)	33 (%15,57)
AUC	0,703
%95 Güven Aralığı	0,59 – 0,81
p-değeri (AUC ≠ 0,5)	<0,001
Optimal cut-off (Youden)	≤ 360
Duyarlılık (%)	42,42
Özgüllük (%)	89,39

Figure 1.

EXİTUS İÇİN TEK DEĞİŞKENLİ ANALİZ SONUÇLARI

	EXITUS		
	EX (n=33) ORT ± SS Q1 Q2 Q3	YAŞIYOR (n=179) ORT ± SS Q1 Q2 Q3	P DEĞERİ*
YAŞ	66,45 ± 14,99 55,00 68,00 80,00	62,13 ± 13,85 54,50 65,00 72,00	0,119
POSTOP YATIŞ SÜRESİ	28,27 ± 49,55 8,00 15,00 32,00	10,86 ± 10,77 6,00 7,00 11,50	0,005
POSTOP 0 LENFOSIT	840,30 ± 513,81 450,00 730,00 1040,00	982,91 ± 600,33 595,00 820,00 1230,00	0,196
POSTOP 0 MONOSIT	490,61 ± 309,90 280,00 460,00 620,00	706,98 ± 304,91 490,00 670,00 895,00	<0,001
POSTOP 0 NOTROFIL	8468,79 ± 5398,98 5520,00 7430,00 10680,00	10629,20 ± 5623,57 7955,00 9830,00 12470,00	0,005
POSTOP 0 GLIKOZ	205,12 ± 74,19 146,00 187,00 250,00	182,23 ± 131,97 136,00 160,00 201,50	0,017

ORT: Ortalama, SS: Standart Sapma, Q1: 25. Persantil, Q2: Medyan, Q3: 75. Persantil
*: Mann-Whitney U Test

Figure 2.

REOPERASYON İHTİYACI İÇİN TEK DEĞİŞKENLİ ANALİZ SONUÇLARI

	REOPERASYON İHTİYACI		
	VAR (n=51) ORT ± SS Q1 Q2 Q3	YOK (n=161) ORT ± SS Q1 Q2 Q3	P DEĞERİ*
YAŞ	62,98 ± 14,23 53,00 66,00 74,00	62,75 ± 14,09 55,00 65,00 73,00	0,972
POSTOP YATIŞ SÜRESİ	27,37 ± 40,60 10,00 16,00 29,50	9,20 ± 8,83 6,00 7,00 9,00	**<0,001**
POSTOP 0 LENFOSIT	955,10 ± 675,49 570,00 780,00 1095,00	962,48 ± 560,97 600,00 820,00 1230,00	0,558
POSTOP 0 MONOSIT	601,96 ± 347,91 350,00 530,00 845,00	695,90 ± 301,38 490,00 670,00 870,00	**0,018**
POSTOP 0 NOTROFIL	10720,00 ± 7225,28 6495,00 9030,00 14230,00	10157,62 ± 5043,25 7490,00 9520,00 12010,00	0,944
POSTOP 0 GLIKOZ	183,55 ± 64,17 145,00 170,00 210,00	186,51 ± 138,85 137,00 160,00 209,00	0,507

ORT: Ortalama, SS: Standart Sapma, Q1: 25. Persantil, Q2: Medyan, Q3: 75. Persantil
*: Mann-Whitney U Test

Figure 3.

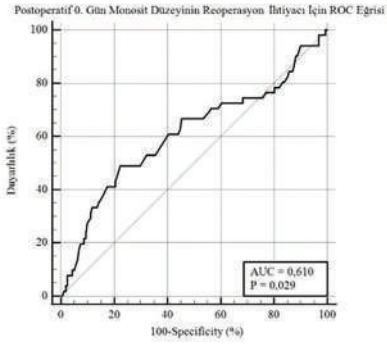
REOPERASYON İHTİYACI İÇİN ÇOK DEĞİŞKENLİ LOJİSTİK REGRESTON ANALİZİ

	OR	%95 GA	P DEĞERİ
Postop 0 monosit (100 birim)	**0,89**	**0,80 – 0,99**	**0,038**
Yaş (yıl)	1,00	0,98 – 1,03	0,753
Cinsiyet (Erkek)	1,59	0,79 – 3,22	0,196

OR: Odds Ratio, GA: Güven Aralığı

Figure 4.

REOPERASYON İHTİYACI İÇİN ÇOK DEĞİŞKENLİ LOJİSTİK REGRESTON ANALİZİ SONUCUNDA ANLAMLI OLARAK BELİRLENEN BELİRLENEN POSTOPERATİF 0. GÜN MONOSİT DÜZEYİ İÇİN ROC ANALİZİ



Parametre	Değer
Örneklem büyüklüğü (n)	212
Reoperasyon (n, %)	51 (%24,1)
AUC	0,61
%95 Güven Aralığı	0,51 – 0,71
p-değeri (AUC ≠ 0,5)	0,029
Optimal cut-off (Youden)	≤ 470
Duyarlılık (%)	49,0
Özgüllük (%)	77,6

Figure 5.

[S-014]

Retrospective analysis of cytoreductive surgery and HIPEC cases performed at our center over the last two years

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Objective: Peritoneal surface malignancies are associated with poor prognosis due to advanced-stage diagnosis and limited treatment options. Cytoreductive surgery (CRS), aiming at complete removal of macroscopic tumor burden, followed by hyperthermic intraperitoneal chemotherapy (HIPEC), has increasingly been accepted as a multimodal treatment approach that improves survival in selected patient populations. However, due to the aggressive nature of this treatment strategy and its associated risk of high morbidity, careful patient selection and performance in experienced centers are essential. This study aimed to evaluate the early surgical and oncological outcomes of patients who underwent CRS+HIPEC at our center over the last two years.

Material and Methods: Patients who underwent CRS+HIPEC at our center between January 4, 2024 and December 17, 2025 were retrospectively analyzed. Data regarding age, type of malignancy, history of neoadjuvant and adjuvant therapy, presence of extra-abdominal metastasis, length of hospital stay, perioperative and postoperative complications, need for reoperation, recurrence status, and overall survival were collected and analyzed.

Results: A total of 20 patients were included in the study. The mean age was 60.2 years. Neoadjuvant therapy was administered in 65% of patients (n=13), while 35% (n=7) did not receive neoadjuvant treatment. Extra-abdominal metastasis was absent in 95% of patients (n=19); one patient (5%) had lung metastasis. The perioperative complication rate was 30% (n=6), whereas no perioperative complications were observed in 70% of patients (n=14). Postoperative complications occurred in 35% of patients (n=7), while 65% (n=13) had no postoperative complications. The most common postoperative complications were pulmonary complications (10%, n=2). Other complications included ileus (5%, n=1), anastomotic leakage (5%, n=1), bleeding (5%, n=1), hyperbilirubinemia (5%, n=1), and ureteral leakage (5%, n=1). Reoperation was required in 20% of patients (n=4), whereas 80% (n=16) did not require additional surgical intervention. During follow-up, recurrence was observed in 10% of patients (n=2), while 90% (n=18) continued regular follow-up.

Conclusion: The early morbidity and mortality rates of patients undergoing CRS+HIPEC at our center are consistent with and comparable to those reported in the literature. With appropriate patient selection and widespread use of adjuvant therapies, CRS+HIPEC appears to be a safe and effective treatment option. Further evaluation of oncological outcomes requires longer follow-up periods and larger patient cohorts.

Keywords: Cytoreductive surgery, HIPEC, peritoneal surface malignancies, retrospective analysis, surgical morbidity

Figure 1. Peroperative images.

[S-015]

Evaluation of clinical and pathological characteristics in patients undergoing intraabdominal mass excision: A single-center retrospective analysis

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Objective: Intraabdominal masses encompass a broad histopathological spectrum and may include both benign and malignant pathologies. The clinical course, therapeutic approach, and prognosis largely depend on the underlying pathology. Surgical excision constitutes the primary approach for both diagnostic confirmation and curative treatment.The aim of this study is to evaluate the demographic characteristics, pathological distribution, and postoperative clinical outcomes of patients who underwent intraabdominal mass excision.

Material and Methods: This single-center retrospective study included patients who underwent surgical excision due to an intraabdominal mass. Demographic characteristics, radiological and macroscopic features of the mass, histopathological findings, surgical margin status, postoperative morbidity and mortality, and length of hospital stay were analyzed. Postoperative complications were reported as an overall morbidity rate without stratification. The distribution of clinicopathological parameters was presented using descriptive statistics. Continuous variables were expressed as median (minimum-maximum), and categorical variables as number (%). Comparisons between groups were performed using the Mann-Whitney U test and Fisher's exact test. A p-value <0.05 was considered statistically significant.

Results: A total of 35 patients were included in the study. Of the patients, 62.9% were female (n=22) and 37.1% were male (n=13), with a median age of 58 years (28-86). Eighty-five point seven percent of the lesions were solid in nature. Histopathological evaluation revealed that 65.7% of the cases were malignant (n=23), whereas 34.3% were benign (n=12). The median age was 48 years in the benign group and 60 years in the malignant group (p=0.082). The median length of hospital stay was 9 days in the benign group and 10 days in the malignant group, with no statistically significant difference between the groups (p=0.328). The postoperative morbidity rate was 8.3% in the benign group and 30.4% in the malignant group (p=0.216). Mortality was observed only in the malignant group (4.3%), and no statistically significant difference was detected between the groups (p=1.000).

Conclusion: In this series, malignant pathologies were found to predominate among patients who underwent intraabdominal mass excision. Postoperative mortality was observed at a low rate, and no statistically significant differences were identified between the benign and malignant groups in terms of length of hospital stay or mortality.Our study highlights the importance of jointly considering patient- and tumor-related characteristics in the evaluation of clinical outcomes associated with intraabdominal mass surgery.

Keyword: Intraabdominal mass

[S-016]

Clavien-Dindo complication analysis in esophageal cancer surgery: A single-center experience from Türkiye participating in the ESO-DATA registry

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Objective: Esophageal cancer surgery is associated with high morbidity rates, and standardized reporting of postoperative complications is essential for meaningful comparison of clinical outcomes. This study aimed to evaluate postoperative complications following esophageal cancer surgery in our center using the Clavien-Dindo classification and to assess compatibility with the international ESO-DATA registry standards.

Material and Methods: Patients who underwent surgery for esophageal cancer at our institution were retrospectively reviewed. Demographic characteristics, surgical approaches, and postoperative complications were recorded. Complications were graded according to the Clavien-Dindo classification. Outcomes were analyzed in accordance with the standardized complication definitions recommended by the ESO-DATA international registry system.

Results: A total of 17 patients who underwent surgery for esophageal cancer were included. The mean age was approximately 58 years. The majority of procedures were performed using minimally invasive or hybrid approaches.The overall postoperative complication rate was approximately 29%. According to the Clavien-Dindo classification, Grade I-II complications occurred in 3 patients, and Grade III complications were observed in 2 patients. No Grade IV complications were recorded, and there was no postoperative mortality. Patients with major complications were successfully managed with interventional procedures. Our center is the first and currently the only active institution in Türkiye contributing data to the ESO-DATA international esophageal surgery registry, and all complications are recorded in accordance with international standards.

Conclusion: Standardized reporting of complications using validated classification systems allows meaningful comparison of institutional outcomes with international data. The early postoperative results from our center demonstrate acceptable complication rates, and integration into the ESO-DATA registry contributes significantly to quality improvement and benchmarking in esophageal cancer surgery.

Keywords: Esodata, esaphageal cancer, Clavien-Dindo

[S-017]

Does the anatomical siting of the splenic flexure predict postoperative morbidity in rectal cancer surgery? A retrospective analysis

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Objective: Splenic flexure mobilization (SFM) is a technically demanding step in rectal cancer surgery. This study aims to investigate the predictive value of the preoperative radiological anatomical siting of the splenic flexure on postoperative morbidity and surgical outcomes.

Material and Methods: A total of 105 patients who underwent elective curative resection for rectal cancer with routine splenic flexure mobilization were retrospectively analyzed. Preoperative CT scans were used to evaluate the vertebral level of the flexure and specific linear distances, including the distance from the vertebral center to the anterior abdominal wall (CVBI) and to the lateral colonic wall (CVBL). The vertebral level was evaluated as an additional parameter to these distances. The anatomical position of the splenic flexure was evaluated through the CVBI/CVBL ratio.

Results: Increased anteroposterior abdominal depth (CVBI) was a significant predictor of postoperative morbidity (p=0.002), and male gender was an independent risk factor (OR =5.91, p=0.03). Caudally positioned flexures (T12 and below) showed a borderline significant association with lower morbidity (p=0.07). Patients in the low ratio group had a significantly higher lymph node yield compared to those in the high ratio group (17.96±7.8 vs. 12.73±7.9, p=0.022). No significant differences were observed regarding anastomotic leakage or recurrence rates (p>0.05).

Conclusion: The anatomical position of the splenic flexure may affect surgical quality. Increased abdominal depth and a higher flexure location may be associated with surgical morbidity, while anatomical accessibility influences the technical success of lymphadenectomy.

Keywords: Anatomic landmarks, postoperative complications, rectal neoplasms, splenic flexure mobilization, tomography, X-ray computed

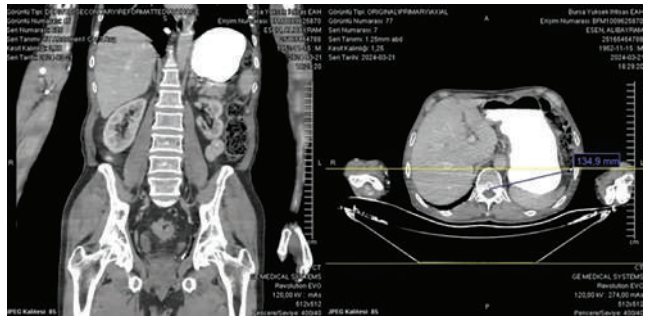

Figure 1. Measurement of distance to lateral wall. Axial CT section showing the linear measurement from the center of the vertebral body to the most lateral aspect of the splenic flexure.

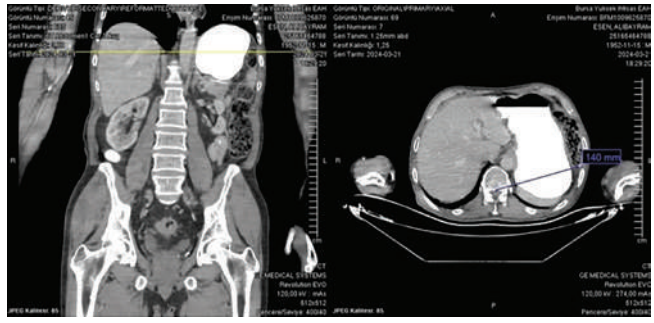

Figure 2. Measurement of distance to inner wall. Axial CT section illustrating the measurement from the center of the vertebral body to the inner abdominal wall, following the trajectory towards the splenic flexure.

Table 1. Comparison of demographic, clinical, and pathological characteristics according to the extreme quartiles (Q1 vs. Q4) of the CVBI/CVBL ratio

	n	Low ratio	n	High ratio	p
Age (years)	26	67.5±12.1	26	64.3±12.9	0.363
Gender					
Male/female	26	20 (76.9%)/6 (23.1%)	26	17 (65.4%)/9 (34.6%)	0.358
BMI (kg/m²)	24	25.3±3.1	20	26.3±4.2	0.392
Operation time (min)	26	280 (150-395)	26	245 (180-420)	0.267
Lymph node yield	25	17.96±7.8	26	12.73±7.9	0.022
General morbidity	26	5 (19.2%)	26	6 (23.1%)	0.734
Anastomotic leak	26	0	26	1 (3.8%)	1.000
Readmission	26	3 (11.5%)	26	4 (15.4%)	0.685
Recurrence (yes)	26	7 (26.9%)	26	8 (30.8%)	0.760

Table 2. Comparison of demographic, clinical, and radiological characteristics according to morbidity status

	n	Morbidity (+)	n	Morbidity (-)	p
Demographic & clinical data					
Age (years)	28	69.1±10.2	77	65.2±12.8	0.14
Gender					
Male/female	28	26 (92.9%)/2 (7.1%)	77	48 (62.3%)/29 (37.7%)	0.002
BMI (kg/m²)	20	25.4 (19-31.2)	65	24.3 (19.5-37.7)	0.52
ASA score					
ASA II/ASA III	27	6 (21.4%)/21 (75%)	77	10 (13%)/67 (87%)	0.35
Surgical & pathological data					
Neoadjuvant therapy	28	12 (42.9%)	77	25 (32.5%)	0.32
Tumor localization					
Upper rectum	28	15 (53.6%)	77	43 (55.8%)	0.38
Mid rectum		4 (14.3%)		18 (23.4%)	
Lower rectum		9 (32.1%)		16 (20.8%)	
Surgical approach					
Laparoscopic/open	28	12 (42.9%)/16 (57.1%)	77	43 (55.8%)/34 (44.2%)	0.27
Ileostomy	28	16 (57.1%)	77	38 (49.4%)	0.48
Operation time (min)	28	247.5 (130-420)	76	255 (150-470)	0.68
Tumour size (mm)	27	43.7±20.3	71	41.4±17.9	0.59
Lymph node yield	28	14.9±7.6	74	15.2±7.6	0.87
Radiological measurements					
Distance to ant. abd. wall (mm)	28	162.9 (130.8-193)	77	150.7 (114.2-215)	0.002
Distance to lat. abd. wall (mm)	28	147±13.8	77	138.7±19.3	0.039
Splenic flexure height					
Caudal (low)	28	4 (14.3%)	77	29 (37.7%)	0.07
Middle		15 (53.6%)		29 (37.7%)	
Cranial (high)		9 (32.1%)		19 (24.7%)	
CVBI/CVBL ratio	28	1.11 (1.04-1.37)	77	1.09 (1.01-1.40)	0.43

[S-018]

Clinical contribution of axillary surgery in postmenopausal luminal a breast cancer: A single-center experience based on the SOUND study

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Objective: Axillary management in early-stage, low-risk breast cancer has shifted toward surgical de-escalation. Recent trials, particularly SOUND, question routine axillary surgery in clinically node-negative patients. This study evaluates axillary metastasis rates and nodal burden against SOUND thresholds.

Material and Methods: This retrospective, single-center descriptive study included patients who underwent surgery for breast cancer between 2017-2024. Ethical approval was obtained from the Eskişehir City Hospital Scientific Research Ethics Committee. A total of 49 postmenopausal patients with T1 tumors (<20 mm), Luminal A subtype (ER/PR (+), HER2 (-), low Ki-67), and clinically negative axilla were included. Demographic, tumor-related, and pathological data were analyzed. Outcomes of interest were the presence of axillary metastasis and metastatic axillary nodal burden, classified as low (<4 positive LN) or high (≥4 positive LN). Axillary metastasis rates and nodal burden were compared with SOUND trial data using a one-sample binomial test. Associations between axillary metastasis and clinicopathological variables were evaluated using Fisher's exact test.

Results: The mean age of the patients was 63.8±7.1 years (range: 55-88), and the mean tumor size was 1.5±0.4 cm (range: 0.1-2.0). Axillary metastasis was detected in 6 patients (12.2%). Importantly, none of the patients had four or more metastatic axillary lymph nodes, indicating the absence of clinically relevant high nodal burden. The axillary metastasis rate in the entire cohort (12.2%) and among patients undergoing sentinel lymph node biopsy (11.1%) was statistically comparable to the rate reported in the SOUND trial (13.7; p>0.05). In contrast, the frequency of high metastatic nodal burden was significantly lower than that reported in the SOUND study (0.0% vs. 0.6%, p<0.001). Axillary metastasis was significantly more frequent in patients with Ki-67 <10% compared with those with Ki-67 ≥10% (26.3% vs. 3.3%, p=0.027). No significant association was observed between axillary metastasis and age or tumor size (p>0.05).

Conclusion: In postmenopausal patients with low-risk, Luminal A, early-stage breast cancer, axillary metastasis rates were consistent with SOUND trial thresholds, and no clinically significant high nodal burden was identified. These findings provide real-world evidence supporting the omission of sentinel lymph node biopsy and potentially all axillary surgical procedures in carefully selected patients. However, given the retrospective design, single-center setting, and limited sample size, larger multicenter prospective studies are warranted to further define patient selection criteria for safe axillary surgery de-escalation.

Keywords: Early breast cancer, SOUND trial, axillary surgery

[S-019]

Predictors of recurrence in postpartum extra-abdominal desmoid tumors

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Objective: Desmoid-type fibromatosis (DTF) in post-partum women represents a distinct clinical entity. While β-catenin immunohistochemistry is routinely performed, its prognostic value in this hormonally-influenced subgroup remains unclear. To evaluate whether β-catenin expression, Ki-67 proliferation index, and mitotic activity predict local recurrence in post-partum extra-abdominal DTF localized to the rectus abdominis muscle.

Material and Methods: This retrospective two-center study included 31 female patients (median age 41 years, range 32-52) with histologically confirmed post-partum DTF diagnosed between 2002-2024. All tumors were located in the rectus abdominis muscle (87.1%) or extra-abdominal fascial structures, presenting within 24 months of delivery. Immunohistochemical assessment included β-catenin nuclear staining, Ki-67 labeling index, and mitotic count per 10 high-power fields. Surgical margin status was categorized as R0 (clear) or R1/R2 (positive). Fisher's exact test evaluated associations with local recurrence. Median follow-up was 15 years (range 4-27).

Results: β-catenin nuclear positivity was present in 87.1% of patients. During follow-up, local recurrence occurred in 7 of 31 patients (22.6%) at median 13 months. In this limited cohort, univariate analysis revealed two factors significantly associated with recurrence: Surgical margin status (R1/R2 vs. R0: 77.8% vs. 0% recurrence, p<0.001) and mitotic activity (≥1 vs. 0 mitoses per 10 HPF: 70.0% vs. 0% recurrence, p<0.001). Conversely, β-catenin nuclear positivity (p=1.000) and Ki-67 proliferation index (p=0.631) showed no significant association with recurrence in this series.

Conclusion: In this cohort of 31 post-partum extra-abdominal DTF patients, surgical margin status and mitotic activity—but not molecular markers like β-catenin or Ki-67—were significantly associated with recurrence risk. These hypothesis-generating findings suggest a potential two-factor prognostic model specific to hormonally-mediated DTF and raise questions about the universal applicability of biomarkers from heterogeneous populations. Prospective validation in larger independent cohorts is essential before clinical implementation.

Keywords: Desmoid-type fibromatosis, Ki-67, postpartum tumor, rectus abdominis, recurrence, β-catenin

Table 1. Relationship between β-catenin expression and recurrence

β-catenin	Recurrence (+)	Recurrence (–)	Total
Negative	1	3	4
Positive	6	21	27
Total	7	24	31

Note: Values indicate the number of cases.

Table 2. Relationship between Ki-67 index and recurrence

Ki-67	Recurrence (+)	Recurrence (–)	Total
<2%	1	15	16
≥%2	5	4	9
Unknown	1	5	6
Total	7	24	31

Note: Ki-67 was categorized as <2% and ≥2%.

Table 3. Relationship between surgical margin status and recurrence

Surgical margin	Recurrence (+)	Recurrence (–)	Total
R0	3	19	22
R1	3	1	4
R2/uncertain	1	4	5
Total	7	24	31

R0: Negative surgical margin; R1: Microscopically positive margin; R2: Macroscopic residual disease; "Indeterminate" = margin not clearly defined or missing in the report.

[S-020]

The impact of neoadjuvant chemoradiotherapy and surgical technique on pathological and early oncological outcomes in rectal cancer

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Objective: This study aims to evaluate the impact of neoadjuvant chemoradiotherapy (CRT) and different surgical techniques on pathological and early oncological outcomes in the treatment of rectal cancer. The effects of appropriate surgical procedures and neoadjuvant therapies on survival rates, recurrence rates, and pathological responses in rectal cancer treatment were investigated.

Material and Methods: The study was conducted on 158 patients who underwent surgery for rectal cancer at Akdeniz University Faculty of Medicine between January 2019 and December 2023. The study was designed retrospectively, and the patients' demographic characteristics, surgical procedures, stages, neoadjuvant treatment status, and pathological findings were evaluated. Factors affecting survival and recurrence rates were analyzed using statistical methods.

Results: The mean age of the patients was 63.1±12.4 years, with 63,3% being male. Low anterior resection was performed to 113 (70.1%) patients, while abdominoperineal resection was performed to 45 (28.5%) patients. Open surgery was applied to 78 (49.3%) patients, laparoscopic surgery to 52 (33%), and robotic surgery to 28 (17.7%) patients. A total of 113 (71.5%) patients received neoadjuvant chemoradiotherapy (CRT). The complete pathological response rate in patients who received CRT was 18.6%, with a decrease in the average number of lymph nodes identified in the specimens. The overall survival time was 47.3±2.2 months, and the survival rate was 78.8% in the CRT group compared to 60% in the non-CRT group (p=0.015). The recurrence rate was 20%. Lymphovascular invasion (LVI), perineural invasion (PNI), positive lymph node status, advanced stage, and recurrence were identified as poor prognostic factors.

Conclusion: Neoadjuvant CRT increases survival rates in the treatment of rectal cancer. Although open surgery resulted in the removal of more lymph nodes compared to laparoscopic and robotic surgery, no significant difference was observed in overall survival between surgical techniques. While no association was found between the number of lymph nodes removed (whether more or less than 12) and survival, lymph node positivity, complete pathological response, LVI and PNI, and tumor stage were identified as significant prognostic factors for survival and recurrence.

Keywords: Rectal cancer, neoadjuvant chemoradiotherapy, robotic surgery, survival, lymph node status

[S-021]

Gastrointestinal stromal tumors; a 23-year follow up

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Objective: Gastrointestinal stromal tumors (GISTs) are rare neoplasms arising from precursors of the interstitial cells of Cajal in the muscular layer of the gastrointestinal tract, driven primarily by mutations in the c-KIT proto-oncogene. Historically, smooth muscle tumors were classified as leiomyomas when benign and as leiomyosarcomas when malignant; however, advances in immunohistochemistry have led to the reclassification of tumors harboring c-KIT mutations as a distinct entity, namely GIST.

Material and Methods: Between 2002 and 2025, 44 patients with GIST were followed at Taksim Gaziosmanpaşa Training and Research Hospital and University of Health Sciences Türkiye, Gaziosmanpaşa Training and Research Hospital. The mean follow-up duration was 3.5 years (range: 5 months-13 years). Patients were stratified according to the Fletcher risk classification. High-risk patients were followed every 3-6 months during the first 3 years and every 6 months for the subsequent 5 years using ultrasonography or abdominal computed tomography. Statistical analyses were performed using SPSS version 22.0, and survival analyses were conducted using the Kaplan-Meier method.

Results: The male-to-female ratio was 5:4, and the mean age was 60.4 years (range: 29-82). Tumor localization was gastric in 62.9%, extra-intestinal in 14.8%, small intestine in 7.4%, esophagus in 7.4%, and rectum in 7.4%. According to the Fletcher classification, 14 patients (31.8%) were very low risk, 15 (34.1%) low risk, 7 (15.9%) intermediate risk, and 8 (18.1%) high risk. The mean Ki-67 index was 15.6% (range: 7-25) in stage IV disease and 9.6% (range: 2-25) in intermediate- and high-risk groups. The mean tumor diameter was 5.45 cm (range: 0.5-18 cm); large tumors were extra-intestinally located with a mean diameter of 13.2 cm (range: 8-18 cm). Histologically, 26 tumors (59%) were spindle cell, 11 (25%) epithelioid, and 7 (15.9%) mixed type. Recurrence occurred in four patients (three times in one patient with retroperitoneal localization), and one patient died due to local complications of a large gastric GIST.

Conclusion: In our cohort, GISTs were most frequently localized in the stomach, and larger tumor size, higher mitotic index, and elevated Ki-67 values were associated with intermediate-, high-risk, and metastatic disease.

Keywords: Gastrointestinal stromal tumors, Cajal cells, Fletcher grading, Ki 67, mitotic index

[S-022]

The clinical value of total omentectomy in gastric cancer: Comparison of patients receiving and not receiving neoadjuvant chemotherapy

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Objective: Total omentectomy is widely performed as part of standard surgical resection in gastric cancer surgery. However, the frequency of omental involvement and the oncological contribution of total omentectomy, especially in patients receiving neoadjuvant chemotherapy (NAKT), have not been clearly established. This study aimed to compare the frequency of omental involvement and clinical outcomes in gastric cancer patients who did and did not receive NACT.

Material and Methods: Patients who underwent surgical treatment for gastric adenocarcinoma between January 2018 and December 2023 were retrospectively reviewed. All patients underwent total omentectomy along with curative gastrectomy. Patients were divided into two groups: Those who received neoadjuvant chemotherapy (NAKT+) and those who did not (NAKT−). Demographic data, pathological stage, omental involvement status, and clinical outcomes were compared.

Results: A total of 94 patients were included in the study. Forty-six patients (48.9%) received NAKT, while 48 (51.1%) did not. The mean age was 60.8±10.9 years in the NAKT group and 67.1±11.4 years in the non-NAKT group. Omental involvement was detected in 2 patients (4.3%) in the NAKT group and in 9 patients (18.8%) in the non-NAKT group. Although the rate of omental involvement was lower in patients receiving NAKT, this difference was not statistically significant (Fisher's exact test, p=0.062). The relative risk was calculated as 0.15 (95% CI: 0.03-0.73). A lower rate of more advanced pathological stage was observed in patients receiving NAKT, but these differences did not reach statistical significance. No significant difference was found between the groups in terms of early postoperative morbidity.

Conclusion: In this study, a lower rate of omental involvement was observed in gastric cancer patients receiving neoadjuvant chemotherapy, but this difference was not statistically significant. The findings suggest that neoadjuvant therapy may reduce the burden of omental disease; however, larger prospective studies are needed to draw definitive conclusions regarding the necessity of total omentectomy.

Keywords: Gastric cancer, neoadjuvant chemotherapy, omentum

[S-023]

Staged versus simultaneous resection for synchronous colorectal liver metastases: Long-term outcomes and prognostic factors

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Objective: The optimal sequence of surgical management remains controversial. Traditionally, a staged colon-first approach has been accepted as the standard strategy. Increasing evidence suggests that survival is determined more by tumor biology and hepatic tumor burden than by the sequence of surgery. Comparative studies have reported that, in selected patient groups, simultaneous resection yields oncological outcomes similar to those of staged procedures.

Material and Methods: This study included 52 patients who underwent hepatic resection for synchron CRLM at Karadeniz Technical University Hospital between 2008-2022. Surgical resectability criteria were based on the principles of preservation of major hepatic vascular and biliary anatomical structures, ensuring adequate FLR capacity, and controlled extrahepatic disease. Descriptive statistics were calculated and reported separately for synchronous and metachronous CRLM groups.

Results: A total of fifty-two patients diagnosed with resectable synchronous CRLM were included in the study. Patients were divided into two groups according to the surgical strategy: The staged resection group (n=32) underwent sequential operations, while the simultaneous resection group (n=20) underwent both colorectal and hepatic resection in a single session. No significant differences were found between the two groups. In both groups, the dominant metastatic lobe was identified as the right lobe. No significant difference was found between the two groups in terms of CRC pathology. In both groups, T3 tumors were observed to be predominant. In the comparison of the two groups, surgical site infection was observed more frequently in the simultaneous group, and the length of hospital stay was also significantly longer in this group. No mortality was observed in either group. Although the staged approach was found to be statistically superior in univariate analyses, it wasn't significant in multivariate analyses. The presence of more than four metastatic lesions and a primary tumor originating from the rectum are independently associated with poorer OS. Although large metastasis size (>5 cm) was a poor prognostic factor in univariate analysis, its independent effect could not be demonstrated in multivariate analysis.

Conclusion: Tumor burden and primary tumor location are the most important determinants of long-term survival after hepatectomy for colorectal cancer liver metastases.Lymph node positivity is an important prognostic factor that negatively affects both DFS and OS,and the risk increases significantly with advancing stage. Simultaneous surgery is associated with a higher rate of surgical site infection and longer hospital stay; it should be selected carefully,especially in cases involving major hepatectomy and rectal surgery. It has been shown that the surgical strategy shouldn't be uniform but rather individualized according to patient characteristics. Biology-driven patient selection and personalized treatment timing are critical for improving long-term outcomes in CRLM; however, the study design and sample size limits the generalizability of the results.

Keywords: Colorectal cancer, liver metastasis

Table 1. Univariate analysis disease-free and overall survival

	DFS						OS				
	n	1 Y (%)	3 Y (%)	5 Y (%)	Median (months, CI 95%	Log rank p-value	1 Y (%)	3 Y (%)	5 Y (%)	Median (months, CI 95%)	Log rank p-value
Timing of surgery											
Staged	32	55	22	3	12.5 (7-16)	0.039	94	47	19	35 (26-50)	**0.059**
Simultaneus	20	20	5	4	4 (I 3-6.5)		60	25	10	17 (8-33)	
Age											
<65	45	40	14	5	8 (4-14)	0.793	78	35	16	25 (19-36)	0.569
>65	7	42	28	0	8 (5-43)		100	57	14	50 (28-54)	
Sex											
Female	15	54	14	5	13 (4-22)	0.257	74	40	20	25 (19-51)	0.521
Male	37	36	16	6	7 (4-12)		84	37	35	31 (20-47)	
CHT before liver surgery											
Yes	31	36	10	0	8 (4-16)	0.884	78	33	10	28 (20-36)	0.459
No	21	48	24	10	5 (I 3-16)		81	33	16	36 (19-53)	
CHT after liver surgery											
Yes	37	40	10	6	8 (4-16)	0.884	86	45	14	31 (24-43)	0.896
No	15	40	20	2	5 (3-16)		67	40	20	22 (8-51)	
Primary tumor											
Colon	24	45	16	4	8 (I 4-17)	0.150	78	50	28	41.5 (21-53)	**0.018**
Rectum	20	30	5	5	5 (I 4-11.5)		75	20	5	19.5 (13.5-29)	
Positive nodes											
0	12	84	33	8	17 (8-34)		100	58	29	47 (19-63)	
1-3	12	25	0	0	5 (3.5-10)	0.034	92	25	9	26 (19-41)	0.100
4+	14	21	5	0	4 (2-11)		47	16	7	9 (6-24)	
Liver characteristic											
Type of surgery											
Major	16	32	6	0	5 (3-19)	0.167	56	18	6	19.5 (7-35)	**0.018**
Minor	36	44	20	5	8 (4-16)		92	48	19	35 (24-51)	
Resected lesions											
1	17	42	30	4	5 (3-43)		83	53	24	49 (18-55)	
2-3	25	52	12	4	12 (7.0-17)	0.020	95	44	16	36 (24-47)	**<0.005**
4+	10	10	0	0	4.5 (2.5-8)		40	0	0	8.5 (6-22)	
Max metastasis size (cm)											
<5	35	45	22	5	8 (5-17)	0.009	88	49	20	36 (25-50)	**0.011**
>5	17	30	0	0	5 (3-13)		65	18	5	19 (8-31)	
Margin status											
Negative	43	47	18	4	11 (5-16)	0.214	87	45	18	35 (22-47)	0.916
Positive	7	15	0	0	4 (2-5)		35	15	15	31 (5-34)	
Annexin V											
Low	38	6	2	2	8 (4-16)	0.500	9	7	4	29 (22-39)	0.170
High	14	15	6	0	7.5 (3-16)		33	15	4	29 (7-63)	

Table 2. Perioperative results of liver metastasis resections				
	Staged (n=37) (65%)	Simultaneus (n=20 (35%)	Overall (n=57)	p-value
Type of surgery (n,%)				
Major	8 (21.6)	8 (40)	16 (29)	0.244
Minor	29 (78.4)	12 (60)	41 (72)	
Optime (min, range)	130 (60-375)	147 (60-480)	130 (60-480)	0.378
Pringle (min, range)	14 (0-40)	13 (0-41)	14 (0-41)	0.576
Bleeding (cc, range)	250 (10-2000)	275 (10-1200)	250 (10-2000)	0.933
Mortalite (n,%)	0	0	0	
Surgical site infection (n,%)	4 (10.8)	7 (35.0)	11 (19.3)	0.038
Pulmonary thromboembolism (n,%)	0	1 (5.0)	1 (1.8)	0.351
Pneumonia (n,%)	1 (2.7)	3 (15.0)	4 (7.0)	0.119
Acute renal failure (n,%)	2 (5.4)	3 (15.0)	5 (8.8)	0.332
DVT (n,%)	0	1 (5.0)	1 (1.8)	0.351
Bile leakage (n,%)	0	1 (5.0)	1 (1.8)	0.351
PO biliary drenaj (n,%)	5 (13.5)	1 (5.0)	6 (10.5)	0.410
ICU stay (days, range)	0 (0-1)	0 (0-3)	0 (0-33)	0.203
Hospital stay (days, range)	8 (6-12)	13.5 (7-37)	8 (6-37)	<0.001
Surgical margin (mm, range)	3.5 (0-10)	2 (0-10)	3 (0-10)	0.857
Tumor necrosis (n,%)	9 (25)	4 (20)	13 (23.2)	0.752

[S-024]

Relationship between tumor size, T stage, histopathological features, and metastatic lymph node involvement in colon carcinoma cases: A single-center experience

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Objective: Regional lymph node metastasis is one of the key determinants of prognosis and adjuvant treatment decisions in colon cancer. The impact of primary tumor size, depth of local invasion, and histopathological differentiation on metastatic lymph node burden remains controversial in the literature. This study aimed to evaluate the relationship between tumor size, T stage, histopathological characteristics, and the number of metastatic lymph nodes using data from a single-center patient cohort

Material and Methods: This retrospective study included 112 patients who underwent emergency or elective right hemicolectomy for right-sided colon adenocarcinoma at our institution between 2023 and 2025. Primary tumor size was categorized according to the maximum diameter as 0-2 cm, 2-5 cm, 5-10 cm, and ≥10 cm. T stage, histopathological differentiation grade, and the number of lymph nodes harvested during surgery were recorded. Factors associated with the number of metastatic lymph nodes were analyzed using non-parametric methods. Group comparisons were performed using the Kruskal-Wallis test, and a p-value <0.05 was considered statistically significant.

Results: According to tumor size, there were 2 patients in the 0-2 cm group with a mean metastatic lymph node count of 1.0. The 2-5 cm group included 53 patients with a mean metastatic lymph node count of 2.19. In the 5-10 cm group, 49 patients were identified, with a mean metastatic lymph node count of 2.04. The ≥10 cm group consisted of 7 patients with a mean metastatic lymph node count of 2.71. No statistically significant association was observed between tumor size and the number of metastatic lymph nodes. Analysis according to T stage demonstrated low metastatic lymph node counts in early stages, with a marked increase in advanced stages. While the mean metastatic lymph node counts remained low in T1 and T2 stages, a substantial increase was observed in T4 stage disease. A statistically highly significant association was found between T stage and metastatic lymph node count. With respect to histopathological differentiation, although well-differentiated tumors exhibited higher mean metastatic lymph node counts, no statistically significant difference was identified among histopathological subgroups

Conclusion: In this contemporary single-center patient cohort, a strong and statistically significant association was identified between T stage and metastatic lymph node burden. In contrast, primary tumor size and histopathological differentiation grade did not demonstrate a significant impact on the number of metastatic lymph nodes. These findings support the concept that depth of local invasion is one of the primary determinants of nodal metastasis in colon cancer.

Keywords: 18 lymph node involvement, colon carsinoma, stage

[S-025]

Effects of lymphovascular/perineural invasion on prognosis in breast cancer patients undergoing surgery

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Objective: Breast cancer is the most common type of cancer in women in Türkiye and worldwide, often requiring multidisciplinary treatment planning. Tumor size, histological type, proliferation rate, and several molecular factors, particularly axillary lymph node involvement, play a decisive role in breast cancer prognosis. While the negative effects of lymphovascular invasion on prognosis have been demonstrated in numerous studies, there are insufficient studies demonstrating the effects of perineural invasion on prognosis.

Material and Methods: Our study, which aimed to investigate the impact of lymphovascular and perineural invasion on disease-free and overall survival, included 262 patients diagnosed with breast cancer at our clinic between January 1, 2015, and December 31, 2019, who underwent surgery and afterwards under follow-up. The patients were primarily grouped according to those who survived and those who died during the follow-up period. Patients were divided into groups of two to create three different categorizations: Those with and without metastasis development, and those with and without metastasis among those who exitus. The groups constituting the categorization were compared in terms of lymphovascular invasion and perineural invasion development and the presence of statistically significant differences was investigated. In addition to these categorizations, two different categorizations were also created: Those with lymphovascular invasion (n=130) and without (n=132) in the final pathology results and those with perineural invasion (n=80) and without (n=182) in the final pathology results. In these categorizations; statistically significant differences in disease-free and overall survival between the groups were investigated. The dates of recurrence and metastasis were used as the basis for assessing disease-free survival and prognosis. The last follow-up date was October 31, 2024, for patients without recurrence or metastasis, and October 31, 2024, for patients without death.

Results: In analyses the effects of tumor-related parameters on mortality, the effects of lymphovascular invasion and perineural invasion on mortality and their importance within the holistic model were investigated.

Conclusion: Our study concluded that lymphovascular and perineural invasion were both factors that increased mortality, and both types of invasion were observed to shorten disease-free and overall survival. The presence of lymphovascular and/or perineural invasion in patients diagnosed with breast cancer who undergo surgery is considered to have negatively impact on breast cancer prognosis, and these parameters are independent predictors of poor prognosis. Patients with this type of invasion should be monitored more closely during postoperative follow-up period for conditions such as recurrence or metastasis.

Keywords: Breast cancer, prognosis, lymphovascular invasion, perineural invasion

[S-026]

The value of the C-reactive protein to albumin ratio as a prognostic and complication indicator in gastric cancer

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Objective: Identifying factors affecting prognosis in cancer patients is important for followup and treatment planning. Recent studies show that markers indicating increased systemic inflammatory response are associated with poor prognosis in many cancers. The C-reactive protein to albumin ratio (CAR) is one such marker. A cut-off value of ≥0.25 has been identified as significant for poor prognosis in gastric cancer. In this study, we aimed to evaluate the relationship between CAR and complications and survival in patients who underwent surgery for gastric cancer at our clinic.

Material and Methods: In this study, the data of 128 patients who underwent surgery for gastric cancer at University of Health Sciences Türkiye, Ankara Etlik City Hospital between March 2023 and December 2025 were retrospectively reviewed from digital records. The patients' stages, surgical interventions, preoperative albumin and CRP levels, postoperative complications classified according to Clavien-Dindo, survival times, and follow-up periods were documented.

Results: There were 38 female and 90 male patients, with a mean age of 63.2 years (range 32-86). Subtotal gastrectomy was performed in 39 patients (30.4%) and total gastrectomy in 89 patients (69.6%). Postoperative pathology revealed 28 patients (21.9%) with stage 1 disease, 28 (21.9%) with stage 2, 57 (44.5%) with stage 3, and 15 (11.7%) with stage 4. Preoperative CRP and albumin values were used to calculate the CRP/albumin ratio (CAR), and patients were grouped as CAR ≥0.25 or CAR <0.25. Postoperative Clavien-Dindo scores, complication rates, follow-up periods, and overall survival were compared between groups. Mortality was significantly higher in the CAR ≥0.25 group. Multivariate analysis showed that elevated CAR was an independent predictor of mortality (OR=3.5, 95% CI: 1.3-7.8, p=0.009; HR=2.5, 95% CI: 1.2-5.0, p=0.013). Kaplan-Meier analysis demonstrated a mean survival of 19.2 months in the CAR ≥0.25 group and 27.2 months in the CAR <0.25 group. Median survival could not be calculated because survival did not fall below 50% during follow-up. The survival difference was significant (log-rank p<0.001). High CAR was also significantly associated with postoperative complications (p=0.003).

Conclusion: Liu et al. found CAR to be independently associated with overall survival in gastric cancer patients using a cut-off value of 0.25 in their 2015 study. Alkurt et al. stated in their 2022 study that CAR could be used as a prognostic indicator using this cut-off value. In our series, in addition to demonstrating the relationship of this ratio with survival, we also tested its statistically significant relationship with postoperative complications. Multicenter prospective randomized controlled trials are needed to clarify this relationship.

Keywords: C-reactive protein, gastric cancer, prognosis

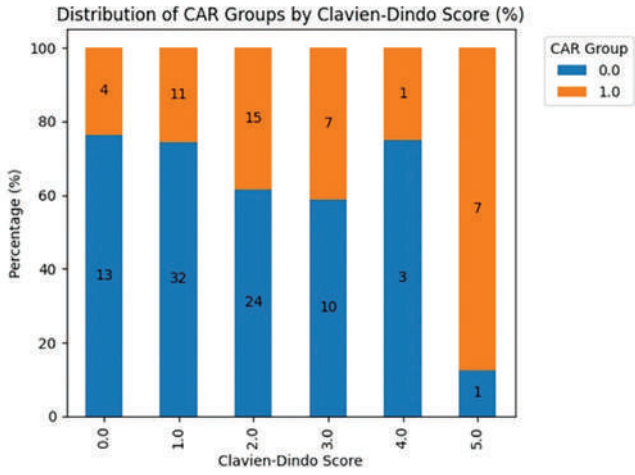

Figure 1. Distribution of CAR groups by Clavien-Dindo score.

0: CAR <0.25 1: CAR ≥0.25

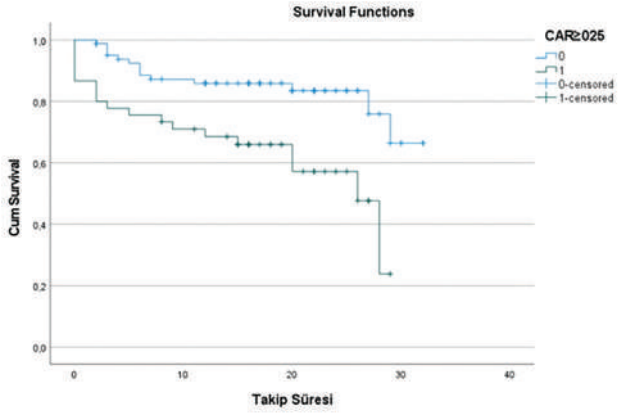

Figure 2. Kaplan-Meier survival curve.

0: Represents patients with CAR <0.25 and 1: Represents patients with CAR ≥0.25. The group with low CAR shows better survival.

Table 1. Distribution of patients' overall survival (OS) times according to clinical and laboratory parameters

	Count	GS - month (95% CI)	p-value
Gender			0.702
Female	38 (30%)	24.2 (22.6-26.8)	
Male	90 (70%)	24.9 (22.5-27.4)	
Age			0.478
≥65	63 (49.3%)	24.1 (20.9-27.1)	
<65	65 (50.7%)	25.5 (22.7-28.3)	
CRP (mg/L)			<0.001
≥5	68 (53.1%)	21.1 (18-24.2)	
<5	60 (46.9%)	29.1 (27-31.2)	
Albumin (g/L)			<0.001
≥35	74 (57.8%)	28 (25.9-30.1)	
<35	54 (42.2%)	20.4 (16.7-24.1)	
CAR			<0.001
≥0.25	45 (35.1%)	19.2 (15.7-22.6)	
<0.25	83 (64.9%)	27.2 (25-29.4)	
TNM stage			0.002
Stage 1	28 (21.8%)	27.8 (25.2-30.3)	
Stage 2	28 (21.8%)	27.2 (23.4-31)	
Stage 3	57 (44.5%)	22.5 (19.4-25.6)	
Stage 4	15 (11.7%)	24.7 (22.6-26.8)	

Mean survival time in months and p-values according to Kaplan-Meier analysis.

[S-027]

Upgrade rate to malignancy and clinicopathological associations in cases with papillary lesions detected on breast core needle biopsy

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Objective: Papillary lesions of the breast represent a heterogeneous histopathological spectrum ranging from benign intraductal papilloma to papillary carcinoma. In cases diagnosed with papillary lesions by core needle biopsy, optimal management remains controversial due to the possibility of under-sampling and the risk of an associated malignancy. This study aimed to evaluate the upgrade rate to malignancy and the associated clinicopathological factors in patients who underwent surgical excision following a diagnosis of papillary lesion.

Material and Methods: Between 2020 and 2025, a total of 36 patients who were reported as having intraductal papilloma or papillary neoplasm on core needle biopsy and subsequently underwent surgical excision were retrospectively analyzed. Evaluated variables included age (mean: 48.41 years), lesion size, imaging modalities (ultrasonography, mammography, MRI), BI-RADS category, and immunohistochemical markers (ER, PR, CK5/6, CK14, p63, actin, calponin). Categorical variables were analyzed using the chi-square or Fisher's exact test, and continuous variables were analyzed using the Mann-Whitney U test. Statistical significance was accepted as $p<0.05$.

Results: Among the 36 patients, malignancy was detected in 12 (33.3%) following surgical excision (upgrade rate: 33.3%; 95% CI: 20.2-49.7). The mean age was significantly higher in the group with malignancy (≥50 years) ($p=0.003$). Cases reported as "suspicious for carcinoma" on biopsy demonstrated a significantly higher malignancy rate in the excision specimen ($p<0.001$). Although the malignancy rate was higher in patients with BI-RADS ≥4 lesions, this difference did not reach statistical significance ($p>0.05$). No significant association was found between immunohistochemical markers and upgrade to malignancy.

Conclusion: The observed 33.3% upgrade rate in papillary lesions highlights the diagnostic value of surgical excision in selected patients. Careful evaluation is particularly warranted in older patients and in cases where malignancy is suspected on biopsy. Clinical, radiological, and pathological findings should be considered together to guide patient-based decision-making.

Keywords: Papillary lesion, surgical excision,upgrade

[S-028]

A western perspective on a rare disease: Surgical and oncologic experience in remnant gastric cancer

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Objective: Remnant gastric cancer (RGC), a distinct and rare subtype of gastric cancer, arises in the remnant stomach following partial gastrectomy. Its clinicopathological features remain poorly understood, and the overall prognosis is unfavorable. No standardized treatment protocol exists for RGC, and clinical management is largely extrapolated from treatment strategies for primary gastric cancer. Most studies have originated from East Asia. This study aims to present our institutional experience and contribute to the understanding of RGC in a Western cohort.

Material and Methods: This retrospective study analyzed data from a prospectively maintained database of patients who underwent surgery for RGC at Marmara University Hospital between January 2015 and January 2025. Patient characteristics, postoperative management strategies, short-term complications, and histopathological characteristics of the resected specimens were evaluated.

Results: A total of 36 patients were included, stratified according to the indication for the initial gastrectomy (benign vs. malignant). The mean interval between the initial surgery and development for RGC was significantly longer in the benign group (395.7±145.8 months) compared to the malignant group (98.8±71.3 months; $p=0.001$). The median number of harvested lymph nodes was 11.0 (5.0-15.0) in the benign group and 3.5 (2.2-6.5) in the malignant group ($p=0.048$). Clavien-Dindo grade IIIa or higher complications occurred in 24% and 18% of patients, respectively. Five-year overall survival decreased with advancing stage with median survival not reached in early stages but limited to 21.9 and 7.4 months in stages III and IV, respectively.

Conclusion: Consistent with previous reports, RGC following malignant disease developed after a shorter interval. The limited number of lymph nodes harvested may contribute to disease understaging and poorer outcomes.

Keywords: Remnant, gastric, cancer

Table 1. Demographic features and patient characteristics			
	Benign group (n=25, 69%)	**Malignant group (n=11, 31%)**	**p-value**
Sex (M/F, n)	21/4	8/3	0.650
Age (years, mean ± SD)	67.8±7.7	62.3±13.2	0.126
BMI (kg/m², mean ± SD)	23.9±3.5	22.0±2.4	0.177
ASA score	I: 4 II: 11 III: 9 IV: 1	I: 1 II: 6 III: 3 IV: 1	0.882
Smoking (n)	14	7	0.669
Interval from first surgery (months, mean ± SD)	395.7±145.8	98.8±71.3	p<0.001
LOS [days, median (IQR)]	5.0 (4.0-6.0)	6.0 (5.0-9.0)	0.136
Complications (Clavien-Dindo ≥3, n, %)	6 (24%)	2 (18%)	1.000

Table 2. Tumor characteristics			
Variable	**Benign group (n=25, 69%)**	**Malignant group (n=11, 31%)**	**p-value**
Tumor location Anastomotic site Non-anastomotic	 19 6	 8 3	 1.000
Harvested lymph nodes [median (IQR)]	11.0 (5.0-15.0)	3.5 (2.2-6.5)	0.048
Positive lymph nodes [median (IQR)]	3.0 (0.0-4.0)	2.0 (0.0-2.8)	0.408
Positive surgical margin (n, %)	3 (12%)	5 (45%)	0.040

[S-029]

Determinants of recurrence after gastrointestinal stromal tumor surgery: A retrospective analysis

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Objective: Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract and exhibit heterogeneous biological behavior. Although surgical resection constitutes the cornerstone of curative treatment in localized disease, the risk of postoperative recurrence remains a significant clinical concern, particularly in high-risk cases. The aim of this study is to evaluate the clinical, pathological, and surgical factors associated with recurrence in patients with surgically treated GISTs and to identify prognostic determinants.

Material and Methods: This retrospective study included 212 patients who underwent surgical treatment for gastrointestinal stromal tumors (GISTs) at Ankara Bilkent City Hospital between 2019 and 2026. Demographic characteristics, surgical approach, tumor location, tumor size, mitotic index, intratumoral hemorrhage, necrosis, ulceration, tumor rupture, type of resection, and surgical margin status were recorded. Cases were stratified according to the AFIP risk classification. A subset of high-risk patients received adjuvant imatinib therapy in the postoperative period. The median follow-up duration was 38 months (range, 6-96 months). During follow-up, recurrence was assessed, and patients with and without recurrence were compared. Statistical analyses were performed using the Mann-Whitney U test and the chi-square test, with p-values <0.05 considered statistically significant.

Results: The median age was 65 years, and 55.7% of patients were male. Most tumors were gastric (66.5%), with a median size of 3.65 cm; R0 resection was achieved in 93.9%. Recurrence occurred in 12 patients (5.7%), most commonly local (41.7%) or extra-GIST (33.3%). Recurrence was significantly associated with intratumoral hemorrhage, tumor necrosis, tumor rupture, a mitotic index ≥11, and AFIP high-risk classification (all p<0.05), while no associations were observed with age, sex, tumor size, surgical approach, or ulceration.

Conclusion: Recurrence following GIST surgery is closely associated with tumor rupture, a high mitotic index, tumor necrosis, the presence of intratumoral hemorrhage, and classification within the AFIP high-risk group. Our findings support the importance of considering certain histopathological features, in addition to established risk classification systems, when making decisions regarding postoperative surveillance and adjuvant therapy. The retrospective design of the study and the heterogeneity of adjuvant treatment data constitute the main limitations.

Keywords: GIST, relapse, adjuvan

[S-030]

The effect of neoadjuvant chemotherapy on metastatic lymph node distribution in cardial gastric cancer

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Objective: In locally advanced gastric cancer, neoadjuvant chemotherapy (NAC) is commonly used before surgery to reduce tumor burden and improve survival. While studies exist regarding the effect of neoadjuvant chemotherapy on the primary tumor, there are insufficient studies on its effect on lymph nodes. This study aimed to investigate the effect of neoadjuvant chemotherapy on the distribution pattern in lymph nodes.

Material and Methods: Patients who underwent total gastrectomy and D2 lymph node dissection for gastric cardia tumors by the same surgeon at our clinic between 2015 and 2025 were retrospectively reviewed. The study included tumors with T3 and T4 tumor classifications on pathological examination. Demographic data, surgical procedures, and pathology data of the patients were analyzed. Lymph node involvement patterns were examined station-based (Nos: 1-12) according to the Japanese Gastric Cancer Society. Patients were divided into two groups: those receiving neoadjuvant chemotherapy (NAC+) and those not receiving neoadjuvant chemotherapy (NAC-). The chi-square test was used for statistical analysis, and a p-value <0.05 was considered statistically significant.

Results: A total of 42 patients with T3 and T4 tumors who underwent total gastrectomy and D2 lymph node dissection due to gastric cardia tumors and had complete data were included in the study. Thirteen patients were examined in the NAK+ group and 29 patients in the NAK- group. The positivity rate in some lymph node stations was found to be significantly lower in the NAK+ group compared to the NAK- group. The positivity rate in lymph node stations 3, 4, 6, 8, and 10 was significantly lower in the NAK+ patient group (p<0.05). No significant difference in metastatic lymph node ratio was observed in other lymph node stations. Additionally, the total number of lymph nodes removed at stations 3, 4, 6, 7, 8, 9, and 11 was significantly lower in the NAK+ group (p<0.001).

Conclusion: In proximal gastric cancer, neoadjuvant chemotherapy affects both the total number of lymph nodes and the metastatic lymph node ratio.

Keywords: Gastric cardia cancer, lymph node station, total gastrectomy

[S-031]

Extent of omentectomy and survival in clinically node-positive gastric cancer

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Objective: Total omentectomy has long been considered a standard surgical approach in gastric adenocarcinoma. However, with the widespread use of modern neoadjuvant chemotherapy regimens—particularly perioperative FLOT—the oncologic necessity of routine total omentectomy has become increasingly controversial. The survival benefit of total omentectomy following neoadjuvant treatment has not been clearly demonstrated in the current literature

Material and Methods: Between January 2014 and December 2024, 84 patients with clinically node-positive gastric adenocarcinoma who underwent D2 total gastrectomy after neoadjuvant FLOT chemotherapy were retrospectively analysed. Patients were grouped according to the extent of omentectomy as partial or total. Overall survival (OS) and progression-free survival (PFS) were evaluated using the Kaplan-Meier method. Prognostic factors affecting survival were assessed using multivariable Cox regression analysis.

Results: No significant differences were observed between the partial and total omentectomy groups in terms of demographic or clinicopathological characteristics. Omental tumour deposits were rare (3.6%). Median OS and PFS were comparable between the two groups (p>0.05). In multivariable Cox regression analysis, lymphatic invasion and positive resection margin were identified as independent adverse prognostic factors, whereas the extent of omentectomy was not an independent predictor of OS or PFS.

Conclusion: In clinically node-positive gastric cancer patients treated with neoadjuvant FLOT, partial omentectomy provides oncologic outcomes comparable to those of total omentectomy. These findings suggest that total omentectomy should not be routinely performed but rather individualised based on patient characteristics and intraoperative findings.

Keywords: Gastric adenocarcinoma, lymph node, neoadjuvant chemotherapy, omentectomy, overall survival

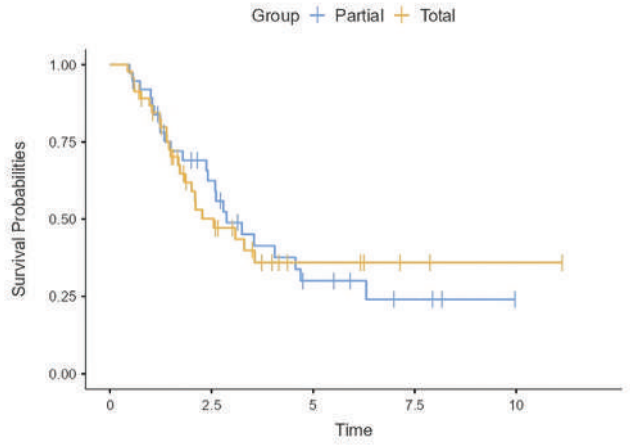

Figure 1. Overall survival in partial and total omentectomy groups.

Overall survival curves of clinically node-positive gastric cancer patients undergoing partial or total omentectomy were compared using the Kaplan-Meier method. No statistically significant difference in overall survival was observed between the two groups (log-rank p=0.91).

Table 1. Survival outcomes according to the extent of omentectomy

Variable	Partial	Total	p
Omental tumor deposit, n (%)	1(2.6)	2 (4.3)	1.00
Lymphatic invasion, n (%)	20 (52.6)	21 (45.7)	0.49
Median OS, years	2.50	1.83	0.91
Median PFS, years	1.53	1.31	0.70

Comparison of survival outcomes and clinicopathological characteristics between partial and total omentectomy groups.

[S-032]

Intraoperative biopsy practices in perforated gastric ulcer: A survey study evaluating surgeons' preferences in Türkiye

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Objective: Intraoperative biopsy in perforated gastric ulcers has traditionally been performed to exclude underlying malignancy. However, despite growing evidence indicating a low incidence of malignancy in recent years, the extent to which this practice is adopted by surgeons remains unclear. This study aimed to evaluate the attitudes of general surgeons in Türkiye toward intraoperative biopsy in perforated gastric ulcers and to identify factors influencing their decision-making.

Material and Methods: This descriptive, cross-sectional survey study was conducted among actively practicing general surgeons across Türkiye. A total of 361 surgeons were included. The questionnaire collected data on demographics, biopsy practices in perforated gastric ulcers, surgical approach preferences, and postoperative endoscopy planning. Multivariable logistic regression analysis was performed to identify factors associated with routine intraoperative biopsy.

Results: The mean age of participants was 41.4±10.3 years, and the mean duration of surgical experience was 12.8±9.7 years. Only 24.2% of surgeons correctly estimated the current malignancy risk (<5%) in perforated gastric ulcers, while 102 participants did not provide a quantitative estimate of malignancy risk. Routine biopsy was reported by 52.9% of participants, selective biopsy by 42.9%, and no biopsy by 4.2%. In multivariable analysis, age, surgical experience, and perceived malignancy risk were associated with routine biopsy practice; however, none of these factors reached independent statistical significance. The majority of participants (87.0%) reported recommending postoperative endoscopy.

Conclusion: Despite low malignancy rates reported in contemporary literature, intraoperative biopsy in perforated gastric ulcers remains widely practiced in Türkiye. Surgeons' biopsy decisions appear to be influenced primarily by perceived malignancy risk, clinical experience, and traditional practice patterns. These findings suggest that an evidence-based approach favoring selective intraoperative biopsy combined with planned postoperative endoscopy should be more effectively integrated into clinical practice.

Keywords: Perforated gastric ulcer, intraoperative biopsy, postoperative endoscopy

Figure 1. Geographic distribution of general surgeons who participated in the survey across Türkiye.

Table 1.

Variable	Group	Value	p-value
Intraoperative biopsy	Routine biopsy	Age: 42.6±10.1	0.01
	Non-routine biopsy*	Age: 39.810.1	
	Routine biopsy	Experience: 14.3±9.7	0.002
	Non-routine biopsy*	Experience: 11.0±9.2	
Surgical approach	Primary repair	328 (90.9%)	—
	Resection	21 (5.8%)	
	Case-dependent	12 (3.3%)	
	Resection	Age: 49.1±10.6	<0.002
	Primary repair	Age: 40.8±10.1	
Postoperative endoscopy	Recommended	314 (87.0%)	—
	Not/selective	47 (13.0%)	

[S-033]

Retrospective evaluation of the impact of anatomical and biological characteristics of abdominal retroperitoneal tumoral masses on morbidity, mortality, and oncological outcomes

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Objective: The aim of this study was to develop a complexity scoring system to guide surgical technique in patients operated on for primary abdominal retroperitoneal tumoral masses (PARTM) and to evaluate the multidisciplinary oncological outcomes of our clinic using this scoring system.

Material and Methods: The dataset of 103 patients aged 18 years and older who were treated for PARTM was retrospectively analyzed. A retroperitoneal tumor complexity score ("RETCOX") was developed using clinico-radiological parameters ("resected organ, comorbidity, tumor diameter, and tumor volume").

Results: Gastrointestinal organ resection (p=0.031) and the presence of comorbidity (p=0.044) were identified as independent risk factors for the development of complications. Presentation with primary or recurrent disease (p=0.018) and receiving postoperative chemotherapy (p=0.013) were found to be strong independent risk factors for local recurrence. Regarding the development of distant metastasis, adjacent organ invasion (p=0.016) and postoperative chemotherapy (p=0.028) were identified as strong independent risk factors. For combined recurrence, postoperative chemotherapy (p<0.001) was an independent and significant risk factor. In the Cox regression analysis performed to evaluate factors affecting disease-free survival (DFS), postoperative chemotherapy (p=0.005) and preoperative chemotherapy (p=0.011) were identified as independent significant prognostic factors. For overall survival (OS), increasing tumor diameter (p=0.015), adjacent organ invasion (p=0.003), malignant pathology (p=0.046), and development of local recurrence (p=0.001) were found to be strong independent prognostic factors.Postoperative complications were categorized into three groups: "no complications," "low-grade complications," and "high-grade complications." The complication tree grouped according to the RETCOX score was evaluated using the Kruskal-Wallis test (p=0.021).When RETCOX scores were analyzed in terms of mortality, the mean RETCOX score was 7.6 in the surviving patient group and 10.5 in the deceased patient group. High RETCOX scores showed a statistically significant difference in terms of mortality (p<0.001). A high RETCOX score was identified as a strong independent risk factor for both complication development (p=0.01) and mortality (p=0.004).

Conclusion: A high RETCOX score was also found to be a strong independent prognostic factor for DFS (p=0.008) and OS (p=0.001). However, the RETCOX score was not identified as an independent risk factor for oncological outcomes such as local recurrence (p=0.232), distant metastasis (p=0.519), or combined recurrence (p=0.204).

Keywords: Radical resection, retroperitoneum, abdominal retroperitoneal tumoral masses, complexity score

Komplikasyon

	B	S.E.	Wald	df	p	OR	Alt %95 güven aralığı	Üst %95 güven aralığı
Gastrointestinal sistem organı rezeksiyonu	1.043	.483	4.674	1	.031	2.839	1.102	7.310
Ko-morbidite	1.118	.556	4.042	1	.044	3.058	1.028	9.093
RETCOX skoru	.139	.054	6.609	1	.01	1.149	1.034	1.278

*Modelde bulunan diğer değişkenler: Tümör çapı, Kompartman yerleşimi, Tümör volümü, Komşu organ invazyonu, Primer veya nüks hastalık, Preoperatif KT tedavisi, Gastrointestinal sistem organı rezeksiyonu, Ko-morbidite

Mortalite

	B	S.E.	Wald	df	p	OR	Alt %95 güven aralığı	Üst %95 güven aralığı
Tümör çapı	1.778	.681	6.821	1	.009	5.916	1.558	22.462
Cerrahi sınır durumu	1.189	.663	3.217	1	.073	3.282	.896	12.303
Lokal nüks	2.190	.730	8.998	1	.003	8.931	2.136	37.345
Patoloji sonucu(malign/benign)	1.810	.997	3.296	1	.069	6.113	.866	43.160
Uzak metastaz	2.830	.924	9.376	1	.002	16.946	2.769	103.701
RETCOX skoru	.170	.059	8.365	1	.004	1.186	1.056	1.331

*Modelde bulunan diğer değişkenler: Cinsiyet, Primer veya nüks hastalık, Postoperatif KT tedavisi, Gastrointestinal sistem organı rezeksiyonu, Tümör çapı, Tümör volümü, Komşu organ invazyonu, Cerrahi sınır durumu, Lokal nüks, Patoloji sonucu(malign/benign), Uzak metastaz.

Lokal nüks

	B	S.E.	Wald	df	p	OR	Alt %95 güven aralığı	Üst %95 güven aralığı
Primer veya nüks hastalık	1.272	.536	5.624	1	.018	3.569	1.247	10.213
Postoperatif KT tedavisi	2.643	1.060	6.212	1	.013	14.05	1.759	112.347

*Modelde bulunan diğer değişkenler: Primer veya nüks hastalık, Postoperatif KT tedavisi, Gastrointestinal sistem organı rezeksiyonu, Patoloji sonucu(malign/benign), Preoperatif KT tedavisi

Uzak metastaz

	B	S.E.	Wald	df	p	OR	Alt %95 güven aralığı	Üst %95 güven aralığı
Postoperatif KT tedavisi	2.331	1.064	4.800	1	.028	10.29	1.279	82.820
Komşu organ invazyonu	1.902	.793	5.755	1	.016	6.697	1.416	31.670

*Modelde bulunan diğer değişkenler: Postoperatif KT tedavisi, Patoloji sonucu(malign/benign), Komşu organ invazyonu

Kombine nüks

	B	S.E.	Wald	df	p	OR	Alt %95 güven aralığı	Üst %95 güven aralığı
Postoperatif KT tedavisi	3.673	1.044	12.38	1	<.001	39.38	5.091	304.696

*Modelde bulunan diğer değişkenler: Postoperatif KT tedavisi, Patoloji sonucu(malign/benign), Gastrointestinal sistem organı rezeksiyonu, Preoperatif KT tedavisi, Komşu organ invazyonu, Primer veya nüks hastalık.

KT: Kemoterapi

Figure 1. Logistic regression analysis of statistically significant variables in patients diagnosed with retroperitoneal tumoral masses.

Tablo 20: Retroperitoneal tümöral kitle tanılı hastaların bağımsız güçlü prognostik faktörleri (Cox Regresyon Analizi)

Genel Sağkalım

	B	S.E.	Wald	df	p	HR	Alt %95 güven aralığı	Üst %95 güven aralığı
Tümör çapı	1.139	.468	5.916	1	.015	3.124	1.248	7.824
Tümör volümü	-.833	.439	3.603	1	.058	.435	.184	1.028
Komşu organ invazyonu	1.168	.392	8.871	1	.003	3.217	1.491	6.940
Patoloji sonucu(malign/benign)	1.489	.746	3.982	1	.046	4.432	1.027	19.134
Lokal nüks	1.120	.327	11.727	1	.001	3.066	1.615	5.822

Figure 2. Independent strong prognostic factors in patients diagnosed with retroperitoneal tumoral masses (Cox regression analysis).

Tablo 26: Retroperitoneal tümöral kitle tanılı hastaların bağımsız güçlü prognostik faktörleri (Cox Regresyon Analizi)

Hastalıksız Genel Sağkalım

	B	S.E.	Wald	df	p	HR	Alt %95 güven aralığı	Üst %95 güven aralığı
Postoperatif KT tedavisi	2.872	1.023	7.890	1	.005	17.675	2.382	131.146
Preoperatif KT tedavisi	.931	.367	6.423	1	.011	2.537	1.235	5.212

*Modelde bulunan diğer değişkenler: Tümör çapı, Tümör kompartman yerleşimi, Tümör volümü, Cerrahi sınır durumu, Patoloji sonucu(malign/benign), Komşu organ invazyonu, Preoperatif KT tedavisi, Postoperatif KT tedavisi

KT: Kemoterapi

Figure 3. Independent prognostic factors in patients diagnosed with retroperitoneal tumoral masses (Cox regression analysis).

Tablo 35: Retroperitoneal kitle tanılı hastalarda düşük ve yüksek RETCOX skoruna göre ortalama ve ortanca genel sağkalım süreleri (ay)

RETCOX skoru kesim noktası: 7.5	Ortalama			Ortanca		
	Sağkalım süresi	SH	%95 güven aralığı	Sağkalım süresi	SH	%95 güven aralığı
Düşük skor	157.672	20.595	117.3-198.0	209.639	69.4	73.478-345.8
Yüksek skor	52.843	8.623	35.9-69.744	23.508	7.759	8.302-38.715
Genel	87.962	12.124	64.2-111.72	40.885	14.43	12.594-69.17

Grafik 16: Retroperitoneal kitle tanılı hastalarda RETCOX skorunun genel sağkalım süresine etkisinin karşılaştırılması (ay)

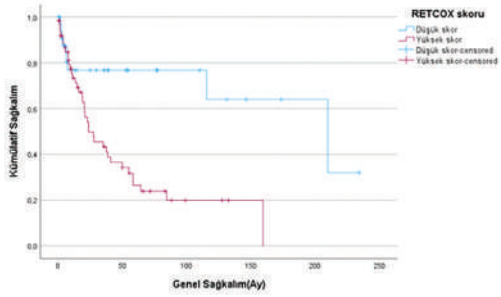

Figure 4. Mean and median overall survival (months) according to low and high RETCOX scores in patients with retroperitoneal tumoral masses.

Tablo 36: Retroperitoneal kitle tanılı hastalarda düşük ve yüksek RETCOX skoruna göre ortalama ve ortanca hastalıksız sağkalım süreleri (ay)

RETCOX skoru kesim noktası: 7.5	Ortalama			Ortanca		
	Sağkalım süresi	SH	%95 güven aralığı	Sağkalım süresi	SH	%95 güven aralığı
Düşük skor	146.797	23.707	100.33-193.2	.	.	.
Yüksek skor	57.788	9.608	38.95-76.621	21.738	12.493	0-46.224
Genel	98.208	14.648	69.49-126.91	54.754	13.165	28.95-80.55

Grafik 17: Retroperitoneal kitle tanılı hastalarda RETCOX skorunun hastalıksız sağkalım süresine etkisinin karşılaştırılması (ay)

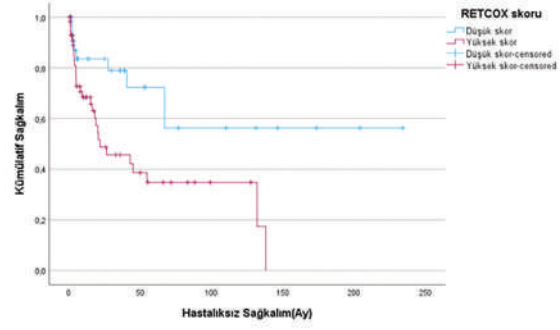

Figure 5. Mean and median disease-free survival (months) according to low and high RETCOX scores in patients with retroperitoneal tumoral masses.

[S-034]

Evaluation of TRPM2 ION channel progression in premalignant and malignant gastric lesions

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Objective: Gastric cancer is the fifth most common cancer worldwide and ranks third among cancer-related causes of death. The fact that the disease is most often diagnosed at an advanced stage negatively affects prognosis. Therefore, identifying molecular markers involved in the process from premalignant lesions to malignant transformation is of great importance. The transient receptor potential melastatin-2 (TRPM2) ion channel plays a role in cellular calcium signaling and has been associated with cell survival in many cancers. In this study, it was aimed to investigate the role of TRPM2 expression in the progression process in benign, premalignant, and malignant gastric tissues.

Material and Methods: Gastric biopsy and resection specimens diagnosed between 2015 and 2020 were retrospectively reviewed from the archives of the Department of Pathology, Fırat University. The study included 20 control cases, 20 premalignant lesions (intestinal metaplasia), and 60 cases of gastric adenocarcinoma (20 grade I, 20 grade II, and 20 grade III). From the paraffin blocks of cases with confirmed diagnoses, 4-µm-thick sections were obtained and immunohistochemical staining for TRPM2 was performed. Staining extent and intensity were evaluated, and the histoscore (extent × intensity) was calculated. Statistical analyses were performed to compare the groups, and $p<0.05$ was considered statistically significant.

Results: TRPM2 immunoreactivity showed an increase in premalignant lesions compared to the control group and was found to be statistically significantly higher in gastric adenocarcinomas. In the comparison among adenocarcinomas, no significant difference was observed between grade I and grade II tumors, whereas a significant decrease in TRPM2 expression was detected in grade III adenocarcinomas. A statistically significant association was found between TRPM2 expression and tumor grade.

Conclusion: It was determined that the TRPM2 ion channel exhibits increased expression in gastric tissue as it progresses from benign lesions to premalignant and malignant stages, but shows a tendency to decrease in high-grade tumors. These findings suggest that TRPM2 may play a role in gastric carcinogenesis and could serve as a potential biomarker for diagnosis and tumor grading. Further studies are needed to elucidate the prognostic and therapeutic value of TRPM2.

Keyword: Gastric cancer

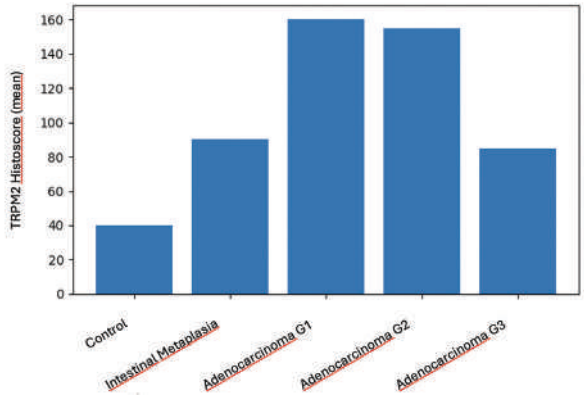

Figure 1. TRPM2 immunoreactivity in premalignant and malignant gastric lesions.

Table 1. TRPM2 immunoreactivity and statistical comparisons according to study groups				
Study group	**Number of cases (n)**	**TRPM2 immunoreactivity (histoscore)**	**Comparison**	**p-value**
Control	20	Low	Control vs. intestinal metaplasia	**p<0.05**
Intestinal metaplasia	20	Moderate	Control vs. intestinal metaplasia (overall)	**p<0.001**
Adenocarcinoma Grade I	20	High	Grade I vs. Grade II	p>0.05
Adenocarcinoma Grade II	20	High	Grade I-II vs. Grade III	**p<0.05**
Adenocarcinoma Grade III	20	Decreased	Premalignant vs. malignant (overall)	**p<0.001**

[S-035]

Prognostic value of preoperative immune-inflammatory and nutritional indices (NLR, SII, CALLY) on postoperative morbidity and mortality in patients undergoing gastric cancer surgery

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Objective: Gastric cancer surgery remains a complex procedure associated with high postoperative morbidity and mortality rates despite advancing techniques. Preoperative immune-inflammatory response and nutritional status are critical factors directly influencing the recovery process and oncological outcomes. Although the prognostic significance of biomarkers such as NLR, SII, and CALLY has been demonstrated in various malignancies, data regarding their specificity in predicting major complications and early mortality following gastric cancer surgery is limited. This study aims to analyze the predictive value of preoperative immune-nutritional parameters on short-term surgical outcomes.

Material and Methods: Data from 166 patients who underwent surgery for gastric cancer between January 2015 and May 2024 were retrospectively analyzed. Preoperative NLR, SII, PNI, and CALLY indices were calculated. Complications were graded according to the Clavien-Dindo (CD) classification, with CD ≥3 defined as major complications. Optimal cut-off values for biomarkers in predicting 30-day mortality and major complications were determined using ROC analysis.

Results: The study population comprised 112 males and 54 females, with a mean age of 66.1±12.3 years. Major complications occurred in 7.8% of the cohort, while the 30-day mortality rate was 6.6% In the major complication group, NLR (6.85 vs. 2.32, p=0.004) and SII ($1.16x10^6$ vs. $0.56x10^6$, p=0.014) were higher. For predicting mortality, the cut-off for NLR was 10.38 (AUC: 0.792, 99.4% specificity, 60% sensitivity) and for SII was $1.56x10^6$ (AUC: 0.753, 92.9% specificity, 60% sensitivity). A negative correlation was found between PNI and tumor size (r=-0.23, p=0.012).

Conclusion: Preoperative NLR and SII are independent and potent biomarkers with high specificity for predicting early mortality and major complications after gastric cancer surgery. Proactive management of patients with a high preoperative inflammatory burden may enhance surgical success.

Keywords: Neutrophil-to-lymphocyte ratio (NLR), systemic immune-inflammation index (SII), tumor size

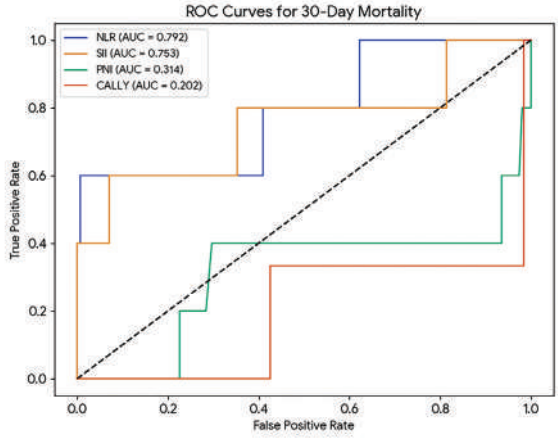

Figure 1. The relationship between biomarkers and 30-day mortality: ROC analysis.

Table 1. Biomarker analysis according to major complication status			
Biomarker	**Complication (-) median**	**Complication (+) median**	**p-value**
NLR	2.32	6.85	0.004
SII	569,313	1,161,044	0.014
CALLY	336.35	9.46	0.015
PNI	49.70	42.98	0.164

Table 2. The relationship between biomarkers and pathological stage		
Biomarker	**Tumor size (r, p)**	**Metastatic lymph node count (r, p)**
NLR	0.07 (p=0.473)	-0.08 (p=0.292)
SII	0.05 (p=0.566)	0.01 (p=0.901)
PNI	-0.23 (p=0.012)	-0.10 (p=0.225)
CALLY	-0.19 (p=0.208)	-0.05 (p=0.691)

[S-037]

Evaluation of the diagnostic accuracy of methods in patients with lymphadenopathy

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Objective: Lymphadenopathy is a common clinical entity in general surgical practice, and exclusion of malignancy is of paramount importance. Radiologic imaging and fine-needle aspiration biopsy (FNAB) are widely used as first-line diagnostic tools; however, their performance may be limited, particularly in lymphoproliferative disorders. This study aimed to comparatively evaluate the diagnostic contribution of excisional lymph node biopsy versus radiologic assessment and FNAB findings.

Material and Methods: Eighty-nine patients who underwent excisional lymph node biopsy between 2023 and 2025 were retrospectively analyzed. Demographics, biopsy localization, radiologic reports, FNAB results (if available), and final histopathological diagnoses were reviewed.

Results: Fifty patients (56.2%) were male and 39 (43.8%) were female. Excisional biopsy revealed hematologic malignancy in 25 patients (28.1%) and metastatic malignancy in 3 (3.4%), with an overall malignancy rate of 31.5%. Forty-two patients underwent axillary and 47 inguinal excisional biopsy. The malignancy rate was 34% (16/47) in inguinal biopsies and 28.5% (12/42) in axillary biopsies. All metastatic malignancies were located in the inguinal region. The mean diameter of pathologic lymph nodes was 24.5 mm versus 8.5 mm in non-pathologic nodes. In the hematologic malignancy group, the mean diameter was 31.0±14.6 mm compared with 25.8±8.9 mm in non-hematologic pathologic cases; this difference was not statistically significant (p=0.06). Malignancy was detected histopathologically in 3 patients (10.7%) whose radiologic evaluation had described the lymph nodes as reactive/benign.Among the 25 patients with hematologic malignancy, 3 had Hodgkin lymphoma and 22 (88%) had non-Hodgkin lymphoma. Eight had previously undergone FNAB; only 4 demonstrated atypia/malignancy, while 2 were benign and 2 non-diagnostic. In 3 of these 25 patients (10.7%), radiologic assessment had reported reactive/benign findings despite excisional biopsy confirming malignancy. Among the 61 patients without malignancy, 51 had reactive lymphoid hyperplasia, 8 granulomatous lymphadenitis, and 2 normal lymph node histology. Hematologic malignancy rates were 36% in males and 17.9% in females.

Conclusion: Detection of malignancy in nearly one-third of patients underscores the critical role of excisional biopsy in clinically suspicious lymphadenopathy. Lymph node size and benign radiologic appearance alone were not reliable exclusion criteria, and the 50% rate of inadequate or false-negative FNAB results in hematologic malignancies highlights the superiority of excisional biopsy, particularly in non-Hodgkin lymphoma where tissue architecture is essential. Excisional biopsy should therefore not be delayed in persistent or suspicious cases and remains the gold standard when lymphoproliferative disease is suspected.

Keywords: Lymphadenopathy, excisional biopsy, hematologic malignancy

[S-038]

Diagnostic performance of contrast-enhanced mammography compared with ultrasound, PET/CT, MRI, and postoperative pathology in patients with newly diagnosed breast cancer

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Objective: In this study, we aimed to compare contrast-enhanced mammography (CEM) a relatively new, cost-effective, easily accessible, and practical imaging modality with other imaging techniques in terms of preoperative tumor size assessment.

Material and Methods: A total of 54 female breast cancer patients who were newly diagnosed at the university hospital between 2023-2024 and underwent surgery without requiring neoadjuvant therapy. Tumor sizes measured using five different imaging modalities ultrasonography (US), conventional mammography, positron emission tomography (PET), magnetic resonance imaging (MRI), and contrast-enhanced mammography (CEM) were statistically compared with postoperative histopathological tumor sizes.

Results: Mean tumor sizes measured by imaging modalities were 21.67 mm with ultrasonography, 24.02 mm with MRI, 20.02 mm with PET, 23.32 mm with mammography, and 25.17 mm with CEM. No statistically significant differences were observed between histopathological tumor size and measurements obtained by CEM (p=0.943), MRI (p=0.437), or mammography (p=0.232). Among all imaging modalities, CEM yielded tumor size measurements numerically closest to histopathological findings. Furthermore, CEM demonstrated the strongest correlation with histopathological tumor size (r=0.789, p<0.001).

Conclusion: In recent years, CEM has emerged as an important imaging modality for breast evaluation due to its cost-effectiveness, accessibility, and ease of application. In our study, CEM demonstrated superior performance in tumor size measurement compared with other imaging modalities. Given its improved accuracy over conventional mammography, we believe that CEM has the potential to replace conventional mammography and be adopted for routine use in patients diagnosed with breast cancer.

Keywords: Breast cancer, contrast enhanced mammography, tumour extent

[S-039]

Preoperative imaging-based axillary lymph node evaluation in breast cancer: Can it replace sLNB? A real-world analysis of 311 patients

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Objective: Axillary lymph node status is a key determinant of prognosis and adjuvant treatment planning in breast cancer. Although sentinel lymph node biopsy (SLNB) is the standard staging method in clinically node-negative axillae, it remains an invasive procedure and is not entirely free of morbidity. The increasing diagnostic accuracy of advanced imaging modalities has raised the question of whether axillary surgery can be safely reduced in selected patients. In this study, we compared the diagnostic performance of preoperative ultrasonography (US), magnetic resonance imaging (MRI), and 18F-FDG PET/CT in predicting axillary metastasis against final pathological results.

Material and Methods: A total of 311 patients with primary operable breast cancer who underwent surgery between December 2023 and January 2025 were retrospectively analyzed. Patients with histologically confirmed invasive breast carcinoma who had at least one preoperative axillary imaging modality and completed surgical pathological axillary assessment were included. Imaging positivity was defined according to standard radiological criteria. Final axillary status was determined based on histopathological examination of specimens obtained via SLNB and/or axillary dissection. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and receiver operating characteristic (ROC) curve analyses were calculated.

Results: The mean age of the patients was 55.6 years, and 39.8% had received neoadjuvant chemotherapy. Final pathology revealed axillary metastasis in 157 patients (50.5%). Ultrasound was performed in 306 patients and demonstrated the highest sensitivity (57.9%) for detecting metastatic nodes. PET/CT was evaluated in 277 patients and achieved the highest specificity (79.3%). ROC analysis showed an AUC of 0.76 for PET/CT, 0.70 for MRI, and 0.67 for ultrasound. However, none of the modalities reached a high level of overall diagnostic accuracy. Negative predictive values ranged between 60% and 63%, indicating a clinically relevant false-negative rate in radiologically negative axillae. Diagnostic performance declined in patients who received neoadjuvant therapy; the AUC of PET/CT decreased from 0.80 to 0.69. These findings suggest that systemic therapy-induced morphological and metabolic changes in lymph nodes may adversely affect imaging accuracy.

Conclusion: Preoperative US, MRI, and PET/CT demonstrate moderate diagnostic performance in predicting axillary metastasis. However, current data indicate that none of these imaging modalities are sufficiently reliable to replace SLNB. The false-negative rates observed in radiologically negative axillae preclude the safe omission of surgical staging. Prospective validation of multimodal predictive models is required to enable the safe de-escalation of axillary surgery.

Keywords: SLNB, AD, BREAST

[S-040]

Clinicopathological features and prognostic factors of gastroenteropancreatic neuroendocrine tumors: A single-center experience

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Objective: Gastroenteropancreatic neuroendocrine tumors (GEP-NETs) are a heterogeneous group of neoplasms with increasing incidence and variable clinical behavior. This study aimed to describe the clinicopathological characteristics of surgically/endoscopically treated GEP-NETs and identify prognostic factors associated with overall survival (OS) in a single tertiary center.

Material and Methods: We retrospectively reviewed adult patients diagnosed with GEP-NETs and treated at the Department of General Surgery, Marmara University Faculty of Medicine, between January 2018 and December 2024. Demographic, clinical, and pathological variables, including histologic type (NET vs. NEC), tumor grade, tumor size, Ki-67 index, mitotic index, nodal status, and stage, were collected. The OS was analyzed using the Kaplan-Meier method and compared using the log-rank test. Cox proportional hazards models were used to identify independent predictors of mortality.

Results: Among the 96 patients included in the final analysis, 55% were female, with a median age of 55 years. The primary tumor sites were the pancreas (46%) and stomach (35%), followed by the appendix (6%), small intestine (5%), colorectal (3%), and hepatobiliary tract (4%). Surgical resection and lymph node dissection were performed in 90% and 72%, respectively. NET and NEC accounted for 71% and 29%, respectively. Grades were G1 (48%), G2 (22%), G3 (16%), MiNEN (8%), and undefined (6%). The 5-year OS for the cohort was 79%. Survival was significantly worse in patients with pancreatic and gastric tumors, higher-grade tumors, larger tumors, elevated Ki-67/mitotic indices, NEC histology, and advanced stage. In the multivariable analysis, older age, NEC histology, and advanced stage remained independent adverse prognostic factors.

Conclusion: In this single-center experience, GEP-NET prognosis was primarily driven by age, histologic type, and disease stage. To optimize outcomes, risk-adapted, multidisciplinary management tailored to tumor biology and extent is essential.

Keywords: Neuroendocrine neoplasms, neuroendocrine tumors, gastroenteropancreatic neuroendocrine tumors, Ki-67 proliferation index, prognostic factors

[S-041]

Surgical outcomes after neoadjuvant treatment in patients with locally advanced breast cancer: 12 years of single-center experience

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Objective: Locally advanced breast cancer (LABC) encompasses tumors larger than 5 cm, with axillary lymph node involvement or invasion of the skin/chest wall, necessitating multimodal therapy. It accounts for 5-10% of new breast cancer diagnoses, with prognosis influenced by tumor biology and treatment response. Neoadjuvant chemotherapy (NAC) decreases tumor size, broadens surgical choices, boosts breast-conserving surgery rates, and improves survival in patients achieving pathologic complete response (pCR). Targeted therapies have enhanced outcomes, especially in HER2-positive cases. This study assessed surgical outcomes post-NAC, pCR rates by biologic subtypes, and long-term survival in LABC patients.

Material and Methods: We retrospectively analyzed 455 LABC patients at Ankara Oncology Hospital from January 2010 to December 2022 who had surgery after NAC. Staging used physical exams, mammography, ultrasonography, and MRI, following AJCC 8th edition criteria. Data included age, tumor size, axillary status, biologic subtypes (Luminal A/B, HER2-positive, Triple-negative), Ki-67 index, lymphovascular invasion, chemotherapy regimens (e.g., AC, docetaxel, paclitaxel), surgery type, and pathologic response. Survival was evaluated via Kaplan-Meier curves and log-rank tests; prognostic factors via Cox regression.

Results: Mean age was 51.25±11.71 years; 26.4% were under 40. Invasive ductal carcinoma predominated (91%), with 59.8% grade 3. Subtype distribution: Luminal A (49.2%), Luminal B (25.1%), HER2-positive (11.6%), Triple-negative (14.1%). Clinically, 67.7% were N1 and 20.7% N2. Overall pCR rate: 22.8%; partial response: 36%; no response: 41.2%. HER2-positive cases had 38.3% pCR vs. 12.8% in HER2-negative ($p<0.001$). ER-negative tumors: 39.3% pCR vs. 14.6% ER-positive ($p<0.001$). Grade 3 tumors: 28.3% pCR vs. lower grades ($p<0.001$) (Table 1). Surgery: 69.2% modified radical mastectomy, 20.6% breast-conserving. Mastectomy linked to age <40, tumor ≥5 cm, axillary positivity ($p<0.05$). pCR patients had higher breast-conserving rates ($p<0.001$). Mean follow-up: 121.1 months. Survival varied by subtype (Figure 1), best in hormone receptor-positive, worst in triple-negative (log-rank $p<0.001$).

Conclusion: This 12-year review highlights biologic subtype as key to pCR and survival in LABC. HER2 positivity and ER negativity predict higher pCR, while triple-negative shows poorest survival. Tailored approaches are vital for better outcomes.

Keywords: Locally advanced breast cancer, pathologic complete response (pCR), triple-negative breast cancer, survival (Kaplan-Meier)

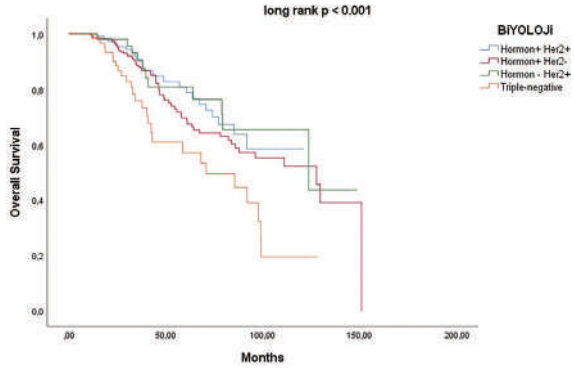

Figure 1. Overall survival according to biological subtypes (Kaplan-Meier analysis, log-rank $p<0.001$).

Table 1. The influence of various clinical and biological variables on pathological response

Variable (category)	Subcategory	Complete response % (n)	Partial response % (n)	No response % (n)	p-value
Age	<40	22.9% (22)	32.3% (31)	44.8% (43)	0.904
	≥40	22.0% (79)	30.6% (110)	47.4% (170)	
Tumor size	<5 cm	23.8% (84)	30.9% (109)	45.3% (160)	0.278
	>5 cm	16.7% (17)	31.4% (32)	52.0% (53)	
Lymph node status	N-	20.8% (75)	33.0% (119)	46.3% (167)	0.142
	N+	27.7% (26)	23.4% (22)	48.9% (46)	
Pathology	Invasive ductal carcinoma	23.1% (94)	31.2% (127)	45.7% (186)	0.235
	Other	23.8% (5)	33.3% (7)	42.9% (9)	
	Invasive lobular carcinoma	7.4% (2)	25.9% (7)	66.7% (18)	
Grade	Grade 1	9.1% (2)	27.3% (6)	63.6% (14)	0.001
	Grade 2	13.7% (22)	26.1% (42)	60.2% (97)	
	Grade 3	28.3% (77)	34.2% (93)	37.5% (102)	
ER status	Negative	39.3% (55)	35.7% (50)	25.0% (35)	0.001
	Positive	14.6% (46)	28.9% (91)	56.5% (178)	
PR status	Negative	36.3% (57)	31.2% (49)	32.5% (51)	0.001
	Positive	14.8% (44)	30.9% (92)	54.4% (162)	
HER2 (c-erbB2)	Negative	12.8% (37)	27.8% (80)	59.4% (171)	0.001
	Positive	38.3% (64)	36.5% (61)	25.1% (42)	
Triple-negative	Negative*	33.8% (22)	35.4% (23)	30.8% (20)	0.010
	Not**	20.3% (79)	30.3% (118)	49.5% (193)	
Ki-67	<15	17.9% (10)	30.4% (17)	51.8% (29)	0.642
	>15	22.8% (91)	31.1% (124)	46.1% (184)	
Lymphovascular invasion	Absent	20.4% (71)	33.0% (115)	46.6% (162)	0.123
	Present	28.0% (30)	24.3% (26)	47.7% (51)	
Chemotherapy regimen	Paclitaxel	20.5% (58)	31.4% (89)	48.1% (136)	0.219
	Docetaxel	20.7% (25)	32.2% (39)	47.1% (57)	
	AC	35.3% (18)	25.5% (13)	39.2% (20)	
Completion of chemotherapy	Not completed	18.9% (17)	30.0% (27)	51.1% (46)	0.597
	Completed	23.0% (84)	31.2% (114)	45.8% (167)	
Type of surgery	MRM	21.0% (66)	21.3% (67)	57.8% (182)	0.001
	Mastectomy + SLNB	34.8% (16)	50.0% (23)	15.2% (7)	
	BCS + axillary dissection	8.3% (4)	52.1% (25)	39.6% (19)	
	BCS + SLNB	32.6% (15)	56.5% (26)	10.9% (5)	

[S-042]

Clinical course and the role of surgical diagnosis in gastrointestinal diffuse large B-cell lymphomas: A retrospective analysis of 47 cases

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Objective: The gastrointestinal (GI) tract is the most common site for extranodal lymphomas. The most frequent histopathological subtype is Diffuse Large B-Cell Lymphoma (DLBCL), with the stomach being the most commonly involved organ. The literature indicates that small intestinal and colonic lymphomas exhibit a more aggressive clinical course and frequently present with complications such as perforation and ileus. This study aims to analyze the clinical characteristics, diagnostic modalities, and survival data of GI-DLBCL cases managed at our institution.

Material and Methods: Fourty-seven patients diagnosed with GI-DLBCL between 2010 and 2025 were evaluated retrospectively. Patients were divided into three groups based on tumor localization: stomach (n=32), small intestine (n=7), and colon (n=8). Demographic data, presenting symptoms, diagnostic methods (biopsy vs. surgery), laboratory parameters, and mortality rates were statistically compared.

Results: The mean age of the 47 patients was 59.9±14.7 years, with a male predominance (70.2%, n=33). The stomach was the most frequently involved organ (68%), followed by the colon (17%) and the small intestine (15%). Clinical presentation varied significantly according to localization; while gastric lymphomas were incidentally detected in 65.6% of cases, a striking 85.7% of small intestinal lymphomas presented with surgical emergencies such as ileus (57.1%) or perforation (28.6%). Analyzing the relationship between diagnostic methodology and tumor biology, tumor sizes in cases diagnosed via surgical resection (57.6±38.3 mm) were statistically significantly larger than those diagnosed via endoscopic biopsy (36.4±20.3 mm) (p=0.011). In the gastric group, *H. pylori* positivity (43.8%) had no significant impact on survival (p=1.000). The overall cohort mortality rate was 38.3%, and the diagnostic modality (surgery vs. biopsy) had no direct effect on mortality rates (p=0.209). Furthermore, no statistically significant differences were observed between deceased and surviving patients regarding albumin, LDH, or hematological parameters (p>0.05).

Conclusion: In GI-DLBCL, anatomical localization is the primary determinant of clinical presentation. While gastric tumors are typically detected incidentally, intestinal cases frequently present as surgical emergencies like ileus and perforation. Our study demonstrates that the requirement for surgical diagnosis increases significantly as tumor size increases (p=0.011). The lack of direct impact of the diagnostic method (surgery vs. biopsy) on survival supports that the current role of surgery is focused on "diagnostic certainty" and "complication management" rather than an oncological cure.

Keywords: Diffuse large B-cell lymphoma, gastrointestinal lymphoma

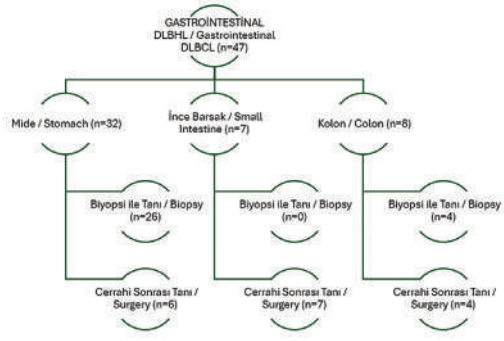

Figure 1. Diagnostic method.

Parametre/Parameter	Mide/Stomach (n=32)	İnce Barsak/Small Intestine (n=7)	Kolon/Colon (n=8)
En Sık Semptomlar/Most Frequent Symptoms	Dispepsi/Dyspepsia (40.6%) Karın AğrısıAbdominal Pain (21.9%) Kanama/Bleeding (12.5%)	Karın Ağrısı/Abdominal Pain (71.4%) Kusma/Vomiting (28.6%) -	Karın Ağrısı/Abdominal Pain (50.0%) Halsizlik/Fatigue (25.0%) Tesadüfi/Incidental (25.0%)
Tanı Nedeni (Klinik Tablo)/Reason for Diagnosis (Clinical Presentation)	Incidental (65.6%) Kanama/Bleeding (15.6%) Perforasyon/Perforation (15.6%)	Ileus (57.1%) Perforasyon/Perforation (28.6%) Obstrüksiyon/Obstruction (14.3%)	Incidental (50.0%) Ileus (50.0%) -
Alt Lokalizasyon/Sub-localization	Antrum (56.3%) Corpus (37.5%) Cardia (6.2%)	Jejunum (57.1%) Ileum (42.9%) -	Sağ Kolon/Right Colon (62.5%) Rektum/Rectum (25.0%) Sol Kolon/Left Colon (12.5%)

Figure 2. Clinical presentation and detailed localization characteristics.

Table 1. Localization and characteristic distribution of gastric DLBCL

Classification parameter	Subgroups	Number of cases (n)	Percentage (%)
Site of Gastric Involvement	Antrum	18	56.3%
	Corpus	1	37.5%
	Cardia	2	6.2%
Endoscopic Lesion Appearance	Ulcerated	13	40.6%
	Ulcerovegetative Mass	12	37.5%
	Mucosal Irregularity	4	12.5%
	Polypoid	3	9.4%
H. pylori Status	Positive (+)	14	43.8%
	Negative (-)	18	56.2%

Table 2. Clinical and laboratory characteristics of GI DLBCL					
Characteristic	**Total (n=47)**	**Stomach (n=32)**	**Small intestine (n=7)**	**Colon (n=8)**	**p-value**
Age (Mean ± SD)	59.9±14.7	60.6±13.5	50.4±20.5	65.5±11.0	0.227
Age <60, n (%)	21 (44.7%)	16 (50.0%)	4 (57.1%)	1 (12.5%)	0.125
Age ≥60, n (%)	26 (55.3%)	16 (50.0%)	3 (42.9%)	7 (87.5%)	
Gender: Male, n (%)	33 (70.2%)	21 (65.6%)	4 (57.1%)	8 (100.0%)	0.117
Gender: Female, n (%)	14 (29.8%)	11 (34.4%)	3 (42.9%)	0 (0.0%)	
ASA score: 1, n (%)	4 (8.5%)	2 (6.2%)	2 (28.6%)	0 (0.0%)	0.227
ASA score: 2, n (%)	19 (40.4%)	14 (43.8%)	1 (14.3%)	4 (50.0%)	
ASA score: 3, n (%)	20 (42.6%)	12 (37.5%)	4 (57.1%)	4 (50.0%)	
ASA score: 4, n (%)	4 (8.5%)	4 (12.5%)	0 (0.0%)	0 (0.0%)	
BM involvement: present, n (%)	6 (12.8%)	4 (12.5%)	1 (14.3%)	1 (12.5%)	0.992
BM involvement: absent, n (%)	41 (87.2%)	28 (87.5%)	6 (85.7%)	7 (87.5%)	
Serum LDH (Mean ± SD)	345.7±295.7	350.6±332.9	394.0±272.1	283.8±115.5	0.726
WBC (Mean ± SD)	9.8±4.3	10.3±4.1	9.7±4.9	7.8±4.4	0.188
HGB (Mean ± SD)	11.0±2.4	11.2±2.6	9.7±2.5	11.1±1.4	0.245
Platelet count (Mean ± SD)	322.9±176.9	309.1±127.6	484.1±321.5	237.0±98.0	0.079
Albumin (Mean ± SD)	3.27±0.74	3.24±0.75	3.07±0.80	3.54±0.65	0.387
Tumor size (mm), Mean ± SD	41.5 ± 28.4	35.2 ± 22.6	57.1±44.3	52.8±28.2	0.190
Mortality, n (%)	18 (38.3%)	15 (46.9%)	1 (14.3%)	2 (25.0%)	0.192

[S-043]

Frailty-based risk profiles as predictors of surgical outcomes in geriatric patients with acute cholecystitis: Modified frailty index and risk analysis index

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Objective: Acute cholecystitis poses a high-risk clinical scenario in geriatric patients. Frailty-based indices, which jointly address functional status and comorbidity burden, are gaining increasing importance in predicting perioperative risk. In this study, the effectiveness of risk profiles created using the modified frailty index (mFI) and Risk Analysis Index (RAI) in predicting surgical outcomes in geriatric acute cholecystitis patients was evaluated.

Material and Methods: Patients aged 70 years and older with acute cholecystitis were classified into risk groups according to mFI and RAI using existing clinical data. The Mann-Whitney U test was used to compare continuous variables, and the chi-square or Fisher's exact test was used to analyze categorical variables. The independent effect of frailty scores on surgical outcomes was evaluated using logistic regression analysis. Statistical significance was set at $p<0.05$.

Results: A total of 78 geriatric patients who underwent surgical treatment for acute cholecystitis were included in the study. The mean age of the patients was 76.0±4.8. According to the mFI, 57.7% of the patients were classified as high-risk, while 44.9% were classified as high-risk according to the RAI. It was observed that surgical outcomes deteriorated significantly as frailty levels increased. The need for intensive care was 75.6% in the high-risk group according to mFI and 51.5% in the low-risk group, and a statistically significant correlation was found between intensive care admission and the mFI index ($p=0.027$). Similarly, the need for intensive care was 77.1% in the high-risk group and 55.8% in the low-risk group according to RAI, and a statistically significant difference was found between intensive care admission and the RAI index ($p=0.049$). In terms of hospital stay duration, it was longer in the high-risk group for both frailty indices and was found to be statistically significant ($p=0.047$ for mFI, $p=0.021$ for RAI). The postoperative mortality rate was 17.8% in the high-risk group according to mFI, while no mortality was observed in the low-risk group, and this difference was statistically significant ($p=0.018$). According to RAI, mortality was higher in the high-risk group, but this increase did not reach statistical significance.

Conclusion: The higher discriminatory power of mFI in predicting mortality suggests that this index can be used as a reliable predictor in perioperative risk classification. In contrast, the effectiveness of RAI in predicting intensive care requirements and length of hospital stay suggests that frailty assessment may be a complementary risk determination tool for different clinical outcomes.

Keywords: Acute cholecystitis, frailty, geriatric patient

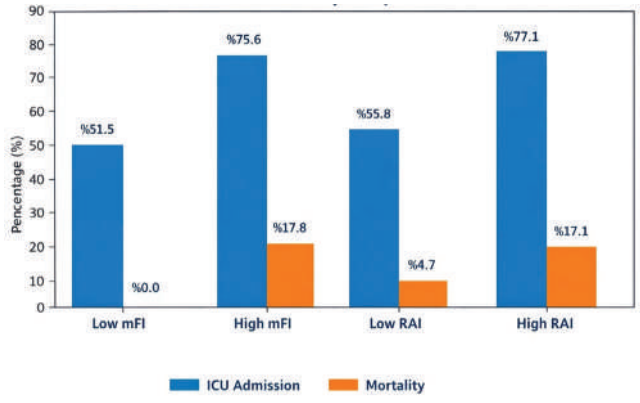

Figure 1. Clinical outcomes by frailty indices.

[S-045]

Incidental parathyroidectomy after thyroidectomy: Anatomical characteristics and clinical outcomes

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Objective: Incidental parathyroidectomy (IPE) is a key determinant of postoperative hypocalcemia and hypoparathyroidism after thyroidectomy. The reported incidence of parathyroid tissue in thyroidectomy specimens ranges from 10% to 22%, but the impact of gland number and surgical factors on outcomes remains unclear. This study evaluated the anatomical features of incidentally excised parathyroid glands and their association with postoperative outcomes.

Material and Methods: Between January, 2024 and December, 2025, 497 thyroidectomy cases performed at our center were retrospectively reviewed, and 118 patients (23.7%) with parathyroid tissue identified in the surgical specimen were included. Demographic, preoperative, surgical, pathological, and postoperative variables were analyzed. Surgical variables included the type of operation, presence of neck dissection, reoperative status, and a composite difficulty score. The number, location, and size of excised parathyroid glands were recorded. The primary endpoint was postoperative hypoparathyroidism (transient+permanent). Patients were compared according to hypoparathyroidism status; categorical variables were analyzed using the chi-square test, and odds ratios (OR) were calculated for significant factors.

Results: The mean age of the 118 patients was 48.76±13.87 years; 83.9% were female,and the mean body mass index was 27.09±4.68 kg/m². Overall,86.4% were classified as ASA II-III. The mean preoperative TSH level was 1.62±1.69 mIU/L, and the mean calcium level was 9.56±0.55 mg/dL. The mean length of hospital stay was 2.68±1.11 days. Postoperative hypoparathyroidism developed in 36 patients (30.5%), including 19.5% transient and 11.0% permanent cases. Of the cohort, 73.7% underwent total thyroidectomy, 23.7% lobectomy, and 2.5% completion thyroidectomy. A single parathyroid gland was excised in 86.4% of cases, whereas 13.6% had two or more glands removed. The excised glands were right-sided in 50.8%, left-sided in 35.6%, and ipsilateral to the dominant thyroid lesion in 72.9% of patients. Total thyroidectomy was significantly associated with hypoparathyroidism (86.1% vs. 68.3%; p=0.041; OR=2.86, 95% CI: 1.03-7.95). Removal of two or more parathyroid glands also increased the risk (22.2% vs. 9.8%; p=0.048; OR=2.62,95% CI: 1.01-6.80). In contrast, central neck dissection,malignancy, reoperative surgery,and the composite difficulty score were not significantly associated (p>0.05). In the hypoparathyroidism group, postoperative calcium (6.86±1.51 vs. 8.47±0.74 mg/dL; p<0.001) and PTH levels (8.67±8.12 vs. 33.12±13.84 pg/mL; p<0.001) were significantly lower. Laboratory hypocalcemia (88.9% vs. 43.9%), symptomatic hypocalcemia (52.8% vs. 7.3%), and intravenous calcium requirement (36.1% vs. 3.7%) were significantly higher (all p<0.001). Length of hospital stay was also significantly longer in the hypoparathyroidism group (3.25±1.37 vs. 2.41±0.92 days; p=0.002).

Conclusion: The rate of incidental parathyroidectomy at our center was near the upper limit reported in the literature,and the permanent hypoparathyroidism rate was high at 11%. Only total thyroidectomy and removal of two or more parathyroid glands were significantly associated with hypoparathyroidism, whereas the composite surgical difficulty score was not predictive. These findings indicate that the development of hypoparathyroidism is determined more by quantitative loss and functional preservation of the parathyroid glands than by macroscopic surgical difficulty. The predominance of ipsilateral gland excision suggests that the dissection plan plays a critical role in parathyroid preservation. Overall, these results underscore the importance of systematic parathyroid preservation strategies in reducing complications during thyroid surgery.

Keywords: Total thyroidectomy, incidental parathyroidectomy, hypocalcemia

Table 1. Baseline demographic and preoperative clinical characteristics

Değişken	Toplam (n=118)	Hipo (–) (n=82)	Hipo (+) (n=36)	p
Yaş (yıl)	48,76 ± 13,87	49,32 ± 13,41	47,44 ± 14,86	0,52
Kadın cinsiyet	99 (%83,9)	69 (%84,1)	30 (%83,3)	0,91
BMI (kg/m²)	27,09 ± 4,68	27,52 ± 4,61	26,13 ± 4,76	0,18
ASA ≥ II	102 (%86,4)	70 (%85,4)	32 (%88,9)	0,83
Malignite	32 (%27,1)	20 (%24,4)	12 (%33,3)	0,3
Preop TSH (mIU/L)	1,62 ± 1,69	1,55 ± 1,58	1,79 ± 1,93	0,48
Preop Kalsiyum (mg/dL)	9,56 ± 0,55	9,60 ± 0,50	9,48 ± 0,61	0,34

Table 2. Surgical and parathyroid factors associated with postoperative hypoparathyroidism

Değişken	Hipo (–) n=82	Hipo (+) n=36	p	OR (%95 GA)
Total tiroidektomi	56 (%68,3)	31 (%86,1)	**0,041**	**2,86 (1,03–7,95)**
Santral diseksiyon	4 (%4,9)	4 (%11,1)	0,21	2,43 (0,56–10,56)
Reoperatif cerrahi	3 (%3,7)	2 (%5,6)	0,64	1,54 (0,24–9,65)
≥2 paratiroid bez çıkarılması	8 (%9,8)	8 (%22,2)	**0,048**	**2,62 (1,01–6,80)**
Aynı taraf eksizyon	57 (%69,5)	29 (%80,6)	0,21	1,81 (0,73–4,52)
Zor tiroidektomi skoru	1,39 ± 0,65	1,47 ± 0,71	0,61	—

***Zor tiroidektomi skoru:** *İnvazyon, Rt Öyküsü, Aynı Taraf İlab, Graves / Hipervaskülarite, Tiroidit / İnflamasyon, Zuckerkandl, Metastatik Lap, Anatomik Varyasyon;* **bulguları varlığında 1 puan verilerek hesaplanmıştır.**

Table 3. Anatomical characteristics of incidentally excised parathyroid glands

Değişken	n=118 (%)	Değişken	n=118 (%)
1 bez çıkarılan	102 (%86,4)	Bilateral	12 (%10,2)
≥2 bez çıkarılan	16 (%13,6)	Lezyonla aynı taraf	86 (%72,9)
Sağ yerleşimli	60 (%50,8)	Ortalama bez çapı (mm)	3,44 ± 1,57
Sol yerleşimli	42 (%35,6)		

Table 4. Postoperative clinical outcomes according to hypoparathyroidism status

Değişken	Hipo (–) n=82	Hipo (+) n=36	p
Postop Kalsiyum (mg/dL)	8,47 ± 0,74	6,86 ± 1,51	<0,001
Postop PTH (pg/mL)	33,12 ± 13,84	8,67 ± 8,12	<0,001
Laboratuvar hipokalsemi	36 (%43,9)	32 (%88,9)	<0,001
Semptomatik hipokalsemi	6 (%7,3)	19 (%52,8)	<0,001
IV kalsiyum gereksinimi	3 (%3,7)	13 (%36,1)	<0,001
Yatış süresi (gün)	2,41 ± 0,92	3,25 ± 1,37	0,002
30 gün içinde yeniden başvuru	4 (%4,9)	4 (%11,1)	0,22
IV kalsiyum gereksinimi	3 (%3,7)	13 (%36,1)	<0,001
Yatış süresi (gün)	2,41 ± 0,92	3,25 ± 1,37	0,002
30 gün içinde yeniden başvuru	4 (%4,9)	4 (%11,1)	0,22

[S-046]

Postoperative thyroglobulin levels and factors affecting thyroglobulin levels in patients undergoing surgery for thyroid cancer

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Objective: This study aimed to evaluate postoperative thyroglobulin (Tg) levels and the clinical, biochemical, and pathological factors influencing Tg levels in patients who underwent surgery for thyroid cancer.

Material and Methods: The data of 273 patients who underwent bilateral total thyroidectomy with a diagnosis of thyroid cancer between January 2018 and December 2022 were retrospectively analyzed. Demographic characteristics, preoperative and postoperative thyroid-stimulating hormone (TSH) and thyroglobulin levels, tumor size, histopathological features, and lymphovascular invasion status were evaluated. Statistical analyses were performed using IBM SPSS version 22.0, and a p-value <0.05 was considered statistically significant.

Results: Of the included patients, 78.4% were female and 21.6% were male. The mean age was 47.79±12.85 years. A statistically significant association was found between postoperative thyroglobulin levels and both preoperative and postoperative TSH levels (p<0.05). Postoperative thyroglobulin levels showed a strong positive correlation with preoperative thyroglobulin levels (p<0.001). Postoperative thyroglobulin levels increased significantly with increasing tumor size (p<0.05). Male patients had significantly higher postoperative thyroglobulin levels compared to female patients (p=0.036). Patients with lymphovascular invasion had significantly higher postoperative thyroglobulin levels (p=0.002).

Conclusion: Postoperative thyroglobulin level is an important biochemical marker for predicting recurrent disease in the follow-up of patients with differentiated thyroid cancer. Tumor size, lymphovascular invasion, TSH levels, and male gender were found to be associated with elevated postoperative thyroglobulin levels. Closer and more careful postoperative surveillance is recommended for these patient groups.

Keywords: Thyroid cancer, thyroglobulin

[S-047]

Voice related symptoms after thyroid/parathyroid surgery: Preop-postop patient reported outcomes

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Objective: Although laryngeal nerve integrity may be preserved after thyroid and parathyroid surgery, patients can still experience voice-related complaints without paralysis. This study aimed to compare patient-reported voice-related symptom outcomes before thyroid/parathyroid surgery and at postoperative month 1 in patients without vocal fold injury.

Material and Methods: Over a 3-month period, 71 individuals were contacted and 59 participants who met the inclusion criteria (no vocal cord paralysis, signal obtained from intraoperative neuromonitoring, and post-operative interview) were included in the study. Data were collected one day preoperatively and one month postoperatively using the reflux symptom index (RSI), voice handicap index (VHI), and vocal tract discomfort scale (VTDS). In addition, GRBAS scores based on the speech-language therapist's (SLP) perceptual judgment were recorded. Pre-post comparisons were analyzed using a paired-samples t-test or the appropriate non-parametric equivalent depending on normality. Linear correlations among the self-report scales were also evaluated.

Results: Preoperative mean scores were low across all three questionnaires. Compared with postoperative first month, no statistically significant differences were detected in RSI, VHI, or VTDS scores (p>0.05). Similarly, no significant changes in perceptual voice quality features were observed in GRBAS scores between the two time points. Correlations among RSI, VHI, and VTDS were fair preoperatively and increased to a moderate level postoperatively.

Conclusion: According to the findings, in patients without evidence of vocal fold injury after thyroid/parathyroid surgery, patient-reported voice-related symptoms (RSI, VHI, VTDS) and perceptual voice quality (GRBAS) at postoperative first month were comparable to preoperative levels. These findings suggest that, when appropriate surgical technique is used and supported by intraoperative neuromonitoring, non-paralytic voice complaints may not show a clinically meaningful deterioration by the first postoperative month. The choice of the one-month follow-up time point is also a feasible approach, as early postoperative inflammation/edema is more likely to have stabilized, enabling more consistent patient-reported and perceptual assessments. Although all three questionnaires assess voice-related symptoms, they appear to capture different constructs and therefore should not be used interchangeably; instrument selection should be guided by the intended clinical outcome. The results may help clinicians in counseling patients and managing expectations regarding recovery of voice-related outcomes at approximately one month after surgery.

Keywords: Thyroid/parathyroid surgery, voice changes, intraoperative nerve monitoring.

[S-048]

Incidental malignancy rate and risk factors in thyroid nodules with benign cytology: A single-center experience

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Objective: Despite a benign cytological diagnosis in thyroid nodules, incidental thyroid carcinoma may be detected in surgical pathology. The aim of this study was to determine the incidence of incidental thyroid cancer and to identify associated risk factors in patients who underwent surgery despite having benign preoperative fine-needle aspiration biopsy (FNAB) results.

Material and Methods: A total of 122 patients who had benign FNAB results and underwent thyroidectomy due to surgical indications were included in the study. The patients were divided into two groups based on histopathological findings: Group 1 (benign, n=83) and Group 2 (malignant, n=39). The groups were statistically compared in terms of age, sex, thyroid nodule size, number, and characteristics on ultrasonography, preoperative and postoperative TSH and free T4 levels, and the presence of Hashimoto's thyroiditis. Continuous variables were analyzed using the independent samples t-test or the Mann-Whitney U test according to data distribution. Categorical variables were analyzed using Pearson's chi-square test or Fisher's exact test. A p value <0.05 was considered statistically significant.

Results: Incidental malignancy was detected in 32% (n=39) of patients. No significant differences were found between the groups regarding age, sex, or preoperative and postoperative TSH and free T4 levels (p>0.05). The mean nodule diameter was significantly smaller in the malignant group (21.6 mm vs. 31.8 mm, p=0.0002), and solitary nodules were more frequent (p=0.018). Hashimoto's thyroiditis was more common in the malignant group (20.5% vs. 10.8%, p=0.041). In subgroup analysis, capsular invasion and the need for completion surgery were higher in patients with papillary thyroid carcinoma than in those with papillary thyroid microcarcinoma (p<0.05). These findings indicate that benign cytology does not provide absolute assurance, and closer evaluation may be required, particularly in patients with small nodules and Hashimoto's thyroiditis.

Conclusion: The risk of incidental malignancy should not be overlooked in patients with small, solitary nodules and coexisting Hashimoto's thyroiditis despite benign cytology. In these high-risk groups, surgical decision-making and postoperative follow-up strategies should be managed more carefully.

Keywords: Benign cytology, incidental carcinoma, Hashimoto's thyroiditis

Table 1. Comparison of Benign and Malignant Groups

Değişken	Grup 1	Grup 2	P değeri
Yaş	48.6 ±12.1	45.4±11.5	0.168
Cinsiyet (% Kadın)	%78.3	%87.2	0.245
Nodül çapı (mm)	31.8±14.2	21.6±13.8	**0.0002**
Preop TSH (mIU/ml)	1.63±1.2	1.94±1.4	0.224
Preop sT4 (ng/dL)	1.16 ±0.3	1.28±0.4	0.076
Hashimoto Varlığı	%10.8	%20.5	**0.041**

[S-049]

Four gland exploration in primary hyperparathyroidism: Single-center experience

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Objective: Although minimally invasive parathyroidectomy is the gold standard in primary hyperparathyroidism (PHPT) surgery, four-gland exploration (FGE) remains necessary in selected patients. This study evaluated the clinical characteristics, imaging accuracy, indications for exploration, and surgical outcomes of patients who underwent FGE for PHPT.

Material and Methods: Between January 2018 and September 2025, 674 patients underwent parathyroidectomy for PHPT; 43 (6.4%) who required FGE were retrospectively analyzed. Preoperative imaging (ultrasonography, scintigraphy, four-dimensional computed tomography), intraoperative parathyroid hormone (IOPTH) monitoring, histopathology, postoperative biochemical parameters, and complications were assessed. Cure was defined as parathyroid hormone (PTH) ≤65 pg/mL and corrected calcium ≤10.0 mg/dL at 6 months.

Results: Thirty-three patients (76.7%) were female; mean age was 55.4±10.0 years. Multinodular goiter (MNG) was present in 72.1%, and in 70% of these, nodules were ipsilateral to the adenoma. The main surgical indication was hypercalcemia (90.7%), followed by osteoporosis, nephrolithiasis, and hypercalciuria. Vitamin D was <20 ng/mL in 53.7%. Indications for FGE were preoperative non-localization (44.2%), inadequate IOPTH decline (23.3%), suspicious/negative frozen section (14.0%), preoperative-intraoperative discordance (11.6%), and imaging discordance (9.3%). Single adenoma was found in 72.1%, double adenoma in 9.3%, hyperplasia in 4.7%, and normal parathyroid tissue in 11.6%; one gland was not identified. Median adenoma size was 12 mm. Ectopic localization occurred in 20.9% (intrathyroidal, intrathymic, thyrothymic ligament). Concomitant thyroid surgery was performed in 32.6%. Mean operative time was 172.3±54.3 minutes. According to the Miami criterion, adequate IOPTH decline occurred in 88.4%. Overall cure rate was 81.4%. Among non-cured patients, most had normocalcemic hyperparathyroidism attributed to vitamin D deficiency with later normalization. Recurrent/persistent disease occurred in 9.3%. Complications were observed in 11.6%, with no permanent recurrent laryngeal nerve injury.

Conclusion: In our series, FGE was required in 6.4% of PHPT surgeries. High MNG prevalence and ipsilateral nodules reduced imaging accuracy. The frequent occurrence of normocalcemic hyperparathyroidism emphasizes the role of vitamin D deficiency in postoperative PTH elevation. The risk of late recurrence in hyperplasia necessitates long-term follow-up. The notable rate of ectopic localization supports systematic FGE in selected patients.

Keywords: Primary hyperparathyroidism, four gland exploration

Table 1. Localization accuracy of preoperative imaging modalities

Method	Performed n (%)	Non-localized n (%)	Localized n (%)	Correct loc. n/N (%)*
Scintigraphy	43 (100)	26 (60.5)	17 (39.5)	8/18 (44.4)
USG	43 (100)	27 (62.8)	16 (37.2)	9/16 (5.,2)
4D CT	19 (44,2)	11 (57.9)		

*: Rate calculated among evaluable cases.

Table 2. Preoperative and postoperative biochemical parameters [median (range)]

	Preoperative	Postoperative day 1	Postoperative month 6
PTH (pg/mL)	128.0 (61-961)	9.6 (1.0-88.0)	50.0 (1.0-158)
Corrected Ca (mg/dL)	11.2 (9.9-13.3)	9.3 (7.9-11.8)	9.1 (8.1-11.5)

[S-050]

"Thyroid nodules in Graves' disease: More than an innocent finding?"

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Objective: Thyroid cancer is generally considered an infrequent finding in Graves-Basedow disease; however, emerging data suggest that accompanying thyroid nodules may confer a higher risk of malignancy.

Material and Methods: Between 2009 and 2025, a total of 83 consecutive patients who underwent surgery for Graves-Basedow disease at our center were retrospectively reviewed. Patients were stratified and compared according to the presence or absence of thyroid nodules. Demographic characteristics, preoperative ultrasonographic findings regarding nodule status, and final histopathological results were recorded. The primary endpoint was the presence of malignancy on final pathology.

Results: Of the 83 patients, 55 were female (66.3%) and 28 were male (33.7%). Preoperative ultrasonography revealed thyroid nodules in 34 patients (41%). Thyroid malignancy was identified in 27 patients (32.5%) on final histopathological examination, all within the spectrum of papillary thyroid carcinoma. The majority of malignant cases consisted of papillary thyroid microcarcinomas (24/27, 88.9%). The rate of malignancy was 67.6% (23/34) in patients with nodules, compared to 8.2% (4/49) in those without nodules.

Conclusion: In our surgical series, thyroid malignancy was observed at a considerable rate among patients with Graves-Basedow disease. In particular, the presence of thyroid nodules was strongly associated with malignancy. Our findings are consistent with previous studies reporting an increased risk of cancer in Graves patients with coexisting nodules.In patients with Graves' disease, careful ultrasonographic evaluation should be performed when nodules are present. Suspicious nodules should undergo fine-needle aspiration (FNA) in accordance with American Thyroid Association (ATA) recommendations, and the possibility of malignancy should be taken into account during surgical planning.

Keywords: Graves, thyroid, noudule

[S-051]

The role of preoperative vitamin D levels in the development of hypocalcemia after total thyroidectomy

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Objective: This study aimed to investigate the effect of preoperative vitamin D levels on the development of hypocalcemia following total thyroidectomy.

Material and Methods: Patients who underwent bilateral total thyroidectomy in our clinic between January 2018 and January 2026 and had preoperative serum vitamin D measurements were included. A retrospective analysis was performed on 48 patients, evaluating preoperative vitamin D levels and postoperative calcium values. Patients with iatrogenic parathyroidectomy during surgery, those who underwent lobectomy or completion thyroidectomy, patients using vitamin D supplements preoperatively, and cases without serum vitamin D results were excluded. Hypocalcemia was defined as postoperative calcium <8.5 mg/dL. Patients were categorized into three groups according to vitamin D levels: <10 ng/mL, 10-19 ng/mL, and ≥20 ng/mL. Hypocalcemia incidence was compared among the groups.

Results: The rates of hypocalcemia in the groups were 50%, 52%, and 57%, respectively, with no statistically significant difference (p=0.954).

Conclusion: IPreoperative vitamin D levels were not significantly associated with postoperative hypocalcemia. The limited sample size may have contributed to the lack of statistical significance, and larger studies may yield more meaningful results. Our findings suggest that vitamin D level alone is not a decisive factor in hypocalcemia development and should be evaluated together with other clinical parameters. A multifactorial approach is required in assessing the risk of postoperative hypocalcemia.

Keywords: Total thyroidectomy, postoperative hypocalcemia, vitamin D deficiency

Table 1. Post total thyroidectomy hypocalcemia and demographic features with vitamin D deficiency

	Total (n=48)	Eucalcemia (n=23)	Hypocalcemia (n=25)	p-value
Age (years, mean ± SD)	50.6±12.6	50.9±10.4	50.2±14.6	0.799
Gender male % (n)	10.4 (5)	60 (3)	40 (2)	0.838
Preoperative 25(OH) vitamin D (ng/mL)				0.954
<10	12	50% (6)	50% (6)	
10–19	29	48% (14)	52% (15)	
≥20	7	43% (3)	57% (4)	

[S-052]

The effect of fluorescence imaging techniques on parathyroid preservation and parathyroid function in total thyroidectomy

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Objective: Preserving parathyroid glands (PGs) is critical for minimizing postoperative hypoparathyroidism and hypocalcemia risks after total thyroidectomy. These complications stem from inadvertent PG excision or devascularization. Indocyanine green (ICG) angiography evaluates PG perfusion, while near-infrared autofluorescence (NIRAF) allows early PG detection using natural autofluorescence. This study compared naked-eye, ICG, and NIRAF methods for PG preservation during total thyroidectomy.

Material and Methods: A retrospective analysis was conducted using prospective Eurocrine database records of patients undergoing bilateral total thyroidectomy (January 2023-February 2026). Patients with missing pathology data or lateral neck dissection were excluded. Patients were categorized into Control (naked-eye), ICG, and NIRAF/AF groups. Primary endpoints were incidental parathyroidectomy (PG in surgical specimen), early hypoparathyroidism, and hypocalcemia. Continuous and categorical variables were compared using appropriate non-parametric tests, followed by adjusted post-hoc analyses. A multivariable logistic regression evaluated independent risk factors for incidental parathyroidectomy.

Results: A total of 356 patients were analyzed (Control n=228, ICG n=99, AF n=30). Age, gender, and BMI were similar across the groups. The malignancy rate was higher in the AF group (Control 68.9%; ICG 75.8%; AF 86.7%; p=0.042). The frequency of CND differed according to the methods (Control 47.8%; ICG 44.4%; AF 70.0%; p=0.026). Operative time varied among the groups [median (IQR): Control 75 (65-120) min; ICG 125 (105-152.5) min; AF 72 (60-110) min; p<0.001], and in the post-hoc analysis, the ICG group had a significantly longer time compared to the other two groups (adjusted p<0.001). Autotransplantation (≥1 gland) was more frequent in the ICG and AF groups compared to the Control group (Control 1.3%; ICG 23.2%; AF 16.7%; p<0.001), with no significant difference between the ICG and AF groups. The incidental parathyroidectomy rate differed among the techniques (Control 26.3%; ICG 16.2%; AF 10.0%; p=0.035). In the multivariable analysis for incidental parathyroidectomy, it was observed that CND increased the odds of incidental parathyroidectomy (aOR 2.31; 95% CI 1.15-4.67; p=0.019), whereas the use of AF significantly reduced the odds compared to the control group (aOR 0.28; 95% CI 0.08-0.96; p=0.043). Day 1 hypoparathyroidism and hypocalcemia rates were similar across the groups.

Conclusion: ICG and NIRAF were associated with higher parathyroid autotransplantation rates than the conventional approach. Unlike ICG, NIRAF did not prolong operative time. Most importantly, NIRAF independently reduced the risk of incidental parathyroidectomy. Larger, multicenter studies are needed to validate these findings and their impact on clinical outcomes.

Keywords: Thyroidectomy, parathyroid gland preservation, near-infrared autofluorescence

Table 1. Multivariable logistic regression for parathyroid gland identified in the surgical specimen

Predictor	Adjusted OR	95% CI	p-value
Age (per year)	1.01	0.99–1.03	0.284
Male sex (vs female)	0.64	0.34–1.20	0.164
Central neck dissection (yes vs no)	2.31	1.15–4.67	0.019
Malignancy/suspicion (vs not malignant)	0.91	0.42–1.99	0.818
Technique: ICG (vs control)	0.55	0.30–1.02	0.059
Technique: Autofluorescence (vs control)	0.28	0.08–0.96	0.043

[S-053]

Does the ATA 2025 guideline consider more patients eligible for hemithyroidectomy compared with the ATA 2015 guideline?

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Objective: In differentiated thyroid cancer (DTC), surgical management has evolved in recent years toward de-escalation strategies aimed at avoiding unnecessary total thyroidectomy while preserving oncologic safety. The 2015 American Thyroid Association (ATA) guideline defined hemithyroidectomy (HT) as an adequate surgical option in selected low-risk patients, whereas the 2025 update more broadly incorporates patient preference, surgeon experience, and pathological risk factors into the decision-making process. This study aimed to re-evaluate the surgical eligibility of DTC patients who underwent HT according to the ATA 2015 and ATA 2025 guidelines and to assess the concordance of completion thyroidectomy (CT) decisions with guideline recommendations.

Material and Methods: Between January 2015 and January 2025, 98 patients who underwent primary hemithyroidectomy for DTC at the Department of General Surgery, Marmara University Faculty of Medicine, were retrospectively analyzed. Demographic, surgical, and pathological data were obtained from hospital records. Cases of non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) and follicular tumors of uncertain malignant potential (FT-UMP) were excluded from guideline eligibility analyses. The remaining 86 patients were evaluated for HT eligibility and CT recommendations according to the ATA 2015 and ATA 2025 criteria. Differences between the two guidelines were analyzed using the McNemar test.

Results: The mean age of the patients was 45.1±13.5 years, and 79.6% were female. The most common postoperative diagnosis was papillary thyroid carcinoma (63.3%). The median tumor size was 12.5 mm (IQR: 8-25). According to the ATA 2015 guideline, 60.5% of patients were considered eligible for hemithyroidectomy, whereas this proportion increased to 81.4% according to the ATA 2025 criteria, with a statistically significant difference (McNemar test, $p<0.001$). The proportion of patients for whom completion thyroidectomy was recommended decreased from 44.2% under ATA 2015 to 26.7% under ATA 2025 ($p<0.001$). In real-world practice, completion thyroidectomy was performed in 35 patients (40.7%), and in some cases, surgical extension exceeded guideline recommendations based on ATA 2025 criteria.

Conclusion: The ATA 2025 guideline considers a greater proportion of patients eligible for hemithyroidectomy compared with ATA 2015 and substantially reduces recommendations for completion thyroidectomy. However, in clinical practice, the rate of completion thyroidectomy remains higher than guideline recommendations in selected cases. These findings support the promotion of de-escalation strategies and the strengthening of guideline-based decision-making in the surgical management of differentiated thyroid cancer.

Keywords: Guideline, thyroid neoplasms, thyroidectomy

Table 1. Eligibility for hemithyroidectomy and recommendations for completion thyroidectomy according to ATA 2015 and ATA 2025 guidelines (n=86)

Variables	n(%)
HT eligibility according to ATA 2015	
Eligible	52(60.5)
Not eligible	34 (39.5)
HT eligibility according to ATA 2025	
Eligible	70 (81.4)
Not eligible	16 (18.6)
CT recommendation according to ATA 2015	
Recommended	38 (44.2)
Not recommended	48 (55.8)
CT recommendation according to ATA 2025	
Recommended	23 (26.7)
Not recommended	63 (73.3)

Note: NIFTP and FT-UMP cases were excluded from guideline-based eligibility and CT analyses. Comparisons between ATA 2015 and ATA 2025 were performed using the McNemar test ($p<0.001$).

Table 2. Completion thyroidectomy recommendations according to ATA 2015 and ATA 2025 guidelines and actual clinical practice

	ATA 2015	ATA 2025	Actual practice
Completion thyroidectomy, n (%)	38 (44.2)	23 (26.7)	35 (40.7)

[S-054]

Lobectomy eligibility in T2 differentiated thyroid carcinoma: A tertiary hospital experience

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Objective: According to the 2025 ATA guidelines, lobectomy may be considered for T2 thyroid cancers. The aim of this study was to evaluate the suitability of this patient group for lobectomy at a tertiary hospital in Türkiye.

Material and Methods: Patients who underwent total thyroidectomy between 2021 and 2025 and were found to have a differentiated thyroid carcinoma measuring between 20 and 40 mm on final pathology were included in the study. Their demographic data, nodule size, pathology and the presence of contralateral nodules and malignancy were analysed retrospectively.

Results: A total of 78 patients were included in the study, comprising 22 men and 58 women. The median age was 43 years (IQR: 18-74). Contralateral nodules were detected by ultrasonography in 30 patients (38.4%). Contralateral malignancy was identified in 24 patients (30.8%). Of these, 10 patients (41.7%) had no ultrasonographical visible nodule in the contralateral lobe. Among the remaining 14 patients with a detectable nodule, TIRADS 3 was the most common (8/14), followed by TIRADS 2 (3/14) and TIRADS 4 (3/14). The median size of contralateral malignant tumours was 2 mm (range: 2-11 mm). Pathology revealed variants of papillary carcinoma in 23 patients, and one patient had a 3-mm medullary carcinoma. Lymph node metastasis was present in seven patients (9%), two of whom also had contralateral malignancy.

Conclusion: The rate of contralateral malignancy in our cohort was higher than the 5-25% range reported in the literature. These findings indicate that patients should be carefully selected for lobectomy in this tumour size range.

Keywords: Contralateral malignancy, differentiated thyroid carcinoma, lobectomy, T2 stage

[S-057]

Evaluation of the relationship between clinical dyspnea improvement and radiological recovery in patients undergoing thyroidectomy for compressive symptoms

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Objective: Dyspnea caused by tracheal compression is a significant clinical problem in patients undergoing thyroidectomy for compressive symptoms. Although postoperative radiological relief of tracheal compression is well documented, the extent to which this anatomical improvement correlates with patient-reported symptomatic relief remains unclear. In clinical practice, radiological and symptomatic recovery are often assumed to occur in parallel; however, this relationship may not be consistent across all patients. This study aimed to evaluate changes in clinical dyspnea using the dyspnea index (DI) before and after thyroidectomy and to investigate the relationship between clinical improvement and radiological parameters, including tracheal diameter and percentage of tracheal narrowing measured by computed tomography (CT).

Material and Methods: This retrospective, single-center study included 46 patients who underwent thyroidectomy for compressive symptoms at University of Health Sciences Türkiye, Konya City Hospital. Preoperative and postoperative (3-6 months) CT images were evaluated. Minimum tracheal diameter and percentage of tracheal narrowing were measured. Clinical assessment was performed using the DI preoperatively and postoperatively. Paired statistical tests were used to compare pre- and postoperative values. The relationship between clinical and radiological changes was analyzed using Pearson and Spearman correlation tests. Patients were categorized as responders and non-responders based on the median change in DI. A p-value <0.05 was considered statistically significant.

Results: Of the patients, 33 (71.7%) were female, and the mean age was 51.8±11.1 years. Total thyroidectomy was performed in 39 patients (84.8%) and hemithyroidectomy in 7 patients (15.2%). Postoperatively, DI scores showed a significant decrease ($p<0.001$). Radiological evaluation demonstrated a significant increase in minimum tracheal diameter and a marked reduction in the percentage of tracheal narrowing ($p<0.001$). However, only a weak correlation was found between the change in DI and the increase in tracheal diameter or the reduction in narrowing percentage. Some patients experienced substantial symptomatic improvement despite minimal radiological change. Responder analysis also showed that the magnitude of clinical improvement was not always parallel to the degree of radiological recovery.

Conclusion: Thyroidectomy provides significant clinical improvement in dyspnea in patients with compressive symptoms. However, the extent of symptomatic recovery does not always correlate with radiological changes in tracheal anatomy. These findings highlight that postoperative outcomes cannot be explained solely by anatomical improvement and emphasize the importance of patient-reported symptom assessment in surgical decision-making and follow-up.

Keywords: Thyroidectomy, tracheal compression, dyspnea

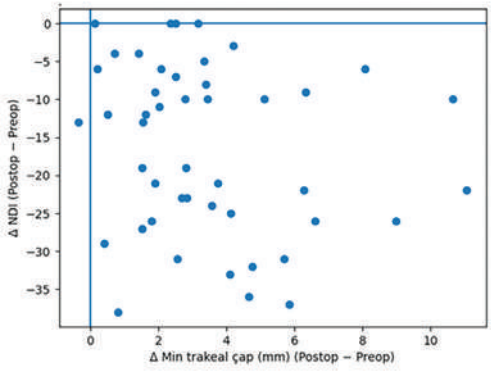

Figure 1. Scatter plot showing the relationship between the change in minimum tracheal diameter (Δ minimum tracheal diameter, postoperative-preoperative) and the change in dyspnea index (Δ DI, postoperative-preoperative).

Negative ΔDI values indicate clinical improvement, while positive Δ minimum tracheal diameter values indicate anatomical improvement. Horizontal and vertical reference lines represent no change.

Table 1. Demographic and clinical characteristics of the patients and primary and secondary outcomes (preoperative vs. postoperative)

Variable	Value	
Number of patients	46	
Age (years), mean ± SS	51.8±11.1	
Sex	Female 33 (71.7%), male 13 (28.3%)	
Type of Surgery	Total thyroidectomy 39 (84.8%), Hemithyroidectomy 7 (15.2%)	
Preop DI (descriptive), median [IQR]	24.0 [20.2]	
Preop tracheal narrowing (descriptive-%), median [IQR]	20.8 [14.2]	
		p-value
Preop DI	21.0±11.3	
Postop DI	4.5±6.7	<0.001
Δ (postop-preop) DI	-16.5	
Preop minimum tracheal diameter (mm, mean ± SS)	13.38±2.87	
Postop minimum tracheal diameter (mm, mean ± SS)	16.81±2.51	<0.001
Δ (postop-preop) minimum tracheal diameter (mm, mean ± SS)	3.43	
Preop tracheal narrowing (% , mean ± SS)	22.6±12.3	
Postop tracheal narrowing (% , mean ± SS)	2.3±11.2	<0.001
Δ (postop-preop) tracheal narrowing (% , mean ± SS)	-20.3	

The Δ value represents the mean change between postoperative and preoperative measurements (postop-preop). P-values were calculated using the paired t-test; values with p<0.001 are reported as such.

[S-058]

The role of gender in post-thyroidectomy transient hypocalcemia: A retrospective analysis of 156 patients

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Objective: Post-thyroidectomy hypocalcemia is one of the most common complications and significantly affects patients' quality of life. The role of gender in hypocalcemia development remains controversial in the literature. This study aims to investigate the effect of gender and other risk factors on post-thyroidectomy hypocalcemia.

Material and Methods: A total of 156 patients who underwent thyroidectomy in our clinic between January 2018 and December 2025 were retrospectively analyzed. Demographic characteristics, surgery type, intraoperative neuromonitoring (IONM) use, pathology results, and postoperative complications were recorded. Postoperative hypocalcemia was defined as symptomatic hypocalcemia or serum calcium level <8.5 mg/dL. Chi-square test, Mann-Whitney U test, and logistic regression analysis were used for statistical analysis. P<0.05 was considered statistically significant.

Results: The study included 116 female (74.4%) and 40 male (25.6%) patients. Mean age was 51.10±13.47 years. Total thyroidectomy was performed in 87 patients (55.8%) and subtotal thyroidectomy in 34 patients (21.8%). IONM was used in 137 patients (87.8%). Postoperative transient hypocalcemia lasting an average of 7 days developed in 80 patients (51.3%). Transient hypocalcemia rate was 59.5% (69/116) in females and 27.5% (11/40) in males (p=0.0009, OR=3.89, 95% CI: 1.78-8.51). No statistically significant relationship was found between age, surgery type, IONM use, and hypocalcemia (p>0.05). Recurrent laryngeal nerve injury occurred in 2 patients (1.3%) and bleeding/hematoma in 1 patient (0.6%). Mean hospital stay was 2.01±0.16 days.

Conclusion: Female gender is an independent and strong risk factor for post-thyroidectomy transient hypocalcemia. Female patients should undergo more careful preoperative evaluation, closer postoperative calcium monitoring, and prophylactic calcium-vitamin D supplementation should be considered. Our high IONM utilization rate (87.8%) was associated with low RLN injury rate (1.3%).

Keywords: Gender, thyroidectomy, transient hypocalcemia

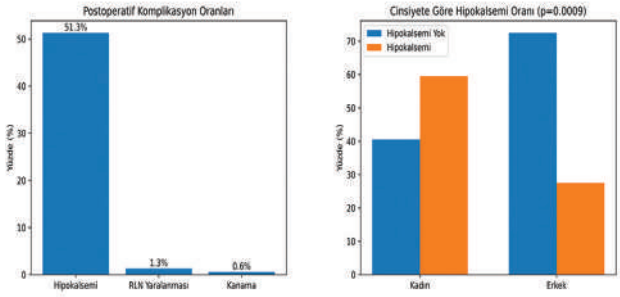

Figure 1. Postoperative complications.

Transient postoperative hypocalcemia developed in 80 patients (51.3%). Recurrent laryngeal nerve injury was observed in 2 patients (1.3%), and postoperative bleeding/hematoma occurred in 1 patient (0.6%).

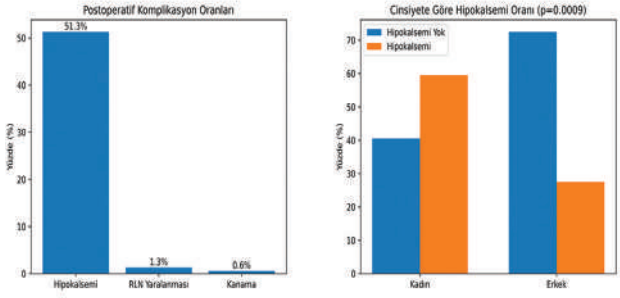

Figure 2. Association between transient hypocalcemia and sex.

Transient hypocalcemia rate was 59.5% (69/116) in females and 27.5% (11/40) in males (p=0.0009, OR=3.89, 95% CI: 1.78-8.51).

[S-059]

Localization success of ultrasonography and MIBI-SPECT in primary hyperparathyroidism: The effectiveness of combined imaging and the role of 4D-CT in negative cases

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Objective: Accurate preoperative localization of parathyroid adenomas is one of the main determinant in selecting the appropriate surgical approach. Conventional imaging methods, such as ultrasonography (US) and technetium-99m sestamibi scintigraphy (MIBI-SPECT), are routinely used; however, in cases where these methods are insufficient, advanced imaging modalities are utilized. This study evaluated the diagnostic success rates of US, MIBI-SPECT, and four-dimensional computed tomography (4D-CT) in localizing parathyroid adenomas in patients undergoing surgery for primary hyperparathyroidism.

Material and Methods: Patients who underwent surgery for primary hyperparathyroidism between January 1, 2018, and December 31, 2025, at the Endocrine Surgery Department of İstanbul University, İstanbul Faculty of Medicine were retrospectively reviewed. Demographic characteristics, preoperative imaging modalities, reported localization findings, intraoperative gland localization, the presence of concomitant thyroid disease, and whether concomitant thyroidectomy was performed were recorded. Diagnostic performance was assessed by comparing preoperative reported localization with the intraoperative gland location identified. Combined imaging analysis was conducted by evaluating ultrasound and MIBI-SPECT findings. Subgroup analyses were performed to investigate the potential impact of concomitant nodular thyroid disease on imaging performance.

Results: A total of 303 patients were included in the study. Ultrasonography correctly localized parathyroid adenomas in 251 patients (83.0%), while localization was unsuccessful in 51 patients (17.0%). Of the 295 patients who underwent MIBI-SPECT, accurate localization was achieved in 235 patients (79.7%),with 60 patients (20.3%) experiencing negative results. In 202 patients who underwent both imaging modalities, combined evaluation yielded correct localization in 194 patients (96.0%), with both methods failing in 8 patients (4.0%). All of these patients subsequently underwent advanced imaging, which successfully localized the adenoma in all cases. In two patients (25.0%) within this subgroup, ectopic parathyroid adenomas were identified intraoperatively. No statistically significant association was observed between the presence of concomitant nodular thyroid disease and imaging outcomes. Nodular thyroid disease was present in 60 of 251 US-positive patients and in 21 of 51 US-negative patients (p=0.4). Similarly, nodular disease was detected in 62 of 235 MIBI-SPECT-positive patients and in 16 of 60 MIBI-SPECT-negative patients (p=0.5). In the group with both modalities positive, nodular thyroid disease was observed in 45 of 194 patients, compared to 3 of 8 patients in whom both modalities were negative (p=0.38).

Conclusion: US and MIBI-SPECT demonstrate high diagnostic performance individually in the preoperative localization of parathyroid adenomas. However, their combined use significantly improves localization accuracy and enhances the reliability of surgical planning. In patients with negative results on both modalities, advanced imaging techniques—particularly for detecting ectopic adenomas—provide substantial additional value.

Keywords: Four-dimensional computed tomography (4D-CT), preoperative localization, primary hyperparathyroidism

Table 1. Localization success of USG and MIBI-SPECT

Imaging modality	Total (n)	Positive/ correct (n)	Negative (n)	Success (%)
US	302	251	51	83.0
MIBI-SPECT	295	235	60	79.7
US + MIBI	202	194	8	96.0

Table 2. Association between concomitant thyroid disease and imaging positivity

Imaging modality	Positive [n (N)]	Negative [n (N)]	p-value
US	60 (251)	21 (51)	0.4
MIBI-SPECT	62 (235)	16 (60)	0.5
US + MIBI	45 (194)	3 (8)	0.38

[S-060]

Performance of histopathological risk stratification systems in predicting metastasis in pheochromocytoma: A single-center retrospective analysis

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Objective: Predicting metastatic potential in pheochromocytoma remains clinically important yet challenging. The pheochromocytoma of the adrenal gland scaled score (PASS) and grading system for adrenal pheochromocytoma and paraganglioma (GAPP) systems are widely used for this purpose; however, their predictive value remains controversial. This study aimed to evaluate the association between clinical and pathological parameters and the development of metastasis in patients undergoing surgery for pheochromocytoma.

Material and Methods: In this retrospective single-center study, 57 patients who underwent surgery for pheochromocytoma between January 1, 2018 and December 31, 2025, at the Endocrine Surgery Department of İstanbul University, İstanbul Faculty of Medicine, were evaluated. Demographic characteristics, mode of tumor detection and surgical variables were recorded. Pathological assessment included maximum tumor diameter, presence of necrosis, atypical mitoses, mitotic count, capsular invasion,venous invasion, surgical margin status and immunohistochemical markers. Malignant potential was assessed using the PASS and GAPP scoring systems. A PASS score ≥4 was defined as high risk, while <4 was considered low risk. GAPP was categorized into low-, intermediate- and high-risk groups. Patients were grouped according to the development of metastasis during follow-up. Postoperative biochemical remission, postoperative complications,adrenal insufficiency and follow-up duration (months) were also recorded.

Results: The mean age of the patients was 44.9±14 years, and 59.6% were female. Tumors were detected incidentally in 26.3% of cases. The mean tumor diameter was 49.4±29.6 mm, the mean hospital stay was 5.5±3.6 days and the mean follow-up duration was 28.9±29.2 months. The postoperative biochemical remission rate was 93%. Postoperative complications occurred in 8.8% of patients, and adrenal insufficiency was observed in 12.3%. During follow-up, metastasis developed in 3 patients (5.3%). Metastatic disease involved the liver in one patient, the para-aortic region in one patient, and multiple organs (lung, liver, and bone) in one patient. According to the PASS system, 5 patients (8.8%) were classified as high risk, while 11 patients (19.3%) were categorized as intermediate-high risk according to GAPP. No statistically significant differences were observed between patients with and without metastasis in terms of tumor diameter, Ki-67 index or GAPP scores (p=0.300, p=0.954 and p=0.566,respectively). Although the rate of metastasis appeared higher in the PASS high-risk group compared to the low-risk group (20% vs. 3.8%), this difference did not reach statistical significance (p=0.245).

Conclusion: In this single-center cohort,widely used histopathological scoring systems such as PASS and GAPP, as well as the Ki-67 proliferation index, demonstrated limited performance in predicting metastatic development. Although metastasis rates were numerically higher among patients with elevated PASS scores, statistical significance could'nt be established, likely due to the low number of metastatic events. These findings suggest that current histopathological scoring systems may be insufficient as standalone predictors of malignant potential in pheochromocytoma and highlight the need for larger, multicenter studies to establish more reliable risk stratification models.

Keywords: Pheochromocytoma, PASS score, GAPP classification

Table 1. Demographic, clinical, and surgical characteristics

Number of patients	**57**
Age (years)	44.9±14
Female	34 (59.6%)
Male	23 (40.4%)
Incidentaloma	15 (26.3%)
Maximum tumor diameter (mm)	49.4±29.6
Length of hospital stay (days)	5.5±3.6
Surgical approach (open/endoscopic)	4/53
Laterality (right/left/bilateral)	21/31/5
Follow-up duration (months)	28.9±29.2
Postoperative complications	5 (8.8%)
Adrenal insufficiency	7 (12.3%)
Biochemical remission	53 (93%)
Metastasis	3 (5.3%)

Table 2. Comparison of clinical and pathological parameters according to metastasis development

Variable	**No metastasis (n=54)**	**Metastasis (n=3)**	**p-value**
Maximum tumor diameter (mm)	40 (5-120)	50 (30-70)	0.300
Ki-67 (%)	2 (0-20)	1 (1-5)	0.954
GAPP score	1 (1-3)	1 (1-2)	0.566
PASS high risk, n (%)	4 (7.4)	1 (33.3)	0.245

[S-061]

Neck dissection: Lymph node yield and clinical outcomes—correlation of US/FNA findings with pathological nodal metastasis

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Objective: Cervical lymph node metastasis in thyroid cancer is critical for staging and recurrence risk assessment. Preoperative ultrasound (US) is the primary imaging modality for detecting metastatic lymph nodes, and findings such as loss of fatty hilum, microcalcifications, cystic change, and abnormal vascularity are considered suspicious for malignancy. Fineneedle aspiration (FNA) is widely used to confirm suspicious lymph nodes, and thyroglobulin measurement in the needle washout (FNATg) may improve diagnostic accuracy in selected cases. This study aimed to evaluate the correlation between preoperative US/FNA findings and postoperative pathological nodal metastasis, as well as lymph node yield and clinical outcomes in patients undergoing neck dissection.

Material and Methods: This single-center retrospective study included 21 patients who underwent neck dissection in 2023. Demographics (age, sex), suspicious lymph node findings on US, maximum lymph node diameter, FNA results, type/side of dissection were recorded. Postoperative outcomes included final pathology, total lymph node yield, number of positive lymph nodes, lymph node ratio (LNR=positive/total), and length of hospital stay. Nodal metastasis was defined as ≥1 positive lymph node. The potential prognostic value of lymph node yield and LNR was considered based on the literature.

Results: Mean age was 54.3±13.1 years; 76.2% were female. All patients had suspicious lymph nodes on preoperative US. Final pathology was malignant in 66.7% and benign in 33.3%. Nodal metastasis was detected in 52.4% of patients. Median total lymph node yield was 14 (IQR: 7-31), and the median number of positive lymph nodes was 1 (IQR: 0-3). Median LNR was 0.056. Median length of hospital stay was 3 days.

Conclusion: Although nodal metastasis was identified in approximately half of the patients, a considerable proportion had benign final pathology despite suspicious preoperative imaging findings, underscoring the clinical impact of reactive lymphadenopathy and potential falsepositive US findings. Integrating US with FNA and using adjunctive tools such as FNATg when appropriate may optimize patient selection and reduce unnecessary dissections.

Keywords: Neck dissection, thyroid cancer, lymph node metastasis, ultrasound, fineneedle aspiration, lymph node yield

[S-062]

Is lobectomy sufficient for suspicious thyroid nodules? An analysis of malignancy and reoperation rates

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Objective: The optimal extent of surgery in papillary thyroid carcinoma (PTC) remains a matter of ongoing debate. The 2015 American Thyroid Association (ATA) guidelines recommend lobectomy as an adequate initial surgical approach for low-risk T1-T2N0 cases. However, in patients operated on for suspicious fine-needle aspiration biopsy (FNAB) findings, high-risk pathological features may be identified postoperatively, potentially necessitating completion thyroidectomy. In the literature, the reported malignancy rate in cases with suspicious cytology ranges between 25% and 75%. In this study, we analyzed the rate of malignancy, the need for completion thyroidectomy, and associated clinical risk factors in patients who underwent primary lobectomy due to suspicious FNAB results (Bethesda III-IV).

Material and Methods: In this single-center retrospective study, 121 patients who underwent surgery due to suspicious fine-needle aspiration biopsy (FNAB) findings were evaluated. All patients initially underwent unilateral lobectomy. Final histopathological results, reoperation records, sex distribution, postoperative complications, and family history were analyzed. Among patients who required reoperation, subsequent outcomes—including the administration of radioactive iodine (RAI) therapy—were also assessed.

Results: Benign pathology was identified in 41 of 121 patients (33.9%), while 80 patients (66.1%) were diagnosed with malignancy. This malignancy rate is consistent with those reported in the literature for suspicious cytology. Completion thyroidectomy was performed in 38 of the malignant cases (47.5%). The overall rate of secondary surgery in the entire cohort was 31.4%. Women constituted 77.7% of the study population (94/121), consistent with the well-established female predominance of thyroid cancer. Among patients who underwent reoperation, a positive family history was observed in 56.4%, suggesting that familial risk factors may play a significant role in the surgical decision-making process.

Conclusion: In patients who underwent lobectomy due to suspicious FNAB findings, the malignancy rate was high (66.1%), and approximately half of the malignant cases required a second surgical procedure. These findings suggest that, in selected patients with suspicious cytology, an initial total thyroidectomy may represent a rational surgical approach. However, routine total thyroidectomy for all patients would likely result in overtreatment and unnecessarily extensive surgery. Determination of the optimal surgical extent requires a more refined risk stratification model that incorporates family history and other clinical risk factors in addition to cytological findings.

Keywords: Thyroid nodules, FNAB, malignancy

[S-063]

Thyroidectomy after AUS/FLUS cytology: Does the risk of malignancy support the surgical decision?

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Objective: AUS/FLUS (Bethesda III) cytology represents a diagnostically indeterminate category with uncertain malignancy risk and remains controversial in clinical decision-making. This study aimed to determine the final histopathological malignancy rate in patients undergoing thyroidectomy after AUS/FLUS cytology and to evaluate whether surgical management is clinically justified.

Material and Methods: Between January 1, 2020 and December 31, 2025, 296 patients who underwent thyroidectomy were retrospectively reviewed. Patients with missing data (n=46), Graves' disease (n=12), lobectomy without postoperative calcium/albumin data (n=7), concomitant parathyroidectomy (n=2), and metastatic pathology (n=1) were excluded. The final analysis included 239 patients. Preoperative fine-needle aspiration biopsy (FNAB) results were recorded according to the Bethesda classification. The primary comparison cohort included Bethesda I-II (n=93) and AUS/FLUS (n=65) patients (n=158). A sensitivity analysis was performed including only total thyroidectomy cases (n=133) to minimize the effect of surgical extent. Early biochemical hypocalcemia was defined as postoperative day 1 corrected calcium <8.5 mg/dL. Clinical hypocalcemia was defined by the need for calcium replacement therapy.

Results: Among 239 patients, mean age was 50.5±13.2 years and 66.5% were female. Overall malignancy rate was 32.2%. Early biochemical hypocalcemia occurred in 47.3%, while clinical hypocalcemia requiring replacement was observed in 8.8%. In the primary comparison cohort, malignancy was detected in 23.1% (15/65) of AUS/FLUS patients and 14.0% (13/93) of Bethesda I-II patients (p=0.141). Early biochemical hypocalcemia (38.5% vs. 46.2%, p=0.331) and clinical hypocalcemia (4.6% vs. 11.8%, p=0.116) were comparable between groups. In the total thyroidectomy sensitivity cohort, malignancy rates were 21.4% in AUS/FLUS and 14.3% in Bethesda I-II groups (p=0.282), with no significant difference in clinical hypocalcemia (p=0.098). Most malignant cases in the AUS group were microcarcinomas (Tables 1, 2).

Conclusion: Approximately one in four patients undergoing thyroidectomy after AUS/FLUS cytology had malignancy. Early postoperative morbidity, particularly clinical hypocalcemia, was not significantly increased. However, as most malignancies were low-risk microcarcinomas, surgical decisions should be individualized based on a careful risk-benefit assessment.

Keywords: AUS/FLUS, thyroid cancer, thyroidectomy

Table 1. Definition of study cohorts and basic clinical outcomes

Variable	Main cohort (n=239)	Primary comparison (n=158)	Sensitivity analysis (n=133)
Age (years), mean ± SD	50.5±13.2	51.4±13.0	52.3±12.7
Female, n (%)	159 (66.5)	106 (67.1)	89 (66.9)
FNAB count, mean ± SD	1.61±0.74	1.64±0.75	1.67±0.76
US nodule size (mm), mean ± SD	33.4±19.0	35.8±19.4	39.6±18.8
Total thyroidectomy, n (%)	205 (85.8)	133 (84.2)	133 (100)
Lobectomy, n (%)	34 (14.2)	25 (15.8)	0 (0)
Completion thyroidectomy, n (%)	6 (2.5)	3 (1.9)	0 (0)
Central LN dissection, n (%)	17 (7.1)	4 (2.5)	2 (1.5)
Incidental parathyroidectomy, n (%)	21 (8.8)	16 (10.1)	13 (9.8)
Malignancy (final pathology), n (%)	77 (32.2)	28 (17.7)	23 (17.3)
Multifocality*, n (%)	17 (21.3)	2 (7.1)	1 (4.3)
Early biochemical hypocalcemia, n (%)	113 (47.3)	68 (43.0)	62 (46.6)
Clinical hypocalcemia + replacement, n (%)	21 (8.8)	14 (8.9)	14 (10.5)
Postoperative corrected Ca (mg/dL), mean ± SD	8.47±0.58	8.49±0.56	8.46±0.59
Length of hospital stay (days), mean ± SD	2.87±1.21	2.92±1.18	2.98±1.15
Operative time (minutes), mean ± SD	105.2±28.3	106.4±27.9	107.1±27.1

*Multifocality calculated among malignant cases.

FNAB: Fine-needle aspiration biopsy, US: Ultrasonography, LN: Lymph node, Ca: Calcium, SD: Standard deviation.

Table 2. Comparison of malignancy and early postoperative outcomes between Bethesda I-II and AUS/FLUS groups

Primary comparison cohort (n=158)			
Outcome	**Bethesda I-II (n=93)**	**AUS/FLUS (n=65)**	**p-value**
Malignancy, n (%)	13 (14.0)	15 (23.1)	0.141
Early biochemical hypocalcemia, n (%)	43 (46.2)	25 (38.5)	0.331
Clinical hypocalcemia + replacement, n (%)	11 (11.8)	3 (4.6)	0.116
Sensitivity analysis-total thyroidectomy only (n=133)			
Outcome	**Bethesda I-II (n=77)**	**AUS/FLUS (n=56)**	**p-value**
Malignancy, n (%)	11 (14.3)	12 (21.4)	0.282
Clinical hypocalcemia + replacement, n (%)	11 (14.3)	3 (5.4)	0.098

AUS/FLUS: Atypia of undetermined significance/follicular lesion of undetermined significance.

[S-064]

The diagnostic role of the systemic immune-inflammation index and the impact of surgical approach on immune response in patients undergoing surgery for adrenal masses

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Objective: Every surgical intervention exerts a controlled traumatic effect and induces both proinflammatory and anti-inflammatory changes in host immunity. The systemic immune-inflammation index (SII), which has gained increasing popularity in recent years, is proposed to reflect the balance between tumor-related inflammation and anti-tumor immune functions, thereby consistently indicating the host immune status. SII is calculated as (platelet × neutrophil)/lymphocyte. In this study, we aimed to evaluate the effect of disease etiology and type of surgical approach (open, laparoscopic, robotic) on systemic immune response using SII in patients operated on for adrenal masses.

Material and Methods: A total of 144 out of 176 patients who underwent surgery for adrenal masses at the General Surgery Department of University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital between April 2020 and April 2025 were included in the study. Preoperative SII values were calculated using complete blood count results obtained during preoperative evaluation, while postoperative SII values were calculated using hemogram results obtained at the 12th postoperative hour. Patients were classified according to preoperative diagnosis, pathological findings, and surgical approach. Data were analyzed retrospectively.

Results: A total of 144 patients were included in the study, of whom 107 were female and 37 were male. The mean age was 50±10.81 years (range, 21-74 years). At least one comorbidity was identified in 50.7% of the patients, with hypertension (46.5%) being the most common. Although patients with Cushing's syndrome, Conn's syndrome, and pheochromocytoma exhibited relatively higher mean preoperative SII values compared with those with non-functioning adrenal masses, no statistically significant differences were observed among the diagnostic groups. Similarly, patients with adrenocortical carcinoma demonstrated numerically higher preoperative SII values than those with other pathological diagnoses; however, this difference did not reach statistical significance. Postoperatively, the robotic surgery group showed significantly lower SII values compared with the laparoscopic and open surgery groups ($p<0.001$), whereas the open surgery group was associated with higher postoperative SII values than the minimally invasive approaches.

Conclusion: Our study demonstrates that minimally invasive adrenal surgery—particularly robotic surgery—is associated with a lower systemic immune response compared with open surgery, as assessed by the systemic immune-inflammation index.

Keywords: Adrenal mass, minimally invasive surgery, systemic immune-inflammation index

[S-067]

Follow-up and recovery rime of vocal cord function in patients experiencing loss of signal due to traction injury during neuromonitored thyroidectomy; preliminary results of a prospective observational study

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Objective: Loss of signal (LOS) in neuromonitored thyroidectomy is a significant warning sign and adversely affects postoperative vocal cord function (VCF). However, in traction injuries where the anatomical integrity of the RLN is preserved, the chances of nerve recovery are high. This study aimed to evaluate postoperative VCF outcomes and recovery times in patients who developed LOS due to traction injuries.

Material and Methods: Patients undergoing neuromonitored thyroid surgery who experienced LOS due to traction injuries were prospectively followed. Postoperative voice complaints and VCF were assessed by indirect laryngoscopy. The primary outcome was time to VCF recovery.

Results: A total of 13 patients were included (84.6% female). LOS was classified as Type 1 in 84.6% of cases and as Type 2 in 15.4% of cases. Postoperative hoarsenessoccurred in 53.8% of patients. Complete recovery of VCF was observed in 5 patients (median 4.5 weeks; 95% CI 0.89-7.27). No significant association was found between recovery of VCF and percentage of amplitude decrease, or LOS type (respectively, $p=0.642$, $p=0.481$). On the other hand, there was a significant difference between thesurgeon's experience and the percentage of amplitude decrease ($p=0.029$). A weakbut positive correlation was identified between age and the percentage of amplitude decrease ($p=0.04$).

Conclusion: Despite intraoperative signal loss, VCF recovery was observed in 5 patients, while follow-up continues in the remaining patients. The prognostic value of LOS type appears limited. Advancing age may contribute to increased signal loss severity; however, this relationship remains weak. Also, a surgeon's experience is an essential factor in the recovery period of VCF. These findings represent the preliminary results of an ongoing long-term prospective study, and increasing sample size and extended follow-up are expected to provide more robust conclusions.

Keywords: Thyroidectomy, vocal cord function

[S-068]

Surgical management of cT1 node-negative differentiated thyroid cancer: Evaluating the adequacy of lobectomy

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Objective: Current ATA guidelines recommend hemithyroidectomy (HT) for low-risk thyroid cancer (TC); however, total thyroidectomy (TT) is still frequently performed. This study aimed to evaluate the adequacy of HT in patients with cT1N0 TC.

Material and Methods: Patients who underwent thyroidectomy with TC diagnosis between May 2015-2025 were retrospectively reviewed. Inclusion criteria for HT eligibility were: A single-lobe nodule ≤20 mm, Bethesda V/VI cytology, absence of malignant or suspicious nodules in the contralateral lobe, and final pathology confirming differentiated TC (DTC). One hundred fifty-six patients met the criteria. Patients who underwent TT were stratified into two groups: Those eligible for HT and those not eligible for HT. Comparative analyses were performed between eligible vs. not eligible, and eligible vs. those who actually underwent HT.

Results: Of 156 patients, 115 (73.7%) were female, and the mean age was 44.6±13.1. TT was performed in 134 (85.9%), and 22 (14.1%) underwent HT. Among the TT group, 67 patients (50%) were eligible for HT, indicating potential overtreatment. In patients who underwent TT due to contralateral nodules, 63.9% had benign pathology in the contralateral lobe. Transient hypocalcemia developed in 22 patients (14.1%), while no permanent hypocalcemia was observed. Transient hypocalcemia occurred in 36.4% of cases with contralateral intrathyroidal parathyroid tissue in TT group. Recurrent laryngeal nerve injury occurred in 8 patients (5.1%). Operative time was longer with TT than HT ($p<0.001$).

Conclusion: In selected cT1N0 DTC patients, HT is adequate and associated with shorter operative time and lower complication risk. Accurate preoperative assessment may reduce unnecessary total thyroidectomies.

Keywords: ATA guidelines, differentiated thyroid cancer, hemithyroidectomy, total thyroidectomy

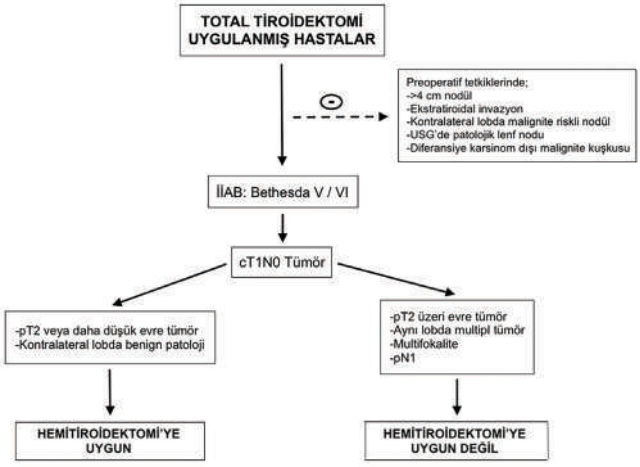

Figure 1. Eligibility criterias for hemithyroidectomy in patients who underwent total thyroidectomy for thyroid cancer.

Table 1. Pearson chi-square test results between the presence of a tumor in the contralateral lobe and the contralateral lobe histopathology

Contralateral lobe histopathology	No nodule on contralateral lobe* (n=73)	Existing nodule on contralateral lobe * (n=61)	p
Normal thyroid tissue	23 (31.5%)	5 (8.2%)	<0.001
Follicular nodular disease	12 (16.4%)	26 (42.6%)	
Chronic thyroiditis	23 (31.5%)	8 (13.1%)	
Papillary thyroid cancer	15 (20.5%)	22 (36.1%)	

*: According to preoperatively ultrasonography.

[S-069]

The effect of tumor multifocality on the prognosis of papillary thyroid carcinoma

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Objective: Papillary thyroid carcinoma (PTC) is a heterogeneous malignancy that generally has a good prognosis, but its behavior can vary depending on its clinicopathological features. There is no consensus in the literature regarding the prognostic value of multifocality, which is seen in approximately half of PTC cases. The aim of this study is to evaluate the effect of tumor multifocality on recurrence and disease-free survival (DFS) in PTC and to identify independent risk factors predicting recurrence.

Material and Methods: This retrospective cohort study included 254 patients with percutaneous thyroidectomy (PTC) who underwent a total of thyroidectomy between 2012 and 2020. The mean follow-up period was calculated as 99±7 months. Patients were divided into two groups: Multifocal (n=140) and unifocal (n=114). Clinicopathological variables were compared between the two groups. ROC curve analysis was used to determine parameters predicting recurrence, the Kaplan-Meier method and Log-rank test were used for disease-free survival. Multivariate Cox regression analysis was applied to identify independent predictors of recurrence.

Results: No significant difference was found in recurrence frequency between multifocal and unifocal groups (p=0.810). In disease-free survival comparison, multifocality did not significantly increase recurrence risk (HO: 1.78; p=0.211). In ROC analysis, age was not a significant predictor of recurrence (AUC: 0.524; p=0.758). In contrast, primary tumor size showed significant diagnostic performance (AUC: 0.652; p=0.012), with the best threshold >23 mm (sensitivity 68%, specificity 63%). In univariate analyses, significant risk factors included primary tumor size >23 mm (HO: 3.66; p=0.006), lateral dissection (HO: 12.60; p=0.003), central dissection (HO: 4.54; p=0.023), and perineural invasion (HO: 117.66; p=0.005). Extrathyroidal spread and metastatic lymph nodes showed borderline significance. In multivariate Cox regression, only two parameters remained independent risk factors: 1) lateral dissection (HO: 4.83; 95% CI: 1.73-13.48; p=0.003) and 2) primary tumor size >23 mm (HO: 3.89; 95% CI: 1.47-10.29; p=0.006). These findings suggest recurrence risk is related to tumor size and regional lymph node involvement rather than multifocality.

Conclusion: This study demonstrated that multifocality is not an independent prognostic predictor in papillary thyroid carcinoma. The strongest predictors of recurrence were large tumor size (>23 mm) and lateral dissection due to lateral lymph node metastasis. These results suggest that tumor size and nodal spread should be prioritized over multifocality when classifying clinical risk. Closer monitoring is recommended, particularly for patients with tumors >23 mm and those positive for lateral nodal metastasis, when determining follow-up strategies.

Keywords: Disease-free survival, multifocality, papillary thyroid carcinoma, prognostic factors, recurrence

[S-072]

Radiologic risk stratification for predicting postoperative morbidity in substernal goiter: A single-center retrospective study

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Objective: Surgery for substernal goiter is technically demanding due to mediastinal extension and distorted cervical anatomy. Although sternotomy requirement has been widely discussed, objective and clinically applicable models for predicting postoperative morbidity remain lacking. This study aimed to evaluate radiologic parameters associated with postoperative morbidity and to develop a practical radiologic difficulty score (RDS) for preoperative risk stratification.

Material and Methods: Thirty-six consecutive patients who underwent surgery for substernal goiter were retrospectively analyzed. Preoperative computed tomography scans were reviewed to assess intrathoracic volume, posterior mediastinal extension, and tracheal compression. Composite postoperative morbidity was defined as the occurrence of ≥1 of the following: Hypocalcemia, recurrent laryngeal nerve (RLN) injury, hematoma, or reoperation. Independent predictors were identified using multivariate logistic regression analysis. Model performance was evaluated using receiver operating characteristic (ROC) analysis.

Results: The mean age was 60.2±11.8 years, and 72.2% of patients were female. The malignancy rate was 13.9%, sternotomy rate was 5.6%, and composite postoperative morbidity occurred in 44.4% of patients. Postoperative transient hypocalcemia was observed in 11.1%, RLN injury in 27.8%, and hematoma in 5.6%. Intrathoracic volume emerged as an independent predictor of morbidity (OR: 1.02, 95% CI: 1.00-1.04, p=0.037). ROC analysis demonstrated an AUC of 0.74 for intrathoracic volume, and a threshold of 165 L yielded 75% sensitivity and 68% specificity. A 0-3 point RDS incorporating intrathoracic volume ≥165 mL, posterior mediastinal extension, and tracheal compression was developed. Each 1-point increase in RDS increased morbidity risk 2.85-fold (OR: 2.85, 95% CI: 1.32-6.14, p=0.008), with an AUC of 0.82.

Conclusion: Anatomical complexity, rather than histopathological characteristics, appears to be the primary determinant of postoperative morbidity in substernal goiter surgery. An intrathoracic volume ≥165 ml represents a clinically meaningful risk threshold. The proposed RDS provides a practical and robust tool for preoperative risk stratification and surgical planning.

Keywords: Substernal goiter, intrathoracic volume, postoperative morbidity

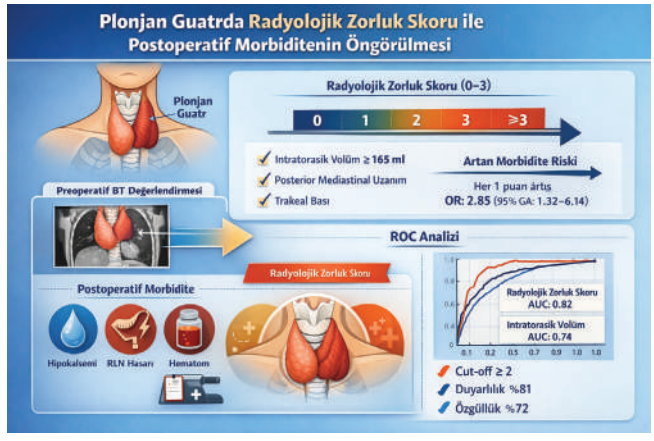

Figure 1. Radiologic difficulty score and postoperative morbidity in substernal goiter.

[S-073]

The significance of preoperative thyroglobulin and anti-thyroglobulin levels in thyroid diseases

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Objective: In differentiated thyroid cancers, postoperative thyroglobulin (Tg) and anti-thyroglobulin (anti-Tg) levels are important markers for tumor burden, recurrence, and metastasis. However, there is no clear consensus in the literature regarding the clinical significance of elevated preoperative Tg and anti-Tg levels observed in some patients with thyroid diseases. This study aimed to investigate the significance of preoperative serum Tg and anti-Tg levels in benign and malignant thyroid disorders.

Material and Methods: A total of 678 patients who underwent thyroidectomy between 2019 and 2025 were retrospectively evaluated. Patients with available preoperative Tg and anti-Tg measurements were included in the study. Patients were analyzed separately according to the presence of malignancy, thyroiditis, hyperthyroidism, and thyroid gland volume. Thyroid volume was calculated using three-dimensional measurements obtained during pathological examination of thyroidectomy specimens, applying the ellipsoid formula ($V=D1\times D2xD3\times\pi/6$). Patients were statistically compared based on elevated versus normal Tg and anti-Tg levels to identify factors associated with increased Tg and anti-Tg values.

Results: Of the 678 patients who underwent thyroidectomy, 328 (48.4%) had malignant and 349(51.5%) had benign pathology. Among the 369 patients with available preoperative Tg and anti-Tg measurements, 184 (49.9%) had benign and 185 (50.1%) had malignant disease. The rate of malignancy was significantly lower in patients with elevated preoperative Tg levels compared to those with normal Tg levels (36.5% vs. 58.2%, $p<0.001$). When Tg levels were evaluated according to thyroid volume, a statistically significant increase in preoperative Tg levels was observed with increasing thyroid volume. The mean thyroid volume was 94.0 mL in the elevated Tg group and 39.7 mL in the normal Tg group ($p<0.001$). However, no significant difference was found between benign and malignant groups when Tg levels per mm^3 of thyroid tissue were analyzed ($p=0.425$). The incidence of elevated Tg levels was significantly lower in patients with thyroiditis (29.1%) compared to those without thyroiditis (43.6%) ($p=0.004$). No statistically significant association was observed between hyperthyroidism and Tg levels ($p=0.238$). Analysis of anti-Tg levels revealed a strong correlation between elevated antibody titers and the presence of thyroiditis($p<0.001$). Thyroiditis was present in 85.6% of patients with elevated anti-Tg levels, compared to 34.7% in patients with normal anti-Tg levels. No significant association was found between elevated preoperative anti-Tg levels and malignancy ($p=0.350$), hyperthyroidism ($p=0.335$), or thyroid volume ($p=0.278$).

Conclusion: This study demonstrated that preoperative serum Tg and anti-Tg levels were not associated with the presence of malignancy. Elevated preoperative Tg levels were more frequently observed in benign thyroid diseases and were primarily related to increased thyroid volume. Elevated preoperative anti-Tg levels were associated with the presence of thyroiditis.

Keywords: Thyroglobuline, antithyroglobuline, thyroid disease

[S-074]

Risk factors affecting vocal cord paralysis in patients undergoing thyroidectomy with continuous intraoperative nerve monitoring

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Objective: Vocal cord paralysis (VCP) is a major complication of thyroid surgery. The use of intraoperative nerve monitoring (IONM) during thyroidectomy has increasingly been adopted to reduce this risk. In our clinic, IONM is routinely used; in some patients intermittent IONM (I-IONM) and in others continuous IONM (C-IONM) is preferred. In C-IONM, the vagus nerve is continuously stimulated via a probe, allowing real-time monitoring of recurrent laryngeal nerve (RLN) function. Despite C-IONM use, VCP may still occur. This study aimed to evaluate VCP rates and risk factors in patients undergoing thyroidectomy with C-IONM.

Material and Methods: Patients who underwent thyroidectomy under C-IONM guidance between 2016 and 2024 were retrospectively evaluated. C-IONM was applied according to International IONM Study Group recommendations. All patients had preoperative and postoperative vocal cord examinations. Patients with postoperative VCP were followed regularly; recovery within 1 year was defined as temporary VCP, and lack of recovery within 1 year as permanent VCP. Each neck side was evaluated separately. The effects of age, sex, body mass index, nerve side, preoperative diagnosis, hyperthyroidism, recurrent goiter, substernal goiter, extralaryngeal RLN branching, thin RLN (<1 mm), RLN-inferior thyroid artery relationship, RLN anatomical classification, and RLN entrapment at the berry ligament region on total and temporary VCP were analyzed using logistic regression.

Results: A total of 626 neck sides in 380 patients (309 females, 71 males) with a mean age of 48.5±13.5 years were evaluated. Total and temporary VCP rates were 6.5% (41) and 5.8% (36), respectively. Logistic regression identified RLN entrapment at the Berry ligament region and recurrent goiter as independent risk factors for both total and temporary VCP. For total VCP, Berry ligament entrapment ($p=0.000$; OR: 0.15; 95% CI: 0.065-0.345) and recurrent goiter ($p=0.005$; OR: 0.219; 95% CI: 0.076-0.633) were significant. For temporary VCP, Berry ligament entrapment ($p=0.000$; OR: 0.141; 95% CI: 0.058-0.343) and recurrent goiter ($p=0.01$; OR: 0.229; 95% CI: 0.075-0.699) were significant. Berry ligament entrapment increased VCP risk approximately 7-fold, and recurrent goiter approximately 4.5-fold.

Conclusion: The risk of VCP remains significant even in patients undergoing C-IONM. Although recurrent goiter can be predicted preoperatively, Berry ligament entrapment cannot be predicted preoperatively and can only be identified intraoperatively. We believe that careful identification of RLN anatomy and consideration of Berry ligament entrapment during surgical manipulation—particularly during traction—may help reduce the risk of VCP.

Keywords: Vocal cord paralysis, continous intraoperative nerve monitoring (C-IONM), Berry ligament

Table 1. Independent and clinically relevant risk factors for permanent vocal cord paralysis			
Variable	**p-value**	**OR**	**95% CI**
RLN entrapment at the Berry ligament	<0.001	0.150	0.065-0.345
Recurrent goiter	0.005	0.219	0.076-0.633
RLN anatomical fixed	0.048	0.029	0.001-0.966
RLN right type 2b	0.055	0.031	0.001-1.085
RLN right type 3	0.051	0.032	0.001-1.010

Table 2. Independent and clinically relevant risk factors for transient vocal cord paralysis			
Variable	**p-value**	**OR**	**95% CI**
RLN entrapment at the Berry ligament	<0.001	0.141	0.058-0.343
Recurrent goiter	0.010	0.229	0.075-0.699
Nerve side	0.174	1.715	0.788-3.732
Extralaryngeal branching	0.368	0.659	0.266-1.633

[S-075]

Surgeon transition to robotic adrenalectomy: A learning curve analysis

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Objective: Robotic adrenalectomy (RA) has increasingly been adopted as an alternative to laparoscopic adrenalectomy, particularly in complex adrenal cases. Despite its technical advantages, RA is associated with a learning curve, even among surgeons experienced in minimally invasive adrenal surgery. Objective data describing surgeon-specific learning patterns during the transition to RA remain limited.

Material and Methods: This retrospective single-center cohort study included consecutive patients who underwent robotic transabdominal adrenalectomy between March 2024 and December 2025 at a high-volume tertiary referral center. Learning curve assessment was performed using total operative time and surgeon-dependent console time. Temporal trends were evaluated using raw learning curve plots, 7-case moving averages, LOESS smoothing, and segmented linear regression. Surgical proficiency was objectively assessed using Learning Curve Cumulative Sum (LC-CUSUM) analysis with predefined operative time thresholds. Factors associated with operative time were analyzed using univariate and multivariate linear regression.

Results: A total of 56 patients were included. Mean operative time was 137.8±41.3 minutes, and mean console time was 91.0±34.4 minutes. LC-CUSUM analysis demonstrated early attainment of proficiency for total operative time at the 10th-12th case, depending on the applied threshold. In contrast, proficiency based on stricter console time criteria was achieved later, at approximately the 36th case. Descriptive analyses revealed an initial phase of rapid improvement followed by a secondary optimization phase, with stabilization observed after approximately 32 cases. Tumor size and ASA class were independently associated with operative time.

Conclusion: RA can be safely adopted in high-volume centers with experienced surgical teams. While overall operative efficiency improves early, refinement of surgeon-dependent console performance continues over a longer learning trajectory, supporting a multiphase learning curve model.

Keywords: Adrenal gland surgery, robotic adrenalectomy, robotic surgery, learning curve, minimally invasive surgery

[S-076]

Hashimoto's thyroiditis does not alter the malignancy risk of AUS cytology

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Objective: Atypia of undetermined significance (AUS) detected by fine-needle aspiration (FNA) represents a controversial cytological diagnosis in the management of thyroid nodules. In patients with Hashimoto's thyroiditis (HT), inflammatory and reactive changes may increase cytological atypia, potentially leading to unnecessary surgical interventions. This study aimed to compare postoperative malignancy rates in thyroid nodules diagnosed as AUS in patients with and without underlying HT.

Material and Methods: This retrospective study included 281 patients who underwent thyroid surgery between January 1, 2020, and December 1, 2025, at the Endocrine Surgery Department of İstanbul University, İstanbul Faculty of Medicine, following an AUS diagnosis on FNA of the index nodule. Patients with chronic lymphocytic thyroiditis on final histopathology or positive anti-Tg/anti-TPO antibodies were classified as Group 1 (HT present; n=87, 31%), while the remaining 194 patients (69%) constituted Group 2 (HT absent). Demographic characteristics, serum TSH levels, TI-RADS categories, suspicious ultrasonographic features, type of surgery, index nodule malignancy rates, and incidental malignancy rates were compared between the groups. Histopathological features were further evaluated in patients with confirmed malignancy.

Results: Although there was no significant difference in age between the groups, Group 1 exhibited a higher female-to-male ratio (p=0.01) (Table 1). Serum TSH levels were significantly higher in Group 1 compared with Group 2 (2.3 mIU/L vs. 1.5 mIU/L, p<0.01). No significant differences were observed between the groups regarding index nodule size, the proportion of high TI-RADS categories, or the presence of suspicious ultrasonographic findings (p>0.05) (Table 1). The rates of total thyroidectomy were similar between Group 1 and Group 2 (58.6% vs. 58.2%, p=0.95). The overall malignancy rate was 48.3% in Group 1 and 40.2% in Group 2 (p=0.2). Papillary thyroid carcinoma constituted the majority of malignancies in both groups (Table 2). The malignancy rate within the AUS index nodule across the entire cohort was 24.5%, corresponding to 30% in Group 1 and 22% in Group 2, without a statistically significant difference (p=0.16). Incidental malignancy rates outside the index nodule were comparable between the groups (Table 1). Furthermore, no significant differences were detected between Group 1 and Group 2 in terms of tumor size, aggressive histological subtype, lymph node metastasis, vascular invasion, or extrathyroidal extension (Table 2).

Conclusion: In patients with AUS cytology, the presence of Hashimoto's thyroiditis does not significantly influence either the overall malignancy rate or the likelihood of malignancy within the index nodule. These findings suggest that HT does not independently alter surgical decision-making for AUS nodules.

Keywords: Atypia of undetermined significance, Hashimoto's thyroiditis, thyroid cancer risk

Table 1. Demographic and clinical characteristics

Variable	Group 1 (n=87)	Group 2 (n=194)	p-value
Age, median (min-max)	49 (15-74)	50.5 (13-78)	0.95
Female sex, n	77/10	146/48	0.01
TSH, median (min-max)	2.3 (0.006-38)	1.5 (0.01-13.9)	<0.01
Primary nodule size (mm), median (min-max)	17 (4-89)	20 (3-81)	>0.05
High TI-RADS (4-5), n (%)	45 (51.7)	112 (57.7)	0.36
Presence of suspicious US findings, n (%)	17 (19.5)	28 (14.4)	0.29
Total thyroidectomy, n (%)	51 (58.6)	113 (58.2)	0.95
Malignancy in the index nodule, n (%)	26 (30)	43 (22)	0.16
Incidental malignancy, n (%)	16 (18.4)	35 (18.0)	0.94
Overall malignancy, n (%)	42 (48.3%)	78 (40.2)	0.2

Table 2. Histopathological characteristics of patients with malignancy

Variable	Group 1 (n=42)	Group 2 (n=78)	p-value
Tumor size (mm), median (min-max)	8 (1-70)	9 (1-77)	>0.05
Papillary microcarcinoma, n (%)	31 (73.8)	45 (57.7)	>0.05
Papillary thyroid carcinoma (>1 cm), n (%)	10 (23.8)	27 (34.6)	>0.05
Follicular thyroid carcinoma, n (%)	1 (2.4)	5 (6.4)	>0.05
Medullary thyroid carcinoma, n (%)	0	1 (1.3)	>0.05
Aggressive subtype, n (%)	5 (11.9)	8 (10.3)	0.78
Lymph node metastasis, n (%)	0	3 (3.8)	0.28
Vascular invasion, n (%)	2 (4.8)	1 (1.3)	0.30
Extrathyroidal extension, n (%)	0	1 (1.3)	1.00

[S-078]

Marine-Lenhart syndrome: A rare clinical presentation of Graves' disease – a case series

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Objective: Marine-Lenhart syndrome (MLS) is a rare clinical entity characterized by the coexistence of Graves' disease and autonomously functioning thyroid nodules, and has been reported in approximately 1-2.7% of patients with Graves' disease. The coexistence of diffuse autoimmune hyperthyroidism and nodular autonomy may pose challenges in the diagnostic evaluation and surgical planning. Only a limited number of cases have been reported in the literature. The aim of this study was to present the clinical, imaging, and surgical characteristics of patients diagnosed with MLS.

Material and Methods: Among 254 patients who underwent surgery for Graves' disease at our clinic between 2015 and 2026, those diagnosed with MLS were retrospectively evaluated. Demographic characteristics, thyroid ultrasonography and scintigraphy findings, localization of the hyperfunctioning nodule, presence of ophthalmopathy, preoperative thyroid-stimulating immunoglobulin (TSI) levels, and the surgical procedures performed were obtained from patients' medical records.

Results: MLS was identified in 10 patients. The mean age was 51.9±17.2 years; 6 patients were female and 4 were male. In all patients, thyroid scintigraphy demonstrated diffusely increased uptake together with focal areas of increased activity within nodules. On scintigraphy, hyperfunctioning nodules were localized in the left lobe in 4 patients, in the right lobe in 3 patients, and bilaterally in 3 patients. Ophthalmopathy was present in 4 patients. The mean preoperative TSI level was 7.53±7.39 IU/L (min-max). All patients received antithyroid drug therapy before surgery. Total thyroidectomy was performed in 9 patients, while 1 patient underwent total thyroidectomy with central neck dissection and therapeutic left lateral neck dissection. Postoperative histopathological examination revealed papillary thyroid carcinoma in 2 patients (20%). One of these patients subsequently received radioactive iodine therapy.

Conclusion: MLS is a rare entity with a heterogeneous clinical spectrum. The presence of an autonomously functioning thyroid nodule does not exclude the possibility of malignancy. Therefore, in patients with Graves' disease and coexisting thyroid nodules, careful physical examination and ultrasonographic evaluation should be performed, and fine-needle aspiration biopsy should be considered for nodules that are clinically and ultrasonographically suspicious, even when the nodule is hyperfunctioning.

Keywords: Graves' disease, Marine-Lenhart syndrome, thyroid nodule

[S-079]

Is the preference changing? Total thyroidectomy or lobectomy in the surgical management of T1b papillary thyroid carcinoma

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Objective: Papillary thyroid carcinoma (PTC) is the most common differentiated thyroid cancer, and surgery is the primary treatment modality. Most treated PTCs are low-risk T1 tumors (<2 cm). The optimal extent of surgery remains controversial. The American Thyroid Association (ATA) guideline is the most widely used guideline worldwide for differentiated thyroid cancer and also guides treatment decisions in our clinic. In the 2009 ATA revision, near-total or total thyroidectomy was recommended as the initial surgical approach for tumors >1 cm, provided there were no contraindications. However, in the 2015 revision, for tumors >1 cm and <4 cm without extrathyroidal extension and without clinical evidence of lymph node metastasis (cN0), either near-total/total thyroidectomy or lobectomy was considered appropriate as the initial procedure. In the 2025 revision, it is noteworthy that for patients with tumors <2 cm (cT1), without gross extrathyroidal extension and without metastasis (cN0M0), thyroid lobectomy is recommended as the initial surgical procedure, unless there is bilateral disease or another indication for contralateral lobectomy. In light of these recommendations, we aimed to evaluate whether there has been a change in the surgical management of T1b tumors over the past 10 years.

Material and Methods: We retrospectively reviewed patients operated on for PTC between January 2016 and December 2025 with T1b tumors (>1 cm - <2 cm). Patients who underwent central and/or lateral neck dissection were excluded. Only patients who had lobectomy or total thyroidectomy were included. Patients were divided into two groups: 2016-2020 (Group 1) and 2021-2025 (Group 2). Surgical extent was compared between the two periods.

Results: A total of 98 patients (75 females, 23 males) were included: 41 in Group 1 and 57 in Group 2. Initial surgery in Group 1 vs. Group 2 was lobectomy in 6 (14.6%) vs. 25 (43.9%) and total thyroidectomy in 35 (85.4%) vs. 32 (56.1%), respectively (p=0.0021). Completion thyroidectomy after lobectomy was performed in 4 (9.8%) and 5 (8.8%) patients in Groups 1 and 2, respectively (p=1). After completion procedures, final surgical distribution was lobectomy in 3 (7.3%) vs. 23 (40.4%) and total thyroidectomy in 38 (92.7%) vs. 34 (59.6%) (p=0.0003).

Conclusion: Over the last decade, there has been a clear shift in our clinic from total thyroidectomy toward lobectomy in the management of T1bN0M0 tumors. The initial lobectomy rate increased from 14.6% (2016-2020) to 43.9% (2021-2025), with similarly low completion thyroidectomy rates. This trend aligns with the 2025 ATA guideline, suggesting that lobectomy may increasingly become the preferred initial surgical approach.

Keywords: Papillary thyroid carcinoma, T1b tumor, lobectomy

[S-080]

The association of pan-immune and systemic immune indices with malignancy in thyroid nodules with atypia of undetermined significance on fine-needle aspiration biopsy

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Objective: The diagnostic approach to thyroid nodules is primarily based on fine-needle aspiration biopsy (FNAB). However, the "atypia of undetermined significance" (AUS/FLUS) category in the Bethesda system creates significant challenges in clinical decision-making due to its heterogeneous risk of malignancy. Reported malignancy rates in this group range between 10% and 30%, and a substantial proportion of patients are therefore referred for unnecessary surgery. In recent years, with a better understanding of the role of systemic inflammation in tumor biology, markers derived from complete blood count parameters—such as the pan-immune inflammation index (PIV), systemic immune-inflammation index (SII), and neutrophil-to-lymphocyte ratio (NLR)—have been shown to have diagnostic value in various solid tumors.

Material and Methods: In this retrospective observational study, 120 patients who underwent total thyroidectomy with a diagnosis of AUS/FLUS between 2017 and 2022 were evaluated. Based on histopathological examination, patients were divided into two groups as benign (n=60) and malignant (n=60); all malignant cases were papillary thyroid carcinoma. The groups were compared using the Mann-Whitney U test. Independent variables predicting malignancy were assessed by multivariate logistic regression analysis. Diagnostic performance was evaluated using receiver operating characteristic (ROC) analysis, and ROC curves were compared using the DeLong test.

Results: No significant differences were observed between the benign and malignant groups in terms of demographic characteristics. Inflammatory indices were significantly higher in the malignant group. PIV (327.9±90.1 vs. 217.6±80.0; p<0.001), SII (644.6±230.4 vs. 502.6±200.3; p<0.001), and NLR (2.26±0.75 vs. 1.88±0.70; p=0.002) values were markedly increased in the malignant group (Table 1). In ROC analysis, the area under the curve (AUC) values were calculated as 0.86 for PIV, 0.83 for SII, and 0.79 for NLR. In the combined model evaluating all parameters together, the AUC value reached 0.91 (Figure 1). In logistic regression analysis, PIV (p<0.001) and SII (p=0.008) were identified as independent predictors of malignancy.

Conclusion: PIV and SII are strong, inexpensive, and clinically applicable biomarkers for predicting the risk of malignancy in thyroid nodules diagnosed as AUS. These inflammatory indices may contribute to a more objective assessment of malignancy risk in the preoperative period, thereby helping to reduce repeat biopsies and unnecessary surgeries. Particularly in clinical settings where molecular testing is not readily available, PIV and SII may be used as practical tools to support surgical decision-making.

Keyword: Thyroid nodule

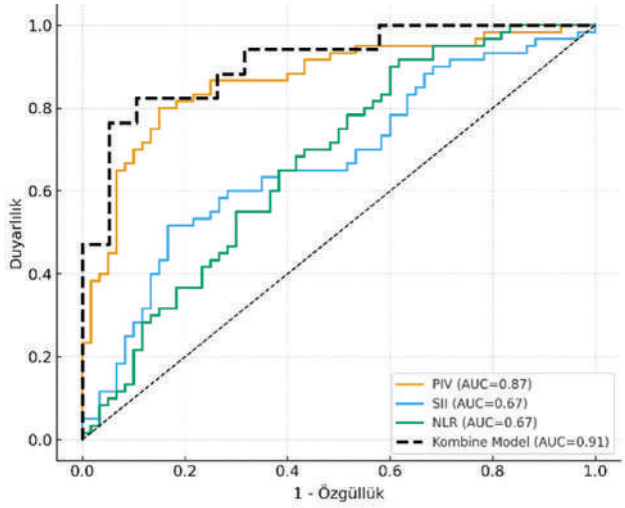

Figure 1. ROC curves of PIV, SII, NLR, and the combined model.

Table 1. Comparison of PIV, SII, and NLR values between benign and malignant disease

Parameter	Benign (Mean ± SS)	Malignant (Mean ± SS)	p-value
PIV	217.6±80.0	327.9±90.1	<0.001
SII	502.6±200.3	644.6±230.4	<0.001
NLR	1.88±0.70	2.26±0.75	0.002

[S-081]

Probe-based near-infrared autofluorescence imaging for identification of parathyroid glands during thyroidectomy: Experience of Zonguldak Bülent Ecevit University Faculty of Medicine

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Objective: Accidental excision or intraoperative injury of the parathyroid glands (PGs) may lead to transient or permanent hypoparathyroidism. Therefore, accurate identification and preservation of the parathyroid glands during thyroidectomy and parathyroidectomy constitute fundamental components of surgical success.In this study, we aimed to evaluate the effect of fiber-based near-infrared autofluorescence (NIRAF) technology on the number of parathyroid glands identified intraoperatively and on the incidence of postoperative hypoparathyroidism.

Material and Methods: This single-center clinical study was conducted between February 2025 and February 2026. Three experienced endocrine surgeons and five general surgery residents participated in the study. A total of 49 patients underwent unilateral total thyroidectomy, 37 patients underwent bilateral thyroidectomy, and 5 patients underwent completion thyroidectomy. The median follow-up period was 12 months. Probe-based NIRAF imaging was applied intraoperatively in all patients. In addition, both imaging-based and probe-based evaluations were performed on all surgical specimens. The primary outcome measure was defined as the mean number of parathyroid glands identified intraoperatively, and the secondary outcome measure was the rate of postoperative hypoparathyroidism.

Results: All 91 patients were analyzed for the primary outcome [median age (IQR): 52 (2) years; 67 women (73.6%)]. Forty-nine patients underwent unilateral thyroidectomy, 37 patients underwent total thyroidectomy with NIRAF guidance, and 5 patients underwent completion thyroidectomy. With the use of NIRAF in bilateral and completion thyroidectomies, the mean number of identified parathyroid glands was 4 in total thyroidectomies and 2 in completion thyroidectomies. In specimen evaluation, no additional parathyroid glands were detected by imaging-based assessment in cases where intraoperative probe-based NIRAF had been used. None of the patients in whom at least one parathyroid gland was visualized with NIRAF during thyroidectomy developed postoperative hypoparathyroidism. Review of the pathology reports confirmed that no inadvertent parathyroid gland excision had occurred.

Conclusion: Probe-based NIRAF technology appears to be safe for identification and preservation of parathyroid glands. It has the potential to increase the number of parathyroid glands identified during thyroidectomy and to reduce the risk of iatrogenic hypoparathyroidism.

Keywords: Thyroidectomy, hypoparathyroidism, parathyroid

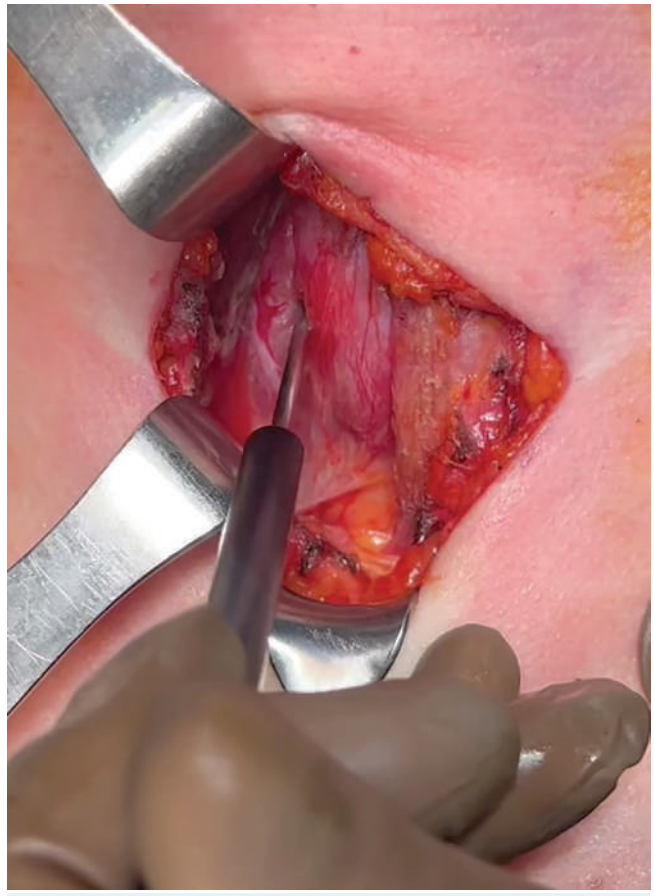

Figure 1. NIRAF.

Table 1.

Variable	N / %
AGE	5 ±2 years
Gender (female/male):	67/24 (73.6%/26.4%)
Type of surgery	Unilateral total Thyroidectomy: 49 (44.59%) Bilateral total Thyroidectomy: 37 (33.67%) Completion thyroidectomy: 5 (4.55%)
Number of identified parathyroid glands (mean):	Bilateral: 4 Completion: 2
Postoperative permanent hypoparathyroidism	0%
Unintended parathyroid excision	0%
Follow-up duration	12 months

[S-082]

Clinical and pathological features of struma ovarii: A retrospective analysis of twenty-eight cases

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Objective: Struma ovarii is a rare monodermal teratoma of the ovary that is usually benign; however, malignant transformation may occur in a small number of cases. Due to the non-specific nature of clinical and radiological findings, preoperative diagnosis remains challenging. The aim of this study was to evaluate the demographic, clinical, surgical, and pathological characteristics of patients diagnosed with struma ovarii and to identify distinguishing features of malignant struma ovarii cases using numerical data.

Material and Methods: The medical records of a total of 28 patients diagnosed with struma ovarii between January 2011 and December 2025 in our endocrine surgery clinic were retrospectively analyzed. Patient age, presenting symptoms, imaging findings, tumor size, presence of ascites, surgical procedures, histopathological diagnoses, and follow-up data were evaluated. Continuous variables were expressed as mean ± standard deviation, and categorical variables were expressed as number and percentage.

Results: The mean age of the patients was 41.5±15.1 years. Twenty-two cases (78.6%) were reported as benign struma ovarii, and six cases (21.4%) as malignant struma ovarii (Figure 1). The mean age of patients with malignant disease was higher than that of the benign group. Tumor sizes were larger in the malignant group, and this difference was more pronounced in cases where measurements were available. Ascites was detected only in the malignant group (n=2, 33.3%); no ascites was observed in benign cases. Preoperative imaging modalities (ultrasonography and computed tomography) were interpreted as benign ovarian cysts or mature teratomas in the majority of malignant cases, and malignancy was rarely suspected preoperatively. Frozen section examination was performed in a limited number of patients, and its diagnostic contribution to predicting malignancy was found to be low. While fertility-preserving surgical approaches were frequently preferred in benign cases, more extensive surgical procedures were performed in malignant cases. The mean follow-up duration in malignant patients was 33.7 months (range, 3-80 months), during which no distant metastasis or recurrence was observed.

Conclusion: In this series, the rate of malignant struma ovarii was 21.4%, and malignant cases could not be reliably distinguished from benign ones based on preoperative clinical and radiological findings. Large tumor size and the presence of ascites should be considered warning signs for malignancy; therefore, careful surgical planning and close long-term follow-up are recommended in such patients. This study contributes to the literature as one of the few series in which malignant struma ovarii cases are numerically analyzed and clinically relevant distinguishing features are emphasized.

Keywords: Malignancy, ovarian mass, struma ovarii, teratoma, thyroidectomy

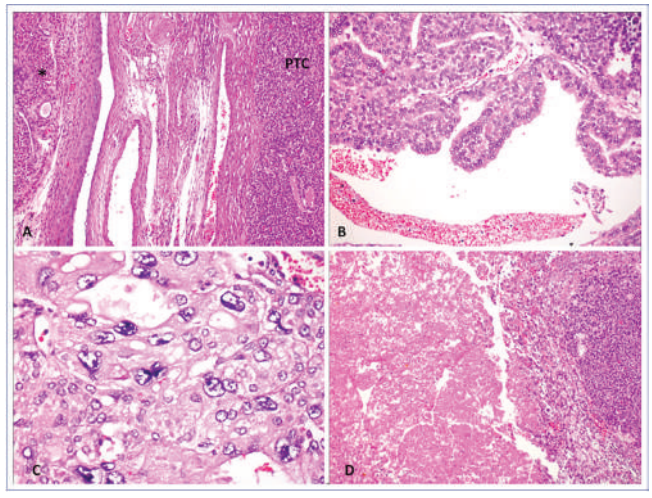

Figure 1. Microphotographs of malignant struma ovarii. Poorly differentiated papillary thyroid carcinoma (PTC) adjacent to luteinized cells (*) in the ovary (A, H&E ×40). The tumor shows well-differentiated areas with papillary structures (B, H&E ×100) and anaplastic transformation characterized by bizarre nuclei (C, H&E ×200) and tumor necrosis (D, H&E ×40).

[S-083]

Role of dominant thyroid nodule volume in predicting malignancy

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Objective: Thyroid cancer is the most common type of endocrine malignancy. While a strong correlation between lesion size and malignant potential has been demonstrated in many cancer types, the relationship between increasing thyroid nodule size and malignancy remains controversial. This study aimed to evaluate the role of preoperative dominant thyroid nodule volume in predicting malignancy.

Material and Methods: The medical records of 632 patients who underwent thyroidectomy at Ankara Bilkent City Hospital between January 2022 and December 2025 were retrospectively reviewed. Dominant thyroid nodule volume was calculated using the ellipsoid formula recommended by the World Health Organization (WHO) (length × width × depth × 0.479). Dominant nodule volumes were categorized as <5 cm³, 5-9.9 cm³, and ≥10 cm³. Categorical variables were analyzed using the chi-square test. Receiver operating characteristic (ROC) curve analysis was performed to determine the optimal volume cut-off value for predicting malignancy.

Results: Of the 632 patients, 136 (21.5%) were male and 496 (78.5%) were female. The mean age was 47 years, and the mean body mass index (BMI) was 29.46 kg/m². A family history of thyroid cancer was not significantly associated with malignancy. Dominant nodule volume data were available for 610 patients. Of these nodules, 46.1% were located in the right thyroid lobe and 53.9% in the left lobe. The mean dominant nodule volume was 11.73 cm³. Malignancy was detected in 49.1% of patients with dominant nodule volumes <5 cm³, 30.9% of those with volumes between 5-9.9 cm³, and 33.5% of those with volumes ≥10 cm³. ROC curve analysis demonstrated a low but statistically significant association between dominant nodule volume and malignancy (area under the curve =0.610; p<0.001).

Conclusion: In this large cohort of patients undergoing thyroidectomy, the relationship between dominant thyroid nodule volume and malignancy was evaluated. Although a statistically significant association was identified, the predictive strength of nodule volume was low. These findings suggest that dominant nodule volume may serve as a supportive parameter in malignancy risk assessment but is insufficient as a standalone predictor. Therefore, incorporating dominant nodule volume alongside ultrasonographic features and cytopathological findings may contribute to surgical decision-making.

Keywords: Dominant thyroid nodule volume, thyroid cancer, thyroid nodule

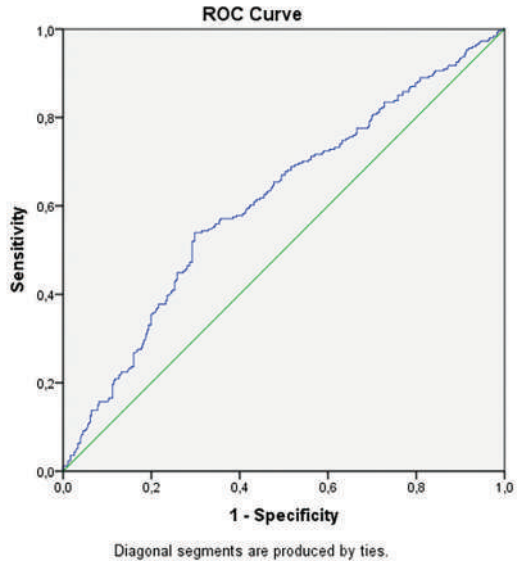

Figure 1. Receiver operating characteristic (ROC) curve analysis for nodule volume

Area under curve=0.610 (p<0.001) cut-off: 3.47 cm³

Table 1. Evaluation of pathological outcomes according to dominant nodule volume and total thyroid volume

	Pathology			
	Benign		Malignant	
	Number	(%)*	Number	(%)*
Largest nodule volume (n = 610)				
<5 cm³	170	50.9	164	49.1
5-9.99 cm³	67	69.1	30	30.9
≥10 cm³	119	66.5	60	33.5
χ^2=17,090 **p<0.001****				
Total thyroid volume (cm³) (n=632)				
Mean ± SD	51.98±56.33		38.24±44.74	
p<0.001***				

*: Row percentage, **: Chi-square test, ***: Mann-Whitney U test.

[S-084]

Effect of incidental parathyroidectomy on temporary and permanent hypocalcemia after total thyroidectomy

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Objective: Hypocalcemia (HC), both transient and permanent, may occur after total thyroidectomy, and incidental parathyroidectomy (IP) can develop despite attempts to preserve the parathyroid glands. The relationship between IP and postoperative hypocalcemia remains controversial. This study aimed to evaluate the impact of IP on transient and permanent hypocalcemia after total thyroidectomy and to identify potential risk factors associated with IP and hypocalcemia.

Material and Methods: After ethics committee approval, a retrospective review was conducted of patients who underwent total thyroidectomy at the Department of General Surgery, Mersin University Faculty of Medicine Hospital, between June 2007 and January 2024. Patients were categorized into those with IP [subgroups: Preventable IP (EIP) and unpreventable IP (IIP)] and those without IP (NIP). Groups were compared regarding the development of transient and permanent hypocalcemia and potential IP risk factors, including age, sex, ASA score, surgeon experience (faculty member, specialist, resident), retrosternal extension, and histopathological diagnosis (malignant vs. benign; malignant vs. multinodular goiter vs. thyroiditis). Patients were also classified as having transient or permanent hypocalcemia and compared according to IP-related risk factors (age <50 vs. ≥50 years).

Results: A total of 1.702 patients were included. IP occurred in 257 (15.1%), transient hypocalcemia in 1,118 (65.6%), and permanent hypocalcemia in 52 (3%) patients. IP significantly increased permanent and overall hypocalcemia; preventable IP increased permanent and overall hypocalcemia; and unpreventable IP increased transient and overall hypocalcemia ($p \leq 0.05$). Benign disease and thyroiditis were associated with higher rates of IP and PIP ($p \leq 0.05$). Female sex increased both transient and permanent hypocalcemia, while malignancy and age ≥50 years were associated with transient hypocalcemia and age <50 years with permanent hypocalcemia ($p \leq 0.05$).

Conclusion: Incidental parathyroidectomy (IP) significantly contributes to hypocalcemia after total thyroidectomy. IP and preventable IP are associated with permanent hypocalcemia, while unpreventable IP is mainly associated with transient hypocalcemia; all forms contribute to overall hypocalcemia. Benign disease and thyroiditis are key risk factors, particularly for preventable IP. Female sex, age, and histopathological diagnosis influence hypocalcemia risk: Female sex, age ≥50 years, and malignancy are associated with transient hypocalcemia, whereas female sex and age <50 years are associated with permanent hypocalcemia. The predominance of extraparenchymal IP suggests that many cases are preventable. Careful identification and *in situ* preservation of parathyroid glands during total thyroidectomy are essential to reduce IP and permanent hypocalcemia.

Keywords: Total thyroidectomy, incidental parathyroidectomy, hypocalcemia

[S-085]

CD66b$^+$ tumor-infiltrating neutrophil-like monocytes as potential biomarkers for clinical decision-making in thyroid cancer

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Objective: The increasing incidence of thyroid nodules and carcinomas has made the accurate assessment of malignancy potential a cornerstone of clinical endocrine practice. While Fine-needle aspiration biopsy (FNAB) and the Bethesda system are standard, they face limitations in sensitivity and specificity, particularly in indeterminate cases. Recent evidence suggests that cancer is a complex ecosystem where the tumor microenvironment (TME) significantly influences progression. This study aims to elucidate the presence and functional significance of CD66b$^+$ neutrophil-like monocytes (HLA-DR+CD14+CD66b$^+$), a distinct subgroup of myeloid cells characterized by phenotypic plasticity, as a novel biomarker for papillary thyroid carcinoma (PTC).

Material and Methods: In this prospective case-control study, samples were obtained from 24 PTC patients and 10 patients with benign thyroid nodules. The research utilized peripheral blood (PB), malignant tumor tissue, and adjacent non-tumor thyroid tissue. Primary cells were isolated using Histopaque-1077 density gradient centrifugation and enzymatic digestion with collagenase and DNase. Flow cytometric immunophenotyping was performed using monoclonal antibodies against CD45, CD66b, HLA-DR, and CD14. Statistical analyses were conducted to correlate immune cell frequencies with clinical parameters and histological findings.

Results: The study found that CD66b$^+$ neutrophil-like monocytes significantly populate the malignant PTC tissue and circulation (Figure 1). In the peripheral blood of PTC patients, these monocytes accounted for 11.9% of total mononuclear cells, significantly higher than the 3.8% found in benign cases ($p=0.0029$). Within tumor tissues, the concentration of these cells (21.1%) was 3-fold higher than in non-tumor tissues (7.5%) and up to 10-fold higher compared to peripheral blood ($p<0.001$). Furthermore, the infiltration level in malignant nodules was significantly higher (27.6%) compared to benign nodules (15.8%). These elevated levels indicate a specific inflammatory milieu and immune reprogramming within the TME of thyroid cancer.

Conclusion: This study is the first to demonstrate the diagnostic value of CD66b$^+$ neutrophil-like monocytes in thyroid cancer (Figure 2). These cells serve as a promising biomarker for distinguishing malignant from benign nodules, potentially addressing the diagnostic gaps of the Bethesda system. Beyond diagnosis, their presence in the TME suggests they may represent a novel immunotherapeutic target, particularly for radioiodine-refractory PTC. Incorporating these findings into clinical decision-making could refine surgical strategies, reduce unnecessary procedures, and move toward more personalized therapeutic management of thyroid cancer.

Keywords: Biomarker, CD66$^+$ monocytes, thyroid cancer

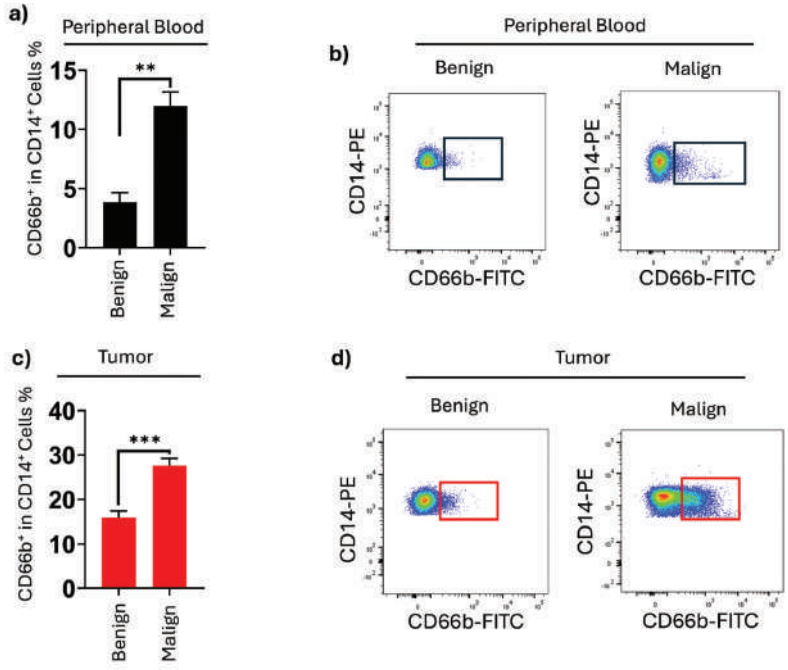

Figure 1. Increased frequency of CD66b+ monocytes in peripheral blood and tumor tissue of malignant thyroid lesions.

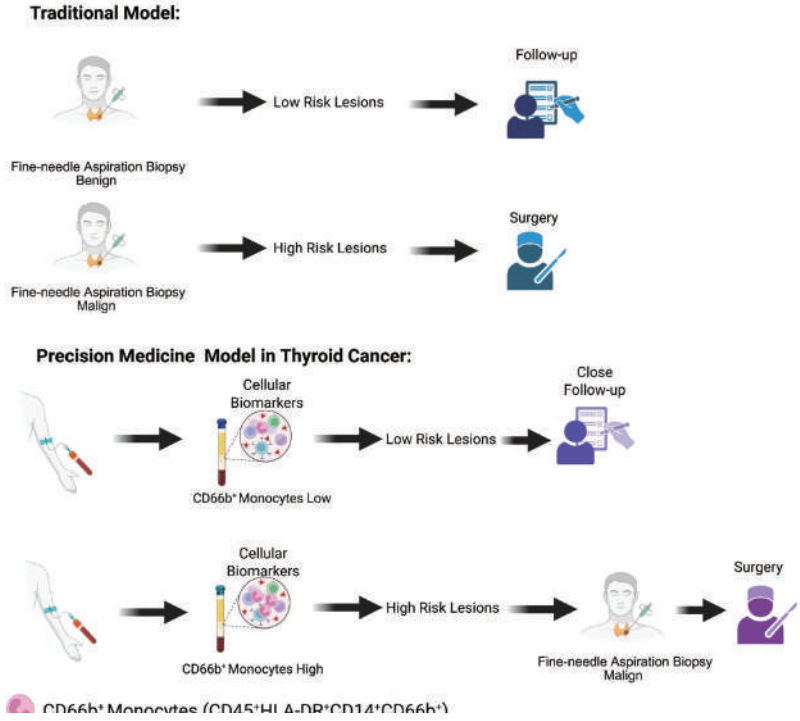

Figure 2. Methodological framework for evaluating the clinical decision-making potential of CD66+ monocytes.

[S-086]

Comparison of perioperative and early outcomes between laparoscopic and retroperitoneoscopic adrenalectomy: A single-center retrospective experience

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Objective: Laparoscopic and retroperitoneoscopic approaches are widely used in minimally invasive adrenal surgery. However, the impact of these two techniques on perioperative safety and early postoperative recovery remains a matter of debate. This study aimed to compare the clinical and surgical outcomes of patients undergoing laparoscopic and retroperitoneoscopic adrenalectomy.

Material and Methods: This retrospective study reviewed data from 107 patients who underwent minimally invasive adrenalectomy between January 1, 2020, and December 31, 2025, at the Endocrine Surgery Department of İstanbul University, İstanbul Faculty of Medicine. Patients were divided into two groups based on the surgical approach: Laparoscopic (n=88) and retroperitoneoscopic (n=19). The groups were compared in terms of age, sex, tumor functional status, and history of previous abdominal surgery. Early postoperative outcomes, including postoperative pain, as assessed by the visual analog scale (VAS), length of hospital stay, and perioperative complication rates, were evaluated. Continuous variables were analyzed using appropriate non-parametric tests, and categorical variables were compared using the chi-square or Fisher's exact test.

Results: The retroperitoneoscopic group consisted of 19 patients, while 88 patients underwent laparoscopic adrenalectomy. The median age was 52 (15-69) years in the retroperitoneoscopic group and 48 (18-77) years in the laparoscopic group, with no significant difference between groups (p=0.766). The proportion of female patients was 52.6% (n=10) in the retroperitoneoscopic group and 61.4% (n=54) in the laparoscopic group (p=0.607). Functional tumors were observed in 52.6% (n=10) of patients in the retroperitoneoscopic group and 71.6% (n=63) of patients in the laparoscopic group; however, this difference was not statistically significant (p=0.172). Furthermore, none of the patients in the retroperitoneoscopic group had a history of prior abdominal surgery, whereas 13.6% (n=12) of patients in the laparoscopic group did, a difference that was not statistically significant (p=0.119). Regarding early postoperative outcomes, the length of hospital stay was significantly shorter in the retroperitoneoscopic group [median 3 days (2-7) vs. 4 days (2-21); p=0.002]. Postoperative pain scores were also lower in the retroperitoneoscopic group [VAS median 2 (2-3) vs. 3 (2-5); * p * <0.001]. No perioperative complications were observed in the retroperitoneoscopic group (0%), while one complication (1.1%) occurred in the laparoscopic group; this difference was not statistically significant (p=1.000).

Conclusion: Retroperitoneoscopic adrenalectomy provides comparable perioperative safety outcomes to the laparoscopic approach while being associated with shorter hospital stay and lower postoperative pain scores. These findings suggest that, in appropriately selected patients, the retroperitoneoscopic approach represents an effective surgical alternative that facilitates early recovery and enhances patient comfort.

Keywords: Adrenalectomy, laparoscopic adrenalectomy, retroperitoneoscopic adrenalectomy

Table 1. Demographic characteristics and early outcomes according to surgical approach

Variable	Retroperitoneoscopic (n=19)	Laparoscopic (n=88)	p-value
Age, median (min-max)	52 (15-69)	48 (18-77)	0.766
Female sex, n (%)	10 (52.6%)	54 (61.4%)	0.607
Functional tumor, n (%)	10 (52.6%)	63 (71.6%)	0.172
Previous abdominal surgery, n (%)	0 (0%)	12 (13.6%)	0.119
Laterality (right/left/bilateral)	5/13/1	30/57/1	0.385
Length of hospital stay, days, median (min-max)	3 (2-7)	4 (2-21)	0.002
VAS pain score, median (min-max)	2 (2-3)	3 (2-5)	<0.001
Perioperative complication, n (%)	0 (0%)	1 (1.1%)	1.000

[S-087]

Factors predicting thyroid cancer in patients with primary hyperparathyroidism

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Objective: The coexistence of thyroid nodules and differentiated thyroid cancer is known to be more frequent in patients with primary hyperparathyroidism than in the general population. However, predictive factors guiding thyroidectomy indications in these patients are not clearly defined. This study aimed to identify clinical, ultrasonographic, and laboratory parameters that may predict thyroid malignancy in patients with primary hyperparathyroidism.

Material and Methods: A total of 174 patients who underwent parathyroidectomy for primary hyperparathyroidism with concomitant thyroidectomy between January 1, 2007, and May 1, 2024, at the Department of General Surgery, Dokuz Eylül University Faculty of Medicine Hospital were retrospectively analyzed. The presence of thyroid cancer was defined as the dependent variable. Demographic characteristics, clinical findings, thyroid ultrasonography features, and laboratory parameters were evaluated. Univariate and multivariate logistic regression analyses were performed.

Results: Of the patients, 149 (85.6%) were female and 25 (14.4%) were male, with a mean age of 57±12 years. Thyroid pathology was benign in 86 patients (49.4%) and malignant in 88 patients (50.6%). The most common malignancy was papillary microcarcinoma (72.8%). The risk of thyroid cancer was significantly lower in symptomatic patients (p=0.018). In particular, the presence of osteoporosis (p=0.006) and symptoms of body pain–weakness–fatigue (p<0.001) were found to be protective against malignancy. The presence of hypertension was significantly associated with thyroid cancer (p=0.023). Thyroid nodule presence, number, diameter, structure, and echogenicity were significantly associated with thyroid cancer (p<0.001). The presence of microcalcifications was also significantly related to malignancy (p=0.034). Regarding laboratory parameters, higher BUN levels (p=0.013) and lower ALP levels (p<0.001) were associated with thyroid cancer. In multivariate logistic regression analysis, body pain–weakness–fatigue (OR=3.48; 95% CI: 1.451-8.378; p=0.005) and osteoporosis (OR=3.43; 95% CI: 1.397-8.453; p=0.007) were protective factors. Serum calcium level (OR=1.543; 95% CI: 1.005-2.369; p=0.047), BUN level (OR=1.139; 95% CI: 1.032-1.257; p=0.01), thyroid nodule diameter (OR=1.796; 95% CI: 1.140-2.830; p=0.012), and thyroid nodule echogenicity were identified as independent risk factors. Among these, nodule echogenicity was the strongest predictor, with hypoechoic nodules increasing the risk of thyroid cancer by 6.3-fold compared with hyperechoic nodules.

Conclusion: In patients with primary hyperparathyroidism, the likelihood of thyroid cancer is significantly increased in the presence of solid, hypoechoic thyroid nodules containing microcalcifications on ultrasonography. Based on these findings, adopting a different approach to thyroid nodules and expanding the scope of thyroidectomy in patients with primary hyperparathyroidism may be more appropriate.

Keywords: Primary hyperparathyroidism, risk factors, thyroid cancer, thyroid nodule, thyroidectomy

[S-088]

Diagnostic value of microRNA panel in predicting malignancy in thyroid nodules with atypia cytology of undetermined significance

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Objective: The rate of unnecessary surgery remains high in thyroid nodules operated on due to atypia of undetermined significance cytology (Bethesda III-IV). In this study, the diagnostic performance of microRNA expression profiles in predicting malignancy was investigated in patients who underwent surgery and had benign or malignant histopathological outcomes.

Material and Methods: Twenty-eight patients with cytology categorized as atypia of undetermined significance who underwent surgery were retrospectively evaluated. Sixteen patients with benign histopathological results were compared with 12 patients with malignant outcomes. A total of 18 different microRNA expressions were analyzed using the qRT-PCR method. Expression levels were calculated using the ΔCt method. The Mann-Whitney U test was used for intergroup comparisons. Diagnostic performance was evaluated by ROC analysis, and optimal cut-off values were determined using the Youden index. A combined microRNA panel was constructed through multivariate analysis.

Results: A total of 28 patients were included in the study. Histopathological examination revealed benign lesions in 16 patients and malignant lesions in 12 patients. Expression levels of miR-221-3p, miR-155-5p, and miR-21-5p were significantly higher in the malignant group compared to the benign group (p<0.05). In ROC analysis, the area under the curve (AUC) was 0.99 for miR-221-3p, 0.95 for miR-155-5p, and 0.91 for miR-21-5p. In the combined panel analysis evaluating all three microRNAs together, diagnostic performance increased markedly, with the AUC reaching 1.00. This panel demonstrated high sensitivity and specificity in predicting malignancy.

Conclusion: MicroRNA-based panel analysis in thyroid nodules with indeterminate cytology appears to provide high diagnostic accuracy in predicting malignancy. This approach may serve as an adjunct molecular marker strategy that can be integrated into the surgical decision-making algorithm to reduce the rate of unnecessary thyroidectomies.

Keywords: Atypia of undetermined significance, microRNA expression, thyroid nodules

[S-089]

The role of repeat biopsy and TIRADS in predicting malignancy in AUS-diagnosed thyroid nodules in endemic regions

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Objective: Malignancy rates in thyroid nodules diagnosed as AUS (atypia of undetermined significance) range from 13% to 30% in the literature. These rates may differ in iodine-deficiency-endemic regions. AUS-diagnosed nodules are thought to carry higher malignancy risk in endemic areas such as Türkiye. This study evaluated postoperative pathology results of AUS nodules in endemic-region centers lacking molecular testing and assessed the diagnostic value of repeat biopsies.

Material and Methods: Patients who underwent surgery for AUS between 2019 and 2024 were retrospectively reviewed. Demographic data, nodule size, ACR-TIRADS category, number of biopsies, and final pathology results were recorded. Nodules ≥40 mm were excluded. Malignancy rates were compared across TIRADS categories, and the effect of biopsy number was analyzed.

Results: The study included 85 patients. Postoperative pathology revealed malignancy in 36 (42.4%) and benign findings in 49 (57.6%). Mean age was 46.7±12.5 years, with no significant difference between benign and malignant groups (p=0.062). Females comprised 77 patients (90.6%), males 8 (9.4%). Malignancy rates were 44.2% in females and 25.0% in males (p=0.458, not significant). Mean number of biopsies was 2.2±0.8 overall, with no difference between benign and malignant groups (p=0.848). Malignancy rate was 42.9% after one biopsy and 42.3% after two or more (p>0.05, not significant). Mean nodule size was 19.2±8.3 mm, with no significant difference between groups (p=0.240). Mean TIRADS score was 4.2±0.7 overall and significantly higher in the malignant group (p<0.001). TIRADS category showed a significant association with malignancy (p=0.006), with malignancy rates rising markedly as TIRADS score increased. ROC analysis showed an AUC of 0.685 (95% CI: 0.586-0.779) for TIRADS score in predicting malignancy. At a ≥4 threshold, sensitivity reached 97.2% but specificity was only 14.3%. In univariate logistic regression, each 1-point increase in TIRADS score raised malignancy odds significantly (OR 3.97; 95% CI 1.71-9.24; p=0.001).

Conclusion: Repeat biopsies added little value in detecting malignancy in AUS-diagnosed thyroid nodules. In contrast, TIRADS classification showed a strong association with malignancy rates. In iodine-endemic regions like Türkiye, nodules with TIRADS ≥4 after initial biopsy may benefit more from early surgery than from repeated FNA. Larger, multicenter national studies are required to confirm these findings.

Keywords: Thyroid nodule, biopsy, AUS

[S-090]

The effect of tumor size and side on surgical difficulty in laparoscopic transperitoneal adrenalectomy: A retrospective study

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Objective: Laparoscopic adrenalectomy is currently the preferred minimally invasive approach for the surgical treatment of adrenal tumors. Surgical difficulty can vary depending on factors such as tumor size, hormonal activity, and anatomical location. While the influence of tumor size on surgical difficulty is widely accepted, the impact of the location of the adrenal mass on the right or left side of the abdomen on operation time and perioperative outcomes remains a subject of debate.

Material and Methods: This study retrospectively evaluated patients who underwent elective laparoscopic transperitoneal adrenalectomy at a single center over an 18-month period. Demographic data, tumor characteristics, and perioperative outcomes were recorded. Operation time was assessed as the primary indicator of surgical difficulty. Right and left adrenal masses were compared. Multivariate linear regression analysis was performed to identify independent factors affecting operation time.

Results: A total of 23 patients were included in the study. The median tumor size was 27 mm (IQR 18-50), and the median operation time was 80 minutes (IQR 70-85). Tumors located on the right side tended to be larger than those on the left side, but this difference was not statistically significant (median 41.5 mm vs. 25 mm; p=0.28). However, operation time was longer in left adrenalectomies compared to the right side (median 80 min vs. 70 min), and this difference was close to statistically significant in univariate analysis (p=0.067). In multivariate analysis adjusted for tumor size and ASA score, left-sided adrenal masses were independently associated with an increase in operation time of approximately 14 minutes (p<0.05). No significant relationship was found between tumor size and operation time.

Conclusion: This retrospective study revealed that surgical difficulty in laparoscopic transperitoneal adrenalectomy is more closely related to the anatomical location of the tumor than to its size. Left-sided adrenalectomies are associated with longer operation times despite smaller tumor sizes. These findings suggest that tumor side, in addition to tumor size, should be considered in the preoperative surgical planning process.

Keywords: Laparoscopic adrenalectomy, tumor side, surgical difficulty

[S-091]

What has changed in the management of papillary thyroid microcarcinoma in Türkiye over the last decade? Is active surveillance feasible in the near future?

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Objective: The incidence of thyroid cancer has been increasing worldwide; however, disease-specific mortality has remained stable. These clinical observations raise the question of whether more conservative treatment strategies may be appropriate for selected patients. In the literature, there is considerable variability in the management of papillary thyroid microcarcinoma (PTMC). In this survey-based study, we aimed to evaluate how the management of PTMC has changed in Türkiye over the last 10 years and to explore whether active surveillance may be a feasible option in the near future.

Material and Methods: This was a survey-based study conducted in two different periods, in 2014 and 2024, using the same 13-question questionnaire. The survey was distributed to participants via e-mail or WhatsApp using the database of our national society. The questions mainly addressed diagnostic and therapeutic management algorithms for PTMC. In addition, changes in both surgical and conservative approaches over the last decade were evaluated using identical questions in both periods.

Results: A total of 717 multidisciplinary participants completed the survey. For classic-type microcarcinoma confined to a single lobe, the dominant treatment approach was total thyroidectomy in Period 1 (65%), whereas hemithyroidectomy was preferred in Period 2 (66%). In cases where incidental microcarcinoma was detected during hemithyroidectomy, completion thyroidectomy was recommended by 40% of participants in Period 1 and by 17% in Period 2. Radioactive iodine (RAI) ablation for incidental cancers without aggressive features was recommended by 51% in Period 1 and 35% in Period 2. Routine central neck dissection in these cases was recommended by 27% in Period 1 and 19% in Period 2. The recommendation of active surveillance (follow-up without any interventional treatment) increased from 9% in Period 1 to 17% in Period 2. The use of ablative therapies remained similar in both periods (12%).

Conclusion: Over the last decade in Türkiye, there has been a significant reduction in the extent of surgery and in the preference for RAI use in the management of PTMC. Although the rates of non-surgical treatment recommendations have not markedly changed, the preference for active surveillance has doubled. While the widespread implementation of active surveillance in Türkiye does not seem highly likely in the near future due to sociological and medicolegal factors, the ongoing shift of modern surgery toward minimally invasive approaches raises the question of whether active surveillance could become a more accepted strategy in selected patients.

Keywords: Active surveillance, papillary microcarcinoma, Türkiye, thyroidectomy

[S-092]

Surgeon-directed interpretation of contrast-enhanced CT improves parathyroid localization in sestamibi-negative primary hyperparathyroidism

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Objective: Accurate preoperative localization of the pathological parathyroid gland is critical for the success of minimally invasive parathyroidectomy (MIP) in primary hyperparathyroidism (PHPT). Localization, however, remains challenging in patients with negative or non-localizing 99mTc-sestamibi scintigraphy (MIBI). This study evaluated whether surgeon-directed interpretation of contrast-enhanced neck computed tomography (CT) improves localization accuracy in this subgroup.

Material and Methods: This retrospective study included PHPT patients who underwent parathyroidectomy between April 2021 and March 2025 and had negative or non-localizing MIBI findings. Preoperative contrast-enhanced neck CT scans were interpreted by an experienced endocrine surgeon and compared with standard radiologist CT reports and ultrasonography (US). Intraoperative findings served as the reference standard. Localization accuracy was compared using the McNemar test, with exact McNemar analysis performed for ectopic adenomas.

Results: Fifty-four patients were included. MIP was successfully completed in 90.7% of cases. Localization accuracy was 48.1% for US, 57.4% for radiologist-interpreted CT, and 90.7% for surgeon-directed CT interpretation ($p<0.001$). Surgeon-directed CT interpretation demonstrated a significantly higher likelihood of correct localization than radiologist reports (odds ratio, 19.0; 95% confidence interval, 2.54-141.93). In patients with ectopic adenomas (n=18), surgeon-directed CT achieved 100% localization accuracy compared with 66.7% for radiologist reports ($p=0.031$). No persistence or recurrence was observed during follow-up.

Conclusion: In scintigraphy-negative PHPT patients, surgeon-directed interpretation of contrast-enhanced CT significantly outperforms standard radiology reporting and ultrasonography, facilitating accurate localization and successful minimally invasive surgery.

Keywords: Primary hyperparathyroidism, parathyroid adenoma, preoperative localization

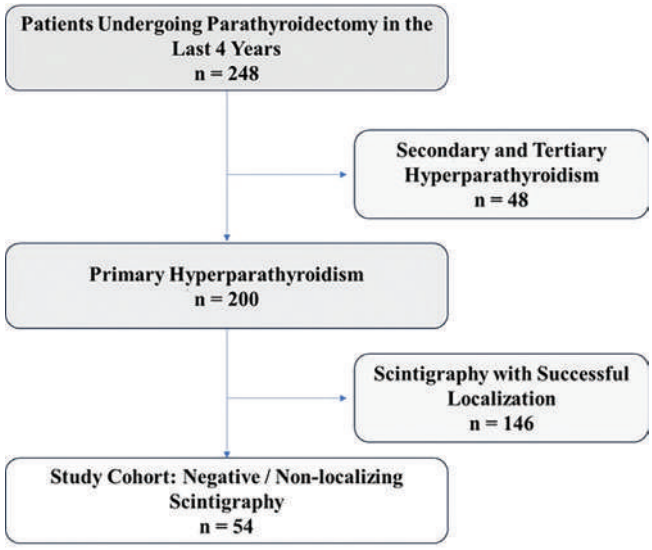

Figure 1. Study flow diagram.

Flow diagram illustrating patient selection. Between April 2021 and March 2025, a total of 248 patients underwent parathyroidectomy at our institution. Patients with secondary or tertiary hyperparathyroidism and those diagnosed with multiple endocrine neoplasia (MEN) syndrome were excluded. The final analysis included 200 patients with primary hyperparathyroidism. Of these, 146 patients with successful lesion localization on 99mTc-sestamibi scintigraphy were excluded, whereas 54 patients with negative or non-localizing scintigraphy findings constituted the study cohort.

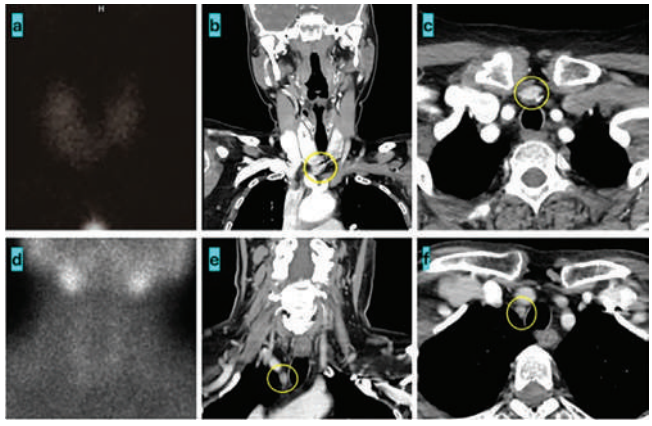

Figure 2. Representative cases of surgeon-directed contrast-enhanced CT interpretation in sestamibi-negative primary hyperparathyroidism.

In Case 1, a 52-year-old female patient had non-localizing ultrasonography and Tc-99m sestamibi scintigraphy (a). Surgeon-directed review of contrast-enhanced neck CT identified an ectopic parathyroid adenoma on coronal and transverse images (b, c; yellow circles), which was excised by minimally invasive parathyroidectomy from the right upper mediastinal thyrothymic ligament (0.89 g). In Case 2, a 70-year-old female patient likewise had non-localizing ultrasonography and scintigraphy (d). Surgeon-directed CT review demonstrated an ectopic adenoma in the right upper mediastinal paratracheal region (e, f; yellow circles), which was removed using a minimally invasive approach (0.20 g). In both cases, the lesions were not identified in the original radiology CT reports.

[S-094]

The relationship between systemic immunoinflammation value, pan immunoinflammation value and neutrophil lymphocyte ratio in thyroid papillary carcinoma

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Objective: Thyroid cancers account for approximately 1% of all malignancies, with papillary thyroid carcinoma (PTC) comprising nearly 80% of cases. Incidence has increased in recent years due to factors such as radiation exposure and iodine deficiency. Benign thyroid diseases, particularly nodular goiter, are closely monitored because of malignant transformation risk, making thyroid disorders a significant outpatient population. Early diagnosis and treatment are essential in benign thyroid disease with suspected malignancy, while prognostic evaluation is critical in PTC. Recently, attention has focused on the relationship between inflammation and cancer. Inflammatory markers derived from routine complete blood counts, including neutrophil-to-lymphocyte ratio (NLR), systemic immune-inflammation index (SII), and pan-immune inflammation value (PIV), reflect systemic inflammatory status. These markers are widely used for diagnostic and prognostic assessment in various malignancies. In this study, patients with papillary thyroid carcinoma were compared with those with benign thyroid disease based on NLR, SII, and PIV parameters overall analysis.

Material and Methods: A total of 140 patients who underwent total thyroidectomy between January 2020 and November 2022 were retrospectively analyzed. Preoperative complete blood count parameters, thyroid-stimulating hormone (TSH) levels, and lymph node invasion status were evaluated.

Results: Patients were classified into papillary thyroid carcinoma (n=70) and benign thyroid disease (n=70) groups. The age range was 18-84 years, with a median age of 48.7 years. The mean age was significantly higher in the PTC group than in the benign group (51.1 vs. 46.3 years, p=0.045). Compared with the benign group, the PTC group demonstrated significantly higher absolute neutrophil and monocyte counts (p<0.001), while no significant difference was observed in absolute lymphocyte counts (p=0.987). TSH levels were significantly higher in the PTC group (p=0.049). The mean NLR was 1.87 in the benign group and 2.35 in the PTC group (p=0.001). Similarly, SII and PIV values were significantly elevated in the PTC group compared with the benign group (687.44 vs. 469.03 and 375.72 vs. 219.97, respectively; p<0.001). Patients with PTC were further subdivided according to lymph node invasion status. While TSH levels did not differ significantly between subgroups (p=0.542), NLR, SII, and PIV values were significantly higher in patients with lymph node invasion (p<0.001, p=0.003, and p=0.008, respectively).

Conclusion: This study is the first to demonstrate an association between papillary thyroid carcinoma and PIV. Elevated TSH, NLR, SII, and PIV levels in patients with PTC suggest that these markers may aid in early diagnosis and prognostic assessment, warranting validation in larger cohorts.

Keywords: Lymph node invasion, neutrophil lymphocyte ratio, pan immune inflammation value, papillary thyroid cancer, systemic immune inflammation value

[S-095]

Biological heterogeneity beyond adenoma size in primary hyperparathyroidism: Insights from secretory efficiency

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Objective: Adenoma size is traditionally considered a surrogate marker of disease severity in primary hyperparathyroidism (pHPT); however, clinical experience suggests marked heterogeneity in biochemical activity and postoperative metabolic outcomes among similarly sized adenomas. We hypothesized that adenoma size alone does not uniformly reflect clinical severity and that phenotype-based characterization may better explain postoperative calcium requirements.

Material and Methods: We conducted a retrospective observational study of patients undergoing parathyroidectomy for pHPT at University of Health Sciences Türkiye, Ankara Etlik City Hospital between December 2022 and February 2023. Ultrasonographic adenoma volume was calculated using the ellipsoid formula. Preoperative biochemical parameters and postoperative calcium replacement data were collected. Intravenous (IV) calcium requirement was defined as the need for IV calcium with or without oral supplementation. Multivariable logistic regression models were constructed to evaluate predictors of IV calcium requirement, including adenoma volume, preoperative PTH, and a secretory efficiency index (PTH per adenoma volume). Model performance was assessed using receiver operating characteristic (ROC) and calibration analyses. Unsupervised phenotyping was performed using Gaussian mixture modeling based on morphologic and biochemical variables.

Results: A total of 126 patients were included (median age 53.5 years; 84.1% female). Adenoma volume demonstrated a moderate correlation with preoperative PTH (⊠=0.44, p<0.001), but substantial variability in PTH levels was observed across similarly sized adenomas. Postoperative IV calcium supplementation was required in 21.6% of patients. In multivariable analysis, adenoma volume independently predicted IV calcium requirement (OR 2.10, 95% CI 1.23-3.58; p=0.007), whereas preoperative PTH did not. Higher secretory efficiency (PTH per unit volume) was independently associated with a lower likelihood of IV calcium requirement (OR 0.48, 95% CI 0.28-0.81; p=0.006). Unsupervised phenotyping identified three distinct disease phenotypes with differing biochemical profiles and postoperative calcium requirements.

Conclusion: Adenoma size correlates only modestly with biochemical severity and fails to capture the biological heterogeneity of primary hyperparathyroidism. Phenotype-based assessment incorporating secretory efficiency and biochemical profiles provides additional insight into postoperative calcium requirements and challenges the conventional size-based paradigm in pHPT.

Keywords: Parathyroid adenoma, parathyroid hormone, parathyroid volume, primary hyperparathyroidism

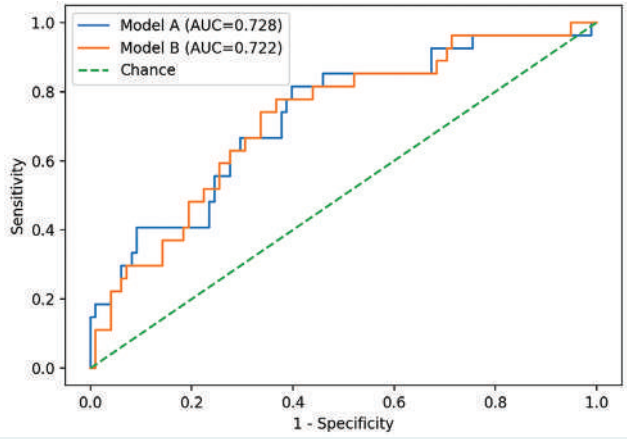

Figure 1. IV calcium requirement: ROC curves.

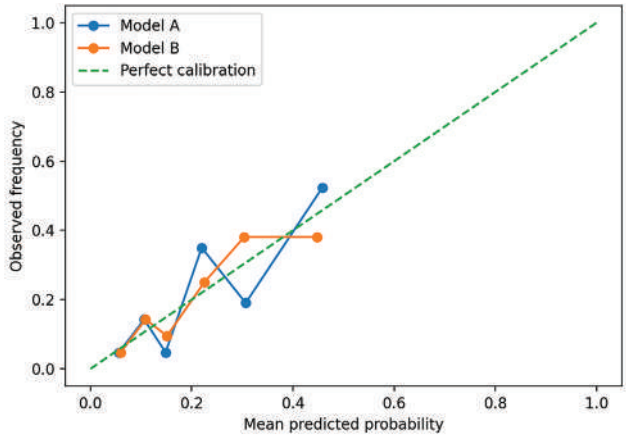

Figure 2. Calibration: IV calcium requirement. Is the predicted risk consistent with the actual risk?

[S-096]

The use of serum phosphorus levels in the early diagnosis of hypocalcaemia developing in patients undergoing total thyroidectomy: A single-centre experience with ROC analysis

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Objective: Post-thyroidectomy hypocalcaemia is a common complication that may prolong hospitalization and impact patient recovery. Although parathyroid hormone (PTH) is the most reliable predictor, limited availability in some centers necessitates alternative markers. Given PTH's role in phosphate metabolism, serum phosphorus has been proposed as a potential early predictor. This study evaluated the diagnostic performance of serum phosphorus levels in predicting hypocalcaemia during the early and late postoperative periods following total thyroidectomy.

Material and Methods: In this retrospective observational study, 402 patients who underwent total thyroidectomy between 2019 and 2024 were evaluated. Demographic data and postoperative laboratory results were reviewed retrospectively. Postoperative serum phosphorus levels at 24 hours and serum calcium levels at 48 hours were analysed; PTH measurements were not included in the evaluation as they were not routinely available. Hypocalcaemia was defined as serum calcium levels <8.0 mg/dL, and hyperphosphataemia was defined as serum phosphorus levels >4.5 mg/dL. The diagnostic performance of serum phosphorus levels in predicting hypocalcaemia was evaluated using ROC analysis, and the optimal cut-off value was determined using the Youden index. Data from 321 patients with complete data were included in the ROC analysis.

Results: Postoperative hypocalcaemia occurred in 220 of 402 patients (54.7%). While no significant association was observed between hypocalcaemia and hyperphosphataemia at 24 hours (p=0.377), a strong and statistically significant relationship emerged at 48 hours (p<0.001), with hyperphosphataemia more frequent among hypocalcaemic patients. ROC analysis demonstrated that 48-hour phosphorus levels had moderate discriminatory ability for predicting hypocalcaemia (AUC=0.73; 95% CI: 0.62-0.84), with 59% sensitivity and 78% specificity at a cut-off of 4.2 mg/dL. In contrast, 24-hour phosphorus levels showed limited predictive performance (AUC=0.59). Paired analysis further revealed significant postoperative changes in phosphorus levels at both 24 and 48 hours compared to preoperative values (p<0.001). Overall, although early biochemical alterations were evident, clinically meaningful predictive value was primarily observed at 48 hours.

Conclusion: Hypocalcaemia following total thyroidectomy is a clinically significant complication that requires early prediction, and PTH is considered the strongest predictor. However, the inability to routinely measure PTH in every centre has necessitated the investigation of alternative parameters. The literature suggests that serum phosphorus levels may be a potential early indicator. In our study, early biochemical changes in phosphorus levels were detected; however, clinically meaningful performance in predicting hypocalcaemia was demonstrated particularly at 48 hours postoperatively. Therefore, serum phosphorus levels, when evaluated together with calcium, can be used as an auxiliary parameter in hypocalcaemia risk classification.

Keywords: Hyperphosphataemia, hypocalcaemia, total thyroidectomy

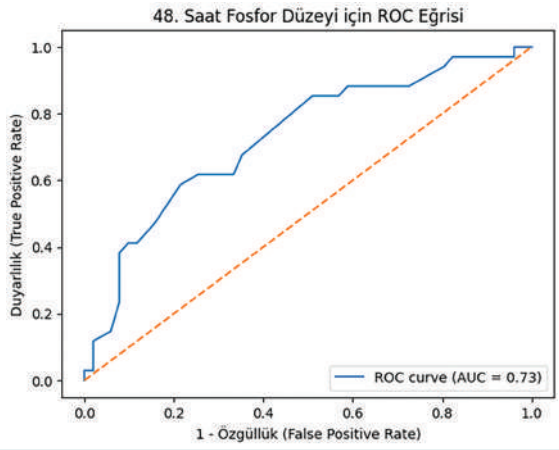

Figure 1. ROC curve for phosphorus level at 48 hours

In the ROC analysis, postoperative phosphorus levels at 48 hours were found to be moderately to well discriminatory for hypocalcaemia (AUC=0.73).

Table 1. ROC analysis results

Parameters	24. when phosphorus → 48. when hypocalcaemia	48. when phosphorus → 48. when hypocalcaemia
AUC	0.59	0.73
95% confidence interval	0.49-0.70	0.62-0.84
Optimal cut-off	≈4.3 mg/dL	≈4.2 mg/dL
Sensitivity	%47	%59
Specificity	%71	%78
Distinctiveness	Limited	Moderate-good
Clinical usability	Low	High

ROC analysis of serum phosphorus levels at 24 and 48 hours postoperatively in predicting hypocalcaemia. Phosphorus levels at 48 hours have moderate to good discriminatory power (AUC=0.73), whereas phosphorus levels at 24 hours have limited diagnostic value (AUC=0.59).

[S-097]

Evaluation of postoperative complications following surgical treatment of Graves' disease: A single-center experience

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Objective: Graves' disease (GD) is the most common cause of hyperthyroidism. Surgical treatment offers more rapid disease control compared with medical therapy and radioactive iodine. However, thyroidectomy for GD has been associated with higher rates of hypoparathyroidism and vocal cord paralysis (VCP) compared to other benign thyroidectomy indications. Nevertheless, surgery can be performed safely in high-volume centers. This study aimed to evaluate the postoperative outcomes and complications of patients operated on for GD at our institution.

Material and Methods: Postoperative data of patients diagnosed with GD and surgically treated between 2016 and 2025 were retrospectively analyzed. All procedures were performed under intraoperative nerve monitoring (IONM) guidance. In cases of signal loss or a >50% decrease in baseline amplitude on the initial side, I obectomy/hemithyroidectomy or contralateral subtotal lobectomy (SL) was performed. Total thyroidectomy (TT) was completed in the remaining patients. Patients were evaluated in terms of postoperative complications and surgical outcomes.

Results: A total of 253 patients (81 males, 172 females) with a mean age of 42.0±12.9 years were included. Due to signal loss or significant amplitude reduction on the initial side, surgery was terminated as lobectomy in 4 patients (1.6%), and contralateral subtotal resection was performed in 4 patients (1.6%). One patient underwent TT with central and therapeutic left lateral neck dissection due to papillary thyroid carcinoma with lateral metastasis. TT was completed in 244 patients (96.4%). IONM was used intermittently in 200 patients (79.1%) and continuously in 53 patients (20.9%). Postoperative unilateral VCP occurred in 26 patients (10.3%) (5.2% per nerve at risk). VCP was temporary in 21 patients (8.3%) and permanent in 4 patients (1.6%) (temporary 4.2% and permanent 0.8% per nerve). Among the four patients who underwent lobectomy, three developed VCP and subsequently underwent completion thyroidectomy after recovery of vocal cord function. The mean recovery time for temporary VCP was 8.6 weeks. Of the four patients who underwent contralateral SL, one required completion thyroidectomy after vocal cord recovery, while no recurrence was observed in the remaining three patients. Patients who underwent lobectomy and/or contralateral SL were excluded from hypoparathyroidism analysis. Postoperative hypoparathyroidism developed in 65 patients (26.5%), of whom 60 (24.5%) had transient and 5 (2%) had permanent hypoparathyroidism. The mean recovery time for transient hypoparathyroidism was 6.3 weeks.

Conclusion: TT for GD can be performed safely with acceptable complication rates in experienced centers. In cases of signal loss on the initial side, staged thyroidectomy or contralateral SL represents an effective strategy to prevent bilateral vocal cord paralysis.

Keywords: Graves' disease, hypoparathyroidism, vocal cord paralysis

[S-098]

Clinical predictors of malignancy and EU-TIRADS sonographic risk stratification in Bethesda III thyroid nodules

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Objective: Management of thyroid nodules with Bethesda category III cytology remains controversial because of variable malignancy risk and limited access to molecular testing. Ultrasound-based risk stratification using the European Thyroid Imaging Reporting and Data System (EU-TIRADS) may assist clinical decision-making after indeterminate cytology.

Material and Methods: This retrospective cohort study evaluated adult patients with an initial fine-needle aspiration biopsy (FNAB) diagnosis of Bethesda category III. Clinical, cytological, sonographic, and histopathological data were analysed. EU-TIRADS categories were reassigned according to European Thyroid Association criteria, and malignancy risk was assessed using final histopathology. Independent predictors were assessed using multivariable logistic regression.

Results: In total, 519 patients were included, of whom 385 proceeded to surgery. Malignancy was confirmed in 72.2% of operated nodules, consistent with selective surgical referral. When malignancy was attributed only to nodules that underwent surgery due to an initial or persistent Bethesda category III cytology result, the malignancy rate across the entire cohort was 40.5%. After repeat FNAB, benign cytology was observed in all EU-TIRADS 2 nodules (100%, 9/9) and in 48.4% (74/153) of EU-TIRADS 3 nodules, compared with 17.2% (22/128) of EU-TIRADS 4 nodules and only 8.2% (4/49) of EU-TIRADS 5 nodules. Malignancy rates were similar between single and repeated Bethesda III nodules across EU-TIRADS categories (EU-TIRADS 3: 46.0% vs. 52.5%; EU-TIRADS 4: 64.4% vs. 74.2%; EU-TIRADS 5: 84.6% vs. 81.5%). In multivariable analysis, EU-TIRADS 4 (OR 2.57, 95% CI 1.42-4.63) and EU-TIRADS 5 (OR 5.49, 95% CI 2.40-12.55) were strong independent predictors of malignancy, while increasing age (OR 0.97 per year, 95% CI 0.95-0.99) and thyroiditis (OR 0.35, 95% CI 0.19-0.62) were associated with lower risk.

Conclusion: EU-TIRADS classification is the strongest determinant of malignancy in Bethesda category III nodules, while repeat FNAB adds limited prognostic value, particularly in high-risk nodules. Incorporating ultrasound risk patterns together with clinical factors may enable more individualised management and help avoid unnecessary diagnostic procedures.

Keywords: Endocrine surgery, fine-needle aspiration biopsy, indeterminate cytology, ultrasound risk assessment, surgical decision-making

[S-099]

Impact of primary malignancy type on the risk of malignancy in thyroid incidentalomas detected on FDG-PET/CT: A retrospective analysis

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Objective: With the increasing use of FDG-PET/CT imaging, the detection of incidentally identified hypermetabolic thyroid nodules has become more frequent. Accurate prediction of malignancy risk in these nodules may help prevent unnecessary invasive procedures while avoiding missed clinically significant cancers. This study aimed to evaluate factors predicting malignancy in thyroid incidentalomas and to investigate the effect of the type of accompanying primary malignancy on malignancy risk.

Material and Methods: Between January 2023 and December 2025, 10,823 patients who underwent 18F-FDG PET/CT for non-thyroid-related indications were retrospectively reviewed. Among them, 443 patients with focal or diffuse FDG uptake in the thyroid gland were considered to have incidentalomas. Of these, 95 patients with 102 thyroid nodules who had nodules detected on ultrasonography and underwent further diagnostic evaluation (US, FNAB, and/or surgery) were included. Demographic data (age, sex), PET/CT indication, thyroid uptake pattern (focal/diffuse), lesion SUV_{max} values, ultrasonographic findings (nodule size and ACR TI-RADS score), FNAB results, and histopathological findings (if operated) were analyzed. Patients were grouped according to PET/CT indication as either "investigational purposes" or "known primary malignancy."

Results: Among the 95 patients included in the study, 88 had a single nodule and 7 had two nodules. The mean age was 62.9±12.6 years, and 68.4% were female. Of the total 102 nodules, 39.2% were classified as malignant, 52.0% as benign, and 8.8% as indeterminate.The malignancy rate was highest in the primary lung cancer group (75%) and in the investigational group (54%), and lowest in the breast cancer group (12.5%). The difference between groups was statistically significant (p=0.007) (Table 1). After excluding indeterminate nodules, univariate analysis identified ACR TI-RADS category, SUV_{max} level, and primary tumor type as factors associated with malignancy (Table 1). Variables found to be significant in univariate analysis were included in multivariate analysis. In multivariate analysis, lung origin of the primary tumor (p=0.034), higher SUV_{max} value (p=0.033), and higher ACR TI-RADS score (p=0.001) were determined to be independent risk factors for malignant outcomes in thyroid incidentalomas (Table 2).

Conclusion: In thyroid incidentalomas detected on FDG-PET/CT, malignancy risk is associated not only with metabolic and sonographic characteristics but also with the type of primary malignancy. Particularly in patients with lung cancer, FDG-avid thyroid nodules carry a significantly higher risk of malignancy.

Keywords: Thyroid incidentaloma, FDG-PET/CT, papillary thyroid cancer

Table 1. Results of benign and malignant nodules only

Variable	Benign (n=53)	Malignant (n=40)	p-value
US nodule diameter (mm)	23.3±10.1; 23.0 (8.0-56.0)	21.7±15.3; 17.0 (4.5-63.0)	0.089
ACR TI-RADS category, n (%)			<0.001
2	17 (32.1)	0 (0.0)	
3	25 (47.2)	7 (17.5)	
4	11 (20.8)	14 (35.0)	
5	0 (0.0)	19 (47.5)	
PET/CT SUV_{max} (n=93)	5.4±3.9; 4.4 (1.3-19.5)	15.0±12.7; 10.1 (2.9-47.5)	<0.001
Primary group (predefined 4 groups), n (%)			0.007
Investigational	16 (42.1)	19 (65.5)	
Breast	14 (36.8)	2 (6.9)	
Colorectal	6 (15.8)	2 (6.9)	
Lung	2 (5.3)	6 (20.7)	

Table 2. Multivariate logistic regression (n=67; reference: breast)

Variable	OR (95% CI)	p-value
Lung (vs. breast)	47.03 (1.34-1652.33)	0.034
Investigational (vs. breast)	9.36 (0.63-139.34)	0.105
Colorectal (vs. breast)	1.14 (0.00-514.85)	0.966
SUV_{max} (per 1-unit increase)	1.17 (1.01-1.34)	0.033
ACR TI-RADS score (per 1-unit increase)	3.10 (1.57–6.12)	0.001

[S-100]

Analysis of patients with malignancy detected on postoperative histopathology despite benign fine-needle aspiration biopsy: A single-center experience after 2009

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Objective: Fine-needle aspiration biopsy (FNAB) is the standard diagnostic method for the preoperative evaluation of thyroid nodules. However, false-negative cytology remains a clinically significant limitation. This study aimed to evaluate the clinical and pathological characteristics of patients who underwent surgery after 2009 and were found to have malignancy on final postoperative histopathology despite a preoperative benign FNAB result.

Material and Methods: In this retrospective, single-center study, the institutional thyroid surgery database was reviewed. Among 2.322 patients who underwent thyroid surgery after 2009, 734 patients had been reported as having benign FNAB results. Patients with malignancy detected on final postoperative histopathology were included in the study. Papillary carcinoma, papillary microcarcinoma, follicular carcinoma, and medullary carcinoma were classified as malignant. A nodule-based analysis was performed.

Results: A total of 153 patients were included in the study. The mean age was 51.2±11.5 years (range, 13-78), and 112 patients (73.2%) were female. Postoperative histopathological examination revealed papillary microcarcinoma in 140 patients (91.5%), papillary carcinoma in 6 patients (3.9%), follicular carcinoma in 5 patients (3.3%), and medullary carcinoma in 2 patients (1.3%). Among the 734 patients with benign FNAB results, malignancy was detected in the same biopsied nodule in 23 patients (3.1%), whereas 130 patients (17.7%) had malignancy detected in a non-biopsied nodule. Of the 23 patients with malignancy in the same nodule, 17 (73.9%) had nodules measuring ≥4 cm in diameter.

Conclusion: In this selected cohort, the vast majority of malignancies detected after surgery despite benign FNAB results were papillary microcarcinomas. Our findings demonstrate that benign cytology does not completely exclude thyroid malignancy, particularly in patients operated on for multinodular goiter. In line with the literature, the false-negative rate appears to increase in large thyroid nodules (≥4 cm) with benign FNAB results. Therefore, surgical decision-making should not rely solely on cytological findings but should integrate clinical and radiological risk factors.

Keywords: Fine needle aspiration biopsy, thyroid nodules, thyroid cancer

[S-101]

Determinants of inpatient admission following minimally invasive adrenalectomy: Insights from a high-volume outpatient adrenal surgery center

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Objective: Outpatient adrenalectomy is a new concept in adrenal surgery and suitable patients may be discharged same day without increased complication and readmission rates. Same-day surgery decreases costs with similar patient satisfaction, however, it is not appropriate for every adrenalectomy patient. The aim of this study is to understand the factors that affect the decision for inpatient admission following minimally-invasive adrenalectomy.

Material and Methods: Patients undergoing minimally-invasive adrenalectomy at a single institution from January 2016 to September 2023 were included. Demographic information, medical comorbidities, surgical indication, mass functionality and size, estimated blood loss, and admission status were obtained retrospectively. Significant predictive values in univariate analysis were studied in logistic regression for multivariate analysis. Patients who underwent bilateral adrenalectomy or open surgery were excluded from the study.

Results: A total of 288 patients were included. Outpatient adrenalectomy was performed in 163 patients (56.6%), with 125 (43.4%) admitted post-operatively. Most patients were female (n=166, 57.6%) and underwent laparoscopic transperitoneal adrenalectomy (196, 68.1%) vs. retroperitoneoscopic (63, 21.9%) and robotic transperitoneal adrenalectomy (29, 10.1%). Male patients were admitted more often than female patients (52.5% vs. 36.7%, OR: 1.44, p=0.008). In univariate analysis, higher age (p=0.024), higher estimated blood loss (p<0.001), history of liver disease (p=0.023), operation for suspected cancer or pheochromocytoma (p<0.001), operation type (p=0.009), and conversion to open (p=0.045) were all significantly associated with inpatient admission. In multivariate analysis, history of liver disease (p=0.041, OR: 10.12, 95% CI: 1.10-93.19), higher estimated blood loss (p=0.041, OR: 1.003, 95% CI: 1.000-1.006), laparoscopic transabdominal adrenalectomy compared to laparoscopic retroperitoneal (p=0.046, OR: 0.49, 95% CI: 0.24-0.99) and robotic transabdominal (p=0.019, OR: 0.27, 95% CI: 0.09-0.81) and operation for suspected cancer or pheochromocytoma (p<0.001, OR: 3.22, 95% CI: 1.69-6.14) were significantly predictive of inpatient admission.

Conclusion: Patients undergoing minimally invasive adrenalectomy with history of liver disease, greater intraoperative blood loss, and operation for suspected cancer or pheochromocytoma were more likely to be admitted postoperatively. Laparoscopic transabdominal adrenalectomy was more often associated with inpatient admission compared to retroperitoneoscopic and robotic transabdominal adrenalectomy.

Keywords: Adrenalectomy, minimally invasive surgery, outpatient surgery

[S-102]

Prevalence and effectiveness of nerve monitoring use in thyroid surgery in Türkiye

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Objective: Recurrent laryngeal nerve (RLN) injury is one of the most important complications in thyroid surgery that increases morbidity. The presence of anatomical integrity of the recurrent laryngeal nerve does not necessarily indicate physiological continuity. This may lead to unrecognized nerve injury and consequently serious complications. Intraoperative neuromonitoring (IONM) is a widely used method to reduce this risk. The aim of this study was to evaluate the frequency of IONM use, perceptions, knowledge and education levels, adherence to guidelines, and technical competence of surgeons performing thyroid surgery in Türkiye.

Material and Methods: This cross-sectional survey study was conducted among surgeons involved in thyroid surgery. A total of 160 surgeons responded to the questionnaire. The survey inquired about surgical specialty and subspecialty interests, type of institution, annual number of thyroid surgeries, frequency of IONM use, reasons for its use, knowledge of guidelines, legal awareness, and technical competence.

Results: Only 12% of the participants were exclusively engaged in endocrine surgery. A substantial proportion of the surgeons were working in university hospitals, and approximately 20% of the participants were high-volume surgeons (≥100 thyroid surgeries per year). More than half of the participants (55.6%) reported that there was no IONM device available at their institution. The routine use rate of IONM among participants was 85.6%, and 91.2% believed that IONM reduces the risk of RLN injury. Forty-three percent of surgeons reported having previously attended a formal course on IONM, and 93% of those who attended such a course stated that they used IONM in accordance with guidelines. Seventy-seven percent reported receiving technical or company support for device setup. Only 28% of surgeons stated that they were able to both identify and resolve technical problems. In cases of signal loss, the majority of participants adopted guideline-recommended strategies, including immediate staged surgery (17.5%) or continuation based on signal recovery, with staged surgery if the signal did not return (66.2%).

Conclusion: To the best of our knowledge, there is no regional study in Türkiye or in the international literature evaluating the prevalence and effectiveness of IONM use in thyroid surgery. This study demonstrates that IONM is used at high rates in thyroid surgery in Türkiye and that the vast majority of surgeons strongly believe in its protective effect. However, there is a need for improvement in terms of cost, device accessibility, and technical independence. Structured training programs and technical standardization may further enhance the safe and effective use of IONM.

Keywords: Experience, education, intraoperative neuromonitoring, thyroid surgery, Türkiye

[S-103]

Comparison of primary repair and autologous fibrin matrix-supported repair in recurrent laryngeal nerve reconstruction: An experimental rat model

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Objective: Primary anastomosis is the standard surgical approach for recurrent laryngeal nerve (RLN) injuries; however, functional recovery remains variable. This study aimed to compare the effects of primary repair and autologous fibrin matrix-supported primary repair on nerve regeneration and functional outcomes using an experimental rat model.

Material and Methods: Twenty-seven female Wistar albino rats were randomly allocated into three groups:Group 1 (Control): Nerve transection without repair Group 2 (Primary Repair): End-to-end microsurgical repair Group 3 (Fibrin Matrix): Primary repair supported with autologous fibrin matrixAll animals underwent preoperative and postoperative endoscopic vocal cord evaluations. After the recovery period, tissue samples were obtained from the nerve repair site and bilateral vocal cords. Histopathological analyses included assessment of axonal density, fascicular organization, inflammation, and tissue reaction.

Results: No major complications affecting the experimental protocol were observed during the surgical and follow-up periods. Endoscopic evaluations suggested a more pronounced trend toward functional improvement in the fibrin matrix group. Histopathological analyses are currently ongoing, and quantitative results will be presented at the congress.

Conclusion: Preliminary findings indicate that autologous fibrin matrix application may provide potential benefits in RLN regeneration. Completion of histopathological and statistical analyses is expected to yield more definitive results. This approach may contribute to the development of biologically supported strategies in peripheral nerve repair.

Keywords: Recurrent laryngeal nerve, fibrin matrix, nerve regeneration

[S-104]

Analysis of factors associated with surgical pathology outcomes in thyroid nodules with atypia of undetermined significance cytology

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Objective: Thyroid nodules are common in adults and can be detected in up to 50% of individuals with high-resolution ultrasonography. Although most nodules are benign, they carry an estimated malignancy risk of 5-15%.Fine-needle aspiration biopsy (FNAB) and the Bethesda classification system guide clinical management; however, Bethesda category III (AUS/FLUS) nodules have heterogeneous malignancy risk and remain challenging to manage. Identifying clinical and ultrasonographic predictors of malignancy in AUS/FLUS nodules is therefore essential. In this study, we aimed to evaluate demographic and ultrasonographic factors associated with surgical pathology outcomes in thyroid nodules with AUS/FLUS cytology.

Material and Methods: Between January 1, 2016 and December 31, 2025, 209 patients with AUS/FLUS cytology on thyroid FNAB who underwent lobectomy or total thyroidectomy were retrospectively evaluated. Clinical and ultrasonographic factors associated with malignancy on surgical pathology were analyzed. Age, sex, nodule size, and ultrasonographic features (echogenicity, composition, and microcalcifications) were recorded. Categorical variables were compared using chi-square or Fisher's exact test, and continuous variables were analyzed with Student's t-test or Mann-Whitney U test. Significant variables were entered into multivariable logistic regression to identify independent predictors. A p-value <0.05 was considered statistically significant.

Results: A total of 209 patients who were operated on between 2016 and 2025 for thyroid nodules reported as atypia of undetermined significance (AUS/FLUS) on fine-needle aspiration biopsy were retrospectively analyzed to evaluate malignancy risk and factors associated with surgical pathology outcomes. The mean age of the patients was 51.8 years, with an age range of 21-83 years. Of the total cohort, 178 patients were female (85.1%) and 31 were male (14.8%). According to the surgical pathology results, malignancy was detected in 75 patients (35.8%), while 134 patients (64.2%) had benign pathology. The malignant group consisted of 65 females and 10 males, whereas the benign group included 113 females and 21 males; there was no statistically significant association between sex and malignancy (p=0.98). Similarly, no significant difference was found between age and malignancy (p=0.10). On ultrasonographic evaluation, hypoechogenicity (p=0.008), presence of microcalcifications (p=0.003), and a predominantly solid component (p=0.012) were significantly associated with malignancy. Although nodule size was greater in the malignant group, this difference did not reach statistical significance (p=0.27).

Conclusion: The malignancy rate in thyroid nodules with AUS/FLUS cytology is clinically significant. Hypoechogenicity, the presence of microcalcifications, and a predominantly solid component on ultrasonography are strong predictors of malignancy. These findings support that a surgical approach may be an appropriate management strategy in radiologically suspicious AUS/FLUS nodules.

Keywords: Atypic of undetermined significance (AUS/FLUS), fine-needle aspiration biopsy, thyroid nodule

[S-105]

Predictive value of nodule size, FNAB and TIRADS for malignancy in thyroid nodules ≥4 cm

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Objective: The accuracy of ultrasonography (US) and fine-needle aspiration biopsy (FNAB) findings in predicting malignancy in large thyroid nodules remains controversial. Therefore, current guidelines recommend surgical intervention for thyroid nodules ≥4 cm regardless of FNAB and US findings. The aim of this study was to determine the malignancy rates in patients who underwent lobectomy for nodules ≥4 cm and to evaluate the correlation between nodule size, FNAB and US findings, and overall malignancy rates.

Material and Methods: This is a retrospective, single-center study. Patients who underwent lobectomy for thyroid nodules ≥4 cm at University of Health Sciences Türkiye, Gaziosmanpaşa Training and Research Hospital between 2020 and 2025 were included. Socio-demographic data, comorbidities, preoperative ultrasonography (US) findings (according to TIRADS), ultrasonographic nodule dimensions, FNAB results (based on the Bethesda classification), postoperative pathology results, and the definitive nodüle size according to the surgical specimen were documented. The data were analyzed using SPSS software and p<0.05 was considered statistically significant.

Results: A total of 90 patients were included in the study, and the histopathological evaluation of surgical spesimen was malignant in 19 patients (21.1%). Statistically, TIRADS risk category was the only variable independently associated with malignancy. Nodules in the low-risk TIRADS group had a significantly lower risk of malignancy (OR=0.19; 95% CI: 0.060-0.603; p=0.005). In contrast, ultrasonographic nodule size parameters (width and length) were not associated with malignancy rates (p=0.742 and p=0.710, respectively). Age and gender were also not significant predictors of malignancy.When the discriminatory values of size variables were evaluated using ROC analysis, the area under the curve values for both nodule width and length showed no discriminative ability (AUC=0.496 and 0.448, respectively). These findings indicate substantial overlap in the size distribution of benign and malignant nodules.

Conclusion: This study demonstrates that, within a surgical cohort limited to thyroid nodules ≥4 cm, nodule size is not an independent predictor of malignancy. Ultrasonographic risk stratification is identified as a significant and dominant predictor of malignancy. However, the generalizability of these findings is limited as the study population is restricted to large nodules, and confirmation in larger cohorts encompassing a broader spectrum of nodule sizes is could be valuable.

Keywords: Thyroid cancer, thyroid nodules, large nodules

[S-106]

Prognostic significance of anti-thyroglobulin antibody levels after total thyroidectomy in papillary thyroid carcinoma

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Objective: In papillary thyroid carcinoma (PTC), elevated anti-thyroglobulin antibodies (anti-Tg) following total thyroidectomy complicate biochemical surveillance. Beyond this limitation in follow-up, whether anti-Tg elevation reflects a more aggressive tumor biology remains controversial. This study aimed to evaluate the association between elevated postoperative anti-Tg levels and histopathological aggressiveness, local recurrence, and distant metastasis.

Material and Methods: This retrospective study included 64 patients with PTC who received radioactive iodine (RAI) therapy following total thyroidectomy. Patients were divided into anti-Tg positive (≥115 IU/mL) and anti-Tg negative (<115 IU/mL) groups according to the institutional reference threshold. To ensure comparability between groups, propensity score matching was performed based on age, sex, tumor stage, and 2025 American Thyroid Association (ATA) risk classification. Demographic characteristics, histopathological findings, treatment variables, and oncological outcomes were analyzed comparatively.

Results: After propensity score matching, no significant differences were observed between the groups regarding demographic features, ATA 2025 risk stratification, or TNM stage (Table 1). Histopathological characteristics were largely similar between the groups; however, vascular invasion was significantly more frequent in the anti-Tg positive group compared with the negative group (25% vs. 0%; p=0.005) (Table 2). Although aggressive histological variants and local recurrence rates were higher in the anti-Tg positive group, these differences did not achieve statistical significance. Despite this, the rate of local recurrence was approximately five times higher in anti-Tg positive patients than in anti-Tg negative patients (15.6% vs. 3.1%; p=0.20). Two patients (6.2%) in the anti-Tg positive group developed distant metastases during follow-up at the fourth and sixth postoperative years, while no distant metastases were observed in the anti-Tg negative group. Furthermore, no significant differences were found between groups concerning RAI administration rates, frequency of central or lateral neck dissection, metastatic lymph node burden, or postoperative morbidity (Table 2).

Conclusion: Among patients with comparable baseline clinical and pathological characteristics, postoperative anti-Tg elevation was associated with increased vascular invasion and a tendency toward higher rates of local recurrence and distant metastasis. While some findings did not reach statistical significance, likely due to a limited sample size, the results suggest that anti-Tg positivity may represent both a barrier to biochemical monitoring and a marker of a more aggressive disease phenotype.

Keywords: Anti-thyroglobulin antibodies, papillary thyroid carcinoma, propensity score matching

Table 1. Demographic and baseline clinical characteristics

Variable	Anti-Tg ≥115 (n=32)	Anti-Tg <115 (n=32)	p-value
Age (years)	47 (22-80)	46 (22-75)	0.807
Sex (female)	25 (78.1%)	26 (81.2%)	1.000
ATA 2025 risk category	2 (1-3)	2 (1-3)	0.967
T stage	1 (1-3)	1 (1-3)	0.608
N stage	0 (0-1)	0 (0-1)	0.830
M stage	0 (0-0)	0 (0-0)	1.000

Table 2. Clinicopathological characteristics and treatment outcomes

Variable	Anti-Tg ≥115 (n=32)	Anti-Tg <115 (n=32)	p-value
Tumor size (mm)	17 (9-65)	15 (6-65)	0.602
Aggressive variant	10 (31.2%)	4 (12.5%)	0.134
Multifocality	19 (59.4%)	21 (65.6%)	0.619
Number of foci	2 (0-10)	2 (1-10)	0.497
Intrathyroidal spread	10 (31.2%)	7 (21.9%)	0.578
Presence of capsule	13 (40.6%)	11 (34.4%)	0.802
Thyroid capsule invasion	11 (34.4%)	12 (37.5%)	0.798
Soft tissue invasion	3 (9.4%)	1 (3.1%)	0.614
Lymphovascular invasion (LVI)	14 (43.7%)	13 (40.6%)	0.808
Vascular invasion	8 (25.0%)	0 (0.0%)	0.005
Perineural invasion	3 (9.4%)	4 (12.5%)	0.705
Central neck dissection	30 (93.7%)	30 (93.7%)	1.000
Number of central LNs	4 (0-24)	3 (0-37)	0.710
Positive central LNs	0 (0-6)	0 (0-11)	0.532
Lateral neck dissection	2 (6.2%)	0 (0.0%)	0.493
Positive lateral LNs	0 (0-4)	0 (0-0)	1.000
Contralateral lobe tumor	17 (53.1%)	19 (59.4%)	0.628
Number of contralateral foci	1 (0-5)	1 (0-10)	0.530
Pre-RAI Tg (ng/mL)	0.20 (0.04-18.16)	0.673 (0.04-17.32)	0.0027
Pre-RAI anti-Tg (IU/mL)	358.55 (160-4000)	13.23 (0.9-775)	<0.001
RAI treatment	32 (100%)	28 (87.5%)	0.103
Post-RAI Tg (ng/mL)	0.04 (0-0.06)	0.04 (0.04-3.44)	0.012
Post-RAI anti-Tg (IU/mL)	71.40 (10-1950)	12.40 (0.10-89.80)	<0.001
Recurrence (yes/no)	5 (15.6%)	2 (6.2%)	0.428
Distant metastasis	2 (6.2%)	0 (0%)	0.493
Transient RLN palsy	1 (3.1%)	2 (6.2%)	0.608
Permanent RLN palsy	1 (3.1%)	0 (0%)	1.000
Postoperative hypoparathyroidism	10 (31.2%)	9 (28.1%)	1.000
Permanent hypoparathyroidism	3 (9.4%)	2 (6.2%)	1.000

[S-107]

Ultrasonographic underestimation of parathyroid adenoma size and its functional significance: A Bland-Altman and multivariable analysis

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Objective: The relationship between parathyroid adenoma size, imaging accuracy, and hormonal activity remains incompletely defined. This study evaluated agreement between ultrasonographic (USG) and pathological adenoma measurements and examined the association between adenoma volume and preoperative parathyroid hormone (PTH) levels.

Material and Methods: Patients undergoing parathyroidectomy for primary hyperparathyroidism were retrospectively analyzed. Agreement between USG and pathological adenoma size was assessed using correlation and Bland-Altman analyses, including proportional bias testing. The relationship between adenoma volume and preoperative PTH was evaluated using multivariable linear regression adjusting for age, sex, serum calcium, and vitamin D levels.

Results: A total of 125 patients with paired USG and pathological adenoma measurements were included. Ultrasonographic and pathological adenoma diameters showed moderate correlation (Spearman ⊠ ≈ 0.38, p<0.001). Bland-Altman analysis demonstrated systematic and proportional bias, with increasing underestimation by USG in larger adenomas. In a subset of 87 patients with complete biochemical data, adenoma volume was independently associated with preoperative PTH levels after multivariable adjustment (p<0.01).

Conclusion: Ultrasonography moderately correlates with pathological adenoma size but systematically underestimates larger lesions. Adenoma volume reflects functional disease severity and is independently associated with preoperative PTH levels, supporting its role in preoperative risk stratification.

Keywords: Parathyroid adenome, parathyroid hormone, parathyroid size, parathyroid volume

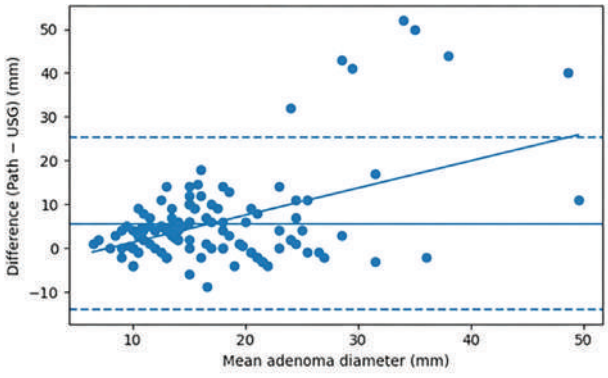

Figure 1. Blant-Altman plot for adenoma diamater (n=125).

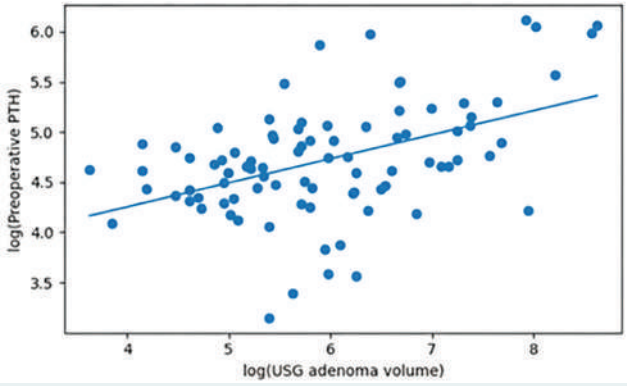

Figure 2. Relationship between adenoma volume and preoperative PTH (n=87).

Table 1. Agreement between ultrasonographic and pathological adenoma size (n=125)

Analysis	Estimate
Spearman correlation (USG vs pathology max diameter)	ρ = 0.38
Mean bias (pathology − USG), mm	≈ +4.3
95% lower limit of agreement, mm	≈ −8.6
95% upper limit of agreement, mm	≈ +17.2
Proportional bias slope (diff ~ mean)	Positive
p value (slope)	< 0.01

[S-108]

Comparison of surgical outcomes between propensity score-matched urgent and elective thyroidectomy in Graves' disease

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Objective: The American Thyroid Association (ATA) guidelines recommend that surgical treatment for Graves' disease be performed electively when appropriate. However, urgent surgical intervention may be necessary in some patients due to uncontrolled hyperthyroidism, thyrotoxic crisis, or severe adverse effects related to antithyroid medications. This study comparatively evaluated the clinical outcomes of urgent and elective thyroidectomy in patients with Graves' disease using a propensity score-matching approach.

Material and Methods: This retrospective study included 69 patients who underwent total thyroidectomy for Graves' disease between 2018 and 2025. Patients were categorized according to the timing of surgery into elective (n=46) and urgent (n=23) groups. To mitigate potential selection bias, propensity score matching was performed. The groups were then compared regarding preoperative medical management, postoperative complications, need for intensive care, and length of hospital stay.

Results: After matching, no significant differences were observed between the groups regarding age or sex (p=0.91). The interval from initial diagnosis to surgical treatment was significantly longer in the elective group compared with the urgent group (p=0.01). The most common indication for urgent thyroidectomy was uncontrolled hyperthyroidism (56.5%, n=13), followed by severe adverse reactions to antithyroid drugs (43.5%, n=10). Among patients who developed drug-related side effects, severe allergic reactions occurred in 4 patients (40%), hepatotoxicity in 3 (30%), and agranulocytosis in 3 (30%). In the urgent group, preoperative use of beta-blockers, steroids, Lugol's solution, and plasmapheresis was significantly higher than in the elective group (p<0.001). None of the patients in the elective group required steroids, Lugol's solution, or plasmapheresis preoperatively. Postoperatively, the urgent group had a significantly higher rate of intensive care unit requirement, and a longer hospital stay (p<0.001). Transient hypoparathyroidism occurred in 9 patients (39%) in the urgent group and in 13 patients (46%) in the elective group (p=0.36). Permanent hypoparathyroidism was observed in only one patient in the elective group, with no significant difference between the groups (p=1.00). No recurrent laryngeal nerve injury or postoperative hematoma was detected in either group.

Conclusion: Patients undergoing urgent thyroidectomy for Graves' disease required more intensive preoperative medical preparation and demonstrated higher rates of postoperative intensive care utilization and longer hospital stays compared with those treated electively. However, the incidence of recurrent laryngeal nerve injury and both transient and permanent hypoparathyroidism was comparable between the groups. These findings suggest that, whenever feasible, achieving a safe euthyroid state and proceeding with elective surgery remains an appropriate strategy.

Keywords: Graves' disease, propensity score matching, urgent thyroidectomy

Table 1. Demographic and clinical characteristics

Variable	Elective (n=46)	Urgent (n=23)	p-value
Age (years, mean ± SD)	38.5±14.6	38.1±15.9	0.91
Time from diagnosis (months, mean ± SD)	49.9±48.1	24.0±32.6	0.01
T3 (pmol/L, mean ± SD)	5.8±2.6	4.9±1.7	0.09
PTH (pg/mL, mean ± SD)	25.8±17.1	21.0±13.6	0.24

Table 2. Preoperative management and postoperative outcome

Variable	Elective (n=46)	Urgent (n=23)	p-value
Beta-blocker use, n (%)	10 (22)	18 (78)	<0.001
Steroid therapy, n (%)	0 (0)	13 (56)	<0.001
Lugol's solution, n (%)	0 (0)	6 (26)	<0.001
Plasmapheresis, n (%)	0 (0)	7 (30)	<0.001
Intensive care requirement, n (%)	2 (4%)	8 (35)	<0.001
Length of hospital stay (days, mean ± SD)	1.4±1.1	4.8±3.2	<0.001
Transient hypoparathyroidism, n (%)	13 (46)	9 (39)	1.00
Permanent hypoparathyroidism, n (%)	0 (0)	3 (13)	0.03

[S-109]

Is "watch-and-wait" safe in mild autonomous cortisol secretion? A comparative analysis of surgical intervention vs. conservative management

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Objective: Management of mild autonomous cortisol secretion (MACS) remains controversial, with conservative monitoring often preferred for uncomplicated cases. This study aimed to compare the long-term metabolic and radiological outcomes of adrenalectomy versus conservative management to evaluate the safety of surveillance.

Material and Methods: Seventy MACS patients were retrospectively analyzed. Patients were stratified into the surgical group, treated with laparoscopic/retroperitoneoscopic adrenalectomy, and the medical group managed conservatively. Primary endpoints included hypertension control, diabetes parameters, and BMI; secondary endpoints included tumor progression, DST trends, and changes in bone mineral density (BMD).

Results: In the surgical group (n=26) (median follow-up: 14 months, 95% CI: 18.03-37.57), the median number of anti-hypertensive medications decreased significantly from 1 to 0 (p=0.001). Lumbar T-scores improved from -2.15 to -1.15 (p=0.009), and LDL levels decreased (p=0.004). Post-operative ACTH elevation (p<0.001) confirmed axis recovery. Median steroid withdrawal time was 3 months, showing a positive correlation with pre-op DST levels (p=0.029). Conversely, the medical group (n=44) (median follow-up: 41 months, 95% CI: 44.18-72.45) exhibited progression: 11.4% showed tumor enlargement, 20.5% had hormonal worsening (increased DST), and 34.1% required increased anti-hypertensive medication, with 9.1% developing *de novo* hypertension.

Conclusion: Adrenalectomy significantly reduces hypertensive burden, improves bone density, and reverses metabolic risks in MACS. In contrast, conservative management is associated with evident radiological and metabolic progression. Our findings suggest the "watch-and-wait" strategy is not benign; early surgical intervention should be considered a superior alternative to prevent disease progression in eligible patients.

Keywords: Endocrinsurgery, MACS, adrenalgland, watch and worry, cardiometabolic outcome

Table 1. Baseline characteristics of medical vs. surgical groups

Variable	Medical group (n=44)	Surgical group (n=26)	p-value
Age (median, CI)	64 (59.15-64.66)	54 (50.35-58.64)	—
Sex	Female: 36 (81.8%) • Male: 8 (18.2%)	Female: 24 (92.3%) • Male: 2 (7.7%)	—
Adenoma size (cm)	2.9 (2.56-3.07)	3.75 (2.78-3.85)	0.081
DST cortisol (µg/dL)	3.1 (2.96-3.84)	3.5 (3.88-8.31)	0.058
Hypertension prevalence	28 (63.6%)	13 (50%)	0.459
New-onset hypertension	4 (9.1%)	0	0.148
Blood pressure control	Controlled: 21 (47.4%) • Uncontrolled: 4 (9.1%) • ≥3 drugs: 3 (6.8%)	Controlled: 14 (53.8%) • No HT: 12 (46.2%)	0.082
Osteoporosis	10 (22.7%)	13 (50%)	0.19
Cardiovascular disease	None: 33 (75%) • MI: 7 (15.9%) • AF: 1 (2.2%) • HF: 2 (4.4%)	None: 21 (80.8%) • CAD: 5 (19.2%)	0.579
Symptoms	Fatigue: 65.9% • Muscle weakness: 34.1% • Weight gain: 27.3% • Central obesity: 36.4%	—	—
BMI (kg/m²)	30 (29.07-32.35)	29.15 (27.44-32.55)	—
ACTH (pg/mL)	9.75 (8.68-14.73)	7.25 (6.73-20.05)	—
Cortisol (µg/dL)	13.5 (12.8-15.87)	14.9 (10.31-21.56)	—
HbA1c (%)	5.90 (5.86-6.56)	6 (5.77-6.6)	—
DHEAS (µg/dL)	56 (52.96-88.81)	59 (38.47-63.24)	—
Z-score	-0.2 (-0.33-0.9)	-0.99 (-1.53-0.08)	—
T-score	-1.5 (-1.6—0.32)	-2.15 (-2.48—-1.21)	—

Table 2. Follow-up characteristics and trends in the medically managed group (n=44)	
Variable	**Values**
Adenoma progression	Increased: 5 (11.4%) • Stable: 38 (86.4%) • Regression: 1 (2.3%)
DST trend	Stable suppressed: 8 (18.2%) • Stable non-suppressed: 29 (58.1%) • Progression: 9 (20.5%) • Remission: 1 (2.3%)
New-onset hypertension	4 (9.1%)
Blood pressure control	Controlled: 21 (47.4%) • Uncontrolled: 4 (9.1%) • ≥3 drugs: 3 (6.8%)
Antihypertensive medication trend	Increase: 15 (34.1%) • Stable: 12 (27.1%) • Decrease: 1 (2.4%) • Not using: 16 (36.4%)
Antidiabetic medication trend	Increase: 12 (27.3%) • Stable: 7 (15.9%) • Decrease: 1 (2.3%) • Not using: 24 (52.5%)
Statin use trend	No statin: 28 (63.6%) • Increase: 11 (25%) • Stable: 5 (11.4%)
Follow-up duration (months)	41 (44.18-72.45)

Table 3. Surgical outcomes: pre- vs. post-operative changes and comparisons between groups			
Parameter	**Pre-op (median)**	**Post-op (median)**	**p-value**
BMI	29.15 (27.44-32.55)	27.3 (26.13-30.98)	**0.008**
ACTH	7.25 (6.73-20.05)	29.45 (25.61-41.36)	**<0.001**
Cortisol	14.9	12.45	0.60
HbA1c	6	6	0.291
DHEAS	59	53	0.570
Z-score	-0.99	0.35	0.06
T-score	-2.15	-1.15	**0.009**
LDL (mg/dL)	136	110	**0.004**
Total cholesterol	225.5	203	0.099
Antihypertensive medication count	1 (0.53-1.7)	0 (0.078-0.57)	**0.001**
Antidiabetic medication count	0 (0.29-0.94)	0 (0.21-0.78)	0.180
Steroid withdrawal time (months)	—	3 (1.78-8.24)	—
Correlation: pre-op DST vs. steroid withdrawal time	—	Moderate positive correlation	**p=0.029**

[S-110]

Prevalence of hyperthyroidism and predictive risk factors after hemithyroidectomy

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Objective: In low-risk thyroid cancers and nodular goiter, lobectomy is preferred to reduce surgical complications and avoid lifelong thyroid hormone replacement. However, postoperative hypothyroidism can occur, which may require thyroid hormone replacement. Information regarding the frequency, predictive risk factors, and clinical characteristics of hypothyroidism after hemithyroidectomy has not been extensively studied. This study investigates the incidence, natural course, and contributing factors of hypothyroidism after hemithyroidectomy.

Material and Methods: In our clinic, 312 patients who underwent hemithyroidectomy between 2017 and 2026 were included in the study. Patients were analyzed in terms of age, gender, thyroid antibody levels, pre- and post-operative TSH levels, ultrasound reports, histopathological diagnosis, residual thyroid volume after resection, and time to diagnosis of hypothyroidism. Data were analyzed using stepwise logistic regression, chi-square test, and Fisher's exact test. In univariate analysis, variables associated with hypothyroidism (at a significance level of $p<0.1$) were included in multivariate analysis; odds ratios (OR) and 95% confidence intervals (CI) were calculated. Two-sided $p<0.05$ was considered statistically significant.

Results: In our study, 132 (42.3%) patients developed postoperative hypothyroidism. Compared to the euthyroidism group, the mean preoperative TSH was higher in the hypothyroidism group, and serum TSH >2.88 µIU/mL was predictive of hypothyroidism. Additionally, remaining thyroid volume ≤4.0 mL was also a predictor of hypothyroidism. In univariate logistic regression analysis, preoperative serum TSH >2.88 µIU/mL was significantly associated with the probability of postoperative hypothyroidism ($p=0.001$). Other variables [thyroid autoimmunity (TPOAb, TgAb (+)], remaining thyroid volume, thyroiditis findings on ultrasound) were found to be associated with postoperative hypothyroidism. The mean time from surgery to the development of hypothyroidism was 1.5±0.3 years.

Conclusion: This study showed that 42.3% of patients would develop hypothyroidism after hemithyroidectomy. High preoperative serum TSH levels and residual thyroid volume after surgery appear to be independent predictors of hypothyroidism development after hemithyroidectomy. In this context, these two characteristics may be sufficient to guide close monitoring after thyroid surgery.

Keywords: Hemithyroidectomy, hypothyroidism, prevalence

Table 1. Baseline characteristics of patients with postoperative euthyroidism and hypothyroidism

Characteristics	Patients with postoperative hypothyroidism (n=132)	Patients with postoperative euthyroidism (n=180)	p
Gender • Female (n=210) • Male (n=112)	 94 38	 116 74	0.032
TSH, µIU/mL Preoperative Median (P 25, P75)	2.88 (1.84, 3.94)	1.32 (0.92, 1.78)	0.001
Thyroid autoimmunity • TgAb (+) (n=21) • TPOAb (+) (n=28)	 18 20	 3 8	0.032
Remaining thyroid volume, mL Median (P 25, P75)	 3.1 (2.76, 3,56)	 4.3 (3.46, 5.31)	0.012
US findings • Consistent with thyroiditis (n=62) • Diffuse homogeneous (n=250)	 43 86	 19 164	0.023

Data are presented as mean ± standard deviation, n (%) or median (P 25, P 75).

[S-111]

The role of preoperative imaging in predicting malignancy in non-functional adrenal masses

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Objective: In non-functional adrenal masses, the decision for surgery is determined by multiple factors, including tumor size, radiological characteristics, growth pattern and the estimated risk of malignancy. This study aimed to identify objective radiological criteria that have guided the indication for adrenalectomy in patients with non-functional adrenal masses at our institution over the past two decades.

Material and Methods: All patients who underwent adrenalectomy at the Endocrine Surgery Department of İstanbul University, İstanbul Faculty of Medicine, between January 1, 2005, and December 31, 2024, were retrospectively reviewed to identify those with non-functional adrenal masses. Clinical, demographic, surgical, and histopathological data were obtained from operative records, patient files, and the hospital information system. Preoperative computed tomography (CT), magnetic resonance imaging (MRI), and positron emission tomography/computed tomography (PET/CT) scans were independently re-evaluated by radiologists and nuclear medicine specialists, blinded to the final pathological results. CT scans recorded tumor size, attenuation values in Hounsfield units (HU), and contrast enhancement patterns. MRI assessments included signal characteristics, heterogeneity, margin irregularity, and diffusion restriction. PET/CT scans documented SUV_{max} values. The diagnostic performance of these parameters in predicting malignancy was analyzed by comparison with final histopathology.

Results: During the study period, 506 patients underwent adrenalectomy, and 129 cases involving non-functional adrenal masses were included in the analysis. The mean age was 51.7 years; 55% of these cases were incidentally detected, while 45% presented with symptoms. The overall malignancy rate among non-functional lesions was 20% (26/129). Receiver operating characteristic (ROC) analysis of tumor size identified a cut-off value of 44.5 mm, resulting in an area under the curve (AUC) of 0.72 (95% CI: 0.62-0.82). Lesions exceeding this threshold were associated with a 3.5-fold increase in malignancy risk ($p<0.001$) (Table 1). Computed tomography imaging revealed a strong association between attenuation values greater than 20 Hounsfield units (HU) and malignancy, with an AUC of 0.73 (95% CI: 0.62-0.83), corresponding to approximately a fivefold increased risk ($p<0.001$). Magnetic resonance imaging (MRI) demonstrated that heterogeneity, irregular margins, and diffusion restriction were significantly associated with malignant pathology.Positron emission tomography/computed tomography imaging showed significantly higher SUV_{max} values in malignant lesions compared with benign masses ($p=0.003$) (Table 2). Furthermore, the rate of malignancy was significantly higher in non-functional masses compared with functional tumors [26/129 (20.2%) vs. 10/377 (2.7%); $p<0.001$].

Conclusion: In non-functional adrenal masses, tumor size and CT attenuation values are the most powerful and objective predictors of malignancy. MRI and PET/CT findings serve as complementary tools, particularly in indeterminate cases, enhancing diagnostic accuracy. Integrating multimodal imaging with clinical evaluation may facilitate more rational and safer decision-making regarding patient selection for surgery.

Keywords: Malignite prediction, non-functional adrenal mass, preoperative imaging

Table 1. Distribution of benign and malignant cases according to the 44.5-mm tumor size cut-off in non-functional adrenal masses

Tumor size	Benign (n=103)	Malignant (n=26)	Total
≤44.5 mm	59	11	70
>44.5 mm	44	15	59

Table 2. Comparison of demographic, surgical, and imaging findings between benign and malignant non-functional adrenal masses

Feature	Benign (n=103)	Malignant (n=26)	p-value
Age (mean ± SD, min-max)	50.3±12.7 (19-77)	54.6±13.8 (24-78)	0.129
Sex (F/M)	66/37	9/17	0.012
Side (right/left/bilateral)	49/54/0	15/11/0	0.482
Surgical approach (open/laparoscopic)	11/92	12/14	0.0001
CT attenuation (HU, mean ± SD)	23.4±17.2 (-30-65)	39.6±28.7 (8-120)	0.087
Largest diameter on MRI (mm, mean ± SD)	56.8±28.3 (14-132)	64.5±34.1 (22-148)	0.361
Margin characteristics on MRI	Regular: 62.5% Lobulated: 25.3% Irregular: 12.2%	Regular: 28.0% Lobulated: 24.0% Irregular: 48.0%	0.030
Tumor heterogeneity on MRI	Homogeneous: 47.6% Heterogeneous: 52.4%	Heterogeneous: 100%	0.041
Signal drop on out-of-phase imaging	Yes: 34.0% No: 66.0%	Yes: 19.2% No: 80.8%	0.652
Diffusion restriction on MRI	Yes: 24.3% No: 75.7%	Yes: 92.3% No: 7.7%	0.001
T2 signal intensity	Hyperintense: 30.1% Hypointense: 34.0% Intermediate: 35.9%	Hyperintense: 46.2% Hypointense: 15.3% Intermediate: 38.5%	0.428
Contrast enhancement on MRI	Yes: 55.3% No: 44.7%	Yes: 80.8% No: 19.2%	0.217
SUV_{max} on PET/CT (mean ± SD)	6.1±6.1 (0-28.5)	13.7±12.7 (0-55.8)	0.003

[S-112]

The impact of age, clinical, and biochemical parameters on quality of life and cognitive function after parathyroidectomy in primary hyperparathyroidism

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Objective: Primary hyperparathyroidism (PHPT) is associated not only with classical biochemical abnormalities but also with impairments in quality of life and cognitive function. The observation of these effects, even in patients considered clinically "asymptomatic", has become an area of increasing debate. This study aimed to evaluate changes in quality of life and cognitive performance following parathyroidectomy and to investigate the demographic, biochemical, and clinical factors associated with these changes.

Material and Methods: This prospective observational study included 50 adult patients who underwent parathyroidectomy for PHPT at the Endocrine Surgery Department of İstanbul University, İstanbul Faculty of Medicine, between May 1, 2023, and May 1, 2025. Patients with severe systemic disease or psychiatric comorbidities were excluded. Clinical, laboratory, and surgical data were recorded. Quality of life and cognitive function were assessed at two time points: Preoperatively and six months postoperatively, using validated patient-reported outcome measures (PROMs), including the short form-36 (SF-36), primary hyperparathyroidism quality of life questionnaire (PHPQoL), Pasieka symptom score (PAS), and mini-mental state examination (MMSE). Associations between PROM scores and demographic and biochemical parameters were analyzed.

Results: Following parathyroidectomy, the PAS score significantly decreased from 46.22±24.54 to 25.68±14.68 ($p<0.001$), while the SF-36 score increased from 60.50±24.75 to 74.15±14.70 ($p<0.001$). Similarly, the PHPQoL score improved from 54.50±22.57 to 69.19±17.54 ($p<0.001$), and the MMSE score rose from 25.06±2.48 to 27.56±2.27 ($p<0.001$) (Table 1). The most pronounced improvements were observed in fatigue, bone and joint pain, weakness, and irritability. Notably, even patients considered clinically asymptomatic demonstrated impaired baseline quality of life, accompanied by significant postoperative recovery. Lower vitamin D levels ($R^2=0.362$; $p=0.026$), reduced glomerular filtration rate (GFR) ($R^2=0.362$; $p=0.008$), and female sex ($R^2=0.362$; $p=0.013$) were associated with poorer baseline quality of life. Conversely, greater postoperative improvement in quality of life was associated with younger age ($p=0.007$), higher GFR ($p=0.022$), higher T-scores ($p=0.031$), and elevated preoperative PTH levels ($p=0.028$). PAS analysis demonstrated a positive correlation between older age and symptom improvement ($\rho=0.347$; $p=0.014$), whereas PHPQoL scores showed a negative association with age.

Conclusion: Parathyroidectomy results in significant improvements in both quality of life and cognitive function in patients with PHPT, including those regarded as clinically asymptomatic. Routine implementation of PROMs may strengthen surgical decision-making and contribute to individualized risk-benefit assessments. Consideration of demographic and biochemical factors appears important in predicting the magnitude of surgical benefit.

Keywords: Parathyroidectomy, primary hyperparathyroidism, quality of life

Table 1. Preoperative and postoperative PROM scores

Scale	Preoperative	Postoperative	p-value
PAS	46.22±24.54	25.68±14.68	<0.001
SF-36	60.50±24.75	74.15±14.70	<0.001
PHPQoL	54.50±22.57	69.19±17.54	<0.001
MMSE	25.06±2.48	27.56±2.27	<0.001

Table 2. Factors associated with changes in quality of life scores: correlation and multivariable linear regression analyses

Correlation analysis

Parameter	Pasieka	Correlation coefficient (ρ)	p-value	Strength
Age	Mean score	0.347	0.014	Weak-moderate
GFR	Mean score	-0.417	0.003	Weak-moderate
Hypercalciuria	Mean score	0.287	0.043	Weak
Parameter	**PHPQoL**	**Correlation coefficient (ρ)**	**p-value**	**Strength**
Age	Physical mean score	-0.376	0.007	Weak-moderate
Age	Mental mean score	-0.326	0.021	Weak-moderate
Age	Mean score	-0.330	0.019	Weak-moderate
Vitamin D	Mean score	-0.286	0.047	Weak
Femoral T-score	Physical mean score	0.344	0.014	Weak-moderate
Femoral T-score	Mean score	0.306	0.031	Weak-moderate
GFR	Physical mean score	0.323	0.022	Weak-moderate

Multivariable linear regression analysis

Survey – outcome	p-value	R^2/adjusted R^2	Parameter	p-value
PHPQoL - physical mean score	0.0161	0.407/0.251	Age PTH	0.02 0.028
PHPQoL - mean score	0.0135	0.415/0.26	Age PTH	0.034 0.025
Pasieka - mean score	0.0377	0.369/0.203	---	---

[S-113]

Surgical approach to adrenal masses: Single-center adrenalectomy outcomes

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Objective: Adrenal gland pathologies include functional tumors that may cause severe metabolic disturbances due to hormonal activity, as well as non-functional masses with malignant potential or risk of progression. In recent years, advances in imaging modalities and surgical techniques have led to significant changes in the diagnostic and therapeutic approaches to adrenal masses. The aim of this study was to present our clinical experience with adrenalectomy procedures performed at our institution.

Material and Methods: Medical records of 149 patients who underwent adrenalectomy at Ankara Bilkent City Hospital between January 2020 and December 2025 were retrospectively reviewed. Categorical variables were analyzed using the chi-square test. Receiver operating characteristic (ROC) curve analysis was performed to determine the optimal tumor size cut-off value for predicting malignancy.

Results: Of the 149 patients, 54 (36.2%) were male and 95 (63.8%) were female. The mean age was 50.58 years, and the mean body mass index (BMI) was 30.74 kg/m². The average length of hospital stay was 4.65 days. A laparoscopic approach was used in 84.6% of cases, while 15.4% underwent open surgery. Tumors were located on the right side in 35.6% (n=53) and on the left side in 64.4% (n=96) of patients. The mean tumor weight was 115.72 grams. Functional tumors were identified in 63.8% (n=95) of patients. According to the Clavien-Dindo classification, 91.3% of patients experienced grade II complications, 7.4% grade III, 0.7% grade IV, and 0.7% grade V complications. Pathological evaluation revealed adenoma in 43.6% (n=65), carcinoma in 10.7% (n=16), other benign pathologies in 24.8% (n=37), and pheochromocytoma in 20.8% (n=31) of cases. Functional status analysis demonstrated that 92.3% of adenomas were functional, whereas 81.3% of carcinomas were non-functional. ROC curve analysis showed that tumor size had a statistically significant predictive value for malignancy, with an area under the curve (AUC) of 0.746 (p=0.001). A tumor size cut-off value of 7.5 cm provided acceptable discriminatory power in differentiating malignant from benign lesions.

Conclusion: With appropriate patient selection and a multidisciplinary approach, adrenal surgery can be safely performed with low morbidity and acceptable complication rates. The increasing use of minimally invasive surgical techniques offers significant advantages in terms of reduced hospital stay and improved perioperative recovery. Our findings support adrenalectomy performed in experienced centers as an effective and reliable treatment option for the surgical management of adrenal masses.

Keywords: Adrenalectomy, adrenal tumor, adenoma

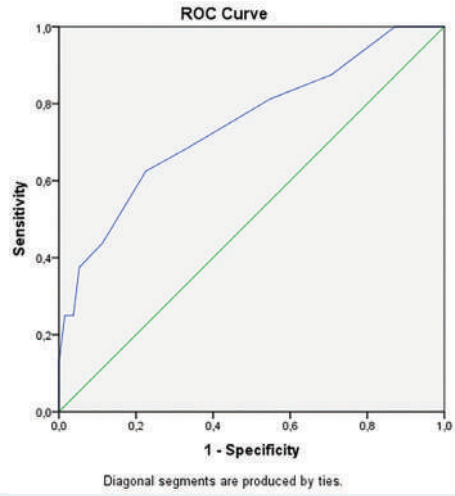

Figure 1. ROC curve analysis for tumor length.

Table 1. Distribution of selected descriptive characteristics of the patients

		Functional status			
		Functional	Non-functional		
		Numbers	(%)*	Numbers	(%)*
Pathology (n=149)**					
	Adenoma	60	92.3	5	7.7
	Carcinoma	3	18.8	13	81.3
	Other benign pathologies	5	13.5	32	86.5
	Pheochromocytoma	27	87.1	4	12.9

χ^2=84.686, p<0.001 row percentage chi-square test.

[S-114]

Investigation of factors associated with the development of postoperative normocalcemic hyperparathyroidism in patients operated for parathyroid adenoma

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Objective: Parathyroid adenoma is the most common cause of primary hyperparathyroidism in surgically treated patients. Although serum calcium levels usually normalize after surgery, parathyroid hormone (PTH) levels may remain persistently elevated in a subset of patients during the postoperative period. The aim of this study was to investigate the factors associated with the development of postoperative normocalcemic hyperparathyroidism.

Material and Methods: Patients who underwent surgery for primary hyperparathyroidism between 2016 and 2026 were retrospectively evaluated. Patients operated on for MEN-1 syndrome, parathyroid hyperplasia or carcinoma, as well as those with persistent postoperative hypercalcemia, were excluded. A total of 353 patients were included in the study. Serum calcium and PTH levels at postoperative 3 months were analyzed. Patients with postoperative normocalcemic hyperparathyroidism were classified as Group-1, while those whose PTH levels returned to normal were classified as Group-2. Preoperative demographic data, bone densitometry scores, alkaline phosphatase (ALP), vitamin D, calcium and PTH levels, adenoma volumes calculated based on postoperative measurements, and the presence of ectopic localization were analyzed.

Results: Of the patients, 286 (81.1%) were female and 67 (18.9%) were male. Persistent postoperative PTH elevation was observed in 70 (19.8%) patients, whereas PTH levels normalized in 283 (80.2%) patients. In Group-1, 19 (27.1%) patients were male, compared to 48 (17.0%) patients in Group-2 (p=0.51). Mean preoperative PTH levels were 294.7 pg/mL in Group-1 and 204.5 pg/mL in Group-2, with higher preoperative PTH levels being significantly associated with postoperative normocalcemic hyperparathyroidism (p<0.001). Among 55 patients with preoperative ALP levels above 147 IU/L, 17 (30.9%) developed normocalcemic hyperparathyroidism, whereas this condition was observed in only 45 (18.4%) of 244 patients with ALP levels below 147 IU/L (p=0.039). Mean preoperative vitamin D levels were significantly lower in Group-1 compared to Group-2 (17.8 ng/mL vs. 22.6n g/mL, respectively, p=0.024). Ectopic adenoma localization was detected in 6 (8.6%) patients in Group-1 and 21 (7.4%) patients in Group-2 (p=0.745). No statistically significant difference was found between the groups in terms of bone mineral density scores (p=0.790). Postoperative normocalcemic hyperparathyroidism was observed in 5 (17.9%) of 28 patients with bone densitometry scores below -3 and in 55 (20.5%) of 268 patients with scores above -3 (p=0.931). Mean preoperative calcium levels were 11.3 mg/dL in Group-1 and 11.2 mg/dL in Group-2, with no significant difference between the groups (p=0.741). Among 326 patients with calculated adenoma volumes, mean adenoma volume was 2298.7 mm^3 in Group-1 and 1900.8 mm^3 in Group-2 (p=0.514).

Conclusion: This study demonstrates that higher preoperative PTH and ALP levels and lower vitamin D levels are significantly associated with the development of postoperative normocalcemic hyperparathyroidism.

Keywords: Parathyroid adenoma, parathyroidectomy, normocalsemic hyperparathyroidism

[S-115]

Immune-inflammatory markers and clinicopathological features in papillary thyroid cancer

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Objective: Papillary thyroid carcinoma (PTC) is the most common type of thyroid malignancy and generally has a favourable prognosis. However, features such as lymph node metastasis, multifocality, and histopathological variants can alter clinical behaviour and influence treatment planning. In recent years, immune-inflammation indices [neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), systemic immune-inflammation index (SII), etc.], which can be easily calculated from peripheral blood tests, have been increasingly studied in surgical oncology. These markers may provide practical contributions to preoperative assessment due to their low cost, rapidity, and accessibility. However, studies on the relationship between these indices and lymph node metastasis and tumour size in PTK are limited and conflicting. Therefore, in this study, the relationship between immune-inflammation and nutritional indices and clinical-pathological characteristics and tumour size in PTK was evaluated using both logistic and linear regression analyses.

Material and Methods: The data of 178 patients with papillary thyroid carcinoma who underwent surgery were retrospectively analysed (age 46.5±13.4; female 77.5%). Clinical data and preoperative complete blood count were used to calculate SII, NLR, PLR, monocyte-lymphocyte ratio (MLR), platelet index value (PIV), and prognostic nutritional index (PNI). Logistic regression was applied for pathological outcomes such as multifocality, lymphovascular and capsular invasion, and central and lateral lymph node metastasis; linear regression was applied for tumour size.

Results: According to logistic regression, univariate analysis found MLR (p=0.007) and PNI (p=0.043) to be significant for multifocality, but multivariate analysis did not reveal any independent relationships. For histopathological variant, SII (p=0.008), NLR (p=0.008), MLR (p=0.038) and PIV (p=0.003) were associated at the univariate level, but these associations disappeared in multivariate analysis. For central lymph node metastasis, only PLR showed a significant relationship in multivariate analysis (p=0.028; OR=0.949; 95% CI 0.906-0.994). For lateral metastasis, MLR was significant in multivariate analysis (p=0.048), but this finding should be interpreted with caution due to the small number of events. In linear regression, only PLR was inversely related to tumour size (B=-0.011; p=0.025; 95% CI -0.021 to -0.001).

Conclusion: In our study, the preoperative immune-inflammation index PLR emerged as the sole marker associated with both central lymph node metastasis and tumour size. Independent associations for other indices were not confirmed by multivariate analysis. PLR may have potential value as an additional biomarker in the clinical setting for preoperative risk assessment and surgical strategy planning in PTK. Larger, multicentre, and standardised studies are required to establish the generalisability of these findings.

Keywords: Thyroid neoplasms, papillary thyroid cancer, clinicopathologic characteristics

Table 1. Clinical pathological characteristics with logistics and linear regression analyses

	Markers	Univariate p	Univariate effect (OR/B, 95% GA)	Multivariate p	Multivariate effect (OR/B, 95% GA)
Multifocality	MLR	0.007	OR=5.820 (5.86-77.27)	0.269	OR=517.88 (0.006-35386)
	PNI	0.043	OR=0.916 (0.841-0.997)	0.162	OR=0.856 (0,856-1.072)
Histopathologic variant	SII	0.008	OR=0.998 (0.997-1.000)	0.601	OR=0.998 (0.996-1.001)
	NLR	0.008	OR=0.565 (0.370-0.862)	0.380	OR=0.865 (0.273-3.309)
	MLR	0.038	OR=0.011 (<0.001-0.787)	0.455	OR=0.013 (<0.001-655.36)
	PIV	0.003	OR=0.997 (0.995-0.999)	0.996	OR=1.000 (0.997-1.008)
Central LN metastasis	MLR	0.023	OR=2760.77 (3.020-2524575)	—	—
	PLR	0.386	OR=0.993 (0.976-1.007)	0.028	OR=0.949 (0.906-0.994)
Lateral LN metastasis	MLR	0.216	OR=627.11 (0.023-16784589)	0.048	—
Tumour diameter (lineer)	PLR	0.025	B=-0.011 (-0.021 – -0.001)	—	—

[S-117]

Transcutaneous laryngeal ultrasonography for postoperative vocal cord evaluation after thyroid and parathyroid surgery

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Objective: Recurrent laryngeal nerve injury is a major complication of thyroid and parathyroid surgery and may cause vocal cord movement impairment (VCMI), which can be symptomatic or silent. Early postoperative evaluation is essential. Flexible nasolaryngoscopy (FNL) is the reference standard but may be limited by invasiveness and practical constraints. Transcutaneous laryngeal ultrasonography (TLUS) has emerged as a non-invasive alternative, although its diagnostic performance remains controversial.

Material and Methods: This observational study included patients undergoing thyroid or parathyroid surgery between October 2025 and January 2026. Patients younger than 18 years or with known vocal cord pathology were excluded. All patients underwent preoperative and postoperative FNL. Postoperative TLUS was performed in a blinded manner by an experienced radiologist. VCMI was defined as reduced, asymmetric, or absent vocal cord mobility. TLUS performance was evaluated using FNL as the reference standard.

Results: A total of 102 patients were included. Postoperative FNL identified VCMI in 4 patients (3.9%). TLUS suggested VCMI in 1 patient (1.0%), while laryngeal landmarks were visualized in all patients (100%). Using FNL as the reference standard, TLUS demonstrated a specificity of 99.0%, a negative predictive value of 96.0%, and an overall diagnostic accuracy of 95.1%. No true-positive cases were observed, and sensitivity could not be meaningfully assessed.

Conclusion: TLUS is a feasible, non-invasive adjunct for postoperative vocal cord assessment after thyroid and parathyroid surgery. Its high specificity and negative predictive value support confirmation of normal vocal cord mobility, but limited sensitivity necessitates FNL in suspected cases.

Keywords: Flexible nasolaryngoscopy, transcutaneous laryngeal ultrasound, vocal cord palsy

[S-118]

Comparison of vascular closure methods in laparoscopic adrenalectomy: Energy-based vessel sealing devices and the effect of clip use on clinical outcomes

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Objective: Laparoscopic surrenalectomy is the gold standard technique in the surgery of adrenal gland pathologies. During the operation, the safe closure of the adrenal vein and vascular structures is one of the fundamental elements of surgical success. The most commonly used methods for this purpose include energy-based vessel sealing devices (EBVD) and clips. Thisstudy aimed to compare vascular closure methods using EBVD systems and clips in patients undergoing laparoscopic adrenalectomy in terms of clinical parameters.

Material and Methods: The retrospective study included patients who underwent laparoscopic or retroperitoneoscopic adrenalectomy by a single surgeon at a single center between September 2024 and February 2026. Patients were divided into two groups based on the closure method used: The EBDK group and the clip group. The Ligasure system was used for EBDK in all patients (Valleylab, Boulder, CO). Demographic data, tumor size, preoperative clinical diagnosis, lateralization, pathology results, and complication status were evaluated. Continuous variables were compared using median values. The largest diameter reported radiologically was used in the tumor size analysis.

Results: A total of 21 patients were included in the study. There were 11 patients (52.4%) in the clip group and 10 patients (47.6%) in the EBDK group.The median age was 52 years (IQR 43-64). The mass was located on the right side in 11 patients (52.4%) and on the left side in 10 patients (47.6%).Three patients had primary hyperaldosteronism (14.3%), six had pheochromocytoma (28.6%), and 12 had Cushing's syndrome or mild autonomous cortisol release (57.1%) were present. The median age in the clip group was 61 years (IQR 45.5-64), and in the EBDK group it was 48 years (IQR 41.5-56.5), with no significant difference between the groups (p=0.17). The median mass diameter was similar between the two groups [4.2 (2.9-5.0) cm vs. 3.5 (2.1-5.75) cm, p=0.97]. There were no significant differences between the groups in terms of gender distribution (p=0.31), lesionside (p=0.39), and surgical indication (p=0.62). Conversion was observed in 1 patient (9.1%) in the clip group, while no conversion was observed in the EBDK group (p=1.00).

Conclusion: In this retrospective analysis, no significant difference was observed between EBDK and clip-based vascular closure methods during laparoscopic surrenalectomy in terms of demographic characteristics, tumor size, and early clinical outcomes. Both methods appear to be safe and feasible.

Keywords: Laparoscopic adrenalectomy, vascular closure methods

[S-119]

Optimizing surgical management of renal hyperparathyroidism: Insights from a single-center experience

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Objective: Secondary and tertiary hyperparathyroidism are frequent complications in patients with end-stage renal disease and are often refractory to medical therapy. Surgical treatment remains the only definitive option in cases resistant to pharmacological management.

Material and Methods: We retrospectively reviewed 480 patients who underwent parathyroid surgery between June 2020 and June 2025. Among them, 26 had renal hyperparathyroidism, and after applying exclusion criteria, 14 patients were included in the final analysis. Demographics, surgical strategies, perioperative biochemical data, complications, and follow-up outcomes were assessed.

Results: The study population consisted of 14 patients, including 10 males and 4 females. Patient age ranged from 23 to 61 years, dialysis duration ranged from 2 to 21 years, and length of hospital stay ranged from 3 to 28 days. Surgical approaches included subtotal parathyroidectomy (n=5), total parathyroidectomy (n=4), and purge parathyroidectomy (n=5). Preoperatively, parathyroid hormone levels were markedly elevated and showed a substantial postoperative decline, accompanied by improvements in serum calcium and phosphorus levels. Recurrent laryngeal nerve palsy and disease recurrence were observed in none of the patients with long-term follow-up. Postoperative hypocalcemia requiring intravenous calcium therapy was observed in 5 patients, three of whom had undergone purge parathyroidectomy and two total parathyroidectomy.

Conclusion: Parathyroidectomy represents an effective and reliable therapeutic option for patients with renal hyperparathyroidism refractory to medical management. The choice of surgical approach should be individualized according to patient-specific factors and may require intraoperative modification based on operative findings.

Keywords: End-stage renal disease, purge parathyroidectomy, secondary hyperparathyroidism, renal hyperparathyroidism

Table 1. Demographic and clinical data of all patients

Variable	SPTX (n=5)	TPTX (n=4)	PPTX (n=5)
Sex (male/female), n	2/3	3/1	5/0
Age, years (range)	29-61	23-53	26-43
ASA class, median (range)	3 (2-3)	3 (3-4)	3 (3-4)
Duration of dialysis, years (range)	4-21	8-14	2-10
Length of hospital stay, days (range)	3-7	3-15	6-28
Postoperative bleeding requiring reoperation, n	0	0	2
Recurrent laryngeal nerve palsy, n	0	0	0
Recurrence, n	0	0	0
Persistent SHPT, n	0	0	1
Intravenous calcium supplementation, n	0	2	3
Follow-up, months (range)	6-41	3-36	1-46

[S-120]

Intraoperative identification of parathyroid glands using indocyanine green (ICG) during total thyroidectomy and its prospective evaluation on functional outcomes

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Objective: Post-thyroidectomy hypocalcemia is a significant complication associated with intraoperative injury or devascularization of the parathyroid glands. Reliable intraoperative identification of parathyroid glands remains an area of ongoing investigation. In this study, the effect of intraoperative indocyanine green (ICG) fluorescence imaging performed prior to thyroid dissection on parathyroid identification and postoperative functional outcomes was prospectively evaluated.

Material and Methods: In this prospective cohort study, 50 patients undergoing total thyroidectomy were included. In all cases, ICG fluorescence imaging was performed before initiating thyroid dissection, and parathyroid glands were assessed using a 0-2 perfusion scoring system. Early parathyroid function was analyzed using serum parathyroid hormone (PTH) and corrected calcium levels measured within the first 24 hours postoperatively. Low PTH was defined as <15 pg/mL, and hypocalcemia was defined as corrected calcium <8.6 mg/dL. Persistent hypocalcemia and/or the need for calcium ± calcitriol replacement at 6 months was considered prolonged hypoparathyroidism.

Results: Seventy-six percent of patients were female, with a mean age of 59.1±11.0 years. The most common pathology was papillary thyroid carcinoma (64%). Approximately three parathyroid glands were identified intraoperatively on average. At least one well-perfused gland (score 2) was detected in 92.1% of patients with available ICG data.Within the first 24 hours postoperatively, low PTH (<15 pg/mL) occurred in 30% of patients. Higher early postoperative PTH levels were observed in patients in whom at least one well-perfused gland was identified. Early hypocalcemia (corrected calcium <8.6 mg/dL) was observed at a limited rate.Parathyroid tissue was identified in 20% of thyroidectomy specimens. At 6-month follow-up, prolonged hypocalcemia and/or the need for replacement therapy was observed in 4% of patients.

Conclusion: Pre-dissection intraoperative ICG fluorescence imaging enabled a high rate of parathyroid identification. The presence of at least one well-perfused gland was associated with early postoperative parathyroid function. The low rate of prolonged hypocalcemia suggests that intraoperative perfusion assessment may contribute to the preservation of parathyroid function. Our findings support the use of ICG as a reliable and practical adjunct for parathyroid identification during total thyroidectomy.

Keywords: Total thyroidectomy, indocyanine green fluorescence, parathyroid preservation

[S-121]

Papillary thyroid cancer in Graves disease: More than expected, less than feared but when to be suspicious?

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Objective: The coexistence of Graves' disease (GD) and papillary thyroid carcinoma (PTC) remains a subject of clinical debate. Although PTC is frequently detected incidentally after thyroidectomy for GD, its true prevalence, clinicopathological behavior, and reliable preoperative predictors remain poorly defined in routine clinical practice.

Material and Methods: This single-center retrospective cohort study included 602 patients who underwent thyroidectomy between 2020 and 2025. Patients were categorized into three groups: GD with PTC (GD+PTC, n=51), GD without malignancy (GD-only, n=109), and sporadic PTC (PTC-only, n=442). Demographic, biochemical, radiological, surgical, and pathological data were analyzed. Univariate and multivariate logistic regression analyses were performed to identify factors associated with PTC development in GD.

Results: The prevalence of PTC among GD patients was 31.9%. Compared with sporadic PTC, GD-associated tumors were significantly smaller (median 5 mm vs. 12 mm, p<0.001) and demonstrated fewer aggressive features, including lymphatic invasion, capsular invasion, multifocality, bilaterality, and lymph node metastasis (all p<0.01). Patients with GD+PTC were younger and exhibited a lower female predominance than those with sporadic PTC. When compared with GD-only patients, the GD+PTC group had significantly lower thyroid-stimulating immunoglobulin (TSI) levels (median 3.8 vs. 7.65 IU/L, p=0.007) and a higher prevalence of ultrasound-detected thyroid nodules (64.7% vs. 27.5%, p<0.001). In multivariate analysis, the presence of ultrasound-detected nodules (OR 3.56, p=0.003) and lower TSI levels (OR 0.95, p=0.03) independently predicted PTC in GD.

Conclusion: Papillary thyroid carcinoma is relatively common among surgically treated GD patients but typically presents as microcarcinoma with less aggressive histopathological features. Ultrasound-detected thyroid nodules represent the strongest preoperative predictor of malignancy, while lower TSI levels may identify a distinct risk profile. These findings support meticulous ultrasonographic evaluation and a low threshold for fine-needle aspiration biopsy in selected GD patients.

Keywords: Graves disease, papillary thyroid cancer, thyroid-stimulating immunoglobulin, thyroidectomy

[S-123]

Surgical treatment and long-term follow-up outcomes in parathyroid carcinoma: A single-center experience

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Objective: Parathyroid carcinoma is a rare endocrine malignancy associated with high morbidity. This study aimed to evaluate the clinical presentation, biochemical parameters, surgical approaches, and follow-up outcomes of patients diagnosed with parathyroid carcinoma.

Material and Methods: A total of 16 patients diagnosed with parathyroid carcinoma were included in the study. Demographic characteristics, presenting symptoms, preoperative biochemical values, imaging modalities, surgical techniques, and follow-up durations were retrospectively analyzed.

Results: Twelve patients (75%) were female and four (25%) were male. The mean age was 59 years (range: 39-84). Nine patients (56%) were asymptomatic at presentation, and the most common symptom was bone pain. Preoperative biochemical evaluation revealed mean serum calcium (Ca) of 11.9 mg/dL, parathyroid hormone (PTH) level of 717.4 pg/mL, and alkaline phosphatase (ALP) level of 374.4 U/L. Lesion localization was achieved using preoperative ultrasonography and scintigraphy in most patients, while F-18 choline PET/CT or 4D-CT was used in selected cases. Four-gland exploration was performed in 10 patients (62.5%), and minimally invasive parathyroidectomy in 6 patients (37.5%). Parathyroid tissue was intrathyroidal in two patients and mediastinal in one patient. Concomitant thyroidectomy was performed in eight patients (50%), and additional unilateral central neck dissection was performed in two patients (12%). Intraoperative suspicion of parathyroid carcinoma occurred in four patients (25%), who subsequently underwent concomitant thyroidectomy, and two of them also received unilateral central neck dissection. Secondary surgery related to parathyroid carcinoma was required in four patients (25%): three underwent thyroidectomy and one underwent supraclavicular lymph node excision. Intraoperative nerve monitoring was used in most patients. Fourteen patients had available follow-up data, with a mean follow-up duration of 46.7 months (range: 6-108); two patients had no regular follow-up data. During follow-up, recurrence was observed in one patient (6%). One patient died due to disease-related causes, and two patients died from causes unrelated to parathyroid carcinoma.

Conclusion: Elevated PTH and Ca levels accompanied by bone symptoms are important clinical indicators in patients with parathyroid carcinoma. Accurate preoperative localization and adequate resection during primary surgery are critical in reducing the risk of recurrence. Long-term close biochemical and radiological follow-up is essential for disease control.

Keywords: Parathyroid, carcinoma, thyroidectomy, recurrence, mortality

[S-124]

The prognostic value of preoperative HALP score in papillary thyroid carcinoma and its relationship with tumor aggressiveness

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Objective: Papillary thyroid carcinoma (PTC) is the most common thyroid malignancy and generally has a favorable prognosis. However, factors such as lateral lymph node metastasis and multifocality increase the risk of recurrence. This study aims to analyze the predictive value of the HALP score, consisting of hemoglobin, albumin, lymphocyte, and platelet values, on tumor aggressiveness and histopathological features in patients diagnosed with PTC.

Material and Methods: The study included 100 patients diagnosed with PTK histopathologically. HALP scores were calculated using the patients' preoperative complete blood count and biochemical parameters. The low and high HALP score groups were compared in terms of age, gender, tumor size, multifocality, lymphovascular invasion (LVI), BRAF mutation status, and lateral neck lymph node metastasis.

Results: The analyses revealed a positive correlation between the low HALP score group and the size of the primary tumor and the presence of multifocal foci. In particular, patients with lateral neck lymph node positivity were found to have significantly lower HALP scores compared to the control group. Although age and gender distribution were homogeneous across groups, it was noted that low HALP scores were more strongly associated with poor prognosis in the older age group. Furthermore, low HALP scores were also observed in aggressive variants with lymphovascular invasion positivity and BRAF mutation.

Conclusion: This study demonstrates that a low preoperative HALP score is directly associated with aggressive clinical course parameters such as larger tumor size, multifocality, and lateral lymph node metastasis in patients with PTK. The HALP score, being a low-cost, easily accessible, and non-invasive method, can be used as a helpful biomarker in predicting the need for lateral neck dissection during the surgical planning phase and in identifying high-risk patients.

Keywords: Papillary thyroid carcinoma, HALP score, prognosis indicator

Table 1. Comparison of numerical data for patients with low and high HALP scores

	Low HALP (n=46)	High HALP (n=54)
Age (average)	59	45
Gender (male/female)	57% female	64% male
Tumor size (mm, average)	27	16
Number of focuses (single/multifocal)	29% multi-focused	96% multi-focused
LN metastasis (+/-)	80% LN metastasis +	13% LN metastasis +
Lymphovascular invasion (+/-)	34% LVI +	13% LVI +
BRAF mutation (+/-)	11% BRAF +	2% BRAF +

Among the 100 patients whose data were evaluated, it was determined that patients with low HALP scores had significantly higher tumor size, multifocality, lymph node metastasis rate, and LVI rate.

[S-125]

Comparative evaluation of the effects of polyethylene glycol, monobasic sodium phosphate, and sennoside A-B calcium solutions used for pre-colonoscopy bowel preparation on colonic mucosa, serum TAS/TOS levels, and serum IL-6 levels

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Objective: Oxidative stress-induced DNA damage is considered to have precancerous potential and has therefore been widely studied in relation to various drugs, chronic diseases, and cancers, particularly colorectal cancer. Colonoscopy plays a key role in the diagnosis and management of colorectal and other intestinal diseases and requires effective bowel cleansing. Polyethylene glycol 3350 (PEG), monobasic sodium phosphate (NaP), and sennoside A-B calcium are among the most commonly used bowel preparation agents, with several studies comparing their efficacy and clinical adverse effects. However, the data comparing their effects on oxidative stress and pro-inflammatory responses at both systemic and intestinal mucosal levels are limited. This study aimed to evaluate the effects of PEG, NaP, and sennoside A-B calcium on serum and intestinal mucosal oxidative stress parameters and the pro-inflammatory cytokine interleukin-6 (IL-6).

Material and Methods: Seventy-six patients were randomly assigned to receive PEG, NaP, or sennoside A-B calcium for bowel preparation. Venous blood samples were collected before and after bowel preparation, and sigmoid colon mucosal biopsy specimens were obtained during colonoscopy. Serum levels of white blood cell count (WBC), C-reactive protein (CRP), total antioxidant status (TAS), total oxidant status (TOS), oxidative stress index (OSI), and IL-6 were measured. In tissue samples, TAS, TOS, and OSI levels were analyzed. All measurements were performed using ELISA and spectrophotometric methods. Statistical analyses were conducted using SPSS software, and changes in serum parameters were expressed as delta (Δ) values.

Results: No statistically significant differences were observed among the groups regarding serum delta values of IL-6, TAS, TOS, or OSI ($p>0.05$). A statistically significant difference was detected in TOS levels of sigmoid colon mucosal tissue among the bowel preparation agents ($p=0.043$); however, this difference did not remain significant in subgroup analyses. The most notable difference was observed between the NaP and sennoside A-B calcium groups, with higher tissue TOS levels in the NaP group. No significant correlations were found between serum inflammatory markers and oxidative stress parameters.

Conclusion: Short-term use of PEG, NaP, and sennoside A-B calcium does not appear to induce a significant systemic oxidative stress or pro-inflammatory response. Although a difference in mucosal TOS levels was observed among the agents, but this finding was not observed in subgroup analyses. Overall, the results indicate that these agents have comparable short-term safety profiles; nevertheless, the potential biochemical effects of bowel preparation solutions should be taken into consideration.

Keywords: Bowel preparation, oxidative stress, polyethylene glycol, sodium phosphate, sennoside A-B calcium

Table 1. Tissue OSI, TAS, and TOS values according to bowel preparation solutions

	Polietilen Glikol 3350 n=29 (38, 2 %) Ort. ±ss. Medyan (min-maks)	Monobazik Sodyum Fosfat n=23 (30, 3%) Ort. ±ss. Medyan (min-maks)	Sennozit A-B Kalsiyum n=24 (31, 5%) Ort. ±ss. Medyan (min-maks)	p değeri
OSI Arbitrary unit A. U (Doku)	7, 75 ± 4, 638 7, 56 (0, 616 - 17, 59)	7, 80 ± 5, 00 6, 94 (1, 06 - 21, 74)	7, 816 ± 5, 57 6, 762 (0, 07 - 25, 65)	0, 969
TAS mmol Askorbik asit Equiv /L (Doku)	0, 796± 1, 080 0, 465 (0, 165 - 4, 62)	0, 853± 0, 994 0, 474 (0, 23- 4, 48)	0, 75± 0, 836 0, 468 (0, 147 - 4, 12)	0, 845
TOS umol H2O2 Equiv /L (Doku)	3, 55± 1, 51 3, 43 (1, 17- 10, 4)	3, 82± 1, 09 3, 78 (1, 56- 6, 57)	3, 44± 1, 58 3, 27 (0, 105 - 9, 88)	0, 043

Table showing the distribution and comparison of OSI, TAS, and TOS values measured in sigmoid colon mucosal tissue samples according to solution groups.

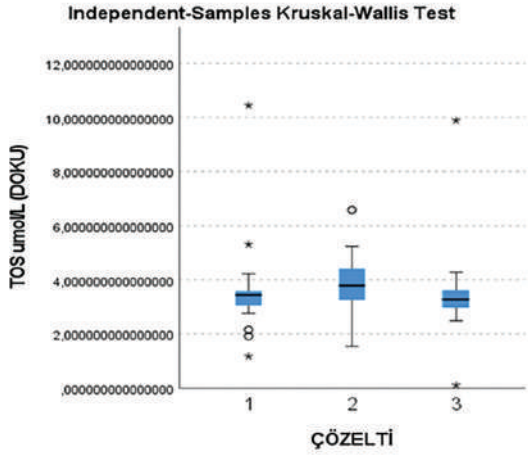

Figure 1. Comparison of sigmoid colon mucosal TOS values.

Figure showing the distribution and comparison of total oxidant status (TOS) values measured in sigmoid colon mucosal tissue samples obtained during colonoscopy according to solution groups.

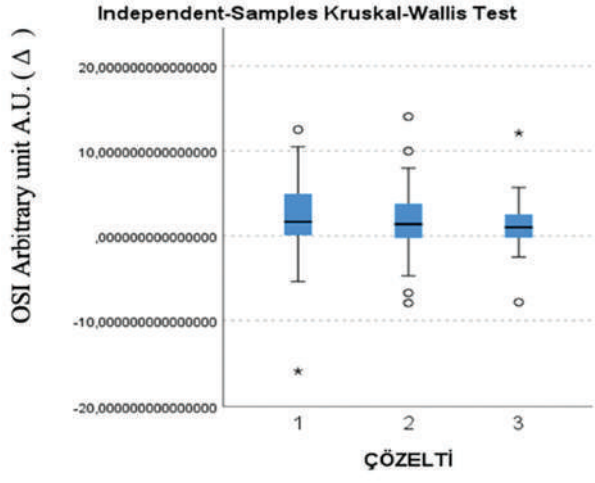

Figure 2. Comparison of serum OSI (Δ) values.

Figure showing the distribution and comparison of serum oxidative stress index OSI (Δ) values according to solution groups.

Figure showing the statistical distribution and comparison of IL-6 (Δ), OSI (Δ), TAS (Δ), and TOS (Δ) values according to solution groups.

	Polietilen Glikol 3350 n=29 (38, 2 %)		Monobazik Sodyum Fosfat n=23 (30, 3%)		Sennozit A-B Kalsiyum n=24 (31, 5%)		p değeri
	Ort. ±ss	Medyan (min-maks)	Ort. ±ss	Medyan (min-maks)	Ort. ±ss	Medyan (min-maks	
IL-6 ng/L (Δ)	-7, 8. ±40, 38	-1, 455 (-144, 25 – 42)	-35, 9. ±81, 7	-8, 6 (-318, 5 - 16, 6)	-5, 93. ± 34	-1, 85 (-88, 5-106, 9)	0, 303
OSI Arbitrary unit A. U (Δ)	2. 21 ± 5, 49	1, 61 (-15, 98 - 12, 4)	1, 69± 4, 973	1, 33 (-7, 94 - 14)	1, 36± 3, 5	0, 977 (-7, 85 - 12, 06)	0, 724
TAS mmol Askorbik asit Equiv /L (Δ)	0, 31± 0, 27	0, 28 (-0, 05- 1, 17)	0, 387 ± 0, 238	0, 335 (0, 03 - 0, 985)	0, 41± 0, 32	0, 361 (-0, 144 - 1, 1)	0, 225
TOS mmol Askorbik asit Equiv /L (Δ)	4, 48± 6, 39	2, 605 (-5, 27- 21, 709)	4, 36± 8, 32	2, 48 (-9, 47-22, 05)	2, 91± 4, 77	1, 756 (-4, 26 -18, 465)	0, 759

Figure showing the statistical distribution and comparison of IL-6 (Δ), OSI (Δ), TAS (Δ), and TOS (Δ) values according to solution groups.

[S-126]

Comparison of sennoside, sodium phosphate, and polyethylene glycol use in pre-colonoscopy colon cleansing: A multicenter experience

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Objective: Colonoscopy is a procedure in which the entire large intestine is examined via a monitor using a flexible fiberoptic camera inserted through the anus. Today, colonoscopy is widely used as both a diagnostic and therapeutic method for large intestine diseases. For the procedure to be performed effectively, preparations must begin at least 24 hours prior. Sennoside-containing laxatives, polyethylene glycol, and oral sodium phosphate are methods used for bowel cleansing. In this multicenter retrospective study, we aimed to find the most suitable and patient-acceptable method for bowel cleansing.

Material and Methods: Patients aged 18-90 years who underwent elective colonoscopy at the General Surgery Endoscopy Unit of Afyonkarahisar Health Sciences University and the Endoscopy Unit of Afyonkarahisar State Hospital between December 15, 2023, and March 15, 2024, were included in the study. Exclusion criteria included: patients who had previously undergone gastrointestinal surgery, patients who had received or were currently receiving oncological treatment, patients with serious cardiac comorbidities, patients with uncontrolled diabetes mellitus, and patients with chronic renal failure. A total of 219 patients were included in the study. Adequate bowel preparation was assessed by the endoscopist using the Boston bowel readiness scale (BBPS).

Results: A total of 219 patients were included in the study. Fifty-one patients were in group 1 using polyethylene glycol, 87 patients were in group 2 using sodium phosphate, and 81 patients were in group 3 using sennoside. There was no statistically significant difference in the total BBPS score for colon cleansing in all three groups. Abdominal pain during bowel cleansing was observed in 30 patients (37%) in group 3, 9 patients (17.6%) in group 1, and 16 patients (18.4%) in group 2. Sixty-eight patients (84%) in group 3, 53 patients (60.9%) in group 2, and 31 patients (60.8%) in group 1 stated that they could perform bowel cleansing again with the same medications.

Conclusion: Effective bowel cleansing is the most important factor for an optimal colonoscopy procedure. In our study, no difference was observed in BBPS scores across all colon segments, and sennoside tablets were shown to be as effective as other solutions in bowel cleansing. A study by Savit et al. found that the effectiveness of sennoside tablets in bowel cleansing was less than that of NaP solution. This may be due to the assignment of the lowest possible value to the groups for missing data, or it may be because a higher dose of sennoside tablets was used in our study.

Keywords: Colonoscopy, colon cleansing

[S-127]

Precision and diagnostic power in endoscopy: An experience of 7.593 patients

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Objective: Endoscopic biopsy is a gold-standard method for diagnosing gastrointestinal system diseases. The biopsy rate, histopathological distribution, and malignancy detection capacity of endoscopies performed in our clinic serve as critical metrics for evaluating diagnostic reliability and public health implications. This study retrospectively analyzes endoscopy results obtained from an extensive patient series.

Material and Methods: A total of 7,593 patients who underwent endoscopy at the University of Health Sciences Türkiye, Ankara Etlik City Hospital, Department of General Surgery between October 2022 and October 2025 were evaluated. Patient demographics, biopsy rates, and histopathological diagnoses were recorded. Findings were summarized using frequencies and percentages.

Results: The mean age of the participants was 51.3 ± 14.6 years, with a median age of 52. Of the cases, 36.7% (n=2.786) were male and 63.3% (n=4.807) were female (Table 1). Biopsies were performed in 97.5% (n=7.402) of all patients (Table 2). Histopathological examination showed no neoplasia in 98.6% of the cases. The rate of lesions that were malignant or possessed malignant potential was 1.1%. Adenocarcinoma was the most common malignancy (0.7%); additionally, rare tumors such as carcinoid tumors (0.15%), signet ring cell adenocarcinoma (0.08%), and gastrinoma were identified (Table 3).

Conclusion: The exceptionally high biopsy rate of 97.5% in this extensive series demonstrates our clinic's systematic and meticulous approach to endoscopic diagnosis. Although the overall malignancy rate was low, the identification of adenocarcinoma as the most frequent histological type is consistent with the literature. Furthermore, the detection of rare tumors—including carcinoid tumors, signet ring cell adenocarcinoma, and gastrinoma—underscores the importance of large-scale endoscopic biopsy applications in early malignancy detection and their contribution to public health. These results provide robust data supporting both the diagnostic reliability and the scientific value of our clinical practice.

Keywords: Biopsy, clinical experience, endoscopy, gastrointestinal system tumors, histopathology

Table 1. Demographic characteristics

Özellik	Değer	Yüzde (%)
Yaş ortalaması	51,3 ± 14,6	-
Ortanca yaş	52	-
Erkek	2786	36,7
Kadın	4807	63,3
Toplam	7593	100

Table 2. Biopsy implementation rate

	Sayı	Yüzde (%)
Biyopsi alınan	7402	97,5
Biyopsi alınmayan	191	2,5
Toplam	7593	100

Table 3. Histopathology results

Histopatoloji	Sayı	Yüzde (%)
Neoplazma rastlanmamıştır	7297	98,6
Adenokarsinom (tüm tipler)	50	0,7
Karsinoid tümör	11	0,15
Malign neoplazi (tip belirtilmemiş)	14	0,19
Taşlı yüzük hücreli adenokarsinom	6	0,08
Atipik karsinoid tümör	3	0,04
Gastrinoma	1	0,01
GIST (malignite potansiyeli belirsiz)	1	0,01
Skuamoz hücreli karsinom	1	0,01
Skuamoz intraepitelyal düşük dereceli neoplazi	1	0,01
Benign neoplazi	3	0,04
Tübüler adenom	3	0,04
İntestinal tip adenom	2	0,02
Glandüler displazi (yüksek derece)	3	0,04
Neoplazi belirsiz	10	0,13
Toplam	7402	100

[S-128]

Polyp detection rate in follow-up colonoscopy after acute diverticulitis and evaluation of clinical-laboratory findings: A single-center retrospective study

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Objective: Screening the colon for neoplasia following an episode of acute diverticulitis is a standard approach in clinical practice, the necessity of this procedure is currently debated in updated guidelines, particularly for uncomplicated cases. Aim of this study is to evaluate follow-up colonoscopy findings in patients followed up with a diagnosis of acute diverticulitis and to investigate clinical and laboratory parameters that may predict the presence of polyps.

Material and Methods: Patients who underwent a CT-confirmed acute diverticulitis between 2015 and 2025 were retrospectively analyzed. Patients aged ≥18 years who underwent follow-up colonoscopy were included in the study. Those with a history of complete colonoscopy within the two years preceding admission, those who had undergone prior endoscopic polypectomy, and those with diagnosis of inflammatory bowel disease were excluded. Patients were divided two groups: Those with polyps/adenomas detected during follow-up colonoscopy (n=15) and those with no pathology other than diverticula (n=123). Demographic characteristics, diverticulitis location, modified-Hinchey classification, complicated/uncomplicated distinction, CT-colonoscopy interval, and laboratory parameters at the time of the acute attack (WBC, neutrophil, lymphocyte, hemoglobin, platelet) were recorded. P-value of <0.05 was considered significant in statistical analyses.

Results: Demographic and clinical spectrum of the study cohort (n=138), no colorectal malignancy was detected in follow-up colonoscopies, while the prevalence of premalignant lesions (polyps/adenomas) was observed to be 10.9% (n=15). Comparative analysis between groups, demographic data such as age (p=0.262), gender, and anatomical location didn't demonstrate a statistically determining effect on the presence of polyps. Regarding clinical staging, notable finding was that all neoplastic formations were clustered in the uncomplicated (Hinchey 1a) group (p=0.063). When the predictive value of inflammatory markers was examined, WBC, hemoglobin, and platelet levels exhibited a similar distribution in both groups. It was confirmed that systemic inflammatory indices frequently discussed in literature, such as the neutrophil-lymphocyte ratio (NLR) and platelet-lymphocyte ratio (PLR), did not reach statistical significance in predicting pathological findings in follow-up colonoscopy (p=0.120 and p=0.575).

Conclusion: Our ten-year data indicate that the risk of colorectal cancer is considerably low in patients with acute diverticulitis whose radiological diagnosis has been confirmed by CT. Furthermore, inflammatory markers such as NLR and PLR at the time of the acute attack weren't found to have clinical determinacy in predicting the presence of polyps in the long term. These findings support the view that routine follow-up colonoscopy can be planned with a selective approach within existing screening programs, particularly in young patients and those without additional risk factors.

Keywords: Acute diverticulitis, follow-up colonoscopy, polyp

Table 1. Comparison of laboratory parameters between groups

Parameter	All patients (n=138)	Polyp detected (n=15)	Diverticula (n=123)	p
WBC	11.3 (9.7-14.3)	10.4	11.4	77
Neutrophil	8.1 (6.5-10.1)	6.5	8.3	37
Lymphocyte	1.9 (1.5-2.7)	2.1	1.9	858
Hemoglobin	13.2 (12.0-14.3)	12.1	13.4	85
Platelet	264.5 (220.0-315.8)	263	268	246
NLR	3.88 (2.88-5.88)	3.67	4.22	120
PLR	123.3 (96.3-175.8)	119.0	125.4	575

Table 2. Demographic and clinical characteristics of patients with acute diverticulitis

Variable	All patients (n=138)	Polyp detected (n=15)	Diverticula (n=123)	p
Age (years) (mean ± SD)	54.4±15.1	58.7±16.0	53.9±14.9	262
Age groups n (%)				
<50 years	56 (40.6)	4 (26.7)	52 (42.3)	377
≥50 years	82 (59.4)	11 (73.3)	71 (57.7)	
Age groups n (%)				
<40 years	22 (15.9)	1 (6.7)	21 (17.1)	505
≥40 years	116 (84.1)	14 (93.3)	102 (82.9)	
Age groups n (%)				
<65 years	104 (75.4)	9 (60.0)	95 (77.2)	610
≥65 years	34 (24.6)	6 (40.0)	28 (22.8)	
Gender n (%)				
Female	74 (53.6)	8 (53.3)	66 (53.7)	1.000
Male	64 (46.4)	7 (46.7)	57 (46.3)	
Location n (%)				
Right colon	17 (12.3)	2 (13.3)	15 (12.2)	1.000
Left colon	121 (87.7)	13 (86.7)	108 (87.8)	
Hinchey classification n (%)				
1a	115 (83.3)	15 (100)	100 (81.3)	0.211*
1b	3 (2.2)	0 (0)	3 (2.4)	
2	20 (14.5)	0 (0)	20 (16.3)	
Diverticulitis groups n (%)				
Uncomplicated	115 (83.3)	15 (100)	100 (81.3)	0.063**
Complicated	23 (16.7)	0 (0)	23 (18.7)	
Comorbidity n (%)				
Absent	84 (60.9)	6 (40.0)	78 (63.4)	0.091**
Present	54 (39.1)	9 (60.0)	45 (36.6)	
Time to colonoscopy (months) median (IQR)	3.0 (2.0-3.0)	2.0 (1.5-3.0)	3.0 (2.0-3.0)	182

[S-129]

Clinical management of ERCP-related perforations: A 10-year high-volume single-center experience

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Objective: ERCP-related perforations are serious complications that require early diagnosis and appropriate treatment strategies due to their high morbidity and mortality risk despite their low incidence. The aim of this study was to evaluate the clinical characteristics, management approaches, and outcomes of perforations occurring after ERCP based on a 10-year single-center experience.

Material and Methods: In this retrospective single-center study, a total of 4,480 ERCP procedures performed at the Marmara University Faculty of Medicine, Department of General Surgery between January 1, 2016 and January 1, 2026 were reviewed. Patients aged ≥18 years who developed perforation after ERCP were included in the study. Perforations were categorized according to the Stapfer classification. Demographic characteristics, time to diagnosis, treatment modalities applied, and clinical outcomes were analyzed.

Results: Among a total of 4.480 ERCP procedures, 11 perforations were identified (incidence: 0.25%). The mean age of the patients was 61.9±18.4 years, and 54.5% were female. According to the Stapfer classification, perforations were distributed as type I in 1 patient (9.1%), type II in 1 patient (9.1%), and type IV in 9 patients (81.8%). Perforation was diagnosed within the first 6 hours in 63.6% of cases. The treatment strategy was planned based on perforation type and clinical follow-up; 72.7% of patients were managed conservatively, 9.1% underwent percutaneous interventions, and 18.2% required operative management. Surgical intervention was limited to high-grade perforations, whereas low-grade perforations were mostly treated successfully with conservative management. The median length of hospital stay was 7 days (IQR: 3.5-9), and the 30-day mortality rate in the perforation group was 9.1%.

Conclusion: Our high-volume center experience demonstrates that the majority of ERCP-related perforations are low-grade and that a type-based management approach allows a substantial proportion of patients to be safely treated without surgical intervention. Early diagnosis, close clinical monitoring, and individualized treatment planning are key determinants in improving clinical outcomes.

Keywords: ERCP, perforation, stapfer

Table 1. Baseline characteristics and procedure-related parameters

Total number of ERCP procedures	4480
Number of perforations (n)	11
Perforation incidence (%)	0.25
Mean age (years)	61.9±18.4
Female sex, n (%)	6 (54.5)
Diagnosis within first 6 hours, n (%)	7 (63.6)
Precut, n (%)	7 (63.6)
Sphincterotomy, n (%)	8 (72.7)

Table 2. Management according to the stapfer classification

Stapfer type (n, %)	Conservative	Endoscopic	Percutaneous	Surgical	Total
Type I (1, 9%)	0	0	0	1	1
Type II (1, 9%)	0	0	0	1	1
Type III (0, 0%)	0	0	0	0	0
Type IV (9, 82%)	8	0	1	0	9
Total	8	0	1	2	11

[S-130]

Complications and surgical marginal difference in lesions treated with endoscopic mucosal resection (EMR) and its relationship with lesion size: A retrospective review

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Objective: Endoscopic resection techniques are minimally invasive methods developed as alternatives to surgery in the treatment of early-stage intramucosal neoplasms and submucosal lesions of the gastrointestinal (GI) tract. Among these techniques, endoscopic mucosal resection (EMR) is widely used for the removal of granular, flat, and sessile polypoid lesions. The aim of this study was to statistically evaluate the potential effect of lesion size on the development of intraprocedural complications (bleeding/bleeding risk control) and surgical margin status in patients undergoing EMR.

Material and Methods: A total of 39 cases with colon–rectum–localized lesions resected using the EMR technique in our clinic were retrospectively analyzed. The variables examined included tumor size, presence of intraprocedural complications (absent/present), and surgical margin status (negative/positive). In addition, Paris classification and histopathological diagnoses of the lesions were evaluated. For statistical analysis, differences in the mean rank of tumor size according to the presence of complications were analyzed using the Mann-Whitney U test. Mean tumor size values between groups were also compared using the Independent Samples t-test. Differences in the mean rank of tumor size according to surgical margin status were analyzed using the Mann-Whitney U test. Frequencies and cross-tabulations were used for Paris classification and histopathological diagnoses.

Results: According to the Paris classification, most lesions were type 1s, and adenomatous lesions constituted the majority of histopathological diagnoses. Lesions with intraprocedural complications had significantly larger tumor sizes than those without complications, as confirmed by both rank-based and parametric analyses (p=0.006). In contrast, lesion size was not significantly associated with surgical margin status.

Conclusion: This retrospective analysis indicates that lesion size in EMR is associated with intraprocedural complications and the need for additional endoscopic interventions, with larger lesions carrying a higher complication risk. However, lesion size was not significantly related to surgical margin positivity, suggesting that complete resection can be achieved regardless of lesion size when appropriate techniques are used by experienced endoscopists. Overall, EMR is a safe and effective alternative to surgery for early-stage gastrointestinal lesions, although increased caution is warranted in larger lesions.

Keywords: EMR, colonoscopy, colon cancer

[S-131]

Endoscopic evaluation and pathologic outcomes in patients with FDG uptake in the gastrointestinal tract on PET/CT: Analysis of 152 cases

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Objective: FDG uptake throughout the gastrointestinal (GI) tract on PET/CT is a common finding in clinical practice. Such uptake may reflect physiologic activity or inflammatory/benign processes, but it can also indicate concomitant premalignant or malignant pathology. In particular, varying uptake patterns (focal, diffuse, segmental) and heterogeneous SUV_{max} values may complicate decision-making regarding the need for endoscopic evaluation. The aim of this study was to characterize uptake patterns and anatomic distribution in patients with GI FDG uptake on PET/CT who underwent endoscopic assessment and to determine the malignancy rate based on histopathologic results.

Material and Methods: A retrospective analysis was performed of 152 patients who demonstrated GI FDG uptake on PET/CT and subsequently underwent endoscopic evaluation. Demographic characteristics (age, sex), type of endoscopy performed (upper GI endoscopy and/or colonoscopy), PET/CT uptake pattern (focal/diffuse/segmental), anatomic distribution of uptake, SUV_{max} values, and endoscopic biopsy/histopathologic findings were recorded.

Results: The mean age was 60.1±11.2 years, and 51.3% of patients were female. Upper GI endoscopy was performed in 65.1% and colonoscopy in 52.6% of patients. On PET/CT, the FDG uptake pattern was focal in 41.4%, diffuse in 40.1%, and segmental in 18.4%. The mean SUV_{max} was 7.22±4.55. Regarding anatomic distribution, uptake was most frequently observed in the stomach (81.6%), followed by the colon (45.4%) and the rectum/rectosigmoid (9.2%) (ileum 2.0%, esophagus 1.3%, duodenum 1.3%). Histopathologic evaluation revealed malignancy in 5 patients (3.3%), whereas benign/normal findings were observed in 147 patients (96.7%).

Conclusion: In patients with GI FDG uptake on PET/CT who underwent endoscopic evaluation, the malignancy rate was low (3.3%). The predominance of gastric involvement and the heterogeneity of uptake patterns support interpreting PET/CT findings in the context of the overall clinical picture and individualizing endoscopic indication based on symptoms, risk profile, and uptake characteristics.

Keywords: FDG uptake, gastrointestinal tract, malignancy

Table 1. Clinical, primary disease, imaging, and pathological characteristics of patients with gastrointestinal FDG uptake on PET/CT who underwent endoscopic evaluation (n=152)

Variable	Value
Age, years	60.1 ± 11.2
Sex	
Female	78 (51.3%)
Male	74 (48.7%)
Endoscopic procedures	
Gastroscopy performed	99 (65.1%)
Colonoscopy performed	80 (52.6%)
At least one endoscopic procedure performed	152 (100%)
Pattern of gastrointestinal uptake on PET/CT	
Focal	63 (41.4%)
Diffuse	61 (40.1%)
Segmental	28 (18.4%)
Anatomical location of gastrointestinal uptake on PET/CT*	
Stomach	124 (81.6%)
Colon	69 (45.4%)
Rectum / rectosigmoid	14 (9.2%)
Ileum	3 (2.0%)
Esophagus	2 (1.3%)
Duodenum	2 (1.3%)
Other	3 (2.0%)
Pathological results	
Malignant pathology	5 (3.3%)
Non-malignant / benign / normal findings	147 (96.7%)
SUV_{max}	7.22 ± 4.55
Primary disease	n (%)
Breast cancer	34 (22.4%)
Lung cancer (lung carcinoma + lung nodule)	20 (13.2%)
Lymphoma (all subtypes) (DLBCL, Hodgkin lymphoma, and others)	9 (5.9%)
Renal cell carcinoma (RCC) (rcc + RCC)	7 (4.6%)
Multiple myeloma	6 (3.9%)
Cervical cancer	5 (3.3%)
Bladder cancer	5 (3.3%)
Endometrial cancer	4 (2.6%)
Plasmacytoma	3 (2.0%)
Ovarian cancer	3 (2.0%)
Laryngeal cancer	2 (1.3%)
Unknown primary / evaluation for primary focus	1 (0.7%)
Other	43 (28.3%)
Total	152 (100%)

Table 2. Clinical, PET/CT, and histopathological characteristics of cases with malignant pathology detected on endoscopic evaluation (n=5)

Primary disease	Site of uptake on PET/CT	SUV_{max}	Histopathological diagnosis
Unknown primary/ evaluation for primary focus	Stomach (fundus + corpus)	2.00	Signet ring cell carcinoma
Lung cancer	Stomach (fundus)	3.50	Gastrointestinal metastasis of the primary malignancy
Breast cancer	Sigmoid colon	10.00	Adenocarcinoma
Breast cancer	Stomach (fundus + corpus)	5.90	Gastrointestinal metastasis of the primary malignancy
Bladder cancer	Duodenum (2nd portion)	17.80	Carcinoma

[S-132]

Accuracy of preoperative tumor localization in colorectal cancer: Comparison of colonoscopy and computed tomography with surgical localization

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Objective: Surgical treatment of colorectal cancer depends on oncologically appropriate resection and adequate surgical margins. Accurate preoperative localization of the tumor using colonoscopy and computed tomography (CT) plays a crucial role in surgical planning. Evaluating the concordance between preoperative imaging and intraoperative findings is essential to assess the reliability of localization methods. This study aimed to compare tumor localization reported by preoperative colonoscopy and CT with intraoperative findings in patients undergoing surgery for colorectal cancer.

Material and Methods: This retrospective study included patients who underwent surgery for colorectal cancer between 2020 and 2025 at Marmara University Faculty of Medicine, Department of General Surgery. Tumor localization reported by preoperative colonoscopy and CT was compared with intraoperative findings, which were accepted as the gold standard. Concordance rates were analyzed both segmentally and according to right-left colon classification. Statistical analysis was performed using the chi-square test, and $p<0.05$ was considered statistically significant.

Results: The mean age of the patients was 63.7 years, with a balanced gender distribution (51.9% male), and the mean body mass index was 26.7 kg/m². Bowel preparation was adequate in 80% of patients (n=789). Colonoscopic findings from 786 patients and CT findings from 730 patients were compared with intraoperative localization.Overall concordance between colonoscopy and surgical localization was 75.2% (591/786), while concordance between CT and surgical localization was 80.1% (585/730) ($p<0.001$ for both). Segmental analysis demonstrated the highest concordance in rectal tumors (colonoscopy: 90.9%; CT: 91.9%). The lowest concordance for colonoscopy was observed in the descending colon (37.0%). In both modalities, splenic and hepatic flexures, as well as ascending and descending colon segments, showed lower concordance rates compared to other segments. According to right-left colon classification, left-to-left concordance for colonoscopy was 98.5%, and right-to-right concordance was 91.8%, both statistically significant ($p<0.001$).

Conclusion: Previous studies have reported colonoscopic localization accuracy rates ranging from 70% to 90%, with higher error rates in the right colon. Our findings are consistent with the literature and emphasize the importance of careful evaluation, particularly in flexural regions and ascending-descending colon segments. When necessary, additional localization methods should be considered to optimize surgical planning.

Keywords: Colonoscopy, colon cancer, tomography

[S-133]

Findings, histopathology, and *Helicobacter pylori* prevalence in upper gastrointestinal endoscopy: A single-center retrospective epidemiological analysis

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Objective: To determine the distribution of endoscopic findings and histopathological diagnoses in upper gastrointestinal endoscopies (EGD), the rate of *Helicobacter pylori* (*H. pylori*) positivity, and the subtypes of polyps and malignancies.

Material and Methods: EGD procedures performed at a single center between 02.01.2020 and 30.10.2025 were retrospectively analyzed in a cross-sectional manner. Demographic data, endoscopy report findings, and biopsy pathology reports were evaluated. Results were presented as n (%). Polyps were subgrouped according to histopathology; malignancies were classified into subtypes, and the presence of neuroendocrine tumors (NETs) was assessed.

Results: A total of 11,258 EGDs (unique patients: 10.567) were analyzed; 60.0% of the cases were female. The mean age was 50.7±14.4 years, with a median of 51 (41-61). The most frequent findings in endoscopy reports were gastritis 36.2% (n=4.078), antral gastritis 28.0% (n=3.155), pangastritis 10.8% (n=1.219), duodenitis/bulbitis 8.8% (n=989), and ulcer 8.7% (n=975). Polyps were reported in 3.8% of cases (n=430). Pathology reports were available for 11.242 cases. Histopathological evaluation revealed chronic gastritis in 90.0% (n=10.119), active gastritis in 61.5% (n=6.913), intestinal metaplasia in 7.6% (n=854), atrophy in 6.8% (n=765), and dysplasia in 1.4% (n=157). *H. pylori* positivity was 59.4% (n=6.681). A polyp diagnosis was reported in 648 cases; the most common subtypes were adenomatous polyp/adenoma 56.2% (n=364) and hyperplastic polyp 29.0% (n=188); high-grade dysplasia was observed in 10 adenomas (2.7%). Malignancy was detected in 337 cases (3.0%), most frequently adenocarcinoma (n=162) and squamous cell carcinoma (n=85).

Conclusion: In this large single-center series, the spectrum of gastritis and the *H. pylori* burden were prominent. Premalignant changes and adenomatous polyps were observed at a notable frequency; these findings support the importance of a standardized biopsy approach and *H. pylori* eradication strategies.

Keywords: Gastritis, *Helicobacter pylori*, gastric polyp

[S-134]

Clinical benefit of upper gastrointestinal endoscopy in patients with a positive fecal occult blood test

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Objective: Fecal occult blood testing (FOBT) is widely used for colorectal cancer screening worldwide. In our country, FOBT is performed biennially in individuals aged 50-70 years within the national colorectal cancer screening program. Colonoscopy is recommended for patients with a positive FOBT; however, the necessity of adding upper gastrointestinal endoscopy remains controversial. We retrospectively analyzed endoscopy and colonoscopy procedures performed in our clinic between January 2024 and November 2025 to evaluate whether upper gastrointestinal investigation is required in FOBT-positive patients with no abnormal colorectal findings.

Material and Methods: Endoscopy and colonoscopy procedures performed in our clinic between January 2024 and November 2024 were reviewed. A total of 1.280 patients who underwent procedures during this period were included in the study. Patients were divided into two groups according to the indication for the procedure: those who underwent the procedure due to a positive fecal occult blood test (FOBT) (n=276) and those who underwent the procedure for other complaints or indications (n=1.004). The primary outcome measures of the study were the detection rates of colorectal cancer and upper gastrointestinal tract cancer. Pearson's chi-square test was used for intergroup comparisons of proportions; Fisher's exact test was applied when the expected cell count was <5. To assess the association between FOBT positivity and cancer detection, odds ratios (ORs) with 95% confidence intervals (CIs) were calculated. A p-value <0.05 was considered statistically significant.

Results: Colorectal cancer was detected in 23 of 276 patients (8.3%) in the FOBT-positive group and in 55 of 1.004 patients (5.5%) in the other-indications group. The detection rate was significantly higher in the FOBT-positive group (p=0.04), and FOBT positivity was associated with increased colorectal cancer detection (OR =1.57, 95% CI: 0.94–2.61) (Table 1). Gastric cancer was identified in 3 patients (1.1%) in the FOBT-positive group and in 20 patients (2.0%) in the other-indications group. No significant difference was observed between the groups (p=0.27), and FOBT positivity was not associated with gastric cancer detection (OR =0.54, 95% CI: 0.16-1.84) (Table 2).

Conclusion: Our findings confirm FOBT as an effective screening tool for colorectal cancer but demonstrate no significant association with upper gastrointestinal malignancies, indicating limited predictive value. Routine upper gastrointestinal endoscopy may not be necessary in all FOBT-positive patients; instead, evaluation should be individualized based on symptoms and risk factors.

Keywords: Fecal occult blood test, colorectal neoplasms, gastroscopy/upper gastrointestinal endoscopy, colonoscopy, screening

Table 1. Detection of colorectal cancer according to FOBT status

	Colorectal cancer (+)	Colorectal cancer (-)	Total	p-value	OR (95% CI)
FOBT positive (FOBT +)	23 (8.3%)	253 (91.7%)	276		
Other indications	55 (5.5%)	949 (94.5%)	1004	0.04*	1.57 (0.94-2.61)

*: Pearson chi-square test.

Table 2. Detection of upper gastrointestinal tract cancer according to FOBT status

	Upper GI cancer (+)	Upper GI cancer (-)	Total	p-value	OR (95% CI)
FOBT positive (FOBT +)	3 (1.1%)	273 (98.9%)	276		
Other indications	20 (2.0%)	984 (98.0%)	1004	0.27*	0.54 (0.16-1.84)

*: Fisher's exact test.

[S-135]

The effectiveness of needle-knife fistulotomy, papillotomy, and transpancreatic sphincterotomy in elderly patients with difficult papilla cannulation during ERCP

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Objective: Endoscopic retrograde cholangiopancreatography (ERCP) is the primary treatment approach for disorders affecting the pancreatobiliary tree, including gallstone removal and resolution of benign and malignant biliary tract obstruction. Of all basic endoscopic methods, ERCP carries the highest risk of complications and mortality. The European Society for Gastrointestinal Endoscopy (ESGE) defines difficult cannulation as cannulation time >5 minutes, contact with the papilla >5 times, or accidental cannulation into the pancreatic duct ≥1 time (the so-called "5-5-1" rule). Associated comorbidities and gallstone rates may increase with age. The aim of this study was to compare the effects of needle-knife fistulotomy (group 1, n=38), papillotomy (group 2, n=22), and transpancreatic sphincterotomy (group 3, n=22) in elderly patients with difficult cannulation during ERCP.

Material and Methods: ERCP procedures performed in our surgical endoscopy unit between January 2024 and February 2026 were retrospectively reviewed. Our study included patients over 65 years of age, procedures where selective papillary cannulation was not possible, and cases undergoing needle-knife fistulotomy, papillotomy, and transpancreatic sphincterotomy. Patients who underwent needle-knife fistulotomy, papillotomy, and transpancreatic sphincterotomy but could not be cannulated in the first session (29 patients) were included in the second session (96 hours to 1 week later). Since selective cannulation was performed in these patients in the second session, it was considered a continuation of the procedure.

Results: A total of 82 out of 602 ERCP procedures performed in the surgical endoscopy unit were included in the study. In the evaluation of the groups, there were no statistically significant differences between age, gender, body mass index, comorbidities, diagnosis, follow-up, preoperative AST, ALT, GGT, total bilirubin levels, and MRCP imaging ($p<0.05$). The non-cannulation rate was 11%. There were no statistically significant differences in non-cannulation, diverticulum, papilla types, rectal indomethacin, and minor papillae in the study ($p>0.05$). There was a statistically significant difference between group 3 and the other groups in terms of double-guide wire and pancreatic stent placement during ERCP ($p<0.001$) (Table 1). There was no statistically significant difference in the overall number of complications ($p>0.05$). In subanalysis, the rate of pancreatitis was higher in group 3, and a significant difference was observed ($p=0.046$). Perforation was present in one patient; due to Stapher type 4 (Table 2).

Conclusion: In elderly patients where papilla cannulation is difficult during ERCP, needle-knife fistulotomy, papillotomy, and transpancreatic sphincterotomy techniques can increase the success rate of cannulation with tolerable complication rates.

Keywords: Endoscopic retrograde cholangiopancreatography (ERCP), needle-knife fistulotomy, papillotomy and transpancreatic sphincterotomy, difficult cannulation

Table 1. Clinical and laboratory characteristics of the patients

	Total	Needle-knife sphincterotomy (Group 1, n=38)	Papillotomy (Group 2, n=22)	Transpancreatic sphincterotomy (Group 3, n=22)	p-value
Age	77.1 (7.2)	77.3 (7.1)	76.7 (8.7)	77 (5.9)	0.952
Sex (female/male)	51/31	19/19	18/4	14/8	0.052
BMI	26.2 (4.4)	25.6 (4.5)	27.6 (3.5)	25.7 (5)	0.244
Comorbidity	44 (53%)	23 (28%)	7 (8.5%)	14 (17.1)	0.68
Diagnosis					0.631
Cholangitis	39 (47.5%)	21 (25.6%)	8 (9.8%)	10 (12.2%)	
-Stone	23 (%28)				
-Malignancy	16 (19.5%)				
Choledocholithiasis	24 (29.3%)	8 (9.8%)	8 (9.8%)	8 (9.8%)	
Pancreatic tumor	6 (7.3%)	4 (4.9%)		2 (2.4%)	
Tracking time	5.6 (0.1-27)	6.6 (0.1-27)	5.9 (1.7-20.3)	5.3 (1-18.9)	0.947
AST	42.5 (106)	56.5 (11-557)	28 (14-315)	44.5 (15-325)	0.130
ALT	62 (152)	77.5 (5-1040)	26 (10-247)	97 (11-315)	0.142
ALP	173 (350)	292 (45-1600)	86 (14-446)	213 (46-1609)	0.01
GGT	337(341)	398 (387)	213 (247)	349 (322)	0.137
Total bilirubin	1.5 (0.3-44.5)	2.9 (0.3-44.5)	0.71 (0.31-20.5)	1.97 (0.37-3.02)	0.075
Direct bilirubin	0.69 (0.05-24.5	1.65 (0.13-24.5)	0.26 (0.5-12.2)	0.68 (0.5-15.8)	0.007

Table 2. Complications					
	Total	**Needle-knife fistulotomy (Group 1)**	**Papillotomy (Group 2)**	**Transpancreatic sphincterotomy (Group 3)**	**p-value**
Preoperative MRCP	80 (98.8%)	38 (46.9%)	22 (27.6%)	20 (24.7%)	0.259
Non-cannulation rate	9 (11%)	3 (3.7%)	4 (4.9%)	2 (2.4%)	0.545
Diverticul	19 (23.1%)	5 (6.1%)	8 (%9.8)	6 (%7.3)	0.118
Papil type	3 (1-4)	3 (1-4)	4 (1-4)	3 (1-4)	0.196
Minor papilla	1 (1.2%)			1 (1.2%)	0.196
Double guide wire	18 (21.9%)	3 (3.7%)	1 (1.2%)	14 (17.1%)	<0.001
Pancreatic stent	9 (11%)			9 (11%)	<0.001
Rectal indometazin	65 (79.2%)	26 (31.7%)	19 (23.1%)	20 (24.3%)	0.111
Complications					0.233
Pancreatitis	22 (26.6%)	9 (11%)	3 (3.7)*	10 (12.2%)*	(0.046)
Perforation	1 (1.2%)	1 (1.2%)			
Mior bleeding	4 (4.9%)	2 (2.4%)	1 (1.2%)	1 (1.2%)	
Cardiac	2 (2.4%)	1 (1.2%)	1 (1.2%)		
Migration	1 (1.2%)	1 (1.2%)			

[S-136]

Association between pancreatic attenuation index and disease severity in post-ercp pancreatitis: A single-center retrospective cohort study

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Objective: Pancreatitis is characterized by inflammation of the pancreas and may follow a mild and self-limited course or be associated with severe systemic complications and mortality. Although the most common causes are biliary stones and alcohol use, endoscopic retrograde cholangiopancreatography (ERCP), which is increasingly used for diagnosis and treatment, has become an important cause of pancreatitis. Post-ERCP pancreatitis occurs in 3-15% of cases and may lead to significant morbidity. In recent years, the parenchymal structure and fat content of the pancreas have been shown to be associated with the development of acute pancreatitis. Decreased pancreatic attenuation on computed tomography (CT) has been linked to pancreatic steatosis and is thought to increase susceptibility to inflammation. In this study, we aimed to evaluate the relationship between the pancreatic attenuation index measured on pre-ERCP CT and the development and severity of post-ERCP pancreatitis.

Material and Methods: In this single-center retrospective cohort study, patients who developed post-ERCP pancreatitis between January 2021 and December 2025 were included. Demographic, clinical, and radiological data were retrospectively obtained from hospital records. The diagnosis of post-ERCP pancreatitis and the severity of pancreatitis were determined according to the Cotton criteria. The pancreatic attenuation index was calculated by dividing the mean Hounsfield unit (HU) values measured from the pancreas and spleen on non-contrast CT images.

Results: A total of 24 patients who developed post-ERCP pancreatitis were evaluated. According to the Cotton criteria, 70.8% of patients were classified as having mild pancreatitis and 29.2% as having moderate-severe pancreatitis. Among procedure-related factors, the only variable significantly associated with pancreatitis severity was difficult cannulation (p=0.03). No significant association was found between pancreatitis severity and precut sphincterotomy, pancreatic duct cannulation, or pancreatic stent placement (p>0.05). In radiological evaluation, the pancreatic attenuation index was compared between mild and moderate-severe pancreatitis groups. The mean PAI was 0.84±0.19 in the mild group and 1.02±0.13 in the moderate-severe group, with no statistically significant difference between the groups (p=0.14).

Conclusion: In this study, the pancreatic attenuation index measured on CT was not significantly associated with disease severity in patients who developed post-ERCP pancreatitis, whereas difficult cannulation was the only factor linked to severity. These findings suggest that procedure-related factors may be more influential than radiological markers of pancreatic fat content in predicting severity. Larger prospective studies are needed to clarify the impact of pancreatic parenchymal characteristics on clinical outcomes.

Keywords: Pancreatic attenuation index, pancreatitis severity, post-ERCP pancreatitis

Table 1. Demographic, clinical, and laboratory characteristics of patients who developed post-ERCP pancreatitis

Variable	Value
Age (years), mean ± SD	47.5±15.2
Body mass index (kg/m²), mean ± SD	26.7±4.9
Sex, n (%)	
Female	19 (79.2%)
Male	5 (20.8%)
Smoking, n (%)	
Yes	4 (16.7%)
No	20 (83.3%)
Alcohol use, n (%)	
Yes	0 (0.0%)
No	24 (100%)
Diabetes mellitus, n (%)	
Yes	1 (4.2%)
No	23 (95.8%)
Hyperlipidemia, n (%)	
Yes	0 (0.0%)
No	24 (100%)
Indication for ERCP, n (%)	
Stone	18 (75.0%)
Other (malignancy, complication management, hydatid cyst)	6 (25.0%)
History of pancreatitis, n (%)	
Yes	2 (8.3%)
No	22 (91.7%)
Previous ERCP history, n (%)	
Yes	3 (14.3%)
No	21 (85.7%)
Pre-ERCP amylase (U/L), median (IQR)	58 (39.0)
Pre-ERCP lipase (U/L), median (IQR)	37 (17.3)
Pre-ERCP CRP (mg/L), median (IQR)	3.5 (15.0)
Pre-ERCP total bilirubin (mg/dL), median (IQR)	0.7 (2.5)
Pre-ERCP direct bilirubin (mg/dL), median (IQR)	0.45 (2.42)

Table 2. Procedural characteristics of ERCP, radiological parameters, and pancreatitis severity

Variable	Value
Difficult cannulation, n (%)	
Yes	6 (25.0%)
No	18 (75.0%)
Precut sphincterotomy, n (%)	
Yes	15 (62.5%)
No	9 (37.5%)
Pancreatic duct cannulation, n (%)	
Yes	2 (8.3%)
No	22 (91.7%)
Stent placement, n (%)	
Yes	7 (29.2%)
No	17 (70.8%)
Balloon sweeping, n (%)	
Yes	19 (79.2%)
No	5 (20.8%)
Severity of pancreatitis, n (%)	
Mild	17 (70.8%)
Moderate/severe	7 (29.2%)
Pancreatic HU, median (IQR)	44 (6.5)
Splenic HU, median (IQR)	47.5 (3.2)
PAI, median (IQR)	0.92 (0.12)
Post-ERCP hemoglobin (g/dL), median (IQR)	12.1 (1.9)
Post-ERCP amylase (U/L), median (IQR)	1346 (2420)
Post-ERCP lipase (U/L), median (IQR)	2097 (3238)
Post-ERCP CRP (mg/L), median (IQR)	36 (70)

[S-137]

Polypectomy rate and characteristics of polyps in upper gastrointestinal system endoscopy: A retrospective study

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Objective: Upper gastrointestinal system (UGIS) polyps are detected infrequently during esophagogastroduodenoscopy (EGD). Data on the prevalence, characteristics, and dysplasia risk of these lesions remain limited compared with colorectal polyps. This study aimed to determine the polypectomy rate of UGIS polyps in our center and to evaluate their clinical, endoscopic, and histopathological features.

Material and Methods: The medical records of 2.095 patients who underwent EGD between January 2022 and January 2024 were retrospectively reviewed. A total of 110 patients (5.3%) with endoscopically detected polyps who underwent polypectomy were included. Demographic, clinical, endoscopic and histopathologic features were analyzed.

Results: The median age was 65 years (range: 33-86), and 64.5% were female. Hyperplastic polyps were the most common type (70.9%). Dysplasia was identified in 5 patients (4.5%), all of whom had adenomatous or hyperplastic polyps. Dysplastic polyps were significantly larger than non-dysplastic polyps (median 10 mm vs. 5 mm, $p<0.001$) and were more frequently associated with intestinal metaplasia ($p<0.001$) and *H. pylori* infection ($p=0.014$). ROC analysis revealed that polyp size strongly predicted the presence of dysplasia (AUC 0.947; 95% CI: 0.891-1.000; $p<0.001$), with an optimal cut-off value of 7.5 mm (sensitivity 100%, specificity 82.9%).

Conclusion: In our cohort, UGIS polyps were detected in approximately 5% of EGDs, and most were benign. Polyp size, *H. pylori* infection, and intestinal metaplasia were significantly associated with dysplasia. Given the malignant potential of adenomatous polyps and the size-dependent risk of dysplasia, complete endoscopic removal of incidentally detected UGIS polyps is advisable.

Keywords: Adenomatous, dysplasia, esophagogastroduodenoscopy

[S-138]

Performance of ChatGPT-based artificial intelligence in the diagnosis of gastritis on endoscopic antral images: A comparison with histopathology

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Objective: This study aimed to evaluate the diagnostic performance of ChatGPT plus-based artificial intelligence (AI) in detecting gastritis and identifying other lesions on gastric antral endoscopic images, and to compare its performance with endoscopist assessment and histopathological findings.

Material and Methods: A total of 49 consecutive patients who underwent antral biopsy during upper gastrointestinal endoscopy for dyspeptic symptoms were included. Patients with prior gastric surgery, previous biopsies for non-dyspeptic indications, or established diagnoses were excluded. During endoscopy, the antral region was evaluated by an experienced endoscopist for the presence of gastritis and other lesions. Subsequently, two to four antral images per patient were uploaded to a language-vision AI model (ChatGPT plus) for image-based evaluation. AI assessments focused on the presence or absence of gastritis and additional endoscopic findings. Histopathological examination of antral biopsy specimens was accepted as the reference standard. Diagnostic performance of endoscopist and AI evaluations was compared using sensitivity, specificity, and accuracy rates.

Results: The mean age of the patients was 53.9±15.5 years (range: 21-85), with 30 females (61.2%) and 19 males (38.8%). Histopathology revealed a high prevalence of gastritis. Endoscopist assessment demonstrated high sensitivity (92.9%) but very low specificity (4.8%), with an overall accuracy of 55.1%. In contrast, AI assessment showed lower sensitivity (32.1%) but higher specificity (61.9%), with an accuracy of 44.9%. While endoscopist evaluation was effective in detecting gastritis, it tended toward overdiagnosis. AI demonstrated limited sensitivity but relatively better discrimination of non-gastritis cases. Partial agreement between AI and histopathology was observed for non-gastritis additional findings.The AI system identified pigmented lesions in 14 of 49 antrum-pylorus images (28.6%); however, none were confirmed histopathologically, and all were classified as false positives. These misclassifications were localized to the antrum-pylorus junction and were attributed to the physiologically dark appearance of the pyloric lumen, highlighting an important limitation of color-based AI interpretation.

Conclusion: Standard ChatGPT plus is inferior to endoscopist evaluation for diagnosing antral gastritis. Given its widespread public use, caution is warranted due to the potential for misleading interpretations and false-positive findings.

Keywords: Gastritis, artificial intelligence, endoscopy, antrum, histopathology

Figure 1. The dark appearance of the gastric antrum-pylorus.

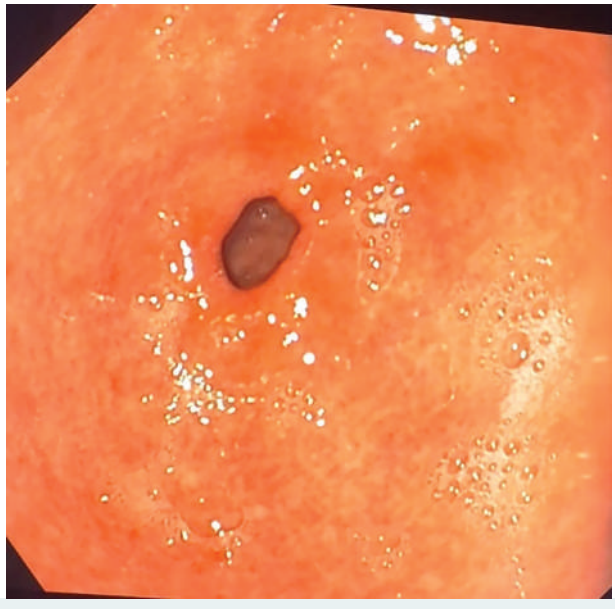

Figure 1. The dark appearance of the gastric antrum-pylorus.

[S-139]

Endoscopic management of colonic polyps and frequency of malignancy

Abdülaziz Cellus, Refik Yiğit Özaydın, İlke Aktuğ Buzkan, Ufuk Tali, İlhan Taşdöven, Hakan Balbaloğlu, Fatma Ayça Gültekin, Mustafa Cömert

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Objective: The detection and endoscopic removal of colorectal polyps is one of the fundamental steps in reducing the development of colorectal cancer. The selection of different resection techniques according to polyp size and morphology is of critical importance in terms of complete resection success, bleeding risk, and the quality of pathological assessment. The aim of this study is to describe the distribution of polyp numbers, the polypectomy techniques applied, and the histopathological classification of polyps in patients who underwent colonoscopic polypectomy in our endoscopy unit in 2025.

Material and Methods: Prospectively recorded data of 127 patients who underwent colonoscopic polypectomy in our unit between January 1 and December 31, 2025 were retrospectively analyzed. The mean age was 53.3 years (range: 26-89). Polypectomy technique was selected according to polyp size: Cold-snare for polyps <1 cm, hot-snare for polyps ≥1 cm, and hot-snare after submucosal adrenaline injection for polyps >3 cm. Patients with familial adenomatous polyposis (FAP) and attenuated FAP who underwent diagnostic polypectomy, as well as biopsies from unresectable broad-based polyps, were excluded to ensure a homogeneous study population.

Results: A total of 210 polyps were treated in 127 patients. Most patients had solitary polyps, while a minority had multiple lesions. The majority of polyps were removed using hot-snare techniques, with cold-snare used for smaller lesions and adrenaline-assisted hot-snare for larger polyps. Tubular adenoma was the most common histopathological diagnosis. Adenocarcinoma was detected in 11 polyps, and margin positivity was observed in three cases requiring oncologic surgical management. Specimens could not be retrieved in 15 polyps, and these patients were managed with close follow-up.

Conclusion: In conclusion, the vast majority of polypectomies performed in our clinic over one year consisted of adenomas, which are premalignant lesions. The main limitations of this study are the lack of reporting on complications, polyp localization, size distribution, and follow-up outcomes, which precluded analysis of the impact of technical selection on clinical outcomes. The use of cold- or hot-snare techniques according to polyp size, as well as adrenaline injection for large polyps, are key factors influencing the success and safety of the procedure. In particular, the security of surgical margins in cases with detected adenocarcinoma is of vital importance for subsequent treatment planning.

Keywords: Colorectal polyps, polypectomy

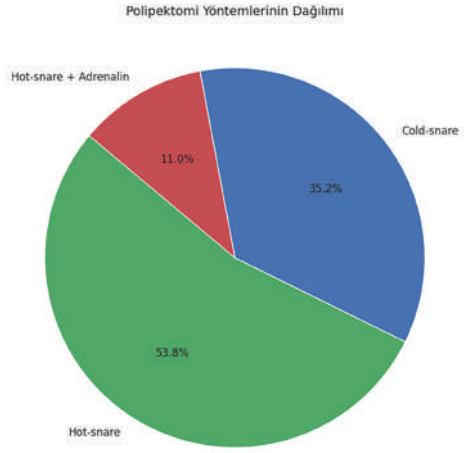

Figure 1. Distribution of polypectomy techniques.

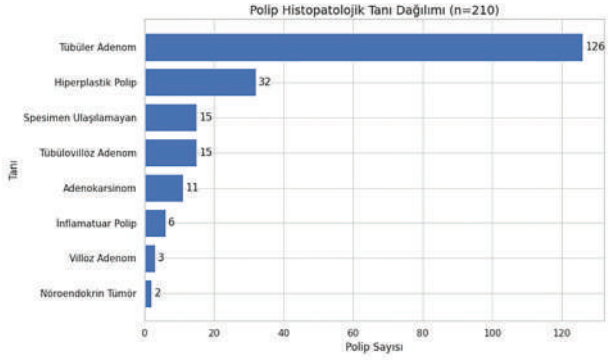

Figure 2. Histopathological diagnosis of polyps.

[S-140]

Colonoscopy and pathology findings in symptomatic patients: Colorectal cancer frequency and localization in patients under 45 – a five-year single-center series

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Objective: This study aims to describe colonoscopy and pathology findings in symptomatic patients, to evaluate the frequency and age-related trends of colorectal cancer (CRC) in patients under 45 years, and to present CRC localization by integrating pathology and endoscopy report data.

Material and Methods: Colonoscopy procedures performed between 02.01.2020 and 30.10.2025 were retrospectively analyzed (n=9795). Demographic data, findings from colonoscopy reports, and bowel preparation quality were recorded; from pathology reports, adenoma subtypes (tubular, tubulovillous, villous, serrated), hyperplastic polyps, and CRC diagnoses were extracted. CRC localization was determined from pathology reports and supplemented with colonoscopy reports for missing segments. CRC and adenoma rates were compared between patients aged <45 and ≥45 years.

Results: The median age was 56 years (IQR 47-65), and 52.5% of the cases were female. Pathology reports were available for 6,784 cases (69.2%). According to pathology, CRC was detected in 217 cases (2.2%) and adenomas in 1605 cases (16.4%). Among adenomas, tubular adenomas were 1235 (12.6%), tubulovillous adenomas 225 (2.3%), pure villous adenomas 59 (0.6%), serrated lesions 34 (0.35%), and hyperplastic polyps 733 (7.5%). In the <45 years age group, CRC was found in 20/2,032 cases (0.98%) versus 197/7763 cases (2.54%) in patients ≥45 years ($p=3.3\times10^{-8}$). CRC rates increased with age, reaching 4.25% in patients ≥70 years. When CRC localization was assessed using both pathology and colonoscopy reports, the most frequent sites were the rectum (n=95) and sigmoid colon (n=51); the proportion of cases with unspecified segments decreased from 17.5% to 10.6%.

Conclusion: In the symptomatic population, the CRC rate under 45 years of age is low but not zero (0.98%) and shows a significant increase with age. The predominance of distal CRC and the marked rise after age 50 suggest that age alone may not be sufficient as a threshold in symptomatic patients. Standardized reporting of lesion localization and bowel preparation quality is recommended.

Keywords: Colonoscopy, early-onset colorectal cancer, colonic polyp

[S-141]

Inguinal hernia repair in the geriatric population: The impact of preoperative risk profile and operative timing on clinical outcomes

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Objective: Inguinal hernia management in the geriatric population is challenging due to comorbidities and abdominal wall degeneration. While emergency surgery carries high risks, elective repair is considered safer. We aimed to evaluate the impact of operative timing on clinical outcomes in patients aged over 65.

Material and Methods: A total of 197 patients aged 65 and over who underwent inguinal hernia repair in our clinic between January 2024 and December 2025 were analyzed retrospectively. Demographic data, ASA scores, and urgency of operation (elective/emergency) were recorded. Emergency cases requiring organ resection were excluded. Postoperative local morbidities (surgical site infection, seroma/hematoma) and systemic complications (pulmonary/cardiac issues) were analyzed. Fisher's Exact and Mann-Whitney U tests were used for statistical analysis ($p<0.05$ considered significant)

Results: Of the 197 patients, 98% were male, with a mean age of 72.8 (±5.7) years. 25.9% (n=51) were in the ASA 3-4 group. Operations were performed under elective conditions in 93.4% (n=184) and emergency conditions in 6.6% (n=13). The overall morbidity rate was 2.5% (n=5). In the emergency group, 50% of complications were systemic (cardiopulmonary issues) and 50% were local, whereas the only complication in the elective group was surgical site infection (local) ($p<0.001$). All morbidities occurred in ASA 3-4 patients ($p=0.001$). The complication rate was 30.8% in emergency surgery versus 0.5% in elective cases ($p<0.001$). Mortality occurred in 3 cases (1.5%), all of whom were high-risk (ASA III-IV) patients operated on under emergency conditions. The mortality rate was 23.1% in the emergency group and 0% in the elective group ($p<0.001$). The operation time was significantly longer in emergency cases (101.5 vs. 72.3 min, $p=0.015$).

Conclusion: Although inguinal hernia repair in geriatric patients is often delayed due to comorbidities and increased surgical risks, our study confirms that elective surgery can be performed safely with low morbidity and mortality, consistent with the literature. Even in high-risk (ASA III-IV) patients, elective interventions are associated with significantly lower complication and mortality rates compared to emergency surgery. The marked increase in systemic complications and mortality in emergency surgeries highlights the decisive effect of operative timing on clinical outcomes. Therefore, ensuring appropriate patient optimization and not delaying elective surgery in the geriatric population is critical to preventing potential emergency interventions and associated risks.

Keywords: Geriatric population, inguinal hernia, emergency surgery, elective repair, ASA score

Table 1. Comparison of clinical outcomes according to operative timing

Parameter	Emergency (n=13)	Elective (n=184)	p-value
Complication rate	30.8 (n=4)	0.5 (n=1)	<0.001
Mortality rate	23.1 (n=3)	0.5 (n=1)	<0.001
Operation time (min)	101.5 (+-42)	72.3 (+-29)	0.015

[S-142]

Evaluation of the morphological effects of preoperative botulinum toxin A injection in complex ventral hernias

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Objective: Preoperative botulinum toxin A (BTA) injection facilitates midline closure in complex ventral hernias by inducing temporary lateral abdominal wall paralysis. This study aimed to evaluate the morphological effects of BTA injection on the abdominal wall using radiological parameters.

Material and Methods: This retrospective study included six patients who underwent BTA injection in November-December 2025. All patients received 300 U of BTA (Botox®, Allergan), diluted in 150 cc saline and administered under ultrasound guidance. Injections were performed bilaterally into the lateral abdominal muscles at three points. Pre- and post-injection computed tomography scans were analyzed. Defect width and area, lateral muscle thickness and length, Carbonell index, loss of domain (LOD-Tanaka index), and component separation index (CSI) were compared.

Results: The mean age was 64.6±14.9, and the mean body mass index was 32.9±4.7. The mean interval between BTA injection and follow-up imaging was 29.1±8.1 days. Lateral muscle thickness decreased significantly on both sides (37.4% on the right and 31.9% on the left, p=0.031). Lateral muscle length increased by 17.8% on the right side (p=0.031) and by 11.1% on the left side (p=0.063). Mean defect width showed a significant reduction, whereas changes in defect area and LOD ratios were not statistically significant. No significant differences were observed in Carbonell index or CSI values.

Conclusion: Preoperative BTA injection induces significant morphological changes in the abdominal wall, particularly decreased lateral muscle thickness and increased muscle length. These parameters may serve as useful radiological markers for assessing response to BTA in complex ventral hernia patients.

Keywords: Botulinum toxin A, complex ventral hernia, perhabilitation

Pre- and post BTA results

Parameter	Pre-BTA (Mean ± SD)	Post-BTA (Mean ± SD)	Mean Change	Percentage Change (%)	p
Defect Width (mm)	145.8 ± 55.5	124.8 ± 51.5	−21.0 mm	−15.3%	0.031
Defect area (cm²)	193.2 ± 128.1	179.8 ± 142.4	−13.4 cm²	−12.4%	0.156
LOD (tanaka %)	34.2 ± 19.8%	24.7 ± 13.1%	−9.5 points	−21.9%	0.080
Right muscle thickness (mm)	25.8 ± 10.0	15.3 ± 3.2	−10.5 mm	−37.4%	0.031
Left muscle thickness (mm)	23.0 ± 8.8	14.5 ± 2.4	−8.5 mm	−31.9%	0.031
Right muscle length (mm)	163.0 ± 34.6	190.3 ± 36.3	+27.3 mm	+17.8%	0.031
Left muscle length (mm)	174.7 ± 26.2	192.5 ± 21.8	+17.8 mm	+11.1%	0.062
Carbonell index	0.90 ± 0.64	0.90 ± 0.60	0.00	+9.4%	1.000
CSI	0.23 ± 0.12	0.23 ± 0.11	0.00	+2.6%	1.000

[S-143]

Long-term outcomes of laparoscopic inguinal hernia repair: A retrospective analysis of 2137 patients

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Objective: Laparoscopic inguinal hernia repair is widely performed today due to its advantages over open surgery, such as less postoperative pain, shorter recovery time, and earlier mobilization. In particular, the totally extraperitoneal (TEP) and transabdominal preperitoneal (TAPP) techniques provide successful outcomes with appropriate patient selection. However, studies evaluating long-term outcomes in large patient series are limited. The aim of this study is to evaluate demographic data, applied surgical techniques, and long-term recurrence rates in a large series of patients who underwent laparoscopic inguinal hernia repair.

Material and Methods: In this retrospective, single-center study, a total of 2137 patients who underwent surgery for laparoscopic inguinal hernia were evaluated. Of these patients, 1753 underwent surgery for unilateral inguinal hernia, while 384 underwent surgery for bilateral inguinal hernia.

Results: Among the unilateral cases, 150 patients were female and 1603 were male, while in the bilateral group, 20 patients were female and 364 were male. The mean age was 51 years for male patients and 46 years for female patients. Of the unilateral inguinal hernia cases, 921 were right-sided and 832 were left-sided. Among the bilateral hernia cases, 55 patients underwent repair using the transabdominal preperitoneal (TAPP) technique, while the remaining patients were treated with the totally extraperitoneal (TEP) approach; in unilateral cases, 78 patients underwent TAPP repair and the others were treated with the TEP technique. Follow-up data were obtained by contacting patients using hospital registry records. Due to various reasons, 375 patients could not be reached and were therefore excluded from the study. Among the patients included in follow-up, the duration of follow-up ranged from 3 to 85 months, with a mean follow-up period of 54±3.4 months. Recurrence was detected in 24 of the 1378 patients (1.7%) who underwent unilateral laparoscopic inguinal hernia repair. In the bilateral laparoscopic inguinal hernia repair group, recurrence occurred in 9 of 384 patients (2.3%). In both groups, long-term recurrence rates after laparoscopic repair were observed to be low.

Conclusion: In this study based on a large patient series, laparoscopic inguinal hernia repair was found to be successful with low recurrence rates during long-term follow-up. It was concluded that, with appropriate patient selection and proper surgical technique, the laparoscopic approach can be safely preferred as a standard method in inguinal hernia surgery.

Keywords: Inguinal hernia, laparoscopy, hernia repair

[S-144]

Clinical impact of different mesh types on outcomes in laparoscopic TAPP inguinal hernia repair

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Objective: Laparoscopic transabdominal preperitoneal (TAPP) repair is widely used in inguinal hernia surgery due to fewer wound complications and faster recovery. Surgical success depends not only on technique but also on mesh properties. Mesh weight, pore size, elasticity, and fixation influence inflammatory response, nerve irritation, fibrosis, and postoperative pain. Self-gripping meshes reduce fixation trauma, 3D meshes improve anatomical adaptation, and heavyweight polypropylene meshes provide strong support. However, comparative real-world data are limited. This study evaluated the clinical impact of three mesh types on postoperative outcomes.

Material and Methods: This retrospective single-center cohort study was conducted at Mersin City Training and Research Hospital, Department of General Surgery. A total of 156 patients who underwent elective laparoscopic TAPP inguinal hernia repair were included. Patients were divided into three groups according to mesh type: Self-gripping mesh (ProGrip type), 3D anatomical mesh, and standard heavyweight polypropylene mesh. Demographic data, operative time, hospital stay, postoperative pain scores (VAS at 24 hours), analgesic requirement, complications (seroma, hematoma), chronic pain (>3 months), and recurrence rates were recorded. Continuous variables were expressed as mean ± standard deviation and compared using ANOVA or Kruskal-Wallis tests. Categorical variables were analyzed with the chi-square test. A p-value <0.05 was considered statistically significant.

Results: A total of 156 patients who underwent laparoscopic TAPP repair were included in the study (ProGrip n=52, 3D mesh n=51, standard polypropylene mesh n=53). The groups were comparable in terms of age, sex, BMI, ASA score, and bilateral hernia rates (p>0.05).Operative time was significantly shorter in the ProGrip group (48±9 minutes) compared to the other groups (55±11 and 58±12 minutes, respectively; p=0.002). Length of hospital stay did not differ among groups.In the early postoperative period, 24-hour VAS pain scores were lower in the ProGrip group (3.1±1.0 vs. 3.8±1.1 and 4.2±1.3; p=0.001). Analgesic requirement was also lower in this group (27%; p=0.03). Rates of seroma and hematoma were similar.Chronic pain occurred less frequently in the ProGrip group (3.8% vs. 5.9% and 11.3%; p=0.04). No significant difference was observed in recurrence rates.

Conclusion: Use of self-gripping mesh in laparoscopic TAPP inguinal hernia repair was associated with shorter operative time, lower early postoperative pain scores, reduced analgesic requirement, and a lower rate of chronic pain. Complication and recurrence rates were similar among groups. These findings indicate that mesh characteristics influence postoperative comfort and suggest that patient-tailored mesh selection may enhance recovery without compromising surgical safety or long-term durability.

Keywords: Laparoscopic inguinal hernia repair, mesh types, postoperative pain

Table 1. Demographic and operative characteristics

Variable	ProGrip mesh (n=52)	3D Mesh (n=51)	Standard PP mesh (n=53)	p
Age (years)	54±13	56±12	55±14	0.78
Male (%)	90%	88%	92%	0.81
BMI (kg/m²)	27.1±3.2	26.8±3.5	27.3±3.1	0.69
ASA ≥ III (%)	21%	24%	23%	0.93
Bilateral hernia (%)	19%	22%	21%	0.88
Operative time (min)	48±9	55±11	58±12	0.002
Length of hospital stay (days)	1.2±0.5	1.3±0.6	1.4±0.6	0.17

Data are presented as mean ± SD or percentages (%). Continuous variables were compared using ANOVA or the Kruskal-Wallis test, and categorical variables were analyzed with the chi-square test. A p-value <0.05 was considered statistically significant.

Table 2. Postoperative clinical outcomes

Outcome	ProGrip mesh	3D mesh	Standard PP mesh	p
VAS pain (24 h)	3.1±1.0	3.8±1.1	4.2±1.3	0.001
Analgesic requirement (%)	27%	35%	43%	0.03
Seroma (%)	4%	6%	8%	0.61
Hematoma (%)	2%	4%	4%	0.74
Chronic pain (>3 months)	3.8%	5.9%	11.3%	0.04
Recurrence	0	1 (2.0%)	1 (1.9%)	0.82

[S-145]

Laparoscopic management of recurrent and multirecurrent inguinal hernias: Is the transabdominal preperitoneal approach a safe harbor?

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Objective: The laparoscopic transabdominal preperitoneal approach is widely accepted as an effective technique, particularly in bilateral and recurrent inguinal hernias. This study aimed to evaluate the demographic characteristics, hernia types, mesh strategies, and early clinical outcomes of patients who underwent TAPP repair between November 2022 and September 2025.

Material and Methods: A retrospective analysis was performed on 172 patients who underwent TAPP repair during the study period. Postoperative follow-up evaluations were conducted on day 5, day 10, and at 1, 3, and 6 months. No drains were used. After discharge, patients were prescribed non-steroidal anti-inflammatory drugs (NSAIDs), a proton pump inhibitor, and antibiotic prophylaxis targeting skin flora.

Results: Of the 172 patients, 44 (25.6%) were female and 128 (74.4%) were male. Eighty-three patients (48.3%) underwent surgery for recurrent hernia, and bilateral repair was performed in 54 patients (31.4%). Femoral hernia was detected in 4 patients (2.3%) and obturator hernia in 1 patient (0.6%). In two patients initially diagnosed preoperatively with inguinal hernia, intraoperative exploration revealed an incisional hernia at the inferior edge of a previous incision, which was successfully repaired using the TAPP technique in the same session. The mean length of hospital stay was 1.1 days (range: 1-4 days). In 93 patients, 3D Prolene mesh was used, and fixation was not required in 62 of these cases. In 76 patients, a prepared 15×10 cm Prolene mesh was applied, with fixation performed in 67 cases. Three patients with a history of multiple previous operations (3-7 prior surgeries, mean 5) required dual mesh repair due to the inability to perform adequate peritoneal dissection. Seroma developed in 19 patients (11.0%), predominantly in scrotal hernias. Postoperative ecchymosis was observed in 2 patients (1.2%) and managed conservatively. Persistent groin pain lasting up to 6 months occurred in 2 patients (1.2%), with no radiologic evidence of recurrence. Additionally, 32 patients (18.6%) reported intermittent stabbing-type groin pain, particularly in cold weather. During follow-up, no recurrence, surgical site infection, or mesh reaction was observed.

Conclusion: Despite the high proportion of recurrent and bilateral cases, TAPP repair demonstrated short hospitalization, acceptable complication rates, and absence of early recurrence, supporting its role as a safe and effective approach in complex inguinal hernia management.

Keywords: Inguinal hernia, recurrent hernia, TAPP repair

Summary Table. Demographics, operative characteristics, and early outcomes of 172 patients undergoing TAPP repair (2022-2025)

Title	Variable	Value
Demographics	Total patients	172
	Female	44 (25.6%)
	Male	128 (74.4%)
Hernia characteristics	Bilateral hernia	54 (31.4%)
	Recurrent hernia	83 (48.3%)
	Femoral hernia	4 (2.3%)
	Obturator hernia	1 (0.6%)
	Intraoperative incisional hernia (preoperatively diagnosed as inguinal)	2 (1.2%)
Operative details	Mesh: 3D Prolene	93 (54.1%)
	└ No fixation (3D)	62
	Mesh: 15×10 cm Prolene (prepared and used)	76 (44.2%)
	└ Fixation applied (15×10)	67
	Dual mesh	3 (1.7%)
	Drain	None
Clinical outcomes	Length of stay	Mean 1.1 days (1-4)
	Seroma	19 (11.0%)
	Ecchymosis (postoperative bleeding)	2 (1.2%)
	Groin pain lasting up to 6 months	2 (1.2%)
	Intermittent "stabbing-type" pain in cold weather	32 (18.6%)
	Recurrence	0
	Surgical site infection	0
	Mesh reaction	0

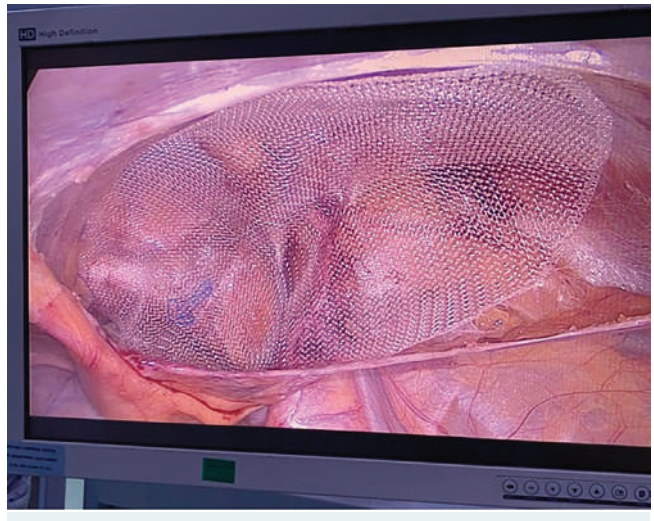

Figure 1. Right inguinal fixation-free repair using 3D Prolene mesh (TAPP approach).

[S-146]

Preoperative biomarkers predicting bowel resection in incarcerated groin hernias

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Objective: Incarcerated groin hernias are common surgical emergencies associated with increased morbidity and mortality, particularly in elderly patients. Strangulation may impair bowel perfusion, leading to ischemia and necrosis and increasing the need for bowel resection and postoperative complications. Therefore, identifying patients at risk for bowel resection in the preoperative period is clinically important. In addition to clinical examination and imaging, biochemical markers related to inflammation and ischemia have gained attention as potential predictive tools. The aim of this study was to compare preoperative C-reactive protein (CRP), lactate, white blood cell count (WBC), and the red cell distribution width-to-albumin (RDW/albumin) ratio between patients who required bowel resection and those who did not, and to evaluate their predictive value.

Material and Methods: This retrospective, single-center study included 138 patients who underwent emergency surgery for incarcerated groin hernias. Patients were divided into two groups according to intraoperative findings: Those who required bowel resection and those who did not. Preoperative CRP, lactate, WBC, and RDW/albumin ratio were recorded. Continuous variables were expressed as median and interquartile range (IQR). Comparisons between groups were performed using the Mann-Whitney U test, and $p<0.05$ was considered statistically significant.

Results: The median age was 68.5 years (IQR: 58-77), and 71% of patients were male. Inguinal hernias accounted for 79% of cases and femoral hernias for 21%. Bowel resection was required in 24 patients (17.4%), while 114 patients (82.6%) did not require resection. Preoperative CRP, lactate, and RDW/albumin ratio were significantly higher in the resection group compared with the non-resection group (all $p<0.001$). In contrast, WBC levels did not differ significantly between groups ($p=0.665$).Mesh repair was performed in 125 patients (90.6%). Warm compress application was used in 12 patients (8.7%), none of whom required bowel resection. No significant differences in preoperative CRP, lactate, WBC, or RDW/albumin ratio were observed between patients with and without warm compress application ($p>0.05$).

Conclusion: Preoperative detection of bowel ischemia in incarcerated groin hernias remains challenging, and leukocytosis may not always be present; therefore, WBC alone has limited predictive value. In contrast, CRP, lactate, and RDW/albumin ratio appear to be more closely associated with intestinal ischemia and systemic inflammation. These biomarkers, when interpreted alongside clinical and radiological findings, may assist in predicting the need for bowel resection. Further prospective studies with larger cohorts are required to confirm these findings.

Keywords: Incarcerated, inguinal hernias, ischemia

[S-147]

A single-center analysis comparing the transabdominal preperitoneal approach and the Lichtenstein technique: Operative time and postoperative pain

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Objective: The impact of surgical techniques used in inguinal hernia repair on postoperative patient comfort and operative time remains a subject of ongoing debate. The aim of this study was to compare operative time and postoperative pain scores in patients who underwent inguinal hernia repair using the transabdominal preperitoneal (TAPP) and Lichtenstein techniques at the University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital between 2020 and 2025.

and Material and Methods: A total of 204 patients who underwent surgery for inguinal hernia between 2020 and 2025 were included in the study. Patients were divided into two groups according to the surgical technique performed: TAPP (n=104) and Lichtenstein (n=100). Demographic characteristics, operative time, history of prior intra-abdominal surgery, and postoperative VAS pain scores on postoperative days 1 and 7 were retrospectively evaluated. Statistical analyses were performed using Student's t-test and chi-square tests, and a p-value <0.05 was considered statistically significant.

Results: The demographic and operative characteristics of both groups are presented in the table below. The mean age was significantly higher in the Lichtenstein group compared with the TAPP group (61.9±10.5 vs. 50.7±13.9 years, $p<0.001$). Female patients were significantly more prevalent in the open surgery (Lichtenstein) group ($p=0.01$). A history of intra-abdominal surgery was also markedly higher in the Lichtenstein group ($p<0.001$). Although the operative time was longer in the TAPP group, this difference did not reach statistical significance. Postoperative VAS pain scores on postoperative days 1 and 7 were significantly lower in the TAPP group ($p<0.05$). This difference highlights the impact of the minimally invasive surgical technique on postoperative pain outcomes.

Conclusion: The TAPP technique requires a longer operative time compared with the Lichtenstein method. However, the significantly lower postoperative VAS pain scores indicate that the minimally invasive approach provides a substantial advantage in terms of patient comfort. The Lichtenstein technique was more frequently preferred, particularly in elderly patients, women, and those with a history of intra-abdominal surgery. These findings underscore the importance of individualizing the choice of surgical technique based on patient-specific characteristics.

Keywords: Inguinal hernia, Lichtenstein repair, TAPP approach

Table 1. Comparison of the demographic and operative characteristics of the TAPP and Lichtenstein groups

Variable	Lichtenstein (n=100)	TAPP (n=104)	p-value
Age (years, mean ± SD	61.9±10.5	50.7±13.9	< 0.001*
Female (%)	15.0	2.0	0.01*
Operative time (min, mean ± SD)	110.0±18.2	120.0±20.3	0.08
VAS score, postoperative day 1	6.0	5.2	0.02*
VAS score, postoperative day 7	5.0	3.5	0.001*
History of intra-abdominal surgery (%)	70.0	14.0	<0.001*
Complications (%)	6.0	1.9	0.16

[S-148]

Preoperative inflammatory indices are associated with hernia complexity in inguinal hernia repair

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Objective: Accurate preoperative identification of complicated inguinal hernias remains challenging, particularly in the absence of overt clinical signs. Systemic inflammatory indices derived from routine blood tests may reflect underlying disease severity and ischemic burden, yet their quantitative association with hernia-related complications remains incompletely defined.

Material and Methods: Patients undergoing inguinal hernia repair were identified from a prospectively maintained institutional database. A total of 312 patients were included and stratified into complicated (n=193) and non-complicated (n=119) hernia groups. Preoperative demographic variables, ASA classification, and inflammatory indices—including the systemic inflammatory response index (SIRI), systemic immune-inflammation index (SII), neutrophil-to-lymphocyte ratio, and platelet-to-lymphocyte ratio—were analyzed. Subgroup analyses were performed across complicated hernia phenotypes (incarceration, obstruction, strangulation). Multivariable logistic regression models were constructed to evaluate independent associations between inflammatory indices and hernia complexity, adjusting for age, ASA class, body mass index (BMI), lactate dehydrogenase (LDH), and total protein levels.

Results: A total of 312 patients were included, of whom 193 (61.9%) presented with complicated inguinal hernias and 119 (38.1%) with non-complicated hernias; among complicated cases, 67 were incarcerated, 74 obstructed, and 52 strangulated. Patients with complicated hernias had a higher BMI compared with non-complicated cases (27.9±3.3 vs. 24.3±2.9 kg/m²; p<0.0001) and were more likely to have advanced ASA class (p=0.0004). Preoperative inflammatory indices were significantly elevated in the complicated group, including SIRI (2.65±3.81 vs. 1.85±2.01; p=0.016), SII (960.6±1111.3 vs. 635.6±580.9; p=0.001), neutrophil-to-lymphocyte ratio (3.73±4.0 vs. 2.84±2.6; p=0.03), and platelet-to-lymphocyte ratio (159.6±105.0 vs. 126.1±67.1; p=0.002). Among complicated subtypes, strangulated hernias demonstrated significantly higher inflammatory indices compared with obstruction and incarceration, particularly for SII (mean difference -1821.7, p=0.0001). In multivariable analysis, BMI (OR 6.95, 95% CI 3.70–13.06; p<0.0001) and ASA class (OR 2.14, 95% CI 1.31-3.48; p=0.002) were independently associated with hernia complication status, while SIRI showed a borderline association (OR 1.91, 95% CI 0.95-3.82; p=0.068).

Conclusion: Complicated inguinal hernias are characterized by significantly higher preoperative systemic inflammatory indices and adverse clinical profiles. Quantitative elevations in SIRI and SII correlate with disease severity, particularly in strangulated hernias. These findings support the role of inflammation-based biomarkers as adjunctive indicators of hernia complexity and perioperative risks.

Keywords: Inguinal hernia, systemic inflammation, risk stratification

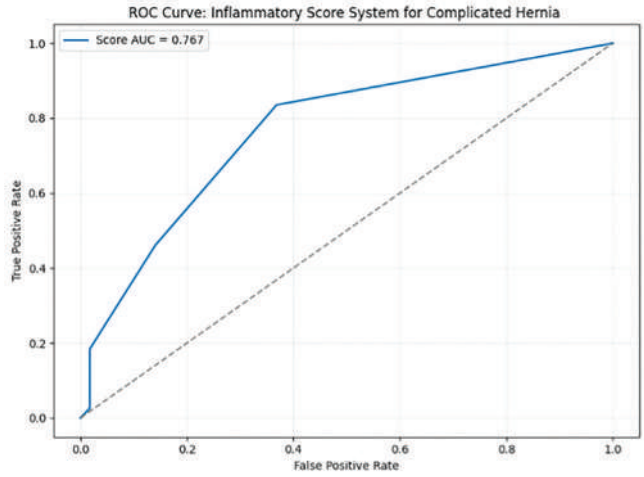

Figure 1. Receiver operating characteristic curve of the inflammatory score for predicting complicated inguinal hernia.

Receiver operating characteristic (ROC) curve demonstrating the diagnostic performance of the inflammatory score system in predicting complicated inguinal hernias. The area under the curve (AUC) was 0.767, indicating good discriminatory ability in differentiating patients with and without hernia-related complications.

Table 1. Multivariable logistic regression analysis including the systemic inflammatory response index (SIRI)

Variable	OR	CI lower	CI upper	p-value
Const	5.6638	3.3222	9.6556	0.00001
Age	1.3393	0.8887	2.0185	0.1627
ASA	2.1368	1.3111	3.4826	0.0023
BMI (kg/m²)	6.9477	3.6960	13.0602	0.00001
SIRI	1.9065	0.9528	3.8150	0.0683
LDH	0.6838	0.4419	1.0581	0.0879
Total protein	0.7921	0.5306	1.1826	0.2544

[S-149]

Five-year outcomes of posterior component separation (TAR) in complex ventral hernias

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Objective: Large and complex ventral hernias require advanced surgical techniques. Posterior component separation with transversus abdominis release (TAR) aims to restore anatomy and improve functional outcomes. This study evaluated five-year outcomes of TAR regarding demographics, defect characteristics, perioperative results, functional recovery, and recurrence etiology.

Material and Methods: Fifty-five patients who underwent TAR between 2020 and 2025 were retrospectively reviewed. Patients with preoperative CT-measured defects <8 cm were also operated on; intraoperative measurements were frequently larger. Demographics, comorbidities (hypertension, diabetes mellitus, dyslipidemia), ASA scores, preoperative CT and intraoperative defect sizes, operative time and length of stay, postoperative complications, Carolina scores (0, 6, 12 months), etiology (primary large hernia, recurrent hernia, incisional hernia after malignancy surgery), and recurrence were analyzed. Obesity was defined as BMI ≥30 kg/m².

Results: Mean age was 59.6±10.5 years; 69.1% were female. Hypertension (49.1%), diabetes (32.7%), and dyslipidemia (25.5%) were common. ASA distribution was II 58.2%, III 32.7%, IV 5.5%, and I 3.6%. Preoperative CT underestimated true defect size compared with intraoperative measurement (9.1±4.0 vs. 15.6±5.3 cm; p<0.001). Carolina scores improved significantly at 12 months (p<0.001). Recurrence occurred in 3 patients (5.5%); all were obese, with a significant association between obesity and recurrence (p=0.031).

Conclusion: TAR provides reliable repair with significant functional improvement for complex ventral hernias. Preoperative CT may underestimate true defect size and should be interpreted cautiously. The significant association between obesity and recurrence highlights the importance of preoperative weight optimization.

Keywords: Ventral hernia, transversus abdominis release (TAR), obesity

Table 1. Five-year TAR series: Key demographics, operative data and outcomes

Variable	Value
Number of patients (n)	55
Age (mean ± SD)	59.6±10.5
Sex (female/male)	38 (69.1%)/17 (30.9%)
Comorbidities (HT/DM/dyslipidemia)	27 (49.1%)/18 (32.7%)/14 (25.5%)
ASA (I/II/III/IV)	2 (3.6%)/32 (58.2%)/18 (32.7%)/3 (5.5%)
Preop CT defect (cm, mean ± SD)	9.1±4.0
Intraop defect (cm, mean ± SD)	15.6±5.3
CT vs. intraop mismatch (p)	p<0.001
Operation time (min, mean ± SD)	102±31
Length of stay (days, mean ± SD)	5.7±2.6
Postop complications (n)	Wound dehiscence: 2; Seroma: 1; SSI: 1
Recurrence (n, %)	3 (5.5%)
Recurrence-obesity association (p)	p=0.031
Carolina score improvement at 12 months (p)	p<0.001
Follow-up duration	1-4 years (mean ≈ 2.5 years)
Etiology (primary/recurrent/incisional hernia after malignancy surgery)	24 (43.6%)/24 (43.6%)/7 (12.7%)

[S-150]

Recurrence risk stratification in IPOM repair: Findings from a 55-patient cohort

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Objective: The aim of this study is to identify the clinical and anatomical variables associated with recurrence in patients undergoing hernia repair with intraperitoneal onlay mesh (IPOM) technique and to establish predictive threshold values.

Material and Methods: A retrospective cohort of 55 patients who underwent IPOM repair was analyzed. Normality was assessed using the Shapiro-Wilk test. Continuous variables were compared with the Mann-Whitney U test and categorical variables with the chi-square test. Variables significant in univariate analysis were entered into a multivariable logistic regression model. Receiver operating characteristic (ROC) analysis was performed for significant continuous variables to determine optimal cut-offs.

Results: The median age was 59 years, and 71% of patients were female; the median body mass index (BMI) was 30.5 kg/m². Most cases were incisional hernias (81.8%). Early recurrence (<6 months) occurred in 7% (n=4), and recurrence within two years occurred in 15% (n=8). In univariate comparisons, the recurrence group had a larger defect size (11 cm vs. 3.4 cm, p<0.001) and higher BMI (36.6 vs. 29.7 kg/m², p=0.013). In multivariable analysis, defect size (OR 1.063, 95% CI 1.017-1.105; p=0.006) and BMI (OR 1.491, 95% CI 1.008-1.791; p=0.045) were independent predictors of recurrence. ROC analysis identified an optimal cut-off of 8.4 cm for defect size (AUC 0.907, p<0.001) and 32.55 kg/m² for BMI (AUC 0.779, p<0.001).

Conclusion: Recurrence after IPOM repair is strongly associated with larger defect size and elevated BMI. Defect size ≥8.4 cm and BMI ≥32.55 kg/m² may help identify high-risk patients and guide tailored follow-up and preventive strategies.

Keywords: IPOM, ventral hernia, recurrence, defect size, body mass index

[S-151]

Umb-RADS: A standardized ultrasound-based scoring system to guide surgical strategy in umbilical hernia repair

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Objective: Decision-making between primary repair and mesh use in umbilical hernia surgery remains heterogeneous in daily clinical practice despite existing guidelines. Although ultrasonography (US) is widely used for preoperative evaluation, there is no standardized reporting or scoring system that directly supports surgical strategy. The aim of this study was to develop and evaluate Umbilical Hernia Reporting and Data System (Umb-RADS), a novel ultrasound-based scoring system designed to predict the need for mesh repair using preoperative sonographic findings.

Material and Methods: This retrospective study included patients who underwent elective umbilical hernia repair at University of Health Sciences Türkiye, İzmir City Hospital General Surgery Clinic between January 1, 2024 and August 31, 2025. Emergency surgeries and cases with concomitant additional procedures were excluded. A total of 174 patients were analyzed. Preoperative ultrasound reports were reviewed, and four parameters were recorded: Defect diameter, positivity during the Valsalva maneuver, presence of bowel or mesentery within the hernia sac, and irreducibility. Mesh use was defined as the dependent variable. Logistic regression analysis was performed to assess the association between ultrasound parameters and mesh requirement. Odds ratios (ORs) were used to assign weighted scores and construct the Umb-RADS system. Diagnostic performance was evaluated using receiver operating characteristic (ROC) analysis, and the optimal cut-off value was determined by the Youden index. Statistical significance was set at p<0.05.

Results: Mesh repair was performed in 77% of patients, while 23% underwent primary repair. Defect diameter ≥22 mm was identified as the strongest independent predictor of mesh requirement (OR: 3.21; 95% CI: 1.13-9.17; p=0.028). Valsalva positivity demonstrated a strong association with mesh use but did not reach statistical significance (OR: 2.26; p=0.075). The presence of bowel or mesentery within the hernia sac (OR: 1.87) and irreducibility (OR: 1.20) were positively associated with mesh requirement but were not statistically significant. ROC analysis of the Umb-RADS total score yielded an area under the curve (AUC) of 0.66. At a cut-off value of ≥2 points, the positive predictive value for mesh requirement was 85.9%.

Conclusion: Umb-RADS is a standardized, ultrasound-based scoring system that provides moderate but clinically meaningful discriminative power in predicting mesh requirement for umbilical hernia repair using only preoperative imaging data. Rather than replacing surgical judgment, Umb-RADS functions as an objective and reproducible decision-support tool that may improve preoperative planning, surgeon–radiologist communication, and patient counseling.

Keywords: Radiological, umblycal hernia

[S-152]

Safety and clinical applicability of total extraperitoneal (TEP) repair in inguinal hernia patients with previous lower abdominal surgery

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Objective: The aim of this prospective observational study was to evaluate the technical feasibility,safety profile, and clinical outcomes of total extraperitoneal (TEP) inguinal hernia repair in patients with a history of prior lower abdominal surgery. Adhesions that may develop in the preperitoneal space following lower abdominal surgery can complicate TEP dissection and raise concerns regarding an increased risk of perioperative complications. This study aimed to demonstrate, using objective clinical data, that TEP repair can be safely performed in this specific patient population.

Material and Methods: A total of 159 patients were prospectively enrolled in this study conducted at the General Surgery Clinic of University of Health Sciences Türkiye, Ankara Etlik City Hospital between February 2025 and September 2025. Patients were categorized into three groups: (1) those who underwent open Lichtenstein repair, (2) TEP patients without a history of prior lower abdominal surgery, and (3) TEP patients with a history of prior lower abdominal surgery. Demographic characteristics, hernia type and laterality, intraoperative findings (particularly the presence of peritoneal defects), postoperative complications, quality-of-life scores assessed using EQ-5D and EQ-VAS, and time to return to work were recorded. Data were analyzed using appropriate parametric and non-parametric statistical tests.

Results: Total extraperitoneal (TEP) repair was performed in 65.4% of the patients (n=104), while 31.4% (n=50) underwent open Lichtenstein repair. The rate of peritoneal defects was significantly higher in the TEP group with a history of prior lower abdominal surgery ($p<0.001$); however, no adverse effect was observed on procedural completion rates or overall complication rates.All peritoneal defects were identified intraoperatively and successfully managed with primary repair. Seroma formation was significantly more frequent in the open surgery group ($p<0.001$). Length of hospital stay ($p=0.033$) and time to return to work ($p<0.001$) were significantly shorter in the laparoscopic groups. In terms of quality-of-life assessment, EQ-5D and EQ-VAS scores were significantly higher in the TEP groups compared with the open surgery group ($p=0.020$ and $p<0.001$, respectively). Quality-of-life scores in the TEP group with a history of lower abdominal surgery were comparable to those in the TEP group without such history ($p>0.05$). The overall recurrence rate was 0.6%, and recurrence was observed exclusively in the open surgery group.

Conclusion: Despite increased technical complexity, total extraperitoneal (TEP) repair in patients with a history of prior lower abdominal surgery is a safe, feasible, and clinically advantageous option In this patient population, complication rates, recurrence rates, and quality-of-life outcomes are comparable to those observed in TEP patients without a history of lower abdominal surgery. In contrast, preference for open Lichtenstein repair in a similar patient profile appears to be associated with higher seroma rates, increased morbidity, and prolonged recovery and return-to-work periods. When performed by experienced surgical teams, TEP may be considered among standard treatment options,not merely as a minimally invasive technique but as an effective approach that supports patient safety,quality of life, and functional recovery.

Keywords: Inguinal hernia, lower abdominal surgery, quality of life, total extraperitoneal repair

Table 1. Distribution of hernia localization according to surgical techniques

Grup	Sağ	Sol	Bilateral	Toplam (n, %)
Grup 1 (Lichtenstein)	33 (66.0%)	13 (26.0%)	4 (8.0%)	50 (31.4%)
Grup 2 (TEP)	22 (37.93%)	20 (34.48%)	16 (27.59%)	58 (36.5%)
Grup 3 (Alt Batın Cerrahisi Geçirmiş TEP)	32 (62.75%)	11 (21.57%)	8 (15.69%)	51 (32.1%)
Genel Toplam	87 (54.7%)	44 (27.7%)	28 (17.6%)	159 (100%)

Table 2. Distribution of previous lower abdominal surgery incision (scar) types by sex

Skar tipi	Erkek n	Kadın n	Toplam n
Pfannenstiel insizyon skarı	2	4	6
McBurney (ipsilateral)	17	2	19
Pararektal (ipsilateral)	6	0	6
Göbek altı median kesi (GAM)	3	0	3
Prostatektomi (robotik + lap.)	14	0	14
Diğer insizyon skarları	3	0	3
Genel Toplam	45	6	51

Table 3. Inguinal hernia surgical techniques performed in the study population

Ameliyat Tekniği	n	%
Lichtenstein	50	31.45
TEP	58	36.48
Konv. Mesh (Alt batın cerrahisi geçirmiş TEP sonrası)	2	1.26
Konv. TAP (Alt batın cerrahisi geçirmiş TEP sonrası)	3	1.89
Alt batın cerrahisi geçirmiş TEP	46	28.93
Genel Toplam	159	100.0

Table 4. Statistical comparison of clinical, surgical, and functional outcomes between groups

Değişken	F	p değeri	Grup 1 – Grup 2	Grup 1 – Grup 3	Grup 2 – Grup 3	Yorum
Ameliyat süresi	0.454	0.636	ns	ns	ns	Fark yok
Kanama	3.011	0.052	ns	ns	ns	Eğilim var (p≈0.05)
Periton yırtığı	170.374	<0.001	p<0.001	p<0.001	p<0.001	En sık Grup 3'te
Clavien–Dindo skoru	1.893	0.154	ns	ns	ns	Benzer
Yatış süresi	3.483	0.033	p<0.05	ns	ns	Grup 1 > Grup 2
Seroma	12.677	<0.001	p<0.001	p<0.001	ns	Grup 1 > (2, 3)
Hematom	2.037	0.134	ns	ns	ns	Benzer
İYE	0.856	0.427	ns	ns	ns	Fark yok
Cerrahi enfeksiyon	0.821	0.442	ns	ns	ns	Fark yok
Nüks	1.060	0.349	ns	ns	ns	Fark yok
Memnuniyet	19.064	<0.001	p<0.001	p<0.001	ns	Laparoskopik > Açık
Hareket	2.125	0.123	ns	ns	ns	Fark yok
Öz bakım	3.557	0.031	p<0.05	ns	ns	Grup 1 < Grup 2
Olağan aktivite	1.411	0.247	ns	ns	ns	Fark yok
Ağrı	2.131	0.122	ns	ns	ns	Fark yok
Anksiyete	2.166	0.118	ns	ns	ns	Fark yok
VAS	8.869	<0.001	p<0.001	p<0.001	ns	Grup 1 < (2, 3)
İşe dönüş süresi	54.594	<0.001	p<0.001	p<0.001	ns	Grup 1 > (2, 3)
EQ5D indeksi	3.991	0.020	p<0.05	ns	ns	Grup 1 < Grup 2
Yaş	0.811	0.446	ns	ns	ns	Fark yok
Cinsiyet	7.064	0.001	ns	p<0.01	p<0.05	Grup 3'te kadın oranı yüksek
BMI	1.271	0.283	ns	ns	ns	Fark yok

Table 5. Postoperative complications

Değişken	Kategori	n	%
Clavien–Dindo skoru	1	149	93.7
	2	9	5.7
	3	1	0.6
Cerrahi enfeksiyon	Var	15	9.4
	Yok	144	90.6
Nüks	Var	1	0.6
	Yok	158	99.4
Seroma	Var	57	35.8
	Yok	102	64.2
Hematom	Var	10	6.3
	Yok	149	93.7
İYE	Var	3	1.9
	Yok	156	98.1
Mesh enfeksiyonu	Var	0	0
	Yok	159	100

[S-153]

Patient-reported outcomes of botulinum toxin A application in the prehabilitation of abdominal wall hernias

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Objective: Preoperative botulinum toxin A (BTA) application is increasingly used in the management of complex abdominal wall hernias. While its morphological effects on abdominal wall muscles and surgical facilitation have been well documented, patient reported outcomes following BTA administration have not been systematically evaluated. This study aimed to assess patient-reported symptoms and experiences after preoperative BTA application.

Material and Methods: This retrospective study included nine patients received BTA in November-December 2025. A total dose of 300 U BTA (Botox®, Allergan), diluted in 150 cc saline, was administered under ultrasound guidance. Injections were performed bilaterally into the lateral abdominal muscles at three points, with 8-9 cc per muscle. Patients were evaluated 3-4 weeks after injection. Patient-reported outcomes included pain at injection, respiratory symptoms, changes in abdominal contour, bowel habits, urinary symptoms, and limitations in daily or physical activities.

Results: The mean age was 63.9±16.3, the mean body mass index was 32.2±4.4. Mild injection-related pain (mean VAS: 4) was reported by 33% of patients. Transient respiratory discomfort occurring between days 7 and 14 after injection and lasting a mean of 8.5 days was observed in 22%. Abdominal wall relaxation and contour change was reported by 78%. Constipation developed in 44%, while urinary symptoms and limitation in daily activities were each reported by one patient.

Conclusion: Preoperative BTA application appears to be a safe and well-tolerated prehabilitation strategy with minimal impact on patient comfort. Although injection-related pain is negligible, clinicians should be aware of possible delayed respiratory symptoms and changes in bowel habits.

Keywords: Incisional hernia, patient reported outcomes, prehabilitation

[S-155]

Comparison of TAPP and TEP in inguinal hernia surgery

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Objective: Transabdominal preperitoneal (TAPP) and total extraperitoneal (TEP) repairs are among the most frequently employed techniques in adult inguinal hernia surgery. Nevertheless, there remains a lack of well-defined indications regarding the preferential selection of one approach over the other in routine clinical practice.

Material and Methods: A retrospective analysis was conducted on 344 patients who presented to Necmettin Erbakan University Faculty of Medicine Hospital between January 2018 and December 2024. Patients were divided into two groups according to the selected surgical technique: The TAPP group (n=160) and the TEP group (n=184). These two groups were statistically analyzed, and operative time, patient satisfaction, and early postoperative complication rates were compared.

Results: The rate of early complications (seroma, hematoma, and surgical site infection) was significantly higher in the TAPP group compared with the TEP group ($p<0.001$). According to the model results, the TAPP technique increased the risk of developing early complications by approximately 6.6-fold, independent of age and the presence of cardiac comorbidities. Each one-year increase in age was associated with a 6.9% increase in the risk of complications. Operative time was significantly longer in the TAPP group than in the TEP group ($p<0.001$), with the TAPP technique increasing operative duration by a mean of 23.28 minutes compared with TEP. Satisfaction analysis demonstrated higher patient satisfaction in the TEP group (97% vs. 85%), along with higher pain levels and a greater need for pain-related consultations in the TAPP group.

Conclusion: Both TAPP and TEP are safe and effective techniques for the surgical management of adult inguinal hernias. Nevertheless, the present findings strongly support TEP as the preferred approach, given its significantly shorter operative time, lower intraoperative trauma risk, and superior postoperative comfort with respect to pain. Our results indicate that, following an appropriate learning curve built upon initial experience with TAPP, the stepwise adoption of the TEP technique leads to a marked improvement in surgical safety and a substantial reduction in complication rates. Accordingly, TEP should be considered the first-line laparoscopic technique in centers with adequate surgical expertise.

Keywords: Inguinal hernia, laparoscopic inguinal hernia repair, TAPP, TEP

Table 1. Logistic regression analysis (dependent variable: Early complication)

Variable	B	Std. err	z	p	Exp(B)	95% CI lower	95% CI upper
Constant	-7.129	1.146	-6.22	0.000	0.001	0.000	0.008
TAPP	1.882	0.426	4.42	<0.001	6.566	2.850	15.128
Age	0.067	0.017	3.94	<0.001	1.069	1.034	1.105
Cardiac	1.769	0.523	3.38	0.001	5.862	2.104	16.335

Table 2. Linear regression analysis (dependent variable: Operative time)						
Variable	**B**	**Std. err**	**t**	**p**	**95% CI lower**	**95% CI upper**
const	6.585	8.936	0.74	0.462	-10.991	24.162
TAPP	23.281	1.596	14.59	0.0	20.142	26.421
BMI	0.818	0.322	2.54	0.011	0.185	1.451
ASA score	7.189	1.393	5.16	0.0	4.45	9.929
Male sex	1.838	1.893	0.97	0.332	-1.886	5.563
Pulmonary	11.485	3.806	3.02	0.003	3.999	18.97

[S-156]

The predictive utility of the systemic immune-inflammation index for bowel resection in incarcerated hernias: A five-year single-centre retrospective study introduction

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Objective: Emergency surgery for incarcerated hernias presents a considerable clinical challenge, particularly when strangulation leads to intestinal ischaemia requiring bowel resection. Advanced age and specific hernia subtypes have been identified as risk factors for resection. Inflammatory biomarkers including the neutrophil-to-lymphocyte ratio have shown predictive value in strangulated hernias. The systemic immune-inflammation index (SII), determined by the formula platelet × neutrophil/lymphocyte, integrates three haematologic components reflecting systemic inflammatory activation and has shown prognostic significance in various surgical and inflammatory conditions. This study evaluated whether SII can predict bowel resection in incarcerated hernias.

Material and Methods: This retrospective, single-centre study analysis encopassed 247 consecutive patients who underwent emergency surgery for incarcerated hernias over five years. Age, sex, hernia subtype, and preoperative laboratory parameters were recorded. SII was calculated from admission blood tests. The Mann-Whitney U test and chi-square test were used for comparisons. ROC analysis assessed predictive performance. Multivariable logistic regression including age, sex, hernia type, and SII was performed to determine independent predictors.

Results: Bowel resection was performed in 45 patients (18.21%). Patients requiring resection were significantly older and had higher SII values. ROC analysis revealed moderate predictive efficacy (AUC =0.683). There was a statistically significant association between hernia type and resection status (χ^2=8.75, df=2, p=0.013). Age and SII remained independent predictors in multivariable analysis.

Conclusion: SII seems to be a useful adjunctive biomarker for predicting bowel resection in incarcerated hernias. The incorporation of inflammatory indicators into risk stratification models may improve perioperative decision-making.

Keywords: Bowel resection, incarcerated hernia, systemic immune-inflamation Index

Table 1. Hernia type and bowel resection rates			
Hernia type	**No resection**	**Resection**	**Resection rate (%)**
Inguinal/femoral	109	29	26.6%
Umblical/ epigastric	54	3	5.5%
Incisional	39	13	33.3%

Table 2. Multivariable logistic regression			
Variable	**Odds ratio**	**95% CI**	**p**
Age (per year)	1.027	1.002 -1.052	0.033
SII	1.00016	1.00003-1.00030	0.017
Male sex	0.434	0.201-0.933	0.033
Hernia Type 2	0.223	0.069-0.719	0.012
Hernia Type 3	0.807	0.336-1.935	0.631

[S-157]

Prehabilitation in complex abdominal wall hernia treatment: A case series of transversus abdominis release following botulinum toxin A and progressive pneumoperitoneum

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Objective: Repair of complex abdominal wall hernias presents significant challenges due to loss of domain (LOD). This study aims to present the outcomes of three patients treated with transversus abdominis release (TAR) following prehabilitation with botulinum toxin A (BTA) and progressive pneumoperitoneum (PPP).

Material and Methods: Three patients underwent preoperative BTA and PPP. BTA (300 U, dilued within 150 cc saline) was administered under ultrasound guidance to the lateral abdominal muscles at three points bilaterally. PPP was indicated for patients with an LOD index >25% (Tanaka method) and administered via an intraabdominal catheter. Subsequently, all patients underwent TAR repair with double 30x30 cm polyprolene mesh reinforcement and panniculectomy.

Results: The patients (ages 78, 71, and 60; BMIs 33.3, 35.1, and 39.9 kg/m²) presented with incisional hernias (EHS classification M3-5W2,W3) and LOD indices of 66%, 32%, and 34%, respectively. PPP was initiated 19–42 days after BTA injection. Total insufflated volumes ranged from 7 to 9 liters over a period of 9 to 14 days. No complications occurred during the prehabilitation phase. Postoperatively, one patient developed pleural effusion (Clavien-Dindo II) during hospital stay. Length of hospital stay was 13, 5, and 15 days, respectively. One patient developed a subcutaneous seroma requiring aspiration at one month.

Conclusion: Preoperative BTA and PPP facilitate fascial closure in complex incisional hernias. Combining these prehabilitation strategies with component separation techniques constitutes an effective treatment modality for giant hernias involving loss of domain.

Keywords: Botulinum toxin A, complex abdominal wall hernia, progressif pnomoperitoneum

[S-159]

Reducing unnecessary preoperative testing: ATASAGUN (Algorithm-based triage-anesthesia surgical evaluation guideline usage network) decision-support framework

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Objective: A substantial proportion of laboratory and imaging tests requested during preoperative anesthetic preparation for elective surgery contribute little to clinical decision-making while leading to increased healthcare costs, additional workload.Key factors underlying this problem include the passive use of clinical guidelines, fragmented decision-making between anesthesia and surgical teams, and insufficient integration of risk-based triage mechanisms into routine clinical practice. In this study, we evaluated the effectiveness of the ATASAGUN (Algorithm-based Triage-Anesthesia Surgical Evaluation Guideline-integrated Decision Support Network) model, which integrates guideline-based recommendations into algorithmic triage and facilitates decision-support communication between anesthesia and surgical teams, in reducing unnecessary test ordering during preoperative anesthetic evaluation.

Material and Methods: This study is a retrospective, comparative analysis conducted in adult patients scheduled for elective surgery. Patients who underwent preoperative anesthesia evaluation within the specified time frame were included. Patients were divided into two groups based on the approach used in the preoperative evaluation process.The ATASAGUN group consisted of patients evaluated according to the ATASAGUN clinical decision support framework, which integrates guideline recommendations with algorithmic triage and is based on decision-supported communication between anesthesia and surgical teams. The conventional evaluation group included patients who underwent preoperative evaluation based on individual clinical decisions in standard anesthesia outpatient clinic practice. Primary outcome measures: Number and rate of non-indicated investigations. Total preoperative evaluation cost. Secondary outcome measures: Rate of delay or cancellation on the day of surgery. Need for additional investigations. Perioperative complications. Data were obtained from hospital information management system records. Appropriate parametric or non-parametric tests were used in the statistical analysis, and a $p<0.05$ value was accepted as the statistical significance level.

Results: No significant differences were found between the groups in terms of demographic characteristics, ASA classifications, and types of surgical intervention in the patients included in the study. In patients evaluated with the ATASAGUN model, a significant reduction in requests for non-indicative laboratory and diagnostic tests was observed compared to the conventional evaluation group. This reduction was particularly more pronounced in low- and medium-risk patients.

Conclusion: This retrospective analysis demonstrated that the ATASAGUN model, which integrates guideline recommendations with algorithmic triage to provide decision-supported communication between anesthesia and surgical teams, significantly reduced unnecessary diagnostic orders during the preoperative anesthetic preparation process. The ATASAGUN approach offers a clinical decision support framework that optimizes resource utilization without negatively impacting clinical safety. The findings suggest that transforming the passive use of guidelines in preoperative assessment into algorithmic and integrated decision support systems can significantly contribute to cost-effective and sustainable healthcare delivery.

Keywords: Preoperative assessment, unnecessary procedures, patient safety

[S-160]

Access to healthcare services and patient perception in the post-earthquake period: A cross-sectional survey study

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Objective: This study aims to evaluate the functioning of the healthcare system in the aftermath of a major earthquake, focusing on patients' perceptions, experiences, and ethical dimensions rather than the organization of services. The main focus of the study is to reveal the impact of earthquake conditions on individuals' access to healthcare services, the informed consent process, perceptions of privacy, sense of justice, and trust in healthcare workers from the patient's perspective and through a humanistic lens.

Material and Methods: This cross-sectional survey study included 72 participants who received healthcare services in the post-earthquake period. The survey form consisted of Likert-type questions assessing socio-demographic characteristics, direct exposure to the earthquake, healthcare access processes, informed consent and privacy experience, perceived fairness in service delivery, and trust in healthcare workers. Likert items were analyzed categorically into 1-2, 3, and 4-5 point groups, considering their ordinal structures. Findings were addressed not only through quantitative distributions but also through a holistic interpretation that considered the social and ethical context.

Results: Post-earthquake participant responses reveal that healthcare access has become significantly more difficult, with many experiencing delays in appointment and diagnostic services. This situation demonstrates that systemic intensity and uncertainty, beyond physical infrastructure losses, directly impair the overall patient experience. Although the informed consent process remains relatively positive regarding staff attitudes, extraordinary conditions like overcrowding and time pressure can undermine perceptions of privacy and autonomous decision-making. The heterogeneous distribution of perceptions concerning data protection further highlights the inherent fragility of maintaining ethical standards in disaster conditions. While fairness in service delivery is generally perceived, noteworthy resource shortages prevent many from obtaining necessary medical care. Nevertheless, the high level of trust in healthcare professionals proves that human agency remains the decisive factor in patient experience despite the system's structural challenges.

Conclusion: Post-earthquake responses reveal that healthcare access has become significantly more difficult, with many experiencing delays in appointments and diagnostics. This suggests that systemic intensity and uncertainty, beyond physical infrastructure losses, directly impair patient experiences. While informed consent remains relatively positive regarding staff attitudes, overcrowding and time pressure can undermine privacy and autonomous decision-making. The heterogeneous perception of data protection further highlights the fragility of ethical standards during disasters. Although fairness in service delivery is generally perceived, noteworthy resource shortages prevent many from obtaining necessary care. Nevertheless, high trust in healthcare professionals proves that the human factor remains decisive in patient experience despite structural systemic challenges.

Keywords: Access to healthcare, disaster ethics, earthquake, patient perspective, perception of justice

Table 1. Participants' socio-demographic, application, and earthquake impact characteristics

PARAMETRE	DEĞER
Yaş (yıl)	41,2 ± 14,1
Cinsiyet	
Kadın	40 (%55,6)
Erkek	29 (%40,3)
Belirtmek istemiyorum	3 (%4,2)
Eğitim Düzeyi	
İlkokul / Ortaokul	18 (%25,0)
Lise	21 (%29,2)
Üniversite	26 (%36,1)
Lisansüstü	7 (%9,7)
Başvuru Tipi	
Acil	29 (%40,3)
Poliklinik	40 (%55,6)
Yatış / Servis	3 (%4,2)
Alınan Hizmet Türü	
Muayene	34 (%47,2)
Tetkik / Görüntüleme	17 (%23,6)
Ameliyat	8 (%11,1)
Yara bakımı / Pansuman	9 (%12,5)
Diğer	4 (%5,6)
Depremden Etkilenme	
Barınma sorunu yaşadı (Evet)	38 (%52,8)
Ev / iş kaybı yaşadı (Evet)	31 (%43,1)
Birinci derece yakın kaybı / ağır etkilenme (Evet)	27 (%37,5)

Table 2A. Access to and processes for health services after an earthquake

PARAMETRE	1–2 n (%)	3 n (%)	4–5 n (%)
Son 1 ayda uykusuzluk / yoğun kaygı artışı	18 (%25,0)	17 (%23,6)	37 (%51,4)
Sağlık hizmetlerine ulaşım benim için zordu	28 (%38,9)	14 (%19,4)	30 (%41,7)
Tetkik / görüntüleme için bekleme sürem uzundu	21 (%29,2)	16 (%22,2)	35 (%48,6)
Deprem öncesine göre sağlık hizmetine erişimim daha zordu	14 (%19,4)	12 (%16,7)	46 (%63,9)
Deprem sonrası sağlık sistemiyle iletişimim daha zordu	19 (%26,4)	18 (%25,0)	35 (%48,6)
Randevu/başvuru sürecinde belirgin gecikme yaşadı (Evet)	33 (%45,8)	–	–

Table 2B. Access to and processes for health services after an earthquake

Gecikme süresi (yalnızca gecikme yaşayanlar)	N: KİŞİ SAYISI
0–3 gün	9 (%27,3)
4–7 gün	11 (%33,3)
8–14 gün	8 (%24,2)
≥15 gün	5 (%15,2)
Ameliyat / işlem planı ertelendi (Evet)	14 (%19,4)

Table 3A. Informed consent, awareness, and perception of privacy

PARAMETRE	1–2 n (%)	3 n (%)	4–5 n (%)
Yapılacak işlem / ameliyat anlaşılır dille anlatıldı	8 (%11,1)	14 (%19,4)	50 (%69,4)
Riskler ve olası komplikasyonlar yeterince açıklandı	11 (%15,3)	16 (%22,2)	45 (%62,5)
Alternatif tedavi seçenekleri anlatıldı	14 (%19,4)	18 (%25,0)	40 (%55,6)
Soru sormam için yeterli zaman tanındı	9 (%12,5)	15 (%20,8)	48 (%66,7)
Karar verirken kendimi baskı altında hissetmedim	10 (%13,9)	17 (%23,6)	45 (%62,5)
Onam formunu okumaya fırsat buldum	12 (%16,7)	14 (%19,4)	46 (%63,9)
Muayene / tedavi sırasında mahremiyetim korundu	9 (%12,5)	13 (%18,1)	50 (%69,4)
Kalabalık nedeniyle özel bilgileri paylaşırken çekindim	31 (%43,1)	18 (%25,0)	23 (%31,9)
Deprem koşulları nedeniyle mahremiyetin korunması zorlaştı	14 (%19,4)	16 (%22,2)	42 (%58,3)

Table 3B. Perception of justice, resource insufficiency, and trust in healthcare workers

PARAMETRE	1–2 n (%)	3 n (%)	4–5 n (%)
Hizmet sunumunda önceliklendirme adil yapıldı	14 (%19,4)	18 (%25,0)	40 (%55,6)
Kaynak yetersizliği nedeniyle gereken hizmeti alamadığımı düşündüm	33 (%45,8)	17 (%23,6)	22 (%30,6)
Doktoruma / ekibime güvendim	6 (%8,3)	12 (%16,7)	54 (%75,0)
Sağlık çalışanları bana saygılı ve onur kırıcı olmayan tutumla yaklaştı	5 (%6,9)	11 (%15,3)	56 (%77,8)

Talbe 4A. Relationship between experiencing housing problems due to earthquakes and perception of access to health

Sağlık Hizmetine Erişim Algısı Arasındaki İlişki

Barınma Sorunu	1–2	3	4–5	p değeri
Hayır	12	6	9	
Evet	23	7	15	
Toplam	35	13	24	0,75

Table 4B. Relationship between loss of a first-degree relative and increase in stress and anxiety symptoms

Stres ve Kaygı Belirtilerindeki Artış Arasındaki İlişki

Birinci Derece Yakın Kaybı	1–2	3	4–5	p değeri
Hayır	14	14	20	
Evet	12	1	11	
Toplam	26	15	31	0,034

Table 5. Comparative literature table

Çalışma	Odağı	Tasarım / Veri Kaynağı	Çıktı tipi	Bizim çalışmamızdan farkı
Süer MS, Ergüder E, Demir S, Balaş Ş. (2025)	Kahramanmaraş depremi sonrası **bilimsel yanıtın** bibliyometrik haritalanması	Bibliyometrik analiz	Yayın eğilimleri, ağlar, temalar	Hasta deneyimi/etik algı ölçümü yok; literatür ekosistemini tanımlar (biz hasta perspektifini dolduruyoruz).
Varolgüneş S. (2025)	Kahramanmaraş depremleri üzerine akademik üretim: eğilimler/boşluklar/politika	Bibliyometrik analiz (2023–2025 dokümanlar)	Tema ve boşluk analizi	Sağlık hizmeti/hasta deneyimi odağı sınırlı; daha geniş "kriz yönetimi/toplumsal etki" çerçevesi.
Orak Y. ve ark. (2023)	Türkiye deprem(ler)inin sağlık hizmetlerine etkisi ve enfeksiyon tehditleri	Narrative review	Sağlık sistemi etkileri (genel çerçeve)	Hasta algısı/etik süreçler (onam–mahremiyet–adalet–güven) nicel olarak ölçülmez.
Yılmaz S. (2024)	Acil sağlık hizmetleri ve kitlesel yaralanma yönetimi: literatür derlemesi/derleme	Derleme/derleme niteliğinde "compilation"	Triage, acil yönetim dersleri	Hasta deneyimi/etik algı yerine operasyonel-acil yönetim odaklı.
Zaman S. ve ark. (2023)	Non-epicenter hastanede ilk günlerde hizmet yanıtı (pediatrik olgular)	Retrospektif (125 olgu)	Klinik/operasyonel hizmet verisi	Hasta algısı/etik boyut yok; hizmet yükü ve yanıt kapasitesi düzeyinde.
Kurt NG. ve ark. (2023)	Ankara şehir hastanesi acil servisine başvuran depremzedelerin değerlendirilmesi (geniş seri)	Retrospektif (acil servis başvuruları)	Demografi, başvuru nedenleri, sonuçlar	Hasta deneyimi/etik algı ölçümü yok; sağlık sistemi temasının klinik kaydı.
Tülüce D. ve ark. (2025)	Deprem sonrası kronik hastalık yönetiminde **hasta deneyimleri**	Nitel (qualitative) çalışma	Temalar/deneyimler	Hasta deneyimine yakın; ancak bizim çalışmadaki gibi "erişim + onam + mahremiyet + adalet + güven"i aynı çerçevede nicel dağılımla sunmaz.
Bizim çalışma (2026)	Deprem sonrası sağlık sisteminin **hasta gözünden** değerlendirilmesi	Kesitsel anket (72 kişi); Likert 1–2/3/4–5 + seçili p-analiz	Erişim, onam, mahremiyet, adalet, güven	Literatürdeki "operasyonel/retrospektif" boşluğunu hasta-etik ekseninde tamamlar; insani

[S-161]

The impact of preoperative imaging modalities on lesion localization accuracy in patients undergoing pancreaticoduodenectomy

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Objective: Accurate preoperative localization of periampullary lesions is essential for optimal surgical planning and determination of resection strategy in patients undergoing pancreaticoduodenectomy (Whipple procedure). Variability in imaging modalities may influence localization accuracy and intraoperative decision-making.

Material and Methods: A retrospective analysis was conducted of 106 pancreaticoduodenectomies performed over a two-year period at a tertiary referral center. Forty-three patients with complete preoperative imaging data were included. Imaging modalities were categorized as endoscopic ultrasonography combined with magnetic resonance imaging (EUS+MRI), EUS combined with computed tomography (EUS+CT), MRI alone, MRI+CT, and EUS+MRI+CT. Preoperative lesion localization was compared with intraoperative findings and confirmed by postoperative pathological assessment. Concordance rates were calculated descriptively.

Results: Preoperative imaging consisted of EUS+MRI in 12 patients, EUS+CT in 9, MRI alone in 9, MRI+CT in 8, and EUS+MRI+CT in 5 patients. Overall concordance between preoperative imaging and intraoperative localization was observed in 34 patients (79%), whereas discordance occurred in 9 patients (21%). Among discordant cases, MRI alone was used in 5 patients and EUS+MRI in 4 patients. A higher proportion of localization discrepancies was noted in patients evaluated with MRI as a single modality. Histopathological examination revealed adenocarcinoma in 38 patients and intraductal papillary mucinous neoplasm in 5 patients.

Conclusion: Preoperative imaging demonstrates a high overall localization accuracy in periampullary lesions. However, reliance on a single imaging modality—particularly MRI alone—may be associated with increased localization discrepancies. These findings support the integration of multimodal imaging strategies to optimize surgical planning and highlight the importance of intraoperative correlation in pancreaticoduodenectomy.

Keywords: Pancreaticoduodenectomy, imaging, localization

Table 1.

Imaging modality	Patient (n)	Concordant (n)	Discordant (n)	Discordance (%)
EUS+MRI	12	8	4	33.3
EUS+CT	9	9	0	0
Only MRI	9	4	5	55.6
MRI+CT	8	8	0	0
EUS+MRI+CT	5	5	0	0
TOTAL	43	34	9	21

[S-162]

Can inflammation indexes predict difficult cholecystectomy in patients over the age of 65?

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Objective: Laparoscopic cholecystectomy is the standard surgical method in symptomatic gallstone disease. However, increased comorbidity load and more pronounced inflammatory response in elderly patients increase the risk of technical difficulty. Difficult cholecystectomy is associated with conversion, subtotal (bail-out) surgery or prolonged operation time, which can lead to increased morbidity and mortality. In this study, it was aimed to determine the factors associated with difficult cholecystectomy in patients aged ≥65 years and to evaluate the predictive value of CRP/albumin ratio (CAR).

Material and Methods: Between January 2015 and June 2025, 726 patients aged ≥65 who underwent laparoscopic cholecystectomy in a single center were reviewed retrospectively. Demographic data, ASA score, surgical urgency, laboratory parameters and perioperative variables were recorded. CAR was calculated as CRP (mg/L)/albumin (g/dL); NLR was determined as neutrophil/lymphocyte ratio. Difficult cholecystectomy was defined as conversion and/or subtotal surgery and/or operation time ≥120 minutes. Independent predictors were evaluated with multivariate logistic regression analysis. The separative power was calculated with ROC analysis.

Results: The median age of a total of 726 patients was 70 (67-74) years and 35.7% were male. Difficult cholecystectomy rate was determined as 38.0%. The conversion rate was 13.1% and the most common cause was insecure/uncertain anatomy (89.5%). Male gender, emergency surgery, acute cholecystitis, ASA ≥III and anticoagulant use were significantly higher in the difficult group (all $p<0.001$). CRP and CAR values were significantly high in the difficult group ($p<0.001$). In the difficult group, the duration of the operation, the length of the hospital stay, the need for intensive care and the mortality of 30 days were significantly higher ($p<0.01$). In the multivariate analysis, acute cholecystitis (aOR 8.79; $p=0.004$) was found to be independent predictors for male gender (aOR 1.44; $p=0.039$) and log(CAR) (aOR 1.45; $p<0.001$). The distinguishing power of the model was AUC=0.727. In the ROC analysis, the distinguishing power of the CAR was medium (AUC=0.700).

Conclusion: Difficult cholecystectomy is associated with clinically significant poor results in patients aged ≥65 years. Acute cholecystitis and male sex, as well as the independent predictor of CAR, supports a laboratory-based practical preoperative risk stratification approach. It can contribute to the CAR clinical decision process in terms of safety-oriented surgical planning in elderly patients.

Keywords: Difficult laparoscopic cholecystectomy, inflammation markers, CRP/albumin ratio (CAR), neutrophic/lymphocyte ratio,

[S-163]

Could a low preoperative prognostic nutritional index value be an indicator of clinically relevant postoperative pancreatic fistula?

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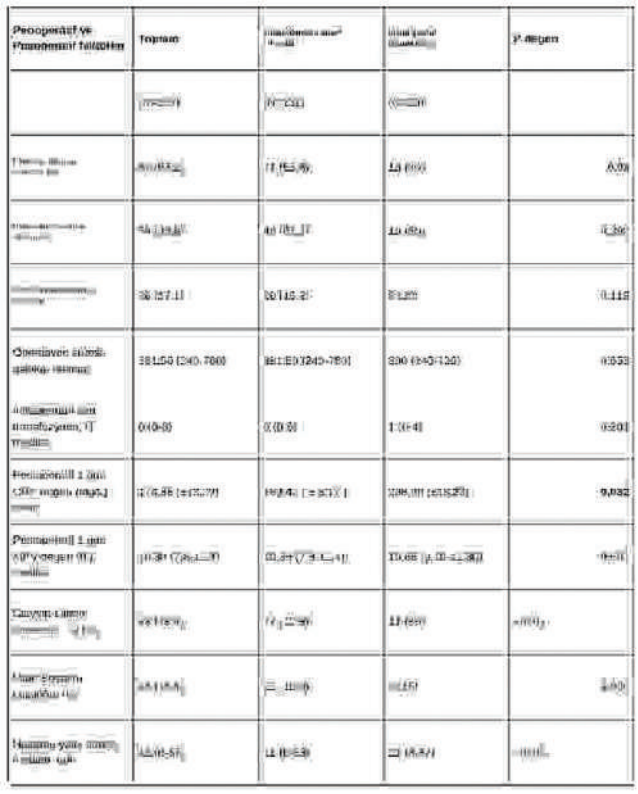
Objective: Numerous risk factors, including preoperative malnutrition, have been identified as being associated with clinically relevant postoperative pancreatic fistula (CR-POPF) formation after pancreaticoduodenectomy (PD). However, limited information exists regarding the relationship between preoperative prognostic nutritional index (PNI) values, as an indicator of preoperative immuno-nutritional status, and CR-POPF formation. In this study, we aimed to investigate clinicopathological factors associated with CR-POPF formation, focusing specifically on preoperative PNI values, in a cohort undergoing PD.

Material and Methods: This retrospective study included a total of 152 patients who underwent PD at the Department of General Surgery, Ondokuz Mayıs University Faculty of Medicine, between January 2018 and February 2023. We classified pancreatic fistula formation as BL and CR-POPF according to the categorization of the International Pancreatic Fistula Study Group. The cohort was divided into two groups based on the development of CR-POPF, and demographic, preoperative, intraoperative, and postoperative findings, including final pathology, were compared using univariate analysis. Statistically significant parameters ($p<0.1$) were evaluated using multivariate binary logistic regression analysis. The primary endpoint of the study was CR-POPF, while the secondary endpoint was Grade 3-4 serious postoperative complications according to the Clavien-Dindo classification.

Results: CR-POPF was observed in 13.1% (n=20) of the cohort. PNI was significantly higher in the control group ($p<0.05$). In univariate analysis, soft pancreatic remnant tissue [odds ratio (OR): 0.291; $p<0.05$], pathological diagnosis other than ductal adenocarcinoma of the pancreatic head (OR: 2.577; $p>0.05$), preoperative PNI value (OR: 0.909; $p<0.05$), and postoperative serum CRP level (OR: 1.007; $p<0.05$) met the inclusion criteria for multivariate analysis among clinicopathological factors identified as associated with CR-POPF. Soft pancreatic remnant tissue and PNI were identified as independent risk factors for the development of CR-POPF, respectively (OR, 0.255; 95% CI, 0.076-0.852; p=0.026 and OR, 0.890; 95% CI, 0.808-0.980; p=0.018).

Conclusion: In this study, soft pancreatic remanent tissue and low preoperative PNI values were independent risk factors for the development of CR-POPF in patients undergoing PD. The advantage of determining the preoperative PNI level in patients scheduled for PD is that, in addition to other prognostic factors, it can contribute to CR-POPF risk stratification and perioperative patient management.

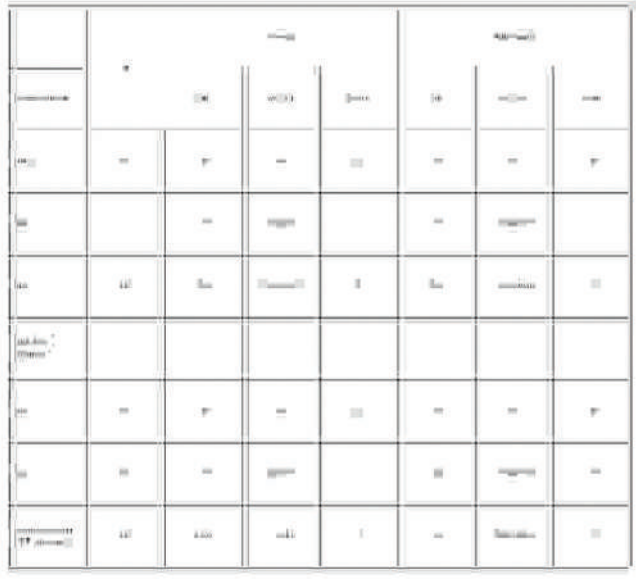
Keywords: Prognostic nutritional index, pancreatic fistula, pancreaticoduodenectomy



Perioperative factors and postoperative outcomes associated with the development of CR-POPF after PD

*Comparison of risk factors in the fistula group (Grade B and C) and the fistula group according to ISGPF definition. *Diagnoses other than pancreatic adenocarcinoma and chronic autoimmune pancreatitis were defined as high-risk pathologies.*

Comparison of risk factors between fistula-free (0 and BL) and fistula groups (Grade B and C) according to ISGPF definition, and univariate and multivariate analyses.



*ISGPF: International Study Group of Pancreatic Fistula, CRP: C-reactive protein, PNI: Prognostic nutritional index, (OR: Odds ratio), CI: Confidence interval) *Diagnoses other than pancreatic adenocarcinoma and chronic autoimmune pancreatitis were defined as high-risk pathologies.*

[S-164]

Analysis of factors predicting recurrence in liver hydatid cyst surgery: An experience of 164 cases

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Objective: Cystic echinococcosis (CE) is a significant parasitic disease that poses a public health threat in endemic regions. The development of recurrence after surgery for liver hydatid cysts (LHC) is a primary factor that limits treatment success and increases morbidity. This study aims to identify the preoperative and intraoperative risk factors predisposing to recurrence in patients undergoing surgery for LHC.

Material and Methods: Data from 164 patients operated on with a diagnosis of LHC at our center between 2019 and 2025 were retrospectively analyzed. Patients were divided into two groups: those who developed recurrence (n=35, 21.3%) and those without recurrence (n=129). Demographic data, preoperative findings, cyst morphology, laboratory parameters, surgical techniques performed, and postoperative outcomes were compared. Statistical analyses were conducted using chi-square tests and appropriate parametric/non-parametric tests; a p-value of <0.05 was considered statistically significant.

Results: The mean age of the patients included in the study was 46.92±15.99 years. No statistically significant differences were found between the groups regarding demographic characteristics, number of cysts, cyst diameter, localization, or surgical approach (p>0.05). However, eosinophil levels in the recurrence group (0.46±0.94) were found to be statistically significantly higher compared to the non-recurrence group (0.25±0.33) (p=0.041). The recurrence rate was 47.4% in patients who experienced intraoperative cyst content spillage, whereas this rate was 17.9% in those without spillage (p=0.008). In multivariate logistic regression analysis, intraoperative spillage was identified as an independent risk factor, increasing the risk of recurrence by 3.9 times. Detailed recurrence analysis revealed that 91.4% (n=32) of recurrences developed in the same segment as the primary cyst, and the mean time to recurrence was 13.37±10.79 months. Furthermore, 45.7% of patients with recurrence required repeat surgery or the PAIR procedure.

Conclusion: The most critical factor predicting recurrence in LHC surgery is the presence of intraoperative spillage rather than the radicality of the surgical technique employed. To minimize recurrence rates, surgical precision and technical measures to prevent the dissemination of cyst contents into the abdominal cavity are of vital importance. The 21.3% recurrence rate in our series was associated with large cyst diameters and a high density of complicated cases. Larger series and long-term follow-up results may provide further guidance in determining recurrence risks and optimizing surgical strategies.

Keywords: Echinococcosis, hydatid cyst, relapse

Table 1. Comparison of demographic, clinical, and operative characteristics between patients with and without recurrence of hepatic hydatid disease

	Study group (n=164)	Group 1 (no recurrence) (n=129)	Group 2 (recurrence) (n=35)	p-value
Age (years)	46.92±15.99	46.70±16.57	47.71±13.79	0.662
Gender				
Female	78 (47.6%)	62 (48.1%)	16 (45.7%)	0.805
Male	86 (52.4%)	67 (51.9%)	19 (54.3%)	
Comorbidity				
No	127 (77.4%)	99 (76.7%)	28 (80%)	0.683
Yes	37 (22.6%)	30 (23.3%)	7 (20%)	
BMI	27.1±17.54	27.49±19.66	25.67±4.08	0.971
Cyst infection/cholangitis				
Absent	113 (68.9%)	91 (70.5%)	22 (62.9%)	0.384
Present	51 (31.1%)	38 (29.5%)	13 (37.1%)	
Localization				
Right lobe	94 (57.3%)	70 (54.3%)	24 (68.6%)	0.221
Left lobe	32 (19.5%)	29 (22.5%)	3 (8.6%)	
Bilateral	29 (17.7%)	22 (17.1%)	7 (20%)	
Central/perihilar	9 (5.5%)	8 (6.2%)	1 (2.4%)	
Max cyst diameter (cm)	11.37±10.24	11.74±11.43	10±2.92	0.697
Number of cysts				
Single	100 (61%)	81 (62.8%)	19 (54.3%)	0.360
Multiple	64 (39%)	48 (37.2%)	16 (45.7%)	
Gharbi classification				
1-2-3	142 (86.6%)	115 (81%)	2 (19%)	0.088
4-5	22 (13.4%)	14 (63.6%)	8 (36.4%)	

Table 1. Continued

	Study group (n=164)	Group 1 (no recurrence) (n=129)	Group 2 (recurrence) (n=35)	p-value
History of PAIR/surgery				
No	117 (71.3%)	94 (72.9%)	23 (65.7%)	0.406
Yes	47 (28.7%)	35 (27.1%)	12 (34.3%)	
Preop albendazole treatment				
No	39 (23.8%)	32 (24.8%)	7 (20%)	0.554
Yes	125 (76.2)	97 (75.2)	28 (80%)	
Suspicion of biliary tract relationship in preoperative imaging				
No	106 (64.6%)	81 (62.8%)	25 (71.4%)	0.343
Yes	58 (35.4%)	48 (37.2%)	10 (28.6%)	
Preop ERCP performed				
No	122 (74.4%)	93 (72.1%)	29 (82.9%)	0.196
Yes	42 (25.6%)	36 (27.9%)	6 (17.1%)	
Eosinophil (x10^9/L)	0.41±0.85	0.25±0.33	0.46±0.94	0.041
Serology				
Negative	39 (23.8%)	30 (23.3%)	9 (25.7%)	0.762
Positive	125 (76.2%)	99 (76.7%)	26 (74.3%)	
Serology titer (IHA)				
1/160	39 (23.8%)	30 (23.3%)	9 (25.7%)	
1/320	19 (11.6%)	14 (10.9%)	5 (14.3%)	
1/640	21 (12.8%)	18 (14%)	3 (8.6%)	0.914
1/1280	71(43.3%)	56 (43.4%)	15 (42.9%)	
1/2560	14 (8.5%)	11 (8.5%)	3 (8.6%)	
Surgical technique				
Open	145 (88.4%)	113 (87.6%)	32 (91.4%)	0.530
Laparoscopic	19 (11.6%)	16 (12.4%)	3 (8.6%)	
Operation type				
Cystotomy + drainage	96 (58.5%)	75 (58.1%)	21 (60%)	
Total pericystectomy	12 (7.3%)	8 (6.2%)	4 (11.4%)	
Partial pericystectomy	44 (26.8%)	34 (26.4%)	10 (28.6%)	0.226
Segmentectomy/ hepatectomy	12 (7.3%)	12 (9.3%)	0	
Intraop cyst content spillage				
No	145 (88.4%)	119 (82.1%)	26 (17.9%)	0.003
Yes	19 (11.6%)	9 (47.4%)	10 (52.6%)	
Intraop bile duct comm. + repair				
No	117 (71.3%)	88 (68.2%)	29 (82.9%)	0.089
Yes	47 (28.7%)	41 (31.8%)	6 (17.1%)	
Omentopexy				
No	92 (56.1%)	68 (52.7%)	24 (68.6%)	0.094
Yes	72 (43.9%)	61 (47.3%)	11 (31.4%)	

Table 1. Continued

	Study group (n=164)	Group 1 (no recurrence) (n=129)	Group 2 (recurrence) (n=35)	p-value
Postoperative biliary fistula development				0,09
No	128 (78%)	97 (75.2%)	31 (88.6%)	
Yes	36 (22%)	32 (24.8%)	4 (11.4%)	
Postoperative abscess development				0.927
No	102 (62.2%)	80 (62%)	22 (62.2%)	
Yes	62 (37.8%)	49 (38%)	13(37.1%)	
Length of Hospital stay (days)	11.35±8.52	11.48±8.4	10.85±9.06	0.251
Readmission				0.865
No	142 (86.6%)	112 (86.8%)	30 (85.7%)	
Yes	22 (13.4%)	17 (13.2%)	5 (14.3%)	
Follow-up/recurrence time (months)		24.67±18.145	13.37±10.79	

Data are presented as mean ± standard deviation or number (percentage). BMI: Body mass index, PAIR: Puncture, aspiration, injection, and re-aspiration, ERCP: Endoscopic retrograde cholangiopancreatography, IHA: Indirect hemagglutination test. Statistical significance was defined as $p<0.05$.

Table 2. Clinical characteristics, Gharbi classification, and management outcomes of patients with recurrent hepatic hydatid disease (n=35)

Clinical characteristics of recurrence	n=35 (%)
Recurrence type	
Same segment	32 (91.4%)
Different segment	3 (8.6%)
Recurrence stage (Gharbi)	
Stage 1	7 (20%)
Stage 2	7 (20%)
Stage 3	5 (14.3%)
Stage 4	5 (14.3%)
Stage 5	11 (31.4)
Need for re-intervention (PAIR/ surgery)	
No	19 (54.3%)
Yes	16 (45.7%)
Time to recurrence (months)	
Mean (±SD)	13.37 (±10.79)

Data are presented as number (percentage) unless otherwise specified. SD: Standard deviation, PAIR: Puncture, aspiration, injection, and re-aspiration. Time to recurrence is presented as mean ± SD.

[S-165]

Investigation of the effect of a single-dose corticosteroid administration prior to major hepatectomy on postoperative complications

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Objective: Major hepatectomy leads to excessive activation of systemic inflammatory pathways, thereby increasing the incidence of posthepatectomy liver failure and various postoperative complications. Given the known anti-inflammatory properties of corticosteroids, it has been hypothesized that these agents may attenuate the inflammatory response and reduce complication rates. This study aimed to evaluate the effects of a single preoperative dose of methylprednisolone on postoperative complications, laboratory parameters, and mortality in patients undergoing major hepatectomy.

Material and Methods: This randomized, controlled, double-blind, and prospective clinical study was conducted at the Department of General Surgery, Ankara University Faculty of Medicine. A total of 41 patients and living donors who underwent major hepatectomy were included. Participants were divided into two main groups: Those receiving a single preoperative dose of 250 mg methylprednisolone (St^+) and those not receiving steroids (St^-); additionally, patient and donor subgroups were analyzed separately. Operative time, intraoperative blood loss, number and removal time of drains, complication types, laboratory parameters (ALT, AST, total/direct bilirubin, INR, hemoglobin, leukocyte count, CRP), and lengths of stay in the intensive care unit and hospital were compared. Data were analyzed using SPSS 22.0 software, and the Mann-Whitney U, Kruskal-Wallis, and chi-square tests were applied. A p-value <0.05 was considered statistically significant.

Results: Evaluation of all cases revealed that the 90-day overall complication rate was 31.6% in the St^- group and 40.9% in the St^+ group (p=0.746). In the patient subgroup, the complication rate was 44.4% in St^+ patients and 57.1% in St^- patients (p=0.680), while in the donor subgroup, the rates were 20% and 12.5%, respectively (p=0.671). Mortality occurred exclusively in the St^+ patient group, with three deaths (13.6%), whereas no mortality was observed in the St^- group (p=0.235). While postoperative CRP and leukocyte levels showed generally similar trends between groups, an upward tendency in CRP levels on postoperative day 5 was noted in the St^+ group (p=0.059). No significant differences were detected in ALT, AST, bilirubin, or INR levels.

Conclusion: A single preoperative dose of methylprednisolone demonstrated a tendency to attenuate the early postoperative inflammatory response and to maintain liver enzyme levels closer to normal following major hepatectomy. However, it did not significantly alter the overall complication rate, and mortality occurred only in patients who did not receive steroids. These findings suggest that preoperative corticosteroid administration may represent a safe and potentially protective option when applied to appropriately selected patients. Nevertheless, larger randomized controlled trials are required to confirm these effects.

Keywords: Major hepatectomy, corticosteroid, complication

[S-166]

Evaluation of the association between disease severity and postoperative complications in acute cholecystitis surgery using clinical and biochemical parameters

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Objective: Acute cholecystitis is a surgical condition with a wide spectrum of clinical severity, in which postoperative complication risk increases as disease severity progresses. Although the Tokyo Guidelines 2018 are widely used for severity classification, the contribution of clinical and biochemical markers to predicting postoperative complications remains unclear. This study aimed to evaluate the association between disease severity according to the Tokyo Guidelines 2018 and postoperative complications, and to assess the predictive value of inflammatory and nutritional indices in patients undergoing surgery for acute cholecystitis.

Material and Methods: Patients who underwent surgery for acute cholecystitis between January 1, 2024 and December 31, 2025 were retrospectively analyzed. Patients who underwent elective cholecystectomy (n=262), percutaneous cholecystostomy (n=27), or concomitant surgical procedures (n=25) were excluded. A total of 136 patients were included. Patients were classified as Grade I-III according to the Tokyo Guidelines 2018. Demographic data, clinical timing variables, operative time, length of hospital stay, and postoperative complications were recorded. Preoperative laboratory parameters were used to calculate NLR, PLR, CAR, PNI, SII, RAR, and CALLY indices. Non-parametric statistical tests were applied. Receiver operating characteristic (ROC) analysis was performed for parameters associated with postoperative complications. Statistical significance was set at p<0.05.

Results: Fifty-two patients (38.2%) were classified as Grade I, 52 (38.2%) as Grade II, and 32 (23.5%) as Grade III acute cholecystitis. Advanced age and prolonged symptom-to-admission time were significantly associated with higher Tokyo grades (p<0.001). As disease severity increased, operative time, length of hospital stay, and postoperative complication rates increased significantly (p<0.001 and p=0.034, respectively) (Table 1).PNI values were significantly lower in patients who developed postoperative complications (p=0.018). Although CAR values tended to be higher in patients with complications, this difference was not statistically significant (p=0.090). No significant differences were observed for NLR, PLR, or SII. ROC analysis showed that PNI had moderate discriminative ability for predicting postoperative complications (AUC=0.678). A cut-off value of ≤41.0 yielded a sensitivity of 70% and a specificity of 62%. The discriminative ability of CAR was limited (AUC=0.628) (Figure 1). No 30-day mortality was observed.

Conclusion: In acute cholecystitis surgery, disease severity according to the Tokyo Guidelines 2018 is significantly associated with clinical course and postoperative complications. Postoperative complication risk appears to be more strongly related to the patient's nutritional reserve, reflected by PNI, rather than to classical inflammatory indices. These findings suggest that nutritional status should be considered in perioperative risk assessment.

Keywords: Acute cholecystitis, Tokyo grade, postoperative complication

Table 1. Association between acute cholecystitis severity according to the Tokyo Guidelines 2018 and clinical course and postoperative outcomes

Variable	Grade I	Grade II	Grade III	p
Number of patients, n (%)	52 (38.2)	52 (38.2)	32 (23.5)	—
Age (years)	↓	↑	↑↑	<0.001
Symptom-to-admission time (days)	↓	→	↑	<0.001
Length of hospital stay (days)	↓	↑	↑↑	<0.001
Operative time (min)	↓	↑	↑↑	<0.001
Postoperative complication, n (%)	3 (5.8)	6 (11.5)	8 (25.0)	0.034

Note: Arrows indicate relative trends across increasing Tokyo grades.

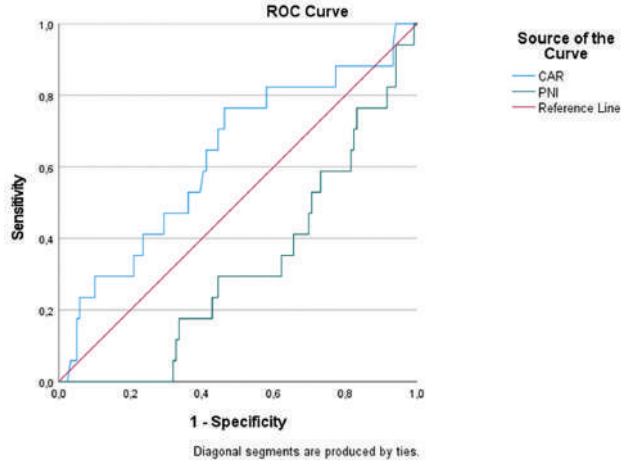

Figure 1. ROC curves for PNI and CAR in predicting postoperative complications.

[S-167]

Predictive value of the RDW/albumin ratio for clinically relevant pancreatic fistula in elderly patients undergoing pancreaticoduodenectomy

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Objective: Clinically relevant postoperative pancreatic fistula (CR-POPF) remains one of the leading causes of morbidity following pancreaticoduodenectomy. In addition to technical surgical factors, biochemical markers reflecting systemic inflammation and physiological reserve may contribute to risk prediction. The red cell distribution width/albumin ratio (RDW/Alb) is a composite parameter reflecting inflammatory status and hepatic protein synthesis. This study aimed to investigate whether the RDW/Alb ratio has a stronger predictive value for postoperative complications, particularly in elderly patients undergoing Whipple surgery.

Material and Methods: This single-center retrospective study included 140 patients who underwent pancreaticoduodenectomy for pancreatic head and periampullary malignancies. Patients were divided into two groups: <70 years and ≥70 years. Preoperative RDW-CV (%) and serum albumin (g/L) values were used to calculate the RDW/Alb ratio. To evaluate the age-dependent effect of this biomarker, an interaction variable (RDW/Alb × age; RAR×age) was created and incorporated into the regression model. The primary outcome was the development of clinically relevant postoperative pancreatic fistula (CR-POPF). Continuous variables were analyzed using appropriate statistical tests, while categorical variables were compared using chi-square analysis. Logistic regression analysis was performed to identify independent risk factors. A p-value <0.05 was considered statistically significant.

Results: CR-POPF developed in 30 of 140 patients (21.4%). The incidence of CR-POPF was similar between age groups (<70 years: 22.4% vs. ≥70 years: 20.3%; p=0.768). Elderly patients had significantly higher RDW/Alb ratios (0.426±0.082 vs. 0.375±0.078; p<0.001). In this group, albumin levels were lower while RDW values were higher (p<0.01). Operative time was longer in patients who developed CR-POPF (p=0.002). Soft pancreatic texture and a narrow Wirsung duct were associated with fistula development (p=0.031 and p=0.034, respectively). Length of hospital stay was markedly prolonged in patients with CR-POPF. The RDW/Alb ratio did not differ between patients with and without CR-POPF (p=0.927). In logistic regression analysis, operative time (OR=1.007, 95% CI 1.003-1.012; p=0.002) and a narrow pancreatic duct (OR=2.57, 95% CI 1.07-6.16; p=0.034) were identified as independent risk factors. The RAR×age variable showed a trend toward increased complication risk but did not reach statistical significance (p=0.072).

Conclusion: Technical and anatomical factors remain the primary determinants of CR-POPF development. Although the RDW/Alb ratio was higher in elderly patients, it was not an independent predictor of fistula. The observed trend with the RAR×age interaction suggests that the prognostic value of inflammatory biomarkers may increase with age, warranting validation in larger cohorts.

Keywords: Pancreaticoduodenectomy, pancreatic fistula, RDW/albumin ratio, elderly patients, postoperative complications

Table 1. Baseline demographic, clinical and laboratory characteristics according to age group

Variable	<70 years (n=76)	≥70 yaş (n=64)	p-value
Age (years)	56.3±8.5	74.2±3.2	<0.001
Sex (male/female)	45 (59.2%)/31 (40.8%)	33 (51.6%)/31 (48.4%)	0.364
Operative time (min)	370.6±98.3	403.1±93.1	0.120
Albumin (g/L)	39.0±4.4	36.7±4.2	**0.002**
Preop RDW-CV (%)	14.37±1.69	15.39±1.97	**0.001**
RDW/Alb ratio	0.375±0.078	0.426±0.082	**<0.001**
Creatinin (mg/dL)	0.78±0.24	0.94±0.29	**0.001**
Total lymph node count	27.2±12.8	22.8±8.2	0.094
Type of surgery (PPPD/classical PD)	31 (40.8%)/45 (59.2%)	20 (31.3%)/44 (68.8%)	0.243
Tumor Type			0.515
Pancreas	37 (48.7%)	26 (40.6%)	
Distal bile duct	7 (9.2%)	10 (15.6%)	
Ampulla of vater	25 (32.9%)	19 (29.7%)	
Duodenum	1 (1.3%)	3 (4.7%)	
Others	6 (7.9%)	6 (9.4%)	
Pancreatic texture (soft / firm)	36 (47.4%)/40 (52.6%)	31 (48.4%)/33 (51.6%)	0.900
Wirsung duct diameter (narrow / dilated)	23 (30.3%)/53 (69.7%)	14 (21.9%)/50 (78.1%)	0.262
CR-POPF	17 (22.4%)	13 (20.3%)	0.768
Major complication (Clavien-Dindo ≥3)	20 (26.3%)	23 (35.9%)	0.219
30-day mortality	3 (3.9%)	9 (14.1%)	0.033

Table 2. Multivariate logistic regression (for CR-POPF)			
Variable	**OR (ExpB)**	**95% CI**	**p-value**
Operative time	1.007	1.003-1.012	0.002
Narrow wirsung duct	2.57	1.07-6.16	0.034
RAR × age group (interaction)	4.00	0.88-18.13	0.072
Preoperative	1.000	0.999-1.001	0.771

[S-168]

Xanthogranulomatous cholecystitis mimicking gallbladder cancer: The role of preoperative hematological and inflammatory markers

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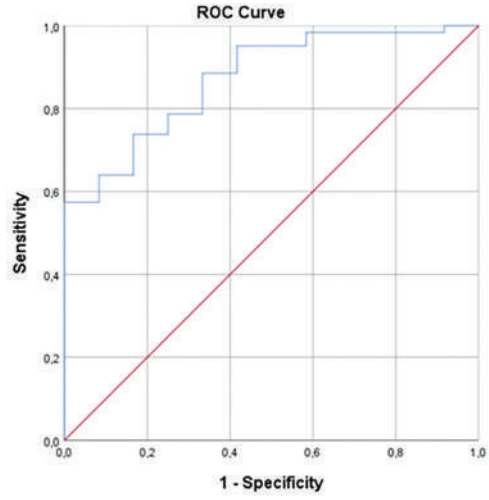
Objective: Xanthogranulomatous cholecystitis (XGC) is an inflammatory disease that can clinically and radiologically mimic gallbladder cancer (GBC), making preoperative differentiation challenging. This study aimed to compare preoperative hematological and inflammatory parameters in patients diagnosed with XGC and GBC and to evaluate the diagnostic value of these parameters in differential diagnosis.

Material and Methods: This single-center retrospective study included patients who underwent cholecystectomy between January 2018 and December 2025 at İstanbul Fatih Sultan Mehmet Training and Research Hospital and were postoperatively diagnosed with XGC or GBC based on histopathological examination. Patients were divided into two groups: XGC and GBC. Demographic characteristics, preoperative complete blood count, and biochemical parameters were recorded. Neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), monocyte-to-lymphocyte ratio (MLR), systemic immune-inflammation index (SII), hemoglobin–albumin–lymphocyte–platelet (HALP) score, and modified HALP (mHALP) score were calculated. Intergroup comparisons were performed using appropriate statistical tests.

Results: A total of 73 patients were included in the study, of whom 61 were diagnosed with XGC and 12 with GBC. No significant differences were observed between the groups in terms of demographic characteristics or most hematological and inflammatory parameters. However, preoperative albumin levels, HALP scores, and mHALP scores were significantly lower in the gallbladder cancer group. Multivariate analysis identified the HALP score as an independent marker for differentiating XGC from GBC. ROC analysis demonstrated that a HALP score below 0.58 was associated with an increased likelihood of GBC.

Conclusion: Preoperative differentiation between XGC and GBC remains clinically challenging. Hematological and inflammatory parameters obtained preoperatively—particularly the HALP score—may be useful in distinguishing between these two conditions. A HALP score below 0.58 appears to be a clinically valuable cut-off for predicting GBC.

Keywords: Xanthogranulomatous cholecystitis, gallbladder cancer, cholecystectomy



AUCs	P value	95% CI	Cut-off	Sensitivity (%)	Specificity (%)
0,872	<0,001	0,776-0,968	0,58	73,8	83,3

AUC: Area under the curve

Figure 1. ROC curve analysis of the HALP score

Table 1. Comparison of preoperative hematological and inflammatory biomarkers between groups

	XGC (n=61)	GBC (n=12)	p-value	Odds ratio	p-value
White blood cell count (10^3/µL), mean ± SD	8.8±2.75	8.1±3.09	0.173		
Neutrophil count (10^3/µL), mean ± SD	5.6±2.89	5.1±2.90	0.341		
Lymphocyte count (10^3/µL), mean ± SD	2.3±0.85	2.2±1.03	0.371		
Monocyte count (10^3/µL), mean ± SD	0.5±0.19	0.5±0.16	0.418		
Platelet count (10^3/µL), mean ± SD	281.8±78.76	247.8±43.33	0.166		
Hemoglobin (g/dL), mean ± SD	13.2±1.61	12.4±1.54	0.113		
MPV (fL), mean ± SD	8.3±1.37	8.1±1.25	0.579		
RDW (%), mean ± SD	14.3±1.40	15.1±1.61	0.116		
INR, mean ± SD	1.0±0.10	0.9±0.07	0.806		
Albumin (g/dL), mean ± SD	4.1±0.46	3.7±0.33	*0.001	0.648	0.605
CRP (mg/L), mean ± SD	28.4±53.73	10.9±9.00	0.374		
NLR, mean ± SD	3.1±3.22	3.1±3.80	0.888		
PLR, mean ± SD	136.4±63.19	132.1±56.28	0.941		
MLR, mean ± SD	0.2±0.16	0.2±0.19	0.448		
SII, mean ± SD	846.6±783.51	722.7±789.42	0.405		
SIRI, mean ± SD	1.8±2.58	1.8±2.76	0.812		
CAR, mean ± SD	6.9±12.68	3.1±2.84	0.503		
HALP score, mean ± SD	1.0±0.66	0.4±0.19	*<0.001	0.008	*0.019
mHALP score, mean ± SD	36,671±17,522	25,966±14,869	*0.048	1.000	0.206

[1]: Mann–Whitney U test, [2]: Student's t-test.
* p<0.05 was considered statistically significant. XGC: Xanthogranulomatous cholecystitis, GBC: Gallbladder cancer. Significant variables were evaluated using binary multivariate logistic regression analysis.

[S-170]

Predictive value of an intraoperative gallbladder scoring system for surgical difficulty and postoperative outcomes in laparoscopic cholecystectomy

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Objective: Laparoscopic cholecystectomy (LC) is the gold standard surgical treatment for gallbladder diseases. This study aimed to evaluate the effectiveness of an intraoperative gallbladder scoring system in predicting surgical difficulty and perioperative outcomes in patients undergoing LC. Accurate estimation of surgical difficulty in gallbladder dissection (LC) is crucial for optimizing surgical planning, patient information, and postoperative outcomes. Various preoperative and intraoperative factors, such as gallbladder wall thickness, adhesions, scleroatrophic changes, and the anatomy of Calot's triangle, have been identified as determinants of difficult LC. However, preoperative scoring systems may not fully capture the dynamic intraoperative findings that ultimately determine the complexity of the procedure. In this context, intraoperative gallbladder scoring systems have been developed to provide an objective, real-time assessment of surgical difficulty. Studies from different geographic regions have validated and adapted intraoperative scoring systems, confirming predictive values for difficult dissection and conversion to open surgery.

Material and Methods: A total of 798 patients who underwent elective LC for cholecystopathy (symptomatic cholelithiasis, gallbladder polyps, and adenomyomatosis) performed by a single surgeon at our institution between March 2019 and February 2024 were retrospectively analyzed. Demographic characteristics, ASA scores, and predisposing factors were recorded. The degree of intraoperative gallbladder adhesions was graded on a scale from 0 to 4 operative time, drain usage, conversion to open surgery, and postoperative complications were evaluated. The relationship between the intraoperative gallbladder score and surgical outcomes was statistically analyzed.

Results: The mean age of the patients was 51 years, and 61% were female. The intraoperative gallbladder score was 1 in 45.9% of patients, 2 in 26.3%, 3 in 15.1%, and 4 in 10.5%. Drain placement was required in 33.1% of cases. The conversion rate to open surgery was 2.1%. The postoperative complication rate was 1.1%. A statistically significant association was found between increasing intraoperative gallbladder scores and drain usage, postoperative complications, and conversion to open surgery ($p<0.05$). No significant association was observed between the intraoperative score and the need for ERCP.

Conclusion: The intraoperative gallbladder scoring system is a reliable and practical method for predicting surgical difficulty and adverse perioperative outcomes in LC. Its routine use may support surgical decision making and improve patient safety and surgical outcomes.

Keywords: Laparoscopic cholecystectomy, intraoperative scoring, surgical difficulty, conversion

Table 1. Relationship between intraoperative gallbladder scoring system and surgical outcomes

Intraoperative GB score	0	1	2	3	4	Total	p-value
No. of patients n (%)	18 (2.2)	366 (45.9)	209 (26.3)	121 (15.1)	84 (10.5)	798 (100)	
Drain usage n (%)	–	2 (0.6)	63 (30.1)	114 (95.8)	84 (100)	264 (33.0)	<0.001
Complications n (%)	–	1 (0.5)	1 (0.2)	3 (2.5)	4 (4.8)	9 (1.1)	0.002
Conversion from LC to OC n (%)	–	–	1 (0.2)	5 (4.1)	11 (13.1)	17 (2.2)	<0.001
ERCP requirement n (%)	–	–	1 (0.2)	1 (0.8)	1 (1.2)	3 (0.4)	0.321
Total adverse outcomes* n (%)	–	1 (0.5)	3 (1.4)	9 (7.4)	3 (0.4)	–	<0.001

[S-171]

The effect of preoperative biliary drainage methods on multidrug-resistant microorganism colonization in rectal swabs in pancreatic head tumors

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Objective: Obstructive jaundice is a common clinical finding in patients with pancreatic head tumors, and preoperative biliary drainage is frequently performed before surgery. However, randomized controlled trials have shown that preoperative biliary drainage does not provide uniform benefit for all patients and may increase postoperative complication rates. Biliary drainage procedures can alter the biliary and gastrointestinal microbiota, leading to increased bacterial colonization. Previous studies have demonstrated that preoperative biliary drainage is associated with increased bile colonization and that multidrug-resistant microorganisms may adversely affect postoperative morbidity and long-term survival. Data evaluating the relationship between different preoperative biliary drainage methods and rectal multidrug-resistant microorganism colonization remain limited. This study aimed to assess the impact of preoperative biliary drainage methods on multidrug-resistant microorganism colonization detected by rectal swab screening in patients with pancreatic head tumors.

Material and Methods: This retrospective, single-center observational study included patients who underwent surgical treatment for pancreatic head tumors between 2020 and 2025 at University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital. A total of 145 patients were included. Patients were classified according to the preoperative biliary drainage method as endoscopic retrograde cholangiopancreatography, percutaneous transhepatic cholangiography, or no preoperative biliary drainage. Patients with multiple drainage procedures or unclear classification were excluded. Preoperative rectal swab samples were obtained according to the institutional infection control protocol. Multidrug-resistant microorganism colonization was defined as detection of extended-spectrum beta-lactamase producing Enterobacterales, carbapenem-resistant gram-negative bacteria, or vancomycin-resistant enterococci. Categorical variables were analyzed using chi-square or Fisher's exact tests, and a p-value below zero point zero five was considered statistically significant.

Results: Multidrug-resistant microorganism colonization was most frequently observed in patients who underwent endoscopic biliary drainage. Colonization rates were forty-two point nine percent in the endoscopic group, twenty-one point six percent in the percutaneous group, and four point nine percent in patients without biliary drainage. A statistically significant difference in colonization rates was observed among the groups. Compared with patients without biliary drainage, the risk of multidrug-resistant microorganism colonization was significantly higher in the endoscopic drainage group.

Conclusion: Preoperative biliary drainage is significantly associated with multidrug-resistant microorganism colonization detected by rectal swab screening in patients with pancreatic head tumors, particularly when endoscopic retrograde cholangiopancreatography is used. These findings suggest that preoperative biliary drainage decisions should consider biliary decompression together with the risk of antibiotic resistance and infection-related complications overall.

Keywords: Pancreatic head tumors, preoperative biliary drainage, multidrug-resistant microorganisms, rectal swab, ERCP

Table 1. Rectal MDR colonization according to preoperative biliary drainage methods

Group	MDR (+) n/N (%)	MDR (−) n/N (%)
ERCP	3/7 (42.9)	4/7 (57.1)
PTC	8/37 (21.6)	29/37 (78.4)
No drainage	2/41 (4.9)	39/41 (95.1)

[S-172]

Perforations following endoscopic retrograde cholangiopancreatography: Experience at a tertiary care center

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Objective: Perforations occurring after endoscopic retrograde cholangiopancreatography (ERCP) are rare but serious complications that can have a fatal course. This study aimed to evaluate the clinical characteristics, treatment approaches, and factors associated with mortality in patients diagnosed with ERCP perforation at a tertiary care center.

Material and Methods: In this retrospective study, patients diagnosed with post-ERCP perforation at University of Health Sciences Türkiye, Ankara Etlik City Hospital between October 2022 and June 2025 were screened. Demographic data, ERCP indication and type, imaging findings, treatment method (surgical vs. non-surgical), intensive care need, complications (Clavien–Dindo classification), and mortality were analyzed. Surgical and non-surgical groups were compared in terms of clinical outcomes. Potential predictors of mortality were evaluated using logistic regression analysis.

Results: A total of 20 patients were included in the study. The mean age was 61.2±18.3 years, and 65% of the patients were female. The most common indication for ERCP was choledocholithiasis (75%), and 80% of the procedures were therapeutic. The detection rate of free air on computed tomography was 85%. Sixty-five percent of the patients required intensive care. The overall mortality rate was 25%. Fifteen patients were treated non-surgically, and five patients were treated surgically. The mortality rate in patients who underwent surgical treatment was significantly higher than in the non-surgical group (60% vs. 13%, p=0.038). The Clavien-Dindo complication score was also higher in the surgical group (4.60 vs. 3.13, p=0.002). The need for intensive care and length of hospital stay tended to be higher in the surgical group. In the logistic regression analysis, the treatment approach applied was found to be associated with mortality.

Conclusion: ERCP perforations are serious complications that carry a high risk of morbidity and mortality, despite being rare, as reported in the literature. The mortality rate identified in this study was consistent with previously published series. The higher mortality rate in patients undergoing surgical treatment appears to be related to the more severe clinical presentation of these patients and the fact that they are usually referred for surgery at an advanced stage, rather than the adverse effects of the surgical approach. Our findings emphasize the critical importance of early diagnosis and patient selection in the management of ERCP perforations. While non-surgical approaches can be successful in appropriately selected cases, surgical intervention should not be delayed in cases of clinical deterioration or failure of conservative treatment. A multidisciplinary approach and timely treatment strategy play a decisive role in improving clinical outcomes.

Keywords: Clinical outcomes, conservative treatment, endoscopic retrograde cholangiopancreatography, perforation from ERCP, surgical treatment

Table 1.

Variable	n (%) or Mean ± SD
Age (years)	61.2 ± 12.8
Sex	
• Female	13 (65.0 %)
• Male	7 (35.0 %)
ASA score	
• I	3 (15.0 %)
• II	8 (40.0 %)
• III	9 (45.0 %)
Charlson Comorbidity Index (CCI)	2.55 ± 2.31
Glasgow–Imrie Score	2.75 ± 1.45
ERCP indication	
• Choledocholithiasis	15 (75.0 %)
• Neoplasia	1 (5.0 %)
• Pancreatitis	1 (5.0 %)
• Cholangitis	1 (5.0 %)
• Echinococcus	1 (5.0 %)
• Revisional	1 (5.0 %)
Purpose of ERCP	
• Therapeutic	16 (80.0 %)
• Diagnostic	4 (20.0 %)
Sphincterotomy	14 (70.0 %)
Precut sphincterotomy	4 (20.0 %)
Balloon dilatation	6 (30.0 %)
CT finding (free air present)	17 (85.0 %)
WBC (cells/mm³)	11 325 ± 5 339
CRP (mg/L)	67.1 ± 59.5
Follow-up time (days)	16.6 ± 10.3
Length of hospital stay (days)	28.3 ± 19.1
Recognition delay (hours)	20.15 ± 43.39
Interval from diagnosis to treatment (hours)	1.11 ± 3.36
ICU requirement	13 (65.0 %)
Mortality	5 (25.0 %)

Table 2. Baseline demographic and clinical characteristics of patients with ERCP-related perforation (n=20)

Variable	Non-surgical (n = 15) Mean ± SD	Surgical (n = 5) Mean ± SD	*t*	*p* (2-tailed)
Age (years)	62.9 ± 14.4	56.2 ± 3.1	1.01	0.325
Sex (male %)	33%	40%	−0.26	0.800
Cause score	1.60 ± 1.45	2.20 ± 1.79	−0.76	0.459
Therapeutic indication (%)	80%	80%	0.00	1.000
Sphincterotomy (yes %)	67%	80%	−0.54	0.597
Precut (%)	13%	40%	−1.28	0.217
Balloon dilatation (%)	33%	20%	0.54	0.597
Stapfer classification	2.53 ± 1.13	2.20 ± 1.30	0.55	0.587
Recognition time (h)	24.7 ± 49.3	6.4 ± 10.4	0.81	0.428
Interval to treatment (h)	1.54 ± 3.91	0.0 ± 0.0	0.86	0.400
ICU requirement (%)	53%	100%	−1.98	0.063
Mortality (%)	13%	60%	−2.24	**0.038**
Length of stay (days)	23.6 ± 14.0	42.2 ± 26.8	−2.04	0.056
Clavien–Dindo grade	3.13 ± 0.83	4.60 ± 0.55	−3.64	**0.002**
ASA score	2.40 ± 0.74	2.00 ± 0.71	1.06	0.303
Charlson Comorbidity Index	3.00 ± 2.42	1.20 ± 1.30	1.57	0.134
Glasgow-Imrie score	2.73 ± 1.53	2.80 ± 1.30	−0.09	0.932
WBC (cells/μL)	10,539 ± 3,547	13,684 ± 9,061	−1.15	0.265
CRP (mg/L)	55.3 ± 42.1	102.6 ± 92.4	−1.60	0.126
CT free air present (%)	87%	80%	0.34	0.735

Table 3. Comparison of surgical vs. non-surgical ERCP perforation cases (n=20)

Predictor	Score	χ^2	*df*	*p*-value
Surgical approach	7.200		3	**0.066**
• T-tube drainage	4.356		1	**0.037**
• Debridement	0.131		1	0.718
• HJ	3.158		1	0.076
Intervention type	10.044		4	**0.040**
• Stent	3.590		1	0.058
• Percutaneous	3.268		1	0.071
• Hemoclips	1.176		1	0.278
Cause of ERCP	7.200		5	0.206
Stapfer classification	4.762		3	0.190
ASA score	1.333		2	0.513
Charlson Comorbidity Index (CCI)	2.064		1	0.151
Age	0.110		1	0.740
Sex	0.073		1	0.787
Sphincterotomy	0.317		1	0.573
Precut	0.000		1	1.000
Balloon dilatation	2.857		1	0.091
Glasgow–Imrie score	0.679		1	0.410
WBC (cells/µL)	0.049		1	0.825
CRP (mg/L)	0.017		1	0.897

Table 4. Binary logistic regression analysis for predictors of mortality (n=20)

Çalışma (Yıl)	Tasarım / Kapsam	Perforasyon sınıflaması	Yönetim yaklaşımı (özet)	Mortaliteit / Ana mesaj
ESGE Kılavuz (2020)	Avrupa kılavuzu; iatrojenik endoskopik perforasyonların tanı/tedavisi	ERCP perforasyonlarında sınıflama/şiddet-temelli yaklaşım (Stapfer mantığı)	**Erken tanı + sınıflama + seçilmiş olguda nonoperatif/endoskopik kapama**, yakın izlem; uygun olmayanlarda cerrahi	**"Olguların çoğu** dikkatli seçilirse **nonsurgikal** yönetilebilir" vurgusu
ASGE Kılavuz (2017)	ERCP advers olayları kılavuzu	Perforasyon yönetim prensipleri (genel)	Erken tanı ve uygun yönetim morbidite/mortaliteyi azaltır; algoritmik yaklaşım önerilir	Perforasyon dâhil komplikasyonlarda **"erken fark et–hızlı yönet"** prensibi
Sistematik derleme & meta-analiz (2025, Stapfer temelli)	Stapfer sınıflamasıyla ERCP perforasyonlarının tedavi/sonuçlarını derleyen SR/MA	**Stapfer I–IV**	Tip bazlı yönetim ve sonuç karşılaştırmaları; endoskopik ve konservatif yaklaşımlar seçilmiş hastada öne çıkıyor	Tip/şiddet ve zamanlama ile sonuçların değiştiğini vurgular
Plecic ve ark. (2024, J Clin Med)	Tek merkez deneyimi (ERCP perforasyonları)	Tip-temelli değerlendirme (Stapfer yaklaşımı)	Konservatif/endoskopik tedavi uygun hastada; cerrahi seçilmiş ağır olguda	Mortalitenin literatürde **%8–23** aralığında bildirildiğini ve seçilimin önemli olduğunu vurgular
Taşar ve ark. (2023, Türkiye)	Tek merkez; konservatif vs cerrahi erken sonuçlar	Stapfer tip dağılımı verilmiş	Cerrahi grupta daha ağır olgular; LOS daha uzun	Mortalitenin tanı/tedavi gecikmesi ile ilişkili olduğuna dikkat çeker; mortalite **~%15.6**
Yılmaz ve ark. (2025, Türkiye çok merkezli)	Çok merkez gözlemsel; ERCP sonuçları/komplikasyonlar	Perforasyon nadir; literatür aralığı tartışılmış	Konservatif tedavinin vurgulandığı, cerrahinin seçilmiş gruba ayrıldığı yaklaşım	Perforasyon insidansı düşük; literatürde mortalitenin yüksek olabildiğini (bazı serilerde çok yüksek) not eder
Boonstra ve ark. (2024, Review/Update)	Güncel derleme	Stapfer sınıflaması yaygın	Erken tanı + sınıflama ile "hemen tedavi" (endoskopik kapama seçenekleri dâhil)	ERCP perforasyonlarının <1% ve mortalitenin anlamlı olabileceğini, erken müdahalenin kritik olduğunu vurgular
Emori (2025, GIE – yönetim odaklı)	Klinik odaklı güncel yazı	—	İşlem sırasında tanı + floroskopi/endoskopi bulgularıyla erken yakalama	İntraprocedural tanının ciddi advers olayları azaltabileceği vurgusu
Bu çalışma (2025)	Tek merkez, retrospektif; Etlik Şehir Hastanesi, Ekim 2022–Haziran 2025 (n=20)	Klinik ve radyolojik bulgulara dayalı değerlendirme	Non-cerrahi ve cerrahi yaklaşımlar karşılaştırıldı; cerrahi tedavi daha ağır klinik tabloya sahip hastalarda uygulandı	Genel mortalite **%25**; cerrahi grupta mortalite daha yüksek olup bu durumun tedavi yönteminden ziyade **klinik şiddet ve hasta seçimi** ile ilişkili olduğu gösterildi

[S-173]

Retrospective analysis of factors predicting conversion from laparoscopy to open surgery in xanthogranulomatous cholecystitis surgery

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Objective: Xanthogranulomatous cholecystitis (XGC) is a rare variant of gallbladder disease characterised by extensive fibrosis and inflammation that can mimic malignancy. This pathological process causes significant technical difficulties and high conversion rates during laparoscopic cholecystectomy. The aim of this study is to determine the preoperative clinical, laboratory, and radiological factors that predict conversion from laparoscopic surgery in patients with XGC based on pathology results and to analyse surgical outcomes.

Material and Methods: In this retrospective study, 159 patients who underwent surgery at Ankara Bilkent City Hospital between 2019 and 2025 and were histopathologically diagnosed with XGC were retrospectively examined. Patients were divided into two groups: those who underwent successful laparoscopic cholecystectomy (Group 1, n=126) and those who started laparoscopically but converted to open surgery (Group 2, n=33). Patients' demographic data, comorbidities, preoperative laboratory parameters, and ultrasonographic findings were recorded. Additionally, the duration of the operation, length of hospital stay, reasons for conversion, and postoperative complications were evaluated.

Results: Of the total 159 patients, 91 (57.2%) were male and 68 (42.8%) were female. The conversion rate in our study was determined to be 20.7% (33/159). The mean age of patients in the conversion group (Group 2) (63.48±10.89/55.11±13.08, p=0.001), CRP levels (48.56±56.64/18.65±41.16, p<0.001), ALP (p=0.018), and direct bilirubin (p=0.018) levels were statistically significantly higher than those in Group 1. Lymphocyte counts were significantly lower in the conversion group (p=0.004). Preoperative ultrasound revealed mucosal irregularities in more patients in the conversion group (%30.3/%10.3, p=0.01). In the conversion group, the operation time (90.75/51.03 min, p<0.001) and hospital stay (6.06/2.38 days, p<0.001) were longer, and the complication rate was higher (p<0.001). The most common reason for conversion was difficulty in exploration (87.9%, n=29).

Conclusion: The conversion rate is high in cases of xanthogranulomatous cholecystitis, and conversion is associated with a significantly increased operative time, prolonged hospital stay, and a higher complication rate. In XGC cases, advanced age, high preoperative CRP, ALP, and direct bilirubin levels, and the presence of mucosal irregularities on ultrasound are important predictive factors for conversion from laparoscopic to open surgery. In patients with these risk factors, the surgical strategy should be carefully planned during the preoperative period, taking into account the likelihood of surgical difficulty and conversion, and patient consent should be detailed accordingly.

Keywords: Xanthogranulomatous cholecystitis, laparoscopic cholecystectomy, conversion, risk factors

Table 1.

	Total cohort	Group 1 (laparoscopic) (n=126)	Group 2 (conversion) (n=33)	p
Age	56.84±13.07	55.11±13.08	63.48±10.89	**0.001**
Gender				
Female	68 (42.8%)	56 (44.4%)	12 (36.4%)	0.436
Male	91 (57.2%)	70 (55.6%)	21 (63.6%)	
DM				
No	128 (80.5%)	102 (81%)	26 (78.8%)	0,807
Yes	31 (12.9%)	24 (19%)	7 (21.2%)	
HT				
No	103 (64.8%)	81 (64.3%)	22 (66.7%)	0.841
Yes	56 (35.2%)	45 (35.7%)	11 (33.3%)	
WBC (x10^9/L)	7.97±2.61	8.03±2.43	7.72±3.23	0.131
Neutrophil (x10^9/L)	5.11±2.32	5.09±2.1	5.18±3.07	0.624
lymphocyte (x10^9/L)	2.03±0.67	2.11±0.67	1.71±0.63	**0.004**
PLT(x10^9/L)	301.82±103.49	297.52±92.81	318.24±137.4	0.742
AST (U/L)	30.1±30.4	27.6±21.85	39.66±50.99	0.936
ALT (U/L)	47.61±64.09	46.2±59.15	53±81.09	0.264
ALP (U/L)	124.51±99.73	111.27±72.98	175.06±158.06	0.018
GGT (U/L)	101.55±149.77	99.82±155.58	108.15±127.09	0.858
T.Bilirubin (mg/dL)	0.77±0.5	0.76±0.51	0.83±0.48	0.229
D.Bilirubin (mg/dL)	0.29±0.24	0.27±0.2	0.39±0.34	0.018
CRP (mg/dL)	24.86±46.24	18.65±41.16	48.56±56.64	**<0.001**
USG gallstone				
No	9 (5.7%)	8 (6.3%)	1 (3%)	0.686
Yes	150 (94.3%)	118 (93.7%)	32 (97%)	
Gallstone size (mm)	9.71±8.18	9.94±8.2	8.83±8.16	0.409

Table 1. Continued

	Total cohort	Group 1 (laparoscopic) (n=126)	Group 2 (conversion) (n=33)	p
Mucosal irregularity				
No	136 (85.5%)	113 (89.7%)	23 (69.7%)	**0.01**
Yes	23 (14.5%)	13 (10.3%)	10 (30.3%)	
Intramural/nodular lesion				
No	155 (97.5%)	122 (96.8%)	33 (100%)	0.581
Yes	4 (2.5%)	4 (3.2%)	-	
Diffuse wall thickening				
No	34 (21.4%)	28 (22.2%)	6 (18.2%)	0.812
Yes	125 (78.6%)	98 (77.8%)	27 (81.8%)	
Wall thickness (mm)	5.41±2.91	5.36±2.97	5.59±2.73	0.691
Suspicion of malignancy				
No	139 (87.4%)	109 (86.5%)	30 (90.9%)	0.768
Yes	20 (12.6%)	17 (13.5%)	3 (9.1%)	
Operation duration (min)	59.27±19.91	51.03±8.74	90.75±19.2	**<0.001**
Hospitalization time (days)	3.14±3.23	2.38±2.2	6.06±4.65	**<0.001**
Complication				
No	142 (89.3%)	120 (95.2%)	22 (66.7%)	
Wound infection	10 (6.3%)	3 (2.4%)	7 (21.2%)	
Bleeding	2 (1.3%)	-	2 (6.1%)	**<0.001**
Bile leakage	3 (1.9%)	1 (0.8%)	2 (6.1%)	
Intra-abdominal infection	1 (0.6%)	1 (0.8%)	-	
Other organ injury	1 (0.6%)	1 (0.8%)	-	

[S-174]

The effect of the CA19-9×NLR index on survival in pancreatic ductal adenocarcinoma: A retrospective single-center experience

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Objective: The prognostic value of using systemic inflammation markers together with tumor markers in pancreatic ductal adenocarcinoma (PDAC) is gaining increasing attention. This study aimed to investigate the effect of an index created by multiplying CA19-9 and the neutrophil/lymphocyte ratio (NLR) on overall survival (OS) and disease-free survival (DFS).

Material and Methods: Patients who underwent Whipple procedures between 2020 and 2023 were retrospectively reviewed. Of the total 114 patients, 66 were excluded from the study due to pathology results indicating other malignancies such as ampulla or choledochal cancer, or benign causes such as pancreatitis and benign cystic lesions. A total of 48 PDAC patients were included in the study. The CA19-9×NLR index was calculated for each patient, and a logarithmic transformation was applied due to the skewed distribution. Survival analyses were performed using the Kaplan-Meier method; for visual comparison, patients were divided into low and high index groups based on the median log-index and compared using the log-rank test. Considering that CA19-9 levels may be affected by cholestasis, the independent effect of the index was evaluated using total bilirubin-adjusted Cox regression analysis.

Results: The mean age of the patients was 67.2 years, with 21 males and 27 females. In the Kaplan-Meier analysis based on median values, although the mean OS was longer in the low index group (33 vs. 27 months), no statistically significant difference was found between the groups (log-rank p=0.823). No significant difference was observed between the groups in terms of DFS (≈20 months; log-rank p=0.753). In the Cox regression analysis adjusted for total bilirubin, the log-index did not show an independent effect on OS (HR=1.11; 95% CI 0.69-1.78; p=0.667) or DFS (HR=1.00; 95% CI 0.63-1.60; p=0.996).

Conclusion: The relationship between the CA19-9×NLR index and survival in PDAC patients has not been demonstrated. The findings suggest that the prognostic use of this index needs to be validated in larger, multicenter cohorts

Keywords: CA19-9, pancreatic ductal adenocarcinoma

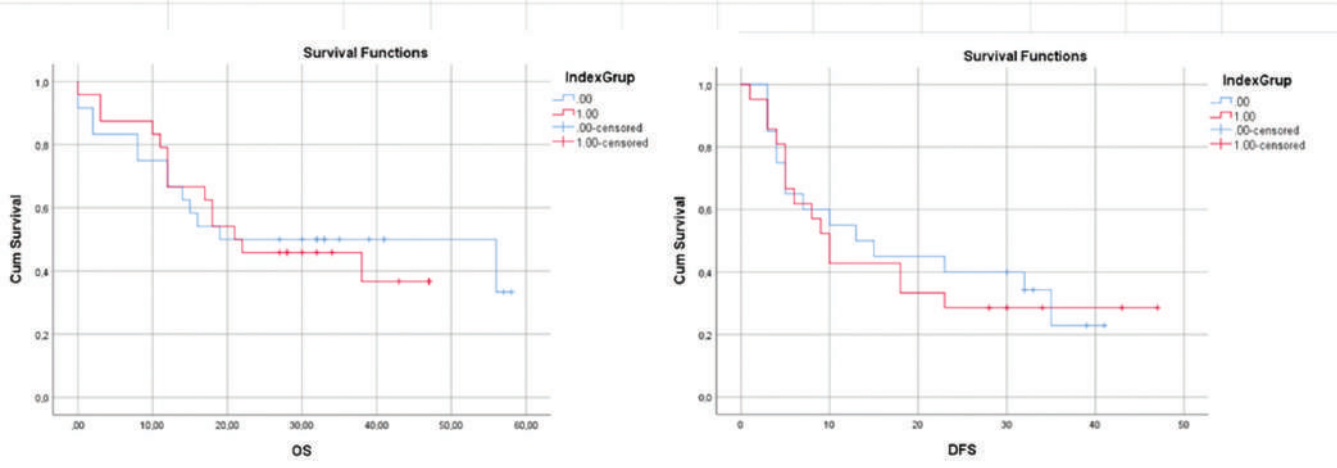

Figure 1. OS/DFS.

[S-175]

The safety of laparoscopic cholecystectomy in octogenarian patients: A comparison of perioperative outcomes between complicated and uncomplicated cases

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Objective: With the increasing size of the geriatric population, gallstone disease is being encountered more frequently in patients aged 80 years and older (octogenarians), making the safety of surgical management in this age group increasingly important. The aim of this study is to evaluate the perioperative outcomes of laparoscopic cholecystectomy in octogenarian patients with symptomatic cholelithiasis and to compare outcomes between complicated and uncomplicated cases.

Material and Methods: This retrospective study included patients aged ≥80 years who underwent laparoscopic cholecystectomy for symptomatic cholelithiasis at the General Surgery Clinic of the University of Health Sciences Türkiye, Fatih Sultan Mehmet Training and Research Hospital between January 2011 and January 2026. Patients were stratified into two groups: The uncomplicated group, comprising patients presenting with biliary colic, and the complicated group, consisting of those diagnosed with acute cholecystitis, acute biliary pancreatitis, or obstructive jaundice. Demographic characteristics, operative duration, timing of surgery, conversion to open surgery, and mortality rates were analyzed and compared between the two groups.

Results: A total of 56 patients were included in the study. The mean age was 81.8±2.94 years, and 53.6% of the patients were female. The complicated group consisted of 33 patients (58.9%), while the uncomplicated group included 23 patients (41.1%). The rate of emergency surgery was significantly higher in the complicated group (p=0.034). The mean operative time was significantly longer in complicated cases compared to uncomplicated cases (86.8±47.8 min vs. 66.3±35.2 min; p=0.036). Although the conversion rate was higher in the complicated group, the difference did not reach statistical significance (21.2% vs. 4.3%; p=0.123). No postoperative complications were observed in any patient. Mortality occurred in a single case within the complicated group (3%).

Conclusion: Laparoscopic cholecystectomy is generally a safe and effective treatment option in octogenarian patients with symptomatic cholelithiasis. However, cases with complicated gallstone disease were associated with significantly longer operative times and a higher rate of conversion to open surgery, although the latter did not reach statistical significance. These findings suggest that surgical planning should be undertaken with greater caution in complicated cases and that surgeons should be prepared for potential intraoperative challenges.

Keywords: Gall bladder, laparoscopic cholecystectomy, octogenarian

Table 1. Demographic and perioperative clinical characteristics of the study population

Variable	All patients (n=56)	Uncomplicated group (n=23)	Complicated group (n=33)	p-value
Age, years (mean±SD)	81.8±2.94	81.3±2.38	2.1±3.31	0.452
Sex, n (%)				0.712
Female	30 (53.6)	13 (56.5)	17 (51.5)	
Male	26 (46.4)	10 (43.5)	16 (48.5)	
Modified Charlson Comorbidity Index (mean±SD)	5.6±0.99	5.5±1.07	5.6±0.95	0.710
ASA score, n (%)				0.511
1	1 (1.8)	1 (4.3)	0	
2	21 (37.5)	8 (34.8)	13 (39.4)	
3	32 (57.1)	14 (60.9)	18 (54.5)	
4	2 (3.6)	0	2 (6.1)	
Clinical presentation, n (%)				<0.001*
Biliary colic	23 (41.1)	23 (100)	0	
Acute cholecystitis	22 (39.3)	0	22 (66.7)	
Acute biliary pancreatitis	7 (12.5)	0	7 (21.2)	
Obstructive jaundice	4 (7.1)	0	4 (12.1)	
Timing of surgery, n (%)				0.034*
Emergency	7 (12.5)	0	7 (21.2)	
Elective	49 (87.5)	23 (100)	26 (78.8)	
Operative time, minutes (mean±SD)	78.3±43.94	66.3±35.28	6.8±47.84	0.036*
Parkland grading scale, n (%)				0.269
Grade 1	5 (8.9)	4 (17.4)	1 (3.0)	
Grade 2	16 (28.6)	8 (34.8)	8 (24.2)	
Grade 3	10 (17.9)	3 (13.0)	7 (21.2)	
Grade 4	10 (17.9)	4 (17.4)	6 (18.2)	
Grade 5	15 (26.8)	4 (17.4)	11 (33.3)	
Type of surgery, n (%)				0.123
Laparoscopic cholecystectomy	48 (85.7)	22 (95.7)	26 (78.8)	
Conversion to open surgery	8 (14.3)	1 (4.3)	7 (21.2)	
Postoperative hospital stay, days (mean±SD)	2.5±3.35	1.7±1.12	3.1±4.21	0.426
Complications, n (%)	0	0	0	—
Mortality, n (%)	1 (1.8)	0	1 (3.0)	1.000

[S-176]

Prediction of early recurrence/metastasis in pancreatic/periampullary tumors using machine learning models and its association with lymph node and surgical margin status

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Objective: Early recurrence or distant metastasis within the first six months after resection of pancreatic and periampullary tumors reflects aggressive tumor biology and is critical for guiding adjuvant treatment and follow-up strategies. This study aimed to evaluate the predictability of early recurrence/metastasis using machine learning models based on routinely available preoperative clinical and laboratory data and to assess the relationship of lymph node status and surgical margin status with oncological outcomes.

Material and Methods: This single-center retrospective cohort included 128 patients who underwent surgery between 2023 and 2025 (Whipple n=100, distal pancreatectomy n=13, total pancreatectomy n=7, subtotal pancreatectomy n=8). Preoperative model inputs consisted of age, ECOG performance status, ASA score, presence of jaundice, tumor location, and laboratory parameters including albumin, CRP, CA 19-9, NLR, SII, CAR, and PNI. Three models—logistic regression, random forest, and gradient boosting—were developed and compared. Model performance was evaluated using the area under the receiver operating characteristic curve (ROC-AUC). Recurrence and metastasis patterns were analyzed according to lymph node and surgical margin status.

Results: Early recurrence or metastasis occurred in 21.6% of patients. ROC-AUC values were 0.802 for logistic regression, 0.849 for gradient boosting, and 0.881 for random forest, which demonstrated the highest discriminative performance. Across models, the most influential predictors were NLR, preoperative albumin, ECOG score, SII, and PNI, whereas CA 19-9 showed a relatively limited contribution. Lymph node positivity was identified in 67 patients, and surgical margin positivity in 27 patients. Recurrence/metastasis developed in 19 of 90 margin-negative patients (21.1%) and in 3 of 50 lymph node–negative patients (6.0%). Postoperative mortality was observed in 30 patients (22.8%), with 5 deaths (3.9%) directly attributable to surgical complications. Most recurrences occurred within the first six months, while late mortality was predominantly related to disease progression. Kaplan-Meier analysis demonstrated significantly worse survival in patients with early recurrence.

Conclusion: In resectable pancreatic and periampullary tumors, preoperative inflammatory and nutritional markers—particularly NLR, SII, CAR, PNI, and albumin—along with clinical performance scores are strong predictors of early recurrence and survival. In this cohort, CA 19-9 remained a weak standalone tumor marker. Machine learning analyses using random forest and gradient boosting showed that accurate risk prediction can be achieved using simple, routinely available clinical data. These findings support the use of multivariable models over single biomarkers and suggest that early risk stratification may enable individualized treatment and surveillance strategies.

Keywords: Early recurrence, inflammatory biomarkers, machine learning, pancreatik cancer, survival prediction

Table 1. Strongest predictive parameters

Parameter	Clinical significance	Predictive strength
NLR	Systemic inflammation	High
SII	Immune-inflammatory response	High
Albumin	Nutritional status	High
PNI	Immuno-nutritional status	High
ECOG	Functional status	Moderate-High
CA 19-9	Tumor marker	Low

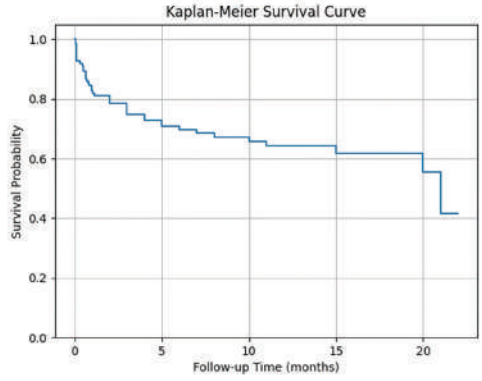

Figure 2. Kaplan-Meier survival curve.

The y-axis represents survival probability, and the x-axis represents follow-up duration (months).

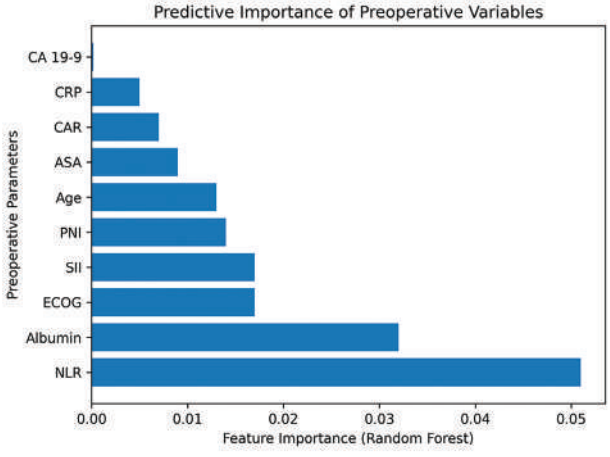

Figure 1. Strongest predictive parameters.

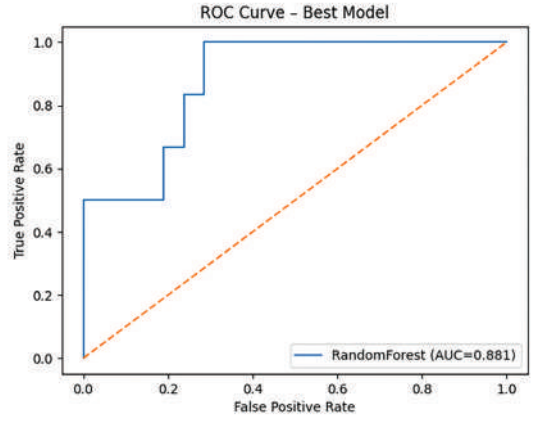

Figure 3. ROC curve (random forest, AUC =0.881).

The ROC curve illustrates the relationship between the true positive rate and the false positive rate; the dashed line represents random classification.

[S-177]

Efficacy of the lipid test in liver hydatid cyst surgery

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Objective: After surgery for hepatic hydatid cyst, biliary fistula is one of the most common causes of morbidity, especially in patients undergoing conservative surgical procedures. Persistent bile leakage prolongs hospital stay and leads to the need for additional interventions. In this study, we aimed to evaluate the effectiveness of the biliary lipid test (BLT), performed via intraoperative transcystic lipid injection, on postoperative biliary complications.

Material and Methods: A total of 122 patients who underwent open surgery for hepatic hydatid cyst between January 2011 and January 2024 were retrospectively analyzed. The patients were divided into two groups: The BLT group (n=65) and the control group (n=57), in which only conventional visual inspection was performed. In the BLT group, following cholecystectomy, a catheter was inserted into the cystic duct, and a lipid solution was injected via the transcystic route under distal common bile duct clamping. The orifices where lipid droplets were observed were ligated with 5/0 Prolene sutures. A total of 200 leakage points were sutured.

Results: No postoperative bile leakage lasting longer than one week was observed in the BLT group. In contrast, a significantly higher rate of persistent biliary fistula was detected in the control group. Additionally, the length of hospital stay was found to be shorter in the BLT group. Transcystic lipid injection, combined with distal clamping, enabled effective identification of leakage points, and suturing of these sites prevented postoperative bile leakage.

Conclusion: The biliary lipid test (BLT), performed via transcystic lipid injection, is an effective, low-cost method that can be applied using standard surgical equipment to reduce the development of persistent biliary fistula in hepatic hydatid cyst surgery. Further prospective randomized controlled studies are required to support these findings.

Keywords: Bile leak, transcystic lipid injection, hydatid cyst

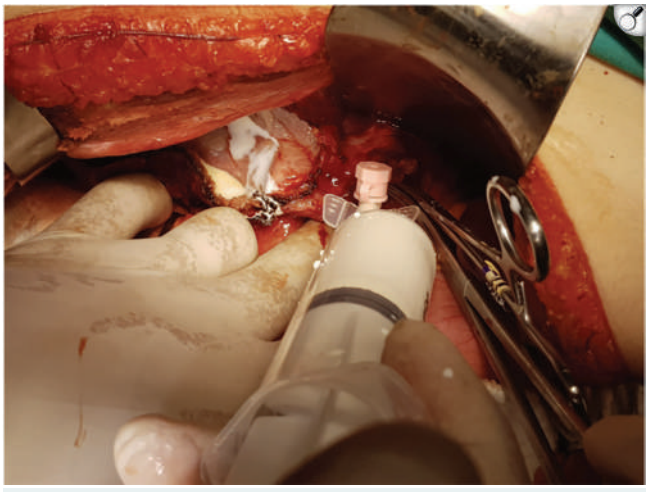

Figure 1. Transcystic lipid injection.
Displaying the orifices at the site of lipid solution injection.

Table 1. Comparison of bile leakage

Variables	Categories	BLT group (n = 65)			No-BLT group (n = 57)		
		Leakage	No leakage	P	Leakage	No leakage	P
ERC							
	Postop	7 (100.0)	0 (0.0)	<0.001*	9 (100.0)	0 (0.0)	<0.001*
	None	5 (8.8)	52 (91.2)		11 (66.7)	34 (75.6)	
	Preop	1 (100.0)	0 (0.0)		2 (66.7)	1 (33.3)	
Preop LFT							
	Normal	9 (17.3)	43 (82.7)	<0.274	18 (39.1)	28 (60.9)	0.865
	High	4 (30.8)	9 (69.2)		4 (36.4)	7 (63.6)	
Orifice obliteration							
	Yes	11 (26.2)	31 (73.8)	0.115	15 (60.0)	10 (40.0)	0.003
	None	2 (8.7)	21 (91.3)		7 (21.9)	25 (78.1)	
Orifice count							
	1	4 (44.4)	5 (55.6)	0.287	1 (25.0)	3 (75.0)	0.338
	2–3	5 (29.4)	12 (70.6)		12 (70.6)	5 (29.4)	
	4–5	1 (10.0)	9 (90.0)		2 (50.0)	2 (50.9)	
	6–7	0 (0.0)	4 (100.0)		0 (0.0)	0 (0.0)	
	8–10	1 (50.0)	1 (50.0)		0 (0.0)	0 (0.0)	
Bile drainage over 100 cc							
	Yes	6 (85.7)	1 (14.3)	<0.001*	8 (88.9)	1 (11.1)	<0.001*
	None	7 (12.1)	51 (87.9)		14 (29.2)	34 (70.8)	
Day of drain removal							
	Lower than 10	13 (20.0)	52 (80.0)		13 (27.7)	34 (72.3)	<0.001*
	Greater than 10	0 (0.0)	0 (0.0)		9 (90.0)	1 (10.0)	
Recurrence							
	Yes	1 (4.5)	21 (95.5)	0.057	12 (50.0)	12 (50.0)	0.132
	None	12 (27.9)	31 (72.1)		10 (30.3)	23 (69.7)	

Comparison of leakage between the BLT group and the no-BLT group

[S-178]

Systemic and local determinants in the development of biochemical pancreatic leakage in pancreaticoduodenectomy: A single-center experience

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Objective: Biochemical postoperative pancreatic fistula (POPF) after pancreaticoduodenectomy is not classified as a clinical fistula according to ISGPS 2016; however, it reflects pancreatic anastomotic healing and local surgical risk. Identifying determinants of biochemical POPF may contribute to more rational surgical planning and postoperative surveillance. This study aimed to evaluate the association between preoperative inflammatory and nutritional indices and biochemical POPF and to compare these systemic parameters with local anatomical factors such as pancreatic texture and main pancreatic duct diameter.

Material and Methods: Patients who underwent classical Whipple pancreaticoduodenectomy between January 1, 2016 and December 31, 2025 were retrospectively reviewed. Patients with missing clinical, laboratory, or imaging data and those operated under emergency conditions were excluded. Analyses were performed on 72 patients. Preoperative inflammatory and nutritional indices (NCR, CAR, CALLY, PNI, SII, NLR, PLR, and LMR) were calculated. Pancreatic texture was classified as soft or hard, and main pancreatic duct diameter was measured using preoperative imaging. Biochemical POPF was defined according to ISGPS 2016 criteria.

Results: The median age of the cohort was 67 years, 55.6% of patients were male, the median body mass index was 25.4 kg/m², and the median main pancreatic duct diameter was 5.0 mm (Table 1). The incidence of biochemical POPF was 22.2%. Patients who developed biochemical POPF had a significantly higher rate of soft pancreatic texture and a smaller main pancreatic duct diameter (Table 2; $p<0.001$ and $p=0.004$). In contrast, none of the preoperative inflammatory or nutritional indices showed a significant association with biochemical POPF (all $p>0.05$). No significant differences were observed between groups regarding age, body mass index, operative time, or perioperative blood transfusion.

Conclusion: Biochemical POPF after pancreaticoduodenectomy appears to be independent of systemic inflammatory and nutritional status and is primarily determined by local pancreatic anatomical characteristics. These findings suggest that local factors should be prioritized over systemic indices when assessing biochemical POPF risk.

Keywords: Pancreaticoduodenectomy, biochemical pancreatic leak, pancreatic texture

Table 1. Demographic and clinical characteristics of the study population (n=72)

Variable	Value
Age, median (IQR), years	67 (14)
Male sex, n (%)	40 (55.6)
Body mass index, median (IQR), kg/m²	25.4 (6.6)
Main pancreatic duct (wirsung) diameter, median (IQR), mm	5.0 (5.0)
Operative time, median (IQR), min	255 (95)
Length of hospital stay, median (IQR), days	21 (15)
Soft pancreatic texture, n (%)	13 (18.1)
Perioperative blood transfusion, n (%)	42 (58.3)
Biochemical POPF, n (%)	16 (22.2)
Major morbidity, n (%)	8 (11.1)
30-day mortality, n (%)	4 (5.6)

IQR: Interquartile range, POPF: Postoperative pancreatic fistula.

Table 2. Comparison of local and surgical variables according to biochemical POPF development

Variable	No POPF (n=56)	Biochemical POPF (n=16)	p
Main pancreatic duct (wirsung) diameter, median (IQR), mm	5.0 (5.0)	3.0 (3.0)	0.004
Soft pancreatic texture, n (%)	5 (8.9)	8 (50.0)	<0.001
Operative time, median (IQR), min	255 (95)	260 (90)	0.467
Perioperative blood transfusion, n (%)	35 (62.5)	7 (43.8)	0.251

POPF: Postoperative pancreatic fistula, IQR: Interquartile range.

[S-179]

Can preoperative FIB-4 score predict cholecystectomy difficulty? A retrospective single-center analysis

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Objective: Cholecystectomy is one of the most frequently performed operations in general surgery, and surgical difficulty and postoperative outcomes can vary depending on patient characteristics. The FIB-4 score, which non-invasively assesses liver fibrosis, provides indirect information about systemic inflammation and hepatic reserve. The aim of this study is to evaluate whether the preoperative FIB-4 score can predict the difficulty of cholecystectomy.

Material and Methods: A retrospective analysis was performed on 509 patients who underwent cholecystectomy at a single center. Demographic data, preoperative laboratory parameters, and FIB-4 scores were recorded. Surgical difficulty indicators included operation time, length of hospital stay, conversion to open surgery, and postoperative complications. Patients were divided into three groups based on their FIB-4 score: <1.3,1.3–2.67, and >2.67. Continuous variables were presented as median (IQR) as they did not show a normal distribution and were compared using the Kruskal-Wallis test. Categorical variables were analyzed using the chi-square test. Logistic regression analysis was performed for postoperative complications.

Results: Of the patients, 327(64.2%) were women and 182 (35.8%) were men, with a median age of 50 years (IQR: 40-60). A significant increase in operation time was observed with increasing FIB-4 score ($p<0.05$). Similarly, hospital stay was significantly longer in the high FIB-4 group ($p<0.001$). In logistic regression analysis, the FIB-4 group was identified as an independent risk factor for the development of postoperative complications (OR=2.16, 95% CI: 1.13-4.10, p=0.018). The postoperative complication rate was 1.5% in the FIB-4 <1.3 group, while it was 6.1% and 6.3% in the 1.3-2.67 and >2.67 groups, respectively. A significant difference was found between the groups ($\chi^2=8.02$, p=0.018; Fisher p=0.013). Although the conversion rate was higher in the FIB-4 >2.67 group (6.3%), no statistically significant difference was found between the groups (p=0.47).

Conclusion: The preoperative FIB-4 score appears to be associated with surgical difficulty and postoperative morbidity during cholecystectomy. This simple and easily calculable parameter can be considered a helpful tool in preoperative risk stratification and surgical planning. Further, prospective studies are needed to confirm these findings.

Keywords: Cholecystectomy, risk assessment, postoperative complications

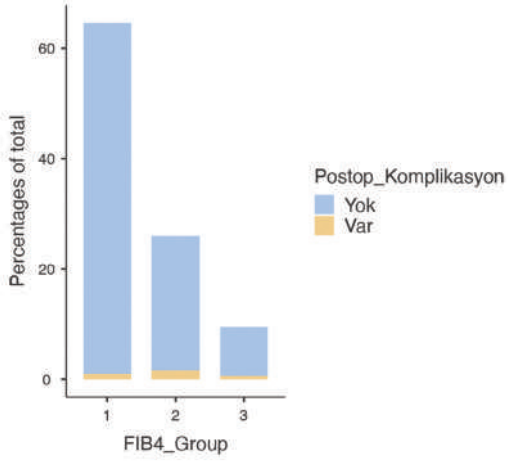

Figure 1. FIB-4 scores are classified (<1.3, 1.3-2.67, >2.67) according to the occurrence of complications in postoperative components.

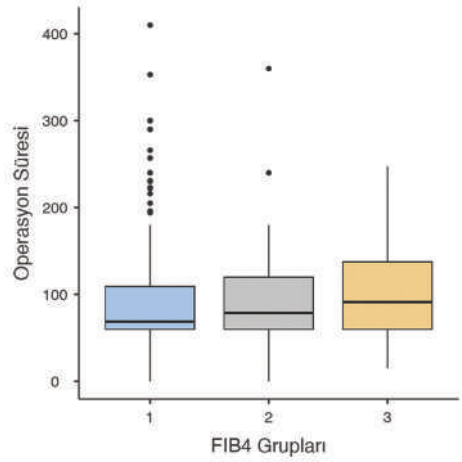

Figure 2. Distribution of operation times (min) according to FIB-4 score groups (<1.3, 1.3-2.67, >2.67).

Comparison of demographic characteristics, surgical parameters, and postoperative outcomes according to FIB-4 score groups.

Table 1.

Variable	<1.3 (n=328)	1.3-2.67 (n=132)	>2.67 (n=48)	p-value
Age, median (IQR)	45 (36-53)	61 (53-68)	66.5 (55-74)	<0.001
Operation time (min), median (IQR)	69 (60-109)	79 (60-120)	91.5 (60-138)	<0.001
Length of hospital stay (days), median (IQR)	3 (2-4)	4 (2-6)	5 (3-9)	0.017
Postoperative complications, n (%)	5 (1.5)	8 (6.1)	3 (6.3)	0.018
Conversion, n (%)	10 (3.0)	4 (3.0)	3 (6.3)	0.47

[S-180]

Impact of cholecystectomy on serum lipid profiles: A retrospective study

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Objective: Although the relationship between gallstone disease and lipid metabolism is well established, there are limited data in the literature regarding changes in serum lipid profiles following cholecystectomy. This study aimed to evaluate the effect of cholecystectomy by comparing preoperative and postoperative serum lipid profiles of patients who underwent laparoscopic cholecystectomy at a secondary care hospital.

Material and Methods: This retrospective single-center study was conducted by reviewing the medical records of patients who underwent elective laparoscopic cholecystectomy between 2022 and 2024. Preoperative and postoperative levels of total cholesterol, low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), and triglycerides levels were recorded. Preoperative and postoperative lipid parameters were compared.

Results: A total of 196 patients with a mean age of 46.4±11.8 (18–76) years were included in the study. Of these, 146 (74.5%) were female and 50 (25.5%) were male. At one-year, HDL-C increased significantly from 50.25±10.3 mg/dL to 52.3±11.4 mg/dL, while LDL-C decreased from 128 (111-153) mg/dL to 123 (100-143) mg/dL. In contrast, total cholesterol increased from 196 (173-225) mg/dL to 211 (175-229) mg/dL (p=0.014, p<0.001, and p=0.014, respectively). Triglyceride levels were comparable before and after surgery.

Conclusion: Several changes in the serum lipid profile were observed following cholecystectomy. The decrease in LDL-C levels accompanied by an increase in HDL-C levels suggests that cholecystectomy may have favorable effects on lipid metabolism. The observed increase in total cholesterol appears to be primarily attributable to the rise in the HDL-C fraction. These findings indicate that cholecystectomy may exert a potentially protective effect on atherogenic lipid fractions.

Keywords: Cholecystectomy, cholesterol levels, lipid profile

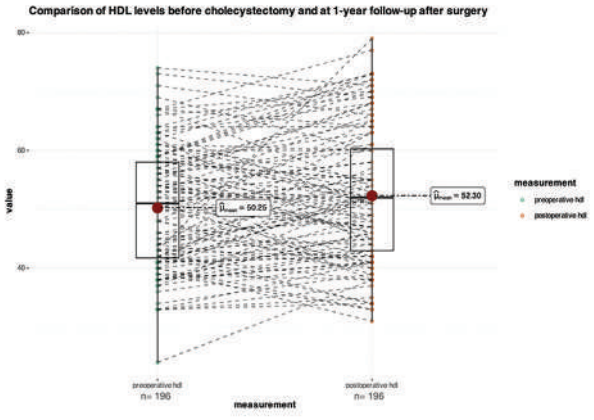

Figure 1. Comparison of HDL-C levels before cholecystectomy and at 1-year follow-up after surgery.

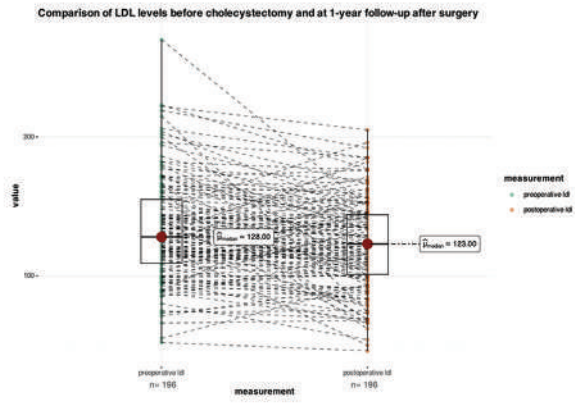

Figure 2. Comparison of LDL-C levels before cholecystectomy and at 1-year follow-up after surgery.

Table 1. Demographic parameters of study population

Variables	n=196
Age (years)	46.4±11.8
Gender Female, n (%) Male, n (%)	 146 (74.5) 50 (25.5)

Table 2. Comparison of lipid parameters at baseline and 12 months after cholecystectomy

Variables	Baseline	12 months	p
Urea (mg/dL)	28.3±10.9	29.5±10.7	0.051
Creatinine (mg/dL)	0.67 (0.59-0.77)	0.74 (0.60-0.82)	0.173
Total cholesterol (mg/dL)	196 (173-225)	211 (175-229)	0.014
LDL-C (mg/dL)	128 (111-153)	123 (100-143)	<0.001
HDL-C (mg/dL)	50.2±10.3	52.30±11.4	0.014
Triglicerid (mg/dL)	127 (96-165)	129 (95-178)	0.142

[S-181]

Comparison of early cholecystectomy and stepwise surgical approaches in elderly patients with acute cholecystitis in terms of clinical outcomes

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Objective: Determining the surgical treatment strategy in elderly patients with acute cholecystitis involves significant clinical challenges due to increased comorbidity burden and decreased surgical tolerance. This study aimed to compare the effects of early cholecystectomy and stepwise surgical approaches on perioperative clinical outcomes in elderly patients with acute cholecystitis.

Material and Methods: The Tokyo Guidelines 2018 (TG18) criteria were used for the diagnosis of acute cholecystitis. Patients with a Charlson comorbidity index (CCI) score ≥5 were evaluated. The Mann-Whitney U test was used for the comparison of continuous variables, and the chi-square or Fisher's exact test was used for the analysis of categorical variables. Statistical significance was set at $p<0.05$.

Results: A total of 125 patients were included in the study. The mean age of patients in Group 2 was significantly higher than that in Group 1 (79.1±5.8 years vs. 74.1±2.4 years; $p<0.001$). In Group-1, 85.5% (n=65) and in Group-2, 87.8% (n:43) of patients had a CK score ≥5, and no significant difference was observed between the groups in terms of additional diseases ($p=1.000$). Leukocyte counts at presentation were 14.9±5.1×10⊠/L in Group 1 and 13.5±5.8×10⊠/L in Group 2, and the difference was not statistically significant ($p=0.084$). No significant differences were found between the groups in terms of C-reactive protein levels (164.0±106.1 mg/L vs. 192.8±112.4 mg/L; $p=0.197$) and procalcitonin levels ($p=0.332$). The rate of perioperative complications (bleeding, bile leakage, bile duct injury, infection) was 12.0% in both groups (n=9 in Group 1; n=6 in Group 2), and no significant difference was found between the groups ($p=1.000$). The length of hospital stay was significantly longer in Group 2 compared to Group 1 (7.7±3.8 days vs. 7.1±4.7 days; $p=0.046$). When discharge and mortality outcomes were evaluated, 71 patients (93.5%) in Group 1 were discharged, while 5 patients (6.5%) died. In Group 2, 47 patients (95.9%) were discharged, while 3 patients (6.1%) died. No statistically significant difference was found between the groups in terms of discharge and mortality rates ($p=1.000$).

Conclusion: In elderly patients with acute cholecystitis, a staged surgical approach yields similar clinical outcomes to early cholecystectomy in terms of perioperative complications, discharge, and mortality rates, despite the older age profile. In addition to similar mortality and complication rates, the shorter hospital stay suggests that early cholecystectomy may be considered a priority as an effective and rational treatment strategy in suitable patients.

Keywords: Acute cholecystitis, early cholecystectomy, percutaneous cholecystostomy

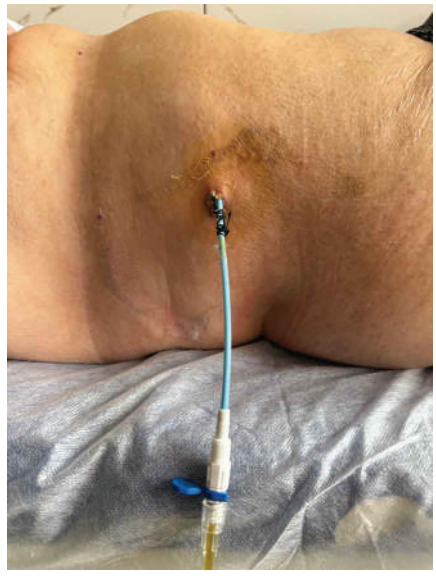

Figure 1. Percutaneous cholecystostomy catheter.

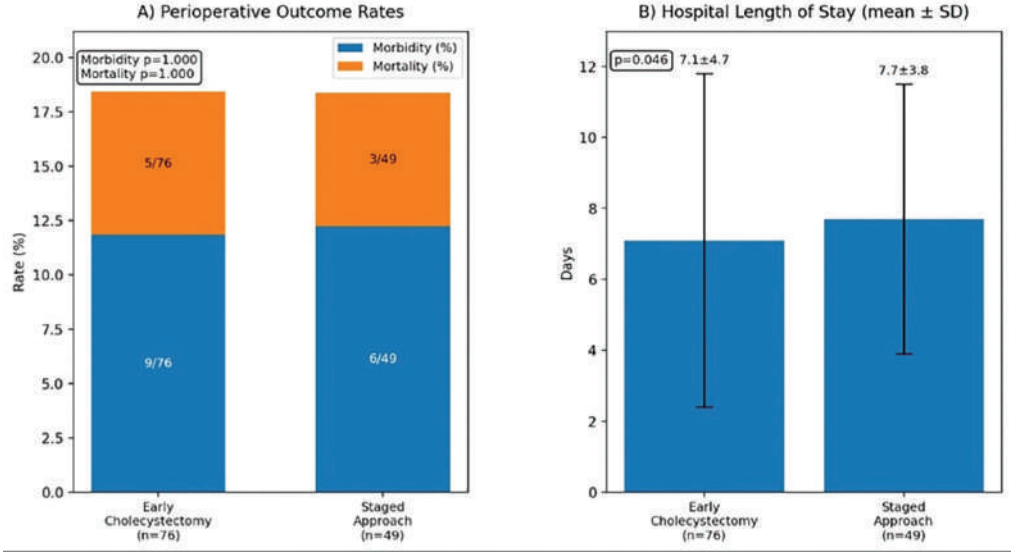

Figure 2. Perioperative outcomes of early cholecystectomy and staged approach.

[S-182]

The effect of early enteral nutrition after pancreaticoduodenectomy on systemic immuno-inflammation index

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Objective: This study aimed to evaluate the effect of early enteral nutrition on the postoperative systemic immune-inflammatory index (SII) in patients undergoing pancreaticoduodenectomy (Whipple procedure).

Material and Methods: Patients diagnosed with malignancy who underwent Whipple procedure between January 2022 and December 2025 were retrospectively reviewed. Patients were divided into two groups according to the time of initiation of enteral feeding: Early feeding (24-48 hours postoperatively) and late feeding (≥72 hours). SII [platelets × neutrophils/lymphocytes] was calculated using hematological parameters on days 3, 5, and 7 postoperatively. Following the evaluation of distribution tests, the groups were compared using the Mann-Whitney U test, and $p<0.05$ was considered significant.

Results: A total of 46 patients were included in the study (early: n=21, late: n=25). On postoperative day 3, the median SII value was 1704(411-8779) in the early feeding group and 3134 (612-6553) in the late feeding group (p=0.07). On postoperative day 5, the median SII values were found to be 1707 (548-4509) and 2789 (427-7244), respectively (p=0.04). On postoperative day 7, the median SII values were found to be 1278 (602-5153) and 2998 (739-7813), respectively (p=0.04). The median SII was lower in the early feeding group on postoperative days 3, 5, and 7. At all time points, patients who received early feeding showed a lower inflammatory response, and this difference persisted throughout the postoperative period. This difference was also found to be statistically significant on postoperative days 5 and 7.

Conclusion: ERAS protocols also report that early enteral feeding after the Whipple procedure shortens postoperative hospital stay, infection rates, and improves bowel function, and there are publications in the literature supporting this. In our study, early enteral feeding after the Whipple procedure showed a quantitative trend towards reducing systemic inflammation and had a statistically significant effect on SII. Based on these data, there is a need for evaluation of the clinical implications of initiating early enteral feeding in patients and for larger, prospective studies based on the data presented.

Keywords: Whipple, feeding, inflammation

[S-183]

Effect of early (≤72 hours) versus interval (≥4 weeks) laparoscopic cholecystectomy on major complications in acute calculous cholecystitis: A systematic review and meta-analysis

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Objective: In acute calculous cholecystitis, the timing of laparoscopic cholecystectomy is central to both patient safety and system-level efficiency. Comparisons between early surgery (≤72 hours from admission) and delayed/interval surgery (≥4 weeks) remain challenging due to heterogeneous study designs and outcome reporting. We aimed to systematically evaluate whether early laparoscopic cholecystectomy influences major complications compared with an interval strategy.

Material and Methods: A PRISMA-based systematic search was planned across PubMed, Web of Science, and Cochrane CENTRAL using "acute cholecystitis", "early", "within 72 hours", "admission", "delayed/interval", and "laparoscopic cholecystectomy". Randomized controlled trials (RCTs) and controlled cohort studies, including propensity score matched (PSM) analyses, were eligible. Early surgery was defined as admission-to-surgery ≤72 hours, and interval surgery as ≥4 weeks (most commonly 6-12 weeks). The primary outcome was major complication (Clavien-Dindo ≥III). When Clavien-Dindo was not reported, major events equivalent to CD≥III were standardized (reoperation, interventional drainage/procedures, severe biliary complications requiring ERCP/PTC, ICU admission/organ failure/septic shock, major bile duct injury, and death). Secondary outcomes included overall complications, bile duct injury, bile leak/collection, conversion, length of stay, readmission/recurrent biliary events, mortality, and operative time. Random-effects models were planned for meta-analysis. Risk of bias was assessed with RoB2 for RCTs and ROBINS-I for observational studies.

Results: Included studies were largely RCT-driven, and interval surgery was typically performed at 6–12 weeks. Overall, early cholecystectomy demonstrated at least a comparable safety profile to the interval approach with respect to major complications. Standardizing major events using CD ≥III-equivalent criteria improved cross-study comparability in reports lacking formal Clavien-Dindo grading. Beyond safety, early surgery offers practical advantages by achieving definitive treatment during the index admission, with potential reductions in total length of stay and in the risk of requiring a second admission or unplanned return due to recurrent biliary events. For rare outcomes such as major bile duct injury, uncertainty persists and confidence intervals may remain wide due to low event counts.

Conclusion: Current evidence suggests that targeting admission-to-surgery ≤72 hours in acute calculous cholecystitis is not associated with an increased burden of major complications (Clavien-Dindo ≥III or equivalent) compared with an interval (≥4 weeks) strategy. Where resources and expertise permit, early laparoscopic cholecystectomy should be considered the default approach, reserving delay for carefully selected patients based on clinical necessity.

Keywords: Acute cholecystitis, early cholecystectomy, interval cholecystectomy

[S-184]

Evaluation of the hepatoprotective effect of kaempferol in an experimental obstructive jaundice model

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Objective: The aim of this study is to investigate the protective effects of kaempferol on liver damage that develops after obstructive jaundice induced by choledochus ligation in rats.

Material and Methods: In the study,24 female Wistar albino rats aged 6-12 months will be used. Inflammatory biomarkers and liver function tests were compared between the Sham Group (n=8), Control Group (n=8) and Kaempferol Groups and the effectiveness of kaempferol in preventing liver damage was investigated. After 12 hours of fasting before the surgical procedure, the animals were given general anesthesia before the procedure, and the choledoch was dissected and isolated in the control and kaempferol groups, and ligation was carried out with 5/0 surgical suture. Liver damage was investigated by laboratory and histological examinations. The study was completed in a total of 7 days. Ketamine, ketoprofen and xylazine were given to the subjects during the follow-up period. At the end of the study, rats were sacrificed with high-dose ketamine and blood and tissue samples were taken.

Results: The study was completed with 20 rats. In the examination, TAS (p<0.001), TOS (p=0.007), ALP (p=0.003), ALT (p=0.002), AST (p=0.002), direct bilirubin (p=0.002) and total bilirubin (p=0.002) levels were significantly lower in the sham group compared to the control and kaempferol groups. No significant difference was noted between the control and kaempferol groups. On the other hand, while a statistically significant difference was observed between the three groups in TNF-α and IL-6, no statisticaly significant difference was noted between the groups in IL-10 levels. In the examination, a significant moderate positive correlation relationship was noted between the TNF-α-IL-6, TNF-α-TOS, and IL-6-IL-10 pairs. In addition, a significant moderate positive correlation relationship was observed between TAS and TOS (p=0.037). While a moderate positive correlation relationship was observed between TAS values and TOS, ALP, ALT, and AST values, a strong positive correlation relationship was noted between AST, D.bilirubin, and T.bilirubin values. On the other hand, a moderate positive correlation relationship was also noted between TOS-ALT.

Conclusion: Obstructive jaundice is associated with increased oxidative stress, as evidenced by strong correlations between oxidative stress markers and bilirubin levels. Kaempferol, a natural flavonoid, has demonstrated potential in mitigating this condition. Our results suggests that Kaempferol molecule can suppress pro-inflammatory biomarkers such as TNF-α and IL-6, exhibit anti-inflammatory action, and demonstrate a protective profile histologically. This may help reduce inflammation and protect tissue. More research, especially large-scale prospective studies, are needed to be sure of what role kaempferol plays in treating obstructive jaundice and the inflammation that comes with it.

Keywords: Kaempferol, liver damage, obstructive jaundice

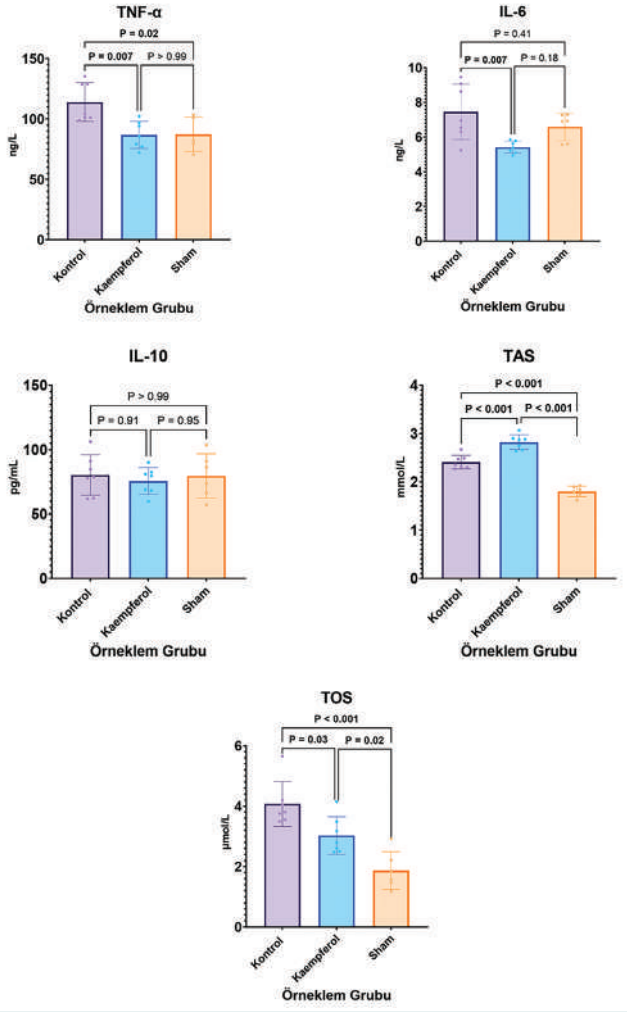

Figure 1. Summary of pairwise comparisons of biomarkers and post-hoc analyses.

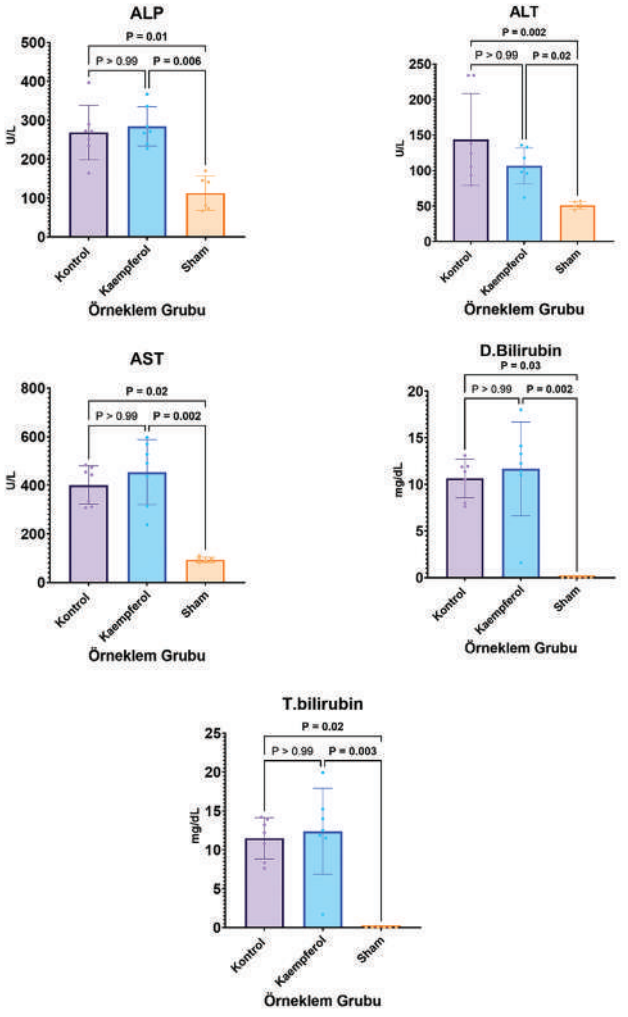

Figure 2. Summary of comparisons of liver function test values and post-hoc analyses.

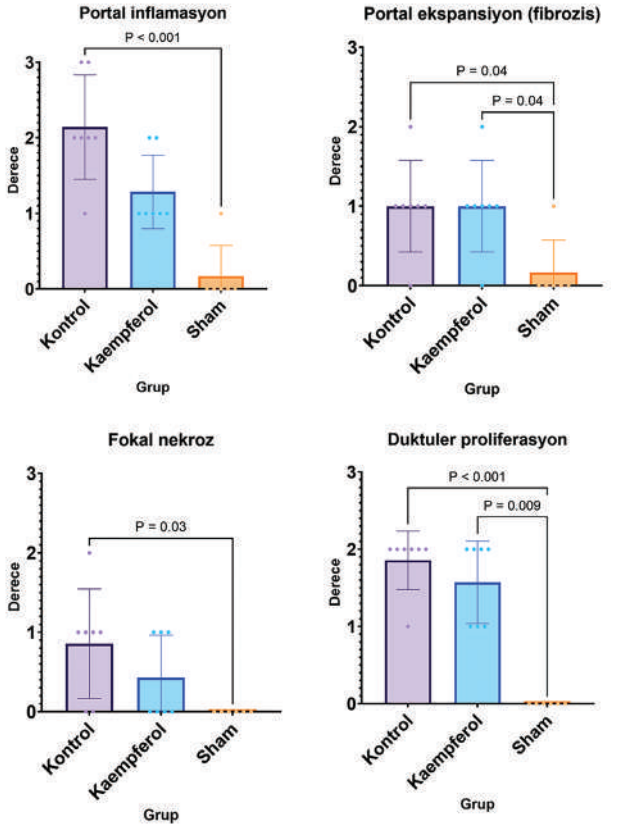

Figure 3. Post-hoc pairwise comparisons of histological findings among the three groups and visual summary.

[S-185]

Quantitative necrosis burden and clinical severity in initial CT scans of biliary necrotizing pancreatitis

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Objective: Necrotizing pancreatitis is associated with high morbidity and mortality, and early prediction of disease severity is crucial for clinical management. This study evaluated the relationship between quantitatively measured pancreatic necrosis rate on initial CT and clinical severity and hospital resource utilization in biliary necrotizing pancreatitis.

Material and Methods: Twenty-three patients with cholelithiasis-related biliary necrotizing pancreatitis were retrospectively reviewed. All underwent contrast-enhanced CT at admission. The necrosis rate was calculated as the two-dimensional ratio of the maximal necrotic area, measured using two perpendicular diameters on the axial slice with the most extensive necrosis, to the total pancreatic area. Severe clinical course and ICU requirement were assessed. Correlations were analyzed using Spearman's rank correlation coefficient (ρ).

Results: Mean age was 58.6±10.2 years; 8 patients (34.8%) were female. Severe clinical course developed in 8 patients (34.8%). Overall mortality was 13.0% (n=3) and occurred exclusively in the severe group. ICU admission was required in 7 patients (30.4%) with a mean ICU stay of 3.1±3.8 days; three patients with ICU stay ≥5 days required inotropic therapy and renal replacement therapy. Interventions were required in 4 patients (17.4%), all in the severe group (3 percutaneous drainage, 1 surgical necrosectomy). All patients with severe clinical course were classified as Balthazar E. Mean CTSI was 6.9±1.8 and mean necrosis rate was 0.33±0.12. A strong positive correlation was observed between necrosis rate and total hospital stay (ρ=0.712; p<0.001), between CTSI and hospital stay (ρ=0.726; p<0.001), and a very strong correlation between necrosis rate and CTSI (ρ=0.957; p<0.001). Pleural effusion was detected in 8 patients (34.8%), of whom 87.5% developed severe clinical course. Length of hospital stay was significantly longer in the severe group. Serum calcium levels were lower in severe cases, while other laboratory parameters showed no significant differences.

Conclusion: Quantitatively measured pancreatic necrosis rate on initial CT strongly reflects disease severity and hospital resource utilization and provides complementary value to CT-based scoring systems for early risk stratification.

Keywords: Necrotizing pancreatitis, biliary pancreatitis, computed tomography

[S-186]

The rationality of shunt surgery must be restored, 25-year experience in portal hypertension surgery

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Objective: The portal vein (PV) is the only venous drainage pathway for nearly all gastrointestinal organs. Portal hypertension (PH), resulting from a pathological increase in PV pressure, affects multiple organ systems. This condition, remain asymptomatic for long periods, is associated with a broad spectrum of symptoms, including esophageal varices carrying a 27% mortality and 4-15% bleeding risk, portal biliopathy (92%), gastroenteropathy, colopathy (60-74%), splenomegaly/hypersplenism (16-23%), ascites (14-20%), and encephalopathy/micro-encephalopathy (32%). Despite its clinical importance, there is currently no universally accepted treatment algorithm for PH. Medical and endoscopic therapies can control variceal bleeding with high (90%) initial success rates. However, as these modalities do not reduce portal pressure, particularly in advanced PH, they are associated with high (43%) recurrence and 63-72% rebleeding rates and are ineffective in other portal hypertensive complications such as gastropathy, colopathy, and biliopathy.

Material and Methods: We retrospectively analyzed 140 patients who presented with PH-related complications despite medical and endoscopic therapies and subsequently underwent surgical treatment. Selective splenorenal shunt surgery was performed in 131 patients (94%), including 102 pediatric and 29 adult patients. Surgical procedures comprised 40 distal and 91 proximal splenorenal shunts (Figure 1). Demographic characteristics, perioperative outcomes, mortality, and long-term shunt patency rates were evaluated.

Results: All pediatric patients and 25 adult patients were non-cirrhotic. No intraoperative mortality occurred. One pediatric patient died following liver transplantation two years later due to progressive cirrhosis. Five adult patients—two in the early postoperative period—died due to sepsis and recurrent bleeding. Shunt patency rates in pediatric and adult patients were 73% and 75% for proximal splenorenal shunts and 89% and 85% for distal splenorenal shunts, respectively. Selective shunt procedures provided durable portal decompression and effective control of PH-related complications.

Conclusion: In complicated PH, effective treatment can only be achieved by diverting high-pressure portal venous blood into the low-pressure systemic circulation, which is possible only surgical shunting or interventional radiological techniques. Selective splenorenal shunts offer simultaneous control of variceal bleeding, hypersplenism, hepatic encephalopathy, gastroenteropathy, and biliopathy, particularly in non-cirrhotic and early-stage cirrhotic patients, while improving quality of life. Despite strong long-term evidence demonstrating their superiority over endoscopic therapies, selective shunt procedures remain underutilized (Table 1). Insistence on repeated endoscopic treatments and delaying surgical intervention, in complicated PH cases may lead to increased morbidity and even mortality, particularly in patients who have limited access to advanced healthcare centers, as is the case in our country. Multidisciplinary collaboration with gastroenterology, surgery, radiology and hematology is essential for optimal management.

Keywords: Esophageal varices, portal hypertension, spleno-renal shunt

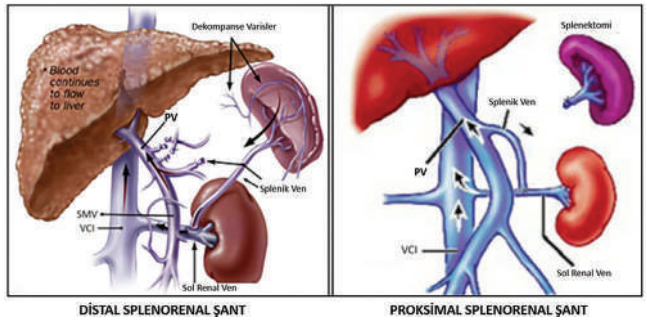
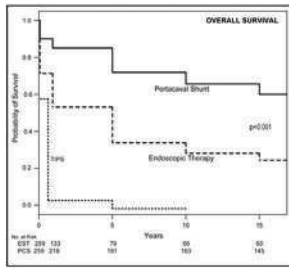


Figure 1. Selective spleno renal shunts.

Disrtal and proximal shunt operations.

Table 1. In randomized controlled trials with follow-up periods exceeding 10 years, the superiority of shunt surgery over medical and endoscopic therapies has been clearly demonstrated



	Selektif Şant	Endoskopi	P
Kanama Kontrolu	% 97	% 27	< 0.05
Tekrarlayan Kanama	% 2-17	% 60-73	< 0.01
Ensefalopati	% 11	% 50	< 0.01
5 Yil Survival	% 51-85	% 20-50	< 0.05

Marshall J, Orloff MD et al.
Surgery Volume 157, Issue 6 June 2015; 1028-41

Rikkers L.F. et al.
The American J Surgery Volume:165 Jan 1993; 27-33

[S-187]

Impact of vascular resection on postoperative morbidity and mortality in pancreaticoduodenectomy

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Objective: Pancreatic cancer remains one of the most aggressive malignancies and is associated with the highest mortality among gastrointestinal cancers. Surgical resection is the only potentially curative treatment modality. In locally advanced disease, vascular invasion—particularly involving the portal vein and superior mesenteric vessels—constitutes a major determinant of resectability. Advances in surgical techniques have enabled more frequent use of vascular resection and reconstruction during pancreaticoduodenectomy; however, the impact of this approach on postoperative morbidity and mortality remains controversial. This study aimed to evaluate the effect of vascular resection on postoperative outcomes and to identify independent risk factors for mortality.

Material and Methods: Seventy-seven patients who underwent pancreaticoduodenectomy at University of Health Sciences Türkiye, Ankara Etlik City Hospital between January 2024-January 2026 were retrospectively analyzed. Demographic characteristics, intraoperative variables (vascular resection and intraoperative vasopressor use), postoperative interventions (reoperation and invasive radiological procedures), and 90-day mortality were recorded. Patients were divided into two groups according to whether vascular resection was performed. Categorical variables were analyzed using chi-square or Fisher's Exact tests. Multivariable logistic regression analysis was conducted to determine independent predictors of mortality. P-value<0.05 was considered statistically significant.

Results: The mean age of the patients was 65.5±10.3 years (range: 43-87). Fifty-three patients (68.8%) were female and 24 (31.2%) were male. Vascular resection was performed in 12 patients (16%), while 65 patients (84%) underwent pancreaticoduodenectomy without vascular resection. Among the patients who underwent vascular resection, portal vein resection was performed in 8 patients (66%), whereas 4 patients (34%) underwent combined venous resection and superior mesenteric artery resection. The overall 90-day postoperative mortality rate was 25.9% (n=20). In the vascular resection group,mortality occurred in 5 patients (41.6%). Major postoperative morbidity (Clavien-Dindo grade ≥3) was observed in 17 patients overall and in 7 patients (58.3%) who underwent vascular resection. The overall mean intensive care unit (ICU) stay was 6.27 days (range: 4-35), whereas it was 7.5 days (range: 2-27) among patients undergoing vascular resection. Reoperation was required in 4 patients in the vascular resection group and in 7 patients in the-vascular resection group. No statistically significant association was found between vascular resection and postoperative complication severity (p=0.382). A significant association was identified between reoperation and mortality (Fisher's Exact test, p=0.016). In multivariable logistic regression analysis, vascular resection (OR: 2.80, p=0.151), intraoperative vasopressor use (OR: 2.51, p=0.276), and radiological intervention (OR: 3.02, p=0.114) were not identified as independent risk factors for mortality. Although reoperation increased the risk of mortality by 4.28-fold, it remained at the threshold of statistical significance (OR: 4.28; 95% CI: 0.96-19.07; p=0.056).

Conclusion: Vascular resection during pancreaticoduodenectomy was not identified as an independent predictor of mortality. However, the need for reoperation demonstrated a strong association with mortality and may represent an important prognostic indicator. Larger prospective studies are needed to further clarify these findings.

Keywords: Pancreaticoduodenectomy, vascular resection, whipple

Table 1. Surgical characteristics and postoperative morbidity and mortality

Valiable	n	%
Female	53	68.8
Male	24	31.2
No vascular resection	65	84.4
Portal vein resection with anastomosis	8	10.4
Venous + superior mesenteric artery (SMA) resection	4	5.2
90-day mortality (overall)	20	25.9
90-day mortality (vascular resection group)	5	41.6
90-day major morbidity (overall, Clavien-Dindo ≥3)	17	22.1
90-day major morbidity (vascular resection group)	7	58.3

Table 2. Multivariable logistic regression analysis of independent clinical and surgical factors affecting 90-day mortality

Variable	Present n (%)	Absent n (%)	OR	p-value
Vascular resection	12 (15.6%)	65 (84.4%)	2.80	0.151
Postoperative radiological intervention	13 (16.9%)	64 (83.1%)	3.02	0.114
Reoperation	10 (13.0%)	67 (87.0%)	4.28	0.056
Intraoperative vasopressor requirement	59 (76.6%)	18 (23.4%)	2.56	0.276

[S-188]

Clinical outcomes and prognostic factors in patients undergoing whipple procedure for pancreatic head adenocarcinomas

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Objective: Pancreatic head adenocarcinomas are among the gastrointestinal malignancies with the worst prognosis. While pancreatoduodenectomy (Whipple procedure) is the only potential curative treatment option, long-term survival is affected by the histopathological features of the tumor and the systemic treatments administered. This study aims to determine short- and long-term clinical outcomes and independent prognostic factors in a single-center patient series.

Material and Methods: A retrospective analysis was performed on 84 patients who underwent pancreatoduodenectomy due to pancreatic head adenocarcinoma. Neoadjuvant and adjuvant treatment status, tumor size, histological grade, surgical margin status, lymphovascular invasion (LVI), and perineural invasion (PNI) data were recorded. Length of hospital stay (LOS) and 90-day postoperative mortality were analyzed. Overall survival was assessed using the Kaplan-Meier method; independent prognostic factors were determined using Cox regression analysis.

Results: Of the 84 patients, 49 (58.3%) were male and 35 (41.7%) were female. The mean age was 62 years (36-85). The median hospital stay was 12 days (IQR: 9-16). Ninety-day postoperative mortality was 2.4% (n=2). The overall 1-year survival rate was calculated as 64%. Three-year and five-year survival rates were 24% and 21%, respectively. In multivariate Cox analysis, lymphovascular invasion (HR: 4.70; p=0.005), perineural invasion (HR: 2.65; p=0.04), and positive surgical margins (R1 vs. R0; HR: 2.31; p=0.03) were identified as independent poor prognostic factors. When long-term surviving patients (≥5 years; 20% of the cohort) were analyzed separately; this group was observed to be younger, have a lower metastatic lymph node burden, all received adjuvant therapy, and had a significantly higher R0 resection rate. These characteristics were identified as key clinical and pathological factors associated with prolonged survival in pancreatic head adenocarcinomas.

Conclusion: Lymphovascular invasion, perineural invasion, and positive surgical margins are the strongest independent predictors of survival after Whipple procedure in pancreatic head adenocarcinomas. The presence of lymphadenopathy (LVI), in particular, increases the risk of death approximately fivefold. Despite low perioperative mortality, the high prevalence of invasive histopathological features highlights the aggressive biology of these tumors and emphasizes the importance of optimized adjuvant therapy strategies after R0 resection.

Keywords: Pancreatoduodenectomy, lymphovascular invasion, perineural invasion

[S-189]

The role of percutaneous cholecystostomy in high-risk patients aged over 65: A palliative solution or a curative treatment?

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Objective: Laparoscopic cholecystectomy is the gold standard treatment for acute cholecystitis. However, in elderly and high-risk patients, cholecystectomy is associated with a significant risk of morbidity and mortality. In this patient population, percutaneous cholecystostomy represents an important approach for resolving the acute condition, although its long-term effectiveness remains unclear. This study aimed to evaluate the early and long-term outcomes of percutaneous cholecystostomy in high-risk patients.

Material and Methods: Patients who underwent percutaneous cholecystostomy for acute cholecystitis at Kocaeli City Hospital between January 1, 2024 and January 15, 2026. were included in the study. Demographic characteristics of the patients, morbidity and mortality status, removal of the cholecystostomy catheter, symptom recurrence, need for cholecystectomy, and hospital readmission were evaluated.

Results: A total of 67 patients were included in the study. The mean age of the patients was 78.5±7.7 years, and the mean Charlson Comorbidity Index was 4.7±1.8. Clinical improvement without the need for surgical intervention was achieved in 58 patients (86.6%), whereas 9 patients (13.4%) showed no clinical improvement. When patients with and without clinical improvement were compared, no significant differences were found in terms of age (p=0.246) or Charlson comorbidity index (p=0.389). However, patients without clinical improvement had a significantly longer hospital stay (p=0.002) and a significantly higher mortality rate (p=0.011). Post-procedural complications were observed in 15 patients (22.4%). No statistically significant differences were found between patients with and without complications in terms of age (p=0.781), Charlson comorbidity index (p=0.276), or length of hospital stay (p=0.934). Mortality tended to be higher in patients who developed complications; however, this difference did not reach statistical significance (p=0.067).

Conclusion: Percutaneous cholecystostomy, used as a bridging therapy in patients with acute cholecystitis, can be considered a safe and effective treatment option in high-risk patients aged 65 years and older.

Keywords: Percutaneous cholecystostomy, acute cholecystitis, Charlson comorbidity index

[S-190]

Factors affecting recurrence in patients undergoing surgery for hepatic hydatid cyst

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Objective: Hepatic hydatid disease is a common zoonosis caused by Echinococcus granulosus, particularly prevalent among populations engaged in livestock farming and hunting. It has become a significant public health concern in many developing countries. In this patient group, recurrence following conservative surgical treatment remains a major clinical issue. Several factors influencing recurrence have been reported in the literature. In this study, we aimed to investigate the factors associated with recurrence in patients who underwent conservative surgery for hepatic hydatid cysts.

Material and Methods: In this retrospective study, patients who underwent conservative surgical treatment for hepatic hydatid cyst disease at the Department of General Surgery, Ondokuz Mayıs University Faculty of Medicine, between January 1, 2005, and December 31, 2020, were evaluated. Demographic, preoperative, intraoperative, and postoperative data were collected, including the type of conservative surgical procedure performed; cyst characteristics (location, diameter, number, and type); preoperative and postoperative ERCP status; presence of preoperative cystobiliary communication and puncture, aspiration, injection, re-aspiration (PAIR); intraoperative intrabiliary rupture; presence of postoperative biliary fistula; and preoperative and postoperative use of albendazole. Patients were categorized into two groups based on the presence or absence of recurrence following conservative hydatid cyst surgery. Univariate and multivariate logistic regression analyses (using backward stepwise variable selection) were conducted to identify independent factors associated with recurrence. A p-value of <0.05 was considered statistically significant.

Results: Of the 117 patients included in the study, 65 (55.6%) were female. The mean follow-up duration was 146 months (range: 52–233 months), and the mean length of hospital stay was 10 days (range: 5-180 days). Among the 117 patients, 82 (70.1%) underwent drainage with omentopexy as the conservative surgical technique, while 35 (29.9%) underwent drainage alone. Recurrence was detected in 21 patients (17.9%). No statistically significant association was found between recurrence and clinical-demographic characteristics, preoperative laboratory values, surgical procedure, duration of surgery, cyst number, cyst type, cyst location, preoperative ERCP and PAIR procedures, or the presence of cystobiliary communication (Table 1).

Conclusion: There are conflicting findings in the literature regarding factors associated with recurrence. While some studies have reported associations between recurrence and central cyst location, multiple cysts, or cyst types, other studies—similar to ours—have failed to identify any independent risk factors for recurrence. In our study, we investigated the factors affecting recurrence following conservative surgical treatment of hepatic hydatid cysts. Consistent with some previous reports, no independent risk factors for recurrence were identified.

Keywords: Liver, echinococcus, recurrence

Table 1. Patient characteristics

	Total	Recurrence +	Recurrence -	p
N	117	21	96	
Age	44 (18-84)	38 (22-71)	44 (18-84)	0.426
BMI	28.38±3.59	26.12±4.05	25.21±3.48	0.148
Previous abdominal surgery	60 (51.3%)	13 (61.9%)	47 (49%)	0.404
AST	21 (10-184)	22.7 (11-90)	20.5 (10-184)	0.443
ALT	20.4 (7-199)	23.6 (10-133)	19.8 (7-197)	0.482
T.Bilirubin	0.48 (0.16-8.4)	0.49 (0.24-2.3)	0.48 (0.16-8.4)	0.815
GGT	36 (7.4-741)	41.1 (10-240)	34.5 (7.4-741)	0.935
ALP	270 (73-584)	277 (178-513)	266.5 (73-584)	0.396
Eosinophil	0.2 (0.03-4)	0.2 (0.03-1.5)	0.21 (0.03-4)	0.396
Preop ERCP	9 (7.7%)	3 (14.3%)	6 (63%)	0.203
Preop PAIR	15 (12.8%)	5 (23.8%)	10 (10.4%)	0.142
Intrabiliary rupture	7 (6%)	1 (4.8%)	6 (63%)	1
Biliary fistula	48 (3.4%)	2 (2.1%)	2 (9.5%)	0.142
Cyst type				
Type 1	20 (77.1%)	4 (19%)	16 (16.7%)	0.787
Type 2	26 (22.2%)	4 (19%)	24 (22.9%)	
Type 3	58 (49.6%)	12 (57.1%)	46 (47.9%)	
Type 4	13 (11.1%)	1 (4.8%)	12 (12.5%)	
Surgery				
Drainage + omentoplasty	82 (70.1%)	15 (71.4%)	67 (69.7%)	1
Drainage	35 (29.9%)	6 (28.6%)	29 (30.3%)	

[S-191]

Biliary complications following hydatid liver cyst surgery: Comparison of right and left lobe involvement

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Objective: In hydatid liver cysts, the location of cysts in segments anatomically adjacent to the biliary system affects postoperative biliary complications. This study aimed to compare postoperative biliary complication rates and other clinical outcomes according to cyst location.

Material and Methods: Patients who underwent surgery for hydatid liver cysts at Mersin University Faculty of Medicine between 2016 and 2025 were retrospectively reviewed. Patients with recurrent hydatid cysts, emergency cases, and those with cysts in both lobes were excluded. Patients were compared based on dominant cyst localization in the right and left lobes. Patients' demographic data, preoperative parameters, intraoperative data, and postoperative outcomes were evaluated.

Results: One hundred-two patients were included in the study; 69 patients (67.6%) had right lobe involvement, and 33 patients (32.4%) had left lobe involvement. The mean age was 47.98±15.70 years, and no statistically significant differences were found in Gharbi score, preoperative drainage and ERCP rates, lab values, hemagglutination positivity, and surgical method (cystotomy, cystectomy, partial cystectomy). The maximum cyst diameter in the right lobe (9.1 cm) was significantly larger than the left lobe (7.4 cm) (p=0.02). Cavity management methods (omentoplasty, capitonage, intraflexion, marsupialization) differed between groups (p<0.001): The rate of cavity procedures was significantly higher with left lobe localization (75.8% vs. 46.4%; p=0.010). Omentoplasty was the most frequent method in the left lobe (33.3%), while infraflexion was the most frequent method in the right lobe (30.4%). No statistically difference was found between the type of cavity management and the biliary complications. There were no statistically differences between right and left lobes in bile leakage (21.7% vs. 21.2%), biliary fistula (20.3% vs. 21.2%), and biliary abscess (14.5% vs. 6.1%). The development of biliary complications was significantly higher in patients with cyst diameter ≥10 cm [odds ratio (OR)=2.864, p=0.040]. Receiver operating characteristic analysis determined the optimal cut-off value to be ≥7 cm for the right lobe and ≥9 cm for the left lobe. In multivariate analysis, cyst diameter (OR=1.61) and cyst-bile duct communication (OR=1.97) were identified as the strongest predictors of bile leakage, independent of location. Hospital stay was statistically significantly longer in the right lobe (10.7 days) compared to the left lobe (7.8 days) (p=0.041). Clavien-Dindo stage IV complications were observed only in the right lobe group (n=6, 8.7%); however, there were no statistical significance in overall Clavien-Dindo distribution.

Conclusion: In hepatic hydatid cyst surgery, cyst localization significantly affects the choice of cavity management and length of hospital stay. Cyst diameter and bile duct communication are the strongest predictors of biliary complications. Localization-specific risk assessment should guide perioperative decision-making.

Keywords: Biliary complications, cystectomy, hydatid liver cyst

[S-193]

The effect of preoperative biliary drainage methods on intraoperative abdominal culture results in pancreatic head cancer

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Objective: Obstructive jaundice is a common clinical presentation in patients with pancreatic head cancer, and preoperative biliary drainage is therefore frequently performed before surgery. However, its impact on infection-related outcomes remains controversial. Previous studies have shown increased microbial colonization following biliary interventions, particularly within bile cultures, which may adversely influence postoperative outcomes. Because endoscopic and percutaneous drainage interact directly with gastrointestinal flora, procedure-related colonization may facilitate bacterial contamination during surgery. Data directly comparing drainage techniques and intraoperative abdominal culture results are limited. This study aimed to evaluate the effect of different preoperative biliary drainage methods on intraoperative abdominal culture positivity in patients.

Material and Methods: This retrospective, single-center observational study included patients who underwent surgical treatment for pancreatic head cancer between 2020-2025 at University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital. Overall, 145 patients were analyzed. Patients were classified according to preoperative biliary drainage method as endoscopic retrograde cholangiopancreatography, percutaneous transhepatic cholangiography, or no drainage. Individuals with multiple procedures or unclear classification were excluded. Intraoperative abdominal fluid samples were obtained and processed microbiologically. Bacterial growth defined a positive culture. Cases without cultures were excluded. Categorical variables were summarized as numbers and percentages. Comparisons used chi-square or Fisher's exact tests. Odds ratios compared endoscopic drainage with others.

Results: Intraoperative abdominal culture positivity occurred most often after endoscopic drainage. Positive cultures were detected in 80.0% of endoscopic cases, compared with 40.6% after percutaneous drainage and 38.1% without drainage. Differences between groups were statistically significant. When endoscopic drainage was compared with all other patients, the risk of culture positivity was approximately sixfold higher, indicating a strong association between endoscopic biliary intervention and intraoperative contamination. These findings persisted after exclusion of patients lacking cultures, supporting robustness of the observed effect across analyzed subgroups. No additional covariates were included because the study focused on procedure-related exposure and microbiological outcome only here.

Conclusion: Preoperative biliary drainage is significantly associated with increased intraoperative abdominal culture positivity in patients undergoing surgery for pancreatic head cancer, particularly when endoscopic retrograde cholangiopancreatography is used. The observed increase suggests that endoscopic drainage may heighten the likelihood of bacterial contamination during surgery. Consequently, decisions regarding preoperative drainage should consider not only biliary decompression but also potential contamination risk and subsequent infectious complications. Careful patient selection, strict procedural indications, and awareness of microbiological consequences may help mitigate infection-related morbidity while preserving surgical safety and outcomes. This balanced approach may optimize perioperative management strategies in pancreatic head cancer surgery settings.

Keywords: Pancreatic head cancer, preoperative biliary drainage, ERCP, abdominal culture, surgical infection

Table 1. Intraoperative abdominal culture results according to preoperative biliary drainage method

Group	Abdominal culture (+) n/N (%)	Abdominal culture (-) n/N (%)
ERCP	8/10 (80.0)	2/10 (20.0)
PTC	26/64 (40.6)	38/64 (59.4)
No drainage	24/63 (38.1)	39/63 (61.9)

[S-194]

The role of gallbladder volume and ejection fraction in predicting postcholecystectomy symptoms: A prospective observational study

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Objective: Persistent or newly developed symptoms following cholecystectomy are among the main reasons why surgical success does not translate into patient satisfaction. This prospective study investigated whether preprandial and postprandial gallbladder (GB) volumes measured by preoperative ultrasound and the ejection fraction (EF) calculated from these measurements could predict postcholecystectomy symptoms defined within the framework of ROMA III at 1 month postoperatively.

Material and Methods: The study is a prospective, observational research conducted at the General Surgery Clinic of University of Health Sciences Türkiye, Ankara Etlik City Hospital. Preprandial and postprandial GB volumes were measured using preoperative ultrasonography in patients scheduled for elective cholecystectomy; EF was calculated using the standard formula. At 1 month postoperatively, cases were classified as ROMA III positive/negative based on symptom assessment. Diabetes mellitus (DM) was excluded from the protocol due to its potential confounding effect on gallbladder motility and gastrointestinal symptoms. Continuous variables were compared using the Mann-Whitney U test, and categorical variables were compared using Fisher's exact test.

Results: Of the 60 patients enrolled, 8 with DM were excluded because of potential confounding effects on GB motility and gastrointestinal symptoms, leaving 52 patients for analysis. The mean age was 47.4±11.5 years, the mean body mass index (BMI) was 28.4±5.9 kg/m², and 69.2% of the patients were female; 28.8% were normal weight, 42.3% overweight, and 28.8% obese. Ultrasonography demonstrated gallstones in 96.2%, polyps in 11.5%, and sludge in 17.3% of cases. Preoperatively, the mean preprandial GB volume was 13.0±8.4 mL, the postprandial volume was 6.9±5.2 mL, and the ejection fraction (EF) was 40.3±29.1%. No significant differences were observed between ROMA III–positive and negative groups regarding GB volumes, age, BMI, or sex distribution (all p>0.05), while biochemical abnormalities showed a borderline association with ROMA III positivity (71.4% vs. 37.8%; p=0.085). In secondary analyses, EF and percentage EF were significantly higher in patients without preoperative symptoms (p=0.033 and p=0.045), whereas gallbladder volumes were not associated with symptom status; similarly, although EF and percentage EF were higher in patients with postoperative symptoms (p=0.026 and p=0.012), no significant association was found between volume measurements and postoperative symptoms.

Conclusion: These prospective data show that preoperative ultrasound-derived GB volumes and EF are insufficient to predict postoperative symptoms defined by the ROMA-III criteria. The absence of differences in volume and EF between ROMA III positive and negative patients indicates that post cholecystectomy symptoms cannot be explained solely by biliary motility disorders. Secondary analyses linking EF to specific symptom patterns suggest a non-linear, indirect relationship between motility and symptomatology, and that high EF does not ensure symptom absence, supporting a multifactorial pathophysiology. Consistent with prior reports, postoperative symptoms showed a wide prevalence range. Consequently, reliance on GB volume and motility parameters alone appears inadequate for predicting postcholecystectomy symptoms, highlighting the need for more comprehensive clinical models.

Keywords: Ejection fraction, functional gastrointestinal disorders, gallbladder volume, postcholecystectomy symptoms, ROMA III criteria

Tablo 1. Çalışma Popülasyonunun Tanımlayıcı Özellikleri

Değişken	Değer
Hasta sayısı (n)	52
Yaş, yıl (ortalama ± SS)	47,4 ± 11,5
Yaş, medyan (IQR)	49 (40–53)
Cinsiyet, n (%)	
Kadın	36 (69,2)
Erkek	16 (30,8)
Vücut Kitle İndeksi (kg/m²)	
VKİ, ortalama ± SS	28,4 ± 5,9
VKİ, medyan (IQR)	27,0 (24,4–31,1)
Normal kilolu (<25), n (%)	15 (28,8)
Kilolu (25–29,9), n (%)	22 (42,3)
Obez (≥30), n (%)	15 (28,8)
Komorbiditeler, n (%)	
Hipertansiyon	14 (26,9)
Koroner arter hastalığı	2 (3,8)
Kronik böbrek yetmezliği	1 (1,9)
Ultrasonografi Bulguları, n (%)	
Safra kesesinde taş	50 (96,2)
Polip	6 (11,5)
Çamur	9 (17,3)
Safra Kesesi Volümleri	
Preprandiyal volüm (mL), ortalama ± SS	13,0 ± 8,4
Postprandiyal volüm (mL), ortalama ± SS	6,9 ± 5,2
Ejeksiyon fraksiyonu (%), ortalama ± SS	40,3 ± 29,1

Tables 2. 2A. Comparison of patients with ROMA III (–) and ROMA III (+) in terms of continuous variables 2B. Comparison of gallbladder functional parameters according to preoperative and postoperative symptom status

Değişken	ROMA III (–) (n=45)	ROMA III (+) (n=7)	p değeri*
Yaş, yıl	49 (39–53)	48,5 (42–58)	0,53
VKİ (kg/m²)	27,1 (24,1–31,0)	26,1 (25,4–32,7)	0,73
Preprandiyal SK volümü (mL)	11,0 (6,7–16,1)	14,5 (7,8–17,0)	0,62
Postprandiyal SK volümü (mL)	5,0 (3,4–7,3)	5,2 (4,0–7,5)	0,71
Preoperatif semptom şiddeti	2 (2–3)	3 (2–3)	0,18

* Mann–Whitney U testi — değerler medyan (IQR) olarak sunulmuştur. Sürekli değişkenlerin normal dağılıma uymaması nedeniyle karşılaştırmalarda non-parametrik testler tercih edilmiştir.

TABLO 2B. Preoperatif ve Postoperatif Semptom Durumuna Göre Safra Kesesi Fonksiyonel Parametrelerinin Karşılaştırılması

A) Preoperatif semptom durumuna göre

Değişken	Semptom Yok (n=13)	Semptom Var (n=47)	p değeri*
Preprandiyal SK volümü (mL)	15,24 (11,82–21,38)	10,60 (9,70–14,58)	0,060
Ejeksiyon fraksiyonu (EF)	8,99 (5,63–12,92)	3,13 (4,04–6,98)	**0,033**
Yüzde EF (%)	56,43 (39,35–69,61)	33,04 (31,96–46,38)	**0,045**

B) Postoperatif semptom durumuna göre

Değişken	Semptom Yok (n=50)	Semptom Var (n=10)	p değeri*
Preprandiyal SK volümü (mL)	10,20 (10,23–15,33)	15,03 (11,74–17,77)	0,098
Ejeksiyon fraksiyonu (EF)	3,65 (4,21–7,38)	9,58 (6,39–11,57)	**0,026**
Yüzde EF (%)	32,64 (31,91–45,93)	62,86 (45,17–75,49)	**0,012**

* Mann–Whitney U testi, değerler **medyan (IQR)** olarak sunulmuştur.

Tables 3 and 4. Comparison of ROMA III (–) and ROMA III (+) patients in terms of categorical variables 4. Intergroup comparison of gallbladder volume and ejection fraction according to postcholecystectomy symptom status

Değişken	ROMA III (–) (n=45)	ROMA III (+) (n=7)	Test	p değeri
Kadın cinsiyet, n (%)	32 (71,1)	4 (57,1)	Fisher	0,15
Hipertansiyon, n (%)	12 (26,7)	2 (28,6)	Fisher	1,00
Ek hastalık varlığı, n (%)	25 (55,6)	4 (57,1)	Fisher	1,00
Biyokimya anormalliği, n (%)	17 (37,8)	5 (71,4)	Fisher	0,085
WBC/CRP anormalliği, n (%)	6 (13,3)	2 (28,6)	Fisher	0,35
USG'de taş, n (%)	43 (95,6)	7 (100)	Fisher	1,00

Değişken	Grup	N	Mean Rank	Sum of Ranks
PREPRANDİYAL	YOK	13	38,58	501,50
	VAR	47	28,27	1328,50
	Total	**60**		
YUZDE EF	YOK	13	39,08	508,00
	VAR	47	28,13	1322,00
	Total	**60**		
EF	YOK	13	39,62	515,00
	VAR	47	27,98	1315,00
	Total	**60**		
POSTPRENDDİYAL	YOK	13	29,08	378,00
	VAR	47	30,89	1452,00
	Total	**60**		

Table 5. A comparative evaluation of gallbladder functional parameters and FGID literature in predicting postcholecystectomy symptoms

Çalışma	Tasarım / Popülasyon	Ölçüm / Yaklaşım	Sonlanım	Temel Bulgular	Bizim Çalışmamız ile İlişkisi
Nam ve ark., 2025	Derleme / PCS yaklaşımı	PCS'nin etiyoloji–tanı–tedavi çerçevesi	Persistan/yeni semptomlar	PCS'nin **multifaktöriyel** olduğu; biliyer ve ekstra-biliyer nedenlerin birlikte değerlendirilmesi gerektiği vurgulanır.	"EF/volüm tek başına yeterli değil" sonucunu **patofizyolojik çerçeveyle** destekler.
Shrestha ve ark., 2024	Gözlemsel / LC sonrası semptomlar	Zaman içinde semptom seyri ve önzördürücüler	Persistan semptom/PCS	Postop erken dönemde semptomların görülebileceği ve zamanla değişebileceği raporlanır.	Bizde 1. ay semptom oranı (%13,5) **erken dönem** karşılaştırması için zemin sağlar.
Chang ve ark., 2023	Prospektif/izlem	Kolelitiazis + FGID örtüşmesi	FGID prevalansı	Kolesistektomi ile fonksiyonel Gİ bozuklukların ilişkisi tartışılır; semptom[redacted] biliyer mekanizmaya indirgenemeyebileceği vurgulanır.	Bizim sonuçların "FGID ekseni" ile **yorumlanmasını** destekler.
Mann ve ark., 2023	Retrospektif / biliyer diskinezi	HIDA ile GBEF ve cerrahi sonrası ağrı	Ağrı persistanlığı	GBEF'nin semptom öngörüsünde **heterojen** ve değişken performansı raporlanır.	"EF tek başına prediktör olmayabilir" argümanını **güçlendirir.**
DiBaise, 2003	Derleme	GBEF'nin sonuç öngörüsü	Semptom iyileşmesi	GBEF'nin öngörü gücü için kanıtların **heterojenliği** ve sınırlılıkları tartışılır.	Negatif bulgumuzu "literatürde değişken kanıt" çerçevesinde **savunur.**
Rome Foundation / Drossman ve ark., 2016	Konsensus	ROMA III kriter seti	Tanı çerçevesi	Fonksiyonel Gİ bozuklukların tanısal çerçevesi ve kriterleri tanımlanır.	Bizde ROMA-III "semptom çerçevesi" olarak kullanıldığını **doğru konumlandırır.**
Latenstein ve ark., 2021	Gözlemsel / safra taşı	Preop ROMA ile FGID	Preop FGID oranı	Safra taşı hastalarında ROMA kriterleriyle FGID'nin anlamlı prevalansta olabileceği gösterilir.	Post-op semptomların bir kısmının "preop fonksiyonel zemin" ile ilişkisini **tartışmaya açar.**
Mao ve ark., 2025	Kohort / postkolesistektomi diyare	Klinik faktörler	PCD insidansı	Postkolesistektomi diyarenin klinik belirleyicileri olabileceği raporlanır.	"Semptomlar multifaktöriyel" yaklaşımını Gİ semptom ekseninde **tamamlar.**
Bizim çalışmamız (Etlik Şehir Hastanesi, Türkiye)	**Prospektif, gözlemsel; elektif kolesistektomi. Başlangıçta n=60, protokol gereği DM hariç n=52**	**Preprandiyal ve postprandiyal SK volümü (USG), EF hesaplama**	**Postop 1. ay ROMA-III çerçevesinde semptom varlığı (ROMA III ±)**	ROMA 3 pozitifliği %13,5 (7/52). ROMA(+) ve ROMA(–) grupları arasında preprandiyal ve postprandiyal volümler ile EF açısından anlamlı fark saptanmadı. Bununla birlikte, preoperatif ve postoperatif semptom varlığına göre yapılan ikincil analizlerde EF ve yüzde EF değerlerinin bazı semptom paternleriyle ilişkili olduğu görüldü. Biyokimya anormalliğinde sınırda ilişki eğilimi izlendi (%71,4 vs %37,8; p=0,085).	Motilite/volüm temelli parametrelerin tek başına semptom öngörüsünde **sınırlı** olabileceğini gösterir; PCS'nin **multifaktöriyel** doğasına özgün prospektif katkı sağlar.

[S-197]

Comparison of outcomes of elective cholecystectomy following antibiotic therapy versus percutaneous cholecystostomy in patients aged 65 years and older with acute cholecystitis

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Objective: Early laparoscopic cholecystectomy is currently considered the gold standard treatment for acute cholecystitis in hemodynamically stable patients. However, alternative treatment modalities may be required in elderly patients with significant comorbidities due to the increased surgical risk. This study aimed to evaluate and compare the clinical and surgical outcomes of patients aged 65 years and older with acute cholecystitis who underwent elective cholecystectomy following antibiotic therapy alone and those who underwent percutaneous cholecystostomy during the acute phase followed by elective cholecystectomy.

Material and Methods: Patients aged 65 years and older who were hospitalized and treated for acute cholecystitis after admission to the emergency department were divided into two groups. The first group consisted of patients who received antibiotic therapy during their initial hospitalization and subsequently underwent elective cholecystectomy (AB group). The second group included patients who underwent percutaneous cholecystostomy during the initial hospitalization and later underwent elective cholecystectomy (PC group). Patients with a history of previous abdominal surgery were excluded from the study. Various parameters, including length of hospital stay, need for intensive care, and intraoperative and postoperative complications, were analyzed and compared between the groups.

Results: A total of 96 patients were included in the study (PC group, n=47; AB group, n=49). Age, charlson comorbidity index scores, and WBC and CRP levels were similar between the groups. Length of hospital stay, need for intensive care, and conversion rates from laparoscopic to open surgery were significantly higher in the PC group. Postoperative complication and mortality rates were comparable between the two groups.

Conclusion: In patients aged 65 years and older with acute cholecystitis, percutaneous cholecystostomy is associated with prolonged hospital stay and increased need for intensive care prior to elective surgery. Additionally, these patients have significantly higher rates of conversion from laparoscopic to open surgery and an increased risk of major intraoperative complications during elective cholecystectomy. However, postoperative complication and mortality rates were found to be similar to those observed after elective surgery following antibiotic therapy alone. Although percutaneous cholecystostomy is an effective bridging therapy in elderly patients with acute cholecystitis, careful patient selection is essential due to the increased surgical difficulty and higher risk of conversion to open surgery during elective cholecystectomy.

Keywords: Acute cholecystitis, percutaneous cholecystostomy

[S-198]

Comparison of total mesopancreatic excision and conventional pancreatoduodenectomy techniques in terms of early postoperative outcomes in the surgical treatment of pancreatic head adenocarcinoma

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Objective: Evaluation of early postoperative outcomes in patients undergoing total mesopancreatic excision (TME) versus conventional pancreatoduodenectomy (PD).

Material and Methods: The study included patients operated on for pancreatic head ductal adenocarcinoma between January 2021 and December 2025. Patients were divided into TME and conventional PD groups and compared regarding demographics and early clinicopathological outcomes.

Results: A total of 57 patients were included in the study. Of these, 28 (49.1%) underwent TME, while 29 (50.9%) underwent conventional PD. Demographic and clinicopathological parameters (lymph node yield, R0 resection rate, etc.) were similar between the two groups. Operation time was significantly longer in the TME group (485 min vs. 420 min, $p<0.001$). Postoperative complication rates and severity were similar between groups ($p=0.13$). Univariate analysis showed that a small pancreatic duct diameter increased complication rates (OR: 0.77, $p=0.05$). Multivariate analysis (including gender, biliary drainage, duct diameter, and tissue texture) showed that surgical technique had no significant impact on complication rates ($p=0.27$). No direct correlation was found between resection status (R0/R1) and complicatio.

Conclusion: In the surgical treatment of pancreatic head ductal adenocarcinoma, PD performed with the TME technique may provide more advantageous oncological outcomes compared to the conventional method. Postoperative surgical complications and clinicopathological features are similar in both methods. There is still a need for standardization in the TME technique and further objective studies on the subject.

Keywords: Artery first, pancreatic head adenocarcinoma, total mesopancreatic excision

[S-199]

Comparison of two anastomotic techniques after pancreaticoduodenectomy: Pancreaticogastrostomy vs. pancreaticojejunostomy

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Objective: Pancreaticoduodenectomy is widely performed for pancreatic cancer and periampullary diseases. Although procedure-related mortality is reported to be below 5%, postoperative morbidity exceeds 35%. Common complications include postoperative pancreatic fistula (POPF), delayed gastric emptying (DGE), and postoperative hemorrhage (POH). According to the updated definitions of the International Study Group for Pancreatic Surgery (ISGPS), POH and DGE are classified into three grades based on clinical presentation, timing and severity of bleeding, nasogastric tube management, and required therapeutic interventions. A drain amylase level more than three times the serum amylase level is defined as a biochemical leak. POPF is currently classified as Grade B or C depending on clinical severity and treatment requirements. Pancreaticojejunostomy (PJ) and pancreaticogastrostomy (PG) are the most commonly used reconstruction techniques. This study aimed to compare major postoperative complications according to anastomotic technique.

Material and Methods: Patients who underwent pancreaticoduodenectomy for pancreatic head adenocarcinoma between June 2021 and June 2025 at Bezmialem Vakıf University Faculty of Medicine, Department of General Surgery, were retrospectively reviewed. Thirty patients were included; PG was performed in 16 patients and PJ in 14 patients. The incidence of POPF, POH, and DGE was compared between groups according to ISGPS criteria.

Results: POH occurred in two patients in the PG group as Grade A hemorrhage (12.5%). In the PJ group, four patients (28.6%) developed Grade B hemorrhage. No Grade C hemorrhage was observed. Biliary leakage was detected in five patients (35.7%) in the PJ group and four patients (25%) in the PG group. Grade C pancreatic fistula was observed in one patient (6.2%) in the PG group, without statistical significance. DGE occurred in four patients in the PJ group (two Grade A, one Grade B, one Grade C) and in two patients in the PG group (one Grade A, one Grade B). A statistically significant difference was observed only for POH (p=0.032), with a higher rate of Grade B hemorrhage in the PJ group. Mortality occurred in one patient in the PG group, with no significant difference between groups.

Conclusion: In this study of 30 patients, a significant difference was observed only in postoperative hemorrhage, which was less frequent after pancreaticogastrostomy. No significant differences were found in terms of POPF, DGE, or mortality, suggesting that pancreaticogastrostomy is a safe reconstructive option following pancreaticoduodenectomy.

Keywords: Pancreatic adenocarcinoma, anastomosis, complication

[S-200]

External versus internal transanastomotic pancreatic duct stents after pancreaticoduodenectomy: A propensity-weighted single-center cohort study

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Objective: Postoperative pancreatic fistula (POPF) remains the most consequential complication after pancreaticoduodenectomy (PD), and the optimal transanastomotic pancreatic duct drainage strategy is still debated. We evaluated whether external versus internal transanastomotic pancreatic duct stenting is associated with clinically relevant POPF (CR-POPF) and early postoperative outcomes after PD.

Material and Methods: We retrospectively analyzed consecutive open pancreatic resections performed for non-traumatic indications between 2010 and 2020. To ensure technical homogeneity, we included only patients who underwent PD reconstructed with a standardized end-to-side duct-to-mucosa pancreaticojejunostomy and who received a transanastomotic pancreatic duct stent (external or internal), had at least one peripancreatic closed-suction drain, and had postoperative day 3 drain amylase available. The final cohort comprised 302 patients (external n=238; internal n=64). The primary outcome was CR-POPF (ISGPS grade B-C). To mitigate confounding, we applied stabilized inverse probability of treatment weighting (IPTW) based on a prespecified propensity score model, followed by IPTW-weighted logistic regression.

Results: Any-grade POPF occurred in 18.9% and CR-POPF in 9.9% of patients; 30-day mortality was 3.6%. CR-POPF was lower with external versus internal stenting (8.0% vs. 17.2%, p=0.029), as was POBL (4.6% vs. 14.1%, p=0.019). In the IPTW analysis, external stenting was associated with reduced odds of CR-POPF (OR: 0.31, 95% CI: 0.14-0.70) and larger pancreatic duct diameter (OR: 0.77, 95% CI: 0.62-0.94) independently reduced CR-POPF risk. Thirty-day mortality was numerically lower with external stenting (2.5% vs. 7.8%, p=0.059).

Conclusion: In a standardized duct-to-mucosa PD cohort, external transanastomotic pancreatic duct stenting was associated with lower CR-POPF and fewer biliary leaks compared with internal stenting, with a descriptive trend toward lower early mortality.

Keywords: Pancreaticoduodenectomy, postoperative pancreatic fistula, transanastomotic pancreatic stent

Table 1. IPTW-weighted multivariable logistic regression analysis for predictors of CR-POPF

Variable	Adjusted OR	95% CI	p-value
Transanastomotic pancreatic stent (external vs. internal)	0.310	0.137-0.702	0.005
Preoperative pancreatic duct diameter (mm)	0.765	0.621-0.942	0.012
Pancreatic texture (soft vs. firm)	1.764	0.810-3.839	0.153
Neoadjuvant therapy (yes vs. no)	1.913	0.876-4.180	0.104

CR-POPF: Clinically relevant postoperative pancreatic fistula (ISGPS grade B-C), OR: Odds ratio, CI: Confidence interval, IPTW: Inverse probability of treatment weighting.

[S-201]

Prognostic value of systemic inflammatory indexes in surgically treated gallbladder cancer patients

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Objective: Gallbladder cancer (GBC) is an aggressive malignancy frequently diagnosed incidentally after elective cholecystectomy. Practical preoperative biomarkers to predict tumor aggressiveness are limited. Systemic inflammatory indexes have been associated with prognosis in several solid tumors. This study aimed to evaluate the prognostic potential of neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), systemic immune-inflammation index (SII), systemic inflammation response index (SIRI), and aggregate index of systemic inflammation (AISI) in surgically treated GBC patients.

Material and Methods: Patients diagnosed with GBC after elective cholecystectomy between 2015 and 2025 and subsequently treated with oncological surgery were retrospectively reviewed. NLR, PLR, SII, SIRI and AISI were calculated from preoperative complete blood count and C-reactive protein (CRP) levels. Associations between inflammatory indexes and histopathological subtypes were analyzed.

Results: Thirteen patients were included (mean age 64.1±7.2 years). Histopathology revealed adenocarcinoma in 76.9% of cases, while 23.1% had rare and biologically aggressive subtypes. Mean values were NLR 1.86±0.91, PLR 134.2±62.8, SII 412.6±284.3, SIRI 1.64±1.52, and AISI 456.2±497.1. Patients with aggressive histological subtypes demonstrated markedly higher SII, SIRI and AISI values. Elevated inflammatory indexes were accompanied by higher CRP levels. Distribution of clinicopathological features and systemic inflammatory indexes in patients diagnosed incidentally after elective cholecystectomy and treated surgically.

Conclusion: SII, SIRI and AISI may serve as accessible and cost-effective prognostic biomarkers reflecting tumor aggressiveness in GBC and may support preoperative risk stratification in clinical practice.

Keywords: Gallbladder cancer, inflammatory indexes, prognosis

Table 1. Clinicopathological characteristics and systemic inflammatory indexes in gallbladder cancer patients

Variable	Value
Number of patients (n)	13
Mean age (years)	64.1±7.2
Histopathology - adenocarcinoma	76.9% (10)
Histopathology - squamous cell carcinoma	7.7% (1)
Histopathology - adenosquamous carcinoma	7.7% (1)
Histopathology - carcinosarcoma	7.7% (1)
NLR (mean ± SD)	1.86±0.91
PLR (mean ± SD)	134.2±62.8
SII/SIRI/AISI (mean ± SD)	412.6±284.3/1.64±1.52/456.2±497.1

[S-202]

Evaluation of changes in serum albumin levels on the second day after laparoscopic cholecystectomy

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Objective: Albumin is the most abundant protein in plasma, constituting approximately 50-60% of total plasma proteins. Clinically, it is both a protein that maintains physiological balance and a prognostic marker. Metabolic and inflammatory responses following surgical procedures can lead to changes in serum albumin levels. This study aimed to statistically evaluate the difference between preoperative and second-day postoperative serum albumin levels in patients who underwent laparoscopic cholecystectomy at our center.

Material and Methods: A total of 51 cholelithiasis patients (36 women and 15 men) who underwent elective laparoscopic cholecystectomy at our center between February 2025 and 2026 were included in the study. These patients had no prior history of oral intake disorders, metabolic diseases, or medication use, and had not undergone previous surgery. Preoperative and second-day postoperative serum albumin levels (g/dL) were obtained from the hospital's medical records. Continuous variables were expressed as mean ± standard deviation. The difference between preoperative and postoperative measurements was analyzed using a paired-samples t-test. Statistical significance was set at $p<0.05$.

Results: The mean preoperative serum albumin level of the patients was 43.39±2.37 g/dL, and the serum albumin level on the second postoperative day was 36.24±2.57 g/dL. A statistically significant decrease in albumin levels on the second postoperative day was observed compared to preoperative values ($t=18.01$, $p<0.001$). The mean decrease was calculated to be approximately 7.15 g/dL.

Conclusion: A significant decrease in serum albumin levels occurs in the early postoperative period following laparoscopic cholecystectomy. This may be related to increased catabolism and capillary permeability, surgical stress response, acute phase reaction, and hemodilution due to perioperative fluid replacement. Our findings support the need for close monitoring of nutritional status and biochemical parameters in the postoperative period, initiation of enteral nutrition as soon as possible, provision of adequate protein support postoperatively, and the use of nutritional supplements when deemed necessary.

Keywords: Decrease in albumin levels, laparoscopic cholecystectomy

[S-203]

Usefulness of the CALLY index in predicting the development of complications in acute biliary pancreatitis: A single-center retrospective study

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Objective: Acute pancreatitis (AP) is an inflammatory disease ranging from mild edema to severe necrotizing pancreatitis, necessitating accurate early risk stratification. High mortality rates in severe cases increase the importance of early prognostic markers. While current scoring systems like Ranson, BISAP, and CT severity index are useful, they have disadvantages such as calculation complexity and limited early applicability. Consequently, interest has increased in simple biomarkers reflecting inflammation, nutritional status, and immune response. The CALLY index, combining albumin, CRP, and lymphocyte counts, has demonstrated prognostic value in various diseases. This study evaluates the CALLY index's performance in predicting a complicated course in acute biliary pancreatitis.

Material and Methods: This retrospective study included 233 consecutive patients diagnosed with acute biliary pancreatitis at Amasya University, Sabuncuoğlu Şerefeddin Training and Research Hospital between 2018 and 2025. Diagnosis was confirmed by characteristic clinical findings, serum amylase and/or lipase levels exceeding three times the upper limit of normal, and imaging. Patients without ultrasonographically proven biliary etiology were excluded. Patients were grouped into complicated (necrosis, organ failure, pseudocyst, infected necrosis, or vascular complications) and non-complicated pancreatitis. The CALLY index was calculated at admission using the formula: [(albumin\times lymphocyte)/CRP]. Mann-Whitney U and ROC analysis were used for statistical analyses, with significance at $p<0.05$.

Results: The mean age of the patients was 65.36±14.26 years, and 60.9% were female. The rate of complicated pancreatitis was found to be 6.9%. It was determined that the CALLY index did not show a normal distribution in either group ($p<0.001$). No statistically significant difference was found between the complicated and non-complicated pancreatitis groups in terms of the CALLY index ($p=0.069$). In the ROC analysis, the AUC value of the CALLY index for predicting complicated pancreatitis was calculated as 0.364 (95% CI: 0.204-0.524), and the discriminative power was not statistically significant. A clinically significant cut-off value could not be determined.

Conclusion: The CALLY index does not have sufficient discriminative power to predict the development of complications in acute biliary pancreatitis. Despite being an easily calculable parameter, our study indicates that the CALLY index is not suitable for clinical use as a reliable prognostic biomarker in this patient group. Further prospective, multicenter studies involving time-based measurements are needed to improve the accuracy of risk stratification in acute pancreatitis.

Keywords: Acute biliary pancreatitis, CALLY index, complicated pancreatitis

[S-204]

Comparison of postoperative complication rates in isolated liver and combined colon + liver resections with and without microwave ablation: A single-center retrospective analysis

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Objective: Parenchyma-sparing approaches in liver surgery have gained increasing importance, and microwave ablation (MWA) is widely used either in combination with surgical resection or as an adjunctive technique. However, the effect of MWA on postoperative complications in isolated liver and combined colon + liver resections remains unclear. The aim of this study was to compare postoperative complication rates between patients who underwent MWA and those who did not.

Material and Methods: This retrospective study included patients who underwent liver resection between March 2020 and December 2025. Patients aged ≥18 years who underwent isolated liver resection or combined colon + liver resection and whose data were accessible were included. Liver metastases originating from non-colonic primary tumors, patients who underwent ablation alone, and emergency surgeries were accepted as exclusion criteria.Patients were divided into two groups according to the use of intraoperative MWA: MWA (+) and MWA (−). Demographic characteristics and postoperative outcomes were evaluated. Complications were defined according to the Clavien-Dindo Classification (CDC). Subgroup analyses were performed based on the type of surgery.

Results: Of the total 215 liver resections, intraoperative MWA was performed in 36.7% (n=79). In this group, 57 patients underwent isolated liver resection and 22 underwent combined colon + liver resection. In the MWA (+) group, the median length of hospital stay was calculated as 10 days. The early postoperative complication rate was 26.5% (n=21); 9 cases were classified as CDC-I, 10 as CDC-IIIa, and 2 as CDC-V. In the MWA (−) group, 113 of 136 patients underwent isolated liver resection and 23 underwent combined colon + liver resection. The median length of hospital stay was 7 days. The early postoperative complication rate was 8% (n=11); 7 cases were classified as CDC-I, 3 as CDC-IIIa, and 1 as CDC-V.

Conclusion: Postoperative complication rates were higher in patients who underwent intraoperative MWA, particularly in combined colon + liver resections (40%). In isolated liver resections, the complication rate was 21.1% in the MWA (+) group and 5.3% in the MWA (−) group. Additionally, the length of hospital stay was significantly longer in the MWA (+) group compared to the MWA (−) group (Mann-Whitney U, $p<0.001$). These findings suggest that intraoperative MWA may be associated with increased morbidity and prolonged hospital stay, particularly in combined procedures. Multicenter studies with larger sample sizes are needed to further clarify this relationship.

Keywords: Microwave ablation, liver

Table 1.Postoperative complication rates in isolated liver and combined colon + liver resections with and without intraoperative MWA

Type of surgical procedure	Total patients (n)	Complications (n)	Complication (%)
Isolated liver resection	113	6	5,3
Colon + liver resection	23	5	21,7
Isolated liver + intraoperative MWA	57	12	21,1
Colon + liver + intraoperative MWA	22	9	40

[S-205]

Factors associated with the need for intensive care in gangrenous cholecystitis

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Objective: Gangrenous cholecystitis is the most severe form of acute cholecystitis, characterized by ischemia-related necrosis of the gallbladder wall and associated with serious, potentially life-threatening complications. The disease is frequently encountered in elderly patients and in those with multiple comorbidities. Its clinical course is variable, ranging from mild symptoms to rapid progression with sepsis and organ failure. Therefore, identifying easily accessible clinical and laboratory parameters that can predict the need for intensive care in gangrenous cholecystitis is of great importance.

Material and Methods: This retrospective study included 60 patients who underwent surgery with a prediagnosis of gangrenous cholecystitis between January 2019 and January 2024 and whose diagnosis was confirmed histopathologically. Patients were divided into two groups according to postoperative hospitalization status: those admitted to the intensive care unit (Group 1, n=30) and those followed in the surgical ward (Group 2, n=30). Demographic data, comorbidities, vital signs, laboratory parameters, and radiologic characteristics were recorded. Differences between the groups were analyzed using appropriate statistical methods.

Results: Patients requiring intensive care were significantly older than those followed in the ward (72.3±13.3 vs. 55.9±15.0 years, p<0.05), and diabetes mellitus was more frequent in this group (70% vs. 16.6%). Comparison of laboratory and clinical parameters demonstrated significantly higher C-reactive protein (CRP), alanine aminotransferase (ALT), lactate levels, neutrophil-to-lymphocyte ratio, and body temperature in Group 1 (p<0.05). Age and diastolic blood pressure values were also higher in this group. On preoperative radiologic evaluation, findings consistent with gangrenous cholecystitis, including gallbladder wall thickening and distension, were observed in both groups. However, no significant differences were found regarding gallbladder diameter, wall thickness, or stone characteristics (p>0.05). There was no significant difference between the groups in terms of surgical approach (laparoscopic versus open cholecystectomy). Postoperative complications were similar. Superficial surgical site infection and low-output bile leakage occurred in few patients in both groups and resolved with conservative management. No mortality was observed.

Conclusion: In histopathologically confirmed cases of gangrenous cholecystitis, postoperative intensive care unit (ICU) requirement is most strongly associated with advanced age and diabetes mellitus. In addition, elevated CRP, increased lactate levels, higher NLR, elevated body temperature, and increased ALT levels represent practical and readily available indicators that may predict a severe postoperative course. In contrast, radiologic measurements and surgical approach did not provide significant discriminatory value for ICU admission. These findings suggest that early systematic risk stratification in patients with gangrenous cholecystitis may play a critical role in guiding postoperative close monitoring and intensive care planning.

Keywords: Gangrenous cholecystitis, intensive care requirement, risk factors, postoperative outcome, inflammatory markers, neutrophil-to-lymphocyte ratio

Table 1. Comparison of specific variables of the cases according to the groups

	Group 1 (n)	Group 1 (%)	Group 2 (n)	Group 2 (%)	
Female	14	47	16	53	X^2=0.267 p>0.05
Male	16	53	14	47	X^2=0.267 p>0.05
Single stone	8	26.67			X^2=4.202 p>0.05
Millimetric stones	14	46.67			X^2=4.202 p>0.05
Multiple stone	5	16.67			X^2=4.202 p>0.05
Sludge	3	10.00			X^2=4.202 p>0.05
Open cholecystectomy	16	53			X^2=4.202 p>0.05
Laparascopic cholecystectomy	14	47			X^2=4.202 p>0.05

Table 2. Mann-Whitney U test results for the comparison of specific variables of the cases according to the groups

Variables	Groups	n	X ± SD	Mean rank	p
Gallbladder wall thickness (mm)	Group 1	30	6.08±5.74	31.83	0.552
Gallbladder wall thickness (mm)	Group 2	30	4.97±2.01	29.17	0.552
CRP	Group 1	30	153.02±105.53	35.80	0.019*
CRP	Group 2	30	153.22±386.88 25.20	25.20	0.019*
ALT	Group 1	30	59.5±39.73	35.87	0.017
ALT		30	51.77±58.55	25.13	0.017
AST	Group 1	30	48.27±26.6	34.78	0.057
AST	Group 2	30	49.5±67.63	26.22	0.057
GGT	Group 1	30	71.67±37.02	32.42	0.395
GGT	Group 2	30	68.1±46.01	28.58	0.395
Lactate	Group 1	30	7.66±11.59	38.35	0.001*
Lactate	Group 2	30	2.13±2.19	22.65	0.001*
LDH	Group 1	30	146.07±110.07	27.85	0.240
LDH	Group 2	30	153.81±50.7	33.15	0.240
NLR	Group 1	30	7±4.37	36.85	0.005*
NLR	Group 2	30	31.16±146.39	24.15	0.005*
Body temperature	Group 1	30	37.71±1.38	41.33	0.001*
Body temperature	Group 2	30	36.68±0.56	19.67	0.001*
Base excess	Group 1	30	-0.65±4.31	26.47	0.073
Base excess	Group 2	30	1.21±2.13	34.53	0.073

Table 3. T-test results for the comparison of specific variables of the cases according to the groups

Variables	Groups	n	X±SD	t	p
Age	Group 1	30	72.3±13.35	4.468	0.001*
Age		30	55.9±15.04	4.468	0.001*
Stone diameter (mm)	Group 1	30	7.17±9.55	-1.379	0.173
Stone diameter (mm)	Group 2	30	10.59±9.64	-1.379	0.173
Gallbladder diameter (mm)	Group 1	30	59.37±29.8	0.646	0.521
Gallbladder diameter (mm)	Group 2	30	54.24±31.74	0.646	0.521
WBC	Group 1	30	11482.67±4960	0.528	0.600
WBC	Group 2	30	10820±4763.47	0.528	0.600
Neutrophil percentage (%)	Group 1	30	9.07±4.31	0.604	0.548
Neutrophil percentage (%)	Group 2	30	8.38±4.58	0.604	0.548
Systolic BP	Group 1	30	110.34±15.03	-1.112	0.271
Systolic BP	Group 2	30	114±10.04	-1.112	0.271
Diastolic BP	Group 1	30	67.34±13.82	-2.241	0.029*
Diastolic BP	Group 2	30	73.84±7.85	-2.241	0.029*
Heart rate	Group 1	30	88.34±15.9	1.128	0.264
Heart rate	Group 2	30	83.67±16.15	1.128	0.264
BMI	Group 1	30	30±4.1	1.057	0.295
BMI	Group 2	30	28.77±4.92	1.057	0.295

[S-206]

Patients with non-normalizing CA 19-9 levels after pancreatoduodenectomy: A single-center retrospective study

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Objective: CA 19-9 is the gold standard biomarker for predicting survival after curative resection in pancreatic cancer. However, its levels after surgery can be affected by factors such as cholestasis, surgical margins, and the patient's ability to secrete CA 19-9. This study examines how well CA 19-9 change patterns predict recurrence and metastasis after pancreatoduodenectomy (PD).

Material and Methods: We reviewed 354 patients who underwent PD from 2015 to 2025. Of these, 183 were excluded for benign pathology (50), loss to follow-up (24), insufficient data (39), or early death (70). The final 171 patients (105 men, 66 women; mean age 66) were classified by preoperative CA 19-9 status. Data analysis used preoperative, early postoperative, and 6-month values.

Results: 1. Pre-op positive group (n=125):A complete biochemical response (persistent negativity) was observed in 62 patients (49.6%). In 24 patients (19.2%), values remained high, indicating a poor prognosis. In 33 patients, a re-elevation was detected at 6 months following postoperative normalization, with a recurrence/metastasis rate of 81% (n=27). Six patients showed a downward trend in initially high postoperative values, returning to normal by the 6-month mark. 2. Pre-op negative group (n=46): values remained persistently negative in 35 patients. Although recurrence was detected in 20% (n=7) of these patients at 6 months, the lack of CA 19-9 elevation supports a "non-secretor" (Lewis negative) status. False positivity due to cholestasis was observed in 2 patients. Of the remaining 9 patients, recurrence was found in 5, cholestasis in 2. 3. R1 resection and biochemical correlation: R1 resection was identified in 21 patients. While 5 patients maintained completely negative CA 19-9 levels postoperatively, 7 of the 16 patients with high early postoperative values achieved normalization by the 6-month control. Overall, 57% (12/21) of patients with R1 resections achieved CA 19-9 normalization.

Conclusion: Our study demonstrates that postoperative CA 19-9 elevation possesses high specificity for detecting recurrence. However, biomarker monitoring may be misleading in the 20% of the population who are "non-secretors" and do not produce CA 19-9. Cholestasis is a significant cause of false positivity in both preoperative positive and negative groups; therefore, biliary obstruction must be excluded first in patients with elevated levels. The fact that a biochemical response was achieved in more than half of the R1 resection patients suggests that CA 19-9 kinetics hold prognostic value independent of surgical margin status. In conclusion, CA 19-9 analysis should be personalized and integrated with the patient's secretory status and clinical presentation rather than relying solely on absolute values.

Keywords: Pankreatikoduedonektomi, CA 19-9, biomerker

Table 1. Results			
Patient groups	n (%)	6-month follow-up status	Clinical diagnosis and notes
Group 1: Pre-op CA 19-9 (+) (n=125)			
- Persistent negative	62 (49.6)	Recurrence in 11 patients	17.7% Recurrence rate
- Re-elevation	33 (26.4)	Recurrence in 27 patients	81% Recurrence specificity
- Persistent positive	24 (19.2)	Recurrence in 22 patients	91% Recurrence rate; poor prognosis
- Late normalization	6 (4.8)	No recurrence	Downward trend; favorable prognosis
Group 2: Pre-op CA 19-9 (-) (n=46)			
- Persistent negative	35 (76.1)	Recurrence in 7 patients	Non-secretor status (20% recurrence)
- Subsequent elevation	9 (19.5)	5 Recurrence/2 Cholestasis	Undetermined elevation in 2 patients
- False positive (transient)	2 (4.4)	No recurrence	Cholestasis-related normalization
Surgical margin (r1) analysis (n=21)			
- Biochemical response (+)	12 (57.1)	Normalization achieved	5 Persistent (-), 7 Late Normalization
- Biochemical response (-)	9 (42.9)	Persistent elevation	Associated with recurrence

[S-210]

Clinical experience and outcomes in retroperitoneal and renal masses associated with inferior vena cava thrombosis

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Objective: Inferior vena cava (IVC) tumor thrombosis associated with retroperitoneal and renal malignancies represents one of the most challenging conditions in surgical management. This study aimed to evaluate the clinical, surgical, and oncological outcomes of patients whounderwent IVC thrombectomy or caval resection-reconstruction.

Mayo Clinic Classification Level 0: The tumor thrombus is confined to the renal vein, with no extension into the inferior vena cava. Level I: The tumor thrombus extends into the inferior vena cava but is located ≤2 cm above the renal vein ostium. Level II: The tumor thrombus extends >2 cm above the renal vein ostium but remains below the hepatic veins (infrahepatic). Level III: The tumor thrombus reaches the level of the hepatic veins or extends above them but remains below the diaphragm (suprahepatic, infradiaphragmatic). Level IV: The tumor thrombus extends above the diaphragm into the right atrium. In selected cases, Level I tumor thrombi may be displaced back into the renal vein using the "milking" maneuver; however, caution is required in bulky or filamentous thrombi due to the risk of fragmentation and systemic embolization. In larger thrombi, vascular control should be achieved at the infrarenal and suprarenal inferior vena cava as well as the contralateral renal vein, followed by cavotomy and thrombectomy performed under direct visualization. For Level II tumor thrombi, a wider vascular dissection is required, including early ligation of the renal artery and control of the lumbar, adrenal, and gonadal veins. After cavotomy, preservation of at least 50% of the inferior vena cava lumen is recommended.

Material and Methods: This retrospective study included 16 patients who underwent surgery between 2017 and 2025 at the Department of General Surgery, Ege University Faculty of Medicine. Patients with retroperitoneal or renal malignancies accompanied by IVC tumor thrombus or wall invasion were included. Operative notes, pathology reports, imaging studies,and follow-up data were reviewed. Surgical approaches, repair techniques, thrombus level (Mayo classification), complications, rethrombosis, recurrence, and mortality rates were evaluated.

Results: The mean age of the patients was 55.9±9.2 years, and 56.2% were female. The most common tumor type was renal cell carcinoma (RCC; 62.5%). Other diagnoses included adrenocortical carcinoma, pheochromocytoma, paraganglioma, leiomyosarcoma, liposarcoma, and metastatic tumors. Most thrombi were Mayo Level II-III, while one case extended to theright atrium (Level IV). The most frequent repair technique was primary repair (62.5%), and graft reconstruction was performed in three patients (18.7%). The postoperative rethrombosis rate was 31.2%, mostly observed in patients with high-level thrombus or graft use. No early postoperative mortality was detected, while the overall mortality rate was 31.2%. Metastatic progression occurred in 40% of RCC cases, most commonly involving the liver, lungs, and vertebrae. In retroperitoneal sarcomas, the rates of local recurrence and late metastasis wereboth 50%. Complete resection was achieved in adrenal and neuroendocrine tumors, with long-term control after systemic therapy and no mortality.

Conclusion: In retroperitoneal and renal malignancies accompanied by IVC tumor thrombus, surgical treatment remains an effective and potentially curative option when performed by anexperienced multidisciplinary team with proper preoperative planning. Achieving negativesurgical margins (R0 resection) is the strongest determinant of long-term survival.

Keywords: Inferior vena cava, renal cell carcinoma, retroperitoneal neoplasms, surgical oncology, tumor thrombosis

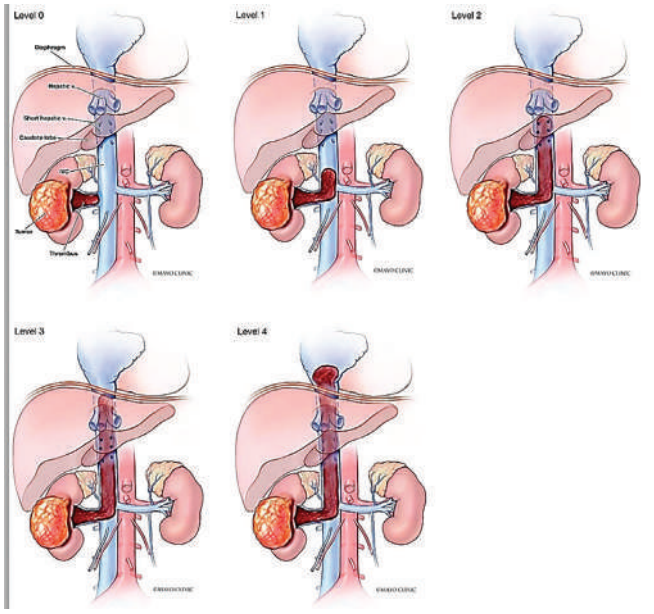

Figure 1. Mayo clinic classification of inferior vena cava tumor thrombus levels in renal cell carcinoma.

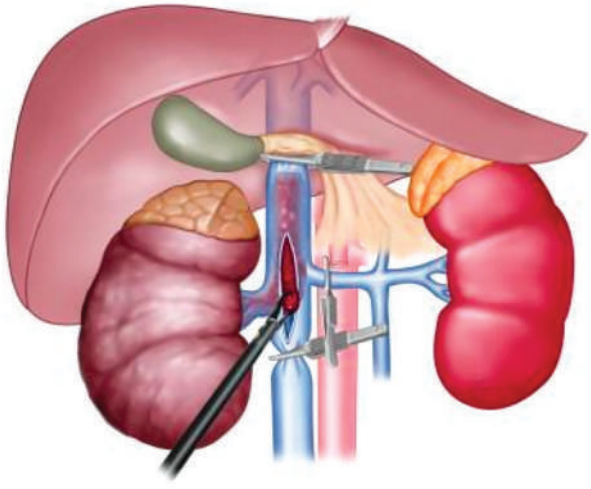

Figure 2. Laparoscopic thrombectomy for level II inferior vena cava tumor thrombus in renal cell carcinoma.

Table 1. Tumor characteristics

Variable	N (n=16)
Histopathological diagnosis	
Adenocarcinoma metastasis	1 (6.2%)
Adrenocortical carcinoma	1 (6.2%)
Clear cell RCC	6 (37.5%)
Pheochromocytoma	1 (6.2%)
Chromophobe RCC	1 (6.2%)
Leiomyosarcoma	1 (6.2%)
Liposarcoma	1 (6.2%)
Paraganglioma	1 (6.2%)
Unclassified RCC	3 (18.8%)

Table 2. Patient demographic and clinical characteristics

Variable	N (n=16)
Demographic characteristics	
Age (years)	55.9±9.2
Sex	
Male	7 (43.8)%
Female	7 (43.8%)
BMI (kg/m²)	26.2 (25.3-28.1)
Missing data	2
HT	5 (50%)
Other	5 (50%)
Missing data	6
Previous surgery	9 (60%)
Symptoms	
Pain	10 (62.5%)
Incidental	2 (12.5%)
Hematuria	6 (37.5%)
Leg swelling	1 (6.2%)
Side	
Right	14 (87.5%)
Left	2 (12.5%)
Follow-up duration (months)	26.3 (2.8-90.3)

Table 3. Surgical treatment approaches, clamping techniques, and retrombosis management

Patient no/ pathology	Side clamping	KRV-K	IR-IVC-K	IR-IVC-Ksh-IVC-K (pringle +)	ih-IVC-K	Repair	Collateral drainage*	Retrombosis	Time (days)	Treatment
1/RCC	Yes	Side	Side	Side	Side	Primary repair	Yes	Yes	7	Interventional surgery with inferior vena cava filter implantation and catheter-directed mechanical thromboaspiration
2/RCC	No	Yes	Yes	No	Yes	Primary repair	No	No		
3/RCC	Yes	Side	Side	Side	Side	Primary repair	No	No		
4/PHEO	No	Yes	Yes	No	Yes	Dacron graft + stump	Yes	Yes	6	Graft excision, stump
5/Liposarcoma	Yes	Side	Side	Side	Side	Primary repair	Yes	Yes		
6/RCC	No	TSA	TSA	TSA	TSA	Autologous graft (pericardial patch)	No	No		
7/RCC	Yes	Side	Side	Side	Side	Primary repair	Yes	No		
8/RCC	No	Yes	Yes	No	Yes	Primary repair	No	No		
9/RCC	Yes	Side	Side	Side	Side	Autologous graft (falciform ligament)	Yes	No	1551	Thrombectomy with interventional surgical support
10/Metastasis	No	Yes	No	Yes	No	Stump	No	Yes	84	Invasion
11/RCC	No	Yes	No	Yes	Yes	Primary Repair	Yes	Yes		
12/Paraganglioma	Yes	Side	Side	Side	Side	Primary Repair	Yes	No		
13/ACC	No	Yes	Yes	No	Yes	Primary Repair	No	No		
14/RCC	No	Yes	Yes	Yes	No	Primary Repair	No	No		
15/ Leiomyosarcoma	No	No	Yes	No	No	Stump	No	Yes	101	Re-operation: "Retroperitoneal recurrent mass + right common iliac artery excision + reconstruction with graft"
16/RCC	No	Yes	Yes	Yes	No	Stump	Yes	No		

KRVK: Contralateral renal vein clamping IR-VCI-K: Infra-renal inferior vena cava clamping SH-VCI-K: Supra-hepatic inferior vena cava clamping IH-VCI-K: Intra-hepatic inferior vena cava clamping * Collateral drainage: Collateral venous drainage via the azygos vein and vertebral venous system detected on CT proximal to the inferior vena cava thrombosis.

Table 4. Follow-up results

	Tumor type	Tumor type	Tumor type	Tumor type	Total (n=16)
Variable	RCC	ACC	Retroperitoneal sarcomas	Metastatic disease	
Residual disease	1	-	1	-	2
<12 month recurrence					
Locoregional	-	-	1	1	2
Metastasis	2	2	1	1	6
>12 month recurrence					
Locoregional	1	-	-	-	1
Metastasis	2	1	1	-	4

[S-211]

Can computed tomography-derived wall tension index predict early or delayed surgery in acute cholecystitis?

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Objective: Acute cholecystitis is characterized by acute inflammation of the gallbladder, and surgery remains the recommended treatment. Previous studies have reported longer operative times and postoperative hospital stays in these patients. According to current guidelines (Tokyo Guidelines 2018-2022), the timing of surgery is determined by symptom onset, severity of inflammation, surgical difficulty, hospital stay, and complication risk, with early surgery recommended within 7 days or delayed surgery after 4-8 weeks.In this study, we investigated the Wall Tension index (WTI), calculated from computed tomography (CT) images as the product of gallbladder wall thickness and transverse diameter, a parameter associated with Laplace's law and commonly used to estimate wall tension in fluid-filled hollow organs. We aimed to evaluate whether WTI could be used as an alternative parameter to symptom onset time in distinguishing early versus delayed surgical intervention in acute cholecystitis.

Material and Methods: A total of 119 patients who underwent surgery for acute cholecystitis between January 2024 and December 2025 were retrospectively analyzed. Demographic data (age, sex), operative time (minutes), length of hospital stay (days), perioperative Nassar scores (1-5), and CT-derived WTI values were recorded. Patients were grouped according to Nassar scores. Since only one patient was classified as Nassar grade 5, this group was excluded from statistical analysis. All remaining data were statistically compared.

Results: A total of 118 patients were included; 55.1% were female and 44.9% were male. Mean age was 46.0±12.5 years in males and 48.0±14.2 years in females. There were 36 patients (30.5%) in Nassar group 2, 32 (27.1%) in group 3, and 50 (42.4%) in group 4. Preoperative white blood cell count (p=0.0019) and C-reactive protein levels (p<0.001) differed significantly between Nassar groups (Table 1). As the Nassar score increased, WTI (p<0.001), operative time (p<0.001), and length of hospital stay (p=0.00025) increased significantly (Table 2). Receiver operating characteristic (ROC) analysis of WTI showed an area under the curve of approximately 0.88, with 84% sensitivity and 81% specificity. The optimal cut-off value determined by the Youden index was WTI ≈ 140.

Conclusion: WTI values increased significantly with higher Nassar scores and were associated with longer operative times and hospital stays. Preoperative WTI measurement, using a cut-off value of approximately 140, may help predict surgical difficulty and clinical outcomes in acute cholecystitis, independent of symptom onset time. Larger prospective studies are required to confirm these findings.

Keywords: Acute cholecystitis, nassar, Wall Tension index

Table 1. Infectious parameters of the groups

	Nassar 2	Nassar 3	Nassar 4	p-value
Preoperative WBC (median, IQR)	9.5 (7.9-13.0)	13.0 (9.0-15.5)	13.8 (11.5-16.0)	0.0019
Preoperative CRP (median, IQR)	15.5 (6.0-52.5)	85.5 (25.0-205.5)	190.5 (56.0-256.3)	<0.001
Kruskal-Wallis test was used for comparison between groups.				

Table 2. Length of hospital stay, operative time, and WTI measurements of the groups

	Nassar 2	Nassar 3	Nassar 4	p value
WTI (median, IQR)	86.1 (64.5-116.1)	167.0 (142.9-205.0)	221.7 (160.2-312.4)	<0.001
Operative time (min)	50 (45-60)	67.5 (60-90)	90 (80-120)	<0.001
Length of hospital stay (days)	2 (2-3)	3 (2-4)	3 (3-4)	0.00025
Kruskal-Wallis test was used for comparison between groups.				

[S-212]

Optimal timing of cholecystectomy after ERCP in patients with choledocholithiasis

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Objective: There is still no consensus in the literature regarding the optimal timing of cholecystectomy in patients with choledocholithiasis who undergo biliary drainage. In this study, we retrospectively analyzed patients who underwent cholecystectomy following endoscopic retrograde cholangiopancreatography (ERCP) in our clinic. This study aimed to evaluate the optimal timing of cholecystectomy after ERCP.

Material and Methods: A total of 264 patients who underwent ERCP for biliary drainage due to cholelithiasis and choledocholithiasis between 2020 and 2025, followed by cholecystectomy, were retrospectively reviewed. Patients were divided into two groups according to the timing of laparoscopic cholecystectomy (LC) after ERCP: early (1-30 days) and late (>30 days). Intraoperative and postoperative outcomes were analyzed between the two groups.

Results: Of the 264 patients included in the study, 53.1% (n=140) were female and 46.9% (n=124) were male, with a mean age of 55 years (range: 20-93). Comorbidities, ASA score, maximum gallstone size, common bile duct diameter, stent placement, preoperative laboratory values, presence of drainage, operative time, postoperative length of hospital stay, and postoperative complications were evaluated. Seventy-seven patients (29.1%) were in the early cholecystectomy group, while 187 patients (70.8%) were in the late group, with a mean interval of 63.5 days (range: 1-300).The conversion to open surgery rate was 16.8% (n=13) in the early group and 14.4% (n=27) in the late group. Perioperative complication rates were 6.4% (n=5) in the early group and 3.2% (n=6) in the late group. Postoperative complications occurred in 1.2% (n=1) of early patients and 2.6% (n=5) of late patients. No statistically significant difference was observed between the groups ($p>0.05$).

Conclusion: Although there is no consensus regarding the timing of cholecystectomy after ERCP, higher rates of conversion to open surgery, postoperative complications, and longer hospital stays were observed in the late cholecystectomy group in our clinic; however, these differences were not statistically significant. Nevertheless, since recurrent episodes of cholecystitis, cholangitis, and pancreatitis prior to surgery in patients undergoing late cholecystectomy resulted in prolonged hospitalizations, we recommend performing cholecystectomy in the early period.

Keywords: ERCP, choledocholithiasis, laparoscopic cholecystectomy

[S-213]

Comparison of early and late laparoscopic cholecystectomy after ERCP in patients undergoing ERCP for choledocholithiasis

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Objective: The optimal timing of laparoscopic cholecystectomy after endoscopic retrograde cholangiopancreatography (ERCP) in the treatment of choledocholithiasis remains controversial. While inflammation and fibrosis that develop during delayed surgery may make dissection more difficult, early surgery is also thought to carry potential risks. This study aimed to compare the perioperative and postoperative outcomes of laparoscopic cholecystectomy performed in the early versus late period following ERCP.

Material and Methods: A prospective study conducted at the General Surgery Department of Harran University Faculty of Medicine included 100 patients who underwent ERCP for choledocholithiasis with successful bile duct clearance. The patients were divided into two groups: an early surgery group (n=50) operated on within 48-72 hours after ERCP, and a late surgery group (n=50) operated on 8 weeks after ERCP. All patients underwent laparoscopic cholecystectomy using the standard four-port technique. Demographic data, laboratory parameters, operative time, pericholecystic adhesions, gallbladder perforation, drainage amount, conversion to laparotomy, postoperative complications, and length of hospital stay were compared. Statistical significance was accepted as $p<0.05$.

Results: No significant differences were found between the groups in terms of age, sex, or body mass index. Although preoperative AST, ALT, total bilirubin, GGT, and CRP levels were higher in the early surgery group, this did not negatively affect surgical outcomes. Operative time was significantly shorter in the early surgery group ($p<0.001$). The degree of pericholecystic adhesions was significantly higher in the late surgery group ($p<0.001$). Postoperative drainage volume was significantly lower in the early surgery group ($p=0.007$). Although gallbladder perforation, difficult dissection, and conversion to laparotomy were more frequent in the late surgery group, these differences were not statistically significant. Postoperative complication rates were similar between the two groups. Length of hospital stay was shorter in the early surgery group, but the difference was not statistically significant.

Conclusion: Our study suggests that laparoscopic cholecystectomy performed in the early period after ERCP may reduce the degree of surgical difficulty. Increased inflammation and pericholecystic adhesions in the late period may prolong operative time and make dissection more challenging. Consistent with studies in the literature reporting that cholecystectomy performed during the same hospitalization or in the early period after ERCP reduces recurrent biliary events, our findings support that an early surgical approach is safe and feasible. With appropriate patient selection, early laparoscopic cholecystectomy following ERCP may improve surgical efficiency and reduce healthcare utilization.

Keywords: Choledocholithiasis, ERCP, cholecystectomy

[S-214]

The relationship between signet ring cell histology and peritoneal spread in gastric cancer: A single-center experience

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Objective: Stone ring cell carcinoma (SRCC) is a histological subtype that draws attention with its aggressive biological behavior and tendency to peritoneal spread in stomach cancers.In this study, we aimed to investigate the relationship between stone ring cell histology and peritoneal metastasis in patients undergoing surgery due to local advanced stomach cancer.

Material and Methods: Patients with incomplete clinical or pathological data were excluded from the study. Patients were divided into two groups according to the histological type; SRCC group (SRCC with histological degree 4), non-SRCC group (adenocarcinomas with histological degree G1-G3). Demographic data (age, gender), preoperative clinical parameters (ASA score, albumin level), neoadjuvant treatment status and pathological staging (T,N,M stage) were recorded. Peritoneal metastasis was defined as the presence of peritoneal involvement detected and expressed as a percentage.

Results: A total of 379 patients were analyzed. Forty-eight (12.7%) of the patients were in the SRCC group and 331 (87.3%) were in the non-SRCC group. Demographic and clinical characteristics of the SRCC and non-SRCC groups were evaluated. There was no significant difference between the groups in terms of age, gender distribution, ASA score and preoperative albumin levels. The rate of neoadjuvant treatment was lower in the SRCC group. The rate of peritoneal metastasis was higher in the SRCC group compared to the non-SRCC group (16.7% vs. 6.6%). In addition, the M1 disease rate was higher in the SRCC group (20.8% vs. 8.8%). In this study, it was shown that stone ring cell histology is associated with peritoneal metastasis in patients who underwent surgery due to local advanced stomach cancer. The significantly higher rate of peritoneal metastasis in the SRCC group supports that this histological subtype exhibits a different biological behavior. The diffuse infiltrative growth pattern of SRCC and the decrease in cellular cohesivity are shown among the mechanisms that facilitate early spread to peritoneal surfaces. Although it has been reported in the literature that SRCC is associated with poor prognosis, its effect on peritoneal spread has been evaluated in a limited number of studies. Our findings reveal that this relationship may be clinically significant. These results suggest that preoperative and intraoperative peritoneal evaluation should be performed more carefully in patients diagnosed with SRCC. Although the retrospective design of the study and the relying on single center data are the main limitations, the homogeneous patient group and the data set of data spread over many years are among the strengths of the study.

Conclusion: SRCC appears to be associated with peritoneal metastasis in local advanced stomach cancer. This finding supports the need for more aggressive peritoneal evaluation and close clinical follow-up in SRCC cases.

Keywords: Gastric cancer, peritoneal spread, stone ring cell carcinoma

[S-215]

Clinical significance and biomarker potential evaluation of tumor-trained platelet (TEP)-derived PTPRG-AS1 expression in breast cancer patients

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Objective: Breast cancer is the most common malignancy and a major cause of cancer spread. High mortality is largely associated with metastasis and treatment resistance. The development of non-invasive, centrally located, and appropriate biomarkers capable of stage identification is clinically critical. Tumor-trained platelets (TEPs), whose RNA profiles are reprogrammed by tumor products, are promising structures in the field of liquid bacteria. This study focuses on obtaining TEP-derived PTPRG-AS1 expression in breast cancer patients and its clinical significance in both early-stage and advanced bone metastatic breast cancer.

Material and Methods: Platelets were isolated from peripheral blood samples taken from healthy individuals and patients with early-stage and advanced bone metastatic breast cancer. Total RNA extraction was performed from isolated platelets, and quality and distribution analyses were completed. TEP-induced lncRNA expression profiles were evaluated using microarray analysis; early-stage and bone metastatic groups were compared with a healthy control group. Daily lncRNAs showing differential expression in microarray analysis were confirmed using real-time polymerase chain processing (RT-PCR). PTPRG-AS1 expression levels were subjected to clinicopathological effect and expansion analysis.

Results: Microarray analysis showed significant expression changes in numerous TEP-produced lncRNAs in the early-stage and bone metastatic groups. Confirmation analysis revealed differences in PTPRG-AS1 expression in patient groups compared to the control group. In particular, increased expression in advanced/metastatic areas was associated with tumor progression, metastatic potential, and growth rates.

Conclusion: It is shown that TEP-induced changes in PTPRG-AS1 expression may influence disease staging and metastatic processes in breast cancer. The findings suggest that PTPRG-AS1 could be a potential biomarker for non-invasive liquid antibiotics. Functional and prospective studies in larger patient series will clarify its clinical applicability.

Keywords: Breast cancer, TEP, lncRNA

[S-216]

Familial history of cancer in breast cancer patients

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Objective: Breast cancer is the most common malignancy among women. It is the second most common cause of cancer-related mortality after lung cancer. In breast cancer, examining genetic predisposition and familial cancer distributions is also important for identifying high-risk individuals and ensuring that these patients receive early diagnosis through appropriate screening programs. This study aimed to investigate the types of cancers observed in the families of breast cancer cases and the degrees of kinship involved.

Material and Methods: Female patients who underwent surgical treatment for breast cancer in the General Surgery Clinic between 2015 and 2025 and who reported a family history were retrospectively reviewed. Cases where the degree of kinship or the location of cancer in relatives were unknown were excluded. The site of primary tumor in the families of the cases and the degree of closest kinship with the given diagnosis were documented.

Results: A total of 354 patients were evaluated in the study. Of these, 201 (56.8%) reported family history of cancer; however, two were excluded due to insufficient information regarding the malignancy present in their family member. In 199 patients, the distribution of cancers among first-degree relatives were as follows: 22.6% breast, 16.1% lung, 8.0% colon, 7.5% gastric, 6.0% hematological, 6.0% prostate, 5.0% endometrial, and 19.0% other cancers. Among relatives up to and including third-degree, the distribution of cancers were as follows: 50.7% breast, 25.6% lung, 12.5% colon, 10.1% gastric, 8.5% hematological, 8.5% endometrial, 7.0% prostate, and 36.7% other cancers.

Conclusion: A history of malignancy was observed in 56.7% of the families of patients with breast cancer. Breast cancer was the most frequently observed malignancy in the families, followed by lung cancer as the second most common.

Keyword: Breast cancer family

[S-217]

Identification of a novel molecular axis between serotonin receptor-7 and the pyroptosis pathway in colon cancer

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Objective: Colorectal cancer (CRC) is closely associated with chronic inflammation within the tumor microenvironment, and the role of inflammatory cell death mechanisms has gained increasing attention in recent years. Pyroptosis is an inflammatory form of programmed cell death characterized by activation of the NLRP3 inflammasome and subsequent release of proinflammatory cytokines. FOXM1 is an oncogenic transcription factor that plays a critical role in cell cycle regulation, and its overexpression in colon cancer has been associated with poor prognosis and reduced overall survival. Although serotonin and its receptors, particularly serotonin receptor-7 (HTR7), are highly expressed in the gastrointestinal tract and have been implicated in inflammation and tumor progression, their direct relationship with pyroptosis has not been clearly elucidated. This study aimed to investigate the association between HTR7 and the pyroptosis pathway in colon cancer and to identify a novel molecular signaling axis.

Material and Methods: Eighteen patients with histopathological colon adenocarcinoma and 24 age and sex matched healthy individuals were included in the study. Peripheral blood samples were collected preoperatively, and tumor tissue as well as non-cancerous normal tissue samples near the surgical margin were obtained from surgical specimens. Protein expression levels of HTR7, FOXM1, NLRP3, and IL-1β in tissue samples were analyzed by Western blotting, while serum IL-1β and IL-18 levels were measured using ELISA. In addition, the effects of siRNA-mediated HTR7 silencing on cell proliferation, clonogenic capacity, and inflammatory signaling pathways were evaluated *in vitro* using the HT-29 colon cancer cell line.

Results: Gene expression levels of HTR7, NLRP3, IL-1β, and FOXM1 were significantly higher in colon cancer tissues compared with normal tissues ($p<0.001$). At the protein level, HTR7, NLRP3, and FOXM1 expression showed an increasing trend in tumor tissues compared with normal colon tissues; however, these differences did not reach statistical significance. Serum levels of IL-1β and IL-18 were significantly elevated in patients with colon cancer compared with healthy controls ($p<0.05$). Silencing of HTR7 in HT-29 cells significantly suppressed cell proliferation and clonogenic capacity and resulted in a marked reduction in FOXM1, NLRP3, and IL-1β protein expression levels ($p<0.001$).

Conclusion: This study demonstrates that HTR7 occupies a central position in a novel molecular pyroptosis axis regulating inflammasome activation through both FOXM1 and NLRP3 in colon cancer. The identified HTR7/FOXM1/NLRP3 pathway contributes to a deeper understanding of inflammation-tumor interactions in colorectal cancer and represents a promising, targetable molecular axis with potential clinical relevance for future therapeutic strategies.

Keywords: Colon cancer, HTR7, NLRP3

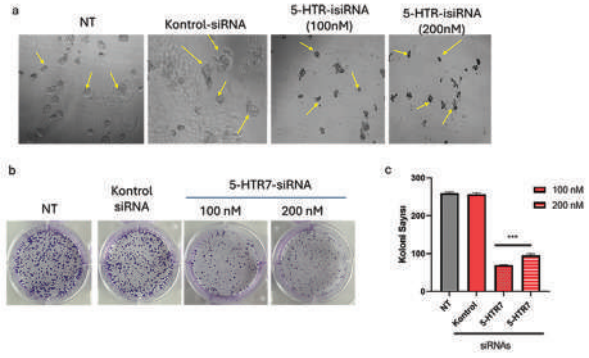

Figure 1. Effect of HTR7-siRNA mediated HTR7 silencing on cell morphology and clone formation.

(a) Microscopic images of morphological changes occurring in colon cancer cells following transfection with HTR7-siRNA. Arrows indicate morphologically altered cells. (b) Shows changes in colony formation of cells. (c) Shows changes in colony numbers ($p<0.0001$).

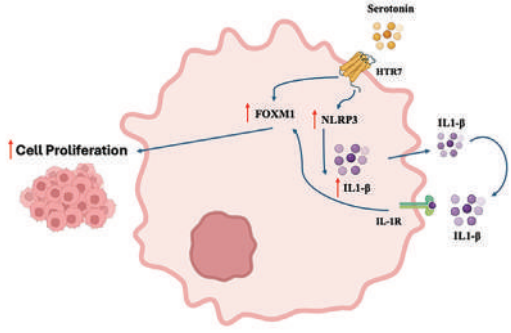

Figure 2. The HTR7-FOXM1-NLRP3 pathway identified in colon cancer.

[S-218]

Evaluation of the moleculer biomarker potential of miR-217 expression in breast, thyroid and colorectal cancers

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Objective: MicroRNAs (miRNAs) are endogenous non-coding RNA molecules that regulate gene expression at the post-transcriptional level and play essential roles in cancer development and progression. Dysregulated miRNA expression represents a key feature of tumor biology. Although miR-217 has been implicated in various malignancies, comparative expression patterns across different solid tumors using matched surgical tissue specimens remain incompletely characterized. This study aimed to evaluate and compare miR-217 expression levels in matched tumor and adjacent non-tumoral tissues from patients with breast, thyroid, and colorectal cancers.

Material and Methods: Matched tumor and adjacent non-tumoral tissue specimens were obtained from 60 patients undergoing curative surgical resection for breast (n=20), thyroid (n=20), and colorectal (n=20) cancers. Total RNA, including miRNAs, was isolated using the miRNeasy Mini Kit (Qiagen, Germany), followed by complementary DNA synthesis. miR-217 expression levels were quantified using quantitative real-time PCR (qRT-PCR) and normalized to U6 small nuclear RNA. Relative expression levels were calculated using the 2-ΔΔCt method. Paired comparisons between tumor and adjacent non-tumoral tissues were performed using the paired Student's t-test.

Results: miR-217 expression was significantly altered in breast and colorectal cancer tissues compared to matched adjacent non-tumoral tissues ($p<0.0001$ and $p=0.019$, respectively). In thyroid cancer, miR-217 expression showed a decreasing trend in tumor tissues; however, this difference did not reach statistical significance based on relative expression analysis. These findings demonstrate that miR-217 expression patterns vary across different solid tumors and may reflect tissue-specific molecular alterations associated with tumorigenesis.

Conclusion: miR-217 expression differs between tumor and adjacent non-tumoral surgical tissue specimens in breast, thyroid, and colorectal cancers. These results suggest that miR-217 may contribute to tumor-related molecular changes and could represent a potential biomarker candidate in solid tumors. Further studies integrating clinical and molecular data are needed to clarify its biological and clinical significance.

Keywords: miRNA, gene expression, cancer

[S-220]

Colorectal cancer and microbiota: A bibliometric analysis from mechanistic insights to clinical implications

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Objective: The relationship between colorectal cancer (CRC) and the gastrointestinal microbiota has rapidly evolved into a growing interdisciplinary research field. This study aims to comprehensively analyze the scientific production structure, thematic evolution, and global contribution patterns of the CRC-microbiota literature using bibliometric methods.

Material and Methods: Data obtained from internationally indexed publications were evaluated using bibliometric analysis software. Source distribution was examined according to Bradford's Law and author productivity according to Lotka's Law; author-, institution-, and country-level productivity, single- and multi-center collaborations, keyword frequencies, word clouds, and temporal thematic trends were analyzed.

Results: Bibliometric analysis revealed a marked increase in publications on colorectal cancer and the gastrointestinal microbiota since 2019, with a further acceleration observed after 2022. Publication output was concentrated in a limited number of core journals, predominantly within the fields of oncology, gastroenterology, and microbiology. Author productivity analysis showed that a large proportion of publications were produced by a small number of highly productive authors, while the majority of authors contributed to a limited number of studies. Institution- and country-level analyses indicated that scientific output was predominantly Asia-centered, with China emerging as the leading country by a substantial margin, followed by the United States and European countries. Keyword analyses highlighted the prominence of the terms "humans", "animals", "gastrointestinal microbiome", and "dysbiosis". Temporal evaluations demonstrated that early research primarily focused on experimental and animal models, whereas more recent years have seen a shift toward human-centered, clinical, and translational studies.

Conclusion: This bibliometric analysis demonstrates that the field of colorectal cancer and the gastrointestinal microbiota has expanded substantially in recent years, with a progressive shift in research focus from experimental foundations toward clinical and translational applications. The concentration of publications within a limited number of core journals and among highly productive authors suggests that the field is undergoing structural maturation. Consistent with previously reported bibliometric studies, scientific output was found to be predominantly Asia-centered, with China playing a decisive role in the development of the field. In contrast, the United States and European countries appear to contribute mainly through multicenter and collaboration-based research. Keyword and thematic trend analyses indicate that the literature initially emphasized mechanistic studies and animal models, whereas recent research has increasingly focused on human-centered investigations addressing diet, treatment response, and clinical outcomes. Collectively, these findings highlight the growing integration of microbiota-related research into clinical practice in colorectal cancer and the rising prominence of human-centered, functional approaches. Future research is expected to increasingly concentrate on microbiota-based biomarkers and personalized therapeutic strategies as central axes of the field.

Keywords: Bibliometric analysis, colorectal cancer, gastrointestinal microbiota, translational research

Table 1. Distribution of journals with the highest number of publications in the analyzed literature

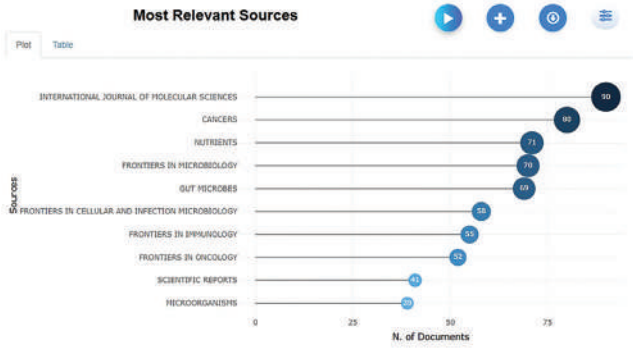

Table 2. Distribution of the most prolific authors in the analyzed literature

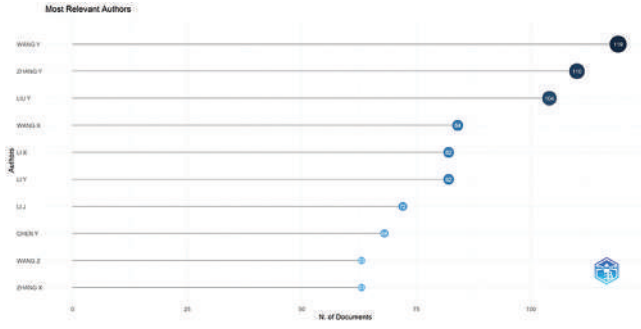

Table 3. Distribution of key concepts and thematic areas in the analyzed literature (treemap analysis)

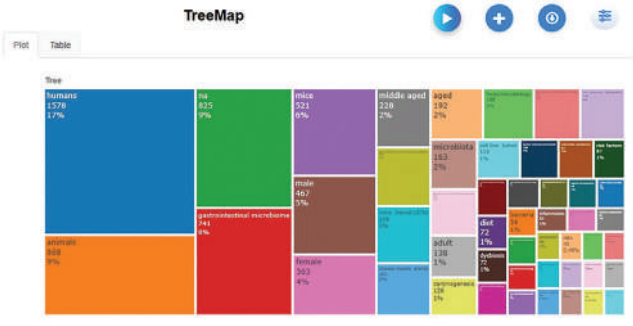

Table 4. Bibliometric studies in colorectal cancer-microbiota research: a comparison of the current literature

PARAMETRE	Bizim çalışma (Bibliometrix/Biblioshiny çıktıları; 2019–2026)	Chang ve ark., 2023 (Frontiers in Microbiology)	Zhen ve ark., 2023 (Frontiers in Oncology)	Wu ve ark., 2023 (PubMed kayıtlı çalışma; probiyotik/CRC bağlamı)
Çalışma	Bizim çalışma (Bibliometrix/Biblioshiny çıktıları; 2019–2026)	Chang ve ark., 2023 (Frontiers in Microbiology)	Zhen ve ark., 2023 (Frontiers in Oncology)	Wu ve ark., 2023 (PubMed kayıtlı çalışma; probiyotik/CRC bağlamı)
Odak / Kapsam	Kolon/kolorektal kanser–mikrobiyota literatürü (geniş alan taraması)	Kolorektal kanser ve mikrobiyota ilişkisi (genel alan)	Mikrobiyota ve kolorektal kanser taraması (CRC screening) odağı	Kolorektal kanserde probiyotik–mikrobiyota ekseni (daha klinik/uygulamalı alt tema)
Veri tabanı – dönem	2019–2026	Web of Science Core Collection; 2001–2021	Web of Science; 1992–2022	(Çalışmaya göre değişken)
Yayın sayısı	2707 doküman, 726 kaynak, 11.871 yazar	2707 yayın	700 yayın	863 yayın (raporlanan)
Ana yöntem/araç	Bibliometrix/Biblioshiny; kaynak-yazar-ülke-tema görselleştirmeleri	Bibliyometrik + görselleştirme (CiteSpace/VOSviewer temelli yaklaşım)	Bibliyometrik + görselleştirme	Bibliyometrik/ görselleştirme (çalışma içi)
Öne çıkan bibliyometrik bulgular	Yıllık büyüme %51,12; uluslararası ortak yazarlık %20,35; doküman başına ortak yazar 8,08. En üretken dergiler: Int. J. Mol. Sci. (90), Cancers (80), Nutrients (71), Frontiers in Microbiology (70), Gut Microbes (69). En üretken kurumlar Çin ağırlıklı: Chinese Univ. of Hong Kong (405), Sun Yat-sen Univ (342), Huazhong Univ S&T (249), Zhejiang Univ (247), Shanghai Univ TCM (241). Ülke üretiminde Çin açık ara lider, ardından ABD ve Avrupa ülkeleri. Ana terimler "gastrointestinal microbiome", "dysbiosis", "diet" gibi eksenlerde yoğunlaşıyor; insan/deney hayvanı temaları belirgin.	Alanın hızlanan büyümesi; ülke/kurum ağlarında Asya (özellikle Çin) ağırlığı; temalarda disbiyozis–inflamasyon–karsinogenez ekseni gibi kümeler raporlanıyor.	Screening odaklı alt literatürün yıllar içinde artışı; ülke/işbirliği ve anahtar kelime kümeleri ile "tarama–biyobelirteç–mikrobiyota" ekseninde odaklanma.	Probiyotik–CRC kesişiminde yayın dinamikleri; önde gelen ülke/kurum/tema kümeleri gibi çıktılar bildiriliyor.
Bizim çalışmamızla kıyas (katkı/fark)	Literatürdeki genel eğilimlerle uyumlu biçimde Çin-merkezli üretim ve çok hızlı büyüyen bir alan profili çiziyor. Ayrıca "screening" gibi alt odaklarla sınırlı kalmadan, kolorektal kanser–mikrobiyota hattını genel çerçevede yakalıyor.	Bizim analizimiz, benzer çekirdek temaları daha güncel bir zaman penceresine taşıyor (2019–2026) ve Biblioshiny panelleriyle dergi–kurum–yazar–trend eksenlerini aynı çatı altında özetliyor.	Bizim çalışma, screening alt alanına değil tüm CRC–mikrobiyota literatürüne baktığı için daha geniş; buna karşılık Zhen ve ark. alt alanın (tarama) dinamiklerini daha "niş" ve net gösteriyor.	Bizim çalışma, probiyotik gibi bir alt temaya "daralmadan" alanı genel harita şeklinde çıkarıyor; Wu ve ark. ise uygulamaya dönük alt temada derinleşiyor.

[S-221]

Alterations in PD-L1+ myeloid cells and immune infiltration are associated with atezolizumab and paclitaxel therapy success in a triple-negative breast cancer model

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Objective: Triple-negative breast cancer (TNBC) is an aggressive breast cancer subtype with limited targeted treatment options and suboptimal response to immune checkpoint inhibitors (ICIs). Although PD-L1 expression on tumor cells is widely used to guide immunotherapy, accumulating evidence suggests that PD-L1 expressed by immune cells within the tumor microenvironment may critically influence therapeutic outcomes. This study aimed to investigate the role of PD-L1-expressing myeloid cells and immune infiltration in determining the response to combined paclitaxel and anti-PD-L1 (atezolizumab) therapy in an experimental TNBC model.

Material and Methods: A murine TNBC model was established using 4T1 breast cancer cells inoculated into BALB/c mice. Animals were divided into four groups: sham, paclitaxel, anti-PD-L1, and combination therapy (paclitaxel + anti-PD-L1). Tumor growth and lung metastasis were assessed histopathologically. Immune cell populations from tumor, lung, liver, spleen, and lymph nodes were analyzed by flow cytometry. PD-L1 expression on granulocytes, monocytes, macrophages, and $CD206^+$ tumor-associated macrophages (TAMs) was quantified using percentage positivity and median fluorescence intensity (MFI). Statistical comparisons were performed using Student's t-test.

Results: PD-L1 expression was significantly higher on tumor-infiltrating myeloid cells than on tumor cells. $CD206^+$ TAMs exhibited the highest PD-L1 levels within the tumor microenvironment and in metastatic target organs including lung and liver, as well as in lymphoid tissues (Figure 1). Combination therapy significantly reduced primary tumor growth and lung metastasis burden compared with paclitaxel or anti-PD-L1 monotherapy (Figure 2). Immune profiling revealed marked remodeling of immune infiltration across tissues. Paclitaxel increased intratumoral $CD8^+$ T-cells while reducing granulocyte infiltration. Anti-PD-L1 monotherapy promoted immune cell accumulation without proportional therapeutic benefit. Importantly, combined treatment decreased PD-L1 expression on $CD206^+$ macrophages across multiple organs, indicating systemic modulation of immunosuppressive myeloid compartments. T-cell trafficking patterns demonstrated organ-specific redistribution, with enhanced cytotoxic T-cell presence in metastatic sites and lymph nodes.

Conclusion: Our findings demonstrate that PD-L1 expression on myeloid cells, particularly $CD206^+$ tumor-associated macrophages, plays a central role in regulating therapeutic response in TNBC. The combination of paclitaxel and atezolizumab not only suppresses tumor growth and metastasis but also remodels the immune microenvironment by reducing immunosuppressive myeloid populations and enhancing effective antitumor immunity. These results provide mechanistic insight into why PD-L1-negative tumors may still benefit from immune checkpoint inhibition and support targeting $PD\text{-}L1^+$ myeloid cells as a key strategy for improving combination chemo-immunotherapy in TNBC.

Keywords: Atezolizumab, metastasis, paclitaxel, triple-negative breast cancer, tumor immune microenvironment

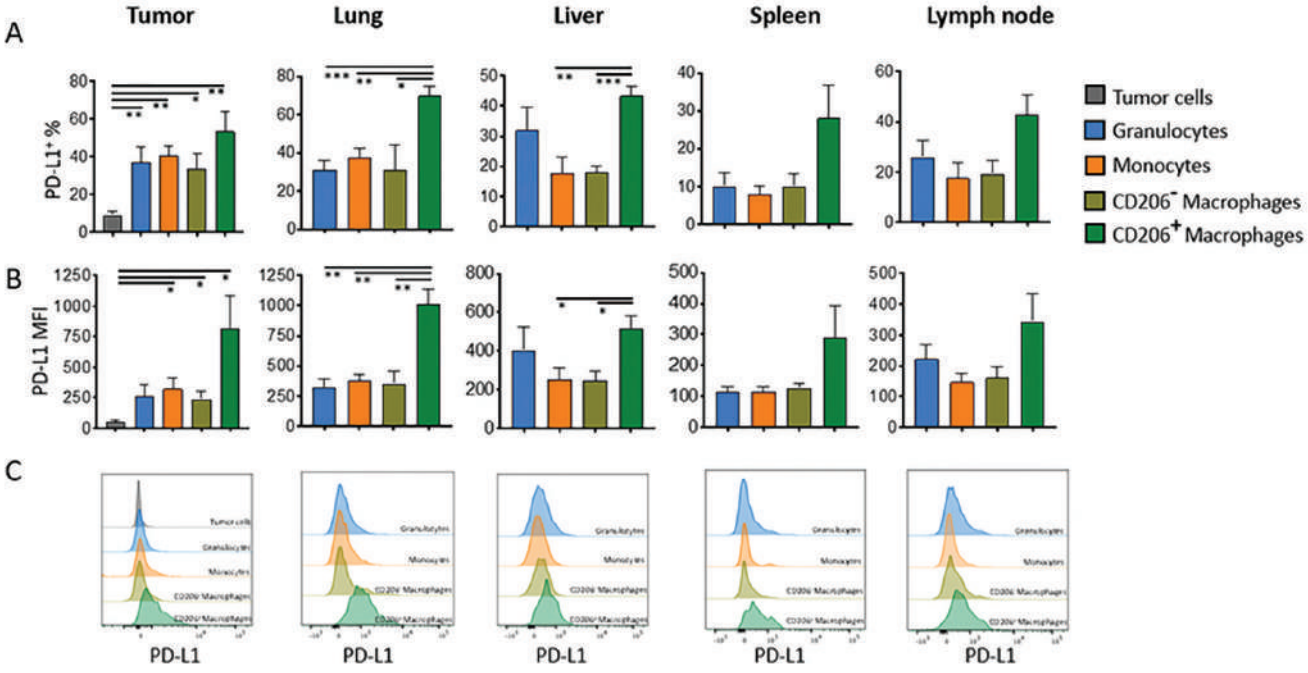

Figure 1. Analysis of PD-L1 expression on tumor cells and tumor-infiltrating immune cells. A) The percentages of PD-L1+ cells, B) PD-L1 MFI, and C) representative flow cytometry histograms of PD-L1 expressions were given. The data was presented as average ± SEM (*p<0.05, **p<0.01, ***p<0.001).

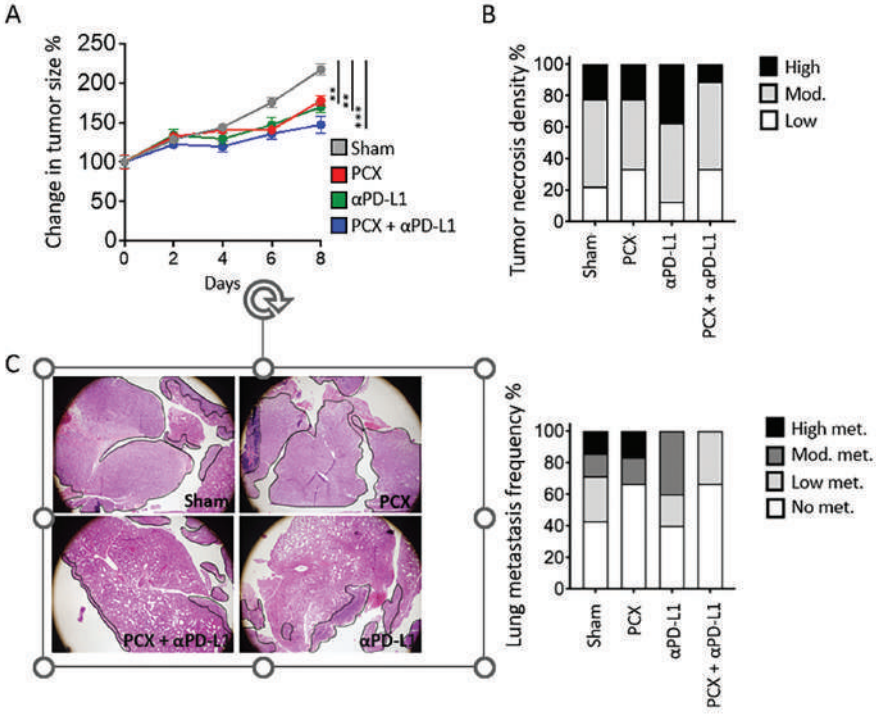

Figure 2. A) Change in tumor size under paclitaxel, anti-PD-L1, and combination treatments. B) Percentages of tumor necrosis and C) representative hematoxylin and eosin (H&E)-stained lung tissue section and lung metastasis frequency were given. The data was presented as average ± SEM (*p<0.05, **p<0.01, ***p<0.001). (Black outlines indicate metastatic tumor regions in lung parenchyma).

[S-222]

Investigation of the correlation between asprosin C-erbB-2 levels in gastric adenocarcinomas

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Objective: Gastric adenocarcinoma is one of the leading causes of cancer-related mortality worldwide, and there is a need for reliable biomarkers for early diagnosis. C-erbB-2 (HER2) positivity is associated with poor prognosis in gastric cancers and is of importance for targeted therapies. In recent years, the roles of metabolically regulatory adipokines in tumor biology have attracted increasing attention. Asprosin is a newly identified adipokine involved in energy homeostasis, and its association with cancer metabolism has not yet been clearly elucidated. The aim of this study was to investigate the relationship between Asprosin and C-erbB-2 expression in gastric adenocarcinomas.

Material and Methods: In this retrospective study, 60 gastric adenocarcinoma cases (20 Grade I, 20 Grade II, 20 Grade III) and 20 samples of normal gastric mucosa selected from the archives of the Department of Pathology, Fırat University Faculty of Medicine, were examined. Tissue sections were immunohistochemically stained with Asprosin and C-erbB-2 antibodies. H-scores were calculated based on staining intensity and the percentage of positive cells. Statistical analyses were performed using SPSS version 22.0. Groups were compared using the Kruskal-Wallis test, and the relationship between markers was evaluated using Spearman correlation analysis. Diagnostic performance was assessed by receiver operating characteristic (ROC) analysis.

Results: Asprosin expression was found to be high in normal gastric mucosa, whereas Asprosin levels decreased significantly with increasing tumor grade ($p=0.002$). In contrast, C-erbB-2 expression increased in parallel with tumor grade ($p=0.009$). A moderate, statistically significant negative correlation was observed between Asprosin and C-erbB-2 expression ($r=-0.54$, $p<0.01$). In ROC analysis, the area under the curve (AUC) was 0.81 for Asprosin and 0.84 for C-erbB-2. An Asprosin H-score below 102 was found to be discriminative in favor of malignancy. No significant associations were detected between marker levels and age, sex, or tumor localization.

Conclusion: The decrease in Asprosin expression and the concomitant increase in C-erbB-2 levels with advancing tumor grade in gastric adenocarcinomas suggest an inverse relationship between metabolic reprogramming and oncogenic activation. Asprosin represents a potential metabolic biomarker candidate for early diagnosis and tumor grading in gastric cancer. Its combined evaluation with C-erbB-2 may enhance diagnostic accuracy and support personalized therapeutic approaches.

Keywords: Asprosin, biomarker, C-erbB-2 (HER2), stomach cancer

[S-223]

Evaluation of the prognostic importance of aurora kinase B and its relationship with clinicopathological parameters in breast cancer patients

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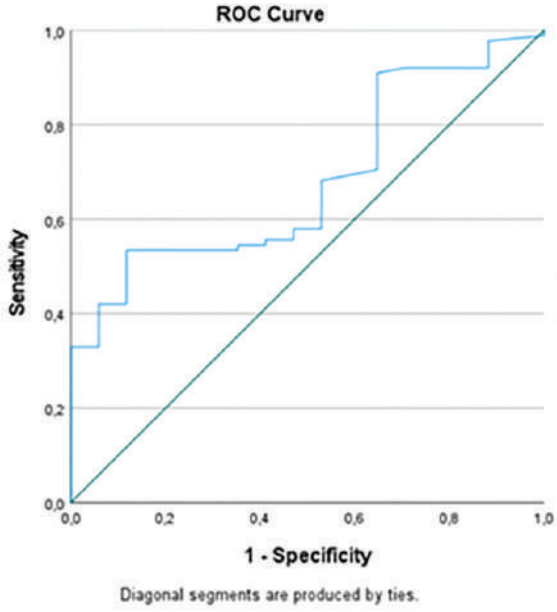
Objective: Aurora kinase B (AURKB) is a serine/threonine kinase that plays a critical role in mitotic regulation and genomic stability. Aberrant activation of AURKB has been implicated in tumorigenesis and cancer progression. This study aimed to evaluate the prognostic significance of serum AURKB levels in breast cancer patients and to investigate their relationship with molecular subtypes and clinicopathological parameters.

Material and Methods: Serum AURKB concentrations were determined by enzyme-linked immunosorbent assay (ELISA) in 88 breast cancer patients (22 Luminal A, 22 Luminal B, 22 HER2-positive and 22 triple-negative) and 17 healthy controls. Statistical analyses were performed using ANOVA, Kruskal-Wallis, and correlation test, and $p<0.05$ was considered statistically significant.

Results: Serum AURKB levels were significantly elevated in breast cancer patients compared to healthy controls (1.55 ± 0.11 vs. 0.90 ± 0.13 ng/mL; $p=0.018$). Among molecular subtypes, Luminal A and HER2-positive tumors exhibited significantly higher AURKB concentrations ($p=0.014$ and $p=0.034$, respectively). AURKB levels showed a strong positive correlation with hormone receptor positivity ($p=0.009$) and a negative correlation with tumor size and clinical stage. Receiver operating characteristic (ROC) analysis identified a diagnostic threshold of 1.32 ng/mL (AUC=0.68; sensitivity=53.4%; specificity=88.2%).

Conclusion: Elevated serum AURKB levels were found to be associated with hormone receptor positivity and early-stage breast cancer. The results obtained from the study suggest that increased serum AURKB levels may reflect the biology of better-differentiated and hormone receptor-positive tumors and may be closely related to tumor proliferative activity. Furthermore, the detection of higher AURKB levels in early stages suggests that this molecule may be an indicator of increased cellular division dynamics in the early stages of the disease and may be considered a supportive biomarker in predicting clinical prognosis. However, prospective, multicenter studies involving large patient cohorts are required to determine whether AURKB has independent prognostic value.

Keywords: Aurora kinase B, breast cancer, molecular subtypes



Area Under the Curve

Test Result Variable(s): ng/ml

Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
,682	,061	,018	,562	,802

The test result variable(s): ng/ml has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

a. Under the nonparametric assumption

b. Null hypothesis: true area = 0.5

Figure 1. ROC curve plotted for aurora kinase B.

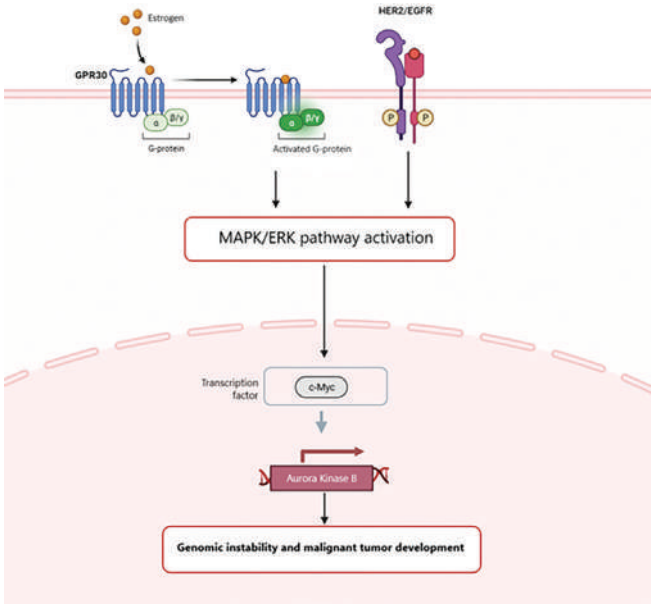


Figure 2. Proposed mechanism linking HER2 and estrogen receptor pathways activating aurora kinase B via MAPK/ERK and Myc signaling, adapted from references.

Table 1. Clinicopathologic and demographic characteristics of patients and AURKB serum levels

Clinicopathologic parameters	n (%)	AURKB (ng/mL)	p-value
Age			
<50	42 (48)	1.579	p=0.977
≥50	46 (52)	1.379	
Metastatic LN			
No	43 (49)	2.113	p=0.674
Yes	44 (51)	1.427	
Clinical stage			
I	17 (19)	2.7	p=0.022
II	48 (55)	1.25	
III	22 (25)	1.6706	
IV	1 (1)	0.55	
Tumor diameter			
<2 cm	26 (30)	2.2629	p=0.01
2-5 cm	50 (58)	1.1760	
>5 cm	11 (12)	1.8771	
Complete response			
No	32 (53)	1.059	p=0.05
Yes	29 (47)	1.9579	

AURKB: Aurora kinase B

Table 2. AURKB expression levels of patients according to molecular subtypes and compared to healthy women

Groups	n (%)	Aurora kinase B expression (mean ng/mL)	p-value
Luminal A	22 (20.95)	1.6623	0.014
Luminal B	22 (20.95)	1.4391	0.11
Triple negative	22 (20.95)	1.3409	0.124
HER2 positive	22 (20.95)	1.7509	0.034
Healthy women	17 (16.2)	0.8982	

AURKB: Aurora kinase B

Table 3. Comparison of AURKB threshold value with clinicopathologic data

Parameters		n	Total %	<1.32	>1.32	p
Clinical stage	1	17	19.30	3 (17.6)	14 (82.4)	0.034
	2	48	54.50	27 (56.3)	21 (43.8)	
	3	22	25.00	10 (45.5)	12 (55.5)	
	4	1	1.10	1 (100)	0 (0)	
Neural invasion	No	81	95.30	36 (44.4)	45 (55.6)	0.03
	Yes	4	4.70	4 (100)	0	

AURKB: Aurora kinase B

[S-224]

Clinical significance of CD27$^+$CD28$^+$ effector memory T-cells as potential prognostic biomarkers in ovarian cancer

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Objective: Ovarian cancer is the most lethal gynecological malignancy and is characterized by high recurrence rates and resistance to conventional therapies. Identification of reliable immune biomarkers for prognosis and treatment response remains a major clinical need. Effector memory T-cells (TEM) play a central role in antitumor immunity, and their functional heterogeneity can be defined by the expression of co-stimulatory molecules CD27 and CD28. This study aimed to investigate the clinical significance of CD27$^+$CD28$^+$ helper and cytotoxic TEM subsets in peripheral blood, ascites, and tumor tissue of patients with high-grade ovarian cancer.

Material and Methods: Peripheral blood, malignant ascites, and tumor tissue samples were obtained from patients with FIGO stage III-C ovarian cancer and age-matched healthy controls. Multi-parametric flow cytometry was used to analyze CD4$^+$ and CD8$^+$ T-cell subsets according to memory phenotypes and CD27/CD28 expression profiles. Patients were stratified based on histopathological diagnosis, neoadjuvant chemotherapy status, and clinical outcomes. Associations between immune subsets and progression-free survival (PFS), lymph node status, and CA125 kinetics were evaluated using appropriate statistical analyses.

Results: Effector memory T-cells constituted the predominant T-cell population across all compartments, with marked enrichment in the tumor microenvironment, exceeding 90% of infiltrating T-cells. Among TEM subsets, the CD27$^+$CD28$^+$ population emerged as the dominant fraction in both circulation and tumor tissue for CD4$^+$ and CD8$^+$ T-cells (Figure 1). High circulating frequencies (≥63%) of CD27$^+$CD28$^+$ helper or cytotoxic TEM cells were significantly associated with prolonged PFS (15-16 months versus 9-10.5 months), increased incidence of reactive lymph nodes, and favorable CA125 dynamics. In contrast, neoadjuvant chemotherapy was associated with a significant reduction of CD27$^+$CD28$^+$ TEM cells within tumor tissue (Figure 2). These findings indicate that preservation of CD27 and CD28 expression reflects active immunosurveillance, whereas loss of these markers corresponds to terminal differentiation and impaired antitumor immunity.

Conclusion: CD27$^+$CD28$^+$ effector memory T-cells represent a robust and minimally invasive prognostic biomarker in ovarian cancer. Their sustained presence in peripheral blood correlates with improved survival outcomes and favorable clinical parameters, while their depletion signals immune exhaustion and reduced antitumor capacity. Monitoring CD27/CD28 expression on circulating TEM cells may provide a practical tool for patient stratification and guide future immunotherapeutic strategies aimed at enhancing immune surveillance in ovarian cancer.

Keywords: CD27/CD28 expression, effector memory T-cells (TEM), ovarian cancer, prognostic biomarker, tumor immune microenvironment

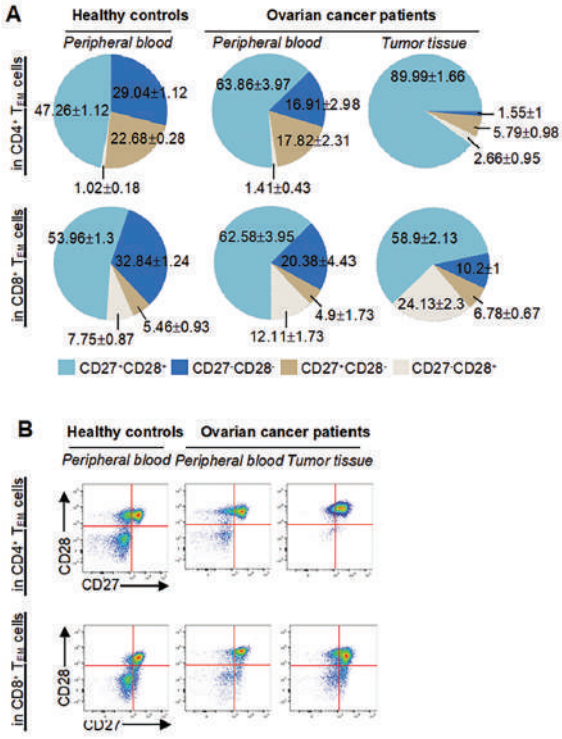

Figure 1. $CD27^+CD28^+$ TEM cells represent a predominant subset among $CD4^+$ and $CD8^+$ T-cells in ovarian cancer. Percentage distribution of $CD4^+$ and $CD8^+$ TEM cell subsets according to CD27 and CD28 expression was plotted in healthy control blood, patient blood, and tumor tissue (A). Representative flow cytometry dot plots illustrate CD27 and CD28 expression patterns on TEM cells determined in distinct samples (B).

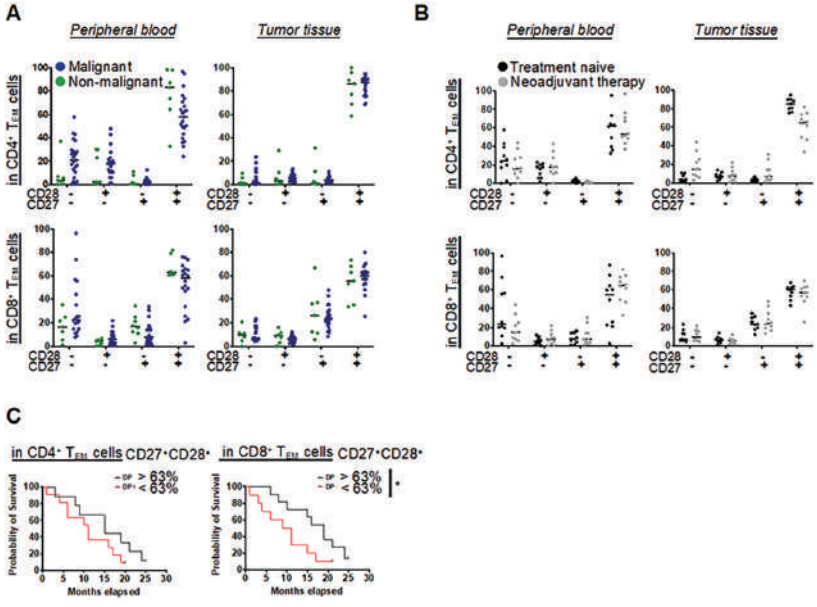

Figure 2. Tumor-infiltrating CD27+$CD28^+$ TEM cells predict favorable prognosis in ovarian cancer. Percentage of circulating and tumor-infiltrating helper and cytotoxic TEM cells was distributed according to CD27 and CD28 expression (A) in malignant and non-malignant (benign and borderline) histopathology and (B) according to neoadjuvant therapy received. Kaplan-Meier curves for progression free survival of ovarian cancer patients categorized according to the percentage of CD27+CD28+ in $CD4^+$ and $CD8^+$ TEM cells. (C) The median percentage of CD27+CD28+ T-cells (63%) is taken as a cut-off value (n=18, *$p<0.05$, statistical Gehan-Breslow-Wilcoxon test applied).

[S-225]

Neoadjuvant chemotherapy resistance in Luminal B breast cancer: The role of T-Cell exhaustion and immune checkpoint expression in metastatic lymph nodes

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Objective: Tumor-infiltrating lymphocytes (TILs) and immune checkpoint molecules are well-established determinants of disease prognosis and therapeutic response in breast cancer. In the present study, we aimed to evaluate immune cell infiltration and immune checkpoint expression in metastatic axillary lymph nodes according to molecular subtypes, with a particular focus on elucidating the relationship between the immune microenvironment and the observed resistance to neoadjuvant chemotherapy in the Luminal B subtype.

Material and Methods: Metastatic axillary lymph node specimens obtained from 79 patients diagnosed with Luminal A, Luminal B, HER2-positive, and triple-negative breast cancer were analyzed. The proportions of $CD4^+$ and $CD8^+$ T-cells, as well as the expression of PD-1, CTLA-4, and LAG-3 on these subsets, were assessed by flow cytometry. Patients were stratified according to receipt of neoadjuvant chemotherapy and pathological response, and comparative analyses were performed accordingly.

Results: The rate of pathological complete response was significantly lower in patients with the Luminal B subtype compared to the other molecular subtypes. In this group, metastatic lymph nodes demonstrated significantly higher proportions of $CD4^+$ and $CD8^+$ T-cells expressing inhibitory receptors (PD-1, CTLA-4, and LAG-3) (Figure 1). Following neoadjuvant therapy, a marked increase in immune checkpoint molecule expression on $CD8^+$ T-cells was observed (Figure 2). These findings suggest that a T-cell exhaustion phenotype becomes more pronounced within the tumor microenvironment after chemotherapy.

Conclusion: Resistance to neoadjuvant chemotherapy in Luminal B breast cancer may be associated with an immunosuppressive microenvironment at the level of metastatic lymph nodes, characterized by features of T-cell exhaustion. The observed upregulation of immune checkpoint molecules underscores the potential rationale for exploring combined chemotherapy-immunotherapy strategies, particularly in the Luminal B subtype.

Keywords: Immune checkpoint inhibitors, metastatic breast cancer, neoadjuvant therapy

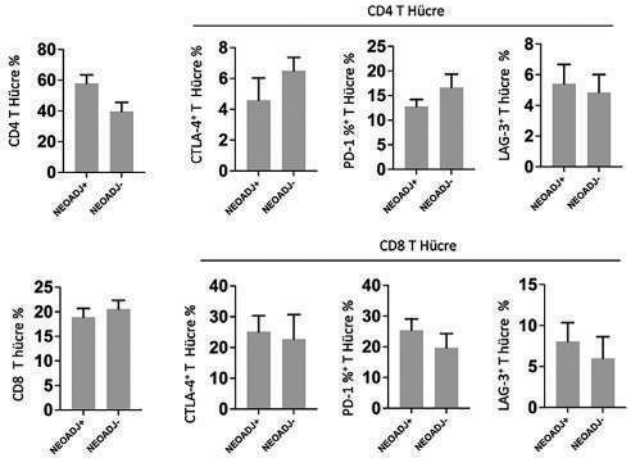

Figure 1. Flow cytometric analysis of metastatic lymph nodes from breast cancer patients who received and did not receive neoadjuvant therapy, demonstrating the percentages of inhibitory receptors (CTLA-4, PD-1, LAG-3) expressed on CD4 and CD8 T-cells.

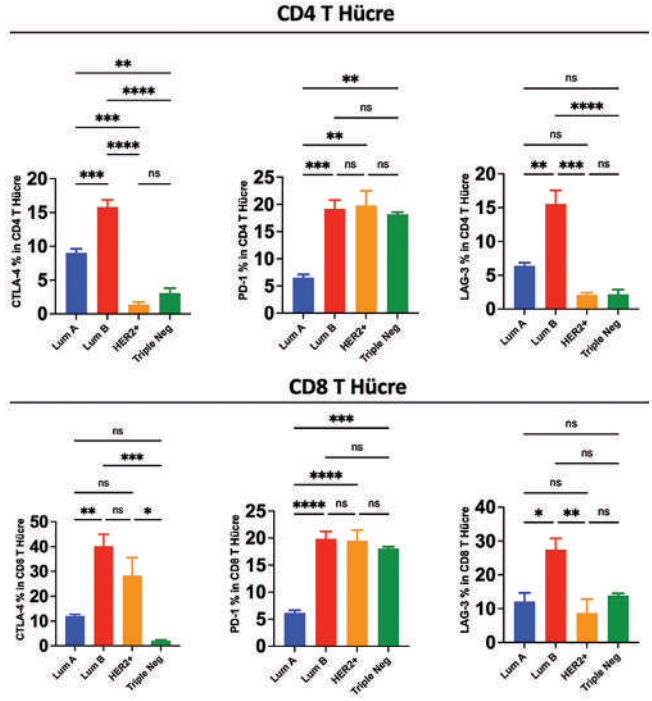

Figure 2. Determination of the percentages of inhibitory receptors (CTLA-4, PD-1, LAG-3) expressed on CD4 and CD8 T-cells in metastatic lymph nodes of breast cancer patients with different molecular subtypes (Luminal A, Luminal B, HER2-positive, and triple-negative) using multicolor flow cytometry.

[S-226]

Evaluation of specsin immunoreactivity in gastric adenocarcinomas and intestinal metaplasia cases

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Objective: Gastric cancer is one of the most common malignancies worldwide and remains a leading cause of cancer-related mortality. While five-year survival rates may reach up to 70% in patients diagnosed at an early stage, they decrease to approximately 10% in advanced-stage disease. Genetic predisposition, environmental factors, dietary habits, and particularly *Helicobacter pylori* infection play significant roles in gastric carcinogenesis. Because gastric cancer is frequently diagnosed at an advanced stage, there is a growing need for novel molecular biomarkers that may contribute to early diagnosis and prognostic assessment. Spexin (SPX) is a recently identified multifunctional peptide hormone involved in metabolic regulation, inflammation, and cell proliferation. However, its role in gastric cancer pathogenesis and tumor biology has not yet been fully elucidated. This study aimed to evaluate SPX expression in gastric adenocarcinoma and to investigate its association with tumor differentiation.

Material and Methods: This retrospective cross-sectional study included 100 individuals diagnosed and surgically treated between 2018 and 2023. The cases were divided into five equal groups: healthy controls, intestinal metaplasia, well-differentiated, moderately differentiated, and poorly differentiated gastric adenocarcinoma. Gastric cancer diagnoses were confirmed by endoscopic biopsy and histopathological examination. SPX immunoreactivity was assessed in formalin-fixed, paraffin-embedded tissue sections using immunohistochemical methods. A histoscore was calculated based on staining intensity and distribution. Statistical analysis was performed using one-way analysis of variance followed by Tukey post-hoc tests.

Results: No significant difference in spexin immunoreactivity was observed between the normal gastric mucosa and intestinal metaplasia groups. In well-differentiated gastric adenocarcinomas, SPX expression was largely preserved and comparable to that of the control group. In contrast, moderately and poorly differentiated gastric adenocarcinomas exhibited a marked reduction in spexin immunoreactivity, which was statistically significant. A progressive and significant decrease in SPX histoscores was observed as tumor differentiation decreased. Loss of cytoplasmic SPX staining in tumor cells appeared to parallel malignant progression and was associated with more aggressive tumor characteristics.

Conclusion: This study is the first to investigate SPX expression in gastric adenocarcinoma. SPX levels were found to be inversely correlated with tumor differentiation and were significantly reduced in poorly differentiated tumors. These findings suggest that loss of spexin expression may be associated with a more aggressive tumor phenotype. SPX may represent a potential biomarker reflecting tumor biology in gastric cancer, and its clinical utility should be further explored in larger, prospective studies.

Keywords: Intestinal metaplasia, spexin, stomach cancer

[S-227]

An experimental model to elucidate early liver metastasis in colorectal cancer and its impact on tumor aggressiveness

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Objective: Early liver metastasis or recurrence following curative resection remains a major clinical challenge in colorectal cancer. Even among patients with similar stage and pathological characteristics, heterogeneous clinical outcomes suggest that current staging systems may be insufficient to predict metastatic risk in certain cases. Patients who develop early recurrence are thought to harbor biologically more aggressive tumor features, and standard surgical and follow-up strategies may be inadequate for this subgroup. In this study, we aimed to establish an experimental model mimicking early metastatic behavior and to investigate its effects on tumor aggressiveness and treatment response.

Material and Methods: Human colorectal cancer cell line (HT-29) was cultured under standard conditions. To mimic metastatic behavior, a control group was formed by treating the cells with TGF-β, while untreated cells served as the control group. Tumor aggressiveness was assessed by proliferation, migration, invasion, and colony-forming capacity. Proliferation was examined using the MTT method, and migration and invasion were analyzed using Transwell assays. To evaluate treatment response, cell viability was compared at 72 hours after treatment with a combination representing the components of FOLFIRINOX and a combination of gemcitabine and cisplatin, both individually and in combination.

Results: In HT-29 cells treated with TGF-β, a significant increase in cellular proliferation was observed compared to the control group ($p<0.05$). Similarly, in migration and invasion analyses, the number of cells crossing the Transwell membrane was significantly increased in cells treated with TGF-β ($p<0.05$ for both analyses). In the colony formation test, the increased clonogenic capacity was confirmed by observing a greater number and larger colony formation in the experimental group ($p<0.05$). In the evaluation of chemotherapy response, a significant decrease in cell viability was observed with the application of the combination representing the FOLFIRINOX components ($p<0.05$). However, the gemcitabine-cisplatin combination produced a more pronounced cytotoxic effect ($p<0.01$). The lowest cell viability was obtained with the combined application of both regimens, and this combined approach was shown to be statistically more effective than the combination representing the FOLFIRINOX components ($p<0.01$).

Conclusion: This experimental model suggests that patients who develop early liver metastasis after curative resection may possess biologically distinct tumor characteristics. The findings indicate that follow-up and treatment strategies based solely on pathological staging may be insufficient in certain patients. Closer surveillance and alternative systemic treatment strategies may be warranted for high-risk individuals. This study provides a translational framework that may contribute to patient selection, surveillance frequency, and adjuvant treatment planning in colorectal cancer surgery.

Keywords: Early liver metastasis, early recurrence, tumor aggressiveness

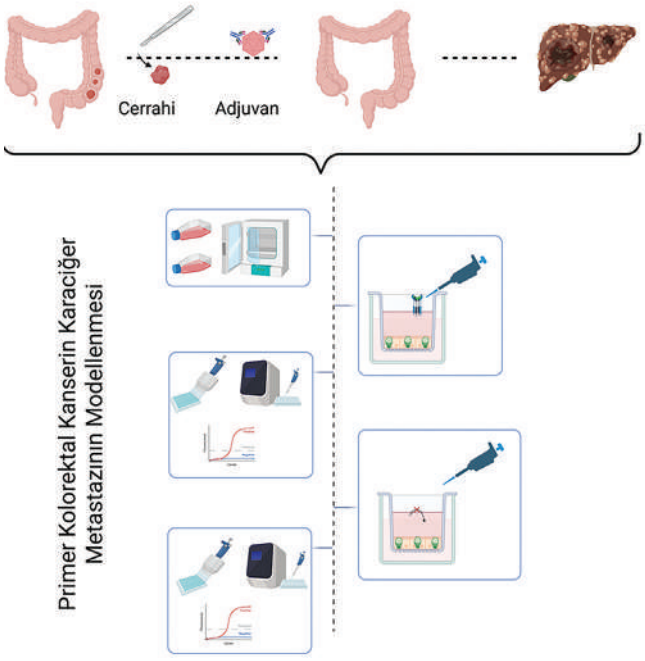

Figure 1. Modeling of liver metastasis in primary colorectal cancer.

[S-228]

A single-center retrospective analysis of early mortality rates following elective and emergency colorectal surgeries performed over the past five years

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Objective: Colorectal surgeries encompass procedures for a range of conditions, including colonic and diverticulitis perforations, bowel obstruction (ileus), mesenteric ischemia, volvulus, colorectal cancer, obstructive colorectal cancer, tumor perforation, and gastrointestinal bleeding requiring surgical intervention. This study aimed to identify factors associated with preoperative and postoperative mortality in colorectal surgeries performed under elective and emergency conditions and to compare outcomes between these groups.

Material and Methods: A total of 126 patients who developed mortality following colorectal surgery at our institution between November 15, 2020, and November 15, 2025, were reviewed. Patients whose postoperative mortality occurred more than one month after surgery (n=44) and those under 18 years of age (n=1) were excluded, leaving 81 patients (42 females, 39 males; mean age 65.5 years). Patients were classified as elective or emergency cases. Data analysis focused on preoperative and postoperative laboratory findings, as well as preoperative and intraoperative durations.

Results: No significant differences were observed between the elective and emergency groups regarding age or gender distribution ($p>0.05$). Preoperative and postoperative CRP values, and the changes between them, were not significantly different ($p>0.05$). Similarly, preoperative and postoperative WBC values showed no significant intergroup differences ($p>0.05$). However, in the elective group, postoperative WBC values increased significantly compared to preoperative levels ($p<0.05$), with the degree of change being greater than that in emergency cases ($p<0.05$). Preoperative and postoperative hemoglobin (HGB) levels did not differ significantly between groups ($p>0.05$). Postoperative HGB decreased significantly in the emergency group ($p<0.05$) but not in the elective group ($p>0.05$). Preoperative waiting time, time from admission to surgery, and total operative duration were all significantly shorter in the emergency group than in the elective group ($p<0.05$).

Conclusion: Mortality in emergency colorectal surgery was higher than in elective cases. Lower preoperative inflammatory markers (WBC, CRP) in elective surgeries likely reflect reduced systemic stress, whereas their elevation in emergency cases may relate to acute inflammatory responses triggered by the underlying pathology. The greater postoperative hemoglobin reduction in emergency surgeries is likely due to preoperative instability and increased intraoperative bleeding. Shorter preoperative and operative durations in emergency procedures are expected and appropriate findings given the urgent nature of these interventions.

Keywords: Colorectal surgery, elective surgery, emergency surgery

Table 1. Comparison between elective and emergency surgeries

Variable		Electif (n:12)				Emergency (n:69)				p	
	Mean±sd/n-%			Median	Mean±sd/n-%			Median			
Age		63.9	±	11.7	65.0	67.4	±	16.4	69.0	0.293	m
Gender	Male	7		58.3%		35		50.7%		0.626	X^2
	Female	5		41.7%		34		49.3%			
CRP											
Preop		75.0	±	94.8	40.0	159.4	±	151.2	94.5	0.139	m
Postop		109.3	±	88.2	83.0	165.0	±	135.1	128.0	0.277	m
Preop/postop change		17.3	±	53.6	-0.2	10.6	±	79.4	1.0	0.719	m
Within-group change (p)		0.594			w	0.794			w		
WBC											
Preop		7.2	±	3.3	6.5	12.1	±	9.9	8.0	0.101	m
Postop		12.8	±	6.9	10.0	12.7	±	14.0	10.0	0.322	m
Preop/postop change		5.61	±	6.57	5.00	0.36	±	9.23	-1.00	**0.011**	m
Within-group change (p)		**0.014**			w	0.532			w		
CBC											
Preop		9.8	±	1.3	9.8	10.8	±	2.7	11.0	0.237	t
Postop		10.3	±	1.4	10.3	10.4	±	2.6	10.1	0.836	t
Preop/postop change		0.47	±	1.74	0.05	-0.28	±	2.04	-0.45	0.240	t
Within-group change (p)		0.543			E	**0.000**			E		
Waiting time (days)		8.8	±	16.1	3.0	2.6	±	4.7	1.0	**0.004**	m
Hospitalization-to-surgery interval (hours)		137.3	±	217.1	72.0	18.3	±	38.3	3.0	**0.000**	m
Total operative time (hours)		3.25	±	1.60	2.50	2.30	±	0.71	2.25	**0.029**	m

tIndependent samples t-test, mMann-Whitney U test, X^2Chi-square test (Fisher's exact test), EPaired samples t-test, wWilcoxon test

[S-230]

Patient- and surgery-related factors associated with anastomotic leakage in colorectal cancer: An analysis of the Turkish Society of Colon and Rectal Surgery Colorectal Cancer Database

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Objective: Anastomotic leakage is one of the most serious postoperative complications following colorectal cancer surgery, with a reported incidence ranging from 2.8% to 30%. It is associated with increased morbidity, prolonged hospital stay, higher reoperation rates, and adverse short- and long-term oncological outcomes. Both patient-related factors (age, sex, obesity, comorbidities, neoadjuvant therapy) and surgery-related factors (surgical approach, anastomotic technique, intraoperative complications, surgeon experience) contribute to its development. Identifying risk factors is essential for defining high-risk patients and optimizing perioperative strategies. This study aimed to evaluate factors associated with anastomotic leakage using the Turkish Society of Colon and Rectal Surgery Colorectal Cancer Database.

Material and Methods: This retrospective study included patients who underwent surgery for colorectal cancer between July 2018 and January 2026, identified from the database. Patients were divided into two groups according to the presence of anastomotic leakage. Preoperative variables included age, sex, ASA score, body mass index, smoking status, history of abdominal surgery, and neoadjuvant therapy. Intraoperative variables comprised tumor localization, surgical approach, elective or emergency setting, type of resection, anastomotic technique and configuration, stoma formation, operative time, and intraoperative complications. Postoperative complications, length of hospital stay, 30-day reoperation, and mortality rates were compared. Multivariable logistic regression analysis was performed to identify independent risk factors. Results were reported as odds ratios (OR) with 95% confidence intervals (CI). A p-value <0.05 was considered statistically significant.

Results: A total of 1,967 patients were analyzed, and anastomotic leakage occurred in 4.9%. No significant differences were observed regarding age, ASA score, BMI, or smoking status. Leakage was more frequent in males than females (6.1% vs. 3.2%, p<0.05). Rectal tumors (6.8% vs. 4.2%, p=0.021) and emergency surgery (9.2% vs. 4.7%, p=0.035) were associated with higher leakage rates. Open surgery showed a higher rate compared to minimally invasive surgery (6.3% vs. 3.9%, p=0.017), while no difference was observed between laparoscopic and robotic techniques. Patients with leakage had longer hospital stays (10 vs. 8 days, p<0.001) and higher mortality (5.1% vs. 0.9%, p=0.0035). Multivariable analysis identified male sex (OR: 1.91, 95% CI: 1.18-3.04; p=0.006) and rectal tumor location (OR: 1.72, 95% CI: 1.11-2.63; p=0.014) as independent risk factors.

Conclusion: Anastomotic leakage remains a significant complication after colorectal cancer surgery. Male sex and rectal tumor location were identified as independent risk factors. These findings support careful preoperative risk assessment and suitable surgical planning in high-risk patients

Keywords: Colon cancer, rectum cancer, anastomotic leakage

Table 1. Demographic, clinical, and operative variables in patients with and without anastomotic leakage

	All patients (n=1967)	No leak (n=1870)	Leak (n=97)	p-value
Age, years, median (IQR)	65 (17)	65 (16)	67 (17)	0.133
Gender				0.004
Female, n (%)	783 (39.8)	758 (96.8)	25 (3.2)	
Male, n (%)	1184 (60.2)	1112 (93.9)	72 (6.1)	
ASA score, n (%)				0.287
I-II	1564 (79.5)	1491 (95.3)	73 (4.7)	
III-IV	403 (20.5)	379 (94)	24 (6)	
BMI, kg/m^2	25.8 (5.1)	25.8 (5)	25.3 (5.6)	0.387
Smoking, n (%)	262 (13.3)	246 (13.1)	16 (16.5)	0.429
Previous abdominal surgery, n (%)	488 (24.9)	471 (25.2)	17 (17.5)	0.113
Neoadjuvant treatment, n (%)	517 (26.3)	492 (26.3)	25 (25.8)	1.000
Tumor localization, n (%)				0.021
Colon	1418 (72.1)	1358 (95.8)	60 (4.2)	
Rectum	548 (27.9)	511 (93.2)	37 (6.8)	
Type of surgery, n (%)				0.035
Urgent	109 (5.5)	99 (90.8)	10 (9.2)	
Elective	1857 (94.5)	1770 (95.3)	87 (4.7)	
Surgical approach, n (%)				0.017
Open	864 (43.9)	810 (93.8)	54 (6.3)	
MIS	1103 (56.1)	1060 (96.1)	43 (3.9)	
MIS				0.243
Laparoscopic	896 (81.2)	864 (96.4)	32 (3.6)	
Robotic	207 (18.8)	196 (94.7)	11 (5.3)	
Conversion, n (%)	74 (6.7)	68 (4.8)	6 (8.1)	0.18
Anastomosis technique, n (%)				0.288
Hand-sewn	129 (6.6)	120 (93)	9 (7)	0.288
Stapler	1838 (93.4)	1750 (95.2)	88 (4.8)	
Anastomatic approach, n (%)				0.228
Intracorporeal	708 (67.9)	677 (95.6)	31 (4.4)	
Extracorporeal	334 (32.1)	325 (97.3)	9 (2.7)	
Anastomosis configuration, n (%)				0.317
End to end	1081 (55)	1027 (95)	54 (5)	
End to side	96 (4.9)	94 (97.9)	2 (2.1)	
Side to end	250 (12.7)	232 (92.8)	18 (7.2)	
Side to side	531 (27)	508 (95.7)	23 (4.3)	
Stoma, n (%)	523 (26.6)	494 (26.4)	29 (30.0)	0.523
Length of hospital stay, days, median (IQR)	7 (3)	8 (4)	14 (10)	<0.001
Mortality within postoperative 30 days, n (%)	22 (1.1)	17 (0.9)	5 (5.1)	0.0035

[S-231]

The impact of surgical approaches on functional outcomes in rectocele repair: A single-center retrospective cohort study

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Objective: Rectocele is one of the most common causes of obstructed defecation syndrome (ODS) and significantly impairs quality of life. Although various surgical repair techniques have been described in the literature, there is no consensus regarding their relative effectiveness on functional outcomes. This study aimed to compare the functional outcomes of transabdominal (laparoscopic ventral mesh rectopexy), transperineal, and transvaginal repair methods used in clinical practice at our center.

Material and Methods: This single-center retrospective cohort study included 52 patients who underwent surgery for rectocele between 2019 and 2025. Patients were grouped according to the surgical approach as transabdominal (n=12), transperineal (n=21), and transvaginal (n=19). Functional evaluation was performed using the Cleveland Clinic Florida Constipation Scoring System (Wexner) and Obstructed Defecation Syndrome (ODS) scores preoperatively and postoperatively. In accordance with commonly used thresholds in the literature, a reduction of ≥5 points in Wexner and ODS scores was accepted as clinically meaningful improvement (success), whereas a change of <5 points was considered persistent symptoms or insufficient clinical benefit. Continuous variables were presented as median (interquartile range, IQR). Preoperative and postoperative scores were analyzed using the Wilcoxon signed-rank test, and intergroup comparisons were performed using the Kruskal-Wallis test and appropriate categorical tests. Statistical significance was defined as $p<0.05$.

Results: The mean age of the patients was 52.17 years (36-77). In the overall analysis of 52 patients, postoperative Wexner and ODS scores showed a statistically significant decrease compared to preoperative values (Wilcoxon signed-rank test, $p<0.001$ for both scores). When evaluated separately, all three surgical approaches demonstrated significant postoperative reductions in Wexner and ODS scores ($p<0.01$ for all comparisons). Score reduction was more pronounced in the transabdominal and transvaginal groups, whereas functional improvement was more limited in the transperineal group. Analysis of clinical success rates based on Wexner, ODS, and combined evaluation revealed no statistically significant difference among surgical techniques (all comparisons $p>0.05$). However, clinical success rates were higher in the transabdominal and transvaginal repair groups compared with the transperineal group.

Conclusion: Transabdominal, transperineal, and transvaginal rectocele repairs generally provide functional improvement. Although no statistically significant difference was observed among surgical approaches in terms of clinical success rates, transabdominal and transvaginal approaches demonstrated higher success rates. Larger prospective studies are needed to provide clearer guidance for surgical approach selection.

Keywords: Obstructive defecation syndrome, rectocele

Table 1. Preoperative and postoperative functional scores according to repair type

Repair type	n	Wexner score (preoperative) median (IQR)	Wexner score (postoperative) median (IQR)	p	ODS score (preoperative) median (IQR)	ODS score (postoperative) median (IQR)	p
Transabdominal repair	12	16.50 (4.50)	6.5 (9.50)	<0.001	12.50 (4.75)	3.5 (7.5)	<0.001
Transperineal repair	21	18.0 (5.0)	10.0 (15.50)	<0.001	14.0 (4.0)	9.0 (13.0)	0.002
Transvaginal repair	19	18.0 (3.0)	7.0 (14.0)	<0.001	14.0 (3.0)	4.0 (11.0)	<0.001

IQR: Interquartile range Statistical test: Wilcoxon signed-rank test.

Table 2. Comparison of Wexner, ODS, and combined clinical benefit outcomes according to surgical repair type

Repair type	ΔWexner median (IQR)	Wexner success %	ΔODS median (IQR)	ODS success %	Combined success %
Transabdominal repair	11.5 (9.5)	75%	9.5 (8.25)	75.0%	75.0%
Transperineal repair	5.0 (15.0)	52.4%	5.0 (13.50)	52.4%	57.1%
Transvaginal repair	13.0 (14.0)	68.4%	10.0 (11.0)	68.4%	68.4%
P value (between-group comparison)	0.544*	0.367**	0.583*	0.367**	0.549**

ΔWexner and ΔODS represent the difference between preoperative and postoperative scores (preop-postop). *Kruskal-Wallis test **Pearson chi-square test.

[S-232]

Neoadjuvant treatment response beyond imaging: A combined dynamic CEA-mrTRG model to predict pathological complete response and guide organ preservation in rectal cancer

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Objective: Accurate prediction of pathological complete response (pCR) after neoadjuvant chemoradiotherapy (nCRT) remains critical in selecting candidates for organ-preserving strategies in rectal cancer. This study aimed to evaluate whether combining dynamic carcinoembryonic antigen change (ΔCEA%) with MRI-based tumor regression grade (mrTRG) improves pCR prediction compared with either modality alone.

Material and Methods: A total of 214 patients with locally advanced rectal cancer who received nCRT between 2014 and 2024 were retrospectively analyzed. Serum CEA levels were recorded at diagnosis and preoperatively, and ΔCEA% was calculated as $(CEA_1-CEA_3)/CEA_1$. Post-treatment MRI was evaluated using mrTRG. The primary endpoint was pathological complete response (TRG1). Logistic regression and ROC analyses were performed to assess predictive performance. A combined score integrating ΔCEA% ≥65% and mrTRG 1-2 was constructed.

Results: pCR was achieved in 46 patients (21.5%). ΔCEA% was significantly higher in the pCR group (median 72% vs. 41%, p<0.001). mrTRG 1-2 was strongly associated with pCR (OR=4.6, p<0.001). ROC analysis demonstrated an AUC of 0.74 for ΔCEA% alone and 0.79 for mrTRG alone. The combined ΔCEA%-mrTRG model significantly improved predictive accuracy with an AUC of 0.88 (p<0.001 vs. individual models). Patients meeting both criteria (ΔCEA% ≥65% + mrTRG 1-2) had a 58% probability of pCR compared with 9% in others (p<0.001). On multivariable analysis, the combined model remained an independent predictor (OR=6.2).

Conclusion: Dynamic CEA reduction combined with radiologic response substantially improves prediction of pathological complete response after neoadjuvant therapy. This integrated model may refine patient selection for watch-and-wait strategies and has the potential to influence surgical decision-making in locally advanced rectal cancer.

Keywords: Rectal cancer, neoadjuvant therapy, CEA dynamics

[S-233]

Comparison of clinicopathological profiles of right-sided and left-sided colon cancer: A single-center experience

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Objective: Right-sided colon cancer (RCC) and left-sided colon cancer (LCC) are increasingly recognized as distinct entities. This study aims to compare the clinicopathological characteristics of RCC and LCC in a Turkish patient cohort.

Material and Methods: We retrospectively analyzed 144 patients who underwent curative resection for non-metastatic colon adenocarcinoma between 2020-2025. Patients were classified into RCC (n=83) and LCC (n=61) groups based on anatomical location and surgical procedure. Demographic, clinical, surgical, and pathological data were compared using appropriate statistical tests.

Results: Patients with RCC were significantly older than those with LCC (mean age 66.2 vs. 61.1 years, p=0.018). The most striking difference was observed in the rate of emergency surgery, which was over three times higher in the LCC group (41.0% vs. 12.0%, p<0.001). Mucinous adenocarcinoma was significantly more common in RCC (18.1% vs. 6.6%, p=0.047). Lymph node positivity was more frequent in LCC (62.3% vs. 47.0%), although this trend did not reach statistical significance (p=0.081). No significant differences were found in gender distribution, metastatic disease at presentation, tumor grade, lymphovascular/perineural invasion rates, or receipt of adjuvant therapy.

Conclusion: Our real-world data confirm significant differences between RCC and LCC. RCC presents in older patients and is more frequently associated with mucinous histology. LCC occurs in relatively younger patients and presents dramatically more often with obstructive symptoms requiring emergency surgery, alongside a tendency for higher lymph node involvement. Tumor location should be considered in risk stratification, surgical planning, and patient counseling.

Keywords: Colon cancer, tumor laterality, emergency surgery

Table 1. Right and left colon comparison table

Parameter	Right colon (n=66)	Left colon (n=47)	p-value
Demographic characteristics			
Age (mean ± SD), years	66.1±12.7	60.8±13.1	0.035*
Female sex, n (%)	34 (51.5%)	20 (42.6%)	0.360
Comorbidity, n (%)	43 (65.2%)	31 (66.0%)	0.930
Family history of CRC, n (%)	4 (6.1%)	3 (6.4%)	1.000
Clinical characteristics			
Emergency surgery, n (%)	8 (12.1%)	17 (36.2%)	0.003*
Neoadjuvant therapy, n (%)	4 (6.1%)	3 (6.4%)	1.000
Pathological characteristics			
pT3-4 stage, n (%)	48 (72.7%)	38 (80.9%)	0.367
pN+ (lymph node positive), n (%)	31 (47.0%)	29 (61.7%)	0.146
pM1 (distant metastasis), n (%)	12 (18.2%)	10 (21.3%)	0.685
Mucinous histology, n (%)	12 (18.2%)	3 (6.4%)	0.084
Grade 3 (poor differentiation), n (%)	8 (12.1%)	7 (14.9%)	0.781
LVI positive, n (%)	50 (75.8%)	36 (76.6%)	0.920
PNI positive, n (%)	32 (48.5%)	25 (53.2%)	0.625
Adjuvant treatment and lymph node data			
Adjuvant therapy, n (%)	43 (65.2%)	33 (70.2%)	0.574
Total number of lymph nodes retrieved (mean ± SD)	32.1±19.3	30.5±21.1	0.679
Number of positive lymph nodes (mean ± SD)	2.9±6.4	3.5±6.5	0.636

[S-234]

Comparison of SiLaC and phenol treatment in primary pilonidal sinus disease: Planned interim analysis of an ongoing randomized controlled trial

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Objective: To present the planned interim analysis of our ongoing prospective randomized controlled trial comparing two minimally invasive approaches—laser ablation (SiLaC) and crystallized phenol—in primary pilonidal sinus disease. Primary endpoint: 12-month recurrence rate (the final analysis will be based on this endpoint). Secondary endpoints:Postoperative pain (VAS), healing/epithelialization time, return to work, complications, patient satisfaction, cost, and quality of life (PSD-QoL).

Material and Methods: This two-arm, parallel-group randomized controlled trial was conducted at our tertiary referral center, where eligible patients with primary pilonidal sinus disease were randomized to minimally invasive treatment. This presentation reports the interim analysis of the first randomized cases. Nineteen consecutive patients were assessed; one who underwent abscess drainage was excluded due to protocol deviation. The cohort included SiLaC (n=10) and Phenol (n=8). Pain (VAS) was evaluated at postoperative 1st, 6th, 12th, and 24th hours, and PSD-QoL preoperatively and on day 10. Continuous variables were analyzed using Shapiro-Wilk and Mann-Whitney U tests; categorical variables with Fisher's exact test. Results were expressed as median (IQR) or mean ± SD. The trial was prospectively registered at ClinicalTrials.gov (PNS-RCT-2026-SILPHEN). Recruitment and 12-month follow-up are ongoing.

Results: The groups were similar in age and BMI (p>0.4). Operative time was longer in the SiLaC group but not statistically significant (median 19 vs. 15 min; p=0.22). Pain during the first 24 hours was low in both groups, with no difference in 24-hour VAS scores (p=0.72). Median return-to-work time was 1 day, without significant difference (p=0.14). Early PSD-QoL scores were comparable. Patient satisfaction was higher in the Phenol group [9 (IQR 2) vs. 7.5 (IQR 1.75)], showing borderline significance (p=0.049). Complications occurred in 30% (3/10) of SiLaC patients and none in the Phenol group (p=0.22). Interim recurrence was 20% (2/10) in SiLaC and 0% in Phenol (p=0.48). As the primary endpoint is 12-month recurrence, this reflects only an early trend with limited interpretability due to small sample size. Costs were higher with SiLaC.

Conclusion: In the planned interim analysis of our ongoing RCT, both SiLaC and crystallized phenol demonstrated comparable early clinical performance, with low postoperative pain and rapid return to work. Patient satisfaction was higher in the Phenol group. Although complication and early recurrence rates were higher in the SiLaC group, these differences were not statistically significant, and sample size is limited. Upon completion of the study, the final comparison will be based on the primary endpoint of 12-month recurrence.

Keywords: Laser, phenol, pilonidal sinus

[S-235]

Association of extramural venous and lymphovascular invasion with nodal burden in colorectal cancer: Pathological predictors of aggressive disease

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Objective: Lymph node metastasis is one of the most important prognostic factors in colorectal cancer. However, pathological markers that can predict not only the presence of nodal metastasis but also the extent of metastatic nodal burden (N1-N2) remain insufficiently defined. This study aimed to evaluate the association of extramural venous invasion (EMVI) and lymphovascular invasion (LVI) with nodal metastasis and nodal stage in patients with colorectal cancer.

Material and Methods: Seventy-five patients who underwent curative surgical resection for colorectal cancer between 2020 and 2025 were retrospectively analyzed. Patients with rectal tumors or a history of neoadjuvant therapy were excluded. Demographic data, tumor localization, pT and pN stages, number of harvested and metastatic lymph nodes, and the presence of EMVI and LVI were recorded for all cases. Nodal burden was classified as pN0, pN1, and pN2. The associations of EMVI and LVI with nodal metastasis and nodal stage were analyzed using appropriate parametric and non-parametric statistical tests.

Results: EMVI positivity was strongly and significantly associated with the presence of nodal metastasis ($p<0.01$). A clear increase in EMVI positivity was observed with increasing nodal burden; the rate of EMVI was significantly higher in pN2 patients compared with pN1 patients ($p=0.02$). LVI positivity was also significantly correlated with nodal metastasis ($p=0.03$). However, the impact of LVI on nodal burden progression was more limited compared with EMVI, showing borderline statistical significance for progression from pN1 to pN2 ($p=0.06$). Patients with concomitant EMVI and LVI positivity demonstrated a markedly higher proportion of pN2 disease.

Conclusion: EMVI is a strong pathological predictor that is associated not only with the presence of nodal metastasis but also with increased nodal burden in colorectal cancer. LVI may serve as an additional supportive prognostic factor for nodal involvement. These findings suggest that EMVI positivity reflects more aggressive tumor biology and should be considered in postoperative risk stratification and adjuvant treatment decision-making.

Keywords: Colorectal cancer, extramural venous invasion, lymph node metastasis, lymphovascular invasion

[S-236]

Does protective loop ileostomy creation technique affect closure complications for rectal cancer

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Objective: Ileostomy closure is a minor surgical procedure performed through a peristomal incision. However, dense adhesions can complicate the closure technique. The peritoneal fascial suture (PFS) technique aims to reduce adhesions in the abdominal wall layers. This study was planned to evaluate whether the PFS technique reduces the adhesions between the intestine and abdominal wall during the mobilization of the ileostomy.

Material and Methods: This prospective randomized study was conducted between 2012 and 2022 at the Colorectal Surgery Department of Ankara University and Sivas Cumhuriyet University. A total of 90 patients with mid and low rectal cancer, consisting of 52 males and 38 females, were included in the study. All patients received neoadjuvant CRT. The average age of the patients was 64 (range: 42-80 years). Ileostomy was performed using the classical technique in 30 patients and the PFS technique in 60 patients. Due to less adhesion and shorter surgery times observed in the PFS group, the last 30 patients underwent the PFS technique instead of the classical method. The degree of adhesion during surgery, ileostomy mobilization time, total surgery time, intestinal injury, and pre- and post-operative parastomal hernia rates were analyzed.

Results: The total surgery time was found to be shorter in the PFS group compared to the classical method (42-71 minutes, $p=0.023$). The ileostomy mobilization time was also shorter in the PFS group (15-45 minutes, $p<0.001$). The rate of intestinal injury was lower in the PFS group (8.7% vs. 34.0%, $p<0.005$). The degree of adhesion was significantly less in the PFS group (7 vs. 4, $p=0.010$). There was no significant difference in the rates of preoperative parastomal hernias between the two groups. However, when evaluating the postoperative incisional hernia rates, it was observed that significantly more incisional hernias developed in the classical method compared to the PFS technique during the follow-up period of 3-10 years (2012-2022).

Conclusion: The PFS technique has less adhesion and fewer complications during the mobilization of ileostomy.

Keywords: Ileostomy, adhesion, rectal cancer

Figure 1. PFS 1

Figure 2. PFS 2

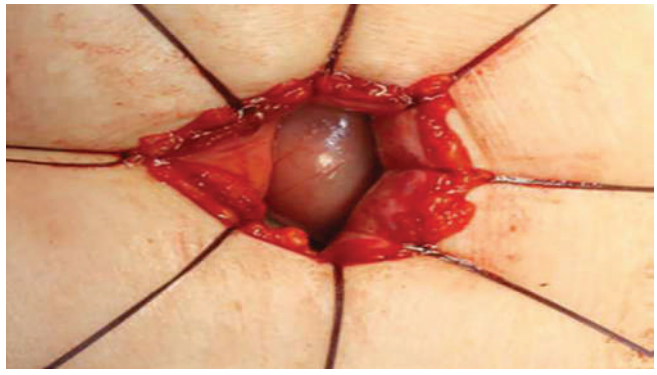

Figure 3. PFS 3

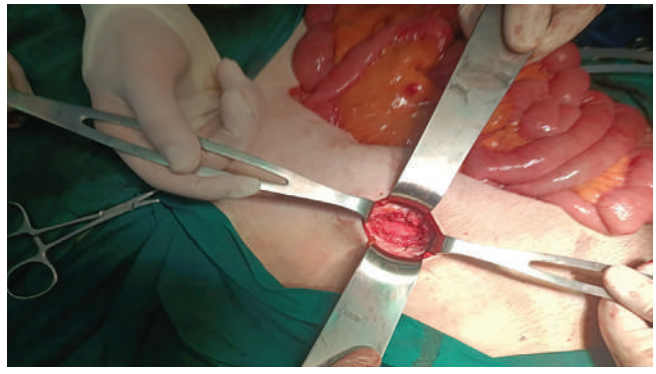

Figure 4. PFS 4

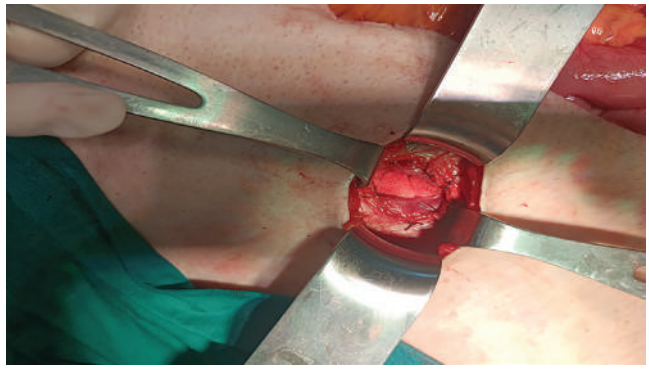

Figure 5. PFS 5

[S-237]

Comparison of diverting colostomy and fecal management catheter in fournier gangrene: A retrospective cohort study

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Objective: This study aimed to compare the effectiveness of colostomy and fecal management catheterization, two fecal diversion methods, in the treatment of Fournier gangrene (FG) and to determine which method offers greater advantages.

Material and Methods: A retrospective study was conducted on 54 patients who underwent surgical debridement and fecal diversion for FG at our hospital's General Surgery Clinic between January 2014 and October 2024. Patients were divided into colostomy (n=28) and fecal management catheter (Flexi-Seal) (n=26) groups for comparison. Age, gender, comorbidities, number of debridements, length of hospital stay, Fournier's gangrene severity index (FGSI), and Laboratory Risk Indicator for Necrotizing Fasciitis (LRINEC) scores were evaluated.

Results: The mean age was 65.07±13.45 years in the colostomy group and 57.92±14.41 years in the Flexi-Seal group (p=0.100). The mean number of debridements was 3.18±2.58 in the colostomy group and 2.54±1.56 in the Flexi-Seal group (p=0.539). The mean length of hospital stay was 25.96±16.02 days in the colostomy group and 20.50±11.15 days in the Flexi-Seal group (p=0.191). FGSI scores were 5.04±3.44 and 3.88±2.72 (p=0.216), while LRINEC scores were 7.46±2.24 and 7.00±1.65 (p=0.167) in the colostomy and Flexi-Seal groups, respectively. The mortality rate was 17.8% (5/28) in the colostomy group and 11.5% (3/26) in the Flexi-Seal group, with no statistically significant difference between the groups (p=0.51). The overall mortality rate was 14.8%. No statistically significant differences were observed between the groups regarding gender distribution and prevalence of comorbid diseases.

Conclusion: Both fecal diversion methods demonstrated effectiveness in FG treatment. Fecal management catheters may be considered in younger patients with shorter anticipated hospital stays and fewer debridement requirements. However, since the differences between the groups were not statistically significant, both methods can be safely employed. Patient-specific factors and clinical experience should guide method selection.

Keywords: Fournier gangrene, colostomy, fecal management catheter

Table 1. Demographic and clinical characteristics of all patients (n=54)

Parameter	Value
Age (years)	61.63±14.25
Number of debridements	2.87±2.15
Length of stay (days)	23.33±14.04
Mortality	8 (14.8%)
LRINEC score	7.24±1.97
FGSI score	4.48±3.14
Fecal diversion method	Colostomy: 28 (51.9%) Flexi-Seal: 26 (48.1%)
Gender	Male: 32 (59.3%) Female: 22 (40.7%)
Diabetes mellitus	26 (48.1%)
Hypertension	14 (25.9%)
COPD	3 (5.6%)
Coronary artery disease	10 (18.5%)
Chronic kidney disease	4 (7.4%)

Table 2. Comparison of colostomy and fecal management catheter groups

Parameter	Colostomy (n=28)	Flexi-Seal (n=26)	p-value
Age (years)	65.07±13.45	57.92±14.41	0.100
Number of debridements	3.18±2.58	2.54±1.56	0.539
Length of stay (days)	25.96±16.02	20.50±11.15	0.191
FGSI score	5.04±3.44	3.88±2.72	0.216
LRINEC score	7.46±2.24	7.00±1.65	0.167
Mortality	5 (17.8%)	3 (11.5%)	0.510
Gender (male/female)	14 (50%)/14 (50%)	18 (69.2%)/8 (30.8%)	0.151
Diabetes mellitus	13 (46.4%)	13 (50.0%)	0.793
Hypertension	9 (32.1%)	5 (19.2%)	0.279
COPD	1 (3.6%)	2 (7.7%)	0.604
Coronary artery disease	5 (17.9%)	5 (19.2%)	0.897
Chronic kidney disease	3 (10.7%)	1 (3.8%)	0.612[a]

[S-238]

The use of colonic stents prior to definitive surgery as a bridge to surgery in obstructive colon tumors: A five-year single-center experience

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Objective: Up to 30% of all colon cancers can present with colonic obstruction. Urgent colonic decompression is needed in these patients, as obstruction may result in electrolyte and fluid imbalance, ischemia and necrosis of the colon, bacterial translocation, perforation, sepsis and eventually, death. There is a need to convert emergency procedures to elective ones both to reduce morbidity and mortality. The use of self-expanding metallic stents (SEMS) appeared as a good solution in these patients. This study was prepared to share our five -year single-center experience with SEMS in patients who were admitted to the emergency department and were diagnosed with colonic obstruction due to a colonic tumor.

Material and Methods: Patients who were admitted to the emergency department with complaints of ileus and were diagnosed with colonic obstruction due to a colonic tumor and in whom a SEMS placement was performed between January 1, 2020 and June 30, 2025 at University of Health Sciences Türkiye, Gülhane Training and Research Hospital were included. Demographical and clinical data were retrieved retrospectively from hospital records.

Results: A total of 23 patients were determined. Fifteen patients with complete medical records were included. Median age (3 females and 12 males) was 63 (39-85) years. Median time to stenting from admission was 2.0 days (0.5-34.0), whereas median time to definitive surgery from admission was 18.0 (1.5-220.0) days. All tumors were tumors of the left colon and rectum. Three underwent definitive laparoscopic surgery and a diversion stoma was needed in 5 (33.3%). Median resected segment was 23.00 (10.0-88.0) cm, while median obstructive tumor diameter was 4.0 (2.0-8.0) cm. All tumors were T3 or T4 in adenocarcinoma pathology. Median retrieved lymph node number was 17 (6-43). Median ICU stay was 1.5 (0.0-15.0) and median hospitalization was 10.5 (5.0-26.0) days. One patient died during the postoperative first 30-days.

Conclusion: The use of SEMSs has superiorities such as providing lower rates of stomas, greater relief of obstruction, shorter duration of hospitalization better quality of life in addition to their benefits in palliation. With shorter hospitalization, postoperative complication, stoma and mortality rates, stenting can be recommended as a bridge to elective surgery. The routine use of SEMS is still controversial. A number of complications have already been reported for stenting. The influence of SEMS on tumor biology is yet ambiguous. Data from more prospective randomized clinical trials such as the OUTSTAND study are necessary to evaluate the impact of stent use as a bridge to surgery on patient prognosis.

Keywords: Self expanding metallic stents, obstructive left colon and rectum tumors, elective surgery

[S-240]

Association of the hemoglobin, albumin, lymphocyte, platelet (HALP) score with clinicopathological prognostic parameters in colon cancer patients

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Objective: Colorectal cancer ranks among the five most frequently diagnosed malignancies in our country, according to data from the Ministry of Health. In recent years, the hemoglobin, albumin, lymphocyte, and platelet (HALP) score has emerged as a promising biomarker for predicting clinical outcomes in patients with neoplastic diseases. As an index reflecting both immunological and nutritional status, the HALP score integrates routinely measured laboratory parameters, including hemoglobin and albumin levels, as well as lymphocyte and platelet counts. Previous research has demonstrated a significant association between the HALP score and overall survival in patients with gastric cancer. However, comprehensive investigations evaluating the prognostic significance of the HALP score in colorectal cancer remain limited. This study aimed to investigate the relationship between the preoperative HALP score and clinicopathological features such as TNM stage, lymph node metastasis, lymphovascular invasion, perineural invasion, tumor budding, differentiation, as well as survival, in patients with colon cancer.

Material and Methods: A retrospective analysis was performed on 222 patients who underwent surgery for non-metastatic colon cancer between February 2019 and April 2021. Demographic data, tumor localization, histopathological findings, laboratory results, and survival data were recorded. The HALP score was calculated using the formula: Hemoglobin (g/L) × Albumin (g/L) × Lymphocyte (/L) / Platelet (/L). Patients were classified according to their clinicopathological characteristics, the relationship between HALP score and these parameters was evaluated, and survival analyses were performed.

Results: The mean age was 60.73±12.04 years, and 39.6% of the patients were female. Most tumors were T3 (64.9%) and adenocarcinoma (88.7%). PNI and LVI were detected in 42.8% and 56.8% of cases, respectively. The mean HALP score was found to be 27.40±15.53, and the cut-off value for predicting survival was determined as 23.26. Overall survival was significantly shorter in patients with a low HALP score (log-rank $p=0.001$). In addition, the HALP score showed a significant correlation with the T stage ($p<0.05$).

Conclusion: In this study, statistically significant associations were observed between the HALP score, certain clinicopathological parameters, and survival data in patients with colon cancer. The findings suggest that the HALP score may be considered as a potential biomarker for prognostic evaluation in future research.

Keywords: Colon cancer, HALP, prognostic parameters

	AUC ± Standart Hata	%95 Güven Aralığı	Kesim Noktası	p
Halp Skoru	0,622±0,042	0,540-0,704	23,26	0,004

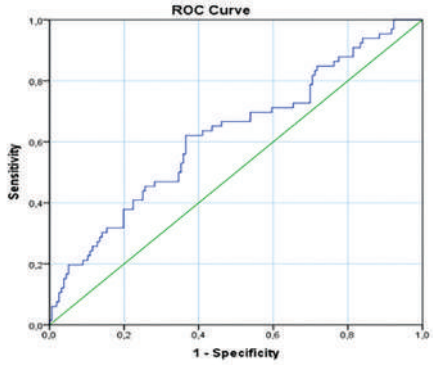

Figure 1. ROC analysis of the HALP score.

	Sağkalım Süresi (ay)		
Halp Skoru	Sağkalım(Ay)	Std Hata	%95 Güven Aralığı
>23,26	61,92	1,85	58,29-65,55
≤23,26	52,36	2,73	47,00-57,73

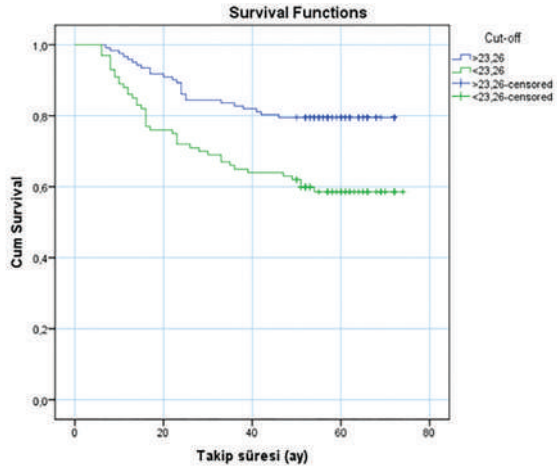

Figure 2. Survival analysis.

[S-241]

Early-stage detection of colorectal cancer with a dual-matrix DNA methylation qPCR panel: A clinical cohort

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Objective: Colorectal cancer (CRC) is the third most commonly diagnosed malignancy and ranks second in cancer-related death. CRC screening plays critical role in reducing disease-related mortality. High mortality rates observed in this cancer, directly linked to diagnosis of advanced stages. Colonoscopy, followed by pathological evaluation, considered most accurate diagnostic method. However, this method tends to reduce adherence among individuals in average risk group due to its invasive nature, the bowel preparation process. Fecal occult blood test and fecal immunochemical test are advantageous, non-invasive methods; however, they are insufficient in terms of sensitivity and specificity for the diagnosis. Epigenetic modifications serve as central regulatory layer in molecular pathogenesis and events such as abnormal hypermethylation in CpG islands of tumor suppressor genes, which suppress gene expression, form basis of cancer-specific epigenetic biomarkers with diagnostic and prognostic potential. DNA methylation markers are effective for early detection of cancer, emerge during initial stages of tumor development and exhibit cancer type-specific characteristics. These can be easily analyzed from blood or stool samples using non-invasive tests such as PCR, which more comfortable, patient-friendly compared to invasive methods. Additionally, DNA methylation markers can be used to monitor treatment responses and guide therapeutic follow-up.

Material and Methods: Stool and/or serum specimens were collected from 97 CRC patients, 122 controls, 43 patients with polyps or inflammatory disease. Methylation patterns of ten genes in stool and five genes in sera were examined using qPCR. Statistical evaluations were conducted on various parameters including Ct differences and clinical variables.

Results: Methylation of all genes was higher in CRC patients compared to control group in both stool and serum. SDC2 and SFRP2 methylation were different between cancer and polyp groups in both stool and serum. Only TFPI2 was different between polyp and control groups in both stool and serum. Three distinct gene panels for specimen types were generated to compare CRC and control groups. Sensitivity and specificity of stool panel (6 genes) were 86.3% and 94.7%, and that of serum panel (3 genes) were 77.4% and 94.4%. When stool and serum specimens were analyzed together with dual panel (stool: TFPI2, ITGA4, SEPTIN9, serum: TFPI2, SDC2), diagnostic performance was higher with sensitivity of 96.2% and specificity of 95.6%. Sensitivity and specificity of the dual panel was about 95% for Stage I-II tumors, confirming its strong potential for early-stage detection.

Conclusion: Our study investigated methylation of five genes in serum and stool simultaneously from same patients for a higher diagnostic performance.

Keywords: Colorectal carcinoma, dna methylation

[S-242]

The role of CEA dynamics after neoadjuvant treatment in predicting pathological response in rectal cancer: A cut-off-based novel model

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Objective: The aim of this study was to evaluate the predictive value of carcinoembryonic antigen (CEA) dynamics derived from serial CEA measurements in patients with rectal cancer following neoadjuvant chemoradiotherapy (nCRT), and to develop a clinically applicable cut-off-based predictive model using receiver operating characteristic (ROC) analysis for the prediction of pathological complete response (pCR).

Material and Methods: Patients with rectal cancer who received nCRT between 2014 and 2024 were retrospectively analyzed. Serum CEA levels were recorded at three time points: at diagnosis (CEA1), after completion of nCRT (CEA2), and immediately before surgery (CEA3). CEA dynamics were calculated as ΔCEA% = (CEA1-CEA3) / CEA1. Pathological response was assessed using the Mandard tumor regression grade (TRG) system, with TRG1 defined as pCR. The primary endpoint was the prediction of pCR, while secondary endpoints included disease-free survival (DFS) and overall survival (OS). ROC analysis was performed to determine the optimal ΔCEA% cut-off value, and multivariable logistic regression was used to identify independent predictors.

Results: Among 200 patients, pCR was observed in 20% (n=40). The ΔCEA% was significantly higher in the pCR group compared with the non-pCR group (p<0.001). ROC analysis demonstrated an area under the curve (AUC) of 0.81 for ΔCEA%, and a cut-off value of 68% provided the best sensitivity (78%) and specificity (72%) for predicting pCR. On multivariable analysis, ΔCEA% ≥ cut-off was identified as an independent predictor of pCR (OR=3.4). In addition, patients with a high ΔCEA% showed significantly longer DFS (p=0.01) and OS (p=0.04) compared with those with a low ΔCEA%.

Conclusion: CEA dynamics after neoadjuvant treatment represent a strong biomarker for predicting pathological complete response in rectal cancer, and the identified 68% cut-off value appears to be clinically applicable. This novel ΔCEA%-based model may assist in selecting appropriate candidates for organ-preserving strategies in locally advanced rectal cancer.

Keywords: CEA, pathological response, neoadjuvant therapy, predictive model

[S-243]

Investigation of clinicopathological features and early postoperative outcomes in patients who underwent robotic, laparoscopic and open surgery selectively for non-metastatic left colon cancer

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Objective: Colorectal cancer is one of the most common malignancies worldwide, and early diagnosis combined with appropriate surgical treatment plays a crucial role in determining prognosis. Various surgical techniques, including open, laparoscopic, and robotic approaches, are used in left colon cancer surgery. This study aims to compare robotic, laparoscopic, and open surgery in terms of clinicopathological characteristics and early postoperative outcomes in patients undergoing elective surgery for non-metastatic left colon cancer.

Material and Methods: This retrospective study included 129 patients who underwent elective surgery for left colon cancer at Ankara Bilkent City Hospital between 2019 and 2024. Patients were categorized into three groups based on the surgical technique used: open, laparoscopic, and robotic surgery. Variables such as operation time, postoperative hospital stay, intensive care unit (ICU) requirement, complication rates, time to adjuvant chemotherapy initiation, anastomosis, and ostomy necessity were compared. Data were obtained retrospectively from patient records and the hospital database. Statistical analyses were performed using IBM SPSS Statistics 21.0 and MS-Excel 2007, with a significance level of p<0.05.

Results: Robotic surgery was found to have a longer operative time compared to open and laparoscopic approaches. Minimally invasive surgical techniques (robotic and laparoscopic) were associated with shorter postoperative hospital stays, earlier mobilization, and earlier initiation of adjuvant chemotherapy. No significant differences were observed among the surgical methods regarding anastomosis, ostomy requirements, and postoperative complication rates. Oncological surgical principles were preserved in all approaches.

Conclusion: Minimally invasive surgery (laparoscopic and robotic) provides early postoperative advantages for patients. However, further prospective, large-scale randomized controlled studies are needed to assess long-term oncological outcomes and survival rates.

Keywords: Colorectal cancer, left colon cancer, robotic surgery

Table 1. Surgery time comparison

Bulgular

Tablo 7. Operasyon Türüne Göre Ameliyat Süresi Karşılaştırılması

	OPERASYON TÜRÜ				
	Açık (n=59)	Laparoskopik (n=36)	Robotik (n=34)	Test istatistiği F	p
Ameliyat Süresi					
Ort±SS	218.56±43.35	216.53±39.76	252.21±50.83	F=7.501	**0.001**
Medyan (Min-Max)	220.0 (120-310)	215.0 (100-300)	252.5 (155-390)		

F:One-Way ANOVA Testi

Table 2. Comparison of length of stay in hospital and ICU

Operasyon Türüne Göre Postop Yatış Süresi ve YBÜ Kalış Süresi Karşılaştırılması

	OPERASYON TÜRÜ				
	Açık (n=59)	Laparoskopik (n=36)	Robotik (n=34)	Test istatistiği	p
Postop Yatış Süresi					
Ort±SS	10.46±4.89	9.72±6.78	6.91±2.91	χ2=13.081	**0.001**
Medyan (Min-Max)	9.0 (4-25)	7.5 (3-41)	6.0 (0-16)		
YBÜ Kalış Süresi					
Ort±SS	2.15±0.99	2.50±1.03	1.50±0.79	χ2=17.699	**<0.001**
Medyan (Min-Max)	2.0 (0-5)	2.0 (1-5)	1.0 (0-3)		

2:Kruskal Wallis Testi

[S-244]

Management strategies and outcomes in acute diverticulitis: A 556-patient single-center cohort study

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Objective: Despite advances in medical and minimally invasive treatment, acute diverticulitis continues to cause significant morbidity in complicated cases. While most patients respond to conservative therapy, a subset requires interventional or surgical management. This study aimed to evaluate management strategies and short- and long-term outcomes in a large single-center cohort.

Material and Methods: This retrospective cohort study included 556 consecutive patients diagnosed with acute diverticulitis between 2010 and 2025. Demographic, clinical, and operative data were analyzed. Patients were categorized according to management strategy (conservative, percutaneous intervention, or surgery) and, for surgical cases, by timing (emergency vs. elective) and operative approach (open vs. laparoscopic). Disease severity was graded using the Hinchey classification. Postoperative complications were assessed according to the Clavien-Dindo classification. Mortality, stoma formation and reversal rates, incisional hernia, and incidental malignancy were evaluated.

Results: The mean age was 63.6±15.4 years, and 59.4% (n=330) were female. Conservative management was successful in 78.1% (n=434), while five patients underwent percutaneous abscess drainage without surgery. A total of 122 patients required surgical treatment: 54.9% (n=67) emergency and 45% (n=55) elective procedures. Open surgery was performed in 80.3% (n=98) and laparoscopy in 19.8% (n=24). Primary resection and anastomosis was performed in 34.7% (n=42), and Hartmann's procedure (HP) in 43.0% (n=52). HP was used in 71% (n=48) of emergency cases compared with 7.2% (n=4) of elective procedures. Stoma formation was strongly associated with Hinchey stage ($p<0.001$), increasing from 11.5% (n=3) in Hinchey 1A to 82.7% (n=43) in Hinchey 3. Among patients with a stoma, 44 underwent reversal and 35 did not; advanced age was the main determinant of non-reversal. Median stoma duration was 9 months (range 6-14). Incisional hernia developed in 38.5% (n=47) of operated patients and occurred exclusively after open surgery ($p<0.001$). Complication severity (Clavien-Dindo) was significantly associated with operative type ($p=0.005$). Six patients died postoperatively, four (66.7%) of whom had undergone HP. Incidental malignancy was detected in 7.4% (n=9) of surgical specimens.

Conclusion: Hartmann's procedure remains a life-saving option in advanced diverticulitis but is associated with high permanent stoma rates in elderly patients. Open surgery is strongly linked to incisional hernia development. Wider adoption of laparoscopic approaches may reduce long-term morbidity. The observed rate of incidental malignancy underscores the importance of routine colonoscopic evaluation after resolution of complicated diverticulitis.

Keywords: Diverticulitis, Hartmann's procedure, incisional hernia

[S-246]

Predictors of major postoperative morbidity in rectal cancer after neoadjuvant treatment

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Objective: Predicting major postoperative complications is important in patients with rectal cancer who undergo surgery after neoadjuvant therapy. It is unclear whether changes in albumin levels during the neoadjuvant process or absolute nutritional reserves prior to surgery are more closely related to postoperative morbidity. In this study, the relationship between albumin change (Δalb) and preoperative absolute nutritional parameters with major complications (Clavien-Dindo ≥3) was evaluated.

Material and Methods: A single-center retrospective analysis included 36 patients who underwent surgery within the last year after neoadjuvant therapy. Albumin change was defined as the difference between pre-RT and preoperative albumin levels (ΔAlb). Major complications were defined as Clavien-Dindo ≥3. The relationship between preoperative albumin, total protein, hemoglobin, RT-surgery interval, anastomosis level, total neoadjuvant therapy (TNT), and enteral nutrition support and major complications was evaluated using univariate logistic regression analysis.

Results: The major complication rate was determined to be 34%. ΔAlb was not associated with the development of major complications (OR 1.06, p=0.37). In contrast, preoperative total protein level showed a borderline significant association with major complications (OR 0.88, 95% CI 0.77-1.02; p=0.081). Similarly, preoperative albumin level showed a biologically consistent trend that did not reach statistical significance (OR 0.90, p=0.106). An increase in complication risk was observed with a more distal anastomosis level. TNT, enteral nutritional support, and the interval between RT and surgery were not associated with major complications.

Conclusion: Rather than changes in albumin during neoadjuvant therapy, absolute preoperative nutritional reserve appears to be more closely related to major postoperative morbidity. These findings highlight the potential importance of optimizing nutritional status prior to surgery in rectal cancer. Larger studies are needed.

Keywords: Rectal cancer, enteral nutrition, postoperative complications

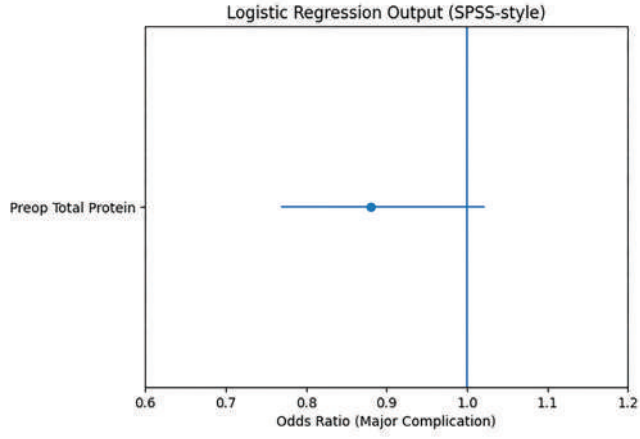

Figure 1. Odds ratio graph of the relationship between preoperative total protein value and major complications.

[S-248]

Clinical factors associated with mortality in Fourier's gangrene

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Objective: Fournier gangrene is a necrotizing soft tissue infection affecting the perianal and urogenital regions, exhibiting rapid progression and potentially life-threatening, often associated with comorbidities such as diabetes mellitus, immunosuppression, and advanced age. Despite early diagnosis and aggressive surgical debridement, mortality rates remain high. Therefore, evaluating clinical, laboratory, and scoring systems that can predict mortality is crucial for clinical management. This study aimed to analyze factors associated with mortality in patients operated on for Fournier gangrene.

Material and Methods: This retrospective observational study includes 58 patients who underwent surgery for Fournier gangrene at the General Surgery Clinic of Marmara University Pendik Training and Research Hospital between 2014 and 2025. Demographic characteristics, comorbidities, ASA scores, preoperative laboratory parameters, surgical treatment methods used, ostomy status, length of hospital stay, postoperative complications, intensive care unit (ICU) admission requirements, and mortality data were retrospectively analyzed. The primary outcome of the study was the evaluation of clinical, laboratory, and surgical factors associated with mortality.

Results: The mean age of the patients was 56.86±11.47 years, and 63.8% were male. 48.6% of the patients were in the ASA III or higher group. The median symptom duration was 7 days (IQR: 4-10), and the source of infection was mostly the perianal region (72.4%). Surgically, debridement and vacuum-assisted closure (VAC) were performed in 53.4% of the patients, and ostomy was performed in 17.2%. The postoperative complication rate was 51.7%, and the ICU admission rate was 41.4%. Mortality was observed in 9 out of 58 patients (15.5%). The mortality rate in patients who required ICU admission was 33.3%. The presence of immunosuppression as a predisposing factor was found to be significantly associated with mortality (p=0.01). When laboratory parameters were evaluated, high levels of procalcitonin (p=0.01), CRP (p=0.009), and creatinine (p=0.04) were found to be associated with increased mortality rates. Mortality rates were higher in patients who underwent ostomy (p=0.04). However, Fournier gangrene was found to be more severe in patients who underwent ostomy.

Conclusion: In Fournier's gangrene, mortality is closely associated with advanced age, high ASA score, immunosuppression, and significant systemic inflammation. The combined evaluation of clinical and laboratory parameters can contribute to the early identification of high-risk patients and the optimization of treatment strategies.

Keywords: Fournier's gangrene, necrotizing fasciitis, perineal sepsis

[S-249]

"Textbook outcome" in elective colon cancer surgery: Evaluation of surgical quality as a composite measure within an ERAS program

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Objective: The evaluation of surgical care quality has changed substantially in recent years. Measures based on single endpoints such as mortality and morbidity no longer adequately reflect the complexity of surgical process. Therefore, textbook outcome (TO) has emerged as a composite and holistic indicator assessing multiple dimensions of surgical success simultaneously. This study aimed to determine the rate of TO achievement in elective colon cancer surgery and to investigate factors associated with TO.

Material and Methods: Adult patients who underwent elective surgery for colon cancer at a single-center between January 2021 and December 2025 were included. Data prospectively recorded in the Ankara University Faculty of Medicine ERAS database were retrospectively analyzed. Emergency procedures, benign diseases, palliative interventions, rectal cancer cases, and patients with missing data were excluded. TO was defined as the absence of intraoperative major complications, 30-day postoperative major complications, 30-day readmission, 30-day mortality, prolonged hospital stay (≥14 days), together with achievement of R0 resection and retrieval of ≥12 lymph nodes. Patients with and without TO were compared in terms of demographic, clinical, and perioperative variables. Multivariable logistic regression analysis was performed to identify independent predictors.

Results: A total of 326 patients were included, and TO was achieved in 213 patients (65.3%). Figure 1 shows individual TO component achievement rates together with the cumulative TO rate. Patients without TO more frequently had CCI ≥4 (82.3% vs. 71.8%; p=0.037), longer operative duration (329±124 vs. 294±106 minutes; p=0.009), and higher rates of additional surgical procedures (17.0% vs. 9.0%; p=0.035). Minimally invasive surgery was significantly more common in TO group (85.4% vs. 70.8%; p=0.002). P-POSSUM physiological and operative severity scores were higher in patients without TO (p=0.007 and p<0.001, respectively). Overall ERAS compliance was significantly higher in patients achieving TO (76.1±6.4% vs. 71.9±7.1%; p<0.001) (Table 1). In multivariable analysis, increased ERAS compliance independently increased the likelihood of TO (OR 1.082; 95% CI 1.034-1.132; p=0.001), whereas longer operative time independently decreased TO probability (OR 0.998; 95% CI 0.995-1.000; p=0.041). Compared with right-sided tumors, left-sided colon cancers showed a higher likelihood of TO achievement (OR 0.549; 95% CI 0.320-0.941; p=0.029).

Conclusion: TO was achieved in approximately two-thirds of patients undergoing elective colon cancer surgery. ERAS compliance was the most important modifiable factor independently associated with optimal surgical outcomes. In contrast, prolonged surgery and left-sided tumors were associated with reduced likelihood of TO achievement. Composite outcome measures provide a strong approach for holistic assessment of care quality in colon cancer surgery.

Keywords: Colon neoplasms, enhanced recovery after surgery (ERAS), textbook outcome

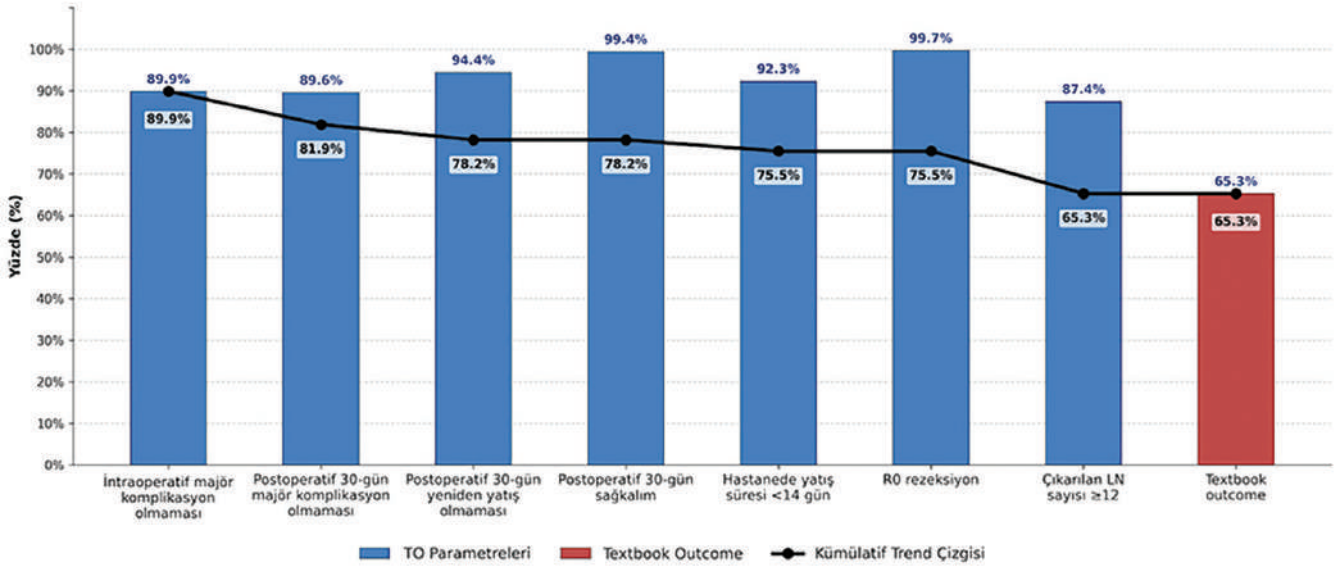

Figure 1. Individual component achievement rates and cumulative trend of textbook outcome in elective colon cancer surgery.

Table 1. Comparison of demographic, clinical, and perioperative characteristics according to textbook outcome achievement

	TO not achieved (n=113)	TO achieved (n=213)	p-value
Age, years	65.5±11.7	63.6±10.2	0.129
Male sex, n (%)	72 (63.7)	120 (56.3)	0.198
Body mass index, kg/m²	27.5±4.7	26.9±4.4	0.284
ASA score ≥III, n (%)	34 (30.1)	60 (28.2)	0.716
CCI score ≥4, n (%)	93 (82.3)	153 (71.8)	0.037
NRS-2002 ≥3, n (%)	57 (50.4)	86 (40.4)	0.081
Anemia, n (%)	58 (51.3)	106 (49.8)	0.788
Neoadjuvant chemotherapy, n (%)	8 (7.1)	0.482	0.482
Surgical technique, n (%)			0.002
Open	33 (29.2)	31 (14.6)	
Minimally invasive (L/R)	80 (70.8)	182 (85.4)	
Tumor location, n (%)			0.083
Right colon	42 (37.2)	106 (49.8)	
Transverse colon	6 (5.3)	7 (3.3)	
Left colon	65 (57.5)	100 (46.9)	
Operative time, minutes	329±124	294±106	0.009
Additional surgical procedure, n (%)	19 (17.0)	19 (9.0)	0.035
P-POSSUM score			
Physiological score	19.8±6.2	17.9±4.8	0.007
Operative severity score	17.8±6.7	14.2±3.1	<0.001
Overall ERAS compliance, %	71.9±7.1	76.1±6.4	<0.001

ASA: American Society of Anesthesiologists, CCI: Charlson comorbidity index, L/R: Laparoscopic/robotic, NRS-2002: Nutritional risk screening 2002, P-POSSUM: Portsmouth physiological and operative severity score for the study of mortality and morbidity, TO: Textbook outcome.

[S-250]

Association between ERAS protocol adherence and clinical outcomes in patients undergoing elective right hemicolectomy for colon cancer

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Objective: Enhanced recovery after surgery (ERAS) protocols are evidence-based, multimodal perioperative care pathways designed to attenuate the surgical stress response and promote early mobilization and feeding, thereby accelerating recovery and shortening hospital stay after colorectal surgery. Because right hemicolectomy may differ from other colorectal resections in terms of anastomotic configuration and postoperative recovery patterns, procedure-specific data on the relationship between ERAS adherence and outcomes remain limited. We aimed to evaluate the association between ERAS protocol adherence and clinical outcomes in patients undergoing elective right hemicolectomy for colon cancer.

Material and Methods: This single-center retrospective cohort included adult patients (≥18 years) who underwent elective standard or extended right hemicolectomy for malignancy between January 2021 and December 2025. Data were prospectively recorded in the Ankara University Faculty of Medicine ERAS database and retrospectively analyzed. Emergency surgeries, benign indications, palliative procedures without curative intent, and patients with insufficient data to assess ERAS adherence or grade postoperative complications were excluded. ERAS adherence was calculated for each patient using 24 components and summarized as overall adherence and phase-specific adherence (preadmission, preoperative, intraoperative, postoperative). Major complications were defined as Clavien-Dindo grade ≥IIIa. Non-normally distributed variables were compared using the Mann-Whitney U test; categorical variables using χ^2 or Fisher's exact tests; and correlations using Pearson or Spearman coefficients according to distribution. Multivariable logistic regression was used to identify predictors of major complications, and multivariable linear regression was performed for length of stay (LOS).

Results: A total of 151 patients were included (92 men, 60.9%), with a median age of 67 years (IQR 12). Median overall ERAS adherence was 75.0% (IQR 8.7). Median LOS was 7 days (IQR 4), and major complications occurred in 14/151 patients (9.3%). Overall ERAS adherence showed a significant inverse correlation with LOS (ρ=-0.329; p<0.001). Domain-level analyses demonstrated that higher postoperative and preoperative adherence were associated with shorter LOS (ρ=-0.301; p<0.001 and ρ=-0.248; p=0.002, respectively). Patients who developed major complications had lower preoperative adherence (p=0.014). In multivariable analyses, higher preoperative adherence independently predicted lower odds of major complications. For LOS, older age (B=0.183; p=0.022) and lower overall ERAS adherence (B=-0.265; p=0.006) were independent predictors of prolonged hospitalization.

Conclusion: In elective right hemicolectomy for colon cancer, higher ERAS adherence was associated with shorter LOS. Preoperative ERAS execution may be particularly important for reducing major morbidity, supporting targeted quality-improvement efforts and the need for larger multicenter prospective validation.

Keywords: Enhanced recovery after surgery (ERAS), right hemicolectomy, length of stay

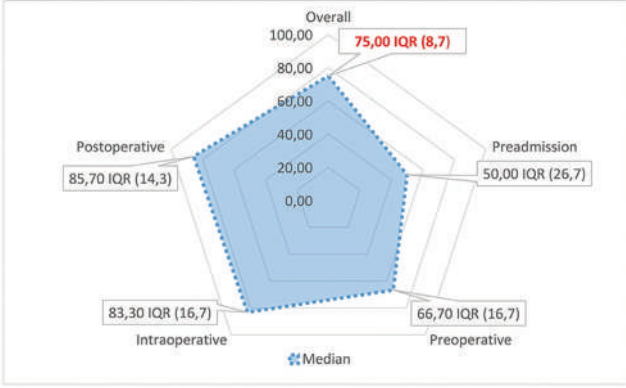

Figure 1. ERAS adherence rates by domain in the overall cohort.

Table 1. Multivariable logistic regression analysis for major postoperative complications (Clavien-Dindo ≥IIIa)

Variable	OR	95% CI	p-value
Preoperative ERAS adherence (%)	0.936	0.884-0.991	0.024
CCI	0.976	0.638-1.492	0.910
NRS-2002 ≥3; (yes vs. no)	2.322	0.596-9.052	0.225

CCI: Charlson comorbidity index; NRS: Nutritional risk screening 2002.

[S-251]

Colonic diverticular disease - A single-center experience

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Objective: This study aimed to present our single-center experience by evaluating the clinical characteristics, treatment strategies according to Hinchey stages, and outcomes of patients treated for colonic diverticular disease.

Material and Methods: We retrospectively reviewed the records of patients treated for colonic diverticular disease at Pamukkale University Faculty of Medicine Hospital over the past 10 years. Demographic characteristics, treatment modalities, length of hospital stay, recurrence rates, and treatment selection according to the Hinchey classification were analyzed.

Results: A total of 99 patients were included; 57.6% were male and 65.7% were admitted via the emergency department. Low Hinchey stage disease was present in 61.6% of patients, while 15.2% had stage ≥2 disease. Conservative management was performed in 49.5% of cases, 16.2% underwent emergency surgery, and 34.3% underwent elective surgery. The mean length of hospital stay was 8.5±3.4 days, and the recurrence rate was 15.2%. In multivariate analysis, surgical intervention prolonged hospitalization by 3.6 days ($p<0.001$), and Hinchey stage ≥2 increased length of stay by approximately 1.5 days ($p=0.026$). High Hinchey stage was the only independent risk factor for surgical requirement (OR 2.31; $p=0.049$). Recurrence was significantly more frequent in patients with a Charlson comorbidity index ≥2 (OR 9.33; $p=0.036$). Among hospitalized patients with colonic diverticular disease, disease severity and surgical requirement were the main determinants of length of stay. The higher probability of surgery and prolonged hospitalization in patients with advanced Hinchey stages emphasize the importance of radiological staging in clinical decision-making. The Charlson comorbidity index emerged as a strong predictor of recurrence, suggesting that systemic disease burden negatively influences the course of diverticulitis. The inverse association between age and recurrence may reflect more aggressive treatment strategies or closer follow-up in older patients. A recurrence rate of approximately 15% supports the acceptability of conservative management in selected patients. Nevertheless, complicated cases require close monitoring, and treatment should be individualized in patients with substantial comorbidity. The retrospective design, limited events in some subgroups, and heterogeneity in follow-up are the main limitations. Temporal changes in surgical techniques and indications may also have affected the results. Larger prospective studies are needed to clarify long-term surgical outcomes and the true impact of comorbidities on recurrence.

Conclusion: In this single-center series, high Hinchey stage and surgical requirement were the principal factors associated with prolonged hospitalization. Comorbidity burden was a significant predictor of recurrence, underscoring the need for individualized treatment strategies.

Keywords: Colonic diverticular disease, Hinchey classification, Charlson comorbidity index

Table 1. Patient characteristics and clinical distribution

Variable	n (%)
Female	42 (42.4)
Male	57 (57.6)
Emergency admission	65 (65.7)
Outpatient clinic	34 (34.3)
Hinchey 0-1	61 (61.6)
Hinchey 1b	23 (23.2)
Hinchey ≥2	15 (15.2)
Non-operative management	49 (49.5)
Emergency surgery	16 (16.2)
Elective surgery	34 (34.3)
Recurrence	15 (15.2)

Table 2. Clinical parameters and summary of multivariate analyses

Outcome	Independent variable	Effect (OR/B) - p
Surgical requirement	Hinchey ≥2	OR 2.31 - p=0.049
Recurrence	Charlson ≥2	OR 9.33 - p=0.036
Recurrence	Age	OR 0.92 - p=0.044
Length of hospital stay	Surgical intervention	+3.6 days - p<0.001
Length of hospital stay	Hinchey ≥2	+1.5 days - p=0.026

[S-252]

Conventional protective stoma should be replaced by tube ileostomy (Wafi procedure), phase II study

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Objective: Protective stoma is a common procedure for fecal diversion to prevent mortality and morbidity of colorectal anastomotic leakage. However, serious complications may occure due to protective stoma and its closure. Alternative prosedures should be considered. In this study, we aimed to present long term results of an innovative approach (Wafi procedure) in two centers.

Material and Methods: This prospective study was conducted in two centers in Türkiye. Patients who underwent colorectal resections with primary anastomosis and who were deemed as requiring a defunctioning stoma were included in the study. After completion of resection and anastomosis, Wafi procedure was performed to protect the anastomosis instead of coventional ileostomy. This technique was mainly consist of inserting a reinforced (spiral) endotracheal tube into the ileum and to provide complete faecal divertion, temporary occlusion of the distal ileum was performed using a flexible rubber strip (Figure 1). This procedure does not require closure surgery. The primary outcome of this study was to determine the saftey and efficacy of this procedure in large number of patients with long followup period. The secondary outcomes were to measure the spontaneous closure time of the wound after tube removal and to observe whether there were complications related to tube ileostomy.

Results: One hundred and sixty consecutive patients underwent the above described procedure. There was no mortality due to this technique. No major complication was observed in this large series. Defecation before removal of the tube did not occur in any of the patients inferring that complete diversion was observed in all patients (100%). Wound healing was observed within 4 (1-60) days after tube removal. During follow-up of 47(1-79) months.

Conclusion: Wafi procedure is a safe and effective to provide complete fecal diversion. Because it is minimally invasive, does not require ostomy closure and the lack of complications due to loop ileostomy, tube ileostomy (Wafi procedure) can be considered as a better alternative over loop ileostomy.

Keywords: Protective stoma, tube ileostomy

Figure 1. Tube ileostomy.

Intraoperative view of a patient who underwent tube ileostomy.

[S-253]

Evaluation of surgical timing following endoscopic detorsion in sigmoid volvulus: A comparative analysis of early and elective resection outcomes

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Objective: Sigmoid volvulus is a major surgical emergency in which decisions regarding surgical timing remain controversial due to the high risk of recurrence after endoscopic decompression. The objective of this study was to describe the short-term clinical course of patients undergoing endoscopic detorsion for sigmoid volvulus and to compare the short-term outcomes of early and elective surgical resection strategies within an exploratory framework.

Material and Methods: A retrospective analysis was conducted on 20 patients diagnosed with sigmoid volvulus who underwent endoscopic detorsion between January 2023 and December 2025. All patients had previously undergone one to three endoscopic detorsion procedures. Laparoscopic sigmoid resection with primary end-to-end anastomosis was performed in all cases. Surgical intervention was scheduled in the early period (≤7 days) for patients who developed recurrence within the first seven days following detorsion, whereas surgery was planned electively (≥30 days) for patients without early recurrence. Continuous variables were compared using the Mann-Whitney U test, and categorical variables were analysed using Fisher's exact test.

Results: The mean age of the patients was 49±11 years, and 65% were male. A history of chronic constipation was present in 85% of patients. Comorbid conditions included paraplegia (n=5), diabetes mellitus (n=6), and hypertension (n=4). Early recurrence within the first seven days after endoscopic detorsion was observed in 35% of patients. Length of hospital stay was longer in the early surgery group compared with the elective surgery group (p=0.02), whereas no statistically significant difference was observed between groups regarding time to oral intake (p=0.11). Postoperative complications were numerically more frequent in the early surgery group (p=0.04).

Conclusion: This study demonstrates that endoscopic detorsion constitutes an effective first-line treatment for sigmoid volvulus and that the occurrence of early recurrence represents a clinically relevant factor in decisions regarding surgical timing. The findings support a patient-based approach to surgical timing, which should be further evaluated in prospective and multicentre studies.

Keywords: Sigmoid volvulus, endoscopic detorsion, short-term clinical outcomes

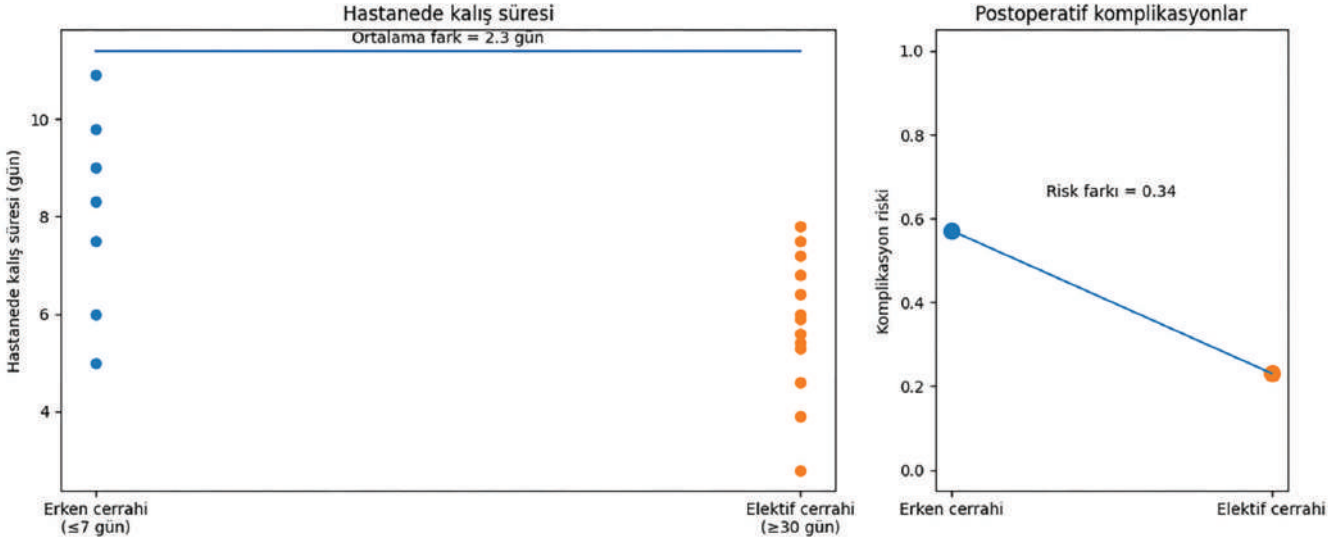

Figure 1. Clinical outcomes according to surgical timing.

[S-255]

83 is drainage necessary in laparoscopic colorectal surgery? A prospective randomized clinical trial

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Objective: The benefit of routine intraabdominal drain use after laparoscopic colorectal surgery (LKC) is controversial. This study aimed to evaluate the effect of drain use in LKC on postoperative early-stage clinical outcomes, complication rates, length of hospital stay, and patient comfort parameters through a prospective randomized study.

Material and Methods: The study was conducted between December 1, 2024, and December 1, 2025, on a total of 59 patients who underwent elective LKC. Patients were divided into two groups: Group 1 (n=27) without drains and Group 2 (n=32) with drains. All patients underwent standard laparoscopic techniques in accordance with the principles of total mesocolic excision or total mesorectal excision. Patients in the non-drain group underwent intra-abdominal collection screening with abdominal ultrasonography on postoperative days 1, 3, and 5, and percutaneous drainage was performed when necessary. Demographic data, comorbidities, surgical details, laboratory findings, pathological stages, and the postoperative course [first passage of gas/bowel movement, complications (according to the Clavien-Dindo classification), ward/intensive care and total hospital stay, reoperation, and need for percutaneous drainage] were recorded. Statistical analyses were performed using SPSS 24.0.

Results: There were no significant differences between groups in terms of age, gender, ASA score, comorbidity distribution, type of surgery, and preoperative laboratory values (hemoglobin, CEA, CA19-9, creatinine, albumin) (p>0.05). When postoperative clinical outcomes were compared, reoperation rates (Group 1: 100%, Group 2: 0%; p=0.458), postoperative ileus frequency (n=3

in both groups; p=1.000), hospital stay (4 days in both groups; p=0.452) and intensive care unit stay (1 day in both groups; p=0.470), total hospital stay (Group 1: 4 days, Group 2: 5 days; p=0.252), time to passage of gas (Group 1: 2.8±0.87 days, Group 2: 2.40±1.01 days; p=0.379) and stool passage time (Group 1: 3.55±1.25 days, Group 2: 3.37±1.43 days; p=0.611). Two patients in the non-drain group required percutaneous drainage, while no such need was observed in the drain group (p=0.205). The groups were similar in terms of major complications (Clavien-Dindo Grade ≥III) (Group 1: n=2, Group 2: n=0; p=0.205). Pathological diagnosis (malignant/benign) and T/N stage distributions also did not differ between groups (p>0.05).

Conclusion: This prospective randomized controlled trial demonstrated that routine prophylactic drain use in elective LKC does not provide a significant advantage in terms of early postoperative clinical outcomes, complication rates, length of hospital stay, and oncological pathological parameters. Our findings support that drain placement should be used as an individualized approach for selected cases, considering intraoperative risk factors

Keywords: Laparoscopic colorectal surgery, drain, postoperative complication, Clavien-Dindo classification, intraabdominal collection

Table 1. Analysis of postoperative clinical outcomes according to drain use in patients undergoing laparoscopic colorectal surgery

Variables	Group 1 (without drain) (n=27)	Group 2 (with drain) (n=32)	χ^2-t-Z value	p-value
Service length of stay median (IQR)	4 (2)	4 (2)	-0.753	0.452
Intensive care length of stay median (IQR)	1 (0)	1 (0)	-0.723	0.470
Total length of stay median (IQR)	4 (2)	5 (2)	-1.146	0.252
Gas passage time mean± SD	2.8±0.87	2.40±1.01	-0.887	0.379
Stool passage time mean± SD	3.55±1.25	3.37±1.43	0.511	0.611
Percutaneous drain requirement median (IQR)	2 (100)	0 (0)	0.117	0.205
Reoperation median (IQR)	1 (100)	0 (0)	0.272	0.458
Postoperative ileus	3 (50)	3 (50)	0.816	1.000
Postoperative day 1 creatinine median (IQR)	0.71 (0.28)	0.69 (0.25)	-0.023	0.982

Table 2. Demographic analysis of patients in groups

Variables		Group 1 (without drain) (n=27)	Group 2 (with Drain) (n=32)	t-X^2	p-value
Female		15 (45.5)	18 (54.5)	0.957	1.000
Male		12 (46.2)	14 (53.8)		
Age, years mean ± SD		56.37±12.86	53.84±12.60	0.760	0.450
ASA	1	2 (25)	6 (75)	3.206	0.201
	2	13 (41.9)	18 (58.1)		
	3	12 (60)	8 (40)		
Comorbidities Present	COPD	2 (50)	2 (50)	0.860	1.000
	CAD	2 (33.3)	4 (66.7)	0.519	0.678
	HF	0 (0)	1 (100)	0.354	1.000
	HT	10 (58.8)	7 (41.2)	0.200	0.254
	DM	3 (25)	9 (75)	0.106	0.193
Surgical Type	Lap. right hemicolectomy	7 (43.8)	9 (56.3)	1.030	0.905
	Lap. left hemicolectomy	1 (50)	1 (50)		
	Lap. anterior resection	7 (58.3)	5 (41.7)		
	Lap. low anterior resection	5 (41.7)	7 (58.3)		
	Lap. total colectomy	7 (41.2)	10 (58.8)		

[S-256]

Our clinical experience with Hartmann reversal performed via open surgical method at University of Health Sciences Türkiye, Ankara Bilkent City Hospital between 2022-2025

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Objective: The Hartmann procedure, described by Henri Albert Hartmann in 1921, includes rectosigmoid resection, rectal stump closure, and end colostomy formation. It is commonly used in acute left-sided colon obstruction, perforation, and diverticular disease because it lowers anastomotic leak risk compared to primary anastomosis. However, reversal to restore bowel continuity carries significant morbidity and mortality. Common complications are anastomotic leak, wound dehiscence, infection, ileus, abscess, and incisional hernia. The optimal timing of reversal remains controversial.

Material and Methods: In this retrospective observational study, data from 104 patients who underwent open surgical reversal after a Hartmann procedure performed under emergency or elective conditions at University of Health Sciences Türkiye, Ankara Bilkent City Hospital between 2022 and 2025 were analyzed. Demographic characteristics, indications, operative time, length of hospital stay, ASA grade, and postoperative complications were evaluated; statistical analysis was performed using SPSS.

Results: A total of 104 patients were included in the study. The mean age was 64.22±13.58 years, with a female-to-male ratio of 30.8% (n=32)/69.2% (n=72). Indications for the initial Hartmann procedure were malignancy (54.8%, n=57), diverticulitis (29.8%, n=31), volvulus (7.7%, n=8), and trauma (7.7%, n=8). Regarding the surgical setting, 53.8% (n=56) were emergency and 46.2% (n=48) were elective cases. The mean interval to Hartmann reversal was 10.89±8.86 months. Pre-reversal mean albumin and hemoglobin levels were 42.25±5.02 g/L and 13.54±7.62 g/dL, respectively. Comorbidity distribution showed no comorbidities in 31.7% (n=33), ≤2 in 51.9% (n=54), and >2 in 16.3% (n=17). ASA classifications were ASA II in 66.3%, ASA III in 31.7%, and ASA IV in 1.9%. The mean operative time was 136.82±31.05 minutes. Anastomoses were stapled in 88.5% (n=92) and hand-sewn in 11.5% (n=12). End-to-end and end-to-side techniques were used in 64.4% and 35.6% of patients, respectively. Protective ileostomy was performed in 17.3% (n=18). Postoperatively, 76.9% (n=80) were monitored in level II intensive care on day 1. The complication rate was 19.2%, including anastomotic leakage (6.7%), ileus (6.7%), and intra-abdominal abscess (5.8%). The mean hospital stay was 9.61±6.85 days. Reoperation was required in 6.7% (n=7) of patients, and the mortality rate was 3.8% (n=4).

Conclusion: In conclusion, the open surgical reversal of the Hartmann procedure can be performed with acceptable morbidity and mortality rates. However, anastomotic leakage and other complications pose a clinically significant risk. Proper patient selection, comprehensive evaluation of comorbidities, and optimal timing are decisive factors in improving surgical success

Keywords: Hartmann reversal, colorectal surgery, anastomosis

Table 1. Patient demographics and preoperative characteristics (n=104)

Variable	Findings
Age (years), mean ± SD	64.22±13.58
Gender, n (%)	
- Female	32 (30.8%)
- Male	72 (69.2%)
Initial Hartmann indications, n (%)	
- Malignancy	57 (54.8%)
- Diverticulitis	31 (29.8%)
- Volvulus	8 (7.7%)
- Trauma	8 (7.7%)
Surgical setting, n (%)	
- Emergency	56 (53.8%)
- Elective	48 (46.2%)
Comorbidities, n (%)	
- None	33 (31.7%)
-≤ 2	54 (51.9%)
- >2	17 (16.3%)
ASA classification, n (%)	
- ASA II	69 (66.3%)
- ASA III	33 (31.7%)
- ASA IV	2 (1.9%)
Preoperative lab values (mean ± SD)	
- Albumin (g/L)	42.25±5.02
- Hemoglobin (g/dL)	13.54±7.62

Table 2. Operative details and postoperative outcomes

Variable	Findings
Time to Reversal (months), mean ± SD	10.89±8.86
Operative time (min), mean ± SD	136.82±31.05
Anastomosis technique, n (%)	
- Stapler	92 (88.5%)
- Hand-sewn	12 (11.5%)
Anastomosis type, n (%)	
- End-to-end	67 (64.4%)
- End-to-side	37 (35.6%)
Protective ileostomy, n (%)	18 (17.3%)
Postoperative ICU day 1, n (%)	80 (76.9%)
Overall complications, n (%)	20 (19.2%)
- Anastomotic leak	7 (6.7%)
- Ileus	7 (6.7%)
- Intra-abdominal abscess	6 (5.8%)
Length of hospital stay (days), mean ± SD	9.61±6.85
Reoperation, n (%)	7 (6.7%)
Mortality, n (%)	4 (3.8%)

[S-257]

Comparison of the effectiveness of crystallized phenol after pit excision and debridement versus normal saline irrigation in the treatment of pilonidal sinus disease

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Objective: Minimally invasive techniques incorporating pit excision and sinus debridement have been successfully applied in the treatment of pilonidal sinus disease (PSD). The aim of this study was to critically evaluate the effectiveness of crystallized phenol, which is widely used following pit excision and sinus debridement, by comparing its therapeutic efficacy with that of normal saline (NS) irrigation used as a placebo. Treatment outcomes, complication rates, healing process, and recurrence rates were compared between the two approaches.

Material and Methods: This cohort study included 130 patients diagnosed with PSD who had no prior history of sinus surgery and presented without pilonidal abscess or active infection. The pit excision and debridement (PED) technique was applied as the standard procedure in all patients. In Group 1 (n=60), crystallized phenol was placed into the sinus cavity following debridement, whereas in Group 2 (n=70), the cavity was irrigated with NS. The treatment protocol was standardized and consisted of four sessions performed at one-week intervals. Anthropometric measurements of the patients, healing rates at the 3rd and 6th month follow-ups, postoperative complications, and recurrence rates were comparatively analyzed.

Results: Patients in the phenol group demonstrated significantly higher body mass index, greater intergluteal cleft depth, and increased subcutaneous adipose tissue thickness, whereas a history of pilonidal abscess was significantly more frequent in the NS irrigation group ($p<0.05$). Topical skin irritation was observed in 33.3% of patients treated with phenol. At the 6-month follow-up, healing rates were 85.0% in Group 1 and 91.4% in Group 2, with no statistically significant difference between the groups ($p=0.253$). Logistic regression analysis evaluating factors associated with recurrence at 6 months revealed that a history of pilonidal abscess increased the risk of recurrence by approximately 3.8-fold (OR: 3.82; 95% CI: 1.13-12.90; $p=0.031$). Furthermore, the use of phenol, compared to NS irrigation, was associated with a 3.55-fold increased risk of recurrence (OR: 3.55; 95% CI: 1.04-12.13; $p=0.043$).

Conclusion: In this cohort study, the groups were largely comparable, differing mainly in anatomical measurements and prior abscess history. As an adjunct to the PED technique, topical phenol showed no superiority over NS irrigation. Given its caustic nature, potential periwound irritation and possible toxic exposure should be considered. Overall, PED without phenol appears to be a safe and effective minimally invasive initial treatment for PSD.

Keywords: Phenol, pilonidal disease, punch excision

Table 1. Demographic characteristics, anatomical measurements, and treatment-related variables by group

Variable	Group 1 debridement + crystallized phenol (n=60)		Group 2 debridement + normal saline (n=70)		p-value
	n / mean ± SD	%	n / mean ± SD	%	
Age (years), mean ± SD	25.1±5.9		26.5±1.9		0.137
Sex					0.367
Male	47	78.3	50	71.4	
Female	13	21.7	20	28.6	
Body mass index (BMI), kg/m², mean ± SD	27.61±2.28		26.51±1.94		0.004
BMI categories					
Normal weight	9	15.0	13	18.6	0.664
Overweight	42	70.0	54	77.1	0.008
Obese	9	15.0	3	4.3	0.664
Intergluteal cleft depth (cm), mean ± SD	3.61±0.38		3.43±0.32		0.002
Subcutaneous adipose tissue thickness (cm), mean ± SD	2.71±0.38		2.49±0.25		<0.001
Number of pits, mean ± SD	2.3±0.7		2.1±0.7		0.128
Number of sessions, mean ± SD	4.1±0.3		4.0±0.1		0.239
Disease duration (months), mean ± SD	5.7±4.8		5.8±5.1		0.614

Table 2. Treatment outcomes at 3 months and 6 months by group

Treatment groups	3-month outcomes		6-month outcomes	
	Recurrence, n (%)	Healing, n (%)	Recurrence, n (%)	Healing, n (%)
Group 1 (debridement + crystallized phenol, n=60)	2 (3.3)	58 (96.7)	9 (15.0)	51 (85.0)
Group 2 (debridement + normal saline, n=70)	3 (4.3)	67 (95.7)	6 (8.6)	64 (91.4)
P-value	1.000		0.253	

[S-258]

Predictive value of the hematocrit-albumin difference in acute diverticulitis

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Objective: Early identification of complicated acute diverticulitis is crucial for timely assessment of the need for invasive interventions and has a major impact on prognosis. Recent studies have suggested that the hematocrit-albumin difference (HCT-ALB) is a predictive marker of mortality in patients with sepsis. The aim of this study was to investigate the predictive value of HCT-ALB in estimating complications and length of hospital stay in patients with acute diverticulitis.

Material and Methods: Adult patients (≥18 years) hospitalized for acute left-sided colonic diverticulitis between 2020 and 2025 were retrospectively analyzed. Demographic characteristics, biochemical parameters at emergency department admission, cross-sectional imaging findings, and diverticulitis-related complications were recorded. Patients with right-sided diverticulitis and those with uncertain diagnoses were excluded. Receiver operating characteristic analysis identified an HCT-ALB cut-off value of 5.5, and patients were divided into two groups: HCT-ALB <5.5 and HCT-ALB ≥5.5.

Results: A total of 93 patients were included in the study. Forty-four patients had an HCT-ALB value <5.5 (Group 1), and 49 patients had an HCT-ALB value ≥5.5 (Group 2). The median (IQR) age was 53.0 (21.0) years in Group 1 and 50.0 (14.0) years in Group 2. The median (IQR) time from symptom onset to hospital admission was 24 (36) hours in Group 1 and 18 (15) hours in Group 2. The median (IQR) HCT-ALB value was 1 (8) in Group 1 and 10 (11) in Group 2. Modified Hinchey stage 3-4 disease was observed in 8 patients (18.2%) in Group 1 and 16 patients (32.7%) in Group 2 (p=0.111). According to the Clavien-Dindo classification, grade ≥3 complications occurred in 8 patients (18.2%) in Group 1 and 10 patients (20.4%) in Group 2 (p<0.001). Length of hospital stay was significantly longer in Group 2 (p=0.040).

Conclusion: The HCT-ALB appears to be a practical and valuable biomarker for predicting prognosis and length of hospital stay in patients with acute diverticulitis. Patients with an HCT-ALB value ≥5.5 may require closer monitoring for complications that could necessitate early invasive intervention.

Keywords: Acute diverticulitis, hematocrit-albumin difference

[S-259]

Global immune-nutrition-inflammation index (GINI) in acute colonic diverticulitis: A novel biomarker for differentiating complicated and uncomplicated cases

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Objective: In the management of acute colonic diverticulitis, a common reason for emergency department visits, this study evaluates the effectiveness of the global immune-nutrition-inflammation index (GINI) in differentiating between complicated and uncomplicated diverticulitis.

Material and Methods: Between 2019 and 2024, 194 patients over 18 years of age, of both sexes, who presented to Ankara Bilkent City Hospital with a diagnosis of acute colonic diverticulitis via computed tomography were included in the study. Exclusion criteria: patients who had received active cancer treatment in the last year, patients with advanced renal, hepatic, or heart failure, pregnant patients, and patients receiving immunosuppressive therapy. Patients were divided into two groups according to the World Society for Emergency Surgery classification: complicated and uncomplicated diverticulitis. The GINI value was calculated using the following formula based on laboratory parameters at the time of admission: GINI=(CRP×monocyte×platelet×neutrophil) ÷ (albumin×lymphocyte). ROC analysis was performed for GINI to determine the optimal threshold value, and patients were divided into low and high GINI groups.

Results: The mean age of the patients was 54.90±15.45 years, and the proportion of female patients was 46.9% (n=91). There were 111 patients (57.2%) diagnosed with complicated diverticulitis. GINI value was found to be significant in differentiating between complicated and uncomplicated diverticulitis (p<0.05). ROC analysis results for GINI showed AUC: 0.708, 95% CI: (0.625-0.782), p<0.001, cut-off: 1259.28.

Conclusion: In the management of acute colonic diverticulitis, determining inflammation, immune response, and nutritional status is crucial for guiding the clinical course. GINI, a multifaceted index encompassing immunological, inflammatory, and nutritional parameters, can be an effective predictor of the development of complicated diverticulitis. While parameters such as pan-immune inflammation value, CRP-albumin ratio, and systemic inflammatory response index were previously evaluated separately in clinical practice, GINI is formulated as a combination of these indices. Our study demonstrates a strong association between GINI and the development of complicated diverticulitis. This suggests that GINI, by identifying inflammatory processes at an early stage, can better predict the need for hospitalization, further investigations, and surgical intervention in patients. As a novel biomarker evaluating inflammatory and immunological processes, GINI may be clinically useful in the early diagnosis of complicated diverticulitis. Early patient classification can contribute to shorter hospital stays, prevent unnecessary invasive procedures, and improve patient management. Therefore, the integration of GINI into clinical practice can play a significant role in predicting complicated diverticulitis.

Keywords: Acute colonic diverticulitis, GINI, inflammation

[S-260]

Thirty-day readmission after rectal cancer surgery: Analysis of causes and independent risk factors

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Objective: Thirty-day postoperative readmission is an important quality indicator used to evaluate quality of care and patient outcomes in colorectal surgery. Reported readmission rates in the literature range between 6% and 25%. The aim of this study was to assess the early readmission rate following rectal cancer surgery, to identify the causes of readmission, and to determine the associated clinical risk factors.

Material and Methods: This retrospective study included adult patients who underwent rectal cancer surgery under the enhanced recovery after surgery protocol at the Department of General Surgery, Ankara University Faculty of Medicine, between 2021 and 2025. Patients were divided into two groups according to the occurrence of readmission within 30 days. Demographic, clinical, operative, and pathological variables were compared between groups. Multivariable logistic regression analysis was performed to identify independent predictors of readmission.

Results: A total of 229 patients were analyzed, of whom 38 (16.6%) were readmitted within 30 days postoperatively. The most common cause of readmission was acute kidney injury, followed by nausea-vomiting and surgical site infections. Other causes included anastomotic complications, ileus/subileus, pain, low oral intake, anemia, and urinary complications (Figure 1). Comparative analysis between groups revealed no significant differences in age, sex, body mass index, surgical approach, administration of neoadjuvant therapy, or pathological tumor stage. However, a significant difference was observed in tumor location (p=0.043). In addition, the development of major in-hospital complications was significantly higher in the readmission group (21.1% vs. 6.8%; p=0.005). Although the length of hospital stay was longer in the readmission group. In multivariable logistic regression analysis, the presence of a lower rectal tumor (OR: 2.58; 95% CI: 1.19-5.61; p=0.017) and the occurrence of major in-hospital complications (OR: 3.31; 95% CI: 1.20-9.14; p=0.021) were identified as independent risk factors for 30-day readmission. In contrast, the presence of a postoperative stoma was associated with a decreased risk of readmission (OR: 0.21; 95% CI: 0.05-0.87; p=0.031). Nutritional risk and the presence of metastatic disease were not found to be independent predictors in the multivariable analysis (Figure 2).

Conclusion: The 30-day readmission rate after rectal cancer surgery was 16.6%, with acute kidney injury being the most common cause. Readmission was particularly associated with major complications during the index hospitalization and tumors located in the lower rectum. Postoperative stoma formation appeared to be a protective factor. These findings suggest that early management of complications, optimal perioperative fluid balance, and targeted follow-up of high-risk patients may play a critical role in reducing readmission rates.

Keywords: Rectal cancer, readmission, ERAS protocol

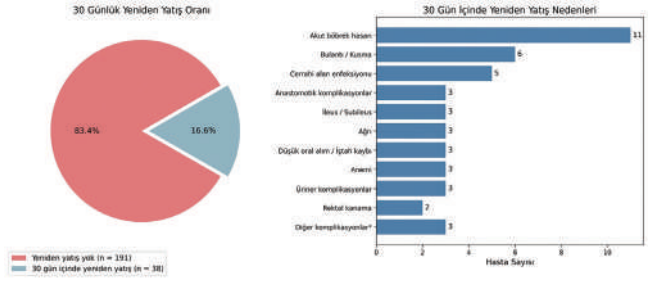

Figure 1.

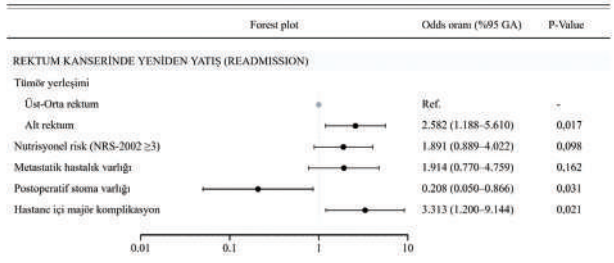

Figure 2.

Table 1. Comparison of demographic, operative, pathological characteristics, and follow-up outcomes in patients who were and were not readmitted within 30 days after rectal cancer surgery

Variables	No readmission (n=191)	Re-admission within 30 days (n=38)	p-value
Age, years	65 (37-85)	64 (25-86)	0.958
Male gender, n (%)	120 (62.8%)	24 (63.2%)	0.969
Body mass index (BMI), kg/m²	26.1 (17.9-39.6)	26.2 (19.4-42.7)	0.944
Surgical procedure, n (%)			0.497
LAR	164 (85.9%)	31 (81.6%)	
APR	27 (14.1%)	7 (18.4%)	
Stoma type, n (%)			0.155
No stoma	7 (3.7%)	4 (10.5%)	
Ileostomy	155 (81.2%)	27 (71.1%)	
Colostomy	29 (15.2%)	7 (18.4%)	
Surgical technique, n (%)			0.618
Open	10 (5.2%)	1 (2.6%)	
Laparoscopic	109 (57.1%)	20 (52.6%)	
Robotic	42 (29.6%)	17 (44.7%)	
Charlson comorbidity index	4 (2-11)	4 (2-9)	0.883
NRS-2002 ≥3, n (%)	68 (35.6%)	18 (47.4%)	0.171
Diabetes mellitus, n (%)	42 (22.0%)	10 (26.3%)	0.561
Hypertension, n (%)	79 (41.4%)	14 (36.8%)	0.604
Neoadjuvant chemotherapy, n (%)	140 (73.3%)	28 (73.7%)	0.961
Neoadjuvant radiotherapy, n (%)	133 (69.6%)	27 (71.1%)	0.962
P-POSSUM			
Physiological score	16 (12-44)	15 (12-32)	0.186
Operative severity score	17 (8-37)	19 (10-30)	0.299
Distance of tumor from anal verge, cm	7.0 (1-15)	6.5 (2-15)	0.385
Tumor location, n (%)			0.043
Upper rectum	46 (24.1%)	10 (26.3%)	
Middle rectum	89 (46.6%)	10 (26.3%)	
Lower rectum	56 (29.3%)	18 (47.4%)	
Operation time, minutes	430 (227-777)	485 (251-710)	0.105
T stage			0.693
ypT0	46 (24.1%)	7 (18.4%)	
T1	9 (4.7%)	2 (5.3%)	
T2	48 (25.1%)	9 (23.7%)	
T3	87 (45.5%)	19 (50.0%)	
N stage			0.225
N0	145 (75.9%)	26 (68.4%)	
N1	34 (17.8%)	11 (28.9%)	
N2	12 (6.3%)	1 (2.6%)	
M stage			0.115
M1	165 (86.4%)	29 (76.3%)	
M2	26 (13.6%)	9 (23.7%)	
Hospital stay, days	7 (4-50)	8 (4-25)	0.142
Major in-hospital complications, n (%)	13 (6.8%)	8 (21.1%)	0.005
30-day postoperative mortality, n (%)	0 (5.3%)	2 (5.3%)	0.027

[S-261]

Diagnostic significance of RDWLR, PDWLR, and immature granulocytes in colorectal cancer

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Objective: This study aimed to investigate the diagnostic value of hematological markers reflecting inflammatory response in differentiating colorectal cancer from benign colorectal polypoid lesions. In this context, the diagnostic performance of immature granulocytes (IG), nucleated red blood cells (NRBC), platelet distribution width (PDW), and mean platelet volume (MPV), as well as novel inflammatory indices including red cell distribution width–to–lymphocyte ratio (RDWLR) and PDW–to–lymphocyte ratio (PDWLR), which have limited data in the literature, was evaluated.

Material and Methods: In this retrospective study, a total of 326 patients who underwent colonoscopy and histopathological examination after detection of polyps at a tertiary care center between January 1, 2023, and December 31, 2023, were analyzed. Patients were divided into two groups: benign colorectal polyps (n=269) and colorectal adenocarcinoma (n=57). NLR, PLR, RDWLR, and PDWLR were calculated from routine pre-colonoscopy complete blood count parameters. Intergroup comparisons were performed, and receiver operating characteristic (ROC) analysis was conducted to evaluate diagnostic performance.

Results: Lymphocyte counts were significantly lower and RDW values were significantly higher in the colorectal cancer group. NLR, PLR, RDWLR, and PDWLR values were statistically significantly higher in the malignant group compared with benign polyps. ROC analysis demonstrated that NLR, PLR, and particularly RDWLR showed moderate-to-good diagnostic performance in differential diagnosis. The area under the curve, sensitivity, and specificity values obtained for RDWLR were notable. In contrast, IG and NRBC parameters did not show significant differences between groups and did not provide diagnostic contribution.

Conclusion: This study supports the usability of inflammatory indices calculated from complete blood count parameters in the differential diagnosis of colorectal cancer and benign colorectal polyps. NLR and PLR were significantly higher in the malignant group, confirming their diagnostic value. Moreover, RDWLR demonstrated superior discriminatory performance compared with RDW alone and emerged as a promising novel parameter that may be considered in clinical practice. However, IG and NRBC values did not differ between groups and did not provide significant diagnostic contribution. Further studies with larger cohorts are required to clarify the clinical utility of RDWLR.

Keywords: Colorectal cancer, complete blood count, differential diagnosis, inflammatory indices, RDWLR

[S-262]

Gallstone ileus: Diagnosis, surgical approach, and clinical outcomes - A single-center experience

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Objective: Gallstone ileus is a rare cause of mechanical bowel obstruction associated with advanced age and a high comorbidity burden, resulting in increased diagnostic difficulty and significant morbidity. Delayed diagnosis is common due to non-specific clinical presentation, while surgical management remains controversial because of the high perioperative risk in this patient population. This study aimed to evaluate the clinical presentation, imaging findings, surgical management strategies, and short-term outcomes of patients treated for gallstone ileus in a tertiary referral center and to provide practical insights for early diagnosis and optimal surgical decision-making.

Material and Methods: This retrospective observational study included five patients who were admitted through the emergency department and treated with a diagnosis of gallstone ileus between January 2023 and November 2025. Demographic characteristics, comorbidity profiles, presenting symptoms, laboratory findings, imaging results, surgical procedures, and postoperative outcomes were recorded. Continuous variables were expressed as median and interquartile range, while categorical variables were presented as numbers and percentages.

Results: The median age was 69 years (46-76), and 80% of patients were male. The median ASA score was 3 (2-4), and the Charlson comorbidity index was 4 (1-6). All patients presented as emergency admissions, with nausea and vomiting (100%) and abdominal distension (80%) being the most common symptoms. Median white blood cell count was 11.3×10^3/μL (8.7-11.8), and median CRP level was 155 mg/L (72-197). Imaging revealed pneumobilia and ectopic gallstones in all patients, while Rigler's triad was present in 80% of cases. Stones were located in the ileum in 80% and in the duodenum in 20%, with a median diameter of 45 mm (30-50). Bouveret syndrome was identified in 60% of patients. All patients underwent open enterolithotomy alone without bowel resection or simultaneous cholecystectomy. Postoperative complications occurred in 40% of cases, most commonly surgical site infection. Median hospital stay was 14 days (8-14). No 30-day mortality was observed.

Conclusion: Gallstone ileus remains a challenging surgical emergency due to advanced patient age and high comorbidity burden. Our findings demonstrate that effective use of imaging modalities enables early diagnosis and facilitates timely surgical intervention. Enterolithotomy alone provided acceptable morbidity rates and favorable short-term outcomes in selected patients. Individualized surgical strategies based on patient risk profiles rather than standardized approaches may improve clinical outcomes. Early diagnosis combined with a limited surgical approach appears to be a safe and effective management strategy in gallstone ileus.

Keywords: Bouveret syndrome, emergency surgery, enterolithotomy, Gallstone ileus, mechanical ileus

Figure 1. Demographic characteristics, risk profile, and laboratory findings.

Parameter	Value
Age, years	69.0 (46.0–76.0)
Female sex, n (%)	1 (20%)
ASA score	3.0 (2.0–4.0)
Charlson comorbidity index	4.0 (1.0–6.0)
Presence of comorbidity, n (%)	3 (60%)

Parameter	Value
Symptom duration, days	4.0 (4.0–5.0)
Nausea/vomiting, n (%)	5 (100%)
Abdominal distension, n (%)	4 (80%)
Obstipation, n (%)	1 (20%)
Fever (>38°C), n (%)	2 (40%)
Hypotension, n (%)	1 (20%)

Parameter	Value
WBC ($10^3/\mu L$)	11.3 (8.7–11.8)
CRP (mg/L)	155.0 (72.0–197.0)
Lactate (mmol/L)	1.2 (1.1–1.7)

Figure 2. Treatment characteristics and comparison of our series with the current literature on Gallstone ileus.

Parameter	Value
Postoperative complications, n (%)	2 (40%)
Anastomotic leakage, n (%)	0 (0%)
Postoperative ileus, n (%)	1 (20%)
Surgical site infection, n (%)	2 (40%)
Sepsis, n (%)	1 (20%)
Clavien–Dindo score	2.0 (1.0–3.0)
ICU admission, n (%)	3 (60%)
ICU stay, days	2.0 (0.0–2.0)
Hospital stay, days	14.0 (8.0–14.0)
30-day mortality, n (%)	0 (0%)
Overall mortality, n (%)	1 (20%)
Recurrence, n (%)	0 (0%)
Follow-up duration, months	5.0 (3.0–12.0)

	Our Study (n=5)	Ayantunde et al. (2007)	Halabi et al. (2014)	Costi et al. (2017)
Study type	Retrospective, single center	Review	National database analysis	Review
Median age (years)	69	65–75	67	70
Female ratio (%)	20	~70	72	68
Preoperative diagnosis rate (%)	80	50–60	67	55–70
Pneumobilia on imaging (%)	100	60–80	Not reported	70–80
Rigler's triad (%)	80	40–50	Not reported	40–60
Stone location (ileum) (%)	80	60–70	63	65
Median stone diameter (mm)	45	30–40	Not reported	35–45
Enterolithotomy alone (%)	100	70–80	78	75–85
One-stage surgery (%)	0	15–20	18	15–25
Postoperative complication rate (%)	40	30–50	32	35–45
30-day mortality (%)	0	7–15	8.2	10–12

[S-263]

The impact of routine splenic flexure mobilization in low anterior resection on clinical and oncological outcomes: A single-center experience

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Objective: Introduction splenic flexuremobilization (SFM) is performed duringlow anterior resection to achieve a tension-free colorectal anastomosis withadequate perfusion. However, whether this mobilization should be performed routinely or selectively remains controversial in the literature Rondelli et al. reported that routine SFM did not reduce the rate of anastomotic leakage but prolonged operative time. Emile et al. demonstrated an increase in operative time without providing a significant oncological advantage. Brennan et al. stated that a selective mobilization approach is safe. Elmeligi et al., on the other hand, suggested that complete mobilization may enhance anastomotic safety.

Material and Methods: A total of 89 consecutive patients who underwent LAR were retrospectively analyzed. Complete SFM was defined as full mobilization of the splenic flexure including division of the splenocolic, splenorenal, and phrenic attachments with medialization of the transverse colon. Partial SFM was defined as limited division of the splenocolic ligament only. The following parameters were evaluated: Tumor level (cm from anal verge), anastomotic level (1=low, 2=middle, 3=high), operative time. ICU stay, length of hospital stay, anastomotic leak, Clavien-Dindo ≥3 major complications, total lymph node yield, circumferential resection margin (CRM) status, and protective stoma formation. Continuous variables were expressed as medians. The Kruskal-Wallis test was used for comparisons between groups. Categorical variables wereanalyzed using Fisher's exact test. A p-value <0.05 was considered statistically significant.

Results: Thetumor level wasfound to be significantly moredistal in the complete SFM group (median 13 cm; p=0.014). In terms of anastomotic level distribution, low andmid-level anastomoses were morefrequent in the complete SFM group (p=0.014). Operativetime was significantly longer in the complete SFM group (median 5 hours vs. 3.25 hours; p=0.0009). No significant difference was observed between the groups regarding intensive car unit stay orlength of hospital stay.The overall anastomotic leakage rate was 3.4%. Leakage was observed in 3.9% of patients in the complete SFM group, while no leakage was detected in the other groups. No significant difference was observed interms of major complication rates. The number of harvested lymphnodes was similar between the groups (p=0.85). The rate of positive CRM wa 1.3%. No significant association was found between the creation of a diverting stoma and anastomotic leakage (p=1.0) or major complication rate (p=1.0). In our study, complete SFM was applied significantly more frequently inpatients with more distaltumors and loweranastomotic levels. Despite this, no increase was observed interms of leakage, major morbidity intensivecare requirement, or length of hospital stay. Although operative time was prolonged, this increase did not translate into worse clinical out comes. These findings are consistent with those reported in the literature. No significant effect of diverting stoma on leakage or major complication rates was detected in our analysis.

Conclusion: Complete splenic flexue mobilization was preferentially performed in more distaltumors and lower anastomoses without increasing anastomotic leak, major morbidity, ICU requirement, or length of hospital stay. Although operative time was prolonged, this did not adversely affect clinical outcomes. These findings suggest that, in experienced centers, splenic flexure mobilization can be safely performedas a routine component of lowanterior resection.

Keyword: Splenic flexure anastomosis leak

[S-264]

The role of the RDW/albumin ratio in predicting major postoperative complications after right hemicolectomy

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Objective: Major complications following right hemicolectomy significantly affect patient prognosis. Systemic inflammation and nutritional status are key determinants of surgical recovery. Red cell distribution width (RDW) reflects the inflammatory state, whereas albumin (Alb) indicates nutritional status and the acute phase response. The RDW/Alb ratio represents a potential prognostic marker that integrates these two physiological axes. This study aimed to evaluate the value of the preoperative RDW/Alb ratio in predicting early major postoperative complications in patients undergoing right hemicolectomy for cancer.

Material and Methods: In this single-center retrospective study, 117 patients who underwent right hemicolectomy between January 2020 and December 2025 were included. Patients with benign pathology, non-adenocarcinoma malignancies, immunodeficiency, a history of other malignancies, those who underwent an additional major procedure during the same session, patients without blood tests within one week before surgery, and cases with incomplete records were excluded. Postoperative complications within the first 30 days were graded according to the Clavien-Dindo classification; grade <3 was defined as Group 1 and grade ≥3 as Group 2. The RDW/Alb ratio was calculated using preoperative RDW and Alb values. The optimal cut-off value was determined by receiver operating characteristic (ROC) analysis. Comparisons were performed using appropriate statistical tests, and p<0.05 was considered statistically significant. Variables with p<0.1 in univariate analysis were included in the multivariate logistic regression model.

Results: Of the patients, 107(91.5%) were in Group 1 and 10 (8.5%) in Group 2. The mean age was 59.37±12.62 years. The length of hospital stay was significantly longer in Group 2 (15.8±10.8 days vs. 7.5±3.2 days). Preoperative hemoglobin levels were lower in Group 2 (9.51±2.20 vs. 11.44±2.36 g/dL), as were Alb levels (35.7±5.2 vs. 39.9±5.1 g/L), while CRP levels were higher (67.0±85.9 vs. 22.4±53.4). RDW-CV values were higher in the major complication group (16.48±1.97 vs. 14.96±4.80). The RDW/Alb ratio was significantly higher in Group 2 (0.028±0.003 vs. 0.025±0.004). ROC analysis showed an AUC of 0.746 (p=0.010) for RDW/Alb. The optimal cut-off value was 0.026 (sensitivity 80%, specificity 70%). Patients with RDW/Alb ≥0.026 had a significantly higher rate of major complications (20% vs. 2.6%; p=0.001). Anastomotic leakage occurred in 5 patients (4.3%). In multivariate logistic regression analysis, RDW/Alb ≥0.026 was an independent risk factor for major complications (OR=9.081; 95% CI: 1.172-70.355; p=0.035). Smoking was also independently associated (OR=6.272; p=0.035).

Conclusion: The RDW/Alb ratio is an independent and clinically applicable biomarker for predicting early major postoperative complications after right hemicolectomy. Its ability to simultaneously reflect inflammation and nutritional reserve may provide additional value in risk stratification.

Keywords: Right hemicolectomy, postoperative complications, RDW/albumin ratio, systemic inflammation, colorectal surgery

Table 1. Multivariate logistic regression analysis for major postoperative complications

Variable	OR (ExpB)	95% CI	p-value
Potassium (K)	10.89	0.86-138.25	0.066
Preoperative hemoglobin	0.93	0.60-1.43	0.728
Metastatic lymph node count	0.64	0.36-1.13	0.123
C-reactive protein (CRP)	1.01	0.997-1.021	0.132
Smoking (yes)	6.27	1.14-34.63	0.035
RDW/albumin ratio above cut-off	9.08	1.17-70.36	0.035

[S-265]

Does pathologic complete response reflect clinical reality? A comparison of total neoadjuvant therapy and chemoradiotherapy in locally advanced rectal cancer

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Objective: Total neoadjuvant therapy (TNT) aims to enhance tumor response by delivering all systemic chemotherapy before surgery and may allow non-operative management in selected patients. This study compared TNT and standard chemoradiotherapy (CRT) in patients with locally advanced rectal cancer regarding pathologic complete response (pCR) and non-operative management outcomes.

Material and Methods: Patients with locally advanced (stage ≥II) rectal cancer who received neoadjuvant treatment between January 2023 and December 2025 were retrospectively evaluated. Patients were divided into TNT and CRT groups according to treatment modality. In the TNT group, concurrent capecitabine-based radiotherapy was followed by consolidation chemotherapy with FOLFOX or CAPOX. In the CRT group, only concurrent capecitabine-based radiotherapy was administered. All patients underwent response evaluation before and after treatment with pelvic MRI, colonoscopy, and digital rectal examination (DRE). Clinical complete response (cCR) was defined as absence of residual tumor on MRI, no visible tumor or only scar tissue on colonoscopy, and no palpable lesion on DRE. Patients with cCR were managed with a watch-and-wait strategy following multidisciplinary board decision. In operated patients, pCR was defined as ypT0N0 on histopathologic examination. pCR rates and non-operative outcomes were analyzed retrospectively.

Results: A total of 103 patients with locally advanced rectal cancer who received neoadjuvant treatment were included in the study. Sixty-five patients received TNT and 38 patients received CRT. Among operated patients, pCR was achieved in 14 patients in the TNT group and in 4 patients in the CRT group. Accordingly, the pCR rate was 22.6% in the TNT group and 10.5% in the CRT group. Three patients with cCR after TNT were managed without surgery and were followed for 13, 10, and 6 months, respectively, without recurrence. The cCR rate after TNT was calculated as 4.4%. No cCR was observed in the CRT group.

Conclusion: This single-center retrospective study demonstrates that TNT is associated with higher pCR rates compared to standard CRT and may allow non-operative management in selected patients. However, pCR can only be definitively confirmed after surgery. In cases where post-treatment MRI, colonoscopy, and DRE do not fully meet cCR criteria or residual disease is suspected, surgery may still be performed even if final pathology reveals pCR. Discordance between clinical-imaging findings and final pathology underscores the importance of careful multimodal response assessment when determining organ-preserving strategies.

Keywords: Non-operative management, pathologic complete response, total neoadjuvant therapy

Table 1. Clinical, endoscopic and MRI findings in patients with pathologic complete response (ypT0N0) after neoadjuvant treatment

No	Name	Age	Sex	Treatment	Digital rectal exam	Colonoscopy	MRI finding
1	HM	55	F	TNT	No palpable lesion	No visible tumor	Partial regression
2	AG	64	F	TNT	Normal	Mass at 10 cm (marker placed)	Complete response
3	AK	60	M	TNT	Normal	Luminal narrowing at 10 cm	Partial regression
4	HŞM	53	M	TNT	No palpable lesion	No visible tumor	Regression
5	AT	62	M	TNT	Normal	Mass at 10 cm	Regression
6	ST	61	F	TNT	Tumor palpable 2 cm from anal verge	Residual area at 2 cm	Regression
7	NA	68	F	CRT	No palpable lesion	No visible tumor	Regression
8	HK	66	F	TNT	Normal	Circumferential mucosal irregularity at 13 cm	Regression
9	SK	68	M	CRT	No palpable lesion	No visible tumor	Regression
10	KY	70	F	TNT	Palpable mass on left side	No visible tumor	Regression
11	SS	77	F	CRT	No palpable lesion	No visible tumor	Regression
12	RA	74	M	TNT	Normal	No visible tumor	Complete regression
13	YE	71	M	TNT	No palpable lesion	No visible tumor	Preoperative MRI unavailable
14	HE	53	M	TNT	No palpable lesion	1-1.5 cm fibrotic area	Regression
15	FT	39	F	TNT	No palpable lesion	Nodular residual-appearing area at 10-12 cm	Preoperative MRI unavailable
16	MD	69	F	TNT	No palpable lesion	No visible tumor	Regression
17	OÖ	84	M	CRT	Normal	No visible tumor	Partial regression
18	HD	59	M	TNT	No palpable lesion	No visible tumor	Partial regression

Table 2. Clinical, endoscopic and MRI findings in patients with clinical complete response managed non-operatively

No	Name	Age	Sex	Treatment (last CT date)	Digital rectal exam	Colonoscopy	MRI finding
1	MS	55	M	TNT-09/25	Normal	Fibrotic wall thickening in lower rectum	Complete regression
2	NA	40	F	TNT-04/25	Posterolateral scar, no mass	Scarred distal rectal area, no recurrence	Suspicious residual
3	EA	70	M	TNT-01/25	Normal	Scar in mid-rectum, no recurrence	Complete response

[S-266]

Clinical and prognostic significance of tumor budding and tumor deposits in patients with colorectal cancer

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Objective: Colorectal cancer (CRC) remains one of the leading causes of cancer-related morbidity and mortality worldwide. In recent years, histopathological parameters reflecting tumor biology have gained increasing importance in prognostic assessment. Tumor budding (TB) and tumor deposits (TD) are recognized as markers of invasive and aggressive tumor behavior. This study aimed to evaluate the clinical and prognostic significance of TB grade and TD presence in patients with CRC.

Material and Methods: A total of 1140 patients who underwent surgery for CRC between 2012 and 2025 were assessed. Patients with non-adenocarcinoma histology, carcinoma *in situ*, those who underwent transanal local excision, and patients with incomplete data were excluded. After exclusion of 112 patients, 1028 patients were retrospectively analyzed. TB was categorized into four groups: TB-0 (no budding), TB-1 (1-4 buds), TB-2 (5-9 buds), and TB-3 (≥10 buds). Patients were also classified according to the presence or absence of TD based on pathology reports. Associations between TB grade and TD presence with tumor diameter, lymph node metastasis, lymphovascular invasion (LVI), perineural invasion (PNI), locoregional and distant organ recurrence, presence of disease progression, and 2-year disease-free survival (DFS) were evaluated.

Results: A total of 1028 patients (mean age 65.4±12.6 years; 56.3% male) were included. TD were present in 179 patients (20.4%) and absent in 697 patients (79.6%). According to TB grading, 441 patients (42.9%) were classified as TB-0, 412 (40.1%) as TB-1, 112 (10.9%) as TB-2, and 63 (6.1%) as TB-3. Increasing TB grade was significantly associated with larger tumor diameter, higher rates of lymph node metastasis, LVI and PNI ($p<0.001$). TD presence was significantly associated with larger tumor size (5.50±2.39 cm vs. 5.00±2.26 cm), higher distant organ recurrence rates (26.3% vs. 10.6%), increased disease progression (33.9% vs. 17.2%), and higher rates of LVI and PNI ($p<0.001$). The 2-year DFS rate was significantly lower in patients with TD compared to those without TD (52.2% vs. 86.8%, $p<0.001$).

Conclusion: TB and TD are associated with adverse pathological features in CRC. The presence of TD is particularly associated with increased recurrence and reduced disease-free survival. Incorporating TB and TD into routine pathological evaluation may improve prognostic stratification.

Keywords: Colorectal cancer, tumor budding, tumor deposite, prognosis

[S-267]

Analysis of factors affecting early mortality in colorectal cancer patients aged over 65 across three different geriatric decades

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Objective: Colorectal cancer is a common health problem in the elderly population and is associated with high morbidity and mortality risks following surgical treatment. The aim of this study was to evaluate the clinicopathological factors affecting early mortality in colorectal cancer patients aged 65 years and older who underwent surgical treatment, and to assess the impact of different age decades (65-74, 75-84, and >85 years) on mortality.

Material and Methods: The data of a total of 167 patients aged 65 years and older who underwent surgery for colorectal cancer at our center between January 1, 2014 and December 31, 2023 were retrospectively analyzed. Patients were stratified into three age decades: 65-74 years (n=107), 75-84 years (n=43), and >85 years (n=17). Demographic characteristics, comorbidities, preoperative laboratory parameters, type of surgical approach (open/laparoscopic), and postoperative complications were analyzed for their association with early mortality using the chi-square test and Fisher's exact test. A p-value <0.05 was considered statistically significant in all analyses

Results: The overall early mortality rate among the 167 patients included in the study was 7.1% (n=12). When analyzed according to age decades, early mortality was 2.8% in the 65-74 age group, whereas it increased to 29.4% in patients aged >85 years, constituting the strongest statistically significant risk factor (p=0.003). With regard to sex, early mortality was significantly higher in female patients (12.3%) compared with male patients (3.2%) (p=0.034). Patients who required reoperation in the postoperative period had a markedly higher early mortality rate (22.2%) than those who did not require reoperation (5.4%) (p=0.028). Interestingly, a lower rate of early mortality was observed in patients with cardiovascular comorbidities (p=0.029), which was attributed to meticulous preoperative optimization and stricter anesthetic selection in this patient group. No statistically significant association was found between early mortality and surgical approach (open vs. laparoscopic), tumor localization, or preoperative laboratory parameters (WBC, hemoglobin, and albumin) (p>0.05).

Conclusion: In geriatric colorectal cancer surgery, age over 85 years, female sex, and the need for postoperative reoperation are the main risk factors predicting early mortality. In surgical strategies for the very elderly population, careful consideration of patients' physiological reserves and meticulous management of postoperative complications are of paramount importance.

Keywords: Colorectal cancer, elderly patients, early postoperative mortality

[S-269]

Evaluation of the effect of exercise on accelerating wound healing and possible weakening, and determination of the role of endogenous iris in this effect

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Objective: Wound healing is a complex biological process coordinated through a balance of inflammatory and regenerative responses. Although exercise promotes wound healing, the exact biological mechanisms and mediators involved remain unclear. Irisin, a myokine secreted from skeletal muscle in response to exercise, has been proposed as a potential regulator of tissue repair, but its role in wound healing remains uncertain. This study aimed to investigate the effects of exercise and irisin on wound healing and evaluate irisin's possible mediating role.

Material and Methods: Forty male Sprague-Dawley rats were divided into five groups to examine the effects of acute and chronic exercise and recombinant irisin on skin and colon wound healing compared to control and sedentary groups. Before surgery, acute-exercise rats swam for 30 minutes with tail weights (~8% of body weight). Chronic exercise animals performed unloaded swimming for 30 minutes/day, 5 days/week for 6 weeks. Full-thickness skin and colon wounds were created in all animals, and they were sacrificed on postoperative day 4. Microscopic wound scores and colon adhesion scores were recorded. Serum and tissue samples (skin, colon, muscle) were analyzed for inflammatory cytokines (TNF-α, IL-6, IL-10), irisin levels, reactive oxygen species markers (luminol-lucigenin), hydroxyproline content, and colon microbiota composition.

Results: Histological damage scores in skin tissue were reduced in the irisin-treated group compared to the sedentary-group. In colon tissue, both chronic-exercise and irisin groups showed significantly lower microscopic damage scores. While hydroxyproline levels decreased in the skin of the chronic-exercise group, levels were significantly elevated in the colon of all exercise groups. Adhesion scores were lower in both the exercise and irisin groups. No significant differences in cytokine levels were observed. Luminol-lucigenin levels decreased in skin and muscle tissues in both treatment groups, whereas in the colon, luminol decreased with exercise, and lucigenin increased only with irisin. Tissue irisin levels rose in all treatment groups, but serum levels increased only after irisin administration. No significant changes in microbiota were detected.

Conclusion: In our study, exercise and irisin administration elevated tissue irisin levels in skin, colon, and skeletal muscle. This increase was accompanied by significant reductions in luminol-lucigenin, particularly in skin and muscle. Decreased microscopic damage scores in skin and colon suggest that irisin may enhance antioxidant defense and limit tissue injury. Additionally, elevated hydroxyproline levels in the colon of exercise groups indicate active collagen synthesis and biochemical support of healing. Overall, both endogenous and exogenous irisin appear to promote regeneration by reducing oxidative stress.

Keywords: Exercise, wound healing, colon anastomosis, irisin

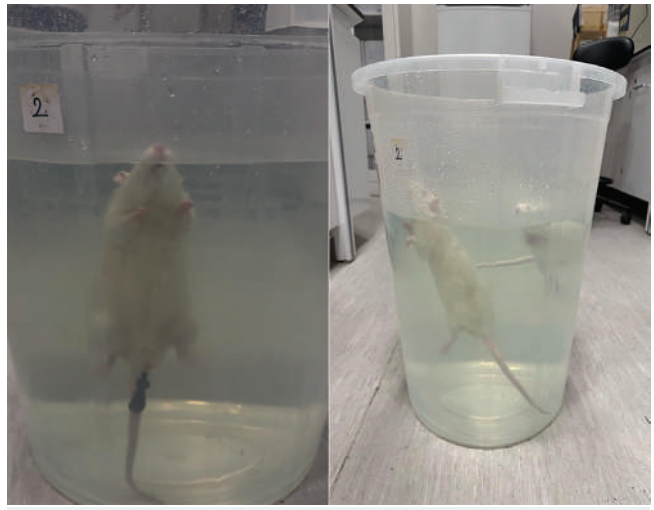

Figure 1. Acute-chronic swimming exercise.

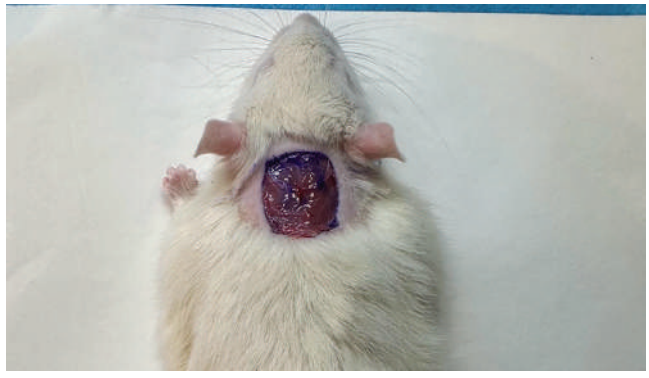

Figure 2. Skin excision wound model.

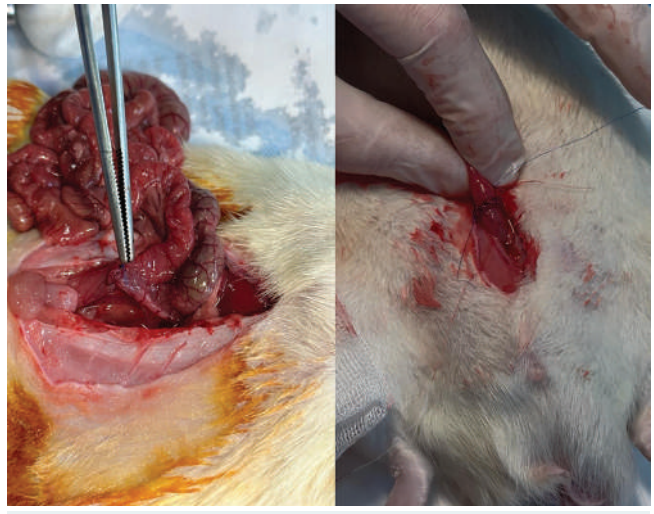

Figure 3. Colon anastomosis.

Figure 4. Inferior vena cava-iris injection.

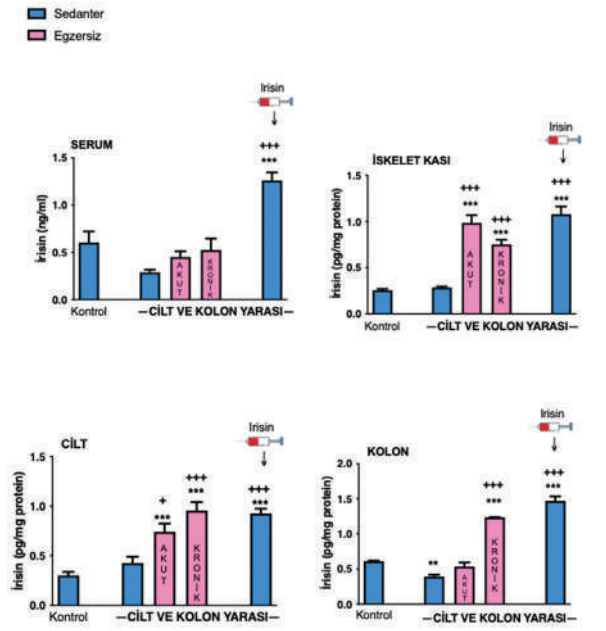

Figure 5. Serum, skeletal muscle, skin and colon - irisin level.

Table 1. Experimental groups

Experimental groups	Male rats (n=40)
1. Control group that remained sedentary and underwent sham surgery.	8
2. The group that remained sedentary and underwent excisional wound modeling + colon anastomosis.	8
3. The group that remained sedentary, received peroperative irisin into the vena cava (40 µg/kg), and underwent excisional wound model + colon anastomosis.	8
4. Group undergoing acute-compulsory intense swimming exercise and excisional wound model + colon anastomosis	8
5. Group that performed long-term to moderate-level swimming exercises and underwent excisional wound model + colon anastomosis.	8
Total:	40

[S-270]

Comparison of treatment strategies in sigmoid volvulus: A retrospective analysis of emergency surgery, surgery during the same hospitalization after detorsion, and detorsion with conservative follow-up

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Objective: Sigmoid volvulus is an important and potentially life-threatening cause of colonic obstruction. Although endoscopic detorsion is recommended as the first-line treatment, the optimal timing of elective surgery after successful detorsion remains controversial due to high recurrence rates. Emergency surgery is generally performed in cases of peritonitis, ischemia, or failed detorsion. This study aimed to compare the clinical outcomes of different treatment strategies.

Material and Methods: In this single-center retrospective cohort study, 54 patients were initially evaluated. Seven patients with radiological findings suggestive of sigmoid volvulus on computed tomography but not confirmed clinically and/or intraoperatively were excluded from the analysis. A total of 47 patients diagnosed with sigmoid volvulus were divided into three groups: (i) emergency surgery (n=7), (ii) surgery during the same hospitalization after successful detorsion (n=11), and (iii) detorsion alone (n=29). The groups were compared in terms of age, laboratory parameters, length of hospital stay (LOS), recurrence, complications, and mortality. The Kruskal-Wallis test was used for continuous variables, and the chi-square or Fisher's exact test was used for categorical variables.

Results: No significant differences were observed among the groups regarding age or laboratory parameters ($p>0.05$). A significant difference was found in LOS ($p=0.029$); the median LOS was 7 days in the emergency surgery group, 11 days in the elective surgery group, and 3 days in the detorsion-only group. Post-discharge recurrence rates were 13.8% in the conservative group and 9.1% in the elective surgery group. Although complication and mortality rates tended to be higher in the emergency surgery group, the sample size was limited.

Conclusion: In sigmoid volvulus, performing surgery during the same hospitalization after successful endoscopic detorsion may be a strategy with the potential to reduce recurrence. Emergency surgery, however, may be associated with a higher morbidity trend. The importance of clinical and radiological correlation in diagnosis should be emphasized. Larger prospective studies are needed.

Keywords: Emergency surgery, volvulus, colonoscopy

[S-271]

Factors affecting the development of low anterior resection syndrome after sphincter preserving surgery for rectal cancer

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Objective: Low anterior resection syndrome (LARS) is characterized by altered bowel function following low anterior resection (LAR), including increased stool frequency, changes in stool consistency, urgency (tenesmus), and fecal incontinence. This study aimed to determine the incidence of LARS in patients undergoing sphincter-preserving surgery for rectal malignancy and to identify factors associated with its development.

Material and Methods: Patients who underwent sphincter-preserving surgery for rectal cancer at NEÜ Medical Faculty, Department of General Surgery, between January 2014 and January 2020 were retrospectively evaluated. Inclusion criteria were: at least 12 months postoperatively; completion of ileostomy closure, if performed; absence of recurrence or metastatic disease; completion of chemotherapy and radiotherapy; and no history of proctologic disease. A total of 103 patients met the study criteria. Variables potentially influencing LARS development were identified, and a structured questionnaire was administered. LARS was assessed using the LARS score described by Emmertsen and Laurberg (2013), supported by anal manometry findings. Patients were classified according to LARS severity, and associated risk factors were analyzed.

Results: LARS symptoms were observed in 51.5% of patients. Major LARS was present in 35%, and minor LARS in 16.5%. The mean LARS score was 21.5. Neoadjuvant chemoradiotherapy, shorter tumor distance to the anal verge, total mesorectal excision, creation of ileostomy, shorter postoperative interval, smaller tumor size, fewer lymph nodes harvested, prolonged ileostomy duration, and shorter anastomotic distance to the anal verge were significantly associated with the development of LARS. The findings are presented in Supplementary Table 1.

Conclusion: LARS remains a common complication following sphincter-preserving rectal cancer surgery. Several clinical and surgical factors were found to increase its incidence. Given the lack of clear consensus in the literature, further large-scale, multicenter, prospective studies are needed. Improved understanding of LARS, which significantly affects patients' social functioning and quality of life, may contribute to better prevention strategies and optimized postoperative management.

Keywords: Rectum, low anterior resection (LAR), low anterior resection syndrome (LARS)

Supplementary Table 1. Factors affecting the development of low anterior resection syndrome							
		LARS					
		LARS no	LARS yes			Mean LARS score ± SD	
	Total n (%)	n (%)	Minor n (%)	Major n (%)	p	Mean ± S.S.	p
Neoadjuvant CRT							
No	51 (49.5%)	34 (66.6%)	6 (11.8%)	11 (21.6%)	<0.001	16.1±13.81	<0.001
Yes	52 (50.5%)	16 (30.8%)	11 (21.2%)	25 (48.1%)		26.71±11.52	
Tumor distance (cm)							
<5 cm	10 (9.8%)	0 (0%)	2 (20%)	8 (80%)	0.003	35.40±6.55	0.001
≥5, <9	29 (28.2%)	13 (44.8%)	6 (20.7%)	10 (34.5%)		22.31±11.62	
>10 (upper rectum)	64 (62%)	37 (57.8%)	9 (14.1%)	18 (28.1%)		18.89±14.17	
Mesorectal excision							
TME	80 (7.7%)	34 (42.5%)	15 (18.8%)	31 (38.8%)	0.022	23.84±12.75	0.001
PME	23 (22.3%)	16 (69.5%)	2 (8.7%)	5 (21.8%)		13.17±14.01	
Ileostomy							
No	42 (40.8%)	26 (61.9%)	5 (11.9%)	11 (26.2%)	0.024	16.88±14.07	0.004
Yes	61 (59.2%)	24 (39.3%)	12 (19.7%)	25 (41%)		24.61±12.65	
Tumor size (mm)							
≤30	40 (38.9%)	14 (35%)	7 (17.5%)	19 (47.5%)	0.028	25.05±13.61	0.033
>30	63 (61.1%)	36 (57.1%)	10 (15.9%)	17 (27%)		19.17±13.4	
Anastomotic distance							
≤4 cm	21 (20.4%)	5 (23.9%)	4 (19.1%)	12 (57.1%)		29.29±11.18	<0.001
>4, ≤9	54 (52.4%)	23 (42.6%)	9 (16.7%)	22 (40.8%)	<0.001	24.2±12.6	
>9	28 (27.2%)	22 (78.5%)	4 (14.3%)	2 (7.1%)		10.29±10.71	

[S-272]

How predictable is the clinical course of cecal diverticulitis? Ten years of single-center experience

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Objective: Cecal diverticulitis is a rare clinical entity that is frequently misdiagnosed as acute appendicitis or right-sided colonic malignancy. This study aimed to present the clinical course and treatment outcomes of patients hospitalized with cecal diverticulitis at a tertiary care center.

Material and Methods: This retrospective, single-center study included 24 patients who were hospitalized with a diagnosis of cecal diverticulitis between 2015 and 2025. Diagnosis was established based on clinical findings, computed tomography, intraoperative assessment, or pathological examination. Demographic characteristics, laboratory parameters [white blood cell count, C-reactive protein (CRP), neutrophil-to-lymphocyte ratio (NLR)], treatment modalities, length of hospital stay, and clinical outcomes were evaluated. Severe clinical course was defined as the presence of at least one of the following: prolonged hospitalization (≥7 days), escalation of antibiotic therapy, or requirement for surgical intervention. Due to the limited sample size, no advanced statistical modeling was performed. Inflammatory markers were compared between patients with and without a severe clinical course in an exploratory manner.

Results: The median age of the 24 patients was 45.5 years (IQR: 37.8-55), and half of the cohort was female. The median length of hospital stay was 5 days (IQR: 5-7). A severe clinical course was observed in 9 patients (37.5%). Patients with a severe clinical course had higher admission CRP, 24-hour CRP, and NLR values compared to those without severe disease. Nineteen patients (79.2%) were successfully managed with conservative treatment, while 5 patients (20.8%) required surgical intervention. Surgical indications included perforation, volvulus, stricture, and suspicion of malignancy.

Conclusion: Most patients with cecal diverticulitis can be successfully managed with conservative treatment. However, a substantial subset develops a severe clinical course requiring prolonged hospitalization, treatment escalation, or surgery. Elevated inflammatory markers such as CRP and NLR may be associated with a severe clinical course. This single-center case series provides descriptive clinical outcomes and generates hypotheses for future prospective studies on cecal diverticulitis.

Keywords: Cecal diverticulitis, classification, diverticulotis coli

Figure 1. Summary of surgical cases.

Hasta	Cerrahi Endikasyon	Uygulanan Cerrahi	Kısa Klinik Özet
1	Striktür + volvulus	Subtotal kolektomi	Geçirilmiş divertikülit atağı sonrası striktür; eksplorasyonda çekal ve sigmoid divertiküle bağlı volvulus
2	Malignite/perforasyon şüphesi	Sağ hemikolektomi	Sepsis ve KC lezyonları nedeniyle malignite şüphesi; kolonoskopi sonrası perforasyon; intraoperatif çekal divertikülit perforasyonu
3	Akut batın	Sağ hemikolektomi	Komplike çekal divertikülit
4	Akut batın	Sağ hemikolektomi	İleri inflamasyon ile uyumlu bulgular
5	Komplike seyir	Subtotal kolektomi	Yaygın inflamasyon ve komplikasyon bulguları

[S-273]

Diagnosis of intestinal endometriosis: A multicenter retrospective study

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Objective: Intestinal endometriosis is a rare but diagnostically challenging clinical condition characterized by infiltration of endometrial-like tissue into the intestinal wall. The rectosigmoid colon is most commonly affected, and the disease may clinically mimic conditions such as colorectal malignancy, diverticulitis, or acute appendicitis. Diagnosis is particularly difficult in postmenopausal patients. In this study, we analyzed the clinical characteristics, surgical approaches, and complication profiles of patients who underwent surgical treatment for intestinal endometriosis.

Material and Methods: Patients who underwent surgery for intestinal endometriosis at five tertiary referral centers between January 2012 and February 2025 were retrospectively evaluated. Cases with pathological confirmation of endometrial glands and stroma within the intestinal wall were included in the study. Demographic characteristics, menopausal status, emergency versus elective surgery, type of operation, postoperative complications (classified according to the Clavien-Dindo system), length of hospital stay, and readmissions were recorded. Complication rates and severity were compared according to surgical localization. Statistical analyses were performed using the chi-square test, Kruskal-Wallis test, and Mann-Whitney U test, with a p-value <0.05 considered statistically significant.

Results: A total of 49 patients were evaluated; 83.7% were premenopausal and 16.3% were postmenopausal. Of the surgeries, 71.4% were performed under emergency conditions and 28.6% electively. The most common preoperative diagnoses were acute appendicitis (59.2%) and rectosigmoid cancer (20.4%). The procedures performed included appendectomy (53.1%), colon/rectal resection (42.9%), and small bowel resection (4.1%). The overall postoperative complication rate was 16.3%, with no cases of anastomotic leakage observed. Complication rates differed significantly according to surgical localization (p=0.033). Patients undergoing rectal surgery had a complication rate of 80%, compared with 19% in those undergoing appendiceal surgery. A significant difference in Clavien-Dindo scores was also observed among the groups (p=0.020). No significant difference in complication severity was found between emergency and elective surgeries (p>0.05).

Conclusion: Intestinal endometriosis is frequently operated on under incorrect preoperative diagnoses, particularly in emergency surgical settings, and a definitive diagnosis is most often established through postoperative histopathological examination. The risk of complications is significantly higher in cases with rectal involvement. Increasing clinical awareness and considering intestinal endometriosis in the differential diagnosis are crucial to prevent unnecessary extensive surgical procedures.

Keywords: Emergency surgery, intestinal endometriosis, colorectal involvement, retrospective study, diagnostic challenges

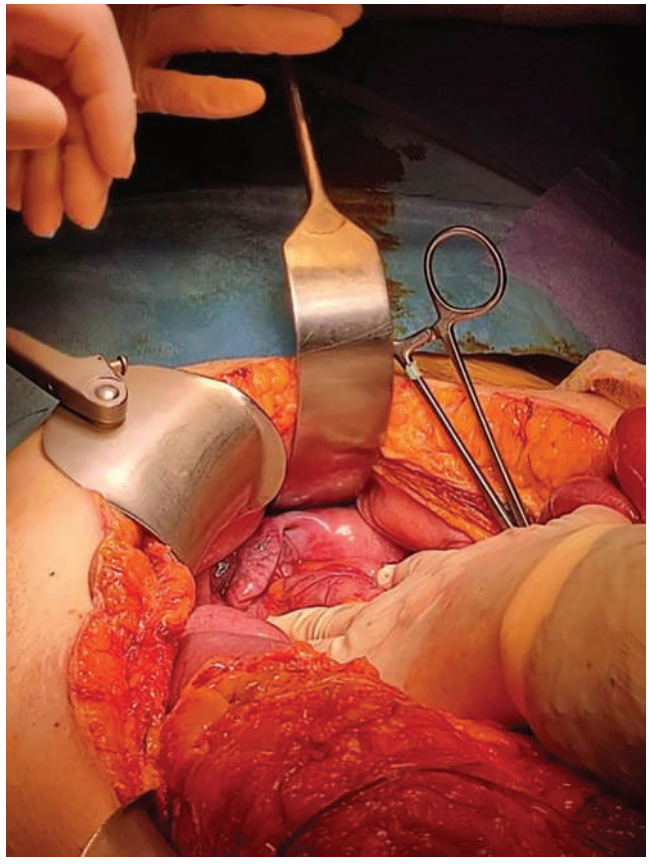

Figure 1. Intraoperative view of a strictured rectosigmoid colon segment in a patient with postmenopausal intramural endometriosis.

Figure 2. Comparison of postoperative complication rates and Clavien-Dindo scores across different surgical sites.

Group (surgical site)	Complication rate	Median Clavien-Dindo score	Notes
Appendix (Group 1)	19%	0.0	Lowest risk; many emergency appendectomies
Small Intestine (Group 2)	Intermediate	Intermediate	—
Colon (Group 3)	Intermediate	Intermediate	—
Rectum (Group 4)	80%	2.0	Highest complication rate
p-value	0.033 (Chi-square)	0.020 (Kruskal-Wallis)	Statistically significant difference

[S-274]

Beyond BMI: The impact of CT-based sarcopenic obesity on postoperative outcomes after right hemicolectomy

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Objective: Sarcopenic obesity, characterized by the coexistence of reduced skeletal muscle mass and increased visceral adiposity, represents a metabolically high-risk phenotype that cannot be adequately identified using body mass index (BMI) alone. In colorectal surgery, computed tomography (CT)-based body composition analysis has emerged as a promising tool for improving preoperative risk stratification. However, the independent and combined effects of sarcopenia and visceral obesity on postoperative outcomes remain incompletely defined.This study aimed to investigate the relationship between CT-defined sarcopenic obesity and postoperative complication severity in patients undergoing elective right hemicolectomy with ileotransversostomy.

Material and Methods: This retrospective cross-sectional study included patients who underwent elective right hemicolectomy between January and December 2024. Preoperative abdominal CT scans were analyzed at the third lumbar vertebra (L3) level. The Psoas Muscle Index (PMI, cm^2/m^2) was calculated by normalizing total psoas muscle area to height squared. Visceral fat area (VFA) was quantified using validated Hounsfield unit thresholds. Sarcopenia was defined using sex-specific PMI cut-off values validated for the Turkish population (≤5.40 cm^2/m^2 for men and ≤3.56 cm^2/m^2 for women). Visceral obesity was defined as VFA ≥100 cm^2. Patients fulfilling both criteria were classified as having sarcopenic obesity. Postoperative complications within 30 days were graded according to the Clavien-Dindo classification, and severe morbidity was defined as grade ≥III. Statistical analyses included non-parametric tests, chi-square or Fisher's exact tests, multivariable logistic regression, and receiver operating characteristic (ROC) curve analysis.

Results: Fifty-one patients were included in the final analysis. Sarcopenia and sarcopenic obesity were both significantly associated with severe postoperative complications. In contrast, visceral obesity alone was not independently associated with complication severity, likely due to its high baseline prevalence in the cohort. BMI demonstrated an inverse association with major complications, with lower BMI values observed in patients who developed severe morbidity, consistent with the obesity paradox. Multivariable logistic regression confirmed sarcopenic obesity as an independent predictor of severe postoperative complications after adjustment for age, sex, and BMI. ROC analysis showed superior discriminatory performance of CT-derived muscle indices compared with BMI. None of the evaluated body composition parameters were significantly associated with length of hospital stay.

Conclusion: CT-defined sarcopenic obesity is a strong independent predictor of major postoperative complications in elective right hemicolectomy. These findings highlight the limitations of BMI-based assessment and support the integration of CT-based skeletal muscle evaluation into preoperative risk stratification to improve identification of high-risk patients in colorectal surgery.

Keywords: Postoperative complications, right hemicolectomy, sarcopenic obesity

Table 1. Comprehensive comparison of phenotypes on surgical morbidity

Phenotype	Status	n (%)	Minor comp. (CD 1-2)	Major comp. (CD 3-5)	Mean LOS (days)
Sarcopenia	Absent	35 (68.6%)	31 (88.6%)	4 (11.4%)	8.11±3.07
	Present	16 (31.4%)	8 (50.0%)	8 (50.0%)	8.50±2.92
Visceral obesity	Absent	4 (7.8%)	2 (50.0%)	2 (50.0%)	8.25±5.62
	Present	47 (92.2%)	37 (78.7%)	10 (21.3%)	8.23±2.78
Sarcopenic obesity	Absent	37 (72.5%)	32 (86.5%)	5 (13.5%)	8.35±3.16
	Present (SO)	14 (27.5%)	7 (50.0%)	7 (50.0%)	7.93±2.59

Table 2. ROC curve analysis of body composition parameters for predicting severe postoperative complications (Clavien-Dindo ≥III)

Parameter	AUC	95% Confidence interval	p-value	Direction of effect	Interpretation
BMI	0.110	~0.01-0.28	<0.01	Inverse	Strong inverse association (obesity paradox)
PMI	0.771	~0.63-0.91	<0.001	Direct	Good discrimination
Visceral fat area	0.370	~0.19-0.55	0.21	None	Poor/not discriminatory
Sarcopenic obesity	0.702	~0.56-0.84	<0.01	Direct	Fair-good discrimination

[S-276]

Early postoperative outcomes and factors associated with major complications following ileostomy closure: A three-year single-center experience

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Objective: Diverting ileostomy is widely performed after colorectal surgery to protect the anastomosis and reduce septic complications. Although ileostomy closure is often considered a minor procedure, it is associated with considerable morbidity and occasional mortality. This study aimed to evaluate early postoperative outcomes after.

Material and Methods: In this retrospective study, 60 consecutive patients who underwent ileostomy closure at a tertiary referral city hospital between 2023 and 2025 were included. Demographic characteristics, comorbidities, indications for stoma formation, technical details of the primary surgery and closure procedure, and postoperative outcomes were recorded. The primary endpoint was the development of major complications, defined as Clavien-Dindo grade ≥3. Secondary endpoints included postoperative ileus within 30 days, length of hospital stay after closure, time to initiation of oral intake, and other early postoperative complications. Continuous variables were presented as median (interquartile range) and compared using the Mann-Whitney U test. Categorical variables were analyzed using the chi-square or Fisher's exact test, as appropriate. A p-value <0.05 was considered statistically significant.

Results: The median age was 61 years, and 68.3% of patients were male. An American Society of Anesthesiologists (ASA) score ≥3 was present in 31.7% of patients. The most common indication for ileostomy formation was colorectal malignancy (68.3%). Low anterior resection/total mesorectal excision constituted 55% of primary procedures. Most closures were performed via an open approach, and 86.7% of anastomoses were constructed using staplers. The overall major complication rate was 8.3%. Within 30 days, postoperative ileus occurred in 5%, anastomotic leakage in 3.3%, and readmission in 13.3% of patients. Surgical site infection was observed in 28.3%, predominantly superficial.Patients who developed major complications had a significantly longer postoperative hospital stay (13.5 vs. 6 days, p=0.009) and delayed initiation of oral intake (p=0.007). No significant associations were identified between major complications and age, body mass index, ASA score, comorbidities, stoma duration, primary surgical approach, or anastomotic technique.

Conclusion: Although the rate of major complications following ileostomy closure is relatively low, affected patients experience significantly prolonged postoperative recovery. Length of hospital stay and delayed oral intake appear to be key clinical indicators associated with major complications. Careful patient selection and close perioperative monitoring may help reduce early postoperative morbidity.

Keywords: Ileostomy, ileostomy closure, postoperative complications

Table 1.

Postoperative outcome	n (%)
Major complications	5 (8.3%)
30-day mortality	3 (5.0%)
Postoperative ileus (within 30 days)	3 (5.0%)
Surgical site infection (overall)	17 (28.3%)
Superficial	13 (21.7%)
Deep	2 (3.3%)
Organ/space	2 (3.3%)
Anastomotic leakage (within 30 days)	2 (3.3%)
Reoperation	4 (6.6%)
Readmission (within 30 days)	8 (13.3%)
Stoma-site hernia (within 6 months)	2 (3.3%)

Table 2. Comparison of patients with and without major postoperative complications

Variable	No major complication (n=55)	Major complication (n=5)	p-value
Age (years)	61.0 (49.0-68.0)	70.0 (58.0-76.2)	0.358
BMI (kg/m^2)	25.7 (22.2-29.3)	25.9 (24.4-26.9)	0.988
Stoma duration (days)	227.0 (158.8-356.0)	250.0 (146.5-405.5)	0.957
Length of stay after closure (days)	6.0 (5.0-7.0)	13.5 (10.8-71.2)	**0.009**
Time to first flatus (post-op day)	3.0 (2.0-3.0)	3.0 (2.8-3.2)	0.482
Time to oral intake (days)	3.0 (2.0-3.0)	5.0 (4.0-8.2)	**0.007**

[S-278]

Anti-adhesive, anti-inflammatory, antioxidant and histopathological effects of ficus carica extract on postoperative intra-abdominal adhesions in an experimental rat model

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Objective: Peritoneal adhesions are fibrous structures that develop as a result of abnormal peritoneal wound healing following surgical trauma, inflammation, or mesothelial injury. They occur in more than half of abdominal surgeries and represent a major cause of postoperative morbidity, leading to complications such as chronic abdominal pain, infertility, and intestinal obstruction. Oxidative stress, inflammation, and impaired fibrinolysis play key roles in the pathogenesis of adhesion formation. Ficus carica has been traditionally used for medicinal purposes and has demonstrated antioxidant and anti-inflammatory properties; however, its effects on intra-abdominal adhesions have not been previously investigated.

Material and Methods: This experimental study was conducted at the Experimental Animal Laboratory of Kütahya Health Sciences University following approval from the Local Ethics Committee for Animal Experiments (approval no: 2024.11.01, date: 27.11.2024). Twenty-four male Sprague-Dawley rats (250-300 g) were randomly divided into three groups: control (n=8), intra-abdominal adhesion (sham) (n=8), and FCE treatment (n=8). In adhesion-induced groups, the FCE group received oral Ficus carica extract at a dose of 500 mg/kg/day, while the sham group received an equivalent volume of saline. At the end of the experiment, all animals were sacrificed under ketamine-xylazine anesthesia. Tissue samples were analyzed for total oxidant status (TOS), total antioxidant status (TAS), oxidative stress index (OSI), inflammatory cytokines (IL-1β, TNF-α), and apoptosis markers (cytochrome c, caspase-3). Macroscopic and histopathological evaluations were also performed.

Results: Compared with the control group, the intra-abdominal adhesion group demonstrated significantly increased TOS, OSI, IL-1β, TNF-α, cytochrome c, and caspase-3 levels, along with decreased TAS levels ($p<0.001$). In the FCE-treated group, TAS levels were significantly increased, whereas TOS and OSI levels were markedly reduced ($p<0.001$). In addition, FCE treatment resulted in significant reductions in inflammatory cytokines and apoptosis markers. Macroscopic and histopathological assessments revealed significantly lower fibrosis, inflammation, and adhesion scores in the FCE group compared with the adhesion group ($p<0.001$).

Conclusion: Ficus carica extract significantly reduced oxidative stress, inflammation, apoptosis, and adhesion formation in an experimental intra-abdominal adhesion model. These findings suggest that Ficus carica extract may be a promising agent for the prevention of postoperative intra-abdominal adhesions.

Keywords: Ficus carica, intra-abdominal adhesion, oxidative stress, inflammation, apoptosis

Figure 4. Exposure of the lateral abdominal wall and the ileocecal junction following laparotomy.

Figure 5. Creation of a sharp and blunt adhesion model on the lateral abdominal wall and the ileocecal junction.

Figure 7. Evaluation of intra-abdominal adhesions during relaparotomy.

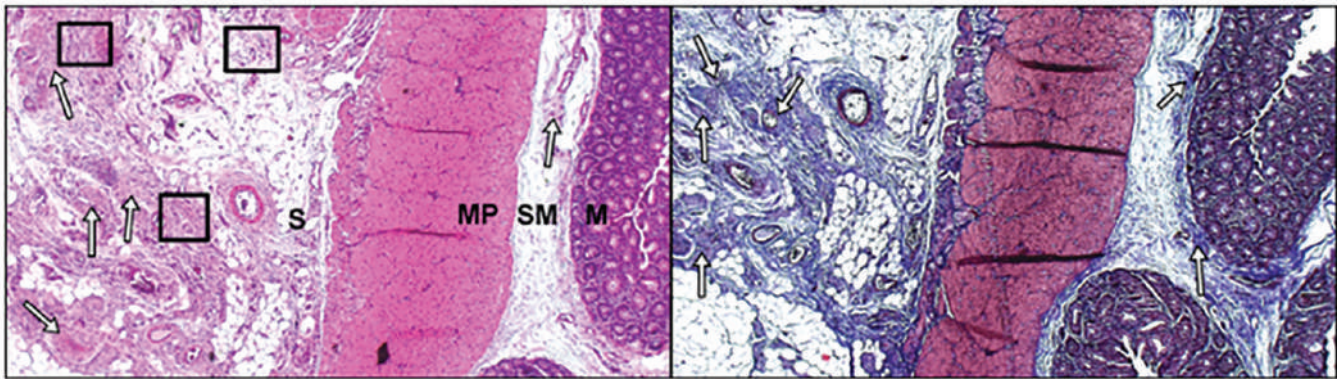

Figure 8. Tissue samples from the IAA group, score 3 (H&E ×5, Masson's trichrome ×5).

S: Serosa, MP: Muscularis propria, SM: Submucosa, M: Mucosa, White arrow: Moderate fibrosis, Square: Moderate inflammatory cell infiltration.

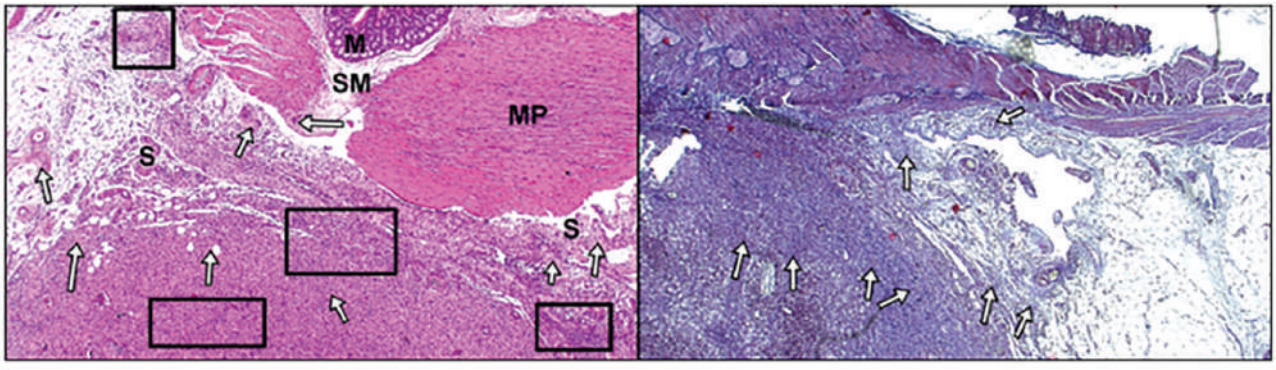

Figure 9. Tissue samples from the treatment group, score 1 (H&E ×5, Masson's trichrome ×5).

S: Serosa, MP: Muscularis propria, SM: Submucosa, M: Mucosa, White arrow: Dense fibrosis, Square: Diffuse inflammatory cell infiltration.

[S-280]

Textbook outcome after colon cancer surgery: A nationwide multicenter analysis from the TSCRS registry

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Objective: Textbook outcome (TO) has emerged as a composite quality indicator reflecting the ideal perioperative course following colon cancer surgery. This study aimed to evaluate nationwide TO rates and to identify clinical and surgical factors associated with TO achievement using a national colorectal cancer registry.

Material and Methods: This retrospective multicenter study was conducted using the Turkish Society of Colon and Rectal Surgery Colorectal Cancer Registry. Patients who underwent curative-intent surgery for colon cancer between July 2018 and December 2024 were included. TO was defined as the simultaneous achievement of the following criteria: R0 resection, retrieval of ≥12 lymph nodes, absence of major postoperative complications (Clavien-Dindo grade ≥III), no 30-day mortality, no 30-day readmission, no reoperation, and no unplanned stoma formation. Factors associated with TO achievement were evaluated using univariate analyses and multivariate binomial logistic regression modeling.

Results: A total of 1.453 patients were analyzed. Among TO components, retrieval of ≥12 lymph nodes was achieved in 92.8% of patients, absence of major complications in 90.0%, and absence of 30-day mortality in 98.1%. Rates of no 30-day readmission and no reoperation were 92.6% and 93.7%, respectively, while absence of unplanned stoma formation was observed in 85.4% of patients. In univariate analyses, TO achievement was significantly associated with younger age, female sex, lower ASA score, elective surgery, minimally invasive surgical approach, and avoidance of extended resection (all $p<0.05$). Multivariate analysis demonstrated that ASA class III-V [odds ratio (OR)=1.55, p=0.005], receipt of neoadjuvant therapy (OR=2.13, $p<0.001$), emergency surgery (OR=4.65, $p<0.001$), and left-sided tumor location (OR=1.95, $p<0.001$) were independently associated with an increased risk of TO failure. In contrast, a minimally invasive surgical approach (OR=0.39, $p<0.001$) and avoidance of extended resection (OR=0.62, p=0.021) were identified as independent protective factors against TO failure.

Conclusion: In this nationwide multicenter analysis, TO achievement following colon cancer surgery was strongly influenced by patient physiological status, surgical timing, and operative strategy rather than surgical technique alone. These findings support the role of TO as a comprehensive, reliable, and comparable quality metric for evaluating surgical performance in colon cancer care at the national level.

Keywords: Colon cancer, multicenter study, surgical quality, textbook outcome

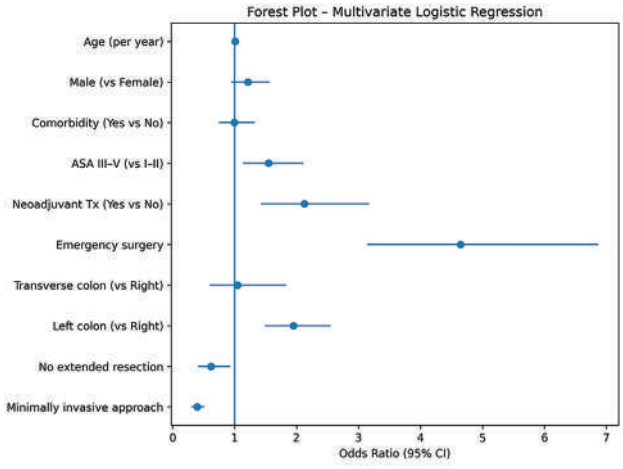

Figure 1. Forest plot of multivariate logistic regression analysis. Dots represent adjusted ORs and horizontal lines indicate 95% confidence intervals. The vertical dashed line represents the reference value (OR=1).

[S-281]

Timing of protective loop ileostomy closure and independent predictors of major complications: A single-center retrospective analysis

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Objective: Protective loop ileostomy is commonly performed in colorectal cancer surgery to mitigate the clinical consequences of anastomotic leakage. However, ileostomy itself may cause dehydration, electrolyte imbalance, renal dysfunction, weight loss, and impaired quality of life. The optimal timing of closure remains controversial. Early closure may reduce stoma-related metabolic complications but could increase postoperative morbidity due to repeated surgical stress. Delayed closure allows systemic recovery but prolongs stoma-related risks. This study aimed to compare early and late ileostomy closure outcomes and identify predictors of major postoperative complications.

Material and Methods: A retrospective review was conducted of 158 adult patients who underwent elective closure of protective loop ileostomy following colon cancer resection between January 2023 and December 2025. Closure performed <12 weeks after primary surgery was defined as early, and ≥12 weeks as late. Demographics, ASA scores, ileostomy duration, preoperative weight loss, dehydration, electrolyte and renal dysfunction, and laboratory parameters (creatinine, sodium, hemoglobin, albumin) were recorded. Postoperative complications were graded according to the Clavien-Dindo classification; grade ≥3 was defined as major complications.

Results: The median age was 62.5 years (26-94), and 55.1% were male. Median ileostomy duration was 180 days. Early closure was performed in 23.4% of patients and late closure in 76.6%. The overall complication rate was 57.6%, with a major complication rate of 18.3%. Anastomotic leakage occurred in 3.8%, postoperative ileus in 47.5%, and surgical site infection in 23.4%. Reoperation was required in 13.3% of patients; no in-hospital mortality occurred. Median hospital stay was 7 days. Major complications (p=0.011) and surgical site infections (p=0.018) were significantly more frequent in the early closure group, which also had a longer hospital stay (10 vs. 7 days, p=0.009). No differences were observed in anastomotic leakage or ileus rates. Patients with major complications had significantly lower preoperative hemoglobin (p=0.016) and albumin (p=0.038) levels.

Conclusion: Loop ileostomy closure is safe regarding mortality but associated with considerable morbidity. Early closure may not be suitable for all patients. Preoperative anemia and hypoalbuminemia appear to be significant risk factors for major complications. Closure timing should be individualized based on clinical and biochemical status rather than time interval alone.

Keywords: Loop ileostomy, colon cancer, postoperative morbidity

Table 1. Analysis of factors predicting major postoperative complications (Clavien-Dindo ≥3)

Parameters		No complications and Clavien-Dindo minor complication	Clavien-Dindo major complication	p-value
Age (years)		62 (26-94)	64 (38-82)	*0.235
BMI		25 (17-37.5)	24.2 (20-31.8)	*0.485
Stay duration (days)		7 (4-15)	10 (4-32)	***0.027**
Preoperative weight loss percentage (%)		5 (0-26.4)	5 (0-20)	*0.743
Preoperative creatinine		0.88 (0.29-2.58)	0.89 (0.37-6.03)	*0.817
Preoperative sodium		140 (119-159)	140 (130-154)	*0.816
Preoperative hemoglobin		12.3 (7.4-17.7)	10.8 (8.7-15.1)	***0.016**
Preoperative albumin		42 (19-54)	37 (19-51)	***0.038**
Gender	Woman	56 (78.9%)	15 (21.1%)	**0.416
	Male	73 (83.9%)	14 (16.1%)	
Ostomy closure method	Manually	20 (83.3%)	4 (16.7%)	**0.817
	Stapler with	109 (81.3%)	25 (18.7%)	
Ostomy closure technique	End to end	19 (79.2%)	5 (20.8%)	**0.776
	Side by side	110 (82.1%)	24 (17.9%)	
ASA score	2 and below	77 (86.5%)	12 (13.5%)	**0.072
	3 and above	52 (75.4%)	17 (24.6%)	

Table 2. Comparison of clinical outcomes between early (<12 weeks) and late (>12 weeks) ileostomy closure				
Parameters		**Early closure**	**Late closing**	**p-value**
Gender	Woman	23 (32.4%)	48 (67.6%)	***0.016**
	Male	14 (16.1%)	73 (83.9%)	
Postoperative anastomotic leakage	None	36 (23.7%)	116 (76.3%)	*0.980
	There is	1 (16.7%)	5 (83.3%)	
Postoperative ileus condition	None	18 (21.7%)	65 (78.3%)	*0.589
	There is	19 (25.3%)	56 (74.7%)	
Postoperative wound infection	None	23 (19%)	98 (81%)	***0.018**
	There is	14 (37.8%)	23 (62.2%)	
Second operation during hospitalization	None	32 (23.4%)	105 (76.6%)	*0.964
	There is	5 (23.8%)	16 (76.2%)	
Postoperative complications	No complications and Clevien-Dindo minor complication (<2)	25 (19.4%)	104 (80.6%)	***0.011**
	Clavien-Dindo major complications (>3)	12 (41.4%	17 (58.6%)	
Age (years)		63 (27-83)	62 (26-94)	**0.805
BMI		26 (19-31.8)	25 (17-37.5)	**0.921
Stay duration (days)		10 (4-32)	7 (4-26)	****0.009**

[S-282]

Anastomosis or stoma in obstructed colorectal cancer undergoing emergency resection? A single-center experience

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Objective: Obstructed colorectal cancer is a clinical condition observed in approximately 10-18% of patients with colorectal cancer and requires emergency surgery. Compared to elective surgery, resections performed under emergency conditions are associated with higher postoperative morbidity and mortality rates. In patients operated on due to obstruction, the choice between primary anastomosis and stoma formation after resection varies depending on patient characteristics, tumor factors, and intraoperative findings, and there is no clear consensus on this issue. This study aimed to evaluate the preferred surgical approaches and the factors influencing this preference in patients who underwent emergency resection for obstructed colorectal cancer.

Material and Methods: Patients who underwent emergency right hemicolectomy, left hemicolectomy, segmental colon resection, anterior resection, or low anterior resection at our center between January 2021 and December 2022 were retrospectively evaluated. Patients diagnosed with obstructed colorectal adenocarcinoma who underwent resection were included in the study. Obstructions due to benign causes (diverticulitis, volvulus, etc.), patients who underwent stoma formation alone, and obstructions secondary to non-colorectal malignancies were excluded. Surgical procedures were classified as resection/primary anastomosis, resection/end stoma, and resection/primary anastomosis with diverting loop stoma. Patients were analyzed in two main groups: primary anastomosis and stoma formation. Demographic characteristics, comorbidities, pathological data, and survival outcomes were compared between the groups.

Results: A total of 84 patients were included in the study. The mean age was 63.4±14.7 years, and 64.3% were male. Tumors were located in the left colon in 66.7% of patients and in the right colon in 27.4%. Pathological examination revealed that 52.4% of cases were T4 stage and 55.4% were node-positive. The rate of positive surgical margins was 20.2%. The median follow-up period was 39 months (IQR: 35.2). Regarding surgical method, 40.5% of patients underwent primary anastomosis, 52.4% underwent resection with end stoma, and 7.1% underwent primary anastomosis with diverting stoma. The overall mortality rate was 51.2%. Mortality was 38.2% (13/34) in patients who underwent primary anastomosis and 60.0% (30/50) in those who had stoma formation. A borderline statistically significant difference in mortality was observed between the two groups (p=0.05).

Conclusion: In patients undergoing emergency resection for obstructed colorectal cancer, the choice of surgical approach shows a heterogeneous distribution. In our study, mortality was higher in patients who underwent stoma formation, and this difference was at the threshold of statistical significance. These findings suggest that patient and tumor characteristics are determinants in surgical strategy selection; however, multivariate analyses are needed to demonstrate the effect on mortality.

Keywords: Emergency surgery, obstructed colorectal cancer, primary anastomosis and stoma

Table 1. Tumor characteristics, surgical procedures, and oncological outcomes (n=84)

Tumor location, n (%)	
Right colon	23 (27.4%)
Left colon	56 (66.7%)
Transvers colon	3 (3.6%)
Synchronous tumor	2 (2.4%)
Surgical procedure, n (%)	
Primary anastomosis	34 (40.5%)
Primary anastomosis + end stoma	44 (52.4%)
Primary anastomosis + protective stoma	6 (7.1%)
Closed obstruction, n (%)	
Yes	48 (57.1%)
No	36 (42.9%)
Presence of perioperative distant metastasis, n (%)	
Yes	20 (23.8%)
No	64 (76.2%)
T stage, n (%)	
T2	2 (2.4%)
T3	38 (45.2%)
T4	44 (52.4 %)
N stage, n (%)	
N0	37 (44.6%)
N1	28 (33.7%)
N2	18 (21.7%)
Number of lymph nodes, median (IQR)	18 (13)
Surgical margin positivity, n (%)	
Negative	67 (79.8%)
Positive	17 (20.2%)
Mortality, n (%)	
Yes	43 (51.2%)
No	41 (48.8%)
Follow-up duration, median (IQR)	39 (35.2)

Table 2. Demographic and clinical characteristics of the patients (n=84)

Variable	**Value**
Age (years), mean ± SD	63.4±14.7
Body mass index (kg/m^2), mean ± SD	26.3±4.5
Gender, n (%)	
Female	30 (35.7%)
Male	54 (64.3%)
Smoking status, n (%)	
Yes	33 (39.3%)
No	51 (60.7%)
COPD, n (%)	
Yes	4 (4.8%)
No	80 (95.2%)
Diabetes mellitus, n (%)	
Yes	22 (26.2%)
No	61 (73.8%)
Cardiac disease, n (%)	
Yes	12 (14.3%)
No	72 (85.7%)
Hypertension, n (%)	
Yes	31 (36.9%)
No	53 (63.1%)

[S-283]

Prognostic impact of the number of lymph nodes on disease-free survival in node-negative colorectal cancer

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Objective: Adequate lymph node evaluation in colorectal cancer is a key quality indicator for accurate staging and treatment planning. Guidelines recommend examination of at least 12 lymph nodes. However, studies investigating the association between number of harvested lymph nodes and prognosis continue published. This study aimed to evaluate additional prognostic value of higher lymph node dissection on survival outcomes in node-negative colorectal cancer patients.

Material and Methods: Patients who underwent curative surgery between 2016 and 2023 at Marmara University Pendik Training and Research Hospital and were pathologically node-negative were retrospectively analyzed. Demographic characteristics, comorbidities, laboratory parameters, operative features, and pathological findings were compared. ROC curve and Youden index analyses were performed to determine the lymph node cut-off value for disease-free survival. Patients were divided into two groups according to lymph node count: <16.5 (n=125) and >16.5 (n=117). Overall survival and disease-free survival were evaluated using the Kaplan-Meier method, and prognostic factors were analyzed with Cox regression.

Results: A total of 242 node-negative colorectal cancer patients were included. No significant differences were observed between groups regarding age, sex, comorbidities, body mass index, ASA score, hemoglobin, albumin, CEA, and CA 19-9 levels (p>0.05). Right-sided colon tumors were more frequent in the >16.5 group (43% vs. 18%), whereas left-sided tumors were more common in the <16.5 group (47% vs. 29%) (p<0.001). Median tumor diameter was larger in the high lymph node group (50 mm vs. 35 mm, p<0.001). Postoperative complication rate, hospital stay, and mortality did not differ (p>0.05). Operation time was shorter in the >16.5 group (p=0.013). Pathological stage II disease was more frequent in the >16.5 group (p=0.007). Kaplan-Meier analysis showed significantly longer overall survival and disease-free survival in the >16.5 lymph node group (p=0.039 and p=0.031, respectively). In multivariate Cox regression for overall survival, tumor stage and preoperative hemoglobin level were independent prognostic factors (p<0.001 and p=0.015). Although lymph node count <16.5 was significant in univariate analysis, it lost significance in multivariate analysis. For disease-free survival, stage and <16.5 lymph nodes were identified as independent adverse prognostic factors.

Conclusion: Although the minimum lymph node number recommended in guidelines is necessary for adequate staging in node-negative colorectal cancer, a higher lymph node count may provide additional prognostic information, particularly for disease-free survival. This finding suggests that a high lymph node yield may reflect tumor biology rather than surgical quality alone. Therefore, lymph node count may be considered a parameter for risk stratification beyond standard staging.

Keywords: Node-negative colorectal cancer, lymph node yield, disease-free survival

[S-284]

Is the risk of liver metastasis in patients with colorectal cancer predictable?

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Objective: Colorectal cancers are the second leading cause of cancer-related mortality worldwide. Disease stage at diagnosis is the most important prognostic factor. The most significant cause of mortality is distant organ metastasis, with the liver being the most common site of distant metastasis. Liver metastases not detected at diagnosis may appear months or years after resection of the primary tumor. Therefore, it is important to assess the risk factors for liver metastasis beforehand. Our study aimed to investigate the clinical, pathological, and laboratory parameters indicating the risk of liver metastasis after resection of the primary tumor in patients who did not have liver metastasis at the time of diagnosis.

Material and Methods: Our study included 349 patients over 18 years of age who underwent surgery for colorectal cancer between January 2018 and April 2023 and did not have hepatic or extrahepatic metastases. In 22 of these patients, liver metastases were observed within 2 years after surgery, as revealed by radiological imaging and histopathological examinations. Demographic characteristics, tumor localization, tumor markers (CEA, CA 19-9), pathological features, and inflammatory markers (neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio, and C-reactive protein-to-albumin ratio) were analyzed. Data from the 22 patients with liver metastases were compared with data from the 327 patients without liver metastases.

Results: Our study showed that tumors located on the left side had approximately 5.5 times higher risk of developing liver metastasis compared to those located on the right side. While CEA levels, platelet/lymphocyte ratio, T-stage, and lymph node positivity were found to be significantly associated with the risk of liver metastasis, no significant association was found between gender, neoadjuvant treatment, neutrophil/lymphocyte ratio, and CRP/albumin ratio and the development of liver metastasis.

Conclusion: In patients with colorectal cancer, the risk of liver metastasis can be predicted preoperatively based on blood CEA levels, platelet/lymphocyte ratio, tumor localization, T-stage, and lymph node positivity. These markers can be used to determine the follow-up and treatment plan for high-risk patients.

Keywords: Colorectal cancer, liver metastasis, inflammatory markers

[S-286]

The role of machine learning models in predicting long-term disease progression in right-sided colon cancer

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Objective: Accurate prediction of long-term disease progression in patients with right-sided colon cancer (RCC) is essential for individualized surveillance and optimization of adjuvant therapy. Conventional statistical methods have limitations in analyzing complex, multidimensional clinical data. Machine learning (ML) approaches offer promising alternatives for outcome prediction. This study aimed to identify factors associated with long-term progression after curative surgery for RCC and to compare the predictive performance of different ML models.

Material and Methods: This retrospective study included patients who underwent curative surgery for RCC between 2016 and 2023. Patients were categorized according to long-term postoperative progression status. Demographic data, preoperative laboratory parameters, operative variables, and pathological findings were collected from institutional records. Continuous variables were analyzed using the Student's t-test or Mann-Whitney U test, and categorical variables using the chi-square or Fisher's exact test. For predictive modeling, all variables were integrated into a unified dataset. Logistic regression, k-nearest neighbors, support vector machines, decision tree, random forest, extra trees, XGBoost, LightGBM, and multilayer perceptron (MLP) models were applied. Model generalizability was enhanced using 10-fold stratified cross-validation and GridSearch-based hyperparameter optimization. Performance was evaluated using ROC-AUC, sensitivity, specificity, and Cohen's kappa.

Results: A total of 385 patients were analyzed; 30 (7.8%) developed long-term progression. No significant differences were observed between groups in demographic characteristics or laboratory parameters. However, perineural invasion (57% vs. 32%, p=0.007) and positive surgical margins (10% vs. 1.1%, p<0.001) were significantly more frequent in patients with progression. Multivariable Cox regression identified perineural invasion (HR=2.41, p=0.027) and positive surgical margins (HR=5.80, p=0.004) as independent risk factors. Among ML models, random forest achieved the highest overall performance (AUC=0.77). XGBoost demonstrated strong specificity (0.91) with an AUC of 0.75. Logistic regression (AUC=0.56) and MLP (AUC=0.52) showed limited predictive ability. Feature importance analysis highlighted CA19-9, body mass index, CEA, age, and lymphocyte count as key predictors.

Conclusion: Ensemble-based ML models outperform conventional statistical approaches in predicting long-term progression in RCC. Integrating tumor markers, inflammatory and nutritional parameters, and pathological features may improve risk stratification and support personalized follow-up strategies.

Keywords: Long-term progression, machine learning, right colon cancer

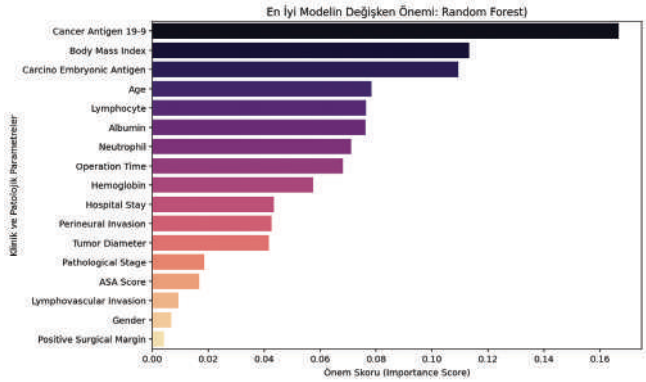

Figure 1. Feature importance plot of the best model (random forest).

[S-287]

Long-term recurrence and quality of life after open wells rectopexy: A single-center experience

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Objective: Rectal prolapse is a debilitating condition that significantly impairs quality of life, and surgery remains the mainstay of treatment in adults. Despite numerous described techniques, no universally accepted gold standard exists, and long-term data on open posterior rectopexy are limited. This study evaluates long-term recurrence and quality of life outcomes following open Wells (posterior mesh) rectopexy.

Material and Methods: This single-center retrospective cohort study included adult patients who underwent elective open Wells rectopexy for internal or external rectal prolapse between January 2015 and August 2025. Demographic, clinical, and operative data were collected retrospectively from hospital records. Postoperative recurrence, fecal continence status, and quality of life were assessed through structured telephone interviews. Disease-specific quality of life was evaluated using the validated Turkish version of the PAC-QOL questionnaire.

Results: Twenty-one patients were included, with a mean age of 46.8±16.5 years, and 61.9% were female (Table 1). Rectal prolapse recurrence occurred in 14.3% of patients, and incisional hernia was observed in 23.8% (Table 2). The median PAC-QOL score was 0.6 (1.7), and higher PAC-QOL scores were significantly associated with longer postoperative hospital stay (p=0.02).

Conclusion: Open Wells rectopexy is associated with low recurrence rates in rectal prolapse. However, incisional hernia remains an important limitation of the open approach, and quality of life outcomes assessed by PAC-QOL indicate that functional results may not be optimal in all patients.

Keywords: Rectal prolapse, Wells rectopexy, quality of life

Table 1. Preoperative demographic and clinical characteristics (n=21)

Variable	Value
Age (years), mean ± SD	46.8±16.5
Body mass index (kg/m²), mean ± SD	25.8±3.7
Sex, n (%)	
Female	13 (61.9%)
Male	8 (38.1%)
Rectal prolapse type, n (%)	
Internal	8 (38.1%)
External	13 (61.9%)
Preoperative MR defecography, n (%)	
Performed	14 (66.7%)
Not performed	7 (33.3%)
Preoperative colonoscopy, n (%)	
Normal	9 (42.9%)
Rectal ulcer	8 (38.1%)
Not performed	4 (19.0%)
Previous abdominal surgery, n (%)	
Yes	8 (38.1%)
No	13 (61.9%)
Previous perineal surgery, n (%)	
Yes	3 (14.3%)
No	18 (85.7%)
ASA physical status, n (%)	
ASA I	6 (30.0%)
ASA II	12 (60.0%)
ASA III	2 (10.0%)
Preoperative fecal incontinence, n (%)	
Yes	3 (14.3%)
No	18 (85.7%)

Table 2. Postoperative outcomes and follow-up results (n=21)

Outcome	Value
Length of hospital stay (days), mean ± SD	3.8±1.6
Incisional hernia, n (%)	
Yes	5 (23.8%)
No	16 (76.2%)
Recurrence of rectal prolapse, n (%)	
Yes	3 (14.3%)
No	18 (85.7%)
Postoperative fecal incontinence, n (%)	
Absent	16 (76.2%)
Improved	2 (9.5%)
Worsened	3 (14.3%)
PAC-QOL score, median (IQR)	0.6 (1.7)

[S-289]

Investigation of peritoneal metastasis patterns in metastatic colon cancer: Clinical and pathological factors associated with peritoneal spread

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Objective: Peritoneal metastasis is associated with poor prognosis in metastatic colon cancer and represents a critical pattern of spread guiding treatment strategies. This study aimed to identify clinical and pathological factors associated with the presence of peritoneal metastasis in patients with metastatic colon cancer.

Material and Methods: Patients who underwent surgery for colon cancer between May 2019 and August 2025 were retrospectively reviewed, and 120 patients with metastatic disease at the time of surgery were identified. After excluding those who received neoadjuvant therapy and those with missing data, 104 metastatic patients aged over 18 years were included in the analysis. Peritoneal metastasis was diagnosed based on radiological, surgical, and/or pathological findings. Evaluated variables included age, sex, primary tumor location (right vs. left colon), histopathological subtype, pT and pN stage, tumor differentiation, lymphovascular invasion, perineural invasion, tumor budding, and MMR/MSI status. Factors associated with peritoneal metastasis were first analyzed using univariate methods, followed by multivariate logistic regression including clinically relevant variables. A p-value <0.05 was considered statistically significant.

Results: Peritoneal metastasis was present in 25 of 104 metastatic patients (24%). In univariate analysis, female sex, right-sided colon location, mucinous histology, and T4 tumors were significantly associated with peritoneal metastasis. In multivariate analysis, right-sided colon location and mucinous adenocarcinoma histology emerged as independent risk factors, while pT stage, pN stage, differentiation, lymphovascular and perineural invasion, tumor budding, and MMR/MSI status were not independently associated.

Conclusion: This study demonstrates that in stage IV colon cancer, right-sided tumor location and mucinous adenocarcinoma histology are independent risk factors for peritoneal metastasis. These findings suggest that even in the metastatic setting, the biological characteristics of the primary tumor continue to shape the pattern of metastatic spread. Peritoneal dissemination appears not to be random but influenced by tumor location and histology, and these features may help identify patients at higher risk for peritoneal involvement.

Keywords: Peritoneal metastasis, colon cancer

[S-290]

Predictive value of the modified frailty index (mFI-5) score for postoperative morbidity and mortality in geriatric patients undergoing emergency colorectal surgery

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Objective: Emergency colorectal surgery in geriatric patients is associated with a high risk of morbidity and mortality due to reduced physiological reserve, comorbidities, and frailty. In this population, traditional indicators such as chronological age and the ASA score may not always be sufficient to predict postoperative outcomes. The modified frailty index-5 (mFI-5) is a frailty assessment tool that incorporates comorbid conditions and functional dependence. The aim of this study was to evaluate the predictive value of the mFI-5 score for postoperative morbidity and mortality in patients aged 65 years and older undergoing emergency colorectal surgery.

Material and Methods: A total of 44 patients aged ≥65 years who underwent emergency colorectal surgery for malignant or benign indications in the general surgery department of a tertiary referral training and research hospital between January 2020 and January 2025 were included. Clinical and medical record data were retrospectively reviewed and statistically analyzed.

Results: The mFI-5 score distribution of the 44 patients was categorized into two groups: low frailty (mFI-5 0-1; n=29) and high frailty (mFI-5 ≥2; n=15). The overall postoperative morbidity rate was 27.3% (12/44), the rate of severe morbidity (Clavien-Dindo ≥3) was 13.6% (6/44), and the 30-day mortality rate was 9.1% (4/44). The rate of overall postoperative morbidity was significantly higher in the high frailty group compared to the low frailty group (66.7% vs. 6.9%; p<0.001). Similarly, severe morbidity was more frequent in the high frailty group (33.3% vs. 3.4%; p=0.013). In multivariate regression analysis, frailty remained an independent predictor of overall postoperative morbidity after adjustment for clinical and laboratory variables (OR=137.52; p=0.028).

Conclusion: This study demonstrates that the mFI-5 score is a clinically meaningful predictor of postoperative morbidity and severe morbidity in geriatric patients undergoing emergency colorectal surgery. Owing to its simplicity and rapid applicability, mFI-5 may contribute to risk stratification in emergency surgical settings and serve as a useful tool in perioperative management.

Keywords: Emergency colorectal surgery, geriatric patient, frailty (mFI-5)

[S-292]

The effect of topical oxygen therapy on the immune microenvironment, hypoxia, and oxidative stress in diabetic foot ulcers: Clinical and tissue analysis

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Objective: Hypoxia, inflammation, and immune dysfunction are major pathophysiological mechanisms that impair wound healing in diabetic foot ulcers. Although hyperbaric oxygen therapy improves tissue oxygenation, its use may be limited in patients with significant comorbidities or restricted access to treatment. Topical oxygen therapy (TOT) enhances local oxygen delivery without systemic effects and may represent a practical alternative. This study aimed to evaluate the effects of TOT (Granulox®) on immune cell profile, hypoxia response, and oxidative stress markers at the tissue level and to explore their relationship with clinical healing.

Material and Methods: Clinical follow-up demonstrated a significant reduction in wound size, with a mean decrease exceeding 40%. Complete epithelialization occurred in 2 patients (4.5%), while the remaining patients showed progressive wound contraction. Flow cytometry revealed immune modulation with increases in both M1 and M2 macrophage populations. Biochemical analysis showed decreased HIF-1α levels, increased VEGF levels, a downward trend in IL-6, reduced TOS and OSI, and increased TAS. Changes in adiponectin and kisspeptin levels were consistent with improved wound healing. These findings indicate that TOT reduces hypoxia and modulates inflammatory and oxidative pathways in the wound microenvironment.

Results: In clinical follow-up after TOT, a marked reduction in wound size was observed, with a mean wound area reduction exceeding approximately 40%. During the follow-up period, complete epithelialization was achieved in 2 patients (4.5%), while progressive reduction in wound area was observed in the remaining cases. Flow cytometry analysis demonstrated changes in the wound microenvironment consistent with an immune response, with increases observed in both M1 (CD38) and M2 (CD209) macrophage populations (Figure 1). Biochemical analyses revealed: a decrease in HIF-1α levels,an increase in VEGF levels, a trend toward decreased IL-6 levels,reductions in TOS and OSI, and an increase in TAS levels. Changes in adiponectin and kisspeptin levels were observed in a direction consistent with wound healing (Figure 2). When clinical and molecular findings were evaluated together, TOT was found to reduce hypoxia in the wound microenvironment while promoting immunomodulation and regulation of oxidative stress. Flow cytometry analysis demonstrates the proportions of $CD38^+$ (M1) and $CD209^+$ (M2) macrophages before and after treatment. A statistically significant increase in both $CD38^+$ and $CD209^+$ cell percentages was observed following TOT ($^*p<0.05$). Paired analyses demonstrate that TOT decreased HIF-1α, IL-6, TOS, Kisspeptin, and OSI levels, while increasing VEGF165, adiponectin, and TAS levels compared with pre-treatment values. These findings indicate modulation of hypoxia signaling, inflammation, angiogenesis, and oxidative balance following treatment.

Conclusion: TOT accelerates clinical healing in diabetic foot ulcers while exerting regulatory effects on immune response, hypoxia, and oxidative stress. The combined clinical and molecular evidence supports TOT as a treatment modality with a strong pathophysiological basis and potential role as an alternative option in diabetic foot management.

Keywords: Hypoxia response, immunomodulation, topical oxygen therapy

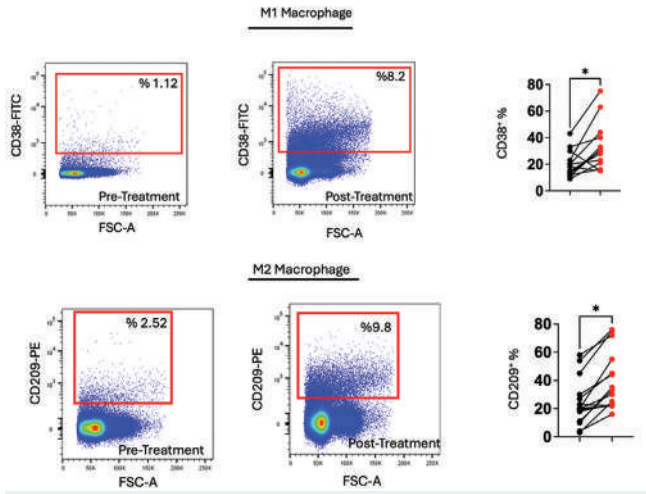

Figure 1. Effect of topical oxygen therapy on macrophage polarization.

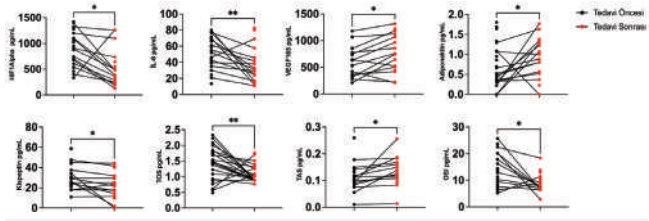

Figure 2. Effect of topical oxygen therapy on inflammatory, angiogenic, and oxidative stress markers.

[S-293]

Evaluation of the child burn cases at the burn center over the last 30 months

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Objective: Treatment and outcomes for childhood burns differ from those for adults. Our burn center has a history of over 10 years, and we wanted to share the results of pediatric burns treated in our new hospital with our new infrastructure.

Material and Methods: In a retrospective study of 138 cases whose treatment was completed between May 1, 2023, and January 1, 2026, demographic data, burn percentages and locations, abbreviated burn injury scale (ABSI) scores, etiology, compartment syndrome, inhalation burns; escharectomy percentage, use of assistive devices, number and percentage of grafts were evaluated. Burn infections and sepsis; need for intensive care, intubation rates and duration, mortality rate; and complications that developed in the cases were also assessed.

Results: Olguların 58'i (%42,0) kadın, 80'i (%58,0) erkekti. Ortalama yaş 5,41 (0-17) olup, 14'ü (%10,1) göçmendi. Yanık yüzde alanı ortalaması %14,76 (2-89) olup, yüz-baş-boyun yanıkları 49 (%35,5), gövde yanıkları 70 (%50,7), ekstremite yanıkları 121 (%87,6) olguda mevcuttu. Haşlanma yanıkları 106 (%76,8) olguda, alev-temas yanıkları 28 (%20,2) olguda, elektrik yanıkları 4 (%2,8) olguda görüldü. ABSI skorlarına göre düşük riskli yanıklar 98 (%71,0) olguda, orta şiddette yanıklar 32 (%23,1) olguda ve ağır yanıklar 8 (%5,7) olguda görülmüş olup, ortalama ABSI değeri 3,38 (2-12) olarak bulunmuştur. On bir (%7,9) olguda kompartman sendromu tespit edildi. Dört (%2,8) olguda vasküler patolojiler, 4 (%2,8) olguda inhalasyon yanığı görüldü. Olgulardan 27'sinde (%19,5) eskarektomi gerekmedi. Yüz on bir (%80,4) olguya ortalama 1,9 (1-9) kez eskarektomi tüm vücut yüzeyinin ortalama %11,7'sine (%2-60) uygulandı. On yedi (%12,3) olguda yardımcı tedavi ekipmanları biodegradable temporary matriks kullanıldı. Altmış (%43,4) olguya greft gerekmemiştir, bunlardan 27 (%19,5)'si sadece pansumanlar ve kimyasal debridman ile, 33 (%23,9)'ü sadece eskarektomi ile düzelmiştir. Yetmiş sekiz (%56,6) olguda, ortalama 1,57 (1-9) kez greftleme uygulanmış olup, %11,6'lık (%2-%35) vücut yüzeyi greftlenmiştir. Yoğun bakım ihtiyacı 18 (%13,0) olguda görülmüş olup, yoğun bakımda kalış süreleri 7,1 (1-24) gün olarak hesaplanmıştır. Dokuz (%6,5) olgu entübe edilmiş olup, ortalama entübasyon süresi 12,4 (2-34) gün olarak saptanmıştır. Mortalite 2 (%1,5) olguda gelişmiş olup, ilk olgu vücut yüzeyinin %89'u alev yanığı ve inhalasyon yanığı olan ABSI skoru 12 olan olgu idi, ikinci olgu ise vücut yüzeyinin %52'si elektrik ark yanığı ve inhalasyon yaralanması olan ABSI skoru 8 olan olgu idi.

Conclusion: Yanık merkezlerinde çocuk yaştaki olguların tedavisi yanık cerrahisi ile ilgilenen uzmanlar, çok sayıda konsültan hekim, ekipman, özelleşmiş sağlık personeli ve yoğun bakım altyapısı gerektirmektedir. Kendine has özellikleri ve yaklaşımı nedeniyle daha fazla çocuk yanık merkezleri ve çocuk yanık yoğun bakım ünitelerine ihtiyaç vardır. Yanık cerrahisinin yan dal uzmanlığı olarak kabulü ve deneyimli çocuk cerrahlarının yetiştirilmesi gerekmektedir.

Keywords: Burn, burn center, childhood burns

Table 1. Findings in most cases

Finding	Case number, n	Ratio, %
Mean burn area ratio	138	14.76
Head, face and neck burns	49	35.5
Trunk burns	70	50.7
Extremity burns	121	87.6
Compartment syndrome	11	7.9
İnhalation burns	4	2.8
Vasculary complications	4	2.8
Infections, wound	16	11.2
Sepsis	6	4.2
Need of intensive care unit	18	13.0
Intubation	9	6.5
ABSI, mean	138	3.3
Mortality	2	1.5

Table 2. Treatment methods in all cases

Treatment method	Case number	Ratio, %
Dressing and chemical debridement	27	19.5
Escarectomy	33	23.9
Escarectomy and grafting	78	56.6

[S-294]

The association between antidiabetic treatment and glycemic control and the risk of lower extremity amputation in patients with diabetic foot ulcers: A retrospective cohort study

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Objective: The aim of this study was to evaluate the association between glycemic control, types of antidiabetic treatment, and the clinical characteristics of ulcers (ulcer depth, stage, and accompanying vascular pathologies) with the risk of lower extremity amputation in patients followed with a diagnosis of diabetic foot ulcer (DFU). It was also aimed to determine the role of glycemic control and antidiabetic treatment, together with ulcer severity, in identifying patient groups at high risk for major and minor amputations.

Material and Methods: In this single-center, retrospective, and observational cohort study, a total of 48 patients aged 18 years and older who were followed with a diagnosis of DFU at the Wound Care Unit of University of Health Sciences Türkiye, İzmir City Hospital between 01 January 2025, and 31 December 2025, were evaluated. The patients were divided into two groups as those who did not develop lower extremity amputation (n=34) and those who developed amputation (n=14). Demographic characteristics and clinical features (Table 1), clinical characteristics of DFU (Table 2), glycemic control parameters (Table 3), treatment approaches and clinical outcomes (Table 4), and radiological findings (Table 5) were retrospectively and comparatively analyzed. A p-value <0.05 was considered statistically significant in all analyses.

Results: Lower extremity amputation developed in 14 (29.2%) of the 48 patients with DFU. No significant differences were observed between patients with and without amputation in terms of age (67.43±11.16 vs. 60.32±12.55 years; p=0.156), body mass index (26.25±2.85 vs. 26.39±5.12 kg/m^2; p=0.594), duration of diabetes (9.57±2.14 vs. 9.65±2.58 years; p=0.906), or accompanying comorbidities (all p>0.05). In contrast, the presence of deep ulcers was significantly higher in the amputation group (92.9% vs. 23.5%; p<0.001). Advanced Wagner stage (stages 4-5) was more frequently observed in patients who developed amputation (64.2% vs. 11.8%; p<0.001). The presence of gangrene (85.7% vs. 8.8%; p<0.001) and an ischemic component (85.7% vs. 14.7%; p<0.001) showed a strong association with amputation. On radiological evaluation, pathological findings on Doppler ultrasonography were more common in the amputation group (p=0.043). Mean HbA1c levels were lower in patients who developed amputation (6.76±1.14 vs. 8.23±2.04; p=0.01); however, no significant differences were found between the groups regarding HbA1c categories, fasting and random blood glucose levels, or types of antidiabetic treatment. Total length of hospital stay was significantly longer in patients who developed amputation (63.07 vs. 31.79 days; p<0.001).

Conclusion: In our study, the risk of amputation in patients with DFU was found to be more closely associated with ulcer depth, stage, and accompanying vascular pathologies, independent of glycemic control levels and types of antidiabetic treatment. In particular, the presence of deep ulcers, advanced Wagner stage, ischemic components, and gangrene showed a strong association with the development of amputation. Glycemic control parameters and the classes of antidiabetic treatments used were observed to have limited value in predicting amputation risk when considered alone. These findings indicate that local ulcer characteristics and vascular status should be prioritized in the assessment of amputation risk in patients with DFU.

Keywords: Diabetic foot ulcer, lower extremity amputation, glycemic control, antidiabetic therapy, peripheral arterial disease

Table 1. Demographic and clinical characteristics of the patients

Değişken	Değer	Değişken	Değer	p
Hasta sayısı (n)	48	Amputasyon yok (n=34)	Amputasyon var (n=14)	
Yaş (yıl), ortalama ± SD	62,40 ± 12,48	60,32 ± 12,55	67,43 ± 11,16	0,156
Vücut kitle indeksi (kg/m²), ortalama ± SD	26,35 ± 4,54	26,39 ± 5,12	26,25 ± 2,85	0,594
Diyabet süresi (yıl), ortalama ± SD	9,62 ± 2,44	9,65 ± 2,58	9,57 ± 2,14	0,906
eGFR (ml/dk/1.73 m²), ortalama ± SD	68,96 ± 30,17	73,62 ± 29,68	57,64 ± 29,32	0,156
Cinsiyet, n (%)				0,416
↳ Erkek	39 (81,3)	29 (85,3)	10 (71,4)	
↳ Kadın	9 (18,8)	5 (14,7)	4 (28,6)	
Diyabet tipi, n (%)				—
↳ Tip 2	48 (100)	34 (100)	14 (100)	
Sigara kullanımı, n (%)				0,613
↳ Hayır	13 (27,1)	8 (23,5)	5 (35,7)	
↳ Evet	35 (72,9)	26 (76,5)	9 (64,3)	
Hipertansiyon, n (%)				0,108
↳ Yok	20 (41,7)	17 (50,0)	3 (21,4)	
↳ Var	28 (58,3)	17 (50,0)	11 (78,6)	
Koroner arter hastalığı, n (%)				0,184
↳ Yok	29 (60,4)	22 (64,7)	7 (50,0)	
↳ Var	19 (39,6)	12 (35,3)	7 (50,0)	
Serebrovasküler hastalık, n (%)				0,2
↳ Yok	45 (93,8)	33 (97,1)	12 (85,7)	
↳ Var	3 (6,3)	1 (2,9)	2 (14,3)	
Diyabetik nefropati, n (%)				0,448
↳ Yok	38 (79,2)	27 (79,4)	11 (78,6)	
↳ Var	10 (20,8)	7 (20,6)	3 (21,4)	
Diyabetik retinopati, n (%)				0,322
↳ Yok	34 (70,8)	25 (73,5)	9 (64,3)	
↳ Var	14 (29,2)	9 (26,5)	5 (35,7)	
Diyabetik nöropati, n (%)				1
↳ Yok	5 (10,4)	4 (11,8)	1 (7,1)	
↳ Var	43 (89,6)	30 (88,2)	13 (92,9)	
Periferik arter hastalığı, n (%)				0,108
↳ Yok	20 (41,7)	17 (50,0)	3 (21,4)	
↳ Var	28 (58,3)	17 (50,0)	11 (78,6)	

Table 2. Clinical characteristics of diabetic foot ulcers in the patients

Değişken	Toplam (n=48)	Amputasyon yok (n=34)	Amputasyon var(n=14)	p
Ülser süresi (hafta), ortalama ± SD	10,46 ± 11,46	9,50 ± 10,76	12,79 ± 13,12	0,422
Ülser tarafı, n (%)				0,515
↳ Sağ	23 (47,9)	16 (47,1)	7 (50,0)	
↳ Sol	22 (45,8)	15 (44,1)	7 (50,0)	
↳ Bilateral	3 (6,3)	3 (8,8)	0 (0)	
Ülser lokalizasyonu, n (%)				0,248
↳ Parmak	9 (18,8)	6 (17,6)	3 (21,4)	
↳ Taban	17 (35,4)	15 (44,1)	2 (14,3)	
↳ Topuk	3 (6,3)	2 (5,9)	1 (7,1)	
↳ Diğer	19 (39,6)	11 (32,4)	8 (57,1)	
Ülser derinliği, n (%)				<0,001
↳ Yüzeyel	27 (56,3)	26 (76,5)	1 (7,1)	
↳ Derin	21 (43,8)	8 (23,5)	13 (92,9)	
Wagner evresi, n (%)				<0,001
↳ Evre 1	25 (52,1)	24 (70,6)	1 (7,1)	
↳ Evre 2	5 (10,4)	3 (8,8)	2 (14,3)	
↳ Evre 3	5 (10,4)	3 (8,8)	2 (14,3)	
↳ Evre 4	12 (25,0)	4 (11,8)	8 (57,1)	
↳ Evre 5	1 (2,1)	0 (0)	1 (7,1)	
Enfeksiyon varlığı, n (%)				0,085
↳ Yok	8 (16,7)	8 (23,5)	0 (0)	
↳ Var	40 (83,3)	26 (76,5)	14 (100)	
Osteomiyelit, n (%)				0,083
↳ Yok	37 (77,1)	29 (85,3)	8 (57,1)	
↳ Var	11 (22,9)	5 (14,7)	6 (42,9)	
Gangren tipi, n (%)				<0,001
↳ Yok	33 (68,8)	31 (91,2)	2 (14,3)	
↳ Kuru	7 (14,6)	1 (2,9)	6 (42,9)	
↳ Islak	8 (16,7)	2 (5,9)	6 (42,9)	
İskemik komponent, n (%)				<0,001
↳ Yok	31 (64,6)	29 (85,3)	2 (14,3)	
↳ Var	17 (35,4)	5 (14,7)	12 (85,7)	
Revaskülarizasyon, n (%)				0,265
↳ Yok	38 (79,2)	28 (82,4)	10 (71,4)	
↳ Endovasküler	9 (18,8)	6 (17,6)	3 (21,4)	
↳ Cerrahi	1 (2,1)	0 (0)	1 (7,1)	

Table 3. Glycemic control and antidiabetic treatment

Değişken	Toplam (n=48)	Amputasyon yok (n=34)	Amputasyon var(n=14)	p
HbA1c (%), ortalama ± SD	7,80 ± 1,93	8,23 ± 2,04	6,76 ± 1,14	0,01
Açlık plazma glukozu (mg/dL), ortalama ± SD	138,92 ± 53,63	141,88 ± 57,03	131,71 ± 45,43	0,759
Rastgele kan glukozu (mg/dL), ortalama ± SD	156,21 ± 81,80	158,06 ± 90,59	151,71 ± 57,73	0,642
HbA1c kategorisi, n (%)				0,106
└ HbA1c < 7	23 (47,9)	13 (38,2)	10 (71,4)	
└ HbA1c 7–7,9	5 (10,4)	3 (8,8)	2 (14,3)	
└ HbA1c 8–8,9	10 (20,8)	9 (26,5)	1 (7,1)	
└ HbA1c ≥ 9	10 (20,8)	9 (26,5)	1 (7,1)	
İnsülin kullanımı, n (%)				0,469
└ Hayır	11 (22,9)	9 (26,5)	2 (14,3)	
└ Evet	37 (77,1)	25 (73,5)	12 (85,7)	
İnsülin tipi, n (%)				0,428
└ Yok	11 (22,9)	9 (26,5)	2 (14,3)	
└ Bazal	6 (12,5)	5 (14,7)	1 (7,1)	
└ Bazal–bolus	31 (64,6)	20 (58,8)	11 (78,6)	
Oral antidiyabetik kullanımı, n (%)				0,091
└ Hayır	29 (60,4)	18 (52,9)	11 (78,6)	
└ Evet	18 (37,5)	16 (47,1)	2 (14,3)	
GLP-1 RA kullanımı, n (%)				—
└ Hayır	48 (100)	34 (100)	14 (100)	
DPP-4 inhibitörü kullanımı, n (%)				0,726
└ Hayır	36 (75,0)	26 (76,5)	10 (71,4)	
└ Evet	12 (25,0)	8 (23,5)	4 (28,6)	
SGLT-2 inhibitörü kullanımı, n (%)				0,303
└ Hayır	43 (89,6)	29 (85,3)	14 (100)	
└ Evet	5 (10,4)	5 (14,7)	0 (0)	
Kombine tedavi, n (%)				1
└ Hayır	39 (81,3)	27 (79,4)	12 (85,7)	
└ Evet	9 (18,8)	7 (20,6)	2 (14,3)	

Table 4. Treatment approaches and clinical outcomes of the patients

Değişken	Toplam (n=48)	Amputasyon yok (n=34)	Amputasyon var(n=14)	p
Diyabetik Tedavi değişikliği, n (%)				1
└ Hayır	39 (81,3)	28 (82,4)	11 (78,6)	
└ Evet	9 (18,8)	6 (17,6)	3 (21,4)	
Antibiyotik kullanımı, n (%)				0,063
└ Yok	7 (14,6)	7 (20,6)	0 (0)	
└ Oral	1 (2,1)	0 (0)	1 (7,1)	
└ İntravenöz	40 (83,3)	27 (79,4)	13 (92,9)	
Amputasyon tipi, seviyesi(n = 11), n (%)				—
└ Minör (Parmak)	9 (64,3)	—	9 (64,3)	
└ Majör (Transmetatarsal; Ayak bileği altı; Diz altı; Diz üstü)	5 (35,7)	—	5 (35,7)	
Amputasyona kadar süre (gün), ortalama	27,38	—	27,38	—
Toplam yatış süresi (gün), ortalama	40,92	31,79	63,07	<0,001

Table 5. Radiological findings

Değişken	Toplam (n=48)	Amputasyon yok (n=34)	Amputasyon var(n=14)	p
Radyolojik görüntüleme	45 (93,8)	32 (94,1)	13 (92,9)	1
RDUS'da Patolojik bulgu, n (%)				0,043
└ Hayır	16 (33,3)	15 (44,1)	1 (7,1)	
└ Evet	28 (58,3)	17 (50,0)	11 (78,6)	
└ Değerlendirmeyen	4 (8,3)	2 (5,9)	2 (14,3)	
BTA'da Patolojik bulgu, n (%)				0,75
└ Hayır	5 (10,4)	4 (11,8)	1 (7,1)	
└ Evet	17 (35,4)	11 (32,4)	6 (42,9)	
└ Değerlendirmeyen	26 (54,2)	19 (55,9)	7 (50,0)	
MRG'de Patolojik bulgu, n (%)				0,264
└ Hayır	5 (10,4)	3 (8,8)	2 (14,3)	
└ Evet	3 (6,3)	1 (2,9)	2 (14,3)	
└ Değerlendirmeyen	40 (83,3)	30 (88,2)	10 (71,4)	
Hiperbarik oksijen tedavisi, n (%)	2 (4,2)	2 (5,9)	0 (0)	1
PAH nedenli medikal tedavi, n (%)	31 (64,6)	19 (55,9)	12 (85,7)	0,095

[S-295]

Predictors of reamputation after minor amputation: Analysis of 30-day, 90-day, and 1-year outcomes

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Objective: The aim of this study was to determine the incidence of early and late reamputation in patients who underwent minor amputation due to diabetic foot disease and to evaluate the clinical, laboratory, and vascular predictors associated with reamputation at 30 days, 90 days, and 1 year.

Material and Methods: In this retrospective cohort study, patients who underwent minor amputation (toe, ray, or transmetatarsal amputation) due to diabetic foot ulcers were analyzed. Patients were followed for reamputation outcomes at 30 days, 90 days, and 1 year postoperatively. Demographic characteristics, comorbidities, laboratory parameters, inflammatory and nutritional indices, and vascular assessments were recorded. Factors associated with reamputation were evaluated using univariate analyses, and independent predictors were identified using multivariate logistic regression analysis. Time to reamputation was analyzed using the Kaplan-Meier method.

Results: A total of 306 patients were included in the study. Reamputation occurred in 112 patients (36.6%) during the follow-up period. The presence of peripheral arterial disease, higher inflammatory indices, lower serum albumin levels, and more advanced amputation levels were significantly more frequent in patients who developed reamputation ($p<0.05$). In multivariate analysis, WIfI score, need for revascularization, and hypoalbuminemia were identified as independent predictors of 1-year reamputation. Kaplan-Meier analysis demonstrated a significantly shorter time to reamputation in high-risk patients (log-rank $p<0.05$).

Conclusion: Reamputation after minor amputation is common, particularly in patients with concomitant vascular insufficiency and systemic inflammation. Early identification of high-risk patients may contribute to reducing major amputation rates through individualized follow-up and treatment strategies.

Keywords: Diabetic foot, minor amputation, reamputation, peripheral arterial disease, WIfI score

[S-296]

Diagnostic accuracy of blind surgeon photographic assessment in the early diagnosis of necrotizing fasciitis: A multi-observer diagnostic accuracy study demonstrating the impact of clinical experience

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Objective: Necrotizing fasciitis (NF) is a life-threatening soft tissue infection that progresses rapidly and has a significantly increased mortality rate when diagnosis is delayed. The accuracy of the surgical suspicion formed during the initial clinical evaluation is of vital importance. In daily practice, this initial suspicion is mostly based on a rapid visual assessment of the wound appearance. This study investigated the accuracy of blinded surgeon assessment based on preoperative wound images in the diagnosis of NF and the effect of clinical experience on diagnostic performance. The aim was to independently measure the diagnostic contribution of the visual assessment that led to early surgical suspicion.

Material and Methods: Diagnostic performance was evaluated using sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and receiver operating characteristic (ROC) curve analysis; the area under the curve (AUC) was calculated. Inter-observer agreement was analyzed using Cohen's kappa coefficient.

Results: Sixty-seven patients (53.2%) had a diagnosis of NF confirmed by surgical findings, while 59 (46.8%) were classified as having serious soft tissue infections requiring hospitalization but without necrosis. The blinded assessment revealed that visual assessment had a high level of discriminatory power in the diagnosis of NF. Sensitivity for expert surgeons was calculated as 88.1% and 85.1%, respectively, and specificity as 83.0% and 79.6%. Sensitivity for senior residents was 80.6% and 77.6%, respectively, and specificity was 74.5% and 71.1%. In the ROC analysis, the AUC values for expert surgeons were determined to be 0.92 (95% CI: 0.86-0.96) and 0.89 (95% CI: 0.82-0.94), while in assistants, these values were 0.84 (95% CI: 0.76-0.90) and 0.81 (95% CI: 0.73-0.88). In the specialist group, the mean PPV was 86% and NPV was 85%, while in the assistant group, PPV was 78% and NPV was 75%. In the multi-observer analysis, the overall Cohen's kappa coefficient was 0.56, indicating moderate-to-good agreement; kappa was calculated as 0.64 among specialists and 0.48 among assistants. The moderate level of agreement observed among observers in this study indicates that the nature of NF diagnosis is open to differences in interpretation.

Conclusion: Blind surgeon assessment based on preoperative wound images demonstrates high clinical accuracy in the early diagnosis of NF. The higher agreement and diagnostic performance of expert surgeons supports the decisive role of clinical experience in diagnostic decision-making processes.

Keywords: Multiple observers, blinded assessment, necrotizing fasciitis

Figure 1. Necrotizing fasciitis of the abdominal wall.

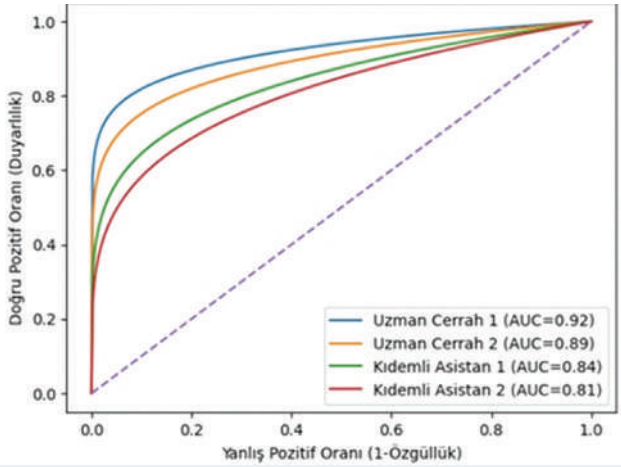

Figure 2. ROC curve-blind surgeon photo evaluation.

[S-297]

Zero mortality in Fournier's gangrene: Association of clinical severity with LRINEC score and microbiological findings

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Objective: Fournier's gangrene (FG) is a rapidly progressive necrotizing soft tissue infection associated with high morbidity and mortality. Early diagnosis and aggressive surgical management are critical for survival. Although the LRINEC score is widely used in necrotizing infections, its role in reflecting disease severity in FG remains unclear. In this study, we aimed to evaluate the relationship between determinants of clinical severity and both the LRINEC score and microbiological findings in our FG series with no observed mortality.

Material and Methods: Thirty-seven consecutive patients treated for FG between 2022 and 2025 were retrospectively analyzed. Demographic characteristics, presence of diabetes mellitus, infection source, anatomical extent of disease, LRINEC score, number of debridements, need for colostomy, intensive care unit (ICU) requirement, and culture results were recorded. Clinical severity was defined as the presence of ≥2 debridements, ICU requirement, colostomy, or extensive disease spread. Associations between the LRINEC score, microbiological findings, and clinical severity indicators were analyzed.

Results: The mean age of the patients was 54.7±11.7 years; 86.5% were male and 59.5% had diabetes mellitus. The source of infection was perianal in 54%, scrotal/perineal in 32%, and urogenital in 14%. Extensive disease spread was observed in 62%. The mean LRINEC score was 8.95±1.06. Patients underwent a mean of 5.03±1.79 debridements, and the mean length of hospital stay was 18.6±7.3 days. The colostomy rate was 27%, and ICU requirement was 43%. No mortality occurred. Culture positivity was 78%, with polymicrobial infection in 17%. The most common pathogens were *Staphylococcus* spp., *Klebsiella pneumoniae*, *Escherichia coli*, and *Pseudomonas aeruginosa*. Patients with LRINEC ≥9 had a higher ICU requirement (73% vs. 25%, p=0.074). No significant association was found between polymicrobial infection and disease extent (75% vs. 80%, p=1.00).

Conclusion: In FG, mortality may be prevented through early surgical intervention and multidisciplinary management. The observed trend toward increased intensive care requirement in patients with LRINEC ≥9 suggests that the LRINEC score may reflect clinical severity independent of mortality. This homogeneous Fournier gangrene series with zero mortality demonstrates that early aggressive surgery and multidisciplinary care can prevent mortality and indicates that the LRINEC score may serve as a mortality-independent marker of clinical severity in FG.

Keywords: Fournier's gangrene, polymicrobial infection, LRINEC score

Table 1. Numerical clinical and laboratory characteristics of patients with Fournier's gangrene (n=37)

Variable	Mean ± SD
Age (years)	54.7±11.7
LRINEC score	8.95±1.06
Number of debridements	5.03±1.79
Length of hospital stay (days)	18.6±7.3
CRP (mg/L)	238.3±78.2
WBC ($\times 10^3/mm^3$)	18.48±4.00
Hemoglobin (g/dL)	10.53±1.83
Sodium (mmol/L)	132.6±5.03
Creatinine (mg/dL)	1.20±0.88
Glucose (mg/dL)	193.4±91.1

Table 2. Demographic and clinical distribution of patients (n=37)

Variable	n (%)
Male sex	32 (86.5)
Diabetes mellitus	22 (59.5)
Perianal source	20 (54)
Scrotal/perineal source	12 (32)
Urogenital source	5 (14)
Extensive spread	23 (62)
Colostomy	10 (27)
ICU requirement	16 (43)
Culture positivity	29 (78)
Polymicrobial infection	6 (17)
Mortality	0 (0)

[S-298]

Evaluating the impact of umbilical cord-derived mesenchymal stem cell exosome therapy on the wound microenvironment in diabetic foot ulcers

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Objective: Mesenchymal stem cell–derived exosomes support cellular proliferation through the cytokines and growth factors they contain, while limiting oxidative stress–induced apoptosis. They reduce inflammation, promote angiogenesis and cell migration, enhance collagen deposition, and modulate chronic wound healing by regulating macrophage polarization. This study aimed to evaluate the effects of exosome therapy on the chronic wound microenvironment and clinical healing parameters in patients with diabetic foot ulcers.

Material and Methods: Fourteen patients with diabetic foot ulcers who developed postoperative tissue defects and received exosome therapy were included in the study. Tissue samples obtained from the wound bed before and after treatment were analyzed by flow cytometry. During follow-up, wound sizes were measured and healing times were recorded.

Results: The clinically observed reduction in wound size was consistent with cellular changes in the wound bed. Flow cytometric analyses revealed an increase in both M1 (CD38) and M2 (CD209) macrophage populations in the wound tissue after treatment. Examination of myeloid subgroups demonstrated increases in monocytes, neutrophils, and $CD4^+$ T lymphocytes, while no significant change was observed in B lymphocytes. These findings indicate that exosome application modulates immune cell distribution and macrophage phenotype within the chronic wound microenvironment.

Conclusion: Mesenchymal stem cell–derived exosome therapy supports granulation and epithelialization in chronic diabetic wounds and is associated with changes in immune cell profile and macrophage polarization. Exosome application may represent a promising therapeutic approach that promotes tissue remodeling by shifting the chronic wound microenvironment from the inflammatory phase toward the reparative phase.

Keywords: Diabetic foot ulcers, exosome, flow cytometry

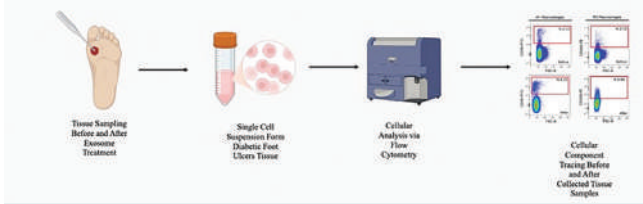

Figure 1. Diabetic foot ulcers tissue cellular analysis.

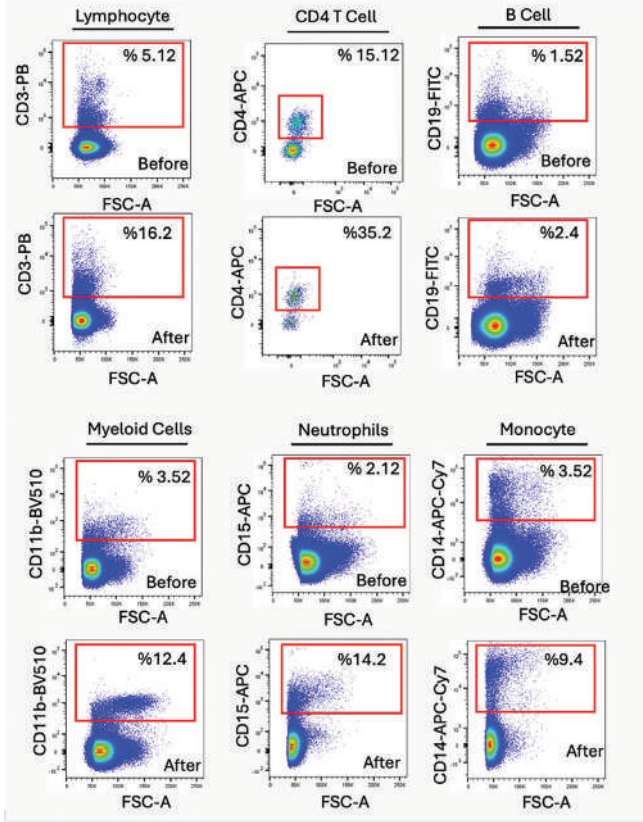

Figure 2. Immune cell profile changes observed by flow cytometry following exosome therapy.

[S-300]

The co-existence of diabetic foot ulcers and peripheral arterial disease: Is endovascular revascularization essential?

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Objective: Diabetic foot ulcers and critical limb ischemia are challenging conditions associated with high morbidity affecting the lower extremities, often necessitating major amputation in surgical practice. The aim of this study is to evaluate the efficacy of endovascular revascularization (ER) regarding wound healing and treatment outcomes in patients presenting to our chronic wound unit with diabetic foot ulcers co-existing with arterial pathology.

Material and Methods: A retrospective screening was performed on 380 chronic wound patients treated at our hospital's chronic wound unit between May 2024 and December 2025. Following the exclusion of venous and traumatic etiologies (44 pressure ulcers, 22 venous ulcers, 10 trauma/burns, and 19 others), 285 patients diagnosed with peripheral arterial disease (PAD) were identified. Patients with suspected arterial occlusion based on Doppler ultrasound underwent computed tomography angiography (CTA). The study group consisted of 69 patients with confirmed pathology and no contraindications who subsequently underwent ER. The primary endpoint was defined as major amputation-free survival (limb salvage). Minor amputations were considered an integral part of limb-sparing surgery.

Results: From the initial cohort of 380 patients, 285 were evaluated for PAD and diabetic ulcers, and a study group was established comprising 69 patients who underwent ER. The study group (n=69) consisted predominantly of high-risk patients, with 56 (81.1%) classified as rutherford stage 5-6 and 35 (50.7%) as wagner grade 4-5. Complete healing was achieved in 33 patients (47.8%) without any amputation. While 23 patients (33.3%) achieved healing following minor amputation/debridement post-revascularization, major amputation (below-knee or above-knee) was required in only 13 patients (18.8%). Consequently, limb salvage success was achieved in 56 patients (81.1%), avoiding major amputation. Statistical analysis revealed that while the presence of Rutherford Stage 6 significantly increased the risk of major amputation (p=0.038), a limb preservation rate exceeding 70% was achieved even within the wagner grade 4-5 group.

Conclusion: Our study demonstrates that advanced ischemic tissue loss in patients with diabetic foot co-existing with peripheral arterial disease is not a standalone indication for major amputation. Endovascular revascularization enhances surgical success and wound healing rates, facilitating limb preservation even in high-risk patient groups. In a multidisciplinary approach, it is recommended that the decision for amputation should only be made after angiographic patency is established and tissue perfusion has been evaluated.

Keywords: Limb-sparing surgery, endovascular revascularization, diabetic foot

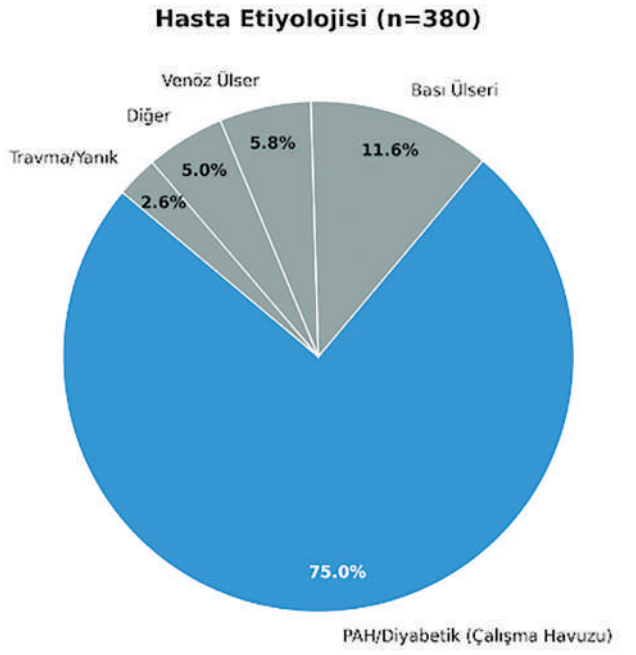

Figure 1. Patient etiology.

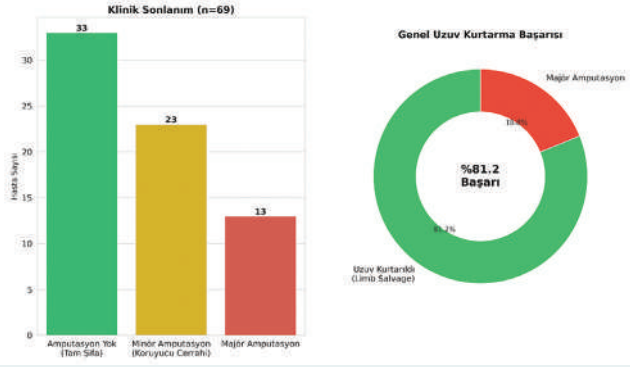

Figure 2. Our patient follow-up results.

[S-301]

Antiseptic pooling-induced perioperative skin injury: A non-thermal burn etiology

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Objective: Preoperative skin antisepsis is fundamental in preventing surgical site infections; however, antiseptic solutions may themselves cause tissue injury when prolonged contact occurs. These lesions are frequently mistaken for thermal burns related to electrocautery or pressure-related injuries, leading to delayed recognition and inappropriate preventive strategies. The aim of this study was to identify the clinical characteristics, mechanisms, and preventability of antiseptic-related chemical burns observed in routine operating room practice.

Material and Methods: All surgical procedures performed in our operating theatre complex between November 2023 and May 2024 were retrospectively reviewed. Skin lesions were included if they developed within the first 24 postoperative hours, were located outside the surgical field, and demonstrated clinical morphology compatible with chemical burn injury. Lesions corresponding to dispersive electrode placement, contact pressure areas, or direct instrument injury were excluded after cross-checking operative positioning records, electrocautery pad locations, anaesthesia documentation, and postoperative examination findings. Operative duration, patient characteristics, warming device usage, and antiseptic preparation technique were analysed.

Results: Eleven patients aged 1-65 years were identified, including four pediatric cases. All had undergone skin preparation using 10% povidone-iodine solution. Lesions consistently appeared in gravity-dependent areas such as the sacral region, gluteal folds, back, and lateral thighs. The distribution pattern did not correspond to electrode placement, surgical instrumentation, or pressure points, but rather to areas where antiseptic runoff could accumulate. Operative duration ranged from 16 to 190 minutes, and the most extensive bullous lesion occurred following the longest procedure. Active warming systems were present in most cases; however, similar injury occurred without warming in one patient, excluding temperature exposure as the primary mechanism. The uniform localisation and morphology strongly supported prolonged chemical exposure due to solution pooling as the underlying cause. After recognition of the pattern, a protocol modification was implemented including prevention of fluid accumulation, controlled application volume, mandatory drying time before draping, and staff education. No additional cases were observed thereafter.

Conclusion: Antiseptic-related chemical burns represent a distinct and preventable perioperative complication caused by pooling and prolonged contact rather than thermal injury. Pediatric patients and prolonged procedures appear particularly susceptible. Simple technical precautions during antiseptic application effectively eliminated recurrence. Awareness of this mechanism allows differentiation from electrocautery burns and enables targeted prevention strategies.

Keywords: Chemical burn, antisepsis, povidone-iodine

Figure 1. Cases.

[S-302]

Clinical course and surgical outcomes of frostbite injuries: A single-center experience

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Objective: Frostbite injuries are cold-induced tissue damages frequently observed in harsh climate conditions and socioeconomically disadvantaged populations, potentially leading to significant morbidity and limb loss. Early diagnosis, appropriate medical management, and timely surgical intervention are critical determinants of clinical outcomes. This study aimed to evaluate the clinical characteristics, treatment approaches, and surgical outcomes of patients treated for frostbite injuries at our center.

Material and Methods: In this retrospective study, 27 patients admitted to our burn center between October 1, 2024, and April 30, 2025, with a diagnosis of frostbite were analyzed. Demographic characteristics, degree of frostbite, affected extremities, medical and surgical treatments, length of hospital stay, and complications were recorded. All patients received initial wound care and were hospitalized, except those with isolated acral involvement (ear or nose), who were followed on an outpatient basis. Medical management included anticoagulant, antiplatelet, vasodilator, and analgesic therapies. In eligible patients, a controlled rewarming protocol was implemented within the first 72 hours. Patients were closely monitored clinically and radiologically for ischemia and necrosis, and surgical decisions were made in collaboration with the orthopedic surgery team.

Results: Of the 27 patients, 26 (96.3%) were male, with a mean age of 23.7±7.9 years. Twenty-four patients (88.9%) were foreign refugees. Frostbite was classified as second degree in 10 patients (37.0%) and as second to third degree in 17 patients (63.0%). All patients had extremity involvement; lower extremities were affected in 88.9% and upper extremities in 51.9%. Overall, 19 patients (70.4%) underwent disarticulation or amputation. Surgical intervention was not required in 6 patients with isolated second-degree frostbite. No cases of secondary infection or mortality were observed. The median length of hospital stay was 25 days (IQR: 18.5-32).

Conclusion: Although frostbite injuries are associated with low mortality, they result in substantial morbidity, limb loss, and prolonged hospitalization, particularly among young and socioeconomically vulnerable populations. Early standardized medical management, close monitoring, and a multidisciplinary approach play a crucial role in optimizing limb preservation and improving clinical outcomes.

Keywords: Burn, frostbite, amputation

[S-303]

Burn injuries associated with epileptic seizures: A single-center case series

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Objective: Burn injuries are among the most severe forms of trauma due to their potential to cause permanent physical and psychological consequences. In patients with epilepsy, the sudden and unpredictable nature of seizures significantly increases the risk of secondary traumatic injuries, as individuals are unable to protect themselves during an ictal event. Prolonged contact with the causative agent during a seizure frequently results in deep and full-thickness burns. The aim of this study was to evaluate the clinical characteristics, burn etiology, treatment modalities, and outcomes of burn injuries occurring during epileptic seizures in patients treated at our burn center.

Material and Methods: In this retrospective study, digital medical records of patients hospitalized and treated at our burn center between January 2019 and January 2026 were reviewed. Adult patients (≥18 years) who sustained burn injuries during epileptic seizures were included. Demographic data, burn etiology, total body surface area (TBSA), burn depth, surgical interventions, and length of hospital stay were analyzed.

Results: A total of 15 patients were included in the study. Of these, 8 (53.3%) were male and 7 (46.7%) were female. The mean age was 43.5 years (range: 19-72 years). The most common burn etiology was hot liquid contact, followed by contact with hot surfaces and flame burns. The mean TBSA was 8.4% (range: 2-20%). Regarding burn depth, 5 patients had deep second-degree burns, while 10 patients presented with mixed second- and third-degree burns; one patient had a fourth-degree burn. Upper extremity involvement was the most frequently affected anatomical region. In terms of surgical management, skin grafting was performed in 66.7% of patients, surgical debridement in 80%, and vacuum-assisted closure (VAC) therapy was required in 20%. The mean length of hospital stay was 22.9 days (range: 6-46 days). One patient died during follow-up. Two patients treated in the intensive care unit required blood transfusions, and intraoperative epileptic seizure was observed in one of these patients.

Conclusion: Burn injuries associated with epilepsy require a high rate of surgical intervention and prolonged hospitalization despite relatively low average TBSA values. These injuries are largely preventable, and targeted patient education, effective seizure control, and a multidisciplinary approach are essential to reduce morbidity in this high-risk population.

Keywords: Epileptic seizure, burn injuries, deep burns, surgery

Figure 1. Burn injury following an epilepsy seizure.

Figure 2. Burn injury following an epilepsy seizure-2.

Figure 3. Burn injury following an epilepsy seizure-3.

Table 1. Demographic data

Demographic data	Number of patients
Gender	
Male	8
Female	7
Mean Age	43.6
Mean body surface area	8.4
Burn severity	
Mix type burns	8
Burn factor	
Hot liquid	9
Hot object contact	2
Fire	4
Body surface area	
Upper limb	10
Lower limb	6
Face, Head, Neck	4
Chest	6
Mean length of hospital stay	22.86
Surgical procedures	
Escarectomy	12
Greft	10
Vac	3
Complications	
Blood transfusion	2
ICU stay	2
Mortality	1

[S-304]

The role of diverting ostomy in perineal necrotizing fasciitis: A retrospective analysis of wound healing and clinical outcomes

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Objective: Necrotizing fasciitis is a rare but life-threatening soft tissue infection that progresses rapidly and causes inflammation and necrosis of the skin, subcutaneous tissue, and fascia. The management of necrotizing fasciitis is multidisciplinary and multimodal. Treatment includes patient stabilization through initiation of broad-spectrum antibiotic therapy, fluid resuscitation, and management of comorbidities, as well as control of infection through surgical debridement. Depending on the extent of disease spread, a diverting ostomy may be required due to anal sphincter damage or to prevent fecal contamination. This study aims to evaluate the effect of diverting ostomy creation on wound healing, the need for repeated debridement, and the development of complications in patients who underwent surgical debridement for necrotizing fasciitis.

Material and Methods: A total of 54 patients who underwent surgical debridement for necrotizing fasciitis between April 15, 2023, and January 15, 2026, were included in the study. The patients were divided into two groups according to whether a diverting ostomy was performed. The groups were compared in terms of wound healing time, length of hospital stay, need for repeated debridement, development of complications, and mortality.

Results: A total of 54 patients were included in the study. The mean wound healing time was 51.4±22.6 days in patients who underwent diverting ostomy and 40.6±25.6 days in those who did not. There was no statistically significant difference between the groups in terms of wound healing time ($p=0.078$). The mean length of hospital stay was 34.1±32.3 days in the ostomy group and 10.8±7.8 days in the non-ostomy group. A statistically significant difference was observed between the groups regarding length of hospital stay ($p<0.001$). Higher rates of complications and mortality were observed in patients who underwent diverting ostomy; however, this group was older and had a higher burden of comorbidities.

Conclusion: In patients who underwent debridement for necrotizing fasciitis, diverting ostomy is generally preferred in more severe, extensive, and complicated cases when appropriately indicated. Therefore, longer wound healing time and length of hospital stay were observed in patients who underwent diverting ostomy.

Keywords: Necrotizing fasciitis, debridement, diverting ostomy

[S-307]

What do the numbers say, what do surgeons choose? A national analysis of general surgery subspecialty placements

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Objective: General surgery subspecialty training reflects not only individual career choices but also broader structural changes in the healthcare system, including surgeons' work-related expectations, regional disparities, and institutional capacity. The recent resurgence of YDUS has made the determinants of subspecialty preferences more apparent. Accordingly, changes in occupancy rates despite increasing quotas should be interpreted within a comprehensive sociological framework encompassing professional satisfaction, working conditions, training quality, and long-term career expectations, rather than as a simple supply–demand issue. This study aims to examine temporal trends in subspecialty quota distribution, occupancy rates, and regional and institutional concentration in Türkiye using descriptive statistics, thereby highlighting the evolving structure of subspecialty training and its implications for surgeon preferences.

Material and Methods: Data from general surgery subspecialty placements conducted between 2015 and 2025 were retrospectively analyzed. The YDUS year, exam period, additional placement status, subspecialty type, hospital characteristics, geographic region, province-based distribution, number of vacancies and unfilled positions, and occupancy rates were evaluated using descriptive statistics.

Results: In total, 503 placement records were analyzed. Of 757 quotas, 68.4% were filled, leaving 239 vacant. The occupancy rate declined from 82.8% in 2015–2019 to 58.0% in 2020–2024, indicating that quota expansion was not matched by sustained enrollment. Occupancy was highest in surgical oncology (80.6%) and gastroenterological surgery (75.5%), and lowest in intensive care (45.8%) and hand surgery (34.8%), reflecting marked heterogeneity among subspecialties. Quotas were largely concentrated in university hospitals (58.1%) and metropolitan cities (94.6%), indicating institutional and geographic clustering. Additional placement positions exhibited particularly low occupancy (34.9%) and accounted for a disproportionate share of vacancies. Despite high quota density in Ankara and İstanbul, vacancy rates remained relatively high with limited regional expansion.

Conclusion: This study shows that although subspecialty training in general surgery has expanded quantitatively, this growth has not been matched by enrollment rates. The sharp decline in occupancy after 2020, despite increased quotas, indicates that subspecialty preferences are shaped not only by individual motivation but also by working conditions, training environment, professional satisfaction, and quality of life. In line with the literature, workload, burnout, and long-term career expectations play a key role in subspecialty choice. The marked heterogeneity in occupancy rates across subspecialties and the high vacancy rates in additional placements further suggest a supply-driven expansion not met by comparable demand. These findings highlight the need to reassess subspecialty planning within a comprehensive human resources framework that incorporates surgeons' professional and social expectations rather than focusing solely on quota increases.

Keywords: General surgery subspecialty training, health workforce, quota occupancy rates, sociological analysis, surgical preferences

Table 1. (A) Quota distribution by YDUS year (B). Quota and enrollment by exam period (C) Quota distribution by placement status

TABLO 1A. YDUS Yıllarına Göre Kontenjan Dağılımı

YDUS Yılı	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
2015	33	72	3	95,8
2016	32	44	6	86,4
2017	35	52	10	80,8
2018	43	60	3	95,0
2019	50	91	33	63,7
2020	92	187	98	47,6
2021	37	45	9	80,0
2022	82	93	53	43,0
2023	30	39	0	100,0
2024	25	27	11	59,3
2025	44	47	13	72,3

TABLO 1B. Sınav Dönemine Göre Kontenjan ve Doluluk

Sınav Dönemi	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
İlkbahar	478	730	228	68,8
Sonbahar	25	27	11	59,3

TABLO 1C. Yerleştirme Durumuna Göre Kontenjanların Dağılımı

Yerleştirme	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
Normal	339	545	101	81,5
Ek	164	212	138	34,9

Table 2. (A) Quota distribution by general surgery subspecialties (B) Quota distribution by hospital type (C) Quota distribution by geographic region

TABLO 2A. Genel Cerrahi Yan Dallara Göre Kontenjan Dağılımı

Yan Dal	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
Cerrahi Onkoloji	208	294	57	80,6
Gastroenteroloji Cerrahisi	117	261	64	75,5
Yoğun Bakım	122	144	78	45,8
El Cerrahisi	46	46	30	34,8
Diğer	10	12	10	16,7

TABLO 2B. Hastane Türüne Göre Kontenjanların Dağılımı

Hastane Türü	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
Üniversite	355	440	130	70,5
Eğitim ve Araştırma Hastanesi	79	152	38	75,0
Şehir Hastanesi	69	165	71	57,0

TABLO 2C. Coğrafi Bölgelere Göre Kontenjan Dağılımı

Bölge	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
İç Anadolu	184	332	117	64,8
Marmara	99	132	32	75,8
Akdeniz	76	106	27	74,5
Doğu Anadolu	58	88	26	70,5
Ege	65	69	26	62,3
Güneydoğu Anadolu	10	18	6	66,7
Karadeniz	11	12	5	58,3

Table 3. (A) Quotas based on metropolitan status (B) Quota distribution based on 5-year periods

TABLO 3A. Büyükşehir Durumuna Göre Kontenjanlar

Büyükşehir	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
Büyükşehir	468	713	221	69,0
Büyükşehir değil	35	44	18	59,1

TABLO 3B. 5 yıllık periyotlara Göre Kontenjan Dağılımı

Zaman Dönemi	Merkez Sayısı (n)	Açılan Kontenjan (n)	Boş Kontenjan (n)	Doluluk Oranı (%)
2015–2019	193	319	55	82,8
2020–2024	310	438	184	58,0

Table 4. Comparative literature table

ÇALIŞMA / KAYNAK	KAPSAM – TASARIM	ANA BULGU (KONU İLE İLGİLİ)	BİZİM VERİMİZLE İLİŞKİ / YORUM
Bizin çalışmamız (2015–2025 YDUS yerleştirme kayıtları)	Ulusal, tanımlayıcı; 503 kayıt; 757 kontenjan	Genel doluluk **%68,4. 2015–2019: %82,8 → 2020–2024: %58,0** düşüş. Yan dallar arasında belirgin heterojenlik (Cerrahi Onkoloji/Gastroenteroloji yüksek; Yoğun Bakım/El Cerrahisi düşük). Büyükşehir ve üniversite ağırlığı; ek yerleştirmede doluluk düşük.	**Doğrudan arz–talep "davranışını" ölçen** nadir ulusal veri. Literatürde sık konuşulan "çalışma koşulları / eğitim ortamı / tükenmişlik" gibi etkenlere **sayısal zeminde** işaret ediyor.
Kıvratma ve ark., 2025 (Turkish Journal of Surgery)	Türkiye'de genel cerrahi asistanlarının eğitim koşullarına ilişkin anket (perspektif çalışması)	Eğitim koşulları, yöntemler ve zorluklara odaklanarak **asistan deneyimini** ortaya koyuyor.	Sizin bulgunuzdaki **2020 sonrası doluluk düşüşü** ve yan dallar arası farklar için "mekanizma" tartışmasına güçlü arka plan sağlar: eğitim/iş yükü algısı ↔ yan dala yönelim.
Celik ve ark., 2021 (PubMed: ulusal survey) – Türkiye'de genel cerrahlarda tükenmişlik	Türkiye genelinde katılımcılarla ulusal kesitsel çalışma	Genel cerrahlarda tükenmişlik ve ilişkili faktörleri inceler; cerrahide tükenmişliğin yaygın ve sistemik bir sorun olduğunu vurgular.	Doluluğun zamanla azalmasını "sosyolojik" okumada destekler: **yüksek stres/tükenmişlik iklimi**, yan dal motivasyonlarını ve tercih davranışını etkileyebilir.
Burnout among surgeons and surgical trainees – sistematik derleme, 2022	Cerrah ve cerrahi asistanlarda tükenmişlik çalışmalarının derlemesi	Tükenmişliğin yaygınlığı, iş–yaşam dengesi, iş yükü ve kurumsal faktörlerle ilişkisi vurgulanır.	Sizin çalışmanızdaki **doluluk düşüşünü** sadece "kontenjan arttı" ile değil, "mesleki sürdürülebilirlik / yaşam kalitesi" ekseninde tartışmayı bilimsel zemine oturtur.
Burnout in Surgical Trainees – Narrative review, 2022	Cerrahi asistanlarda eğilimler ve riskler (derleme)	Eğitim ortamı, mentorluk, iş yükü ve tükenmişlik ilişkisi; müdahale alanları vurgulanır.	Yan dallar arası heterojenlik (bazı yan dalların daha az tercih edilmesi) için "eğitim ve çalışma koşulları farklılığı" argümanını destekleyen çerçeve sağlar.
Türkiye'de YDUS kontenjanlarına ilişkin kurumsal duyurular (YÖK kontenjan talep toplama)	Kurumsal/idarî süreç duyurusu	Kontenjanların belirlenmesinde ihtiyaç ve talep toplama süreçlerine işaret eder.	Sizin bulgunuz (doluluk düşüşü + bölgesel yoğunlaşma) **kontenjan planlaması** tartışması için politika bağlamı sağlar (arz planlanıyor ama talep aynı değil).
Basın/ajans haberleri (AA, 2024)	Haber metni	YDUS yerleşme oranlarına dair açıklamalar (branş bazlı örnek oranlar).	Bilimsel kanıt yerine "kamu söylemi"ni gösterir. Sizin çalışma, bu söylemin **uzun dönem ve yapısal** karşılığını test etmeye daha uygundur.

[S-308]

Survival of the patients with breast cancer who underwent Oncotype DX Recurrence score® testing: Long-term survival update of a prospective multicenter study in Türkiye according to different cut-offs

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Objective: 70% of early-stage breast cancers are hormone receptor positive. In this prospectively designed study, we aim to update the long-term survival outcomes of chemotherapy decision-making according to Oncotype DX Recurrence Score (ODX RS®) and its relation with different cut-offs.

Material and Methods: Ten academic centers in Türkiye that routinely discuss all new cases at multidisciplinary tumor board participated. Consecutive patients who are pT1-3, pN0-N1mic, M0 were identified. Adjuvant treatment decisions were discussed at tumor board before and after ODX-RS® results.

Results: Of the 165 patients (26-76, median 48 years) with a median follow-up of 108 months, ODX-RS® ≤25 had significantly better overall survival (OS) than those with ODX-RS® ≥26 (p=0.022). When evaluated by age, OS and disease-free survival (DFS) was significantly better with ODX-RS® ≤15 in patients aged ≤50 years and with ODX-RS® ≤25 in patients aged >50 years (p=0.034 and p=0.024). ODX-RS® ≤20 in patients aged ≤50 years and ODX-RS® ≤25 in patients aged >50 years had significantly better OS (p=0.002). There was no difference in OS between those who received chemotherapy before ODX-RS® and those who did not (p=0.119). Conversely in the post-ODX-RS®, ODX-RS® predicted survival better and OS was lower in patients who received chemotherapy compared to those who did not (p=0.020) meaning that ODX-RS® can predict OS.

Conclusion: The ODX-RS® significantly influences treatment decisions resulting comparable survivals for patients who received chemotherapy and who did not. Different cut-offs have variable significant prognostic effect on survival prediction models.

Keywords: Chemotherapy decision-making, genomic testing, survival outcomes

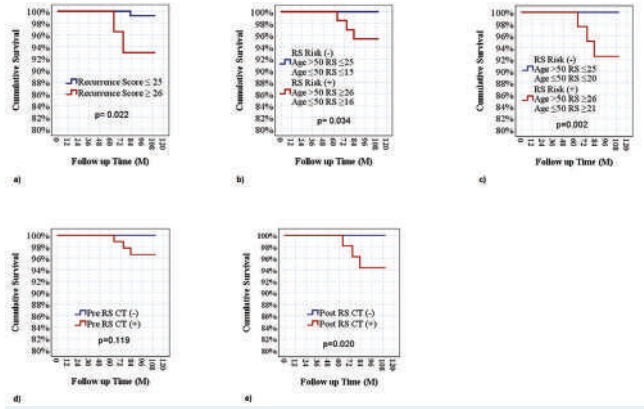

Figure 1. Kaplan-Meier survival analysis-1.

a) Overall survival of patients with ODX-RS® ≤ compared with ODX-RS® ≥26. b) Overall survival for ages ≤50 years and >50 years with ODX-RS® ≥16 and ODX-RS® ≥26 cut-offs respectively. c) Overall survival for ages ≤50 years and >50 years with ODX-RS® ≥21 and ODX-RS® ≥26 cut-offs respectively. d) Overall survival of patients who received chemotherapy before ODX-RS® and those who did not. e) Overall survival of patients who received chemotherapy after ODX-RS® and those who did not.

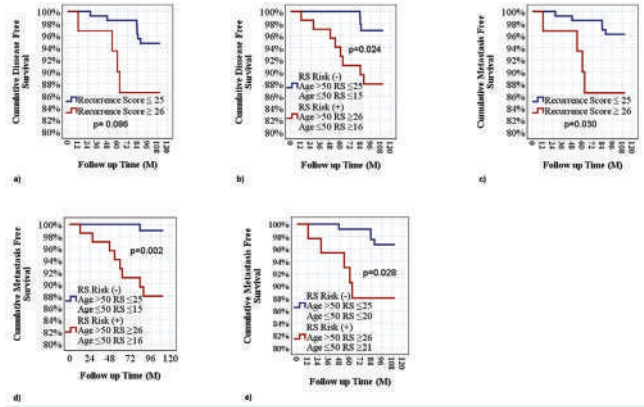

Figure 2. Kaplan-Meier survival analysis-2.

a) Disease-free survival of patients with ODX-RS® ≤ compared with ODX-RS® ≥26. b) Disease-free survival for ages ≤50 years and >50 years with ODX-RS® ≥16 and ODX-RS® ≥26 cut-offs respectively. c) Metastasis-free survival of patients with ODX-RS® ≤ compared with ODX-RS® ≥26. d) Metastasis-free for ages ≤50 years and >50 years with ODX-RS® ≥16 and ODX-RS® ≥26 cut-offs respectively. e) Metastasis-free for ages ≤50 years and >50 years with ODX-RS® ≥21 and ODX-RS® ≥26 cut-offs respectively.

[S-309]

Does oncoplastic breast-conserving surgery provide superior esthetic and functional outcomes compared with conventional breast-conserving surgery? A retrospective matched-pair study from a high-volume tertiary center in Türkiye

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Objective: Oncoplastic breast-conserving surgery (OPC) aims to maintain oncologic safety while improving esthetic and functional outcomes. However, comparative evidence incorporating patient-reported outcome measures (PROMs), particularly sexual function, remains limited. We compared patient-reported satisfaction/quality of life and sexual function after OPC versus conventional breast-conserving surgery (BCS) in a contemporary Turkish cohort.

Material and Methods: This single-center retrospective matched-pair cohort study included women with early-stage (T1-T2, N0-N1, M0) invasive breast cancer or ductal carcinoma *in situ* who underwent segmental mastectomy between January 2019 and April 2025. From approximately 1,000 screened cases, 132 OPC patients were identified and 1:1 matched to 132 BCS patients by age, tumor size, T stage, nodal status, histology, laterality, and year of diagnosis. Primary outcomes were patient satisfaction and quality of life assessed using the BREAST-Q (reduction/mastopexy module; 0-100) and sexual function assessed with the arizona sexual experiences scale (ASEX; 5-30, higher scores worse). Secondary outcomes included operative time, margin status, perioperative variables, and 90-day complications.

Results: The final cohort comprised 264 women with good balance on matching variables. OPC was associated with longer operative time (median 150 min vs. 80 min for BCS, p<0.001) but showed similarly excellent oncologic and perioperative safety. Margin positivity was very low and comparable (one case in BCS; none in OPC; p=0.317), and 90-day complication rates did not differ (p=0.916). PROMs favored OPC: median BREAST-Q scores were significantly higher after OPC [80 (IQR 75-87 vs. 71 IQR 66-74, p<0.001)]. Median ASEX scores were lower in the OPC group (14 IQR 12-17 vs. 17 QR 15-19, p<0.001), indicating better sexual function. Sexual dysfunction defined as ASEX ≥11 was highly prevalent overall but less frequent after OPC (92.4% vs. 100%, p=0.004).

Conclusion: In this matched-pair analysis from a high-volume tertiary center, OPC was associated with significantly improved patient-reported satisfaction/quality of life and modestly better sexual function without compromising margin status or short-term morbidity. These findings support OPC as a patient-centered evolution of breast-conserving surgery and highlight the value of routine PROM integration in breast cancer care.

Keywords: Oncoplastic breast surgery, breast-conserving surgery, BREAST-Q, ASEX, quality of life

Table 1. Baseline clinicopathologic characteristics of patients undergoing conventional breast-conserving surgery (BCS) versus oncoplastic breast-conserving surgery (OPC)

Variable	Total (n=264)	BCS (n=132)	OPC (n=132)	p-value
Age, mean ± SD	51.4±12.7	50.8±12.7	51.9±12.8	0.507[a]
Preoperative histopathology, n (%)				0.972[c]
– IDC	199 (75.4)	99 (75.0)	100 (75.8)	
– ILC	12 (4.5)	5 (3.8)	7 (5.3)	
– DCIS	29 (11.0)	16 (12.1)	13 (9.8)	
– Papillary neoplasm/carcinoma	9 (3.4)	5 (3.8)	4 (3.0)	
– Mucinous adenocarcinoma	10 (3.8)	5 (3.8)	5 (3.8)	
– Neuroendocrine tumor	5 (1.9)	2 (1.5)	3 (2.3)	
Side, n (%)				1.000[c]
– Right	143 (54.2)	72 (54.5)	71 (53.8)	
– Left	121 (45.8)	60 (45.5)	61 (46.2)	
Preoperative axillary status, n (%)				0.686[c]
– Negative	186 (70.5)	95 (72.0)	91 (68.9)	
– Positive	78 (29.5)	37 (28.0)	41 (31.1)	
Neoadjuvant therapy, n (%)				0.775[c]
– No	199 (75.4)	98 (74.2)	101 (76.5)	
– Yes	65 (24.6)	34 (25.8)	31 (23.5)	

Table 2. Operative variables and axillary surgery details				
Variable	**Total (n=264)**	**BCS (n=132)**	**OPC (n=132)**	**p**
Operative time, median (IQR), min	110 (80-150)	80 (70-108.8)	150 (120-180)	<0.001[b]
SLNB performed, n (%)				<0.001[c]
– Yes	236 (89.4)	105 (79.5)	131 (99.2)	
– No	28 (10.6)	27 (20.5)	1 (0.8)	
Axillary dissection, n (%)				<0.001[c]
– Yes	67 (25.4)	15 (11.4)	52 (39.4)	
– No	197 (74.6)	117 (88.6)	80 (60.6)	
Oncoplastic technique used (OPC group only)	–	–	132	–
– Racquet	–	–	50 (37.9)	
– J-plasty	–	–	21 (15.9)	
– Batwing	–	–	20 (15.2)	
– Donut (benelli)	–	–	16 (12.1)	
– Grisotti	–	–	12 (9.1)	
– V-plasty	–	–	8 (6.1)	
– Superior pedicle	–	–	3 (2.3)	
– Inverted-T	–	–	2 (1.5)	

Table 3. Tumor characteristics, axillary involvement, margin status, and pathology				
Variable	**Total (n=264)**	**BCS (n=132)**	**OPC (n=132)**	**p**
Gross pathology, n (%)				0.996[c]
– IDC	202 (76.5)	102 (77.3)	100 (75.8)	
– ILC	13 (4.9)	6 (4.5)	7 (5.3)	
– DCIS	27 (10.2)	14 (10.6)	13 (9.8)	
– Papillary	7 (2.7)	3 (2.3)	4 (3.0)	
– Mucinous	10 (3.8)	5 (3.8)	5 (3.8)	
– NET	5 (1.9)	2 (1.5)	3 (2.3)	
Tumor size, n (%)				<0.001[c]
– ≤1 cm	63 (23.9)	37 (28.0)	26 (19.7)	
– 1.01-2 cm	116 (43.9)	70 (53.0)	46 (34.8)	
– 2.01-4.99 cm	80 (30.3)	25 (18.9)	55 (41.7)	
– ≥5 cm	5 (1.9)	0 (0)	5 (3.8)	
Axillary involvement, n (%)				<0.001[c]
– Negative	198 (75.0)	124 (93.9)	74 (56.1)	
– Positive	66 (25.0)	8 (6.1)	58 (43.9)	
Surgical margins, n (%)				NA
– Negative	263 (99.6)	131 (99.2)	132 (100)	
– Positive	1 (0.4)	1 (0.8)	0	

Table 4. Postoperative complications and patient-reported outcome scores (BREAST-Q and ASEX)				
Variable	**Total (n=264)**	**BCS (n=132)**	**OPC (n=132)**	**p**
BREAST-Q score, median (IQR)	74 (71-81)	71 (66-74)	80 (75-87)	<0.001[b]
ASEX score, median (IQR)	16 (14-18)	17 (15-19)	14 (12-17)	<0.001[b]
ASEX category, n (%)				0.004[c]
– <11 (no dysfunction)	10 (3.8)	0 (0)	10 (7.6)	
– ≥11 (sexual dysfunction)	254 (96.2)	132 (100)	122 (92.4)	
Complications, n (%)				0.916[c]
– None	240 (90.9)	121 (91.7)	119 (90.2)	
– Minor	22 (8.3)	10 (7.6)	12 (9.1)	
– Major	2 (0.8)	1 (0.8)	1 (0.8)	

[S-310]

Comparison of long-term results of local steroid therapy versus oral steroid therapy in idiopathic granulomatous mastitis

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Objective: Idiopathic granulomatous mastitis (IGM) is a chronic inflammatory condition that mimics breast carcinoma and is associated with autoimmune processes and Corynebacterium infections. While systemic steroids are commonly used, they are linked to high recurrence rates (up to 50%) and systemic side effects. This study compares the efficacy, duration, side effect profile, and recurrence rates of combined local steroid therapy (intralesional + topical) versus classic oral steroid therapy.

Material and Methods: A retrospective cohort study evaluated 105 patients (LST: 69, OST: 36) diagnosed with IGM between 2019 and 2024. Pregnant/lactating patients and those with malignancy suspicion were excluded. The LST group received intralesional triamcinolone and topical steroids, while the OST group received systemic prednol. Statistical analyses included Mann-Whitney U, chi-square, and Kaplan-Meier tests for recurrence-free survival.

Results: Demographic characteristics were similar between groups. Although complete response rates were comparable (LST 95.7% vs. OST 86.1%, p=0.119), the median treatment duration was significantly shorter in the LST group (3 months) compared to the OST group (5 months) (p=0.005). Factors prolonging LST duration included lesion size, fistulas, and abscesses. While overall side effect rates were similar, the OST group experienced systemic effects like weight gain and hirsutism, whereas the LST group showed only local skin changes. Kaplan-Meier analysis revealed significantly superior recurrence-free survival in the LST group (p=0.034), with lower recurrence rates (7.2% vs. 19.4%).

Conclusion: Local steroid therapy offers significant advantages, including high patient compliance and no need for dose tapering. Providing significantly shorter treatment durations and superior recurrence-free survival, it is a reliable and effective first-line treatment option for both uncomplicated and complicated IGM cases.

Keywords: Granulomatous mastitis, local steroid therapy, oral steroid therapy

[S-311]

Hilar loss and cortical thickness as clinical decision tools for axillary surgery after neoadjuvant chemotherapy

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Objective: Axillary surgery after neoadjuvant chemotherapy (NAC) is increasingly moving toward de-escalation. However, reliable preoperative indicators to safely avoid ALND remain limited. We evaluated whether baseline ultrasonographic findings—hilar loss and cortical thickness—can serve as clinical decision tools for predicting the need for ALND after NAC.

Material and Methods: A total of 108 patients with biopsy-proven metastatic axillary lymph nodes who underwent targeted axillary dissection were retrospectively analyzed. Hilar loss and cortical thickness were assessed. ROC analysis identified the optimal cortical thickness threshold. Independent predictors were evaluated using multivariable logistic regression. A three-component clinical risk score incorporating hilar loss, cortical thickness ≥6 mm, and ycT≥2 was constructed.

Results: ALND was performed in 49 of 108 patients (45.4%). Cortical thickness alone demonstrated limited discriminatory ability for predicting ALND (AUC=0.55). ROC analysis identified 6.0 mm as the optimal cut-off, yielding a sensitivity of 16.7% and a specificity of 94.8%. Patients with hilar loss had higher ALND rates. Although hilar loss and cortical thickness were associated with ALND in univariate analyses, they did not retain independent significance in the multivariable model. The multivariable logistic regression model demonstrated excellent discrimination (AUC=0.91) and adequate calibration (Hosmer-Lemeshow p=0.68). Radiologic complete response suspicion independently reduced the likelihood of ALND (OR=0.16; p=0.011). In the three-component risk model incorporating hilar loss, cortical thickness ≥6 mm, and ycT≥2, ALND rates increased stepwise from 23.1% (score 0) to 43.9% (score 1), 73.3% (score 2), and 85.7% (score 3). Each 1-point increase in the risk score nearly tripled the odds of ALND (OR=2.89; p=0.0005). The risk score demonstrated moderate discrimination (AUC=0.69).

Conclusion: While hilar loss and cortical thickness are not strong standalone predictors, when integrated with tumor response parameters, they form a practical and clinically meaningful risk model. This approach may help optimize patient selection and reduce unnecessary ALND after NAC.

Keywords: Neoadjuvant chemotherapy, risk score, targeted axillary disection

Table 1. ALND rates according to the three-component risk score

Risk score	Number of patients (n)	ALND (n)	ALND rate (%)
0	26	6	23,1
1	57	25	43,9
2	15	11	73,3
3	7	6	85,7

Risk score = Hilar loss (1 point) + Cortical thickness ≥6 mm (1 point) + ycT ≥2 (1 point).

[S-312]

Ultrasound guided skin projection marking to reduce surgical margin positivity in breast conserving surgery: A prospective comparative study

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Objective: In breast-conserving surgery (BCS) cases, the technique we routinely use, which reduces surgical positivity, is compared with other techniques.

Material and Methods: This prospective comparative study included 195 breast cancer patients who underwent BCS between January and July 2025. The patients in our study were divided into three groups: the first group consisted of patients who were only marked with a wire; the second group consisted of patients who underwent shaving surgery on the excision cavity after wire marking; and the third group consisted of patients who underwent skin marking with ultrasound (USG) after wire marking to identify areas of tumor and structural damage in the breast.

Results: The rates of tumor positivity at the surgical margins were 23.1%, 0%, and 3.3%, respectively ($p<0.001$).

Conclusion: In the preoperative period, marking the mass in the breast with a wire under ultrasound guidance, followed by marking the skin projection of the tissue identified as pathological by the radiologist using ultrasound, is a valuable method to reduce positive surgical margins.

Keywords: Breast conserving surgery, skin projection marking, breast, re-excision rates, reoperation

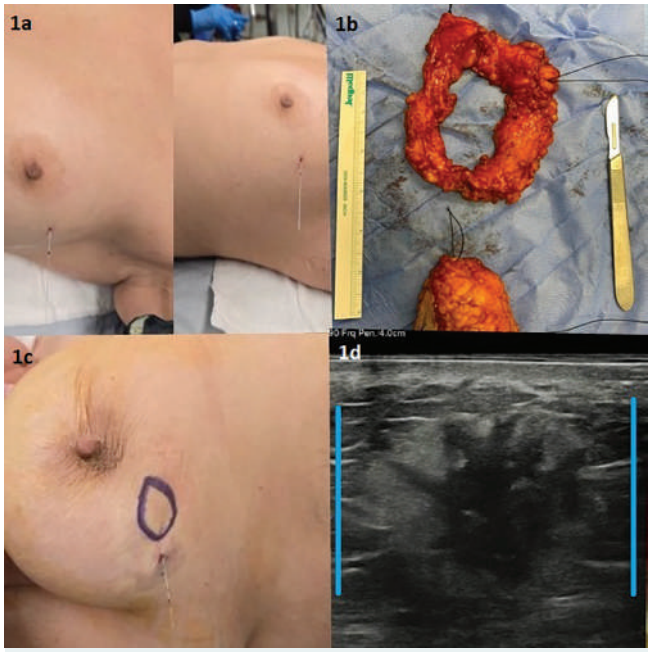

Figure 1. (a) Marking of breast malignancies that cannot be felt during examination with a wire, (b) Shaving material removed from the cavity left behind after the specimen was removed, (c) The marked projection of the pathological tissue observed internally onto the skin during the placement of a wire marker for a non-palpable breast malignancy detected during examination, (d) The radiologist will mark the skin to guide the surgeon in locating the mass within the breast and the surrounding pathologically affected tissues.

Table 1. Comparison of metric parameters by group

	Groups	N	Middle	Minimum	IQR	Maximum	Mean rank	p-value
Distance of the tumor from the areola (mm)	I	65	25	5	30	80	78.26	0.687
	II	31	25	5	20	70	85.13	
	III	61	22.5	5	20	85	76.67	
Resection size (cc)	I	65	82	9	115	560	75.15	0.533
	II	31	78	26	112	380	77.18	
	III	61	94	27	106	420	84.02	
Longest tumor length (mm)	I	65	18	1	16	75	86.08	0.116
	II	31	15	1	10	47	65.58	
	III	61	18	1	15	40	78.28	
The tumor's closest distance to the surgical margin (mm)*	I	65	2	0	6	20	69.27	0.058
	II	31	5	0	9	10	90.68	
	III	61	3.5	0	6	30	83.43	
Number of lymph nodes removed	I	65	5	0	6	26	69.48	0.113
	II	31	7	2	7	20	88.10	
	III	61	6	1	6	19	81.88	
Number of malignant lymph nodes	I	65	0	0	0	5	75.12	0.572
	II	31	0	0	0	7	78.18	
	III	61	0	0	0	4	80.98	

IQR: Interquantile range.

Table 2. Comparison of groups based on certain parameters

			Groups			p-value
			BCS with wire marking under USG guidance	Cavity shaving	Projection marking with USG	
The quadrant where the tumor is located in the breast	Upper outer quadrant	N	33	17	40	0.265
		%	36.7	18.9	44.4	
	Upper inner quadrant	N	16	6	7	
		%	55.2	20.7	24.1	
	Lower inner quadrant	N	3	2	6	
		%	27.3	18.2	54.5	
	Lower outer quadrant	N	8	6	5	
		%	42.1	31.6	26.3	
	Retro areolar	N	5	0	3	
		%	62.5	0	37.5	
Neoadjuvant chemotherapy	Not taken	N	41	10	25	0.006
		%	53.9	13.2	32.9	
	Taken	N	24	21	36	
		%	29.6	25.9	44.4	
Estrogen receptor	Negative	N	9	2	5	0.430
		%	56.3	12.5	31.3	
	Positive	N	56	29	56	
		%	39.7	20.6	39.7	
Progesterone receptor	Negative	N	18	8	19	0.845
		%	40	17.8	42.2	
	Positive	N	47	23	42	
		%	42	20.5	37.5	
HER2	Negative	N	50	21	51	0.220
		%	41	17.2	41.8	
	Positive	N	15	10	10	
		%	42.9	28.6	28.6	
Total		N	65	31	61	
		%	41.4	19.7	38.9	

BCS: Breast conserving surgery, USG: Ultrasonography, HER2: Human epidermal growth factor receptor 2.

Table 3. Comparison of groups based on certain parameters

Surgical margin positivity			Groups			p-value
			Wire marking under USG guidance	Cavity shaving	Projection marking with USG	
Positive surgical margin after surgery (according to Spesimen)						
Surgical margin positivity	Negative	N	46	25	54	0.049
		%	36.8	20	43.2	
	Positive	N	19	6	7	
		%	59.4	18.8	21.9	
Positive surgical margin after surgery (after the procedure is completed)						
Surgical margin positivity	Negative	N	46	31	54	0.001
		%	35.1	23.7	41.2	
	Positive	N	19	0	7	
		%	73.1	0	26.9	
After completion of BCS techniques, surgical margin positivity according to the NCCN guidelines						
Surgical margin positivity	Negative	N	50	31	59	<0.001
		%	35.7	22.1	42.1	
	Positive	N	15	0	2	
		%	88.2	0	11.8	
Total		N	65	31	61	
		%	41.4	19.7	38.9	
Tumor presence in re-excision material						
Becoming negative		N	13	0	2	0.052
		%	68.4	0	28.6	
There is a tumor at the surgical margin		N	2	0	0	
		%	10.5	0	0	
No tumor in the re-excision material		N	4	0	5	
		%	21.1	0	71.4	
Total		N	19	0	7	
		%	73.1	0	26.9	

BCS: Breast conserving surgery, USG: Ultrasonography.

[S-313]

Sarcopenia and body composition changes in breast cancer patients receiving neoadjuvant therapy

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Objective: Sarcopenia is an important factor affecting treatment tolerance and clinical outcomes in patients with breast cancer. Body composition changes during neoadjuvant therapy may not be adequately reflected by conventional anthropometric measures such as body mass index (BMI). This study aimed to evaluate changes in sarcopenia prevalence defined by the psoas muscle index (PMI), as well as changes in HAUS score and BMI, before and after neoadjuvant therapy.

Material and Methods: A total of 96 breast cancer patients who received neoadjuvant therapy and had available pre- and post-treatment computed tomography scans were retrospectively analyzed. PMI was calculated at the L3 vertebral level by normalizing bilateral psoas muscle area to height. Sarcopenia was defined as PMI <36. Paired comparisons were performed between pre- and post-treatment values. Changes in sarcopenia prevalence were assessed using the McNemar test, and continuous variables were analyzed using the Wilcoxon signed-rank test. Associations between variables were evaluated using Spearman correlation analysis.

Results: Sarcopenia was present in 16 patients (16.7%) before neoadjuvant therapy and increased to 25 patients (26.0%) after treatment. Nine patients without pre-treatment sarcopenia developed sarcopenia following therapy, while no patient demonstrated reversal. This increase was statistically significant (McNemar test, p=0.004). Mean PMI significantly decreased after neoadjuvant therapy (45.84 vs. 43.85; mean change -1.99; p<0.001). HAUS scores also showed a significant decline (mean change -2.89; p<0.001). In contrast, BMI demonstrated a minimal but statistically significant increase (+0.12; p=0.026). No significant correlations were observed between changes in PMI and changes in BMI or HAUS (all p>0.05).

Conclusion: Neoadjuvant therapy is associated with significant muscle loss and increased sarcopenia prevalence despite preserved BMI in patients with breast cancer. Conventional anthropometric measures may fail to capture treatment-related muscle depletion. Imaging-based muscle assessment may provide a more sensitive evaluation of body composition changes during neoadjuvant therapy.

Keyword: Body composition body mass index breast cancer neoadjuvant therapy sarcopenia

[S-314]

Permanent section-based axillary management in early-stage breast cancer: Is frozen section obsolete?

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Objective: Axillary management in early-stage breast cancer has progressively shifted toward de-escalation. Although sentinel lymph node biopsy remains the standard staging procedure in clinically node-negative disease, the routine use of intraoperative frozen section analysis is increasingly questioned in the era of ACOSOG Z0011 and modern adjuvant therapies. This study aimed to evaluate axillary outcomes in early-stage, clinically node-negative breast cancer patients undergoing sentinel lymph node biopsy without intraoperative frozen section analysis, with particular focus on the rate of secondary axillary lymph node dissection and factors associated with high nodal burden.

Material and Methods: This retrospective cohort study included 398 patients with early-stage invasive breast cancer treated with upfront surgery between January 2019 and January 2025 at a tertiary referral center. All patients underwent sentinel lymph node biopsy without frozen section analysis. Axillary management decisions were based on permanent section pathology, with completion axillary lymph node dissection performed only in patients with three or more metastatic sentinel lymph nodes. Clinicopathological variables were analyzed to identify factors associated with increased nodal burden.

Results: Sentinel lymph node metastasis was detected in 21.6% of patients. Among node-positive cases, 90.6% had one or two metastatic sentinel lymph nodes. Only 8 patients (2.0% of the entire cohort) were found to have three or more metastatic nodes and subsequently underwent secondary axillary lymph node dissection. Luminal B molecular subtype, higher Ki-67 proliferation index, and the presence of lymphovascular invasion were significantly associated with a higher sentinel lymph node burden (p<0.05). During a median follow-up of 40 months, locoregional recurrence was observed in 1.0% of patients managed without axillary dissection.

Conclusion: Omission of intraoperative frozen section during sentinel lymph node biopsy in early-stage, clinically node-negative breast cancer results in a very low rate of secondary axillary surgery and does not compromise locoregional control. Permanent section-based axillary decision-making appears safe and aligns with contemporary de-escalation strategies, supporting the selective rather than routine use of frozen section analysis.

Keywords: Breast cancer, sentinel lymph node biopsy, frozen section; axillary management, axillary lymph node dissection, de-escalation surgery, permanent section

[S-316]

Predictive factors for pathological complete response after neoadjuvant therapy in patients with HER2-positive breast cancer

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Objective: The aim of this study was to retrospectively evaluate pathological complete response (pCR) rates after neoadjuvant therapy (NACT) and to identify clinicopathological factors associated with treatment response in patients diagnosed with HER2-positive (+) breast cancer (BC).

Material and Methods: This retrospective study included 184 patients diagnosed with HER2-positive breast cancer who received neoadjuvant therapy. All patients received standard neoadjuvant chemotherapy combined with anti-HER2 targeted therapy. Factors associated with pCR were analyzed using univariate and multivariate logistic regression analyses.

Results: A total of 184 patients, among them, 53.8% were hormone receptor positive and 46.2% were hormone receptor negative. HER2 positivity was identified by IHC 3+ in 29.9% of patients and by IHC 2+/FISH positivity in 70.1%. Clinical T stage (cT) was T1-T2 in 51.6% and T3-T4 in 48.4% of patients. Clinically node (cN)-negative disease was observed in 38.6% of patients, while 61.4% had cN-positive disease. A Ki-67 proliferation index ≥20% was observed in 59.8% of patients. Univariate analysis demonstrated significant associations between pCR rates and several clinicopathological parameters. The pCR rate was significantly higher in HR-negative patients compared with HR-positive patients (58.8% vs. 34.3%, p<0.001). Patients with IHC 3+ HER2 positivity achieved higher pCR rates than those with IHC 2+/FISH+ status (56.4% vs. 41.1%, p=0.048). Patients with cT stage ≤T2 had significantly higher pCR rates compared with those with T3-T4 tumors (52.6% vs. 33.8%, p=0.012). Similarly, patients with cN-negative disease had higher pCR rates than those with cN-positive disease (54.9% vs. 38.2%, p=0.031). Higher pCR rates were also observed in grade 3 tumors compared with grade 1-2 tumors (57.1% vs. 35.4%, p=0.009), and in patients with Ki-67 ≥20% compared with those with Ki-67 <20% (53.6% vs. 29.7%, p=0.015).In multivariate logistic regression analysis including variables significant in univariate analysis, HR negativity (OR: 2.41; 95% CI: 1.32-4.38; p=0.004), IHC 3+ HER2 positivity (OR: 1.89; 95% CI: 1.01-3.54; p=0.046), cT stage ≤T2 (OR: 1.97; 95% CI: 1.08-3.61; p=0.026), and Ki-67 ≥20% (OR: 2.12; 95% CI: 1.14-3.95; p=0.018) were identified as independent predictors of pathological complete response. cN positivity and grade 3 were not independently associated with pCR in the multivariate analysis.

Conclusion: In patients with HER2-positive breast cancer, pCR rates following NACT are closely associated with HR status. Higher pCR rates were observed in HR-negative and IHC 3+ HER2-positive patients. These findings are consistent with the existing literature and may contribute to the development of individualized treatment strategies.

Keywords: Breast cancer, HER2-positive, pathological complete response

Table 1. Association between pathological complete response and clinicopathological parameters (univariate analysis)

Parameter	pCR (%)	p-value
Hormone receptor status		
Positive	34.3	
Negative	58.8	<0.001
Method of HER2 positivity		
IHC 3+	56.4	
IHC 2+/FISH+	41.1	0.048
Clinical T stage		
T1-T2	52.6	
T3-T4	33.8	0.012
Clinical N status		
N0	54.9	
N+	38.2	0.031
Histological grade		
Grade 1-2	35.4	
Grade 3	57.1	0.009
Ki-67 index		
<20%	29.7	
≥20%	53.6	0.015

Table 2. Multivariate logistic regression analysis for pathological complete response

Parameter	OR	95% confidence interval	p-value
Hormone receptor negativity	2.41	1.32-4.38	**0.004**
IHC 3+ HER2 positivity	1.89	1.01-3.54	**0.046**
Clinical T stage ≤T2	1.97	1.08-3.61	**0.026**
Ki-67 ≥20%	2.12	1.14-3.95	**0.018**
Clinical N positivity	0.78	0.41-1.49	0.45
Histological grade 3	1.43	0.78-2.63	0.24

[S-317]

Is radiological complete response sufficient to omit surgery reliability of core biopsy after neoadjuvant chemotherapy

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Objective: Neoadjuvant chemotherapy (NACT) is administered in breast cancer to reduce tumor size and achieve pathological complete response (pCR). The necessity of surgery in patients who achieve radiological complete response (rCR) has recently become a subject of debate. This study aimed to evaluate the reliability of preoperative core biopsy in detecting residual disease by comparing biopsy findings with final postoperative pathology results in patients with rCR.

Material and Methods: Patients who underwent surgery after NACT between May 11, 2023 and June 1, 2024 at Haseki Training and Research Hospital, Department of General Surgery were retrospectively analyzed. Patients with rCR confirmed by physical examination and imaging were included, while those without rCR were excluded. Core biopsy from the tumor bed was performed preoperatively in patients with rCR, followed by surgical resection. Preoperative biopsy findings were compared with final pathological results.

Results: Among 71 patients operated after NACT, 36 met the inclusion criteria. Core biopsy revealed no tumor in 35 patients (97.2%) and residual tumor in 1 patient (2.8%). Final pathology demonstrated pCR in 22 patients (61.1%) and residual tumor in 14 patients (38.9%). The sensitivity, specificity, and overall accuracy of core biopsy were 100%, 62.9%, and 63.9%, respectively. The false negative rate was 37.1%.

Conclusion: Due to a false negative rate of 37.1%, omitting surgery based solely on core biopsy findings in patients with radiological complete response does not appear to be safe. These findings support that surgery remains the standard treatment following NACT.

Keywords: Breast cancer, core biopsy, neoadjuvant chemotherapy

Table 1. Concordance between core biopsy and final pathology

	Final pathology pCR	Residual tumor	Total
Core biopsy negative	22	13	35
Core biopsy positive	0	1	1
Total	22	14	36

[S-318]

Comparison of clinical, radiological, and pathological characteristics between multicentric and unifocal breast cancer

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Objective: The presence of multicentric tumors in breast cancer represents an important clinical entity affecting surgical planning, axillary management, and prognostic evaluation. However, the relationship between multicentric disease and tumor biology remains incompletely understood. This study aimed to compare the clinical, radiological, and pathological characteristics of multicentric breast cancers with those of unifocal tumors.

Material and Methods: A total of 321 patients who underwent surgery for breast cancer between 2020 and 2025 were retrospectively analyzed. Patients were divided into two groups according to tumor focality: multicentric (n=63) and unifocal (n=258). Demographic characteristics, axillary lymph node status, immunohistochemical features, proliferation indices, pathological findings, and the diagnostic performance of imaging modalities were evaluated.

Results: The mean age of patients with multicentric tumors was significantly lower compared with the unifocal group (56.9±16.5 vs. 63.4±14.5 years; p=0.016). Axillary lymph node metastasis was significantly more frequent in multicentric tumors (60.3% vs. 44.2%; p=0.022). Evaluation of HER-2 status demonstrated a markedly higher rate of HER-2 positivity in the multicentric group compared with unifocal tumors (25.4% vs. 10.1%; p=0.0012). Lymphovascular invasion was also significantly more common in multicentric tumors (44.4% vs. 27.5%; p=0.0091). No statistically significant differences were observed between the groups regarding estrogen receptor (ER) and progesterone receptor (PR) positivity or Ki-67 proliferation index. Similarly, the presence of a concomitant ductal carcinoma *in situ* (DCIS) component and perineural invasion did not differ significantly between groups.The diagnostic accuracy for detecting multicentricity was 78.3% for ultrasonography, 78% for magnetic resonance imaging (MRI), and 81% for PET/CT. In axillary evaluation, PET/CT demonstrated higher positive predictive value (74.8%) and negative predictive value (76.6%) compared with other imaging modalities, although these differences were not statistically significant. Among patients evaluated as axilla-negative by ultrasonography, additional imaging resulted in nodal upstaging in 12.9% of cases with MRI and 25.3% with PET/CT.

Conclusion: Multicentric breast cancers tend to occur at a younger age and are associated with higher rates of HER-2 positivity, lymphovascular invasion, and axillary lymph node metastasis compared with unifocal tumors. These findings suggest a more aggressive biological behavior in multicentric disease. Although imaging modalities demonstrate comparable diagnostic accuracy, additional imaging studies may provide clinically meaningful contributions to axillary evaluation and staging.

Keywords: Multicentric breast cancer, axillary lymph node metastasis, tumor biology

[S-319]

Comparative the effects of aloe vera and tetracycline on seroma formation after mastectomy and axillary dissection: An experimental rat model

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Objective: Seroma after mastectomy and axillary dissection is a common and clinically important complication that increases postoperative morbidity. Although various agents have been investigated to reduce seroma formation, the ideal method remains controversial. This study aimed to compare the effects of Aloe vera and tetracycline on seroma formation and wound healing.

Material and Methods: This experimental study included twenty-four female Wistar albino rats (200-250 g). The animals were randomly assigned to three groups (n=8). All rats underwent unilateral mastectomy and axillary dissection under general anesthesia. Group 1 (Control): No agent was applied. Group 2 (Aloe vera): Thirty milligrams of lyophilized aloe vera was applied into the dead space. Group 3 (Tetracycline): Tetracycline (15 mg/kg) was applied into the dead space. On postoperative day 10, seroma volume was measured by ultrasonography. Tissue samples from the surgical area were evaluated histopathologically. Hemorrhage, edema, congestion, necrosis, fibrin, polymorphonuclear leukocytes (PNL), fibroblasts, lymphocytes, macrophages, vascular proliferation, and fibrosis were scored semi-quantitatively.

Results: A significant difference in seroma volume was observed among the groups ($p<0.001$). Seroma volume in the control group was significantly higher than in the Aloe vera and tetracycline groups ($p<0.05$), while no difference was found between the aloe vera and tetracycline groups ($p>0.05$). Fibrin and PNL scores were significantly higher in the aloe vera group ($p=0.02$ and $p=0.01$). Necrosis scores and lymphocyte density were significantly lower in the tetracycline group compared with the control group ($p<0.05$). No significant differences were observed for the remaining parameters (Table 1). Histopathological evaluation showed prominent seroma cavities and diffuse inflammatory infiltration in the control group (Figure 1). In the aloe vera group, seroma areas were more limited, with increased inflammatory cell density and fibroblast activity (Figure 2). In the tetracycline group, seroma cavities were minimal, and inflammation and congestion were milder (Figure 3). These findings support a stronger effect of tetracycline on seroma formation and inflammatory response.

Conclusion: Both aloe vera and tetracycline significantly reduce seroma formation after mastectomy and axillary dissection. However, due to its more effective suppression of the inflammatory response, lower necrosis rates, and more balanced tissue healing profile, tetracycline appears to be a more reliable agent for seroma control. These findings suggest that tetracycline may be considered a preferable option in the clinical management of postoperative seroma. Aloe vera may serve as a supportive agent; however, further large-scale and long-term studies are required before it can be recommended as a standard treatment alternative.

Keywords: Seroma, mastectomy, axillary dissection, aloe vera, tetracycline

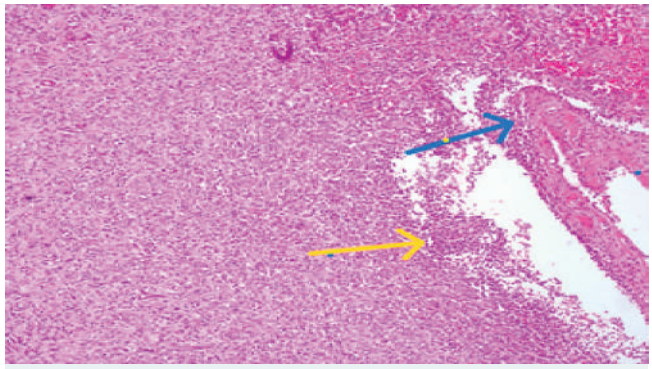

Figure 1. Control group, H&E ×4. Blue arrow: seroma; yellow arrow: general inflammation.

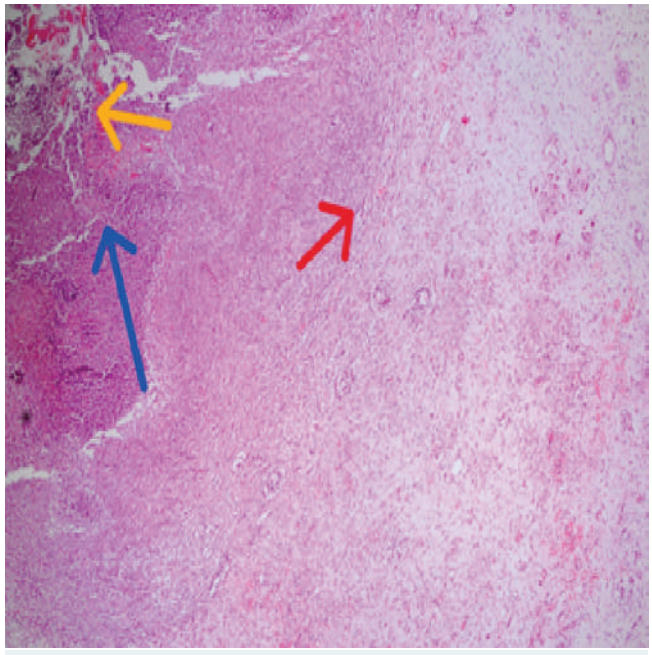

Figure 2. Aloe vera group, H&E ×4. Yellow arrow: seroma; blue arrow: general inflammation; red arrow: fibroblasts.

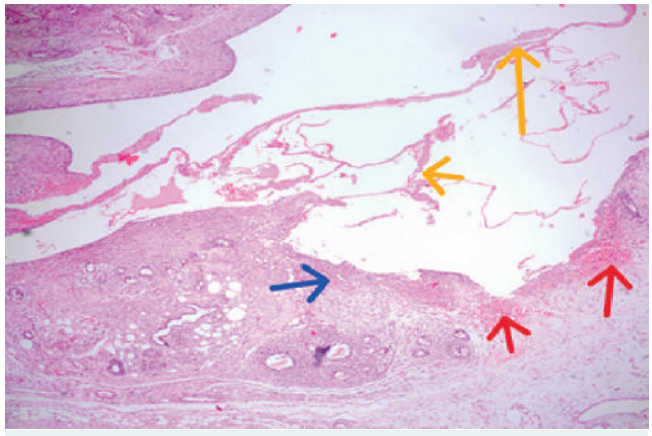

Figure 3. Tetracycline group, H&E ×4. Yellow arrow: seroma; blue arrow: general inflammation; red arrow: congestion.

Table 1. Comparison of seroma volume and histopathological parameters among Group 1, Group 2, and Group 3

Paramater	Group 1 (n=8)	Group 2 (n=8)	Group 3 (n=8)	Kruskal-Wallis p	Group 1 vs. Group 2	Group 2 vs. Group 3	Group 2 vs. Group 3
Seroma volume (mL, mean ± SD)	2.14±3.07	0.28±0.30	0.19±0.32	<0.001	<0.05	<0.05	>0.05
Vacsular proliferatin (0-3, median) [min-max]	2 [1-2]	2 [1-3]	2 (2-2)	0.40	NS	NS	NS
Fibrin	2 (0-3)	3(1-3)	1 (0-1)	0.02	NS	<0.05	NS
Hemorragi	1 (0-2)	1 (0-2)	0 (0-3)	0.21	NS	NS	NS
Edema	1 (0-1)	1 (1-1)	1 (1-2)	0.31	NS	NS	NS
Necrosis	1 (1-2)	1 (0-3)	1 (0-1)	0.04	NS	<0.05	NS
Kongesion	1 (1-2)	1 (1-2)	1 (1-2)	0.76	NS	NS	NS
PNL	2 (1-3)	3 (1-4)	0 (0-1)	0.01	<0.05	<0.05	<0.05
Fibroblast	2 (1-2)	1 (1-1)	2 (1-2)	0.12	NS	NS	NS
Lymphocyte	1 (0-2)	1 (0-1)	2 (2-3)	0.03	NS	<0.05	<0.05
Macrophage	1 (0-3)	1 (0-3)	2 (0-3)	0.28	NS	NS	NS
Collagen	1 (0-2)	1 (0-2)	1 (0-2)	0.67	NS	NS	NS

[S-320]

Two-year outcomes and factors affecting recovery in 84 breast cancer patients undergoing immediate breast reconstruction with simultaneous latissimus dorsi flap

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Objective: The aim of this study was to evaluate the two-year long-term surgical, functional, and aesthetic outcomes in breast cancer patients who underwent immediate breast reconstruction with a latissimus dorsi myocutaneous flap (LDF) following mastectomy, and to analyze factors influencing postoperative recovery.

Material and Methods: This retrospective study included 84 patients who underwent mastectomy for breast cancer and immediate breast reconstruction with LDF between January 2018 and December 2021. Demographic characteristics, tumor stage, adjuvant therapies, surgical techniques, and early and late complications were recorded. All patients were followed for at least 24 months. Functional outcomes were assessed based on shoulder range of motion and patient-reported evaluations, while aesthetic outcomes and overall satisfaction were analyzed using a Likert scale.

Results: The mean age of the patients was 49.6±8.3 years. The median follow-up duration was 28 months (range: 2442 months). Reconstruction was performed with implant-assisted LDF in 52 patients (61.9%), while 32 patients (38.1%) underwent reconstruction using autologous LDF alone. In the early postoperative period, the most common complication was a donor-site seroma, observed in 21 patients (25%). Partial flap necrosis occurred in 3 patients (3.6%), and no cases of major flap loss were reported. Implant loss was identified in 5 patients (6%) (Table 1). Late complications included chronic donor-site pain in 10 patients (11.9%) and capsular contracture in 7 implant-based cases (13.5%). Revision surgery was required in 9 patients (10.7%). Functional assessment showed that shoulder range of motion fully returned to normal in 78% of patients. Mild strength loss was reported by 17%, whereas 5% experienced significant functional limitation affecting daily activities (Table 2). Regarding patient satisfaction, aesthetic satisfaction was 74% and overall satisfaction was 81%. A history of radiotherapy, high body mass index (BMI) >30, and smoking were significantly associated with increased complication rates ($p<0.05$).

Conclusion: Immediate breast reconstruction with a latissimus dorsi flap is a safe and effective surgical option with high patient satisfaction in breast cancer patients over the long term. Careful patient selection and thorough evaluation of adjuvant therapies are essential to reduce complication rates.

Keywords: Breast cancer, latissimus dorsi flap, immediate breast reconstruction, mastectomy, long term outcomes

Table 1. Early postoperative surgical complications

Complications	Number of patients	Rate (%)
Donor site seroma	21	25
Hematoma	6	7.1
Surgical site infections	5	6
Partial flep necrosis	3	3.6
Major flep loss	0	0

Table 2. Functional outcomes (shoulder function)

Functional status	Number of patients	Rate (%)
Full normal range of motion	66	78.6
Mild strength loss	14	16.7

[S-321]

Evaluation of malignancy risk in BI-RADS 4 subtypes using pathological and imaging findings

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Objective: The breast imaging reporting and data system (BI-RADS), developed by the American College of Radiology, is a standardized system for classifying breast imaging findings according to malignancy risk. BI-RADS 4 lesions account for approximately 2-6% of breast imaging findings, with reported malignancy rates ranging widely from 2% to 95%. This heterogeneity has led to the subdivision of BI-RADS 4 into low (4A), intermediate (4B), and high suspicion (4C) categories. Although current guidelines recommend biopsy for all BI-RADS 4 lesions, the necessity of biopsy in BI-RADS 4A lesions remains controversial.This study aimed to evaluate the relationship between BI-RADS 4 subtypes and malignancy by incorporating patient age, lesion size, number of imaging modalities, and multimodal BI-RADS 4 concordance, and to reassess the necessity of biopsy in all BI-RADS 4 lesions.

Material and Methods: Breast lesions reported as BI-RADS 4 between 2021 and 2025 at University of Health Sciences Türkiye, Kanuni Sultan Süleyman Training and Research Hospital were retrospectively analyzed. Patient age, lesion size (mm), BI-RADS 4 subtype, imaging modalities in which BI-RADS 4 was detected, and histopathological outcomes were recorded. Lesions were categorized by age (<50 vs. ≥50 years), size (<10 mm vs. ≥10 mm), and number of imaging modalities. Histopathological results were classified as benign, malignant, or high-risk; malignant and high-risk lesions were grouped as non-benign.

Results: A total of 110 patients were included. BI-RADS 4 lesions were most frequently detected by ultrasonography. A significant association was observed between BI-RADS 4 subtypes and histopathological outcomes, with malignancy rates increasing significantly from BI-RADS 4A to 4C ($p<0.001$). On mammography, malignancy rates increased from 11.3% in BI-RADS 4A lesions to 80% in BI-RADS 4C lesions. No statistically significant difference was found in non-benign lesion rates between lesions <10 mm and ≥10 mm ($p=0.53$). Although non-benign rates were higher in lesions detected as BI-RADS 4 by more than one imaging modality, this difference did not reach statistical significance ($p\approx0.12$).

Conclusion: BI-RADS 4 subtypes are not homogeneous in terms of malignancy risk, which increases progressively from 4A to 4C. Although BI-RADS 4A lesions are considered low suspicion, their malignancy risk is not negligible. Our findings suggest that biopsy decisions should be based on a comprehensive risk assessment incorporating both patient- and lesion-related factors, rather than subtype alone. Based on this approach, biopsy remains an appropriate strategy for all BI-RADS 4 subgroups.

Keywords: BI-RADS, biopsy

[S-322]

Sentinel and non-sentinel lymph node involvement in clinically N0 breast cancer after neoadjuvant therapy: An analysis of initially node-positive cases

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Objective: Axillary involvement in breast cancer plays a critical role in both prognosis and treatment planning. Neoadjuvant chemotherapy (NACT) not only reduces tumor size but can also achieve axillary sterilization, potentially altering the surgical approach. However, in patients who are initially node-positive (N+) and become clinically node-negative (cN0) after NACT, the adequacy of sentinel lymph node biopsy (SLNB), the rate of SLN positivity, and the likelihood of non-sentinel lymph node (non-SLN) involvement remain important clinical questions. This study aimed to identify clinical and biological factors associated with SLN positivity and non-SLN involvement in breast cancer patients who were initially clinically node-positive (N+) and became cN0 following NACT.

Material and Methods: A total of 157 female patients were retrospectively evaluated. All patients were clinically node-positive at diagnosis and underwent SLNB after being assessed as clinically node-negative following NACT. Among them, 46 patients with positive SLN results underwent completion axillary lymph node dissection, and non-SLN involvement was assessed. The associations of SLN and non-SLN status with clinical T and N stage, focality, histological grade, ER, PR, HER2, Ki-67 index, and molecular subtype were analyzed.

Results: The mean age of the patients was 52.9±11 years. SLN positivity was identified in 29.3% of patients. Mastectomy was performed in 63.1% of the patients, while 36.9% underwent breast-conserving surgery (BCS). Among SLN-positive patients, 60.9% had non-SLN involvement. SLN positivity was significantly lower in patients who achieved a pathological complete response (pCR) in the breast (5.5%) compared to those who did not (42.2%) ($p<0.001$). However, among SLN-positive patients, breast pCR was not significantly associated with non-SLN involvement ($p=0.689$). The false-negative rate (FNR) of sentinel lymph node biopsy was found to be 8.3%. SLN positivity was significantly associated with ER positivity ($p=0.013$), PR positivity ($p=0.043$), and low Ki-67 index ($p=0.0094$). Additionally, a statistically significant difference was observed among molecular subtypes ($p=0.044$). No clinical or biological factor was significantly associated with non-SLN involvement (all $p>0.05$).

Conclusion: SLN positivity persists at a significant rate in patients who are clinically node-negative after NACT. Breast pCR is strongly associated with SLN negativity and may serve as a predictor of axillary sterilization. However, no reliable clinical or biological predictor of non-SLN involvement was identified among SLN-positive patients.

Keywords: Breast cancer, neoadjuvant chemotherapy, sentinel lymph node, non-sentinel lymph node

[S-323]

Residual disease patterns and molecular characteristics in fibrous scar-dominant response breast cancers after neoadjuvant chemotherapy

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Objective: Neoadjuvant chemotherapy (NACT) in breast cancer is not merely a strategy to reduce tumor size; it is a dynamic process that reveals biological response patterns directly influencing surgical planning,axillary management and margin assessment. While pathological complete response (pCR) serves as a strong prognostic marker in certain molecular subtypes, residual disease after NACT often exhibits heterogeneous morphological features. In clinical practice, a fragmented regression pattern, characterized by residual invasive tumor foci within a fibrotic scar, is particularly relevant for assessing surgical margins and detecting true tumor spread. This study aimed to evaluate the immunohistochemical and molecular characteristics of breast cancers exhibiting residual invasive disease in a fibrotic scar following NACT, in relation to residual tumor distribution patterns.

Material and Methods: Between January 2019 and December 2025, breast cancer patients undergoing surgery after NACT at University of Health Sciences Türkiye, Gülhane Training and Research Hospital were retrospectively reviewed. A total of 113 patients with residual invasive tumor within fibrotic scar tissue were included. Residual disease morphology was classified into two groups: Limited residual pattern (Group 1) and scattered residual pattern (Group 2). Demographic and clinicopathological data, residual tumor size, axillary management, fibrotic scar area, and ER, PR, HER2, and Ki-67 expression were analyzed. Statistical analyses were performed using SPSS v26.0. Continuous variables were assessed with the Kolmogorov-Smirnov test; non-parametric distributions led to between-group comparisons using the Mann-Whitney U test, while categorical variables were analyzed with chi-square or Fisher's exact tests. The diagnostic performance of ER and PR expression for differentiating residual patterns was evaluated by receiver operating characteristic (ROC) curve analysis.

Results: Following NACT, 87.6% of patients displayed a limited residual pattern (Group 1) and 12.4% a scattered pattern (Group 2). No significant differences were observed between groups regarding age, histologic subtype, surgical approach, or axillary management. Immunohistochemically, median ER and PR expressions were significantly higher in the scattered residual pattern (p=0.008 and p=0.004, respectively). Although axillary response did not differ significantly, patients with scattered residuals showed relatively higher partial and complete response rates. ROC analysis demonstrated moderate discriminatory ability for ER (AUC=0.718) and PR (AUC=0.736) in distinguishing residual patterns.

Conclusion: Residual disease on a fibrotic scar background after NACT does not represent a surgically homogeneous partial response. The scattered residual pattern, characterized by small and irregular tumor foci dispersed within extensive fibrotic areas, poses greater challenges for margin safety and pathological sampling. The association of this pattern with hormone receptor positivity suggests that not only the amount but also the distribution morphology of residual disease should be considered during surgical planning. These findings highlight the importance of integrating pathological response patterns with biological markers when determining post-NACT surgical strategies.

Keywords: Fibrotic scar, neoadjuvant chemotherapy, residual tumor pattern

[S-324]

Factors affecting healing time in idiopathic granulomatous mastitis: A retrospective cohort analysis

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Objective: Idiopathic granulomatous mastitis (IGM) is a rare, chronic inflammatory breast disease with an unpredictable clinical course and no standardized treatment algorithm. Identifying factors that influence healing time may help optimize treatment selection and patient counseling.

Material and Methods: We retrospectively analyzed patients diagnosed with IGM between 2020 and 2025. Demographic characteristics, clinical features (number of foci, presence of fistula, abscess size), and treatment modalities were recorded. Healing time was compared according to disease characteristics and treatment type. Correlation and linear regression analyses were performed to evaluate the relationship between abscess size and healing duration. A p-value <0.05 was considered statistically significant.

Results: The mean age of the entire cohort was 37.37±7.24 years, while the mean age at diagnosis was 32.56±7.49 years. Healing was observed in 83.5% of patients with single-focus disease compared to 62.9% in multifocal disease (p=0.071). Patients with fistula had a longer mean healing time than those without fistula (7.86±5.9 vs. 4.87±6.67 months, p=0.264). Abscess size showed a moderate positive correlation with healing time (r=0.31, p=0.017). Linear regression analysis demonstrated that healing time (months) could be predicted by the formula: healing time =2.59+(0.1 × abscess size in mm), indicating that each 10 mm increase in abscess size prolongs treatment duration by approximately one month.Mean healing times differed significantly according to treatment modality (p<0.01): observation (1.2±0.9 months), steroid injection (3.3±1.7 months), and oral steroid therapy (8.7±7.9 months). Healing duration in the oral steroid group was highly heterogeneous. Although longer healing times were observed in patients receiving steroids, these patients had larger initial abscess sizes, suggesting a selection bias.

Conclusion: Abscess size is a significant predictor of prolonged healing time in idiopathic granulomatous mastitis. While oral steroid therapy is often reserved for more severe disease, steroid injection in selected patients appears to shorten healing duration. Individualized treatment strategies based on disease burden may improve outcomes and reduce treatment duration.

Keywords: Idiopathic granulomatous mastitis, healing time, abscess size, treatment outcomes

[S-325]

Steroid-free approach in the management of idiopathic granulomatous mastitis: Comparison of surgical drainage with conservative treatment with aspiration alone

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Objective: Idiopathic granulomatous mastitis (IGM) is a chronic benign inflammatory breast disease that can clinically and radiologically mimic breast cancer and tends to recur. In practice, lesion size, multifocality, clinical severity, and imaging findings shape management, yet there is no universally accepted standard between surgical and non-surgical strategies; centers differ in response times, recurrence rates, and complication profiles.

Material and Methods: We prospectively evaluated 53 patients (mean age 37 years; range 20-78) diagnosed with IGM between January 2024 and January 2026. Patients were managed with one of two protocols. The surgical group underwent operative drainage of abscesses with debridement when needed. The non-surgical group received ultrasound-guided core needle abscess aspiration, repeated saline irrigation, and culture-directed antibiotics, followed by close clinical and ultrasonographic follow-up. No patient received oral or intralesional steroids at any point (pre- or post-procedure); our approach relied on mechanical evacuation/cleaning and, when indicated, surgical drainage and debridement.

Results: Lesions were predominantly unilateral and most commonly presented as painful masses or abscess/fistula formations. Healing was significantly faster after surgery: 90% achieved wound healing within a median of 13 days, and no patient required secondary surgery. In contrast, the aspiration group showed a longer overall "radiological" course despite early symptom control. Pain, erythema, and discharge typically subsided soon after aspiration, but complete symptom regression and ultrasound normalization generally required 2-3 months, and residual radiological sequelae could persist for up to 4 months. These longer intervals should not be labeled treatment failure; they mainly reflect the time required for granulomatous tissue and edema to resolve on ultrasound after the purulent component has been mechanically removed. Only two patients with clinically recurrent abscesses required re-aspiration or conversion to surgery; most others were safely observed.

Conclusion: During steroid-free follow-up, recurrences were less frequent in the surgical group, although minor complications such as seroma and wound dehiscence were observed. In the aspiration group, radiological persistence was common, but surgery was considered unnecessary unless a clear clinical flare-up occurred, emphasizing the primacy of symptoms over imaging alone. Overall, IGM can be successfully managed without steroid therapy, provided expectations are aligned with the chosen pathway. For patients treated with aspiration, persistent ultrasound findings should be anticipated and contextualized: radiological improvement is typically slower because resolution depends on gradual resorption after evacuation of purulent collections. Discussing alternatives, expected duration, and risks with the patient—and making a shared, preference-sensitive decision—are key to effective IGM management.

Keywords: Granulomatous mastitis, abscess drainage, conservative treatment

Figure 1. Skin fistulizing mastitis image. A patient presented to the clinic with complaints of breast pain and discharge, showing a fistula-like appearance of mastitis on the skin.

Table 1. Summary table

Parameter	Group 1 (surgical group)	Group 2 (aspiration and conservative treatment group)
Age, median (IQR)	36 (33-44)	35 (31-42)
Initial focus maximum diameter (mm), median (IQR)	26 (16-31)	30 (24-46)
Single focus	22 (84.6%)	18 (69.2%)
Multifocal (≥2 foci)	4 (15.4%)	8 (30.8%)
USG type 3	15 (57.7%)	6 (23.1%)
Clinical complete response (days), median (IQR)	12 (7-18)	-
USG complete response (days), median (IQR)	52 (32-85)	-
Wound healing time (days), median (IQR)	-	16 (11-28)
Recurrence, n/N (%)	2/24 (8.3%)	5/26 (19.2%)
Surgical complications (yes), n/N (%)	-	9/25 (36.0%)

[S-327]

Indications for surgical excision in intraductal papillomas and factors determining upgrade risk

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Objective: In this study, it was aimed to investigate the factors determining the indication for surgical excision in patients diagnosed with intraductal papilloma by needle biopsy after radiological imaging and to evaluate the role of lesion size and imaging characteristics in predicting the risk of malignancy upgrade.

Material and Methods: Between 2015 and 2025, 180 cases diagnosed with intraductal papilloma by fine-needle aspiration biopsy (FNAB) and core biopsy and treated with surgical excision at University of Health Sciences Türkiye, Şişli Hamidiye Etfal Training and Research Hospital were retrospectively analyzed. Patients' demographic characteristics, lesion size (≤10 mm and >10 mm), localization (retroareolar/peripheral), BI-RADS category, presence of microcalcifications, radiology-pathology concordance and final surgical pathology results were recorded. The detection of atypical papilloma, ductal carcinoma *in situ* (DCIS) or invasive carcinoma in the final pathology was defined as malignancy upgrade. Chi-square and Fisher's exact tests were used for statistical analyses where appropriate, and a p-value <0.05 was considered statistically significant.

Results: The median age of the 180 cases was 49 (29-72) years. Of the cases, 76 were in the ≤10 mm lesion group and 104 were in the >10 mm lesion group. The overall malignancy upgrade rate was 23.9%. While the upgrade rate was 31.7% in lesions >10 mm, this rate was 13.2% in lesions ≤10 mm (p<0.05). Malignancy upgrade rates were found to be significantly higher in lesions categorized as BI-RADS 4B and above, lesions accompanied by microcalcifications and peripherally located lesions. In cases with radiology–pathology discordance (benign papilloma on biopsy despite BI-RADS 4C/5 appearance), the upgrade risk was markedly increased.

Conclusion: In intraductal papillomas, the indication for surgical excision should not be based on a single parameter. In our study, it was observed that evaluating lesion size, BI-RADS category and imaging findings together was more informative in predicting upgrade risk. These findings suggest that non-surgical follow-up strategies may be discussed in selected low-risk patients.

Keywords: Intraductal papilloma, upgrade, atypia

[S-328]

Oncological safety, complications, and patient-reported outcomes of single axillary incision breast-conserving surgery in early-stage breast cancer

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Objective: Single axillary incision breast-conserving surgery (BCS) combined with sentinel lymph node biopsy (SLNB) offers a minimally invasive option for peripherally located, axillary-adjacent breast tumors. However, evidence regarding oncological safety, postoperative complications, and patient-reported outcomes of this approach remains limited. This study evaluates these outcomes in early-stage breast cancer.

Material and Methods: This retrospective study included 61 patients who underwent breast-conserving surgery through a single axillary incision for early-stage breast cancer between October 2022 and June 2025 at University of Health Sciences Türkiye, Ankara Etlik City Hospital. All tumors were peripherally located and axillary-adjacent, with a median nipple-areola complex distance of 6 cm (range: 3-10 cm). Tumor excision and SLNB were performed through the same axillary incision using a dual-mapping technique with radioisotope and indocyanine green. Surgical margins were evaluated according to SSO–ASTRO guidelines. Postoperative complications, including seroma, wound dehiscence, infection, hematoma, skin necrosis, and reoperation, were recorded. Patient satisfaction was assessed six months after completion of radiotherapy using the Turkish validated BREAST-Q® version 2.0 Breast-Conserving Therapy module. Descriptive statistical analyses were performed.

Results: The mean patient age was 55.9±12.9 years, and invasive ductal carcinoma was present in 89% of patients. Neoadjuvant therapy was administered to 30% of cases. Negative surgical margins were achieved in 93% of patients, with a re-excision rate of 3%. Overall postoperative complications occurred in 17% of patients, most commonly seroma (13%). Only one patient (2%) required reoperation due to major wound dehiscence. BREAST-Q analysis (response rate: 74%) demonstrated high patient satisfaction, particularly regarding satisfaction with the surgeon, medical team, and office staff. No local recurrence was observed during a median follow-up of 13 months.

Conclusion: Single axillary incision breast-conserving surgery is a safe and effective option for appropriately selected early-stage breast cancer patients, providing favorable oncological outcomes, acceptable complication rates, and high patient satisfaction without the need for advanced technological infrastructure.

Keywords: Breast-conserving surgery, single axillary incision, minimally invasive breast surgery, surgical complications, patient-reported outcomes, BREAST-Q

[S-330]

Impact of magnetic and metallic clip localization on surgical margin status in patients undergoing oncoplastic breast conserving surgery following neoadjuvant chemotherapy

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Objective: Neoadjuvant chemotherapy provides a prognostic advantage based on tumor biology in breast cancer, beyond increasing the rates of breast-conserving surgery by reducing tumor size. However, accurate localization of the residual tumor bed after treatment response is critical for achieving surgical margin negativity, which is essential for oncologic safety. Although metallic clips have traditionally been used to mark the tumor bed, magnetic clips have gained attention in recent years due to their ability to facilitate intraoperative real-time navigation, eliminate radiation exposure, and spare patients from additional invasive procedures such as wire localization. In this study, we aimed to compare the effects of magnetic and metallic clip marking on surgical margin negativity in patients undergoing breast-conserving surgery after neoadjuvant chemotherapy.

Material and Methods: A total of 118 patients who underwent level I-II oncoplastic breast-conserving surgery after neoadjuvant chemotherapy were prospectively included in the study. Tumor beds were marked with magnetic clips in 33 patients and metallic clips in 104 patients.In accordance with the institutional protocol, all patients underwent surgical resection guided by real-time intraoperative ultrasonography, with visualization of metallic clips and, if present, residual tumor. Routine cavity shaving was performed, and specimens were sent from all surgical margins. The primary endpoint was defined as surgical margin negativity. The secondary endpoint was defined as the necessity of routine cavity sampling.

Results: All patients were female. The median age was 55 years (range 28-78 years). In the magnetic clip group, surgical margin positivity was detected in only 1 of 33 patients (3.08%). In the metallic clip group, 3 of 104 patients (2.8%) had positive surgical margins. In all 4 patients with positive margins, margin negativity was achieved with cavity shaving, and none required re-excision. No statistically significant difference was found between the two groups (Table 1).

Conclusion: Tumor regression following neoadjuvant chemotherapy may make it more difficult to define surgical margins. Therefore, the accuracy of the marking method is crucial. In our study, magnetic clip marking demonstrated results at least equivalent to metallic clips interms of surgical margin safety. These findings suggest that magnetic clips may represent a safe and feasible marking method that could reduce the operator dependency considered one of the main disadvantages of intraoperative ultrasonography. Furthermore, considering the advantages of magnetic clips—including the absence of radiation exposure, real-time navigation capability, and elimination of the need for additional invasive procedures such as wire localization, thereby improving patient comfort—they appear to be a strong alternative in clinical practice.

Keywords: Breast conversing surgery, magnetic clip, metallic clip

Table 1. Surgical margin status regarding clip type

Group	Negative limit	Positive limit
Magnetic clip	32 (97%)	1 (3%)
Metallic clip	101 (97.2%)	3 (2.8%)

[S-331]

Recurrence rates and molecular subtype distribution in breast cancer patients achieving pathological complete response after neoadjuvant therapy: A single-center experience (2018-2022)

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Objective: Pathological complete response (pCR) after neoadjuvant therapy is considered a favorable prognostic factor in breast cancer. Achieving pCR is associated with improved survival outcomes, particularly in aggressive molecular subtypes. However, recurrence may still occur despite the absence of residual invasive disease. This study aimed to evaluate recurrence rates and molecular subtype distribution among patients achieving pCR in our institution.

Material and Methods: Breast cancer patients who received neoadjuvant therapy between 2018 and 2022 and achieved pathological complete response at İstanbul University, İstanbul Faculty of Medicine were retrospectively analyzed. pCR was defined as the absence of invasive carcinoma in both the breast and axillary lymph nodes on final pathological examination. Clinical characteristics and follow-up data were reviewed. Recurrence events and molecular subtype distribution were assessed.

Results: A total of 176 patients achieving pCR were included. During follow-up, recurrence was observed in 16 patients (9.1%). Among recurrent cases, 8 were HER2-positive, 5 were Luminal B subtype, and 3 were triple-negative breast cancer. Recurrences were observed across all molecular subtypes, with the highest number detected in the HER2-positive group.

Conclusion: Although pathological complete response is associated with favorable outcomes, recurrence may still develop in a subset of patients. In this cohort, HER2-positive tumors constituted the largest proportion of recurrent cases. These findings highlight the importance of continued surveillance even in patients achieving pCR.

Keywords: Breast cancer, pathological complete response, recurrence

Table 1. Study characteristics

Study design	Retrospective single-center analysis
Institution	İstanbul University, İstanbul Faculty of Medicine
Study period	2018-2022
Total patients achieving pCR	176
Definition of pCR	Absence of invasive carcinoma in both breast and axillary lymph nodes
Total recurrences	16
Overall recurrence rate	%9.1
HER2+ recurrence	8
Luminal B recurrence	5
Triple-negative breast cancer (TNBC) recurrence	5

[S-332]

Investigation of oxidative stress and mononuclear leukocyte DNA damage in idiopathic granulomatous mastitis patients

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Objective: Idiopathic granulomatous mastitis (IGM) is a rare, chronic inflammatory disease of the breast with an incompletely understood etiology. Although benign, it may exhibit a relapsing and treatment-resistant course and can clinically and radiologically mimic breast cancer, significantly affecting patients' quality of life. Autoimmunity has been proposed among the contributing factors; however, the underlying pathogenic mechanisms remain unclear. To date, no studies have concurrently evaluated oxidative stress and DNA damage in patients with IGM. The aim of this study was to investigate the presence of oxidative stress and mononuclear leukocyte DNA damage in patients with IGM.

Material and Methods: Between October 2023 and October 2024, 28 patients with clinically and histopathologically confirmed idiopathic granulomatous mastitis (IGM) who had not received corticosteroid or immunosuppressive therapy within the previous six months were enrolled from Bezmialem Vakıf University Faculty of Medicine Hospital and İstanbul University-Cerrahpaşa, İstanbul Faculty of Medicine. An age-matched control group of 27 healthy women was included. Venous blood and urine samples were obtained from all participants. Total oxidant status (TOS), total antioxidant status (TAS), oxidative stress index (OSI), and urinary 8-hydroxy-2′-deoxyguanosine (8-OHdG) levels were measured. Mononuclear leukocyte DNA damage was assessed using the alkaline single-cell gel electrophoresis (Comet Assay) method.

Results: The mean age of the patient and control groups was 37.3±5.3 and 35.4±8.6 years, respectively, with no significant difference between groups (p=0.081). Leukocyte, neutrophil, and lymphocyte counts, as well as the neutrophil-to-lymphocyte ratio, were significantly higher in the patient group (p<0.05). Mean C-reactive protein and erythrocyte sedimentation rate values were near the upper limit of normal. Patients with IGM exhibited significantly increased TOS, OSI, and urinary 8-OHdG levels compared with controls (p=0.009, p=0.028, and p=0.024, respectively), whereas TAS levels did not differ significantly between groups (p=0.534). Comet Assay analysis demonstrated significantly higher tail intensity and tail moment values in the patient group (p=0.029 and p=0.016, respectively).

Conclusion: These findings demonstrate that oxidative stress and oxidative DNA damage are significantly increased in patients with idiopathic granulomatous mastitis. The results suggest that oxidative stress-induced DNA damage may contribute to the pathogenesis of IGM. In the absence of a standardized treatment protocol, therapeutic strategies targeting oxidative stress, including antioxidant-based approaches, may represent potential adjunctive treatment options for IGM.

Keywords: Idiopathic granulomatous mastitis, oxidative stress, DNA damage

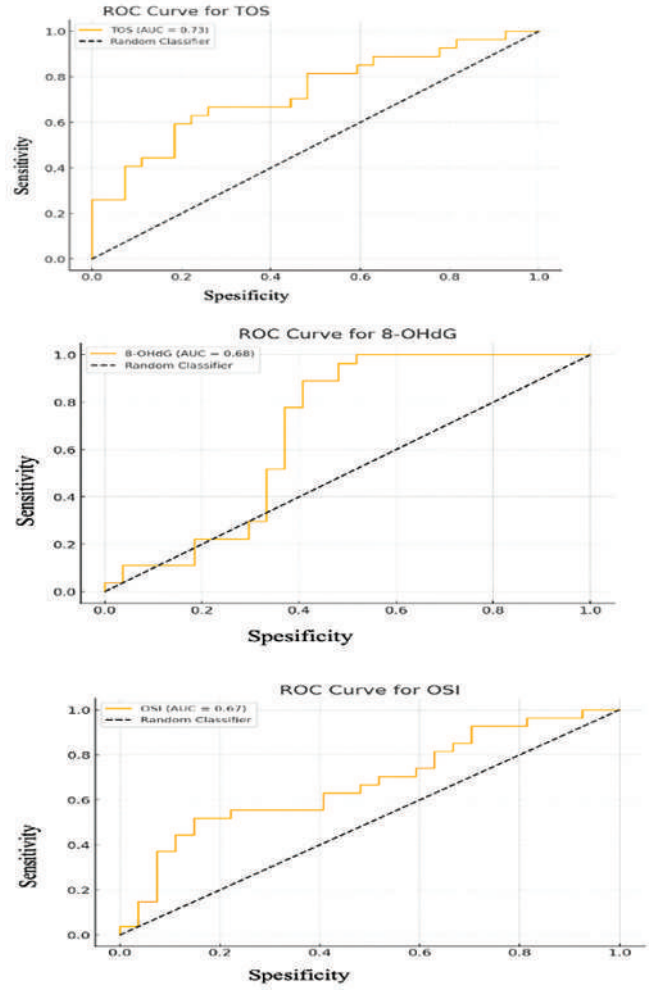

Figure 1. ROC curves of oxidative stress markers for discrimination between patient and control groups.

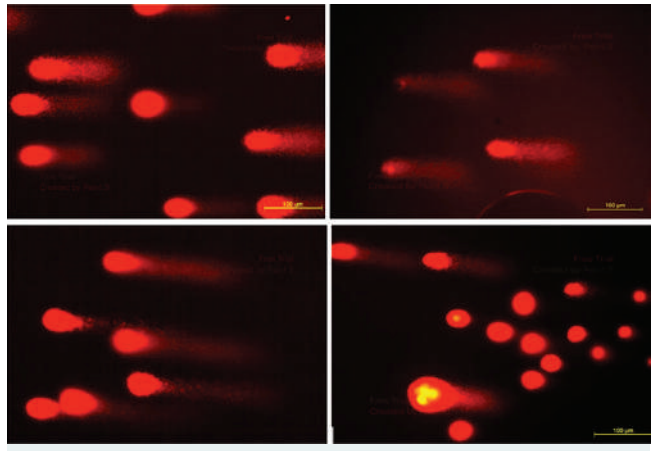

Figure 2. Representative images of damaged DNA exhibiting a comet-like appearance in the patient group, as assessed by the alkaline single-cell gel electrophoresis (Comet assay).

Table 1. Comparison of hematological, biochemical, serological, and oxidative stress parameters between patient and control groups

	Control group (n=27)				Patient group (n=28)				p	
	Mean ± SD			Median	Mean ± SD			Median		
WBC (×10⁹/L)	7.5	±	1.1	7.8	8.7	±	1.4	8.61	**0.002**	t
Neutrophil (×10⁹/L)	3.9	±	1.1	3.8	6.5	±	1.4	6.3	**0.000**	t
Lymphocyte (×10⁹/L)	1.8	±	0.4	1.8	2.2	±	0.7	2.2	**0.027**	m
NLR	2.04	±	0.57	2.06	3.02	±	1.1	3.05	**0.007**	m
HB (g/dL)	13.5	±	1.0	13.6	12.5	±	1.2	12.6	**0.003**	t
HCT (%)	43.3	±	2.8	44.4	40.4	±	4.2	41.1	**0.008**	m
PLT (×10⁹/L)	301.7	±	44.4	312.0	291.0	±	47.4	276.0	0.395	t
MCV (fL)	88.4	±	2.8	88.6	88.2	±	2.8	87.9	0.844	t
MCH (pg)	30.0	±	1.6	29.9	29.9	±	1.6	29.7	0.730	t
MCHC (g/dL)	33.6	±	1.3	33.8	33.6	±	1.2	33.7	0.821	t
Urea (mg/dL)	31.0	±	5.5	29.7	47.1	±	6.0	44.4	**0.000**	m
Creatinine (mg/dL)	0.78	±	0.20	0.74	1.14	±	0.32	1.28	**0.000**	m
AST (U/L)	20.1	±	6.1	19.0	21.5	±	6.4	21.5	0.418	m
ALT (U/L)	29.9	±	10.7	31.0	30.0	±	11.1	29.5	0.970	t
LDH (U/L)	157.5	±	35.9	149.0	274.8	±	35.6	267.0	**0.000**	t
Serum albumin (g/dL)	3.9	±	0.5	3.9	3.9	±	0.6	3.9	0.993	t
Serum sodium (mmol/L)	139.4	±	3.8	139.0	138.9	±	3.6	139.0	0.563	t
Serum potassium (mmol/L)	3.8	±	0.3	3.7	4.9	±	0.5	4.9	**0.000**	m
TOS (µmol H_2O_2 Equiv./L)	1.04	±	0.71	0.81	2.39	±	2.27	1.43	**0.009**	m
TAS (mmol Trolox Equiv./L)	0.85	±	0.32	0.91	0.89	±	0.22	0.90	0.534	t
Urine 8-OHdG (ng/ml)	23.62	±	19.2	25.63	36.3	±	8.5	35.0	**0.024**	m
OSI (arbitrary unit, AU)	155.2	±	168.2	116.7	284.7	±	296.5	178.3	**0.028**	m

Table 2. Tail intensity, tail moment analysis of control and patient groups m Mann-Whitney U test

	Min-max			Median	Mean ± SD		
Tail intensity %	0.003	-	16.58	3.45	4.84	±	5.0
Tail moment	0.0001	-	51.74	16.51	17.16	±	14.7

	Control group (n=15)				Patient group (n=14)				p	
	Mean ± SD			Median	Mean ± SD			Median		
Tail intensity %	3.15	±	4.1	1.80	6.78	±	5.3	5.26	**0.029**	m
Tail moment	10.8	±	11.9	7.71	24.0	±	15.0	22.29	**0.016**	m

[S-333]

Breast and axillary nodal response rates according to tumor molecular subtypes after neoadjuvant therapy in clinically node-positive breast cancer patients: Results of the AXSANA-EUBREAST3 prospective multicenter cohort study

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Objective: Neoadjuvant chemotherapy (NAC) produces heterogeneous responses depending on the biology of the breast tumor. Understanding subtype-specific response rates is critical for optimizing axillary management after NAC. AXSANA-EUBREAST3 (NCT04373655) is a multicenter, prospective cohort study investigating post-NAC axillary management in patients with initially node-positive breast cancer. In this study, breast and axillary nodal response rates after NAC were evaluated according to molecular subtypes within the AXSANA-EUBREAST3 cohort.

Material and Methods: Among patients enrolled in the prospective AXSANA cohort between 2020 and 2025, breast and axillary response rates after NAC were analyzed according to four intrinsic molecular subtypes (HR+/HER2−, HR+/HER2+, HR−/HER2+, and HR−/HER2−). Breast pathological complete response (pCR) was defined as the absence of residual invasive carcinoma in the breast (ypT0/is), allowing the presence of ductal carcinoma *in situ* (DCIS). Axillary pCR was defined as ypN0. Surgical axillary staging after NAC was performed using sentinel lymph node biopsy (SLNB), targeted axillary dissection (TAD), or axillary lymph node dissection (ALND).

Results: A total of 6,509 patients were included in the AXSANA cohort. Of these, 4,922 patients who underwent surgery were included in the analysis of breast and axillary nodal response rates; 1,587 patients were excluded due to not meeting study criteria, withdrawal of consent, absence of surgery, or unknown tumor subtype. The distribution of molecular subtypes in the entire cohort was 44.5% (n=2,189) HR+/HER2-, 23.4% (n=344) HR+/HER2+, 12.1% (n=595) HR-/HER2+, and 20% (n=984) HR-/HER2- (p<0.001). Among patients achieving breast pCR (ypT0/is), analysis of ypN status showed a statistically significant difference favoring higher ypN0 rates in triple-negative and HER2-positive tumors (93.1% and 90.1%, respectively). No significant association was demonstrated between tumor subtype and nodal burden after systemic therapy. Axillary pCR rates were 30.4% (n=665) in the HR+/HER2- group, 70.1% (n=810) in the HR+/HER2+ group, 86.4% (n=514) in the HR-/HER2+ group, and 68% (n=669) in the HR-/HER2- group (p<0.001). Among patients with breast ypT0/is, axillary pCR rates were 15.7%, 50.2%, 76.6%, and 51%, respectively (p<0.001).

Conclusion: Breast and axillary responses to NAC differ markedly according to the molecular subtype of breast cancer. The high breast and nodal pCR rates observed in HER2-positive and HR-/HER2- groups support axillary de-escalation strategies in selected patients. The prospective AXSANA-EUBREAST3 cohort provides strong subtype-specific evidence to guide personalized axillary management after NAC.

Keywords: Axillar nodal response , breast cancer, tumor molecular subtype

[S-335]

HER2-low breast cancer: A distinct biological subtype? A clinicopathological and survival analysis

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Objective: Interest has increased in whether HER2-low breast cancer, defined as immunohistochemistry (IHC) 1+ or IHC 2+/*in situ* hybridization (ISH)-negative, represents a biologically and clinically distinct subgroup compared with HER2-negative and HER2-positive tumors. Although traditionally classified as HER2-negative disease, the development of novel HER2-targeted therapies has renewed attention to its biological behavior and potential prognostic implications. This study aimed to compare the clinicopathological characteristics and survival outcomes of patients with HER2-low breast cancer to those with HER2-negative and HER2-positive disease, and to evaluate the prognostic significance of HER2-low expression through subgroup analyses stratified by hormone receptor (HR) status.

Material and Methods: A total of 1,144 patients with invasive breast cancer who underwent primary surgery were retrospectively analyzed. Patients were categorized according to HER2 status as HER2-negative (n=604), HER2-low (n=278), or HER2-positive (n=262). Demographic and clinicopathological variables including age, tumor size, histological type, tumor grade, lymph node metastasis, clinical stage, molecular subtype, and vascular, lymphatic, and perineural invasion were compared. Response to neoadjuvant chemotherapy (NACT), postoperative nodal status, local recurrence, and mortality were evaluated. Disease-free survival (DFS) and overall survival (OS) were analyzed. A p-value <0.05 was considered statistically significant.

Results: Patients with HER2-low tumors were older compared with HER2-negative and HER2-positive patients (>50 years: 66.2%; p=0.002), with a mean age of 55.4 years. No significant differences were observed in tumor size or clinical stage. Grade 2 tumors predominated in the HER2-low group (56.3%), whereas Grade 3 tumors were more frequent in the HER2-positive group (26.2%) (p<0.001). HR positivity was significantly higher in the HER2-low group (ER 88.1%; PR 77.7%; p<0.001). Vascular (30.4%), lymphatic (37.2%), and perineural invasion (16.2%) were also more common in HER2-low tumors (p≤0.001). Among patients receiving NACT (53.6%), the pathological complete response (pCR) rate was lowest in the HER2-low group (14.8%), compared with 26.5% in the HER2-negative and 42.6% in the HER2-positive groups (p<0.001). No significant differences were found in nodal status, recurrence, or mortality. In the HR-positive subgroup, differences in age and grade persisted (p<0.05). The Ki-67 index was highest in the HER2-positive group (46.7%; p<0.001). Although pCR remained lowest in HER2-low patients (11.7%; p<0.001), no significant differences were observed in DFS or OS.

Conclusion: HER2-low breast cancers are characterized by high HR positivity, predominantly luminal phenotype, and lower pCR rates compared with HER2-positive tumors. However, they do not demonstrate significant differences in survival outcomes compared with HER2-negative or HER2-positive disease, suggesting limited independent prognostic impact.

Keywords: HER2-low, prognosis, breast cancer

[S-336]

Impact of primary systemic therapy on postoperative complications following subcutaneous mastectomy with immediate reconstruction: A retrospective cohort study

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Objective: The impact of primary systemic therapy (PST) on postoperative complication rates following subcutaneous mastectomy with immediate reconstruction (SM-IR) remains a subject of debate. This study aims to assess the early complication rates in patients undergoing SM-IR after PST.

Material and Methods: This retrospective cohort study was conducted on patients who underwent SM-IR for breast cancer between January 2014 and May 2025 at Marmara University Hospital. Patients were divided into two groups according to whether they received PST: PST group or upfront surgery. Demographic, clinicopathological, surgical, and reconstruction characteristics were recorded. Postoperative complications were classified as major or minor. Univariate and multivariate logistic regression analyses were performed to identify independent predictors of postoperative morbidity.

Results: A total of 328 patients who underwent SM-IR were analyzed: comprising 184 patients in the PST group and 144 in the upfront surgery group. Patients in the PST group were younger and had more aggressive tumor biology, including higher rates of HER2-positive and triple-negative subtypes, higher Ki-67 index, and more advanced clinical T and N stages (p<0.001 for all). Autologous reconstruction was more frequently performed in the PST group (67.9% vs. 46.5%, p<0.001). Overall, 28.7% of patients developed postoperative complications, with no significant difference between the PST and upfront surgery groups (25.5% vs. 32.6%, p=0.158). Major and minor complication rates, implant loss, flap failure, and reoperation rates were comparable between groups (p>0.05 for all). In multivariate analysis, higher BMI, smoking, hypertension, and preserving nipple were independent predictors of postoperative complications. Achieving pathological complete response (pCR) was associated with a reduced risk of complications (OR 0.46, 95% CI 0.22-0.94, p=0.035). PST administration was not independently associated with increased postoperative morbidity (p=0.398).

Conclusion: This study indicate that PST does not increase complication rates associated with immediate reconstruction following subcutaneous mastectomy. These results support the conclusion that immediate reconstruction can be performed safely in patients receiving PST.

Keywords: Immediate breast reconstruction, postoperative complications, primary systemic therapy

Table 1. Demographics and clinicopathologic features

Parameters	All patients (n=328)	Patients who received PST (n=184)	Patients who did not receive PST (n=144)	p-value
Age (years)				
Median (IQR)	42 (37-47)	41 (36-48)	43 (39-48)	0.014
<45	209 (63.7%)	120 (63.7%)	89 (61.8%)	0.524
≥45	119 (36.3%)	64 (36.3%)	65 (38.2%)	
BMI (kg/m²)				
Median (IQR)	25 (23-28)	26 (23-29)	25 (22-27)	0.048
<25	140 (42.7%)	77 (41.8%)	63 (43.8%)	0.510
25-30	124 (37.8%)	67 (36.4%)	57 (39.6%)	
≥30	64 (19.5%)	40 (21.7%)	24 (16.7%)	
Comorbidities				
Hypertension	26 (7.9%)	8 (4.3%)	18 (12.5%)	0.007
Diabetes mellitus	23 (7%)	12 (6.5%)	11 (7.6%)	0.694
Smoking, n (%)				
Absence	211 (64.3%)	124 (32.6%)	87 (60.4%)	0.191
Presence	117 (35.7%)	60 (67.4%)	57 (39.6%)	
Histologic subtype, n(%)				
Ductal	265 (80.8%)	160 (87%)	105 (72.9%)	<0.001
Lobular	28 (8.5%)	6 (3.3%)	22 (15.3%)	
Mix	9 (2.7%)	3 (1.6%)	6 (4.2%)	
Other	26 (7.9%)	15 (8.2%)	11 (7.6%)	
Molecular subtype, n (%)				
Luminal A	106 (32.3%)	34 (18.5%)	72 (50%)	<0.001
Luminal B-like HER2(-)	93 (28.4%)	46 (25%)	47 (32.6%)	
Luminal B-like HER2(+)	62 (18.9%)	47 (25.5%)	15 (10.4%)	
HER2 (+) non-luminal	35 (10.7%)	28 (15.2%)	7 (4.9%)	
Triple negative	32 (9.8%)	29 (15.8%)	3 (2.1%)	
Ki-67, n (%)				
<20	110 (33.5%)	35 (19%)	75 (52.1%)	<0.001
≥20	180 54.9%)	129 (70.1%)	51 (35.4%)	
Unknown	38 (11.6%)	20 (10.9%)	18 (12.5%)	
Clinical T stage, n (%)				
cT1	105 (32%)	29 (15.8%)	76 (52.8%)	<0.001
cT2	186 (56.7%)	124 (67.4%)	62 (43.1%)	
cT3	37 (11.3%)	31 (16.8%)	6 (4.2%)	
Clinical N stage, n (%)				
cN0	167 (50.9%)	42 (22.8%)	125 (86.8%)	<0.001
cN1	104 (31.7%)	86 (46.7%)	18 (12.5%)	
cN2	57 (17.4%)	56 (30.4%)	1 (0.7%)	

Table 2. Comparison of postoperative complications according to PST status

Parameters	All patients (n=328)	Patients who received PST (n=184)	Patients who did not receive PST (n=144)	p-value
Overall complications n (%)				
Absence	224 (71.3%)	137 (74.5%)	97 (67.4%)	0.158
Presence	94 (28.7%)	47 (25.5%)	47 (32.6%)	
Complication group n (%)				
Minor	50 (53.2%)	25 (53.2%)	25 (53.2%)	1.000
Major	44 (46.2%)	22 (46.8%)	22 (46.8%)	
Emergent reoperation n (%)	17 (5.2%)	8 (4.3%)	9 (6.3%)	0.441
Complete NAC necrosis*, n (%)	6 (2.3%)	2 (1.3%)	4 (3.7%)	0.216
Complete skin necrosis, n (%)	14 (4.3%)	7 (3.8%)	7 (4.9%)	0.638
Superficial NAC necrosis* n (%)	15 (5.8%)	7 (4.7%)	8 (7.4%)	0.360
Superficial skin necrosis n (%)	27 (8.2%)	14 (7.6%)	13 (9%)	0.643
Implant loss, n (%)**	14 (10.3%)	5 (8.5%)	9 (11.7%)	0.541
Flap failure*, n (%)**	6 (3.1%)	3 (2.4%)	3 (4.5%)	0.430
Wound healing problem, n (%)	15 (4.6%)	7 (3.8%)	8 (5.6%)	0.451
Infection, n (%)	7 (2.1%)	3 (1.6%)	4 (2.8%)	0.476
Hematoma or seroma, n (%)	19 (5.8%)	7 (3.8%)	12 (8.3%)	0.081

PST: Primary systemic therapy, NAC: Nipple areola complex, *: Patients who underwent NSM were included in the analysis. **: Patients who underwent implant-based reconstruction were included in the analysis. ***: Patients who underwent autologous reconstruction were included in the analysis.

[S-337]

Intraoperative ultrasonography and routine cavity shaving performed by surgeons in non-palpitable breast cancers: Oncological safety and efficacy

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Objective: Screening programs have increased detection of non-palpable breast lesions. In breast-conserving surgery (BCS), accurate localization and negative margins are essential to achieve optimal oncologic and cosmetic outcomes.

Material and Methods: We reviewed a prospectively maintained database of 117 patients who underwent BCS for non-palpable breast tumors between January 2022 and December 2023 and received no neoadjuvant therapy. Preoperative imaging (mammography, ultrasonography, MRI), localization method [surgeon-performed intraoperative ultrasonography (IOUS) and/or surgeon-performed wire localization], histopathology, margin status and distances, re-excision requirement, postoperative complications, and local recurrence were recorded. Routine cavity shaving was performed after tumor excision in all cases.

Results: Mean age was 57.8 years (39-77) and mean BMI was 30.1 kg/m². Localization was achieved with IOUS in 106 patients (90.5%) and wire localization in 11 (9.4%). All target lesions were successfully localized and excised (100%). Most tumors were T1c invasive ductal carcinomas; mean tumor diameter was 14 mm. Positive specimen margins occurred in three patients (one wire-localized lesion not visualized on ultrasound and two IOUS cases); however, cavity-shave margins were negative in these patients, and no re-excision or mastectomy was required. Postoperative complications (e.g., bleeding, hematoma, wound infection) occurred in 6.8% of patients, without need for additional surgery. At a median follow-up of 19 months, no local recurrences were observed.

Conclusion: For sonographically visible non-palpable lesions, real-time surgeon-performed IOUS combined with routine cavity shaving provides excellent localization success and maximizes margin safety, with a very low need for re-excision. Wire localization remains useful when lesions cannot be visualized on ultrasound. Our early follow-up shows favorable oncologic outcomes with this approach.

Keywords: Non-palpable breast cancer, cavity shaping

[S-338]

The effect of mammographic breast density on sentinel lymph node biopsy positivity: A relationship that varies by molecular subtype

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Objective: To investigate the association between mammographic breast density and sentinel lymph node biopsy (SLNB) positivity in breast cancer patients and to evaluate whether this relationship varies by molecular subtype.

Material and Methods: A total of 397 female breast cancer patients who underwent SLNB between January 2015 and December 2023 were retrospectively analyzed. Breast density was dichotomized as non-dense (ACR A+B) versus dense (ACR C+D). The primary endpoint was SLNB positivity. Chi-square test, Cochran-Mantel-Haenszel stratified analysis, and multivariable logistic regression models were used.

Results: The overall SLNB positivity rate was 30.0%. Dense breast patients had significantly lower SLNB positivity compared to the non-dense group (26.5% vs. 37.7%; p=0.025). After adjustment for clinical T stage and molecular subtype, dense breast remained an independent protective factor (OR=0.609; 95% CI: 0.382-0.970; p=0.037). CMH analysis confirmed homogeneity across cT strata (Breslow-Day p=0.655; MH OR=0.615; p=0.039). Subtype-stratified analysis revealed a consistent protective effect in Luminal A (OR=0.483), Luminal B (OR=0.534), and triple-negative (OR=0.269) subtypes, whereas the association reversed in HER2-enriched tumors (OR=3.333; interaction p=0.040).

Conclusion: High mammographic breast density is inversely associated with SLNB positivity in breast cancer; however, this association does not hold in the HER2-enriched subtype. This finding suggests that breast density should be considered alongside molecular subtype in axillary surgical decision-making.

Keywords: Breast density, sentinel lymph node biopsy, axillary metastasis, molecular subtype, HER2

Table 1. Patient characteristics according to density groups

Characteristic	Non-dense A+B (n=122)	Dense C+D (n=275)	p
Age, mean ± SD	63.68±9.95	53.92±12.41	<0.001
Clinical T stage			0.536
T1	49 (40.2%)	118 (42.9%)	
T2	64 (52.5%)	131 (47.6%)	
T3	8 (6.6%)	18 (6.5%)	
T4	1 (0.8%)	8 (2.9%)	
Molecular subtype			0.715
Luminal A	49 (40.2%)	98 (35.6%)	
Luminal B	50 (41.0%)	112 (40.7%)	
HER2-positive	12 (9.8%)	35 (12.7%)	
Triple-negative	11 (9.0%)	30 (10.9%)	
SLNB positive	46 (37.7%)	73 (26.5%)	0.025

Table 2. Multivariate logistic regression models

Variable	B	SE	Wald	OR	95% CI	p
Model 1 (univariable)						
Density (C+D)	-0.516	0.231	4.967	0.597	0.379-0.940	0.026
Model 2 (primary)						
Density (C+D)	-0.497	0.238	4.365	0.609	0.382-0.970	0.037
cT2 vs. T1	0.736	0.244	9.065	2.087	1.293-3.370	0.003
cT3 vs. T1	0.415	0.477	0.757	1.515	0.594-3.860	0.384
cT4 vs. T1	-0.614	1.084	0.320	0.541	0.065-4.535	0.572
Luminal B vs. Luminal A	0.403	0.260	2.403	1.496	0.899-2.490	0.121
HER2-positive vs. Luminal A	0.338	0.372	0.825	1.402	0.676-2.907	0.364
Triple-negative vs. Luminal A	-0.517	0.450	1.321	0.596	0.247-1.440	0.250
Model 3 (+ age)						
Density (C+D)	-0.570	0.257	4.923	0.565	0.342-0.936	0.027
Age (continuous)	-0.008	0.010	0.594	0.992	0.973-1.012	0.441

[S-339]

Combination of idiopathic granulomatous mastitis, erythema nodosum and arthritis

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Objective: Idiopathic granulomatous mastitis (IGM) is a rare and benign inflammatory breast disease with a pathogenesis that has not yet been fully elucidated. It is an inflammatory breast condition that rarely presents with extra-mammary involvement and is not limited solely to erythema nodosum (EN). In the literature, a subset of cases presenting with EN and arthritis has been described as GMENA syndrome (Granulomatous Mastitis with Erythema Nodosum ± Arthritis), which is considered an under-recognized systemic inflammatory phenotype. Although an association between IGM and arthritis and/or EN has been reported in a limited number of patients, the diagnostic and therapeutic processes in these individuals have not been well documented. The aim of this study was to present our case series of patients with IGM accompanied by EN and/or arthritis and to discuss the incidence, clinical characteristics, and treatment approaches of these cases in greater detail.

Material and Methods: A retrospective analysis was conducted of approximately 150 patients diagnosed with histopathologically confirmed idiopathic granulomatous mastitis (IGM) and treated at our medical center. Patients who concurrently exhibited symptoms of erythema nodosum (EN) and arthritis were identified, and a separate subgroup was formed for a more detailed evaluation of treatment protocols and outcomes. Statistical comparisons were performed using the chi-square test and Fisher's exact test, with a p-value<0.05 considered statistically significant.

Results: A total of 153 patients diagnosed with idiopathic granulomatous mastitis (IGM), with a mean age of 38.2±8.84 years and predominantly consisting of women of reproductive age, were followed in our general surgery clinic. Definitive diagnosis was confirmed by incisional and core needle biopsies. Erythema nodosum (EN) was present in 31 patients (20.2%), and inflammatory arthritis was observed in 28 patients (18.3%). Among the 13 patients presenting with the triad of IGM, EN, and arthritis, higher recurrence rates were observed despite responsiveness to antibiotic and steroid therapy.

Conclusion: IGM is a challenging disease to diagnose and manage due to its clinical complexity. It may occur concurrently with EN and arthritis, and we believe that the frequency of this association may be higher than currently estimated. Recognition of these distinct clinical presentations highlights the necessity of a multidisciplinary approach to diagnosis. Furthermore, larger prospective studies are required to fully elucidate the clinical characteristics, diagnosis, and optimal management strategies of IGM.

Keywords: Granulomatous mastitis, erythema nodosum, arthritis

Figure 1. Typical breast lesions seen in granulomatous mastitis. Arrows indicate skin fistulas.

[S-340]

Evaluation of axillary response and surgical approach based on PET-CT and histopathological findings after neoadjuvant chemotherapy in breast cancer

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Objective: Neoadjuvant chemotherapy (NAC) has transformed breast cancer management by enabling axillary downstaging and increasing pathological complete response (pCR) rates. Because traditional axillary lymph node dissection (ALND) carries a high risk of long-term morbidity, such as lymphedema and neuropathy, surgical de-escalation strategies (e.g., sentinel lymph node biopsy [SLNB] or targeted axillary dissection) have become standard for patients achieving pCR. However, driven by profound molecular heterogeneity, axillary chemosensitivity varies widely. Nodal response is dictated by the tumor's receptor profile (ER, PR, HER2), proliferation index, and microenvironment dynamics, including tumor-infiltrating lymphocytes (TILs) and lymphovascular invasion (LVI). This study aimed to identify clinical, histopathological, and metabolic (PET-CT) predictors of axillary pCR to establish objective criteria for safe surgical de-escalation.

Material and Methods: This retrospective cohort study included 309 patients with invasive breast cancer who underwent NAC followed by surgery at Gazi University Faculty of Medicine, Department of General Surgery, between 2019 and 2025. Based on final surgical pathology, patients were stratified into axillary pCR (ypN0) and residual disease (ypN+) groups. We evaluated clinicopathologic variables including age, menopausal status, receptor status, Ki-67 index, LVI, TIL density, and pre-/post-NAC PET-CT SUV_{max} values. Independent predictors were identified using multivariate logistic regression, and optimal diagnostic cut-offs were established via receiver operating characteristic (ROC) curve analysis

Results: Axillary pCR was achieved in 50.5% (n=156) of the cohort. Patients in the ypN0 group were significantly younger (mean age 51.69±11.81; p=0.004). Multivariate analysis identified ER negativity as a strong independent predictor of pCR (OR=10.3). Furthermore, Grade 3 morphology, HER2 positivity, the absence of LVI (observed in 90.4% of the ypN0 cohort; p<0.001), and moderate-to-high TIL density (p=0.036) were significantly associated with axillary clearance. Metabolically, post-NAC axillary SUV_{max} values were markedly lower in patients with complete response (0.01±0.01 vs. 1.45±2.50; p<0.001). ROC analysis demonstrated that a post-NAC axillary SUV_{max} cut-off of ≤0.400 predicted axillary pCR with 99.4% sensitivity.

Conclusion: Younger age and aggressive tumor biology—characterized by ER negativity, high Ki-67, elevated TILs, and the absence of LVI—are robust clinical indicators of axillary chemosensitivity. Integrating these clinicopathologic risk profiles with metabolic regression data (SUV_{max} ≤0.400) derived from post-NAC PET-CT provides an objective, highly accurate framework to safely de-escalate axillary surgery and spare appropriately selected patients from ALND-associated morbidity.

Keywords: Breast cancer, neoadjuvant chemotherapy, PET-CT

Table 1. Comparison of clinical, histopathological, and metabolic factors affecting axillary pathological complete response (pCR)

Variables	Axillary complete response (ypN0) (n=156)	Axillary non-response (ypN+) (n=153)	p-value
Age (mean ± SD)	51.69±11.81	55.60±12.79	**0.004**
ER negativity (%)	46.8%	13.0%	**<0.001**
HER2 positivity (%)	41.7%	16.4%	**<0.001**
Absence of LVI (%)	90.4%	58.2%	**<0.001**
TIL presence (moderate/high) (%)	20.5%	11.8%	**0.032**
Post-NAC axillary SUV_{max}	0.01±0.01	1.45±2.50	**<0.001**

Table 2. Diagnostic performance of PET-CT and molecular markers in predicting axillary response

Parameter	Cut-off value/ratio	Sensitivity	Specificity	AUC/OR	p-value
Post-NAC axillary SUV_{max}	≤0.400	99.4%	54.9%	AUC: 0.722	**<0.001**
Post-NAC mass SUV_{max}	≤1.455	63.5%	60.8%	AUC: 0.634	**<0.001**
ER negativity	-	-	-	OR: 10.3	**0.005**

[S-341]

Non-invasive ductal and non-invasive lobular breast malignancies: A 10-year single-center experience

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Objective: Breast cancer is the most commonly diagnosed malignancy among women worldwide and in our country. Its incidence is increasing, with a trend toward younger age at diagnosis. According to the 2019 World Health Organization (WHO) classification, breast carcinoma comprises at least 21 histological subtypes. Invasive ductal carcinoma of no special type (IDC-NST) accounts for approximately 75% of cases, while invasive lobular carcinoma (ILC) represents 10-15%. This study evaluates the clinical characteristics of breast malignancies other than IDC and ILC.

Material and Methods: This study was designed as a single-center retrospective analysis. Patients who underwent breast surgery for breast malignancy at our institution between January 1, 2015, and December 31, 2025, were reviewed. Patients diagnosed histopathologically with invasive ductal carcinoma or invasive lobular carcinoma were excluded from the study. Recurrent cases and patients with mixed histopathological features were also excluded from the analysis.

Results: A total of 102 patients diagnosed with breast malignancies other than IDC and ILC were identified. Of these patients, 97.1% (n=99) were female and 2.9% (n=3) were male. The mean age was 57.5 years (range: 24-86). The most frequently observed histological subtypes were mucinous carcinoma, papillary carcinoma, and medullary carcinoma. Regarding surgical management, 62.7% of patients (n=64) underwent mastectomy, whereas 33.3% (n=34) underwent breast-conserving surgery. Axillary management revealed; Axillary dissection in 62.7% of patients, Sentinel lymph node biopsy in 26.5%, No axillary intervention in 10.8%. Three patients presented with bilateral breast cancer and underwent bilateral mastectomy. The histopathological subtypes in these cases were different from each other, and no clustering toward a specific subtype was observed. Among the case series, a particularly notable finding was a 34-year-old female patient diagnosed with primary breast myeloid sarcoma.

Conclusion: Breast malignancies other than IDC and ILC demonstrate a heterogeneous histopathological distribution. Rare histological subtypes may also be observed in younger patients and should be considered in clinical evaluation. Although breast-conserving surgery has become increasingly preferred in recent years, mastectomy was more frequently performed in non-IDC and non-ILC subtypes in our series. Rare histological subtypes may also occur in male patients and should not be overlooked. Bilateral breast involvement did not demonstrate an association with any specific histological subtype. In conclusion, systematic evaluation of breast malignancies other than IDC and ILC may contribute to a better understanding of their biological behavior and guide future therapeutic strategies.

Keywords: Rare, breast cancer, histological types

Table 1. Distribution of histopathological subtypes in breast malignancies other than IDC and ILC (n=102). Only primary breast malignancies other than IDC and ILC were included in the study

Histopathological subtype	n	%
Mucinous carcinoma	29	28.4
Papillary carcinoma (including solid papillary)	20	19.6
Medullary carcinoma (including atypical medullary)	14	13.7
Neuroendocrine carcinoma/tumor	9	8.8
Metaplastic carcinoma (squamous, spindle cell, etc.)	9	8.8
Cribriform carcinoma	6	5.9
Tubular carcinoma	5	4.9
Signet-ring cell carcinoma	3	2.9
Adenoid cystic carcinoma	2	2.0
Adenosquamous carcinoma	1	1.0
Leiomyosarcoma	1	1.0
Myeloid sarcoma (breast involvement)	1	1.0
Other rare epithelial/mesenchymal malignancies	2	2.0
Total	**102**	**100**

[S-342]

Clinicopathological features of BRCA mutation-positive patients and their correlation with PET-CT

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Objective: Breast cancer is the most common type of cancer in women worldwide and a leading cause of cancer-related deaths. Approximately 10% of breast cancer cases are hereditary, with *BRCA1* and *BRCA2* gene mutations being the most important genetic factors in this group. In patients carrying BRCA mutations, breast cancer generally presents with: earlier age, more aggressive biological behavior, and a higher risk of recurrence. Therefore, the role of imaging methods used in diagnosis, staging, and treatment planning becomes even more important in this patient group. PET-CT is frequently used, especially in advanced staging, metastasis, and suspected recurrence, due to its ability to evaluate the metabolic activity of the tumor. However, data on the clinical and prognostic value of PET-CT in BRCA-positive breast cancer patients are limited. Our study was planned based on this point.

Material and Methods: Our study included a total of 53 patients diagnosed with BRCA mutation-positive and who underwent surgery at İzmir Katip Çelebi University Atatürk Training and Research Hospital between 2019 and 2023. The study was planned retrospectively, and after obtaining ethical committee approval, patient data were examined through the hospital information management system. The main parameters evaluated were: primary tumor SUV_{max} value on PET-CT, PET-CT tumor size, axillary lymph node SUV_{max} and size, tumor diameter, Ki-67 proliferation index, surgical method used, postoperative recurrence status, overall survival. The obtained data were evaluated using statistical analyses.

Results: Of the 53 patients included in the study, 51 were women and 2 were men. Preoperative PET-CT was performed on 34 of the patients. Regarding surgical distribution; breast-conserving surgery, modified radical mastectomy, and bilateral subcutaneous mastectomy were performed. When the baseline data of the study are summarized; while no significant relationship was found between PET-CT parameters and survival, a significant relationship was observed between postoperative recurrence and survival. In the statistical analyses performed; PET-CT tumor SUV_{max}, PET-CT tumor size, axillary lymph node SUV_{max} and size, tumor diameter, Ki-67no statistically significant difference was found between survival and survival. However, it was determined that survival was significantly lower in patients who developed postoperative recurrence.

Conclusion: In conclusion: BRCA mutation-positive breast cancer patients are a high-risk patient group. Although PET-CT alone is not a prognostic marker in these patients, it contributes to patient management when evaluated together with clinical and pathological data. It has been concluded that personalized surgical and oncological treatment approaches should be prioritized in this patient group.

Keywords: Breast cancer, PET-CT, BRCA

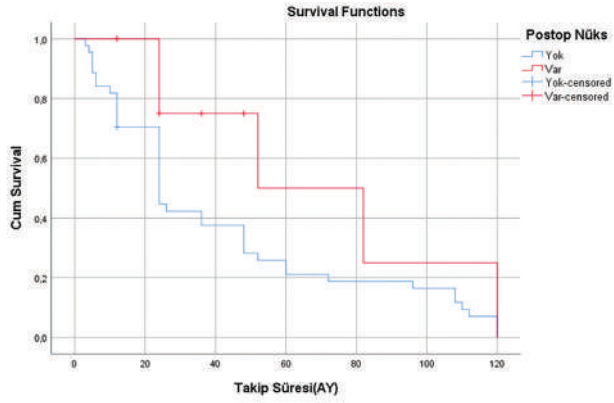

Figure 1. The effect of postoperative recurrence on survival.

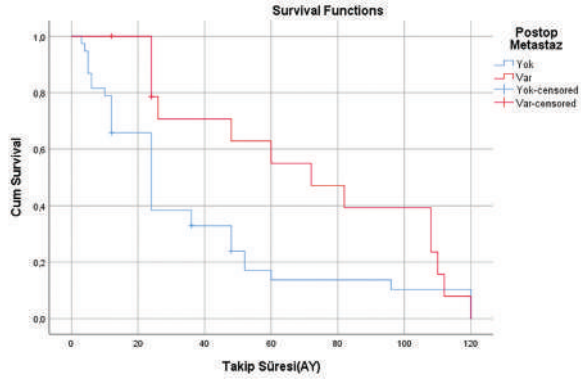

Figure 2. The effect of postoperative metastasis on survival.

[S-344]

Neoadjuvant chemotherapy-induced extracellular fluid increase in breast cancer: A prospective bioimpedance study

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Objective: Breast cancer-related lymphedema (BCRL) is a frequent complication that can impair the quality of life of survivors. While the effect of surgery and radiotherapy on lymphedema has been well established, the independent impact of neoadjuvant chemotherapy (NACT) on extracellular fluid remains unclear.

Material and Methods: In this prospective clinical study, 111 patients with breast cancer scheduled for NACT were evaluated before and after chemotherapy. Arm circumferences and bioimpedance spectroscopy (BIS, L-Dex U400®) were performed pre- and post-NACT to assess extracellular fluid changes. A ≥6.5 unit increase in L-Dex was considered significant. Demographic, clinical, and pathological variables were analyzed using univariate and multivariate logistic regression.

Results: Extracellular fluid increase was detected in 18 patients (16.2%) after NACT, with no clinical lymphedema observed. In multivariate analysis, age ≥55 years (OR: 4.47, 95% CI: 1.35-14.89; p=0.015) and higher clinical N stage (OR: 2.26, 95% CI: 1.16-4.43; p=0.017) were independent predictors of extracellular fluid increase, whereas hormone receptor positivity was protective (OR: 0.23, 95% CI: 0.07-0.72; p=0.012).

Conclusion: NACT may contribute to subclinical extracellular fluid accumulation, particularly in older patients, those with advanced nodal disease, and those lacking hormone receptor positivity. Early BIS monitoring during chemotherapy may facilitate timely detection and prevention of lymphedema. ClinicalTrials.gov registration number: NCT07315880

Keywords: Breast cancer, lymphedema, neoadjuvant chemotherapy

[S-348]

Beyond a surgical symptom: Clinical and psychosocial factors determining mastalgia severity

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Objective: Mastalgia is one of the most common reasons for admission to general surgery outpatient clinics and, although predominantly benign, significantly increases patient anxiety and healthcare utilization. Existing literature has primarily focused on hormonal and radiological factors,while psychosocial and lifestyle-related determinants of pain severity remain insufficiently explored. This study aimed to characterize the clinical profile of patients presenting with mastalgia and to identify factors associated with mastalgia severity.

Material and Methods: A total of 200 patients presenting to the general surgery outpatient clinic with mastalgia were included. Patients aged ≥40 years underwent mammography and breast ultrasonography, while patients <40 years underwent breast ultrasonography alone. Demographic characteristics, lifestyle factors, reproductive-hormonal history, and clinical and radiological features were recorded. Perceived stress was assessed using a single-item numeric rating scale ranging from 0 (no stress) to 10 (extreme stress). Patients who were actively breastfeeding, had a history of breast surgery, or were male were excluded. Mastalgia severity was evaluated using a 0-10 visual analog scale (VAS), and VAS≥7 was defined as severe mastalgia. Patients were categorized into two groups based on mastalgia severity. Statistical analyses were performed using SPSS version 26.0. Mann-Whitney U and chi-square tests were used for comparisons. A p-value <0.05 was considered statistically significant.

Results: The median age of the patients was 38 years. Severe mastalgia (VAS ≥7) was observed in 41% of patients (n=82). Age was lower in the severe mastalgia group (p=0.01). The prevalence of severe mastalgia was significantly higher among patients with stress scores ≥7 compared to those with stress scores <7 [58% (n=48) vs. 29% (n=34), p<0.001]. Patients with a BMI≥25 kg/m^2 had a higher rate of severe mastalgia than those with a BMI<25 kg/m^2 [52% (n=46) vs. 31% (n=36), p=0.002]. Severe mastalgia was more frequent in patients with primary school-level education and in those using supportive or underwired bras continuously during the day (p=0.01 and p=0.03, respectively). No statistically significant differences were observed regarding palpable mass, BI-RADS category, breastfeeding history, menopausal status, or family history of breast cancer (p=1.000, p=0.221, p=0.727, p=0.055, and p=0.443). In multivariate analysis, stress score ≥7 (OR: 3.1; 95% CI: 1.8-5.4; p<0.001), BMI ≥25kg/m^2 (OR: 2.4; 95% CI: 1.3-4.2; p=0.004) and continuous use of supportive/underwired bras (OR: 1.9; 95% CI: 1.1-3.4; p=0.02) were independent predictors of severe mastalgia. A tendency toward lower mastalgia severity was observed in postmenopausal patients and with increasing total breastfeeding duration.

Conclusion: Mastalgia severity is closely associated with modifiable factors such as perceived stress, body mass index, and mechanical breast load rather than clinical or radiological findings. The absence of significant differences in physical examination and imaging findings among patients with severe mastalgia suggests that pain severity may be driven primarily by biopsychosocial mechanisms. These findings highlight the need for a comprehensive and individualized clinical approach to mastalgia that integrates lifestyle, psychosocial, and mechanical factors alongside conventional diagnostic evaluation.

Keywords: Lifestyle factors, mastalgia, psychosocial factors

[S-350]

Impact of CERB2 status on sentinel lymph node positivity in hormone receptor-positive breast cancer: A single-center retrospective analysis

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Objective: This study aimed to evaluate the impact of CERB2 status on sentinel lymph node positivity and to identify clinicopathological factors predicting axillary metastasis in patients with hormone receptor-positive breast cancer.

Material and Methods: This single-center retrospective study included 324 female patients who underwent surgery for breast cancer between 2017 and 2023. Patients with hormone receptor-positive disease, M0 stage, no history of neoadjuvant therapy, and treated with upfront surgery were enrolled. According to CERB2 status, patients were classified into three groups: ultralow, low, and HER2^{+}. The primary endpoint was sentinel lymph node positivity.

Results: Of the patients, 70.1% were classified as ultralow, 20.4% as low, and 9.5% as HER2^{+}. No statistically significant differences were observed between groups regarding age, menopausal status, or tumor size. The Ki-67 proliferation index was significantly higher in the HER2^{+} group. Sentinel lymph node positivity rates were similar among the groups. In multivariable logistic regression analysis, CERB2 status was not identified as an independent predictor of sentinel lymph node positivity. Lymphovascular invasion emerged as the strongest determinant (OR=5.91; p<0.001)

Conclusion: In hormone receptor-positive breast cancer, CERB2 status is not associated with sentinel lymph node positivity. Lymphovascular invasion remains the main determinant of axillary metastasis risk and should be considered in surgical decision-making

Keywords: Breast cancer, HER2 low, sentinel lymph node, lymphovascular invasion

[S-351]

Factors affecting the extent of axillary lymph node sampling in cN(–) breast cancer patients undergoing upfront surgery

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Objective: Pathologic staging of the axilla plays a pivotal role in the management of breast cancer. Sentinel lymph node (SLN) biopsy remains a routine procedure, and sampling of non-SLN nodes may be required depending on intraoperative findings. As the number of excised lymph nodes increases during axillary sampling, the risk of complications such as lymphedema may also rise; therefore, achieving a balance between optimal staging and avoidance of unnecessary dissection is essential. Many authors consider sampling of 2-3 SLNs adequate, whereas removal of more than four lymph nodes is regarded as overtreatment. In this study, we aimed to investigate the factors associated with increased extent of dissection during axillary staging.

Material and Methods: Patients who underwent surgery for invasive breast cancer at the OMU Department of General Surgery between January 1, 2020, and December 31, 2024, were retrospectively reviewed. Patients without clinically or radiologically suspicious axillary lymph nodes and those who had not received neoadjuvant chemotherapy were included. All patients underwent SLN biopsy. Regardless of SLN or non-SLN status, patients were divided into two groups according to the total number of lymph nodes sampled during SLNB (≤4 vs. >4). Age, radiologic T stage, histopathologic findings from tru-cut biopsies, and axillary sampling results were analyzed. The chi-square test was used for statistical analysis.

Results: No significant association was found between excision of more than four lymph nodes and histopathologic findings on tru-cut biopsy, radiologic T stage, or patient age. While no association was observed between the number of sampled lymph nodes and detection of two or fewer axillary lymph node metastases (ALNM), patients with more than two metastatic axillary lymph nodes had significantly more lymph nodes excised during sampling (p=0.019) (Table 1).

Conclusion: Our findings demonstrate that the extent of sampling during SLNB is independent of preoperative radiologic and histopathologic variables. Although no association was observed with cases involving two or fewer metastatic lymph nodes, the fact that more lymph nodes were sampled in patients with more than two ALNMs is noteworthy. This suggests that surgeons tend to excise additional lymph nodes for sampling when extensive axillary disease is encountered intraoperatively. On the other hand, many guidelines already recommend axillary dissection when more than two metastatic SLNs are identified; therefore, this situation should not be considered overtreatment. Our retrospective data indicate that surgeons encountering extensive axillary disease may be inclined to sample more lymph nodes due to concern about understaging.

Keywords: Axilla, breast cancer, sentinel lymph node

Table 1. Factors associated with the extent of axillary sampling

		Örneklenen LN Sayısı		p
		≤ 4 n (%)	>4 n (%)	
Yaş	<40	11 (61)	7 (39)	
	≥40 - <60	70 (68)	33 (32)	
	≥60	54 (82)	12 (18)	0.079
Yön	Sağ	69 (68)	32 (32)	
	Sol	66 (77)	20 (23)	0.200
T Evresi	1	60 (74)	21 (26)	
	2	75 (71)	31 (29)	0.616
Trucut Histopatoloji	IDK	106 (74)	38 (26)	
	ILK	11 (79)	3 (21)	
	DCIS	16 (67)	8 (33)	
	Diğer	2 (40)	3 (60)	0.337
E.R	Negatif	16 (80)	4 (20)	
	Pozitif	119 (71)	48 (29)	0.410
P.R	Negatif	23 (85)	4 (15)	
	Pozitif	112 (70)	48 (30)	0.103
HER-2	Negatif	92 (74)	33 (26)	
	Pozitif	21 (72)	8 (28)	0.896
Ki-67	<14	16 (64)	9 (36)	
	≥14	119 (74)	43 (26)	0.326
Grade	I-II	51 (70)	22 (30)	
	III	84 (74)	30 (26)	0.569
Meme Cerrahi Prosedür	MKC	97 (70)	42 (30)	
	Mastektomi	33 (80)	8 (20)	
	Sbk. Mast.	5 (71)	2 (29)	0.405
ALNM (Sayıdan Bağımsız)	Yok	122 (74)	43 (26)	
	Var	13 (59)	9 (41)	0.114
>2 ALNM	Yok	133 (74)	47 (26)	
	Var	2 (29)	5 (71)	**0.019**
Toplam		135	52	

[S-353]

Evaluation of pathology results of patients who had stereotactic biopsy due to mammographic microcalcifications detected in breast cancer screenings and determination of factors related to malignancy

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Objective: Breast cancer remains the most frequently diagnosed malignancy among women worldwide, with the highest mortality rates observed in the 20-59 age group. Mammography serves as the primary imaging technique for detecting microcalcifications, which are crucial markers for the early diagnosis of breast cancer. This imaging modality enables the identification of the disease at an initial stage. While numerous studies have established a clear link between microcalcifications and breast cancer, research focusing on benign and premalignant lesions associated with microcalcifications, as well as the detailed characteristics of these calcifications, remains limited. The objective of this study is to evaluate the pathology results of patients who underwent stereotactic biopsy due to mammographic detection of microcalcifications during screenings and to determine the factors related to malignancy.

Material and Methods: This retrospective study included data from 1105 patients who underwent stereotactic biopsy between 2019 and 2024. Patients were excluded if they had a previous cancer diagnosis, had undergone breast surgery, were under 40 years old, or were male. Only patients presenting with isolated microcalcifications detected via mammography and subsequently undergoing stereotactic excisional biopsy were included. The pathology findings categorized into benign and malignant groups, and their preoperative clinical and radiological characteristics were analyzed using hospital records to assess potential malignancy-related factors.

Results: The mean age of the patients was calculated as 50.10±7.48 years. Based on the pathology findings, 37 individuals (21.4%) were diagnosed with malignant conditions, whereas 136 patients (78.6%) had benign pathology. Among the malignant cases, 5 (13.5%) were identified as invasive carcinoma, while 32 (86.5%) were diagnosed with ductal carcinoma *in situ*. The average menarche age was 13.00±1.64 years for those in the benign group and 13.49±1.56 years for those in the malignant group, showing a statistically significant difference (z=1.968, p=0.049). Additionally, a significant variation was observed between the benign and malignant groups concerning the distribution and morphology of microcalcifications.

Conclusion: Mammographic detection of microcalcifications continues to be a crucial factor in the early identification of breast cancer. The findings of this study indicate that 21.4% of patients with isolated microcalcifications were diagnosed with malignancy. Specifically, individuals with linear and regional microcalcifications exhibited a higher likelihood of malignancy, underscoring the need for timely surgical intervention to prevent disease progression.

Keywords: Breast cancer, mammography, microcalcification

Table 1. Imaging features

		n (%)
Meme Dansitesi	A	3 (1.7)
	B	23 (13.3)
	C	96 (55.5)
	D	51 (29.5)
Hangi Meme	Sağ	76 (43.9)
	Sol	92 (53.2)
	Her ikisi	5 (2.9)
Hangi Kadran	Üst dış	77 (44.5)
	Üst iç	7 (4.0)
	Üst orta	15 (8.7)
	Alt dış	9 (5.2)
	Alt iç	17 (9.8)
	Alt orta	10 (5.8)
	Dış orta	20 (11.6)
	İç orta	9 (5.2)
	Retroareolar	8 (4.6)
	Subareolar	1 (0.6)
Eşlik Eden Bulgu	Yok	125 (72.3)
	Yapısal bozulma	4 (2.3)
	Asimetrik dansite	29 (16.7)
	Nodüler dansite	15 (8.7)
Mikrokalsifikasyon Dağılımı	Grup	146 (84.4)
	Bölgesel	7 (4.0)
	Segmenter	11 (6.4)
	Lineer	8 (4.6)
	Yaygın-Diffüz	1 (0.6)
Mikrokalsifikasyon Morfolojisi	Punktat	57 (32.9)
	Amorf	30 (17.3)
	Amorf-Punktat	56 (32.4)
	Pleomorfik	15 (8.7)
	Kaba heterojen	14 (8.1)
	Lineer	1 (0.6)
Meme Usg Lezyon	Yok	153 (88.4)
	Var	20 (11.6)
Patoloji Sonuçları	Benign	%78.6 (n=136)
	Malign	%21.4 (n=37)
	Malign (4 invaziv CA, 1 mikroinvaziv CA)	%2.9 (n=5)
	In situ (32 DCIS, 5 LCIS)	%21.4 (n=37)

Table 2. Clinical features

Özellik	Ort±SS	Medyan (Min-Max)	Yok, n (%)	Var, n (%)
Yaş (yıl)	50.10±7.48	49.0 (36-74)		
BMI (kg/m2)	26.76±5.22	26.0 (15-46)		
Sigara Kullanımı			115 (66.5)	58 (33.5)
Alkol Kullanımı			164 (94.8)	9 (5.2)
Menarş Yaşı	13.10±1.63	13.0 (9-18)		
Menopoz Durumu			91 (52.6)	82 (47.4)
Parite	2.74±1.63	3.0 (0-9)		
İlk Doğum Yaşı (yıl)*	23.15±4.75	22.0 (13-38)		
Emzirme Süresi (yıl)*	2.83±2.22	2.5 (0.16-12.5)		
OKS			118 (68.2)	55 (31.8)
HRT			149 (86.1)	24 (13.9)
Aile Öyküsü			130 (75.1)	43 (24.9)

*Paritesi en az 1 olan bireylerde

Table 3. Risc factors in imaging

Değişkenler	β	Std Hata	Wald	p	Exp(B)	Exp(B) için 95% güven aralığı Alt	Üst
Sabit	-3.496	1.715	4.152	0.042	0.030		
Mikrokalsifikasyon Dağılımı			10.716	0.030			
Bölgesel	1.984	0.954	4.329	**0.037**	7.274	1.122	47.15
Segmenter	0.642	0.750	0.733	0.392	1.901	0.437	8.266
Lineer	2.390	0.916	6.801	**0.009**	10.914	1.811	65.78
Yaygın-Diffüz	-19.02	$4x10^5$	0.001	0.999	0.001	0.001	
Mikrokalsifikasyon Morfolojisi			6.466	0.263			
Amorf	-0.165	0.733	0.050	0.822	0.848	0.202	3.570
Amorf-Punktat	0.577	0.511	1.278	0.258	1.781	0.655	4.845
Pleomorfik	1.596	0.721	4.904	0.027	4.932	1.201	20.24
Kaba heterojen	-0.075	0.893	0.007	0.933	0.928	0.161	5.343
Lineer	20.5	$4x10^5$	0.001	0.999	$8x10^8$	0.001	
Menarş Yaşı	0.114	0.126	0.827	0.363	1.121	0.876	1.434

Table 4. Comparison of imaging features in benign-malignant groups

	Benign (n=136)	Malign (n=37)	Test İstatistiği x^2	p
Meme Dansitesi			x^2=1.675	0.643
A	3 (2.2%)	0 (0.0%)		
B	18 (13.2%)	5 (13.5%)		
C	74 (54.3%)	22 (59.5%)		
D	41 (30.1%)	10 (27.0%)		
Hangi Meme			x^2=2.872	0.238
Sağ	61 (44.8%)	15 (40.5%)		
Sol	70 (51.5%)	22 (59.5%)		
Her ikisi	5 (3.7%)	0 (0.0%)		
Hangi Kadran			x^2=9.427	0.399
Üst dış	64 (47.1%)	13 (35.2%)		
Üst iç	6 (4.4%)	1 (2.7%)		
Üst orta	12 (8.8%)	3 (8.1%)		
Alt dış	7 (5.2%)	2 (5.4%)		
Alt iç	10 (7.4%)	7 (18.9%)		
Alt orta	6 (4.4%)	4 (10.8%)		
Dış orta	18 (13.2%)	2 (5.4%)		
İç orta	6 (4.4%)	3 (8.1%)		
Retroareolar	6 (4.4%)	2 (5.4%)		

Table 5. Comparison of imaging features in benign-malignant groups

Eşlik Eden Bulgu			x^2=2.271	0.518
Yok	95 (69.8%)	30 (81.1%)		
Yapısal bozulma	3 (2.2%)	1 (2.7%)		
Asimetrik dansite	25 (18.4%)	4 (10.8%)		
Nodüler dansite	13 (9.6%)	2 (5.4%)		
Mikrokalsifikasyon Dağılımı			x^2=22.142	**<0.001**
Grup	123 (90.4%)	23 (62.2%)		
Bölgesel	2 (1.5%)	5 (13.5%)		
Segmenter	8 (5.9%)	3 (8.1%)		
Lineer	2 (1.5%)	6 (16.2%)		
Yaygın-Diffüz	1 (0.7%)	0 (0.0%)		
Mikrokalsifikasyon Morfolojisi			x^2=18.000	**0.003**
Punktat	48 (35.3%)	9 (24.3%)		
Amorf	27 (19.9%)	3 (8.1%)		
Amorf-Punktat	43 (31.6%)	13 (35.2%)		
Pleomorfik	6 (4.4%)	9 (24.3%)		
Kaba heterojen	12 (8.8%)	2 (5.4%)		
Lineer	0 (0.0%)	1 (2.7%)		
Meme Usg'de Lezyon			-	0.233*
Yok	122 (89.7%)	31 (83.8%)		
Var	14 (10.3%)	6 (16.2%)		

x^2 :Ki kare Testi, *Fisher Exact test sonuçları verilmiştir.

[S-354]

Surgical complications and predictive factors in breast cancer patients receiving neoadjuvant chemotherapy

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Objective: Neoadjuvant chemotherapy (NACT) is widely used in breast cancer treatment due to its ability to downstage tumors, improve resectability, increase breast-conserving surgery rates, and provide *in vivo* assessment of treatment response. However, concerns remain regarding its possible negative effects on immune function, wound healing, and postoperative recovery. This study aimed to evaluate postoperative surgical complications in breast cancer patients receiving NACT using the Clavien-Dindo classification system and to identify predictive factors associated with complication development.

Material and Methods: This retrospective cohort study included breast cancer patients who underwent surgical treatment between 2023 and 2026 at the Department of General Surgery, University of Health Sciences Türkiye, İzmir City Hospital. Patients were divided into two groups: Those who received NACT$^+$ and those who did not (NACT$^-$). Recorded variables included demographic data (age, BMI), comorbidities (diabetes mellitus, smoking), ASA score, type of breast surgery (breast-conserving surgery, modified radical mastectomy, mastectomy), axillary procedure (sentinel lymph node biopsy or axillary dissection), drain usage and duration, and length of hospital stay. Postoperative complications were classified using the Clavien-Dindo grading system. Statistical analyses were performed, and $p<0.05$ was considered statistically significant.

Results: A total of 227 female patients were included; 91 (40.1%) were in the NACT$^+$ group and 136 (59.9%) in the NACT$^-$ group. Mean age was significantly lower in the NACT$^+$ group (53.4±11.3 vs. 58.2±12.3 years, p=0.003). BMI did not differ significantly (p=0.581). Diabetes mellitus prevalence was 20.9% in NACT$^+$ and 25.0% in NACT$^-$ (p=0.524), and smoking rates were similar (p=0.386). ASA score distribution showed a significant difference between groups (p=0.048). Breast-conserving surgery was performed in 64.8%, modified radical mastectomy in 26.9%, and mastectomy in 8.4%. Sentinel lymph node biopsy was performed in 91.6% and axillary dissection in 8.4%. Drain usage was higher in NACT$^+$ patients (39.6% vs. 27.2%), showing borderline significance (p=0.060), while drain duration was significantly longer in the NACT$^+$ group (p=0.028). Overall complication rate was 11.45% (26/227). Complication rates were 14.3% in NACT$^+$ and 9.6% in NACT$^-$ (p=0.293). Major complication rate (Clavien-Dindo ≥III) was 5.73%, with no significant difference between groups (p=0.384).

Conclusion: Although postoperative complication rates were numerically higher in patients receiving NACT, no statistically significant difference was observed. Prolonged drain duration in the NACT$^+$ group may be clinically relevant for perioperative management. Larger cohort studies supported by multivariate analyses are needed to better clarify the impact of NACT on postoperative surgical complications and to identify independent predictive risk factors.

Keywords: Neoadjuvant chemotherapy, postoperative complications

[S-356]

The value of preoperative ultrasonography assessment of the axilla in early-stage breast cancer for sentinel lymph node management

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Objective: Axillary lymph node involvement is crucial for staging breast cancer and guiding treatment decisions. Historically, nodal metastasis has indicated poorer prognosis, leading axillary surgery to evolve from extensive dissections to less invasive approaches. With evidence showing that lymph node dissection does not improve overall survival in selected patients when combined with systemic therapy and radiotherapy, identifying individuals who may safely avoid axillary surgery has become increasingly important. The latest step in this shift is omitting sentinel lymph node biopsy (SLNB) in appropriate cases. This retrospective study evaluated the consistency between routine axillary ultrasound findings and SLNB results to determine the value of ultrasound in axillary staging and to help define the patient profile in whom SLNB might be safely omitted. The study was conducted as a medical specialization thesis.

Material and Methods: Between September 2022 and February 2025, 338 female breast cancer patients who underwent axillary ultrasonography and SLNB at University of Health Sciences Türkiye, Ankara Etlik City Hospital were included. Patients with metastatic disease, prior neoadjuvant therapy, or DCIS were excluded from the study.

Results: Our study population largely reflects early-stage, hormone receptor-positive breast cancer. T1-T2 tumors constituted 97.3%, and luminal-A/B ($HER2^-$) subtypes 89.7%. Preoperative axillary ultrasound examination did not reveal metastatic disease in 285 patients. Positive results were found in SLNB in 67 of these patients. USG accurately identified most $SLNB^-$ patients (specificity 92%) but missed a substantial proportion of $SLNB^+$ cases (sensitivity 33%). The negative predictive value was 76.5%, with $SLNB^+$ detected in one-quarter of USGnegative patients. Discordance between USG and SLNB was associated with higher T stage, lymphovascular invasion, and lobular histology. Notably, 80.6% of discordant $SLNB^+$ patients had only 1-2 metastatic nodes.

Conclusion: In our study, although the specificity of preoperative USG was found to be 92% when compared to SLNB, its negative predictive value and sensitivity remained low. This situation demonstrates that it is insufficient to use it as an exclusion test instead of SLNB alone. The majority of patients grouped as false negatives are associated with low nodal involvement (1 or 2^+). Currently, axillary dissection cannot be performed in this group of patients with early-stage disease when breast-conserving surgery and radiotherapy are planned. Therefore, rather than viewing ultrasound as a test that can replace SLNB, it would be more appropriate to view it as a test that helps classify patients who do not need SLNB based on clinical need.

Keyword: Breast cancer

[S-357]

Breast conservation using chest wall perforator flap technique in the surgical treatment of breast cancer

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Objective: The chest wall perforator flap (CWPF) technique, a volume replacement method, has been shown to provide minimal morbidity and favorable cosmetic outcomes in selected breast cancer patients undergoing breast-conserving surgery (BCS). This retrospective study aims to present the early outcomes of breast cancer patients who underwent CWPF reconstruction at our institution.

Material and Methods: In this study, we present the results of 31 patients who underwent reconstruction with the CWPF technique following local excision for breast cancer at our institution over the past two years (2024-2025). On the morning of surgery, vascular perforator branches were identified and marked using Doppler ultrasonography according to tumor location. All procedures were performed by a single surgeon. Depending on flap positioning, either a lateral or inframammary skin incision was planned. If a skin island was not required, the skin was de-epithelialized following tumor excision. The flap, prepared with preservation of the vascular pedicle, was mobilized over the muscle and transposed to fill the defect, then secured with 2/0 Vicryl sutures. Meticulous hemostasis was achieved. The donor site was closed without tension. A sports bra was applied post-operatively.

Results: The mean patient age was 42 years (range: 38-63), and the mean tumor diameter was 31 mm (range: 18-44 mm). Tumor location was in the upper outer quadrant in 12 patients, lower outer quadrant in 8 patients, mid-outer quadrant in 5 patients, and lower inner quadrant in 6 patients. A lateral flap was performed in 25 cases and an inframammary flap in 6 cases. Primary surgery was performed in 20 patients, while 11 patients (35%) underwent CWPF following neoadjuvant chemotherapy. Histopathological subtypes included 6 cases of DCIS (19.3%), 13 invasive ductal carcinoma (41.9%), 8 invasive lobular carcinoma (25.8%), and 4 other invasive carcinomas (10.8%). Postoperatively, seroma requiring repeated aspiration developed in 6 patients, hematoma in 2 patients, and fat necrosis in 1 patient. No wound dehiscence was observed. All patients received adjuvant radiotherapy. None required re-excision or completion mastectomy. Early cosmetic outcomes were evaluated using the Harvard Scale by both patients and an independent surgeon.

Conclusion: In the surgical treatment of breast cancer, the CWPF technique is an effective oncoplastic surgical method that can be performed with acceptable cosmetic outcomes in tumors requiring wide local excision.

Keywords: Breast cancer, chest wall perforator flap, oncoplastic surgery

[S-358]

An alternative implant-free reconstruction technique in macromastia patients: Goldilocks mastectomy

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Objective: Goldilocks mastectomy is a surgical approach typically performed in patients with macromastia who are scheduled for mastectomy and are not suitable candidates for implant-based reconstruction. During the procedure, the entire breast parenchyma is removed, while the fatty dermal flaps are preserved and subsequently utilized for reconstruction. In this study, we aimed to evaluate the surgical outcomes and postoperative patient satisfaction in individuals who underwent Goldilocks mastectomy.

Material and Methods: Between October 2023 and June 2025, a total of 15 female patients who underwent Goldilocks mastectomy at İstanbul University, İstanbul Faculty of Medicine were included in the study. Postoperative patient satisfaction was assessed using the BREAST-Q questionnaire.

Results: The mean age of the patients included in the study was 49.87±8.62 years, and the mean body mass index (BMI) was 30.49±4.00 kg/m^2. Breast size was classified as large in 67% of the patients and moderate in 33%. The degree of ptosis was assessed as grade II in 40% and grade III in 60% of the cases. Regarding indications for surgery, 80% of the patients were operated on for invasive breast cancer, 6.7% for carcinoma *in situ*, 6.7% for a spindle cell tumor, and 6.7% prophylactically due to a BRCA1 mutation. In terms of surgical approach, unilateral mastectomy was performed in 20% of the patients, while 80% underwent bilateral mastectomy. Among the bilateral cases, contralateral breast surgery was performed for symmetrization in 58.3%, prophylactically in 33.3%, and due to malignancy in 8.3% of the patients. Postoperative complications occurred in 4 patients (26.7%); 2 cases were surgical site infections and 2 were hematomas. Three of these patients were managed conservatively, whereas one patient with a surgical site infection required reoperation. According to the BREAST-Q assessment, the mean psychosocial well-being score was 73.33±18.34, and the mean breast satisfaction score was 68.07±18.55. A statistically significant association was found between age and BMI and breast satisfaction ($p<0.05$).

Conclusion: High levels of aesthetic satisfaction and psychosocial well-being were observed in patients who underwent Goldilocks mastectomy. Although the complication rate was 26.7%, the majority of these complications were successfully managed with conservative treatment. Goldilocks mastectomy should be considered an effective reconstruction option with low morbidity, particularly for obese patients who are not suitable candidates for implant-based reconstruction.

Keywords: Breast reconstruction, goldilocks mastectomy, patient satisfaction

[S-359]

Laparoscopic TAPP repair for acutely incarcerated inguinal hernias: A 60-patient retrospective case series with mid-term outcomes

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Objective: Incarcerated inguinal hernias represent a challenging condition in emergency surgical practice and are associated with an increased risk of strangulation, bowel ischemia, and significant morbidity. While the safety and efficacy of laparoscopic techniques have been well established in elective hernia surgery, their role in acutely incarcerated cases remains controversial. Concerns regarding intraoperative assessment of bowel viability and the potential need for resection frequently lead many centers to prefer an open approach. Published data on laparoscopic transabdominal preperitoneal (TAPP) repair in incarcerated cases are limited and often include small cohorts with heterogeneous outcomes. This study aimed to evaluate the clinical and mid-term outcomes of laparoscopic TAPP repair in incarcerated inguinal hernias.

Material and Methods: Between September 2017 and January 2025, 60 patients who underwent emergency laparoscopic TAPP repair for incarcerated inguinal hernia were retrospectively analyzed. Patients with perforation or diffuse peritonitis requiring primary open surgery were excluded. Demographic characteristics, ASA score, hernia type, defect size, intraoperative findings,operative time, hospital stay, complications (Clavien-Dindo system), mortality, and follow-up data were assessed. All patients had a minimum follow-up of 12 months.

Results: Sixty patients were included. The mean age was 54.3±16.8 years, and 86.7% were male. The mean BMI was 26.2, and 76.7% were classified as ASA II. Indirect hernias were observed in 80% of cases, with a mean defect size of 3.2 cm. In 15 patients (25%), intraoperative reduction difficulty required anteromedial enlargement of the internal ring. Incarcerated bowel was present in 21 patients; 9 showed marked congestion and hyperemia. After laparoscopic observation and reassessment, bowel perfusion improved and no resection was required. Necrotic omentum was identified in 6 patients (10%) and treated with partial omentectomy; no bowel resection was performed. The mean operative time was 95.7±31.3 minutes, and the mean hospital stay was 2.05±1.22 days. The overall complication rate was 20%, with a major complication rate (Clavien-Dindo ≥III) of 3.3%. One ASA IV patient (1.7%) died due to respiratory failure. The median follow-up was 23 months (IQR: 18-36), and recurrence occurred in 3 patients (5%).

Conclusion: Published series on laparoscopic repair of incarcerated inguinal hernias typically include 20-40 patients, with recurrence rates ranging from 3% to 8%. With 60 patients and a median follow-up of 23 months, this study represents one of the more comprehensive experiences reported. The 5% recurrence rate and 3.3% major complication rate support the safety and feasibility of laparoscopic TAPP repair in appropriately selected emergency cases. Moreover, laparoscopy enables dynamic assessment of bowel viability, potentially reducing unnecessary bowel resections.

Keywords: Incarcerated inguinal hernia, laparoscopic TAPP, emergency hernia repair

[S-360]

Hydatid cyst of the spleen: A changing paradigm in surgical approach - a series of 28 cases

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Objective: Splenic hydatid cyst is a rare but potentially serious manifestation of hydatid disease. Historically, splenectomy has been the preferred treatment, particularly for large or complicated cysts. However, advances in surgical techniques have increasingly shifted the focus toward spleen-preserving procedures. This study aimed to evaluate surgical outcomes and contribute to the current treatment paradigm.

Material and Methods: A retrospective analysis was performed on 28 patients who underwent surgery for splenic hydatid cysts. Demographic characteristics, cyst size, location and stage, surgical approach, postoperative complications, recurrence, and mortality rates were analyzed.

Results: Eleven patients (39,3%) were male and 17 (60,7%) were female, with a mean age of 40.5 years (range 17-73). Isolated splenic involvement was present in 19 patients, while 9 had concomitant organ involvement. Most cysts were located at the upper pole of the spleen, with a mean cyst diameter of 10.7 cm. Splenectomy was performed in 8 patients (28.6%), whereas spleen-preserving surgery was applied in 20 patients (71.4%). The average cyst size in patients who underwent splenic-preserving surgery was 9.4 cm, while the average cyst size in patients who underwent splenectomy was 13.2 cm. The mean hospital stay was 5.6 days. Recurrence occurred in three patients after spleen-preserving surgery. Postoperative complications were observed in five patients (17.8%), and one patient (3.6%) died following splenectomy.

Conclusion: Surgical treatment remains the cornerstone in the management of splenic hydatid cysts. Although splenectomy is still a valid and necessary option for large, centrally located, or complicated cysts, spleen-preserving surgery should be considered the first-line approach in appropriately selected patients due to its immunological benefits and acceptable morbidity and recurrence rates.

Keywords: Spleen, hydatid cyst, organ preservative

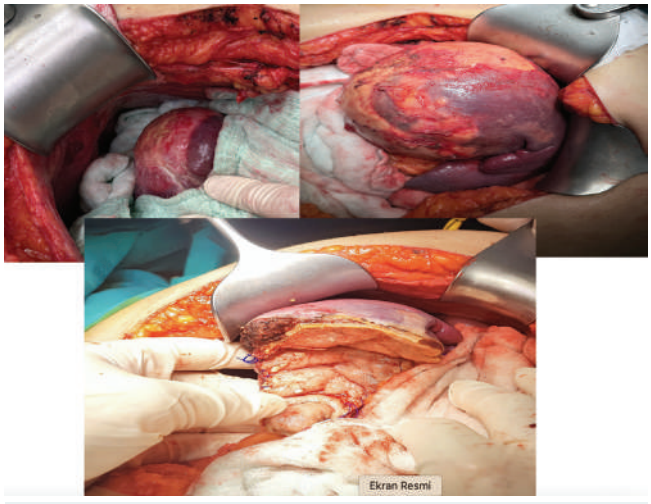

Figure 1. Intraoperative view of surgical management of splenic and hepatic hydatid cysts.

[S-361]

Early discharge after laparoscopic appendectomy in non-complicated appendicitis: A retrospective cohort study including 163 patients

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Objective: Laparoskopik apendektomi, akut apandisit için standart tedavi haline gelmiştir. Ancak ameliyat sonrası taburculuğun en uygun zamanı konusunda tartışmalar devam etmektedir. Erken taburculuk protokolleri hastanede kalış süresini ve sağlık hizmetleri maliyetlerini azaltabilir ancak ameliyat sonrası güvenlikle ilgili endişeler devam etmektedir. Bu çalışmanın amacı, laparoskopik apendektomi sonrası erken taburculuğun güvenliğini ve uygulanabilirliğini değerlendirmek ve başarılı erken taburculukla ilişkili faktörleri belirlemektir.

Material and Methods: This retrospective study included 163 adult patients who underwent laparoscopic appendectomy for uncomplicated acute appendicitis at a single center between January 2022 and January 2026. Patients were divided into two groups according to length of hospital stay: group A, consisting of patients discharged within 24 hours after surgery (n=78), and group B, consisting of patients who remained hospitalized for more than 24 hours (n=85). Demographic characteristics, intraoperative findings, postoperative clinical course, and 30 day readmission rates were retrospectively reviewed. Early discharge criteria were defined as hemodynamic stability, tolerance of oral intake, adequate pain control, and body temperature below 38 °C. Postoperative complications were classified according to the Clavien-Dindo classification. Clinical outcomes between the early and late discharge groups were compared to evaluate the safety and feasibility of early discharge after laparoscopic appendectomy.

Results: A total of 163 adult patients who underwent laparoscopic appendectomy for uncomplicated acute appendicitis were included in the study. Of these, 78 patients (47.9%) were discharged within 24 hours after surgery (group A), while 85 patients (52.1%) remained hospitalized for more than 24 hours (group B). The overall study population had an equal female-to-male ratio, and the mean age was 31.8 years. No statistically significant differences were observed between group A and group B regarding postoperative complications, including intra-abdominal abscess formation and surgical site infections. Similarly, 30 day readmission rates were comparable between the two groups. Postoperative complications, when present, were predominantly minor and classified as Clavien-Dindo grade I-II. Early discharge was more frequently achieved in patients who demonstrated hemodynamic stability, adequate pain control, tolerance of oral intake, and absence of postoperative fever (body temperature <38 °C). No mortality was observed in either group during the study period.

Conclusion: Early discharge after laparoscopic appendectomy is safe, effective, and feasible in carefully selected patients. When standardized and clearly defined discharge criteria are consistently applied, early discharge does not increase postoperative morbidity, complications, or 30 day readmission rates. The findings strongly support early discharge protocols as an integral part of enhanced recovery after laparoscopic appendectomy, reducing hospital stay and costs while maintaining patient safety and satisfaction.

Keywords: Early discharge, enhanced recovery, laparoscopic appendectomy

Table 1. Demographic characteristics and basic clinical parameters

Characteristic	Group A (Early discharge) (n=78)	Group B (Late discharge) (n=85)	p-value
Age (mean ± SD, years)	31.2 ± 10.4	32.3 ± 11.1	0.45
Gender (F/M)	39 / 39	43 / 42	0.87
Mean BMI (kg/m²)	24.5 ± 3.2	25.0 ± 3.5	0.32
Presence of comorbidity (%)	12 (15.4%)	14 (16.5%)	0.82
Preoperative fever (>38°C, %)	5 (6.4%)	7 (8.2%)	0.61
Tolerated oral intake (%)	78 (100%)	79 (92.9%)	0.04
Note: p<0.05 was considered statistically significant.			

Table 2. Postoperative clinical outcomes and complications

Outcome / complication	Group A (early discharge, n=78)	Group B (late discharge, n=85)	p-value
Postoperative complications (%)	6 (7.7%)	8 (9.4%)	0.68
- Clavien-Dindo I-II	5 (6.4%)	7 (8.2%)	0.65
- Clavien-Dindo III-IV	1 (1.3%)	1 (1.2%)	0.97
Wound infection (%)	3 (3.8%)	4 (4.7%)	0.78
Intra-abdominal abscess (%)	1 (1.3%)	2 (2.4%)	0.59
30-day readmission (%)	4 (5.1%)	5 (5.9%)	0.83
Mean hospital stay (hours)	18.5±3.2	36.7±10.5	<0.001
Mortality	0	0	-
Note: p<0.05 was considered statistically significant.			

[S-363]

Conversion to open surgery is not a failure but a prognostic marker: Real-world evidence from a laparoscopic colorectal cancer cohort

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Objective: In laparoscopic colorectal cancer surgery, intraoperative conversion to open surgery has traditionally been perceived as a technical failure. However, recent literature suggests that conversion may be a surrogate marker for disease severity, frailty, or adverse intraoperative anatomy, rather than solely surgeon performance. This study aims to evaluate the prognostic impact of conversion in a real-world laparoscopic colorectal cancer cohort

Material and Methods: A retrospective cohort study was conducted including patients who underwent laparoscopic resection for colorectal cancer at Erzurum City Hospital, Haydarpaşa Numune Training and Research Hospital and Koşuyolu Yüksek İhtisas Training and Research Hospital between January 2020 and December 2025. Patients were categorized into converted (laparoscopic-to-open) and completed laparoscopically groups. Primary outcomes included overall survival (OS) and disease-free survival (DFS). Secondary endpoints were major morbidity (Clavien-Dindo ≥III), anastomotic leakage, and length of stay. Multivariable Cox regression was performed to assess the independent prognostic impact of conversion

Results: Out of 524 laparoscopic colorectal resections, 74 patients (14.1%) required conversion to open surgery. Compared to non-converted cases, the conversion group had higher ASA scores, more T4 tumors, and increased intraoperative bleeding ($p<0.001$ for all). Conversion was associated with significantly lower 3-year DFS (64% vs. 78%, HR: 1.52; 95% CI: 1.08-2.22; $p=0.019$) and OS (72% vs. 84%, HR: 1.47; 95% CI: 1.03-2.21; $p=0.034$).

Conclusion: In multivariable analysis, conversion remained an independent predictor of poor DFS after adjusting for T stage, N stage, BMI, and comorbidities (HR: 1.41; $p=0.028$).

Keywords: Laparoscopy, conversion, colorectal cancer, prognosis, oncologic outcomes

[S-365]

Simultaneous laparoscopic median arcuate ligament release and duodenojejunostomy for treatment of concurrent MALS and SMAS: A novel classification and surgical approach

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Objective: Median arcuate ligament syndrome (MALS) and superior mesenteric artery syndrome (SMAS) are rare vascular and mechanical compression syndromes, respectively. Their coexistence is extremely uncommon, and no standardized surgical approach has been established for patients presenting with both conditions. This study aims to evaluate the safety and efficacy of simultaneous laparoscopic median arcuate ligament release (LMALR) and duodenojejunostomy in patients diagnosed with both MALS and SMAS.

Material and Methods: Between July 2022 and November 2024, a total of 13 patients diagnosed with MALS and with concurrent SMAS findings were evaluated. Patients were classified into three groups based on symptom presentation and imaging findings, with 8 patients from group 1 and group 2 undergoing simultaneous LMALR and duodenojejunostomy. Preoperative, intraoperative, and postoperative data were analyzed, including vascular parameters (celiac artery stenosis, peak systolic velocity), weight changes, symptom resolution, and surgical outcomes.

Results: Postoperative abdominal CT angiography demonstrated that the celiac artery narrowing had resolved, and peak systolic velocities had returned to normal in all patients. The simultaneous laparoscopic approach demonstrated a 100% technical success rate, as evidenced by improved vascular and nutritional parameters. No major complications, anastomotic leaks, or mortality were observed.

Conclusion: This study represents the first case series reporting simultaneous laparoscopic LMALR and duodenojejunostomy for MALS and SMAS. Additionally, it introduces a novel classification system to guide surgical decision-making. Our findings suggest that simultaneous laparoscopic correction is safe, effective, and beneficial in selected patients, reducing the need for secondary procedures. Further prospective studies are needed to establish standardized treatment guidelines.

Keywords: Median arcuate ligament syndrome, Dunbar syndrome, Wilkie's syndrome

Table 1. Similarities and differences between MALS and SMAS

	MALS	SMAS
Etiology	Compression of the CA by the MAL	Compression of the duodenum between the SMA and the aorta
Imaging methods used for diagnosis	Doppler USG, CT angiography, MRI, conventional angiography	USG, CT angio, MRI, contrast-enhanced gastric and duodenal emptying study
Disease-specific imaging findings	Narrowing of the CA and post-stenotic dilation PSV above 200 cm/s on doppler ultrasound	Aortomesenteric angle < 22° aortomesenteric distance < 8 mm dilation of the proximal duodenum and stomach delayed gastric emptying
Serum amylase and lipase levels	Normal	Normal/elevated
Electrolyte imbalance	-/+	++
Symptoms	Abdominal pain ++++ bloating+ nausea and vomiting + early satiety+	Abdominal pain + bloating+++ nausea and vomiting +++ early satiety+++
Exacerbation and increase in symptoms with eating	++++	++++
Exacerbation and increase in symptoms with exercise	+++	
Relief after vomiting	+	+++
Unintentional weight loss	+++	+++
Relaxation by adjusting position		++
Conservative treatment	-/+ A simple diet in small portions to lessen pain provocation	++++ Diet adjustment" Post-meal positioning" Massage (the Hayes technique) oral, enteral, and TPN feeding, and electrolyte correction"
Surgical treatment	CA relaxation (most preferred) ganglion blockade postoperative balloon and stent application	Duodenojejunostomy (most preferred) release of treitz SMA transposition

CA: Celiac artery, MALS: Median arcuate ligament syndrome, TPN: Total parenteral nutrition, SMA: Superior mesenteric artery, USG: Ultrasonografi, MRG: Magnetic resonance imaging, CT: Computed tomography, PSV: Peak systolic velocity, MAL: median arcuate ligament, SMAS: Superior mesenteric artery syndrome.

Table 2. If a patient has been diagnosed with MALS and additionally has AMA <22° and AMD <8 mm on imaging, they can be classified into three groups based on the following criteria

	Grup-1 MALS+ SMAS	Group-2 MALS + MALS a sekonder SMAS	Group-3 MALS + SMAS yok
Vomiting	+++	+++	-/+
Vomiting has been severe since the onset of the disease	yes	no	no
Relief after vomiting	++	++	
Duodenal width (mm)	>25	>25	<25
Delayed gastric emptying time	yes	yes	no
Serum amylase and lipase levels	N / ⇧	N / ⇧	N

AMA: Aortomesenteric angle, AMD: Aortomesenteric distance, MALS: Median arcuate ligament syndrome, SMA: Superior mesenteric artery.

[S-366]

The impact of laparoscopic simulation training on technical skill development in surgical residency: An OSATS evaluation

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Objective: Laparoscopic surgery requires advanced technical skills and has a pronounced learning curve. Errors during early training may compromise patient safety; therefore, simulation-based programs that enable skill acquisition in a safe environment are increasingly important. The Objective Structured Assessment of Technical Skills (OSATS) is a validated tool for standardized evaluation. This study assessed the effect of laparoscopic simulation training on residents' technical skills using OSATS and compared training gains by residency year.

Material and Methods: Thirty general surgery residents trained at our laparoscopic simulation center were included and grouped by training year: 0-1 (n=10), 1-3 (n=10), and 3-5 years (n=10). All participants were evaluated with OSATS before and after training. Between assessments, residents completed structured laparoscopic skills sessions.Seven domains were scored (1-5): respect for tissue, instrument handling, time and motion, camera navigation/visualization, flow of operation, bimanual coordination, and suturing/knot-tying. All assessments were performed by an experienced training team. Pre- and post-training total OSATS scores were compared using the Wilcoxon signed-rank test. Individual score gains (Δ=post-pre) were calculated and compared among groups using the Kruskal-Wallis test. Statistical significance was set at $p<0.05$.

Results: Post-training OSATS scores increased significantly across all participants ($p<0.001$). The greatest improvements were observed in respect for tissue, instrument handling, and bimanual coordination. By residency year, score gains were higher in the 0-1 and 1-3 year groups, while the 3-5 year group showed smaller but consistent improvement. Differences in Δ scores among groups were statistically significant ($p=0.004$) (Table 1).

Conclusion: Laparoscopic simulation training leads to significant, measurable improvement in residents' technical skills, with the greatest benefit during early and intermediate training. Simulation-based education facilitates safe acquisition of core laparoscopic skills and enhances patient safety. These findings support integrating simulation training into surgical residency programs.

Keywords: Laparoscopic surgery, simulation, surgical training

Table 1. Comparison of OSATS scores before and after training according to residency year

Residency Year	Pre-OSATS	Post-OSATS	ΔScore
0-1 years (n=10)	7.6±1.3	25.2±1.6	17.6±1.3
1-3 years (n=10)	11.8±2.6	29.6±2.5	17.8 ±1.3
3-5 years (n=10)	15.0±3.5	29.9±3.0	14.9±1.5

OSATS: Objective structured assessment of technical skills.

[S-367]

Comparison of laparoscopic and open appendectomy outcomes in geriatric and non-geriatric populations: A retrospective analysis integrated with systematic evidence on advantages in elderly patients

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Objective: Acute appendicitis (AA) in geriatric patients (≥60 years) poses unique diagnostic and therapeutic challenges due to atypical presentations, comorbidities, and higher complication rates. Laparoscopic appendectomy (LA) demonstrates advantages over open appendectomy (OA) in terms of recovery, yet OA remains common due to institutional factors. A notable 21% of geriatric appendectomy patients had prior emergency visits for non-specific abdominal pain, leading to symptomatic treatment and discharge, which exacerbates diagnostic delays and outcomes.

Material and Methods: Retrospective analysis of 761 patients (2017-2026) stratified into: Group 1 (<60/LA, n=341), group 2 (≥60/LA, n=36), group 3 (<60/OA, n=316), group 4 (≥60/OA, n=68). Outcomes included length of stay (LOS), complications, operative time, conversions. Integrated with meta-analyses and systematic reviews on LA vs. OA in elderly.

Results: In geriatrics, LA reduced LOS (2.1 vs. 3.8 days, $p<0.001$) and complications (6.8% vs. 13.2%, $p=0.028$). Conversion rate in group 2: 10.3%. Operative times longer for LA and geriatrics ($p<0.001$). Systematic evidence confirms LA lowers mortality (OR: 0.24-0.33), morbidity (OR: 0.61-0.65), wound infections (OR: 0.27), and LOS (WMD: -0.51 to -2.72 days) in elderly. Compared to non-elderly, geriatrics exhibit higher risks: complicated appendicitis (RR 2.38), peritonitis (RR: 1.88), complications (RR: 2.59), wound infection (RR: 3.80), abscess (RR: 1.84), readmission (RR: 1.61), and mortality (RR: 12.48).

Conclusion: LA is superior in geriatrics for reduced LOS, morbidity, and mortality, despite longer operative times. Institutional barriers (training, logistics) perpetuate OA; reforms are needed. Vigilance for atypical symptoms and prior non-specific pain presentations is crucial to prevent delays.

Keywords: Acute appendicitis, geriatric surgery, laparoscopic appendectomy

Table 1. Comparison of demographic and clinical characteristics

Parameters	Group 1 (<60/LA)	Group 2 (≥60/LA)	Group 3 (<60/OA)	Group 4 (≥60/OA)	p-value
n	341	36	316	68	-
Age (mean ± SD)	33.2±11.2	70.1±8.8	34.6±12.6	70.9±7.8	<0.001
Operative time (mean ± SD, min)	52.4±18.3	68.7±22.1	45.6±14.5	59.2±19.8	<0.001
Mean LOS (days)	1.4±0.6	2.1±1.1	2.2±1.4	3.8±2.4	<0.001*
SSI/abscess (%)	3.2% (11)	6.8% (2)	5.4% (17)	13.2% (9)	0.028**
Conversion (%)	2.1% (7)	10.3% (4)	N/A	N/A	0.034

LA: Laparoscopic appendectomy, OA: Open appendectomy, SD: Open appendectomy, LOS: Length of stay, SSI: Surgical site infection.

[S-368]

Ultrasound-uided percutaneous microwave ablation in the treatment of hepatic cavernous hemangioma

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Objective: Although hepatic cavernous hemangiomas (HCHs) are the most common benign tumors of the liver, there is no consensus regarding the treatment approach, particularly for small lesions. The aim of this study was to evaluate the efficacy, safety, and short- and long-term clinical outcomes of ultrasound (US)-guided percutaneous microwave (MW) ablation in HCHs that, despite being smaller than 5 cm in diameter, demonstrated a significant tendency to grow.

Material and Methods: This prospective study was conducted between March 2010 and February 2015 at the Department of General Surgery, University Clinical Hospital No. 1, I.M. Sechenov First Moscow State Medical University. A total of 38 patients were included in the study. Patients with hemangiomas larger than 5 cm were excluded. All patients were regularly monitored with US and computed tomography (CT). During follow-up, 13 patients (34.2%) exhibited a 2-2.5-fold increase in hemangioma size over 1.5-3 years, and US-guided percutaneous MW ablation was performed in these patients. Procedures were carried out under intravenous anesthesia, and early and late post-ablation evaluations were performed using US and CT.

Results: Among the 13 treated patients, 3 (23.1%) were asymptomatic. Single-session MW ablation was sufficient in 11 patients (84.6%), while 2 patients (15.4%) required a second session due to tumor recurrence. Transient elevation of liver transaminases was observed in the early post-procedural period, with no serious complications or mortality. During long-term follow-up, fibrotic tissue replacement was observed in all treated hemangioma areas.

Conclusion: US-guided percutaneous MW ablation is a safe, effective, and minimally invasive method for treating small yet progressively enlarging HCH. This approach provides an organ-preserving alternative that allows patients to avoid major liver surgeries.

Keywords: Hemangioma, ablation, minimally invasive surgery

Table 1. Study methods and patient characteristics

Feature	Description
Total number of patients	38
Patients excluded from the study	Hemangiomas >5 cm in diameter
Number of patients with growth during follow-up	13 (34.2%)
Age (mean, range)	44 years (30-58)
Sex distribution	Female: 9 (69.2%), male: 4 (30.8%)
Number of lesions	Single lesion in 12 patients; 4 lesions in 1 patient
Lesion size	2.5-5.0 cm
Lesion location	Right lobe: 9, left lobe: 3, bilobar: 1
Diagnostic method	Contrast-enhanced multislice CT
Approach route	Intercostal/subcostal
Imaging guidance	Ultrasound
Anesthesia	Intravenous
MW probe	14G, active tip 2-2.5 cm
Generator	Ave Cure MVG881 (USA)
Ablation duration	10-20 minutes
Target temperature	100-120 °C
Postoperative therapy	Antibiotics, hepatoprotective and supportive therapy

MW: Microwave, CT: Computed tomography, USA: United States of America.

Table 2. Findings after MW ablation

Parameter	Findings
Procedure tolerance	Good in all patients
Early postoperative complaints	Mild pain and discomfort
Serious complications	None observed
Patients for whom single session was sufficient	11 (84.6%)
Need for second session	2 (15.4%)
ALT-AST changes	2-3 fold increase on day 1, normalized by day 5
Long-term follow-up duration	8-32 months (mean 20 months)
Ablation area	Fibrotic tissue in all patients
Fluid collection	Observed in 6 patients, resolved within 6 months

ALT: Alanine aminotransferase, AST: Aspartate aminotransferase, MW: Microwave.

[S-369]

Comparison of clinical outcomes between single port sleeve gastrectomy and traditional sleeve gastrectomy

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Objective: Sleeve gastrectomy, one of the most commonly performed procedures in bariatric surgery, has been applied using different approaches with the advancement of surgical techniques over time. The aim of this study was to compare the clinical outcomes and patient satisfaction of single-port sleeve gastrectomy with those of conventional multiport sleeve gastrectomy, and to identify the advantages and disadvantages of each approach.

Material and Methods: In this study, 40 patients who underwent bariatric surgery were retrospectively analyzed. Patients were divided into two groups according to the surgical technique performed: single-port sleeve gastrectomy (n=18) and conventional multiport sleeve gastrectomy (n=22). For each patient, the following data were collected: total weight loss (TWL, %), excess weight loss at postoperative 3 months (EWL, %), length of hospital stay (days), and patient satisfaction assessed using a four-item questionnaire. The questionnaire included the following items: Satisfaction with postoperative pain level (1-5), Satisfaction with aesthetic appearance (1-5), Satisfaction with time to return to daily activities (1-5), Overall satisfaction with the surgical process (1-5).

Results: When weight loss parameters were evaluated the mean total weight loss (TWL) was significantly higher in the conventional multiport sleeve gastrectomy group than in the single-port group (34.7% vs. 30.3%, p<0.001). Similarly, mean excess weight loss (EWL) at postoperative 3 months was greater in the conventional sleeve group (35% vs. 30%, p<0.05). No significant difference was found between the groups in postoperative length of hospital stay (2.6 vs. 2.5 days, p=0.93). Postoperative pain satisfaction scores were similar between the conventional and single-port groups (2.73 vs. 3.22, p=0.85). Satisfaction with aesthetic appearance was significantly higher in the single-port group (5.00 vs. 3.53, p<0.01). Satisfaction with return to daily activities and overall surgical satisfaction were comparable between the groups (p>0.05).

Conclusion: Single-port sleeve gastrectomy is a safe surgical option that may be preferred in patients with high aesthetic expectations. However, in terms of weight loss outcomes, the conventional multiport approach still appears to be superior. Further large-scale prospective studies are needed to evaluate the long-term outcomes of this technique and the impact of ongoing technical advancements.

Keywords: Patient satisfaction, single port, sleeve gastrectomy, weight loss outcomes

Table 1. Hospital stay and patient satisfaction outcomes

Parameter	Conventional multiport sleeve	Single port sleeve	p-value
Mean lenght of hospital stay (days)	2.6 days	2.5 days	0.93
Questionnaire item 1 (mean)	2.73	3.22	0.85
Questionnaire item 2 (mean)	3.53	5.00	<0.01
Questionnaire item 3 (mean)	4.66	5.00	>0.05
Questionnaire item 4 (mean)	4.80	4.88	0.89

Table 2. Comprasion of weight loss outcomes

Parameter	Conventional multiport sleeve	Single port sleeve	p-value
Mean TWL(%)	34.7%	30.3%	<0.001
Mean EWL at 3 months	35%	30%	<0.05

[S-370]

The effect of specimen extraction site on postoperative clinical and technical outcomes in laparoscopic sleeve gastrectomy a retrospective single-center study

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Objective: Laparoscopic sleeve gastrectomy (LSG) is a widely performed standard surgical procedure for the treatment of morbid obesity. Although the operative technique has been largely standardized, the incision site used for specimen extraction may differ in terms of abdominal wall trauma, postoperative pain, and surgical ergonomics. The impact of extraction site localization on clinical and technical outcomes has not been clearly defined. This study aimed to evaluate the effects of different extraction sites on postoperative and technical outcomes.

Material and Methods: In this retrospective single-center study, patients who underwent LSG were divided into two groups according to the specimen extraction site. Patients who underwent extraction through the left trocar site were defined as Group 1, whereas those who underwent extraction through the supraumbilical trocar site were defined as Group 2. Standard stapler line principles were applied in all cases. Demographic characteristics and body mass index were recorded. Postoperative pain levels were assessed using the visual analog scale at predetermined time intervals. The presence of nausea and vomiting was systematically documented. Extraction time, time to mobilization, length of hospital stay, as well as postoperative and extraction-related perioperative complications were analyzed. The groups were compared using appropriate statistical methods.

Results: The groups were comparable in terms of demographic characteristics. During the early postoperative period, lower pain scores were observed in Group 2, and this difference became more pronounced in the late early postoperative phase. Extraction time was shorter in Group 2. A more favorable trend in gastrointestinal tolerance was also observed in Group 2. Overall postoperative complication rates were similar between the groups. Technical difficulties related to the extraction site were more frequently encountered in Group 1.

Conclusion: In LSG, specimen extraction through the supraumbilical trocar site (Group 2) may provide advantages in terms of postoperative comfort and technical efficiency. Considering surgical ergonomics and the minimization of abdominal wall trauma, the supraumbilical approach appears to be a safe and feasible alternative.

Keywords: Laparoscopic sleeve gastrectomy, specimen extraction site, postoperative pain

[S-371]

Evaluation of the relationship between preoperative serum albumin (g/dL) value and total length of hospital (days) in patients undergoing laparoscopic sleeve gastrectomy surgery

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Objective: Hospital stay after laparoscopic sleeve gastrectomy is an important parameter reflecting postoperative recovery and clinical course. Serum albumin level is a biochemical indicator that provides information about the patient's nutritional status and physiological reserve in the preoperative period. This study aimed to evaluate the relationship between preoperative albumin (g/dL) level and total hospital stay (days) in patients who underwent laparoscopic sleeve gastrectomy.

Material and Methods: Total length of hospital stay (days) and preoperative albumin (g/dL) values included in the dataset were used. The relationship between the variables was examined using Spearman correlation analysis, as it is less sensitive to distribution assumptions. The statistical significance level was accepted as $p<0.05$.

Results: The total length of hospital stay (days) and preoperative serum albumin (g/dL) values of 220 patients (130 women and 90 men) who underwent laparoscopic sleeve gastrectomy between December 2023 and 2025 were analyzed. The mean total length of hospital stay was 5.79±3.05 days (median 5 days). The mean preoperative serum albumin was 41.12±2.81 g/dL (median 41.35 g/dL). Spearman correlation analysis revealed a weak negative correlation between preoperative serum albumin and total length of hospital stay ($\rho=-0.127$); however, this correlation was not statistically significant ($p=0.061$).

Conclusion: In our study, no significant relationship was demonstrated between preoperative serum albumin levels and total length of hospital stay in patients undergoing laparoscopic sleeve gastrectomy (Spearman $p=0.061$). It is thought that length of hospital stay may also be affected by multiple variables such as the development of complications, concomitant diseases, and perioperative clinical factors. Further studies with multivariate analyses and more data are needed.

Keywords: Albumin, hospital stay, laparoscopic sleeve gastrectomy

[S-372]

Clinical approach to staple line suturing in laparoscopic sleeve gastrectomy: A single-center experience

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Objective: Laparoscopic sleeve gastrectomy (LSG) is one of the most commonly performed bariatric procedures worldwide. Despite its proven effectiveness, staple line–related complications such as bleeding and leakage remain important sources of postoperative morbidity. Staple line suturing is frequently employed to reduce these complications; however, the impact of different suturing strategies on operative time and short-term surgical outcomes remains controversial. This study aimed to evaluate the effects of various staple line suturing approaches on operative time and short-term outcomes in laparoscopic sleeve gastrectomy.

Material and Methods: A retrospective analysis was conducted on 163 patients who underwent laparoscopic sleeve gastrectomy at a single center between 2019 and 2025. All procedures were performed by the same surgical team using a standardized operative technique. A 36 French bougie was used in all cases. Intraoperative leak testing was routinely performed using methylene blue and air, and a drain was placed at the end of the procedure. Patients were divided into three groups according to the staple line suturing approach: no suturing, single continuous Lembert suturing, and double continuous Lembert suturing. Operative time, postoperative complications, complication severity according to the Clavien-Dindo classification, need for blood transfusion, staple line leakage, and mortality were recorded and compared among groups using appropriate statistical methods.

Results: Seventy-seven point three percent of the patients were female. The mean age was 33.2±9.9 years, and the mean preoperative body mass index was 47.5±5.3 kg/m². Baseline demographic characteristics were comparable among the three groups (Table 1). The mean operative time for the entire cohort was 81.2±11.4 minutes and differed significantly according to the suturing strategy ($p<0.001$). The shortest operative time was observed in the non-sutured group, whereas the longest duration was recorded in patients who underwent double continuous lembert suturing. The overall postoperative complication rate was 13.5%. No Clavien-Dindo grade IV or V complications were observed. Importantly, no staple line leaks or surgery-related mortality occurred during the study period (Table 2).

Conclusion: Although the presence and extent of staple line suturing significantly increased operative time, short-term safety outcomes were comparable across different suturing strategies. In experienced surgical teams, single continuous Lembert suturing appears to be a safe and feasible option in laparoscopic sleeve gastrectomy.

Keywords: Sleeve gastrectomy, staple line, suturing

Table 1. Demographic and surgical characteristics of patients according to stapler line suturing approach

Variable	No suturing (n=43)	Single continuous lembert (n=68)	Double continuous lembert (n=52)	p-value
Age (years), mean ± SD	33.5±10.1	33.3±9.5	32.9±10.6	ns
Female, n (%)	33 (76.7)	53 (77.9)	40 (76.9)	ns
Male, n (%)	10 (23.3)	15 (22.1)	12 (23.1)	ns
Preoperative BMI (kg/m²), mean ± SD	47.5±4.9	47.3±5.7	47.9±5.0	ns
Operative time (min), mean ± SD	70.2±7.7	82.1±7.7	88.9±11.1	<0.001†

†Kruskal-Wallis test.
BMI: Body mass index, SD: Standard deviation, ns: Not significant.

Table 2. Distribution of postoperative outcomes and complications in the entire cohort (n=163)

Outcome	n (%)
Any postoperative complication	22 (13.5)
Clavien-Dindo grade I	8 (4.9)
Clavien-Dindo grade II	4 (2.5)
Clavien-Dindo grade III	3 (1.8)
Clavien-Dindo ≥ grade IV	0 (0)
Blood transfusion	9 (5.5)
Staple line leak	0 (0)
Surgery-related mortality	0 (0)
Non-surgical mortality	1 (0.6)

Complications were classified according to the Clavien-Dindo system.

[S-373]

The effect of gastritis and *Helicobacter pylori* on weight loss and nutritional tolerance following laparoscopic sleeve gastrectomy

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Objective: Laparoscopic sleeve gastrectomy (LSG) is a widely performed and effective method in the treatment of morbid obesity. The impact of gastritis and *Helicobacter pylori* (*H. pylori*) infection ,frequently encountered in surgical specimens, on success metrics such as postoperative weight loss and food tolerance remains controversial in the literature. This study aims to evaluate the effects of gastritis and *H. pylori* positivity on weight loss and oral tolerance during the first six months postoperatively in patients undergoing LSG.

Material and Methods: This single-center, retrospective study included 52 patients who underwent LSG for morbid obesity. Patients' demographic data, preoperative body mass index, histopathological findings of surgical specimens (presence/severity of gastritis, *H. pylori* status), and postoperative weight measurements at 1, 3, and 6 months were recorded. Weight loss success was evaluated using percentage of total weight loss (TWL%) and percentage of excess weight loss (EWL%). Oral food tolerance at the postoperative 6th month was measured using the standardized quality of alimentation (QoA) questionnaire. Statistical analysis was performed using Mann-Whitney U and chi-square tests, with a significance level of $p<0.05$.

Results: In the study population, the prevalence of gastritis and *H. pylori* was found to be 59.6% (n=31) and 34.6% (n=18), respectively. A highly significant statistical correlation was identified between the presence of gastritis and *H. pylori* positivity ($p<0.0001$); while 58.1% of patients with gastritis were *H. pylori* positive, the pathogen was not detected in any patients without gastritis. At the 6th month, the mean EWL% was 56.02%. Neither the presence of gastritis nor *H. pylori* positivity had a statistically significant effect on weight loss metrics at the 1st, 3rd, or 6th postoperative months (all $p>0.05$). At the postoperative 6th month, 98.1% of the patients exhibited acceptable (48.1%) or excellent (50%) oral tolerance (QoA score ≥17). Furthermore, mean QoA scores were not influenced by gastritis ($p=0.324$) or *H. pylori* status ($p=0.444$). A weak but significant negative correlation was observed between patients' subjective dietary quality assessments and objective QoA scores ($p=0.037$).

Conclusion: Study findings demonstrate that gastritis or *H. pylori* in LSG specimens does not adversely affect short-term weight loss or oral tolerance. While preoperative *H. pylori* eradication remains debated, our study reveals these pathologies do not compromise surgical success or patient comfort. However, larger prospective studies are required to generalize findings and evaluate long-term outcomes.

Keywords: Laparoscopic sleeve gastrectomy, nutritional tolerance, *Helicobacter pylori*

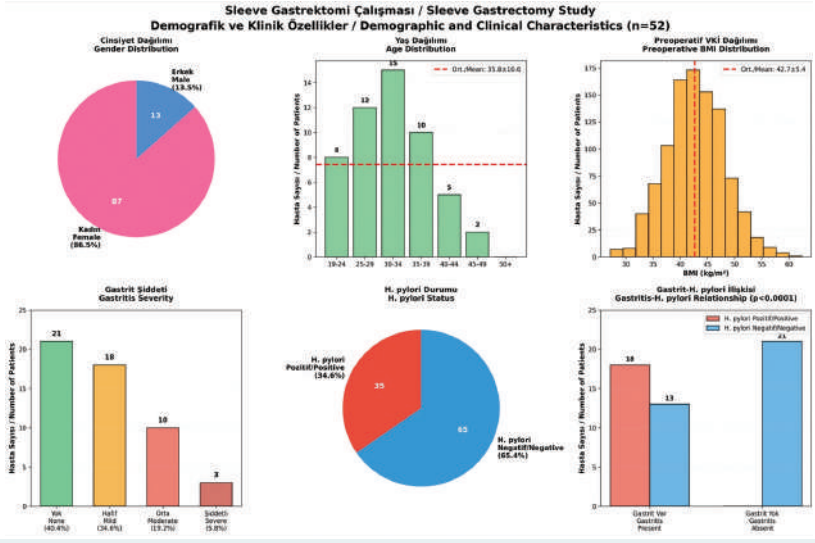

Figure 1. Demographic and clinical characteristics.

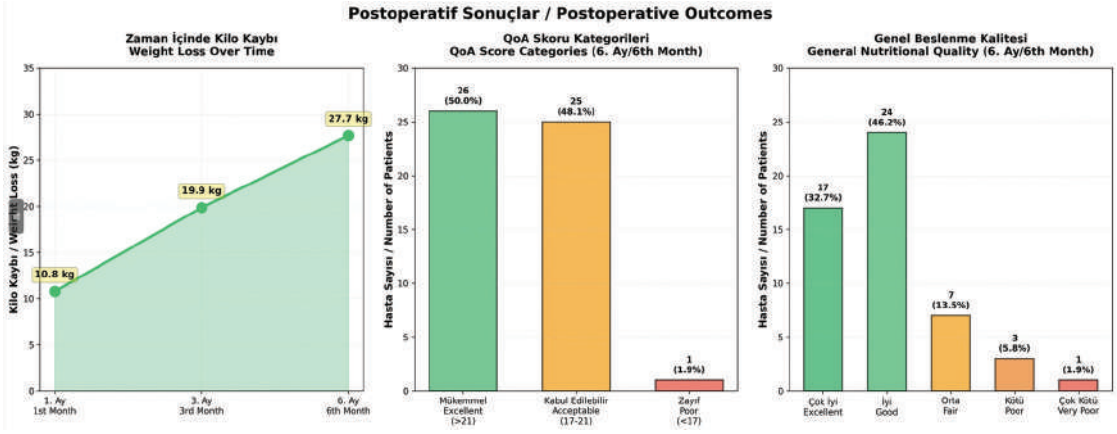

Figure 2. Postoperative outcomes.

[S-374]

Comparison of balloon volume, weight loss rates, and symptom duration in patients undergoing gastric balloon implantation at our clinic: A retrospective analysis

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Objective: The aim of this study was to compare gastric balloon volume with weight loss rate and symptom duration in patients with BMI higher than 27 kg/m^2 who underwent gastric balloon implantation due to weight loss in our clinic.

Material and Methods: This study retrospectively examined patients who underwent gastric balloon placement in our clinic between 2024 and 2025. Data were retrospectively collected from 55 consecutive overweight patients who underwent intragastric balloon (bariglobe) placement. All balloons were placed and removed by a single endoscopist. One group (group 1) received 450 mL of methylene blue-dyed saline, and the other group received 500 mL. Post-procedure, patients were given PPIs, antiemetics, and antacid analgesics to control nausea, vomiting, abdominal pain, and reflux symptoms. Pre-procedure informed consent was obtained from all patients. Demographic data, weight loss rates, and symptom durations of the patients were compared.

Results: Thirty (55) of the patients were male and 15 (45) were female. Pre-procedure weight was 102.5±19.1 kg (group 1 =105.8±17.1, group 2 =98±19.1, p>0.05). The mean weight of the patients at six months was 84.76 ±13.8. The mean weight loss rate of all patients was 17.2±8% (mean weight loss of group 1 was 18.3±7.5, group 2 was 15.6±9.2%, p>0.05). The mean body mass index (BMI) at balloon placement was 36.6±3.3 kg/m^2 (group 1 36.8±3.2, group 2 36.5±3.7), while the mean total BMI loss at 6 months was 18.4±7.7% (group 1 18.2±7.3%, group 2 18.6±8.7%, p>0.05). Symptom duration was 1±10 days for group 1 and 2±12 days for group 2 (p<0.001).

Conclusion: In our retrospective study of patients who underwent intragastric balloon placement, no statistically significant difference was observed in weight loss rates between the two groups; however, a statistically significant difference was observed in symptom duration. Based on these results, we concluded that inflating intragastric balloons with 450 cc of methylene blue shortens the symptom duration in overweight patients. Further comprehensive prospective studies are needed in the future.

Keywords: Gastric balloon ,symptom duration

[S-375]

Sleeve gastrektomi sonrası erken dönem kilo kaybında rezeke edilen mide hacmi ve stapler hattı uzunluğunun rolü

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Amaç: Laparoskopik sleeve gastrektomi (LSG), morbid obezite cerrahisinde hem kısıtlayıcı hem de hormonal etkileri nedeniyle dünya genelinde altın standart yöntemlerden biri haline gelmiştir. Operasyonun temel teknik prensibi, midenin büyük kurvatur boyunca rezeke edilerek hacminin kalıcı olarak azaltılmasına dayanmaktadır. Ancak literatürde, çıkarılan mide dokusunun boyutlarının veya oluşturulan zımba (stapler) hattı uzunluğunun, özellikle cerrahi sonrası erken dönemdeki kilo kaybı başarısı üzerindeki etkisi halen tartışmalıdır. Bu çalışmanın amacı, rezeke edilen mide spesimenine ait hacim ve uzunluk ölçümlerinin, hastaların preoperatif vücut kitle indeksi (VKİ) değerleriyle birlikte postoperatif üçüncü ay kilo kaybı parametreleri üzerindeki prediktif değerini değerlendirmektir.

Gereç ve Yöntem: Bu çalışmada, Temmuz–Ekim 2025 tarihleri arasında kliniğimizde primer LSG uygulanan ardışık 90 hastanın verileri retrospektif olarak incelenmiştir. Revizyonel olgular ve ek bariyatrik prosedürler analiz dışı bırakılmıştır. Hastaların demografik özellikleri ile preoperatif antropometrik ölçümleri ve postoperatif üçüncü ay kilo ile VKİ değerleri standart protokoller doğrultusunda kaydedilmiştir. Cerrahi sonrası patolojik incelemede elde edilen spesimen boyutları ve stapler hattı uzunlukları kullanılarak, geometrik varsayımlar aracılığıyla tahmini rezeke mide hacmi hesaplanmıştır. Erken dönem kilo kaybı başarısı; mutlak kilo kaybı (kg), toplam kilo kaybı yüzdesi (%TWL) ve fazla kilo kaybı yüzdesi (%EWL) parametreleri kullanılarak değerlendirilmiştir. Değişkenler arasındaki istatistiksel ilişkiler Pearson korelasyon analizi ile %5 anlamlılık düzeyinde test edilmiştir.

Bulgular: Çalışmaya dahil edilen 90 hastanın 68'i kadın, 22'si erkek olup yaş ortalaması 34,7±10,8 yıl olarak saptanmıştır. Preoperatif VKİ ortalaması 45,3±5,7 kg/m² iken üçüncü ay sonunda ortalama VKİ değeri 36,6±5,0 kg/m²'ye gerilemiştir. Ortalama kilo kaybı 23,2±9,6 kg olarak bulunmuştur. Operatif veriler incelendiğinde ortalama stapler hattı uzunluğu 19,8±3,7 cm, hesaplanan rezeke mide hacmi ise 206,5±95,3 cm³ olarak belirlenmiştir. İstatistiksel analizde %TWL ile stapler uzunluğu (r=0,021; p=0,847) ve rezeke mide hacmi (r=-0,164; p=0,123) arasında anlamlı bir korelasyon saptanmamıştır. Buna karşılık preoperatif VKİ değerinin mutlak kilo kaybı üzerinde pozitif (r=0,339; p=0,001), %EWL başarısı üzerinde ise negatif yönde anlamlı ilişki gösterdiği izlenmiştir (r=-0,313; p=0,003).

Sonuç: Elde edilen bulgular, LSG sonrası erken dönem kilo kaybı başarısının rezeke edilen mide hacmi veya stapler hattı uzunluğu gibi cerrahi teknik parametrelerden bağımsız olduğunu düşündürmektedir. Bu durum, erken dönemde gözlenen kilo kaybında mide hacmindeki mekanik daralmadan ziyade hastanın başlangıç antropometrik özelliklerinin ve operasyon sonrası gelişen fizyolojik adaptasyonların daha belirleyici olabileceğini göstermektedir. Cerrahi teknik detayların kilo korunumu ve uzun dönem sonuçlar üzerindeki etkisini daha net ortaya koyabilmek için daha geniş örneklemli ve uzun takip süreli prospektif çalışmalara ihtiyaç vardır.

Anahtar Kelimeler: Sleeve gastrektomi, erken dönem kilo kaybı, rezeke mide hacmi

[S-378]

The effect of omentopexy after sleeve gastrectomy on quality of life and reflux symptoms

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Objective: Sleeve gastrectomy is the most commonly performed procedure in bariatric surgery. Postoperative complications such as nausea, vomiting, reflux, torsion, and staple-line leak may occur. Omentopexy is defined as suturing the omentum to the staple line. The addition of omentopexy to conventional sleeve gastrectomy aims to reinforce the staple line, prevent torsion, and reduce leak and reflux symptoms.The aim of this study is to evaluate the effect of omentopexy added to sleeve gastrectomy on quality of life and reflux symptoms.

Material and Methods: This was a prospective comparative study conducted between January 2024 and March 2025. A total of 100 patients were included: 50 underwent conventional sleeve gastrectomy and 50 underwent sleeve gastrectomy with omentopexy. The questionnaires used were the bariatric quality of life (BQL) and the Gastroesophageal Reflux Disease-Health-Related Quality of Life (GERD-HRQL). Patient characteristics: Demographic data were similar between the groups. Age, sex, and BMI distributions were comparable.

Results: BQL scores: at 6 months, the BQL score was significantly higher in the omentopexy group compared to the conventional group (51.84±2.72 vs. 38.74±2.62; $p<0.001$). Category distribution was as follows: 68% Moderate, 18% Poor, and 14% Good. GERD-HRQL scores: at 6 months, GERD-HRQL scores were significantly lower in the omentopexy group compared to the conventional group (9.80±2.65 vs. 29.94±2.80; $p<0.001$). Score distribution was: 46% minimal, 32% moderate, 12% mild, 8% severe, and 2% Very severe. Postoperative complaints: hair loss: 28%; bloating/gas: 21%; heartburn: 14%; vomiting: 14%; no complaints: 10%. Medication use: Aanalgesics: 21%; antihypertensive drugs: 10%; proton pump inhibitors: 10%; antidepressants: 7%; no regular medication: 17%. Comparative findings: the omentopexy group demonstrated higher quality of life and lower reflux symptoms. No anastomotic leaks were observed in either group. Based on preoperative and postoperative day 1 complete blood counts, a mean decrease of 1.07 g/dL in hemoglobin levels was observed.

Conclusion: The findings of this study are consistent with the advantages reported in the literature. Omentopexy reinforces the staple line and may reduce postoperative complications. Limitations of the study include its single-center design and short follow-up period. Sleeve gastrectomy with added omentopexy improves quality of life and reduces reflux symptoms. It is a safe and feasible technique.

Keywords: Sleeve gastrectomy, omentopexy, bariatric surgery, GERD-HRQL, BQL

[S-379]

Five-year follow-up attendance after bariatric surgery, reasons for non-attendance, and its association with weight loss outcomes

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Objective: Long-term follow-up after bariatric surgery is considered part of routine clinical practice in many centers; however, the impact of follow-up attendance on weight loss outcomes remains unclear. This study aimed to identify the reasons for non-attendance during the five-year follow-up period in patients undergoing bariatric surgery and evaluate the relationship between follow-up attendance and fifth-year weight loss outcomes, specifically percentage of excess weight loss (EWL) and percentage of total weight loss (TWL).

Material and Methods: A total of 189 patients who underwent bariatric surgery between January 2018 and December 2019 at the Marmara University Pendik Training and Research Hospital, Department of General Surgery, were retrospectively analyzed. According to our clinic's standard protocol, patients were scheduled for follow-up visits at postoperative months 1, 3, 6, 9, 12, 18, 24, 36, 48, and 60. Follow-up attendance was calculated as the ratio of attended visits to the total number of scheduled visits. Reasons for non-attendance were identified through telephone interviews. For the evaluation of fifth-year weight loss outcomes, patients were categorized based on EWL (<50% ≥50%) and TWL (<20% ≥20%). Patients who underwent revision surgery, diagnosed with malignancy during follow-up, or died during the follow-up period were excluded from the analysis assessing the association between attendance and weight loss outcomes. After exclusions, 153 patients were included in the final analysis.

Results: The mean age was 40.9±10.2 years, and 76.5% of patients were female. The median preoperative body mass index (BMI) was 46.5 (10) kg/m², while the median BMI at five years was 32.5 (8.75) kg/m². At the fifth year, median EWL was 56% (34.1) and median TWL was 23% (12.7). The median follow-up attendance rate was 40% (30). Only 5.8% of patients attended all scheduled visits, whereas 94.2% had incomplete follow-up. The most common reasons for non-attendance were distance from the center (27.2%), work-related constraints (22.7%), and perceiving follow-up as unnecessary (22.7%). In the 153-patient analysis group, no significant difference in attendance was found between EWL <50% and ≥50% groups ($p=0.291$). Similarly, no significant difference in attendance was observed between TWL <20% and ≥20% groups ($p=0.329$).

Conclusion: Long-term follow-up attendance after bariatric surgery was low, and no significant association was found between attendance and fifth-year weight loss outcomes. These findings suggest that the frequency of recommended follow-up visits may not be equally necessary for all patients in terms of weight loss results. Transportation difficulties and time constraints were the leading causes of non-attendance, indicating a need to reconsider follow-up strategies.

Keywords: Obesity, sleeve, weigt loss

Table 1. Baseline demographic and clinical characteristics

Parameter	Value [Median (IQR)/Mean ± SD / n (%)]
Age (years)	40.9±10.2
Sex	Female: 117 (76.5%) Male: 36 (23.5%)
Height (cm)	164 (13)
Preoperative BMI (kg/m²)	46.5 (10)
Follow-up rate (%)	40 (30)
Postoperative BMI (kg/m²)	32 (8.75)
5th Year EWL (%)	56 (34.1)
5th Year TWL (%)	23 (12.7)

EWL: Excess weight loss, TWL: Total weight loss.

Table 2. Reasons for non-attendance among contacted patients with incomplete follow-up

Reason for non-attendance	Number of patients (n)	Percentage (%)
Transportation problems/Distance	42	27.2
Considered follow-up unnecessary	35	22.7
Work-related reasons	35	22.7
Due to the pandemic	31	20.1
Other health problems	21	13.6
Lack of awareness	20	12.9
Family-related reasons	12	7.7
Did not believe in the benefit	10	6.5
Reoperated and enrolled in another follow-up program	4	2.6

**Percentages exceed 100% because patients were allowed to report multiple reasons.

[S-380]

Evaluation of early postoperative outcomes after metabolic surgery using BRI and BMI: Comparison of sasi and sleeve gastrectomy

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Objective: Morbid obesity is a major public health problem closely associated with metabolic disorders such as type 2 diabetes mellitus, dyslipidemia, and insulin resistance. Metabolic surgery is considered an effective treatment option as it provides significant weight loss along with rapid and marked improvement in metabolic parameters. Sleeve gastrectomy and single anastomosis sleeve ileal bypass (SASI) are among the most commonly performed metabolic surgical techniques today. Postoperative success in bariatric surgery is generally assessed using body mass index (BMI); however, BMI does not adequately reflect body fat distribution or central obesity. The body roundness index (BRI) is a newer anthropometric parameter reflecting body shape and central adiposity and may be more strongly associated with metabolic risk.This study aimed to evaluate early postoperative changes in weight loss, BMI, BRI, and metabolic parameters in morbidly obese patients undergoing SASI or sleeve gastrectomy, and to compare the two surgical techniques.

Material and Methods: This retrospective study analyzed data from patients who had both preoperative and postoperative 1-month follow-up records. The evaluated variables included body weight, BMI, BRI, HbA1c, HDL, LDL, triglycerides, C-peptide, HOMA-IR, and fasting blood glucose. Continuous variables were presented as mean ± standard deviation. Comparisons between preoperative and postoperative 1-month values were performed using paired tests. Differences in changes between the SASI and sleeve gastrectomy groups were evaluated using the Welch two-sample test. A p-value <0.05 was considered statistically significant.

Results: A total of 64 patients were included, with a mean age of 40.50±12.88 years. The baseline BMI (in patients with available data) was 45.08±6.95 kg/m². Comparison between SASI and sleeve gastrectomy. 1-month weight loss (kg): • Sleeve: 14.89±6.07 (n=46) • SASI: 12.62±6.40 (n=16) •Between-group difference: p=0.228. 1-month %TWL: oSleeve: 12.23±4.38 oSASI: 10.56±5.22 • Between-group difference: p=0.263. Change in BRI (Δ): •Sleeve: -1.66 • SASI: -1.73 o Between-group difference: p=0.812 Both BMI and BRI showed statistically significant reductions at the first postoperative month (p<0.001). However, since BRI reflects central obesity, it demonstrated a closer association with early improvements in metabolic parameters.

Conclusion: At one month after SASI and sleeve gastrectomy, significant weight loss and reductions in BRI were observed, along with marked improvements in glycemic control and insulin resistance markers (HbA1c and HOMA-IR). No statistically significant differences were found between SASI and sleeve gastrectomy in terms of weight loss or changes in BRI during the early postoperative period.BRI appears to be a more effective parameter than BMI in reflecting early metabolic improvement in the postoperative period.

Keywords: Metabolic surgery, sleeve gastrectomy, SASI, body roundness index (BRI), body mass index (BMI)

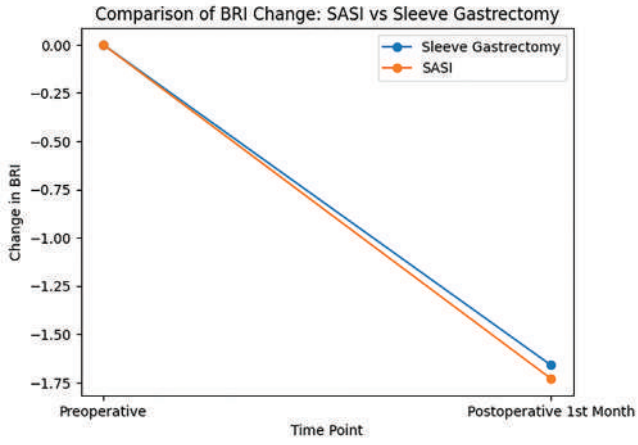

Figure 1. Change in body roundness index (BRI) from preoperative period to postoperative 1st month.

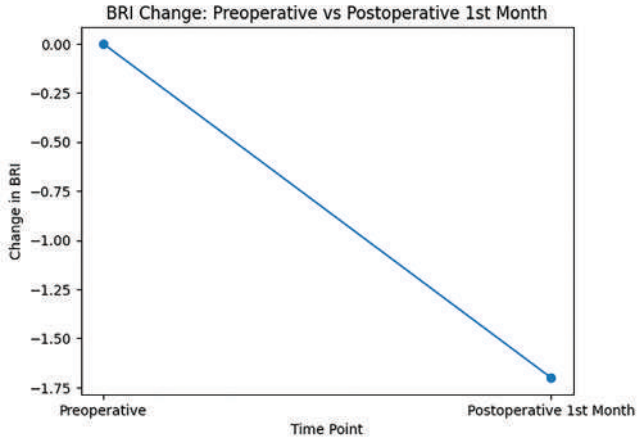

Figure 2. Change in BMI from preoperative period to postoperative 1st month.

BMI: Body mass index.

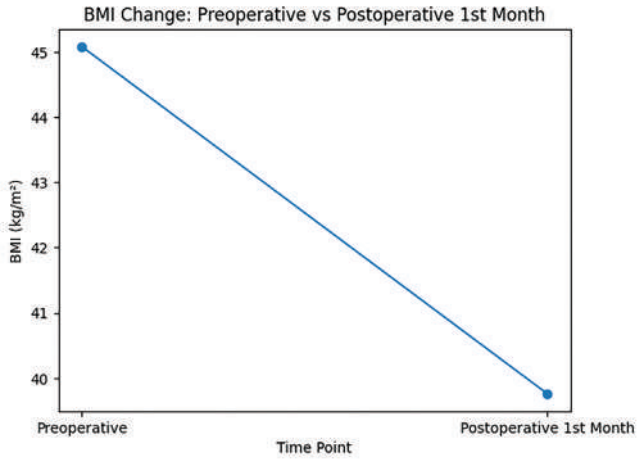

Figure 3.

[S-382]

Necessity of postoperative intensive care unit admission in patients undergoing bariatric surgery

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Objective: Routine intensive care unit (ICU) admission was historically standard for bariatric surgery patients due to high BMI and complex comorbidity profiles. However, the paradigm has shifted with the implementation of enhanced recovery after surgery (ERAS) protocols, which advocate for selective, evidence-based critical care utilization. Identifying patients who truly require ICU-level monitoring is essential for optimizing patient safety, managing hospital resources effectively, and improving cost-benefit ratios. This study aims to determine independent perioperative risk factors predicting the necessity of ICU admission across diverse bariatric procedures.

Material and Methods: A retrospective analysis was performed on 291 patients who underwent bariatric surgery at a single center between January 2015 and December 2025. Evaluated variables included demographics, BMI, American Society of Anesthesiologists (ASA) scores, smoking history, total operative duration, perioperative blood transfusion, and conversion to open surgery. The primary outcome measure was postoperative ICU admission. Independent predictors were identified using a multivariate logistic regression model, with statistical significance defined as $p<0.05$.

Results: The cohort included 229 females (78.7%) and 62 males (21.3%), undergoing [laparoscopic sleeve gastrectomy (LSG); n=264] or [laparoscopic gastric bypass (LGB); n=27]. Mean BMI was 44.99±4.5 kg/m², with no significant difference between the LSG (45.00±4.5 kg/m²) and LGB (44.87±5.0 kg/m²) groups ($p>0.05$). The overall ICU admission rate was 41.9% (n=122); 95.1% (n=116) were planned monitorings, while only 4.9% (n=6) were unplanned. Mean ICU stay was 1.08±0.8 days. Multivariate analysis identified a high ASA score (ASA 3) as the strongest predictor, increasing ICU risk 12.1-fold (OR: 12.16, 95% CI: 6.14-24.09, $p<0.001$). Smoking independently increased risk 1.9-fold (OR: 1.93, 95% CI: 1.03-3.61, $p=0.039$). Each one-minute increase in operative duration correlated with a 1.2% higher probability of admission (OR: 1.012, $p<0.001$). Unplanned admissions due to major complications remained rare, involving only 0.8% of the total cohort.

Conclusion: Postoperative ICU admission in bariatric surgery is primarily dictated by the patient's baseline physiological reserve (ASA score) and operative duration rather than the specific surgical technique. Smoking remains a critical modifiable risk factor influencing monitoring requirements. Patients with ASA 2 status, non-smokers, and those with shorter predicted operative times can be safely managed in general wards under ERAS protocols, optimizing ICU resources for truly high-risk cases.

Keywords: Bariatric surgery, intensive care unit, postoperative, morbid obesity

Table 1. Comparison of demographic and clinical characteristics

Variable	Total (n=291)	LSG (n=264)	LGB (n=27)	p-value
Gender (female/male)	229/62	205/59	24/3	0.210
BMI (kg/m²), (mean ± SD)	44.99 (±4.5)	45.00 (±4.5)	44.87 (±5.0)	0.890
Operative duration (min)	171.4 (±48)	165.2 (±42)	256.4 (±65)	<0.001
ASA 3 (%)	30.9%	28.4%	55.5%	0.002
Smoking status (n, %)	74 (25.4%)	65 (24.6%)	9 (33.3%)	0.320

Table 2. Independent risk factors predicting the need for intensive care (multivariate analysis)

Risk factor	Odds ratio (OR)	95% Confidence interval (CI)	p-value
High ASA score (ASA 3)	12.16	6.14-24.09	<0.001
Smoking status	1.93	1.03-3.61	0.039
Operative duration (min)	1.012	1.006-1.018	<0.001
Age	1.013	0.983-1.043	0.392
Body mass index	1.068	0.995-1.137	0.067

[S-384]

The effect of laparoscopic sleeve gastrectomy on serum cobalamin levels: A study of 126 cases

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Objective: Laparoscopic sleeve gastrectomy has become one of the most frequently performed bariatric surgical methods today due to its effective weight loss and acceptable complication rates. This study aimed to evaluate the effect of laparoscopic sleeve gastrectomy on serum cobalamin levels before and at 6 months postoperatively in patients who underwent the procedure.

Material and Methods: The study included 126 patients (56 men and 70 women) who underwent laparoscopic sleeve gastrectomy at a single center between January 2025 and 2026 and had a complete data set. Preoperative and 6-month postoperative serum cobalamin levels were compared using paired t-tests in dependent groups. Patients with missing cobalamin measurements at follow-up and those who received preoperative cobalamin supplementation were excluded from the study. All patients received the same multivitamin (Argivit®) supplementation in the postoperative period.

Results: In patients who underwent laparoscopic sleeve gastrectomy, the mean preoperative cobalamin level was found to be 395.2±191.4 pg/mL, while it was measured as 318.1±132.6 pg/mL at 6 months postoperatively. The mean decrease of 77.1 pg/mL was found to be statistically significant ($p<0.001$). The rate of cobalamin deficiency detected in patients in the preoperative period was 4.8%, while the rate of cobalamin deficiency detected in patients at 6 months postoperatively increased to 14.3%.

Conclusion: An patients who underwent laparoscopic sleeve gastrectomy, a statistically significant decrease in serum cobalamin levels was observed at 6 months postoperatively. As a result, routine cobalamin monitoring and, if necessary, replacement therapy are recommended in patients who underwent laparoscopic sleeve gastrectomy in the postoperative period.

Keywords: Cobalamin, nutritional deficiency, sleeve gastrectomy

[S-386]

Results of paragastric autonomic neural blockage after sleeve gastrectomy

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Objective: Visceral pain (VP) after laparoscopic sleeve gastrectomy remains a clinically significant challenge. It is frequently accompanied by autonomic manifestations such as nausea and vomiting and responds poorly to conventional analgesic strategies primarily targeting somatic incisional pain. This study aimed to assess the safety and efficacy of laparoscopic paragastric autonomic neural blockade (PG-ANB) for the management of VP-related symptoms following sleeve gastrectomy.

Material and Methods: Between June 1, 2025, and January 1, 2026, 102 adult patients undergoing laparoscopic sleeve gastrectomy for the treatment of obesity at our institution were prospectively enrolled. Patients younger than 18 years, those who underwent concomitant surgical procedures, and individuals with known hypersensitivity to the study medications were excluded. The primary outcome was postoperative pain intensity, measured using a 10-point visual analog scale (VAS). Secondary outcomes included postoperative analgesic consumption and the incidence of autonomic symptoms, including nausea, vomiting, and hiccups.

Results: Postoperative pain, the primary outcome of the study, was evaluated using patient-reported VAS scores. Patients demonstrated low pain intensity at both 1 hour (4.0±2.7) and 8 hours (2.8±2.2) following surgery. Postoperative vomiting was observed in 1 patient at 1 hour and in 2 patients at 8 hours. Additionally, hiccups were reported in 1 patient during the first postoperative hour.

Conclusion: Laparoscopic PG-ANB appears to be a safe and effective adjunct for the management of VP following sleeve gastrectomy. The technique was associated with reduced early postoperative pain and a low incidence of autonomic symptoms such as nausea, vomiting, and hiccups. These findings suggest that targeting autonomic pathways may improve postoperative comfort after bariatric surgery and support further investigation of PG-ANB as part of multimodal pain management strategies.

Keywords: Laparoscopic sleeve gastrectomy, visceral pain, autonomic neural blockade, postoperative pain management, bariatric surgery

[S-387]

Association of gas- and liquid-based gastric distensibility with mid-term weight loss after laparoscopic sleeve gastrectomy

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Objective: Laparoscopic sleeve gastrectomy (LSG) is an effective bariatric procedure; however, factors influencing postoperative weight loss outcomes remain incompletely understood. The contribution of physical characteristics of the resected gastric specimen, including liquid capacity and distensibility, to mid-term weight loss outcomes has not been fully elucidated. This study aimed to evaluate the relationship between the *ex vivo* fluid capacity and elasticity of the resected gastric specimen and 12-month weight loss outcomes following LSG.

Material and Methods: A retrospective analysis was performed on 87 patients who underwent LSG between January 2023 and December 2024. All patients were operated on using a standardized surgical technique by the same surgical team. Gastric resection was initiated adjacent to the pylorus, using a 38-Fr orogastric tube for calibration. Following resection, the gastric specimen was assessed *ex vivo*. Gastric distensibility was measured by insufflating carbon dioxide until intragastric pressures of 10 mmHg and 14 mmHg were reached, and the corresponding gas volumes were recorded. A distensibility ratio was calculated based on these measurements. Gastric liquid capacity was determined by filling the resected specimen with water and measuring the maximum volume. Patients were evaluated according to preoperative BMI (<45 vs. ≥45 kg/m²) and postoperative 12-month BMI (<30 vs. ≥30 kg/m²). Primary outcomes included postoperative 12-month BMI, percent total weight loss (TWL%), and percent excess weight loss (EWL%). Logistic regression analysis was performed to identify predictors of achieving a postoperative 12-month BMI <30 kg/m². Postoperative length of hospital stay and complication rates were recorded.

Results: The mean age was 38.6±10.6 years, and 91% of patients were female. The median preoperative BMI was 43.5 kg/m². The median postoperative hospital stay was 4 days. At 12 months, median BMI was 27 kg/m², mean TWL% was 37.2±7.7%, and mean EWL% was 87.4±21.9%. Patients with preoperative BMI ≥45 kg/m² had significantly higher postoperative complication rates compared to those with BMI <45 kg/m² (43% vs. 21%, p=0.033). In multivariate analysis, gastric liquid capacity of the resected specimen was independently associated with achieving a postoperative 12-month BMI <30 kg/m² (OR 0.994, 95% CI 0.990-0.997, p=0.042).

Conclusion: Gastric liquid capacity of the resected specimen appears to be an independent predictor of successful mid-term weight loss following LSG. Higher preoperative BMI was associated with increased postoperative complication rates. *Ex vivo* assessment of resected gastric liquid capacity and distensibility may provide valuable insights into postoperative weight loss variability at mid-term follow-up.

Keywords: Gastric distensibility, sleeve, weigt loss

Figure 1. The excised stomach filled with water after laparoscopic sleeve gastrectomy.

[S-388]

Does the rate of weight loss after sleeve gastrectomy predict gallstone formation?

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Objective: Rapid weight loss after laparoscopic sleeve gastrectomy (LSG) is widely believed to increase the risk of gallstone formation. However, the quantitative relationship between the rate of weight loss and the development of gallstones has not been clearly established. This study aimed to evaluate whether the postoperative rate of weight loss is associated with gallstone formation following LSG.

Material and Methods: Patients who underwent LSG between 2010 and 2025 at a single bariatric center were retrospectively analyzed. Patients with available abdominal ultrasonography both before and after surgery were included. A total of 134 patients were enrolled and divided into two groups based on the presence or absence of gallstone formation during follow-up. For each patient, body weight, body mass index (BMI), total weight loss, percentage of total weight loss (%TWL), and rate of weight loss (monthly %TWL) were calculated at the final follow-up visit or at the time of gallstone diagnosis. Comparative analyses were then performed between the two groups.

Results: During a median follow-up period of 13 months, gallstones developed in 53 of 134 patients (39.6%). There were no significant differences between patients with and without gallstones in terms of age, preoperative or postoperative body weight, or BMI. Total weight loss (40.4±16.8 vs. 38.4±15.2, p=0.482) and %TWL (32.4±12.7% vs. 31.5±11.7%, p=0.677) were similar between the gallstone and non-gallstone groups, respectively. However, the rate of weight loss was significantly higher in patients who developed gallstones compared with those who did not (3.8±3.4 vs. 2.9±2.3, p=0.048).

Conclusion: In this LSG cohort, the rate of postoperative weight loss, rather than the absolute amount of weight loss, was associated with gallstone formation. Patients experiencing very rapid weight loss after surgery may be ideal candidates for closer gallbladder surveillance and selective ursodeoxycholic acid prophylaxis.

Keywords: Gallstones, laparoscopic sleeve gastrectomy, rate of weight loss

Table 1. Demographic and clinical characteristics of the patients

	Patients with gallstones (n=53)	Patients without gallstones (n=81)	p-value
Follow-up duration, mean ± SD (months)	20.9±25.7	21.8±21.6	0.839[1]
Age, mean ± SD (years)	34.8±10.9	36±10.5	0.526[1]
Sex Female, n (%) Male, n (%)	 41 (77.4) 12 (22.6)	 75 (89.3) 9 (10.7)	0.059[2]
Weight (preoperative), mean ± SD (kg)	125.5±16.2	122.5±12.7	0.349[1]
BMI (preoperative), mean ± SD (kg/m²)	46±4.7	45.6±5.5	0.676[1]
Weight (postoperative), mean ± SD (kg)	85.1±20.9	84±20.6	0.769[1]
BMI (postoperative), mean ± SD (kg/m²)	31.1±6.5	31.3±7.2	0.830[1]
Total weight loss, mean ± SD (kg)	40.4±16.8	38.4±15.2	0.482[1]
%TWL	32.4±12.7	31.5±11.7	0.677[1]
Months/%TWL	3.8±3.4	2.9±2.3	*0.048[1]

[1]: Student's t-test, [2]: Pearson's chi-square test, *: p<0.05 indicates statistical significance, %TWL: Percentage of total weight loss, BMI: Body mass index.

[S-389]

The effect of omentopexy on reflux and dysmotility symptoms in sleeve gastrectomy: A comparative study using the F-scale questionnaire

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Objective: Gastroesophageal reflux and dysmotility symptoms are common problems after sleeve gastrectomy and negatively affect patient comfort. Mechanical factors such as gastric twist and hiatal hernia are thought to play a role in the development of these symptoms. In recent years, it has been suggested that performing omentopexy at the end of the operation may reduce these mechanical complications and, consequently, improve reflux symptoms. The aim of this study was to evaluate the effect of omentopexy performed during sleeve gastrectomy on postoperative reflux and dysmotility symptoms using the F-scale reflux questionnaire.

Material and Methods: A total of 100 patients who underwent sleeve gastrectomy without preoperative reflux symptoms were included in this retrospective, comparative study. Patients were divided into two groups. Group 1 (n=50): patients who underwent omentopexy (operated between 2018-2019). Group 2 (n=50): Patients who did not undergo omentopexy (operated between 2017-2018). The F-scale reflux questionnaire was administered to all patients in the postoperative period, and total F-scale scores were calculated. A cut-off value of ≥10 was accepted for clinically significant reflux symptoms. To exclude the possibility that dysmotility and reflux symptoms were related to other surgical interventions, patients who underwent gastric surgery for any reason during the postoperative period were excluded from the study.

Results: The mean follow-up period for all patients was 92.2±10.34 months. The mean total F-scale score was 6.0±3.52 in the omentopexy group and 15.04±13.27 in the non-omentopexy group. The difference between the two groups was statistically significant (p=0.012). When the cut-off value of ≥10 was applied, clinically significant reflux and dysmotility symptoms were observed in 14% of patients in the omentopexy group and in 48% of patients in the non-omentopexy group.

Conclusion: Omentopexy performed in conjunction with sleeve gastrectomy surgery significantly reduces postoperative reflux and dysmotility symptoms. Omentopexy stands out as an effective and feasible surgical modification for reducing the development of reflux after sleeve gastrectomy. However, prospective studies and objective interventional methods beyond questionnaires are needed to increase the reliability of the results when evaluating the presence of reflux in the postoperative period.

Keywords: Dysmotility, gastroesophageal reflux, omentopexy, dleeve gastrectomy

Table 1. Comparison of demographic and clinical data between groups

	Omentopexy group (n=50)	Non-omentopexy group (n=50)	p-value
Age, mean ± SD (year)	46.6±5.88	48.3±7.03	0.270[1]
Gender Female, n (%) Male, n (%)	 28 (56) 22 (44)	 27 (54) 23 (46)	0.841[2]
ASA score, n (%) 1 2 3 4	 0 14 (28) 32 (64) 4 (8)	 0 14 (28) 32 (64) 4 (8)	1.000[3]
BMI (preoperative period), mean ± SD (kg/m²)	47.6±4.09	48±3.83	0.659[1]

[1]: Mann-Whitney U test, [2]: Pearson chi-square test, [3]: Fisher's exact test.
BMI: Body mass index, SD: Standard deviation.

Table 2. Comparison of intraoperative and postoperative outcomes between groups

	Omentopexy group (n=50)	Non-omentopexy group (n=50)	p-value
Operation time, mean ± SD (minute)	117.6±19.01	118.2±18.59	0.868[1]
BMI (postoperative period), mean ± SD	31.4±4.75	30.9±4.13	0.717[1]
F-scale test, mean ± SD	6±3.51	15±13.27	0.012[1*]

[1]: Mann-Whitney U test, *p<0.05 significant, BMI: Body mass index, SD: Standard deviation.

[S-390]

Metabolic improvement and micronutrient profile at 12 months after laparoscopic sleeve gastrectomy: Evaluation of clinical and biochemical outcomes

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Objective: Obesity is a chronic disease closely associated with metabolic and endocrine disorders, and surgical treatment is considered the most effective method for long-term weight control. Laparoscopic sleeve gastrectomy (LSG) not only promotes weight loss but also induces changes in metabolic parameters and hormonal balance. However, the effects of LSG on micronutrient levels remain controversial. In this study, we aimed to evaluate changes in weight loss, metabolic indicators, and micronutrient parameters in patients who underwent LSG during a 12-month follow-up period.

Material and Methods: This retrospective study included 269 patients who underwent LSG. Demographic characteristics, preoperative and postoperative 12-month anthropometric measurements, and biochemical parameters were analyzed. Paired comparisons were performed using the Wilcoxon signed-rank test. The level of statistical significance was set at $p<0.05$.

Results: The mean age of the patients was 33.82±10.59 years, and 84.8% were female. The mean preoperative body weight was 123.57±18.47 kg, and the body mass index (BMI) was 47.16±7.02 kg/m². At twelve months, the mean weight was 74.62±10.89 kg and BMI was 28.88±3.89 kg/m². The mean excess weight loss (%EWL) was 83.80±14.99% and total weight loss (%TWL) was 38.71±6.91%. Significant improvement was observed in metabolic parameters. Significant decreases were detected in HbA1c, free T3, TSH, and triglyceride levels ($p<0.001$). While a significant increase was observed in HDL levels ($p<0.001$), no significant changes were observed in LDL and free T4 levels. Significant increases were observed in serum iron, vitamin B12, and magnesium levels, while no significant changes were found in ferritin levels.

Conclusion: LSG provides significant and sustainable weight loss over a 12-month follow-up period while producing meaningful improvements in metabolic parameters. However, changes in some micronutrient levels are observed, and regular biochemical monitoring is important during the postoperative period.

Keywords: Laparoscopic sleeve gastrectomy, metabolic improvement, micronutrient changes

[S-391]

Six-month results and early complications of intragastric balloons used for obesity

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Objective: While obesity remains a global health crisis, intragastric balloon (IGB) implantation has gained popularity as a minimally invasive weight loss method as an alternative to surgery. The aim of this study is to evaluate the outcomes and short-term complications of 132 patients who successfully completed 6 months of IGB treatment through a retrospective analysis and a comprehensive literature review.

Material and Methods: This study consists of two parts. In the first part, data from 132 patients who underwent IGB treatment and successfully completed it between 2022 and 2026 were retrospectively analyzed. Demographic data, baseline anthropometric measurements, weight loss outcomes, and complication rates were examined. In the second part, a systematic literature review was conducted in PubMed, Scopus, and Google Scholar databases.

Results: In the retrospective series, patients (mean age: 32.5±8.5 years, baseline BMI: 36.1±5.5 kg/m²) lost an average of 11.4±8.1 kg after 6 months, with an average weight loss rate of 11.8%±8.4%. Gastric ulcers were detected in 11 patients who underwent pre-procedure endoscopy, and balloon placement was performed after 21 days of anti-ulcer treatment. The complication rate was found to be 12.1%; the most frequent complications were balloon deflation (2.3%) and Mallory-Weiss hemorrhage (1.5%). The rate of early removal was 8.3%. Literature review confirmed that 6 months of treatment resulted in an average weight loss of 12-16 kg and that major complications were rare.

Conclusion: With appropriate patient selection and close monitoring, intragastric balloon angioplasty is an effective and relatively safe short-term weight loss method for obesity. A notable advantage is the ability to identify and treat any pre-procedure contraindications in the stomach via endoscopy. Treatment success depends on effective management of early symptoms and patient compliance.

Keywords: Complications, gastric balloon, obesity

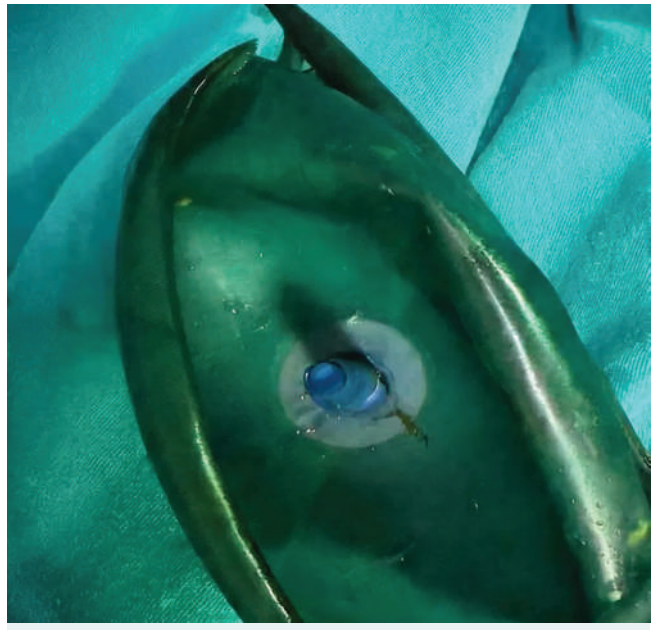

Figure 1. IGB that was perforated during the procedure.

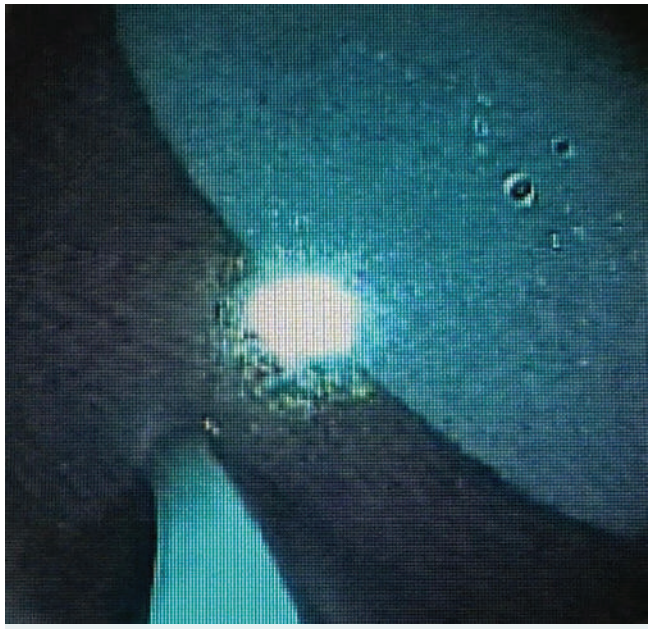

Figure 2. Following the procedure, hyperinflation occurred due to anaerobic reproduction in the IGB.

Table 1. Observed short-term complications and their classification

Complication	Number of patients (n)	Rate (%)	Classification	Management
Balloon deflation	3	2.3	Major	Endoscopic removal
Mallory-weiss bleeding	2	1.5	Major	Endoscopic hemostasis
Acute pancreatitis	1	0.8	Major	Conservative treatment
Balloon migration	1	0.8	Major	Endoscopic removal
Spontaneous deflation	2	1.5	Minor	Conservative treatment
Early migration	2	1.5	Minor	Follow-up
Hyperinflation	1	0.8	Minor	Conservative treatment

[S-392]

The impact of preoperative neutrophil-to-lymphocyte ratio and thyroid function on early weight loss after bariatric surgery

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Objective: Identifying simple and cost-effective biomarkers that can predict early weight loss after bariatric surgery is important for improving outcomes and optimizing patient follow-up. The neutrophil-to-lymphocyte ratio (NLR), considered a marker of systemic inflammation, and thyroid function tests have been associated with obesity pathophysiology and metabolic response. In this study, the relationship between preoperative NLR and thyroid-stimulating hormone (TSH) levels and early weight loss at 6 and 12 months was retrospectively evaluated in candidates for bariatric surgery.

Material and Methods: In this retrospective cohort study, adult patients who underwent bariatric surgery (sleeve gastrectomy) at a single center between 2019 and 2025 were included. Data were obtained from the electronic medical record system. Preoperative NLR and TSH values were compared with percentage total weight loss (%TWL) and percentage excess weight loss (%EWL) measured at 6 and 12 months. Patients were divided into high and low groups based on the median NLR and TSH values. Chi-square test, Mann-Whitney U test, and multivariable logistic regression analyses were performed. A p-value <0.05 was considered statistically significant.

Results: A total of 312 patients were included in the study (mean age 42.8±10.5 years; 74% female). The median preoperative NLR was 2.8 (IQR: 2.1-3.9), and the median TSH was 2.1 mIU/L (IQR: 1.6-2.8). In the high NLR (>2.8) group, %TWL at 6 months was significantly lower (median %TWL 23.4 vs. 27.1; p=0.011). Similarly, the high preoperative TSH group had lower %TWL at 6 months (24.0 vs. 26.8; p=0.027). At 12 months, both high NLR and high TSH groups had lower EWL% (median EWL% 58.7 vs. 64.9, p=0.014; and 59.3 vs. 63.8, p=0.032, respectively). In multivariable analysis adjusted for age, sex, baseline BMI, and surgical type, high NLR (OR 1.93, 95% CI 1.21-3.09, p=0.006) and high TSH (OR 1.74, 95% CI 1.10-2.76, p=0.018) were identified as independent predictors of the risk of TWL% <25% at 6 months (Table 1).

Conclusion: According to our retrospective data, preoperative NLR and TSH levels may serve as independent predictors of early weight loss after bariatric surgery. The evaluation of these simple and accessible parameters before surgery may provide clinical benefit in identifying high-risk individuals and planning personalized follow-up strategies. Prospective studies are warranted to confirm these findings.

Keywords: Bariatric surgery, neutrophil-to-lymphocyte ratio, thyroid function

Table 1. Baseline characteristics and early outcomes according to preoperative NLR and TSH levels

Variable	Low NLR (≤2.8) (n=156)	High NLR (>2.8) (n=156)	p-value	Low TSH (≤2.1) (n=158)	High TSH (>2.1) (n=154)	p-value
Age (years, mean ± SD)	41.9±10.2	43.7±10.8	0.118	42.1±10.4	43.5±10.6	0.221
Female sex (%)	76%	72%	0.447	75%	73%	0.693
Baseline BMI (kg/m²)	44.2±5.8	45.0±6.3	0.289	44.5±6.0	44.7±6.1	0.812
6-month %TWL (median)	27.1	23.4	0.011	26.8	24.0	0.027
%TWL <25 at 6 months (%)	18.6%	34.0%	0.004	20.3%	31.8%	0.019
12-month %EWL (median)	64.9	58.7	0.014	63.8	59.3	0.032

[S-393]

Effects of omentopexy on gastric anatomy, motility, and dyspeptic symptoms following laparoscopic sleeve gastrectomy

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Objective: Laparoscopic sleeve gastrectomy (LSG) is a commonly performed restrictive bariatric procedure. Postoperative anatomical changes, particularly at the incisura angularis, may affect gastric motility and dyspeptic symptoms. This study aimed to evaluate the effect of omentopexy on the incisura angularis angle, gastric motility, and dyspeptic symptoms after LSG.

Material and Methods: Between June 2023 and September 2024, 36 patients undergoing LSG were prospectively evaluated; five were excluded due to follow-up non-compliance. Patients were randomized into omentopexy and non-omentopexy groups. Intraoperative incisura angularis angle measurements were recorded (Figure 1), and gastric emptying times were assessed preoperatively and at 3 months postoperative using scintigraphy. Dyspeptic symptoms were evaluated using the Leeds dyspepsia questionnaire.

Results: A total of 18 out of 31 patients underwent omentopexy. The change in the incisura angularis angle was significantly greater in the non-omentopexy group (p=0.046). In both groups, gastric emptying time was significantly reduced postoperatively, indicating increased gastric emptying rate (p<0.01) (Table 1). No significant difference was observed between the groups in dyspeptic symptoms (p=0.089).

Conclusion: Although omentopexy limits postoperative changes in the incisura angularis angle after LSG, it does not provide a significant clinical advantage in gastric motility or dyspeptic symptoms. Further studies with longer follow-up are warranted.

Keywords: Obesity, laparoscopic sleeve gastrectomy, omentopexy, dyspepsia

Table 1. Comparison of the incisura angularis angle in pregastrectomy and postgastrectomy patients with and without omentopexy, and preoperative and postoperative (3-month) gastric motility time

Parameter	Omentopexy (+) (n=18)			p	Omentopexy (−) (n=13)			p
	Pregastrectomy	Postgastrectomy	Mean difference		Pregastrectomy	Postgastrectomy	Mean difference	
Incisura angularis angle (degrees)	109.5	107.5		0.983	115.5	119.6		0.002
	(101.7-125.6)	(101.2-121.7)	3.8		(107.9-120.5	(116.7-133)	6.5	
			(-11.2, 8.3)				(1.3, 11.9)	
			p*=0.046				p*=0,046	
	Preoperative	Postoperative (3rd month)			Preoperative	Postoperative (3rd month)		
Gastric emptying time (minutes)	60.8	48.6		0.004	72.9	49.3		0.002
	(58.6-70)	(45.4-55.1)	-12.1		(66.3-82.3)	(44.9-54.3)	-26.4	
			(-22.6,-6,6)				(-28,9,- 9,7)	
			p^{Ω}=0.211				p^{Ω}=0,211	

Median (25th-75th percentile) p=Mann-Whitney U test for incisura angularis angle and gastric motility time, preoperative and postoperative 3rd month differences within-group omentopexy and non omentopexy. p*=Mann-Whitney U test for Incisura angularis angle, preoperative and postoperative mean differences between omentopexy and non-omentopexy group. p^{Ω}=Mann-Whitney U test for gastric motility time, preoperative and postoperative mean differences between omentopexy and non-omentopexy group.

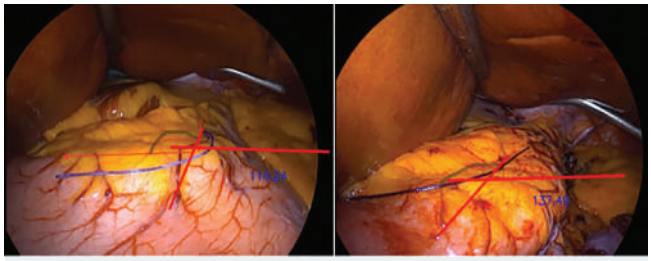

Figure 1. Preoperative and postoperative angle measurement of the incisura angularis.

[S-394]

Is *Helicobacter pylori* positivity a risk factor for postoperative complications following laparoscopic sleeve gastrectomy?

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Objective: Laparoscopic sleeve gastrectomy (LSG), despite being the most commonly performed bariatric surgical procedure, continues to be a significant cause of morbidity due to early-stage complications such as stapler line leakage and bleeding. The effect of *Helicobacter pylori* (HP) infection on these complications remains controversial. The aim of this study is to evaluate the relationship between HP positivity detected in resection specimens in patients undergoing LSG and early postoperative clinical outcomes.

Material and Methods: This single-centre retrospective cohort study included 502 patients who underwent LSG during the specified period. The patients' demographic data, comorbidities, laboratory parameters, and perioperative outcomes were examined. Resection specimens were histopathologically evaluated for the presence of HP. HP-positive (HP+) and HP-negative (HP-) groups were compared in terms of early-stage (first 30 days) postoperative complications. Complications were graded according to the Clavien-Dindo classification. For statistical analysis, $p<0.05$ was considered significant.

Results: HP positivity was detected in 119 (23.7%) of the total 502 patients. No significant difference was found between the HP+ and HP- groups in terms of age, gender, body mass index, and comorbidities. Anticoagulant use was significantly higher in the HP+ group ($p<0.001$) and haemoglobin levels were lower ($p=0.002$). However, the overall postoperative complication rate (HP+ 4.4% vs. HP- 4.6%; $p=0.91$), staple line leakage rate (HP+ 2.6% vs. HP- 2.4%; $p=0.92$), and Clavien-Dindo ≥3 complication rate (HP+ 2.6% vs. HP- 3.0%; $p=0.84$).

Conclusion: HP positivity detected in resection specimens does not appear to be an independent risk factor for early postoperative complications following laparoscopic sleeve gastrectomy. Our findings suggest that routine HP eradication prior to LSG may have a limited role in improving early surgical outcomes.

Keywords: *Helicobacter pylori*, laparoscopic sleeve gastrectomy, stapler line leak

Table 1. The effect of *Helicobacter pylori* on postoperative outcomes

Parameters	All patients (n=502)	HP positive (n=119)	HP negative (n=383)	p-value
Operation duration [min, median (min-max)]	53 (25-190)	50 (30-120)	55 (25-190)	0.18
İntraoperative blood loss [mL, median (min-max)]	10 (0-700)	5 (0-700)	10 (0-150)	0.048
Lenght of stay [day, median (min-max)]	4 (2-177)	3 (3-55)	4 (2-177)	<0.001
Staple-line leak (Y/N)	12/490	3/116	9/374	0.92
Surgical site infection (Y/N)	12/490	3/116	9/374	0.92
Distant infeciton (Y/N)	0/501	0/119	1/382	0.58
Re-admission (Y/N)	12/490	4/115	8/375	0.43
Postoperative complication (Y/N)	22/480	5/114	17/366	0.91
≥Clavien Dindo 3 classification (Y/N)	14/488	3/116	11/372	0.84

HP: *Helicobacter pylori,* Y/N: Yes/No, min-max: Minimum-maximum.

[S-395]

Is routine histopathological examination necessary in pilonidal sinus surgery? A single-center retrospective analysis of 1,056 cases

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Objective: Pilonidal sinus disease is a common condition in surgical practice, predominantly affecting young and productive individuals. Although routine histopathological examination of excised specimens after surgery is widely performed, its clinical contribution and cost-effectiveness remain controversial. The aim of this study was to evaluate the clinical value of routine histopathological examination in a large cohort of patients operated on for pilonidal sinus disease.

Material and Methods: The medical records of patients who underwent surgery for pilonidal sinus disease between January 2020 and December 2025 were retrospectively reviewed. Inclusion criteria were age ≥18 years, a preoperative diagnosis of pilonidal sinus disease, and availability of postoperative histopathological examination results. Patients with incomplete archival data were excluded. Demographic characteristics, surgical techniques, and histopathological findings of patients meeting the study criteria were analyzed.

Results: A total of 1.098 patients underwent surgery for pilonidal sinus disease during the study period. Of these, 1.056 patients met the inclusion criteria and constituted the final study cohort. The majority of patients were male (861 patients, 81.5%), while 195 patients (18.5%) were female. The mean age was 28.9±9.3 years, with a median age of 26 years. The surgical techniques performed included excision with primary closure in 463 patients (43.8%), excision with marsupialization in 65 patients (6.2%), excision with Limberg flap in 260 patients (24.6%), excision with open healing in 71 patients (6.7%), and excision with Karydakis flap in 197 patients (18.7%) (Table 1). Histopathological examination revealed no malignancy in any patient.

Conclusion: In this large series of patients operated on for pilonidal sinus disease, routine postoperative histopathological examination did not provide additional information that altered clinical management. Considering the increasing number of patients and rising healthcare costs, limiting histopathological examination to selected cases rather than routine use may represent a more rational and cost-effective approach.

Keywords: Pilonidal sinus disease, histopathological examination, surgical pathology, retrospective study, cost-effectiveness

[S-396]

Comparison of the results of patients undergoing crystallized phenol and laser ablation due to pilonidal sinus

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Objective: Pilonidal sinus is a chronic suppurative disease occurring subcutaneously in the sacrococcygeal region. In recent years, minimally invasive techniques have gained popularity. In this study, we aimed to compare the results of patients treated with phenol and those treated with laser ablation, both of which are minimally invasive methods.

Materials and Methods: The results of 94 patients treated with phenol between April 2021 and July 2022 were compared with those of 62 patients who underwent laser ablation between January 2025 and December 2025. Data were analyzed using the SPSS software; in addition to descriptive statistics, Student's t-test and chi-square tests were utilized for comparisons between the groups.

Results: The mean healing time was determined as 18.29±5.07 days in the phenol group and 16±8.4 days in the laser group, with no statistically significant difference found between the groups ($p>0.05$). Recurrence rates were observed as 14.8% (14 patients) in the phenol group and 8.0% (5 patients) in the laser group; this difference did not reach statistical significance ($p=0.198$). Similarly, no statistically significant difference was observed between the 4.25% minor complication rate in the phenol group (3 skin burns, 1 abscess) and the 3.2% rate in the laser group (2 abscesses) ($p=0.735$).

Conclusion: The data from our study reveal that both minimally invasive techniques possess a similar efficacy and safety profile in the surgical management of pilonidal sinus. Although the laser ablation method tended to exhibit clinically shorter healing times and lower recurrence rates compared to phenol treatment, these findings did not reach a statistically significant difference. In conclusion, it was determined that phenol treatment is a strong and feasible alternative to laser ablation in the treatment of pilonidal sinus, especially considering its cost-effectiveness advantage and similar complication rates.

Keywords: Pilonidal sinus, laser ablation, crystallized phenol

[S-397]

Evaluation of the effectiveness of the tropis (transanal opening of intersphincteric space) technique in complex anal fistula

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Objective: Complex anal fistulas represent a challenging disease process, characterized by a sophisticated pathophysiology rooted in the cryptoglandular theory, which has evolved alongside historical advancements in surgical understanding. Effective management requires an integrated approach to classification and treatment, with the dual goals of preventing recurrence and minimizing complications. The transanal opening of the intersphincteric space (TROPIS) technique, a relatively novel surgical method, aims toeliminate pathogenic agents by transanally opening the intersphincteric space, while preserving sphincter function and reducing the risk of incontinence.

Material and Methods: In this study, 44 patients meeting the inclusion criteria were treated with the TROPIS technique for complex anal fistula at Pamukkale University between January 2022 and January 2025. Patients were discharged on postoperative day one and monitored monthly for the first three months, followed by biannual follow-ups after complete healing. Outcomes assessed included wound healing, presence of discharge, epithelialization, and complication rates. A 49-year-old female patient previously operated on for an anal abscess subsequently developed a fistula. She presented with persistent discharge and underwent the TROPIS procedure. (A) The external fistula opening was identified using a probe, and the fistula tract was delineated. (B) The fistula tract was excised from the external opening using the core-out technique with preservation of the sphincter structures. (C) The intersphincteric space was opened transanally at the level of the internal opening. (D) Final appearance after fistulectomy and transanal intersphincteric opening.

Results: The cohort comprised 77.3% male and 22.7% female patients, with a mean age of 44.66±11.6 years and a mean BMI of 29.7±4.7. The average healing time was 2.1 months. Fistula types were classified as transsphincteric (72.7%), intersphincteric (22.7%), and extrasphincteric (4.5%). Uneventful healing occurred in 86.4% of patients, while 13.6% experienced delayed healing, with symptoms such as persistent discharge, delayed epithelialization or rectal pain. At six-month follow-up, 70.5% of patients achieved complete healing without recurrence, whereas 29.5% experienced recurrence. One patient reported gas incontinence, resulting in an overall continence preservation rate of 97.7%. Statistical analysis demonstrated a significant association between the number of fistula tracts and prolonged healing time (p=0.006).

Conclusion: In conclusion, the TROPIS technique demonstrates high continence-preservingefficacy and favorable therapeutic outcomes in the treatment of complex anal fistulas. Increased fistula complexity, such as a higher number of tracts or horseshoe configurations, was associated with longer healing times and higher recurrence rates. These findings support the role of TROPIS as an effective sphincter-sparing option in the surgical management of complex anal fistulas.

Keywords: Complex anal fistula, TROPIS, sphincter-sparing surgery, recurrence, continence

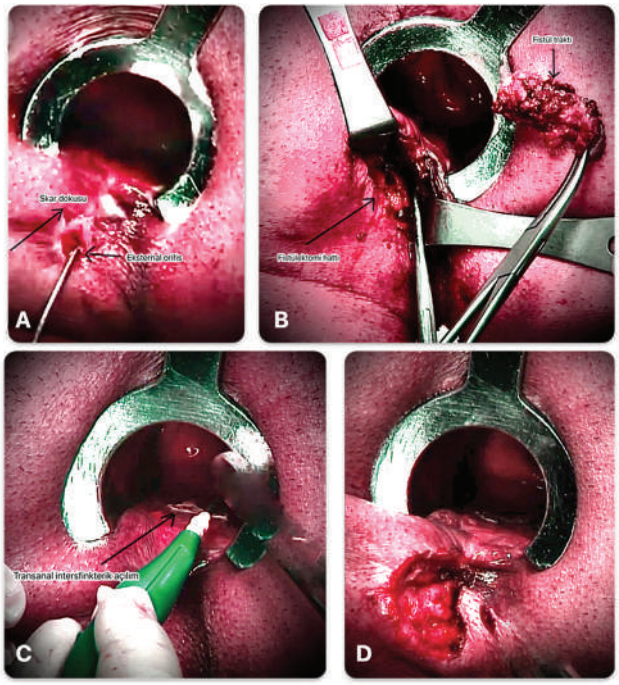

Figure 1. Application of the TROPIS technique.

[S-399]

Long-term recurrence rates in pilonidal sinus with crystallized phenol apparatus: A single-center experience

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Objective: Treatment failure and recurrence of pilonidal sinus are significant complications that prolong hospital stay and negatively affect quality of life. In the literature, the long-term recurrence rate after phenol treatment ranges from 5-15%. In our study, we aimed to evaluate the long-term postoperative recurrence rates of phenol application performed with the crystallized phenol apparatus developed by our clinic in patients diagnosed with pilonidal sinus.

Material and Methods: Patients who underwent phenol application with a crystallized phenol apparatus for pilonidal sinus at our clinic between January 1, 2024, and December 31, 2024, were retrospectively reviewed. Data on age, gender, diagnosis, patient stage according to Tezel classification, number of phenol applications, and recurrence requiring surgery were recorded. Patients under 18 years of age, those with previous pilonidal sinus surgery, and those presenting with pilonidal sinus abscess were excluded from this study.

Results: A total of 130 patients were included in the study. The average age of the patients was 28.125 years, and 109 (83.84%) were male. Treatment failure/recurrence was detected in 3 patients, and surgical treatment (Karydakis flap) was applied. 61 patients received 1 session, 48 patients received 2 sessions, 18 patients received 3 sessions, and 4 patients received 3 sessions of the innovative phenol approach. Minimally invasive applications applied in pilonidal sinus are important in the treatment of the disease and in preserving patient functionality during this process. With the crystallized phenol apparatus developed by our clinic, the low recurrence rates in 1-year follow-ups are comparable to the literature. In addition, other advantages of the apparatus include the absence of skin burns, minimization of phenol exposure for the practitioner, and the homogeneous distribution of crystallized phenol throughout the entire tract.

Conclusion: The innovative pilonidal sinus approach developed by our clinic can reduce recurrence rates due to its ease of application and treatment success.

Keywords: Pilonidal sinus, crystallized phenol, pilonidal cyst, recurrence

Table 1. Findings		
Age (SD)		**28.73 (10.68)**
Gender (%)	Woman	21 (16.16)
	Male	109 (83.84)
P. sinus stage	1	51 (39.23)
	2	79 (60.77)
	3	0 (0)
	4	0 (0)
Number of applications (%)	1	61 (46.93)
	2	48 (36.93)
	3	17 (13.07)
	4	4 (3.07)
Skin burn		0 (0)
SD: Standard deviation.		

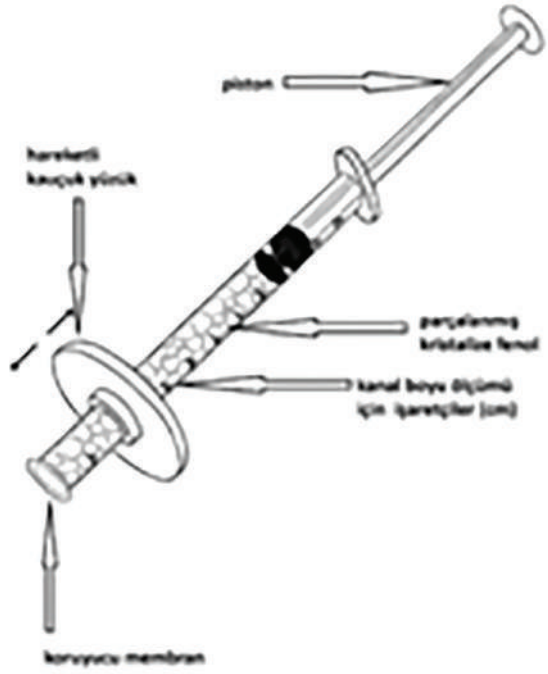

Figure 1. Phenol application apparatus.

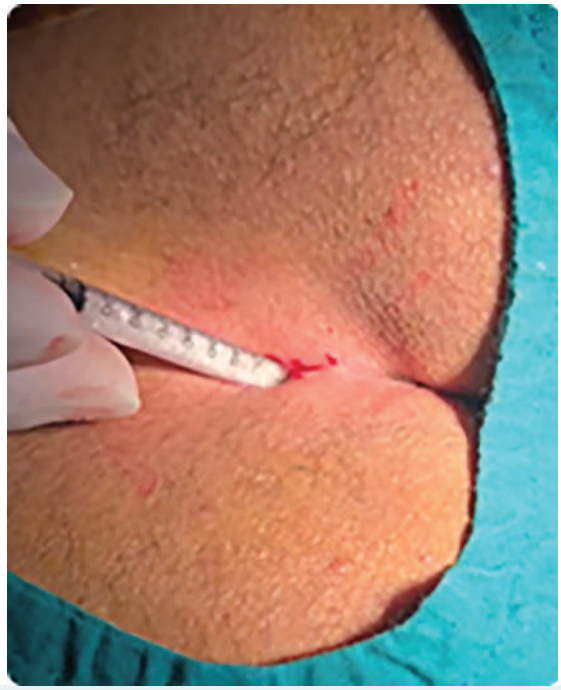

Figure 2. Application with phenol apparatus.

[S-400]

Anal fissürde botulinum toksin enjeksiyonuna eşzamanlı bupivakain uygulamasinin erken dönem postoperatif ağri üzerine etkisi

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Amaç: Anal fissür tedavisinde botulinum toksin enjeksiyonu, internal sfinkter basıncını azaltarak semptomları azaltır ve iyileşmeye imkan sağlar. Ancak etkisinin gecikmeli başlaması erken postoperatif dönemde ağrı kontrolünde yetersizlik oluşturabilir. Bu çalışmada, botulinum toksin uygulamasına eşzamanlı lokal bupivakain enjeksiyonunun erken dönem ağrı üzerine etkisi değerlendirildi.

Gereç ve Yöntem: Anal fissür nedeniyle botulinum toksin enjeksiyonu yapılan toplam 16 hasta retrospektif olarak değerlendirildi. Hastaların 8'ine botulinum toksine ek olarak lokal etkili uzun süreli anestezik olan bupivakain enjeksiyonu uygulanırken, 8 hastaya yalnızca botulinum toksin enjeksiyonu yapıldı. Tüm hastalarda postoperatif ilk 5 gün boyunca ağrı düzeyi görsel analog skala (VAS) ile günlük olarak sorgulandı. Gruplar arasındaki fark istatistiksel olarak analiz edildi.

Bulgular: Botulinum toksine ek olarak Bupivakain uygulanan grupta ortanca VAS skoru 3 olarak saptanırken yalnızca botulinum toksin uygulanan grupta ortanca VAS skoru 5 idi. Bupivakain eklenen grupta daha düşük ağrı skorları gözlenmesine rağmen, iki grup arasındaki fark istatistiksel olarak anlamlı bulunmadı.

Sonuç: Botulinum toksin enjeksiyonuna eşzamanlı bupivakain kullanılması, erken postoperatif dönemde ağrı skorlarında klinik olarak anlamlı görünen bir azalma sağlamakla birlikte, bu küçük örneklemli çalışmada istatistiksel anlamlılık gösterilememiştir. Daha geniş hasta serileri ile yapılacak randomize kontrollü çalışmalara ihtiyaç vardır. Bu yaklaşım, özellikle botulinum toksinin gecikmeli etki başlangıcı göz önünde bulundurulduğunda, erken dönem konforu artırmaya yönelik umut verici bir strateji olabilir.

Anahtar Kelimeler: Anal fissür, botulinum toksin, ağrı

[S-401]

Global and national trends in pilonidal disease literature: A bibliometric analysis

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Objective: Pilonidal sinus disease (PSD) remains a prominent topic in surgical literature; however, shifts in treatment modalities have significantly increased publication diversity. Identifying the developmental trajectory and thematic focal points of this scientific output is crucial for recognizing gaps in the literature. This study analyzes global and national PSD literature through bibliometric parameters.

Material and Methods: Data ranging from 1980 to December 2025 were retrieved from the Web of Science database. R-based biblioshiny and VOSviewer software were utilized for the analysis and visualization of bibliographic data. The analysis was conducted based on publication volume, citation distributions, and annual growth rates.

Results: A total of 2,133 documents meeting the criteria were analyzed. This body of literature received 30,503 citations with an H-index of 74. The development process, which began in the 1980s, gained significant momentum particularly after 2005, reaching an annual growth rate of 1.9%. Global publication volume peaked during the 2022-2024 period, while peak citation traffic was recorded in 2019 and 2025. The top three countries with the highest document production globally were Türkiye (n=386), the USA (n=290), and the UK (n=207). Thematic analyses indicate a paradigm shift from radical excision methods toward minimal invasive approaches such as EPSiT and Cleft-lift. Additionally, "negative pressure wound therapy (VAC)" forms prominent clusters in current literature. Analysis of Turkish-addressed publications revealed an h-index of 47 and an average citation count per document of 17.12, which is notably above the global average of 14.3. Within the national literature, studies examining the clinical efficacy of SiLaC (Laser ablation) and crystallized phenol applications, alongside oncological studies regarding the management of the rare complication "squamous cell carcinoma,"were found to form significant subgroups. At the institutional level, GATA (n=20) is the most productive center.

Conclusion: Bibliometric findings demonstrate that PSD literature has gained substantial momentum over the last 20 years, with a dominant trend toward surgical minimization. Both the quantitative volume and the above-average citation rate of Turkish-addressed studies reflect the high level of interest and methodological contribution of the national literature to the field.

Keywords: Pilonidal disease, bibliometric analysis

[S-402]

Clinical outcomes of stoma formation in Fournier's gangrene: A retrospective analysis

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Objective: Fournier's gangrene (FG) is a life-threatening necrotizing infection involving the external genital region and perineum, predominantly affecting men. The rarity of the disease and its variable clinical course make it difficult to establish a standardized approach to wound management after debridement. Although a diverting stoma may be used to reduce wound contamination, its clinical benefit and indications remain unclear. The aim of this study was to investigate the impact of stoma presence in patients operated on for FG.

Material and Methods: The medical records of 118 patients operated with FG at our hospital between January 2015 and December 2024 were retrospectively reviewed, and clinical and laboratory outcomes were analyzed according to the presence or absence of a stoma.

Results: A total of 118 patients operated on for FG were included in the study. A diverting stoma was performed in 56.8% of the patients. The groups were comparable in terms of age, diabetes mellitus, chronic kidney disease, ASA score, and source of infection. The proportion of male patients was significantly higher in the non-stoma group (p=0.003). When laboratory parameters were evaluated, CRP levels were significantly higher in the non-stoma group (186.6 mg/L vs. 105 mg/L; p=0.009), while albumin levels were lower (2.6 g/dL vs. 2.77 g/dL; p=0.048). Vacuum-assisted closure was used more frequently in the non-stoma group (92.2%, n=47 vs. 76.1%, n=51; p=0.021). The non-stoma group had a significantly longer intensive care unit stay (2 days vs. 1 day; p=0.007), hospital length of stay (25 days vs. 16 days; p=0.001), and a higher number of debridements (7 vs. 5; p=0.002). The rate of postoperative complications was also significantly higher in the non-stoma group (45.1%, n=23 vs. 17.9%, n=12; p=0.001). The interval between surgery and reconstruction was significantly longer in the non-stoma group (28.5 days vs. 14 days; p<0.001). Although 30-day mortality was higher in the non-stoma group (21.6% vs. 10.4%), this difference was not statistically significant. No significant differences were observed between the groups in terms of wound healing pattern or specimen size.

Conclusion: In patients with FG, the presence of a diverting stoma was significantly associated with shorter intensive care unit and hospital stays, fewer debridements, lower postoperative complication rates, and a shorter interval between surgery and reconstruction. These findings indicate that diverting stoma may contribute to improved postoperative clinical outcomes in selected patients with FG.

Keywords: Diverting stoma, necrotizing fasciitis

[S-403]

Early postoperative wound complications and clinical predictors after bascom cleft lift: A systematic review and meta-analysis

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Objective: Bascom cleft lift (BCL) is an off-midline closure technique for pilonidal sinus disease and is commonly used, particularly in complex or recurrent cases. However, the frequency of early postoperative (approximately 30-45 days) wound complications and the contribution of clinical factors such as obesity, recurrence, or a history of abscess remain unclear. This study systematically evaluated early wound complications after BCL and potential clinical predictors.

Material and Methods: Studies published between 2015 and 2025 reporting early (≈30-45 days) postoperative complications following BCL were searched. Inclusion criteria were: (i) use of the BCL/cleft lift technique, (ii) reporting of early wound complications [surgical site infection (SSI)/infection, seroma, hematoma, wound dehiscence, or overall complications], and (iii) reporting of at least one clinical variable (BMI/obesity, primary vs. recurrent disease, or history of abscess). Case reports were excluded. Event/N data were extracted, and complication rates were pooled.

Results: Seven studies comprising 1,547 patients were included. In six studies reporting complication subtypes as event/N (n=1.312), pooled early complication rates were: SSI/wound infection 3.7% (48/1.312), seroma 1.4% (18/1.312), hematoma 0.8% (10/1.312), and wound dehiscence 2.5% (33/1.312). One multicenter study reported an overall complication rate of 28.9% in the BCL arm. In the largest single-center series, minor and major complication rates were 34.5% and 19.1%, respectively, and obesity was identified as an independent risk factor for complications (OR≈2.3-2.6). Across several studies, approximately 40-50% of patients had recurrent disease or a history of prior failed surgery.

Conclusion: Early wound complications after BCL are generally low to moderate in the literature. SSI/wound infection is the most frequently reported complication, whereas seroma and hematoma appear less common. Available evidence suggests that obesity may represent a clinically meaningful risk factor for early postoperative complications. Even in series with a high proportion of recurrent/complex cases, the early safety profile of BCL appears acceptable. Prospective, multicenter studies using standardized complication definitions are needed to strengthen predictor analyses.

Keywords: Pilonidal sinus, bascom cleft lift, early postoperative complications

[S-405]

Clinical and surgical markers predicting fistula development after anal abscess: A single-center retrospective study

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Objective: Anal abscess is one of the most common infectious conditions of the anorectal region and may lead to anal fistula formation in a considerable proportion of patients despite adequate surgical drainage. Identifying clinical and surgical factors that predict fistula development is important for optimizing follow-up and reducing complications. This study aimed to evaluate factors associated with fistula development during follow-up in patients operated on for anal abscess.

Material and Methods: This single-center retrospective study included 94 patients who underwent surgery for anal abscess. Demographic characteristics, comorbidities, laboratory parameters, abscess type, presence of horseshoe abscess, surgical approach, abscess diameter, and follow-up outcomes were analyzed. The primary endpoint was fistula development during follow-up. Patients with and without fistula formation were compared. Categorical variables were analyzed using the chi-square test and continuous variables using the Mann-Whitney U test. A p-value <0.05 was considered statistically significant.

Results: The median age was 43 (22-86) years, and 71.3% were male. The median BMI was 25.25 (20-38.1). Diabetes was present in 21.3% of patients and 57.4% were smokers. The most common abscess type was perianal (68.1%), followed by ischiorectal (17%), intersphincteric (7.4%), and supralevator (7.4%) abscesses. Horseshoe abscess was identified in 20.2% of patients. Most patients underwent primary drainage, and the median follow-up duration was 7 (1-60) months. Fistula developed in 26 patients (27.7%). Female sex was significantly associated with fistula development, with higher rates compared to males (p=0.021). The presence of a horseshoe abscess was also significantly associated with fistula formation (p=0.032). Ischiorectal abscess was identified as a strong risk factor (p=0.001). Patients who developed recurrent abscess during follow-up had significantly higher fistula rates (p=0.001). Although abscess diameter was smaller in the fistula group, the difference was statistically significant (p=0.030). Age, BMI, diabetes, smoking, immunosuppression, fever at admission, spontaneous drainage, concomitant fistula at initial surgery, and laboratory parameters were not significantly associated with fistula development (p>0.05).

Conclusion: The fistula development rate after anal abscess was 27.7%. Female sex, horseshoe abscess, ischiorectal abscess type, and recurrent abscess were significant risk factors. Closer follow-up should be considered in patients with complex anatomical abscesses and recurrent disease. These findings may improve risk stratification and support earlier diagnosis and intervention in high-risk patients.

Keywords: Anal abscess, anal fistula, risk factors

Table 1. Comparison of patients with and without fistula development during follow-up and factors affecting fistula development

Parameters		No fistula development	Fistula development is present	p-value
Gender	Woman	15 (55.6%)	12 (44.4%)	***0.021**
	Male	53 (79.1%)	14 (20.9%)	
Diabetes status	None	53 (71.6%)	21 (28.4%)	*0.764
	There is	15 (75%)	5 (25%)	
Smoking	None	29 (72.5%)	11 (27.5%)	*0.976
	There is	39 (72.2%)	15 (27.8%)	
Immunosuppressed state	None	67 (73.6%)	24 (26.4%)	*0.184
	There is	1 (33.3%)	2 (66.7%)	
Temperature status at the time of initial application	None	60 (75.9%)	19 (24.1%)	*0.112
	There is	8 (53.3%)	7 (46.7%)	
Horseshoe abscess condition	None	58 (77.3%)	17 (22.7%)	***0.032**
	There is	10 (52.6%)	9 (47.4%)	
Abscess culture status	No reproduction	51 (70.8%)	21 (29.2%)	*0.555
	Reproduction is present.	17 (77.3%)	5 (22.7%)	
Preoperative spontaneous drainage status	None	54 (69.2%)	24 (30.8%)	*0.219
	There is	14 (87.5%)	2 (12.5%)	
Fistula accompanying abscess during initial surgery	None	55 (75.3%)	18 (24.7%)	*0.215
	There is	13 (61.9%)	8 (38.1%)	
Recurrent abscess status during follow-up	None	58 (80.6%)	14 (19.4%)	***0.001**
	There is	10 (45.5%)	12 (54.5%)	
Abscess type	Ischiorectal abscess	6 (37.5%)	10 (62.5%)	***0.001**
	Other abscess types	62 (79.5%)	16 (20.5%)	

Table 1. Continued

Parameters	No fistula development	Fistula development is present	p-value
Age (years)	45.5 (22-86)	39.5 (23-73)	**0.437
BMI	25 (20-38.1)	26 (20-35)	**0.438
Hospital stay duration	2 (1-35)	1.5 (1-15)	**0.322
Symptom duration until drainage (days)	3 (1-10)	3 (1-10)	**0.286
WBC at the time of initial application	13.24 (4.96-29.76)	12.28 (6.51-23.67)	**0.491
Neutrophil count at the time of initial application.	10.22 (3.02-27.44)	9.92 (3.67-21.34)	**0.823
Albumin levels at initial application	43 (16-53)	45 (29-53)	**0.161
Lymphocytes at the time of initial application	1.93 (0.69-23.5)	1.7 (0.55-4.84)	**0.415
Platelets at the time of initial application	277 (152-711)	291.5 (210-489)	**0.437
Hemoglobin at the time of initial application	14.35 (10-17.4)	14 (10.9-17.1)	**0.672
CRP at the time of initial application.	45 (1-330)	22.5 (1-317)	**0.102
Glucose levels at initial application	103 (77-498)	97.5 (75-480)	**0.252
Based on imaging and surgical data (mm)	34.5 (10-182)	25 (8-90)	****0.030**
Postoperative IV antibiotic duration	2 (1-35)	2 (1-14)	**0.370
Postoperative oral antibiotic duration	7 (0-14)	7 (5-10)	**0.201

Comparison of patients with and without fistula development during follow-up and factors affecting fistula development.

Table 2. Demographic, clinical, laboratory, and surgical characteristics of patients operated on for anal abscess (n=94)

Parameters	Values
Age (years)	43 (22-86)
Gender	
Woman	27 (28.7%)
Male	67 (71.3%)
BMI	25.25 (20-38.1)
Diabetes status	
None	74 (78.7%)
There is	20 (21.3%)
Smoking	
None	40 (42.6%)
There is	54 (57.4%)
Immunosuppressed state	
None	91 (96.8%)
There is	3 (3.2%)
Symptom duration until drainage (days)	3 (1-10)
Fever status at the time of initial application	
None	79 (84%)
There is	15 (16%)
WBC at the time of initial application	13.02 (4.96-29.76)
Neutrophil count at the time of initial application.	10.22 (3.02-27.44)
Albumin levels at initial application	44 (16-53)
Lymphocytes at the time of initial application	1.91 (0.55-23.5)

Table 2. Continued

Parameters	Values
Platelets at the time of initial application	282.5 (152-711)
Hemoglobin at the time of initial application	14.15 (10-17.4)
CRP at the time of initial application.	38.5 (1-330)
Glucose levels at initial application	102.5 (75-498)
Abscess type	
Perianal abscess	64 (68.1%)
Ischiorectal abscess	16 (17%)
Intersphincteric abscess	7 (7.4%)
Supralevator abscess	7 (7.4%)
Horseshoe abscess condition	
None	75 (79.8%)
There is	19 (20.2%)
Abscess culture status	
No reproduction in culture.	72 (76.6%)
Reproduction occurs in culture	22 (23.4%)
Preoperative imaging	
USG	20 (21.3%)
BT	56 (59.6%)
No imaging/physical examination only	18 (19.1%)
Preoperative spontaneous drainage status	
None	78 (83%)
There is	16 (17%)
Based on imaging and surgical data (mm)	32 (8-182)

Table 2. Continued

Parameters	Values
Drainage type	
Primary drainage	89 (94.7%)
Modified Henley procedure	4 (4.3%)
No drainage, just follow-up with antibiotics.	1 (1.1%)
Type of anesthesia	
Spinal	82 (87.2%)
General	12 (12.8%)
Fistula accompanying abscess during initial surgery	
None	73 (77.7%)
There is	21 (22.3%)
Suprasphincteric fistula	1 (1.1%)
Intersphincteric fistula	8 (8.5%)
Transsphincter fistula	8 (8.5%)
Extrasphincteric fistula	4 (4.3%)
Postoperative IV antibiotic duration	2 (1-35)
Postoperative oral antibiotic duration	7 (0-14)
Hospital stay duration	2 (1-35)
Recurrent abscess status during follow-up	
None	72 (76.6%)
There is	22 (23.4%)
Fistula development during follow-up	
None	68 (72.3%)
There is	26 (27.7%)
Suprasphincteric fistula	1 (1.1%)
Intersphincteric fistula	17 (18.1%)
Transsphincter fistula	8 (8.5%)
Extrasphincteric fistula	1 (1.1%)
Patient follow-up period (months)	7 (1-60)

[S-407]

Surgical outcomes of pilonidal sinus patients treated with the cleft lift technique in our clinic

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Objective: Pilonidal sinus disease is a chronic inflammatory condition that typically occurs in the sacrococcygeal region and is characterized by pain, discharge, and recurrent infections. It most commonly affects young adult males and can significantly impair quality of life. The pathogenesis is multifactorial, with a deep natal cleft, hair penetration, local trauma, and a moist environment playing key roles. The primary goals of treatment are complete eradication of the disease, prevention of recurrence, and rapid return to daily activities. In this context, the cleft lift procedure, which aims to flatten the natal cleft and lateralize the incision away from the midline, has emerged as an effective surgical option, particularly in recurrent and complex pilonidal sinus cases.

Material and Methods: A total of 56 patients who underwent surgical treatment for pilonidal sinus disease at our clinic between January 1, 2025, and January 1, 2026, were included in the study. The primary aim of the study was to evaluate early postoperative complications and recurrence rates. Additionally, we aimed to investigate the effect of the Tezel classification, used to assess disease extent, on postoperative complication and recurrence rates.Patients who were immunosuppressed, had a diagnosis of diabetes mellitus, or could not be followed regularly during the postoperative period were excluded from the study. Patients were categorized according to the Tezel classification, and demographic data, clinical characteristics, and surgical outcomes were analyzed.

Results: The patients were followed for a mean duration of 12 months. During the follow-up period, recurrence was observed in 1 patient (1.8%). Postoperative seroma developed in 25 patients (44.6%), all of which were managed by aspiration during outpatient wound care. Incisional dehiscence occurred in 6 patients (10.7%), and all cases of dehiscence were localized to the most caudal part of the incision.When outcomes were analyzed according to the Tezel classification, no statistically significant association was found between disease extent and postoperative complication or recurrence rates ($p>0.05$).

Conclusion: The cleft lift technique is an effective surgical method for pilonidal sinus disease, with low recurrence rates and manageable complications. The Tezel classification showed no significant impact on postoperative complication or recurrence rates. Further studies with larger cohorts are needed.

Keywords: Pilonidal sinus, cleft lift technique, surgical treatment, recurrence, complication

Table 1. Postoperative complications according to the Tezel classification

Tezel classification	Number of patients (n)	Recurrence (n, %)	Seroma (n, %)	Incisional dehiscence (n, %)
I	20	0 (0%)	8 (40%)	2 (10%)
II	22	1 (4.5%)	10 (45.5%)	3 (13.6%)
III	14	0 (0%)	7 (50%)	1 (7.1%)
Total	56	1 (1.8%)	25 (44.6%)	6 (10.7%)

[S-408]

Early postoperative continence as a predictor of long-term functional outcomes after surgery for low anal fistulas

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Objective: Surgical management of low-located anal fistulas aims to achieve fistula eradication while preserving anal continence and quality of life. Although fistulotomy remains the standard treatment for selected low fistulas, functional impairment may occur even after limited sphincter division. The prognostic value of early postoperative functional outcomes for predicting long-term continence remains insufficiently defined.

Material and Methods: This single-center cohort study included adult patients undergoing surgery for low-located anal fistulas managed with individualized, sphincter-conscious strategies. Preoperative assessment included endoanal ultrasonography and/or pelvic magnetic resonance imaging. Functional outcomes were evaluated using the fecal incontinence severity index (FISI) and the fecal incontinence quality of life (FIQL) questionnaire preoperatively, at 6 weeks, and at approximately 1 year postoperatively. The primary outcome was the association between early postoperative functional status and long-term continence. Secondary outcomes included factors influencing functional recovery, reoperation rates, and the exploratory impact of anesthesia type.

Results: Eighty-seven patients were included, with complete one-year follow-up available for 66 patients. Overall continence improved over time, with a significant reduction in FISI scores between 6 weeks and 1 year (mean ΔFISI -2.27±3.96, $p<0.05$). Early postoperative FISI scores at 6 weeks strongly predicted continence at 1 year (β 0.49, $p<0.001$). Age was independently associated with greater functional improvement, whereas Crohn's disease was associated with worse long-term continence. In contrast, FIQL scores remained relatively stable over time and were not significantly influenced by surgical technique or early functional status. Caudal anesthesia was associated with earlier return to work without increased complication rates.

Conclusion: Early postoperative continence status is a strong predictor of long-term functional outcomes following surgery for low-located anal fistulas. These findings support the integration of early functional assessment into postoperative surveillance and emphasize the importance of sphincter-preserving, individualized surgical strategies.

Keywords: Low anal fistula, fecal incontinence, quality of life

[S-409]

Comparison of microwave ablation and laser hemorrhoidectomy in grade II-III hemorrhoidal disease: A prospective pilot study demonstrating equivalent outcomes

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Objective: Hemorrhoidal disease is one of the most common anorectal conditions, with approximately 50% of adults experiencing symptoms in their lifetime. While conventional excisional techniques remain the gold standard, they cause considerable postoperative pain and prolonged recovery. Minimally invasive energy-based techniques, including microwave ablation and laser hemorrhoidectomy, offer reduced morbidity. However, direct comparative data remain limited. This prospective pilot study compared safety, efficacy, and outcomes of microwave ablation versus laser hemorrhoidectomy.

Material and Methods: Between March-August 2025, 52 patients with symptomatic Grade II-III hemorrhoids failing conservative management were screened; 2 declined. Fifty patients were allocated to microwave ablation (n=25) or laser hemorrhoidectomy (n=25) based on equipment availability and patient preference. Microwave used 2450 MHz at 60-80W; laser used 1470nm at 12-15W. The primary endpoint was postoperative pain assessed by VISUAL ANALOG SCALE (VAS). Secondary endpoints included operative time, analgesic use, hospital stay, epithelialization, return to work, complications, and satisfaction. Follow-up occurred at day 1, weeks 1-2, months 1-3. All completed follow-up. Analysis used Student's t-test and chi-square ($p<0.05$ significant). The microwave probe (2450 MHz, 60-80 Watts) is positioned at the base of hemorrhoidal tissue under direct visualization in lithotomy position. The procedure demonstrates precise energy delivery and tissue coagulation with minimal tissue trauma.

Results: Both groups were comparable: age (47.3±11.2 vs. 45.8±10.7 years, p=0.634), gender (56% vs. 64% male, p=0.567), BMI (26.8±3.4 vs. 27.2±3.8 kg/m^2, p=0.712), grade (p=0.773). Operative time was similar (19.8±5.1 vs. 21.3±5.4 minutes, p=0.314). VAS scores were comparable: day 1 (5.4±1.5 vs. 5.8±1.6, p=0.357), week 1 (3.7±1.3 vs. 4.0±1.4, p=0.434), week 2 (2.2±1.1 vs. 2.4±1.2, p=0.537), month 1 (0.6±0.7 vs. 0.7±0.8, p=0.639). Analgesic consumption was similar (218±65 vs. 235±72 mg, p=0.381). Hospital stay (1.2±0.4 vs. 1.3±0.5 days, p=0.489), epithelialization (4.2±0.8 vs. 4.3±0.9 weeks, p=0.673), and return to work (9.5±2.7 vs. 10.1±2.9 days, p=0.448) were comparable. Complication rates were low and similar (16% vs. 20%, p=0.709), no major complications. Minor bleeding: 2 (8%) microwave vs. 3 (12%) laser. Urinary retention: 1 (4%) vs. 2 (8%), with 1 laser patient experiencing both complications. Perianal hematoma: 1 each. No stenosis, severe bleeding, or recurrence occurred. Satisfaction scores were equivalent (8.4±1.3 vs. 8.3±1.4, p=0.788).

Conclusion: This pilot study demonstrates equivalent safety and efficacy between microwave ablation and laser hemorrhoidectomy for Grade II-III hemorrhoids. No significant differences were observed. Both techniques achieved low complications and high acceptance. Choice can be guided by equipment availability, cost, and surgeon preference rather than clinical superiority. However, as a pilot study (n=50), findings require cautious interpretation. The 3-month follow-up precludes recurrence assessment, requiring 12-24 months. Validation in larger randomized trials with extended follow-up is needed to establish long-term efficacy, recurrence, and cost-effectiveness.

Keywords: Hemorrhoid, minimally invasive surgery, microwave ablation, laser hemorrhoidectomy, postoperative pain

Figure 1. Intraoperative view of microwave ablation procedure.

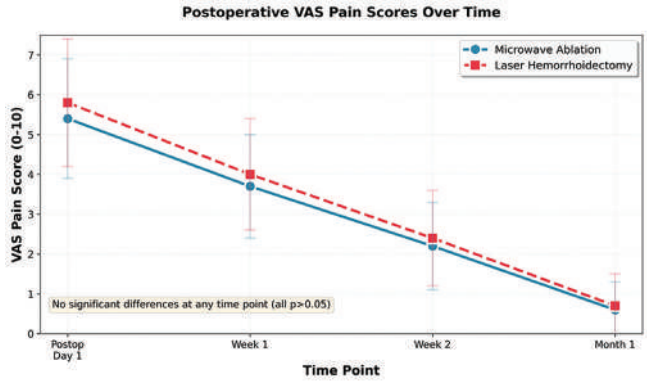

Figure 2. Postoperative VAS pain scores over time.

Both techniques demonstrated similar pain trajectories with no significant differences at any time point (all p>0.05). Error bars represent standard deviation. VAS: Visual analog scale.

Table 1. Demographic and clinical characteristics

Variable	Microwave (n=25)	Laser (n=25)	p-value
Age (years)	47.3±11.2	45.8±10.7	0.634
Male gender, n (%)	14 (56)	16 (64)	0.567
Grade III, n (%)	14 (56)	15 (60)	0.773
Operative time (min)	19.8±5.1	21.3±5.4	0.314
VAS day 1	5.4±1.5	5.8±1.6	0.357
Complications, n (%)	4 (16)	5 (20)	0.709
Satisfaction (0-10)	8.4±1.3	8.3±1.4	0.788

Data are presented as mean ± standard deviation or number (percentage). No significant differences were observed between groups (all p>0.05). VAS: Visual analog scale.

[S-410]

Analysis of factors associated with recurrence and incontinence in anal fistula surgery: A retrospective single-center experience

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Objective: Anal fistula surgery is among the most frequently performed procedures in general surgery. Predicting the risk of recurrence, in addition to functional outcomes postoperatively, remains clinically significant. This single-center study aimed to evaluate the potential associations between surgical technique, patient factors, and postoperative recurrence and incontinence.

Material and Methods: We retrospectively reviewed 84 patients who underwent fistulotomy (n=47) or seton placement (n=37) at Batman Training and Research Hospital between March 2024 and September 2025. Analyzed variables included fistula characteristics (Park classification, ST.JAMES score), history of recurrent fistula, and postoperative outcomes (recurrence, Wexner incontinence score at 1st and 6th months). Statistical analysis employed Fisher's exact, chi-square, and Mann-Whitney U tests.

Results: The overall recurrence rate was 6.0% (5/84). Recurrence was observed more frequently in patients with a preoperative history of recurrent fistula (2/5, 40%) compared to those without (3/79, 3.8%; p=0.015). No significant difference in recurrence was found between the fistulotomy (4.3%) and seton (8.1%) groups (p=0.65). Postoperative incontinence at 1 month affected 9.5% of patients (8/84), with no significant association to surgical technique (p=0.45). Incontinence was associated with older age (p=0.04) and higher preoperative Wexner scores (p<0.01), and persisted in only 2 patients at 6 months.

Conclusion: In this cohort derived from a general surgical practice without a specific colorectal unit, a preoperative history of recurrent fistula was associated with higher recurrence rates, while surgical technique showed no significant association with recurrence or early incontinence. These observations may assist in risk stratification in similar clinical settings but require validation in larger studies.

Keywords: Anal fistula, recurrence, incontinence, recurrent fistula, surgical outcomes

Table 1. Preoperative characteristics of fistulotomy and seton groups

Characteristic	Fistulotomy (n=47)	Seton (n=37)	p-value
Age (years, Mean ± SD)	35.9±11.7	40.1±14.1	0.15
Male gender, n (%)	42 (89.4%)	28 (75.7%)	0.10
Preop. Recurrent Fistula, n(%)	2 (4.3%)	3 (8.1%)	0.65
Park Classification, n (%) Intersphincteric Transsphincteric Suprasphincteric	 38 (80.9%) 9 (19.1%) 0 (0%)	 18 (48.6%) 18 (48.6%) 1 (2.7%)	0.001
ST.JAMES Score ≥3, n (%)	9 (19.1%)	18 (48.6%)	0.005
Coexisting Abscess, n (%)	8 (17.0%)	5 (13.5%)	0.77

Table 2. Main outcomes

Outcome	Fistulotomy (n=47)	Seton (n=37)	Total (n=84)	p-value
Recurrence, n (%)	2 (4.3%)	3 (8.1%)	5 (6.0%)	0.65
Incontinence (1 month, Wexner >0), n (%)	3 (6.4%)	5 (13.5%)	8 (9.5%)	0.45
Mean Wexner change (Preop → 1 month)	+0.17	+0.29	+0.22	0.50

[S-411]

Should all surgical specimens from pilonidal sinus patients be sent for histopathological examination, or is this an unnecessary routine workload?

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Objective: Pilonidal sinus disease (PSD) most commonly occurs in the sacrococcygeal region; however, it may also be observed less frequently in other parts of the body. Although several risk factors have been identified, it is widely accepted that the disease is acquired in nature. Despite being a common clinical entity, malignancy is rarely detected following histopathological examination of surgical specimens. This raises the question of whether it is necessary to routinely submit all surgical specimens for histopathological evaluation in cases of PSD. Therefore, we aimed to share our current clinical outcomes in order to shed light on this issue.

Material and Methods: Patients who underwent elective surgical procedures for pilonidal sinus disease at our clinic between 2017 and 2025 were retrospectively evaluated. Patients under 18 years of age, those who underwent minimally invasive surgical procedures, and those whose specimen histopathological examination results were not compatible with pilonidal sinus disease were excluded from the study. A total of 1115 patients were included. Demographic characteristics of the patients and histopathological examination results were retrospectively recorded. Statistical analyses were performed using SPSS (IBM SPSS Statistics, version XX.0).

Results: Of the 1115 patients included in the study, 828 (74.3%) were male and 287 (25.7%) were female, with a male-to-female ratio of 2.9:1. The mean age of the patients was 29.7±9.1 years, and the youngest and oldest patients were 18 and 69 years old, respectively (min-max: 18-69). A total of 1,064 patients (95.4%) were under 50 years of age, while 51 patients (4.6%) were in the 50 years and older age group (Table 1). Benign pathology was identified in 1114 (99.91%) of the 1,115 pilonidal sinus cases included in the study, whereas malignancy was detected in only 1 patient (0.09%). The single case with malignancy was in the ≥50-year age group, and no malignancy was observed in patients under 50 years of age (Table 2).

Conclusion: PSH is most commonly observed in the sacrococcygeal region, with a wide range of treatment options extending from minimally invasive techniques to flap procedures. The incidence of malignancy in surgical specimens is low (0.1%), making the necessity of routinely submitting specimens for histopathological examination controversial. Based on the existing literature and the data obtained from our study, we believe that histopathological examination in patients with PSH should be performed selectively rather than routinely, particularly in patients over 50 years, those with a long-standing history of PSH, or those with macroscopic suspicion of malignancy.

Keywords: Malignancy, pathology, pilonidal sinus, specimen, squamous cell

Table 1. Distribution of malignancy according to age groups

Age group	Total patients, n	Malignant, n (%)	Benign, n (%)
<50 years	1064	0 (0)	1064 (100)
≥50 years	51	1 (1.96)	50 (98.04)
Total	1115	1 (0.09)	1114 (99.91)

Table 2. Demographic and clinical characteristics of the cases

Variable	Value
Total number of patients (n)	1115
Age (years), mean ± SD	29.7±9.1
Age range (min-max)	18-69
Sex, n (%)	
Male	828 (74.3%)
Female	287 (25.7%)
Male/ratio	2,9:1
Age groups, n (%)	
20-30 years	577 (51.7%)
30-40 years	339 (30.4%)
40-50 years	46 (4.1%)
50-60 years	37 (3.3%)
≥60 years	14 (1.3%)
<50 years, n (%)	1064 (95.4%)
≥50 years, n (%)	51 (4.6%)
Pathology result, n (%)	
Benign	1114 (99.91%)
Malignant	(0.09%)

[S-412]

Evaluation of modified intersphincteric ligation technique in anorectal fistula surgery

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Objective: The primary challenge in anorectal fistula surgery is to achieve complete eradication of the fistula tract while preserving anal sphincter function and continence. Sphincter-sparing techniques are preferred in the treatment of fistulas of cryptoglandular origin. In this study, the clinical outcomes of a modified ligation of the intersphincteric fistula tract (LIFT) method, involving epithelial destruction and double ligation, were evaluated.

Material and Methods: Twenty-two patients who underwent modified intersphincteric ligation for perianal fistula between January 2020 and December 2023 were retrospectively analyzed. All operations were performed in the lithotomy position. The fistula tract was identified using a probe, and irrigation with 40-42 °C sterile hot water was applied for epithelial destruction. Through a micro-incision in the intersphincteric space, double ligation was performed 1 cm from the internal opening using 0 silk sutures with a 0.5 cm interval. The tract between the ligation lines was excised, and the anal mucosa was closed primarily with 3/0 vicryl.

Results: The mean age of the patients was 39.8 years, and 72.7% (n=16) were male. According to Parks' classification, 68.1% of the fistulas were intersphincteric, 18.1% were transsphincteric, and 13.6% were suprasphincteric. During a mean follow-up period of 19.5 months, no loss of continence or incontinence was observed in any patient. Recurrence was detected in three complex fistula cases (13.6%), which is within the acceptable range reported in the literature.

Conclusion: The modified intersphincteric ligation technique is a safe method that requires minimal dissection and eliminates the risk of sphincter injury. It should be considered an effective alternative, particularly in cases with a high risk of sphincter damage, due to its low morbidity and acceptable recurrence rates.

Keywords: Anorectal fistula, intersphincteric ligation (LIFT), modified LIFT technique, Sphincter-preserving surgery

[S-413]

Comparative treatment outcomes of a small transsphincteric seton in complex and non-complex anal fistulas

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Objective: Anal fistula remains a challenging anorectal condition, with recurrence and sphincter preservation being the primary concerns, particularly in complex disease. In this context, the present study aimed to compare the demographic and clinical characteristics and treatment outcomes of patients with complex and non-complex anal fistulas treated using a modified cutting seton technique, to evaluate recurrence rates, and to identify factors associated with disease recurrence.

Material and Methods: In this planned cohort study, a total of 93 patients who underwent surgery for anal fistula between 2020 and 2025 were evaluated. Patients were divided into two groups: 57 with complex fistulas and 36 with non-complex fistulas. Complex fistulas were defined as horseshoe fistulas, fistulas with multiple tracts, or those with ascending tracts. The modified cutting seton technique applied in our clinic is the "small transsphincteric seton" (STS) method, which creates a minimal sphincteric defect, and the seton is progressively tightened at three-week intervals. Disease duration, smoking status, abscess drainage method, fistula type, external opening location, time to seton drop-off, total treatment duration, postoperative complications, and recurrence rates were comparatively analyzed between the two groups. Statistical analyses were performed using the chi-square or Fisher's exact test for categorical variables and the Student's t-test or Mann-Whitney U test for continuous variables.

Results: The mean age of the patients was 43.9 years; 80.6% were male and 24.7% presented with recurrent disease, with these characteristics being comparable between the two groups (Table 1). The location of the external opening, compliance with Goodsall's rule, and the presence of preoperative incontinence were similar in both groups. Although transsphincteric fistulas were the most common type in both groups, their distribution differed significantly between groups ($p<0.001$). The median disease duration was 36 months and was significantly longer in the complex fistula group ($p<0.05$). Smoking rate, operative time, and time to seton drop-off were significantly higher in complex cases ($p<0.05$). Regarding treatment outcomes, the healing rate was 91.7% in the non-complex anal fistula group compared with 50.9% in the complex fistula group ($p<0.001$) (Table 2).

Conclusion: In anal fistula surgery, complex or recurrent disease status, posterior location of the fistula, and suprasphincteric or high transsphincteric fistulas negatively affect surgical success. The "STS" technique appears to be a minimally invasive cutting seton method with low rates of postoperative infection and incontinence and may be safely applied, particularly in non-complex anal fistula cases; however, its effectiveness should be further evaluated in prospective studies.

Keywords: Anal fistula, modified seton, cutting seton

Table 1.

	Total (n=93)	Grup-1 Basit (n=36)	Grup-2 Kompleks (n=57)	p-value
Yaş (Ortalama±ss)	43,90±13,09	43,08±13,38	44,42±13,00	0,634*
Cinsiyet n(%)				
Erkek	75 (80,6)	29 (80,6)	46 (80,7)	1,000**
Kadın	18 (19,4)	7 (19,4)	11 (19,3)	
Hastalık Süresi (ay) [Median (IQR)]	36 (59)	24 (36)	48 (79)	**0,039*** **
Primer/Nüks Vaka				
Primer	70 (75,3)	28 (77,8)	42 (73,7)	0,656**
Nüks	23 (24,7)	8 (22,2)	15 (26,3)	
Sigara n(%)				
Yok	52 (55,9)	25 (69,4)	27 (47,4)	**0,037****
Var	41 (44,1)	11 (30,6)	30 (52,6)	
Geçmişte Apse Drenaj Şekli n (%)				
Spontane	37 (39,8)	17 (47,2)	20 (35,1)	0,444**
Cerrahi	49 (52,7)	16 (44,4)	33 (57,9)	
Geleneksel	7 (7,5)	3 (8,3)	4 (7,0)	
Preoperatif Gaz İnkontinansı n (%)				
Yok	86 (91,4)	32 (88,9)	53 (93,0)	0,706**
Var	8 (8,6)	4 (11,1)	4 (7,0)	
Dış Delik Lokalizasyonu n (%)				
Anterior	34 (36,6)	16 (44,4)	18 (31,6)	0,210**
Posterior	59 (63,4)	20 (55,6)	39 (68,4)	
Goodsal Kuralına Uygunluğu n (%)				
Uygun	58 (62,4)	19 (52,8)	39 (68,4)	0,129**
Değil	35 (37,6)	17 (47,2)	18 (31,6)	
Hastadaki En Yüksek Tip Fistül n (%)				
Aşağı Trans	11 (11,8)	8 (22,2)	3 (5,3)	
Transsfinkterik	47 (50,6)	23 (63,9)	24 (42,1)	**<0,001****
Yüksek Trans	12 (12,9)	4 (11,1)	8 (14,0)	
Suprasfinkterik	23 (24,7)	1 (2,8)	22 (38,6)	
Ameliyat Süresi (dakika) [Median (IQR)]	55 (15)	45 (9)	60 (18)	**<0,001*** **
Seton Düşme Süresi (hafta) [Median (IQR)]	10 (9)	9 (7)	12 (9)	**0,032*** **
Takip Süresi (ay) [Median (IQR)]	44 (23)	47,5 (19)	34 (26)	0,114***
Komplikasyon Varlığı n (%)				
Var	23 (24,7)	9 (25,0)	14 (24,6)	0,962**
Yok	70 (75,3)	27 (75,0)	43 (75,4)	
Komplikasyon Tipi n (%)				
Yüzeyel Trakt-Rezidü Sinüs	13 (13,9)	6 (16,7)	7 (12,3)	0,790**
Yara Yeri Enfeksiyonu	5 (5,4)	2 (5,6)	3 (5,3)	
İnkontinans	5 (5,4)	1 (2,8)	4 (7,0)	
Sonuç n (%)				
Şifa	62 (66,7)	33 (91,7)	29 (50,9)	**<0,001****
Nüks	31 (33,3)	3 (8,3)	28 (49,1)	

Table 2.

	Tek Değişkenli Analiz			Çok Değişkenli Analiz		
	OR	%95 CI	p value	OR	%95 CI	p value
Yaş						
	0,99	0,96-1,03	0.878			
Cinsiyet						
Erkek		Ref				
Kadın	0,73	0,23-2,26	0,579			
Hasta Grubu						
Grup-1		Ref			Ref	
Grup-2	10,62	2,92-38,62	**<0,001**	6,22	1,38-27,97	**0,017**
Hastalık Süresi						
	1,00	0,99-1,01	0,278			
Primer/Nüks Vaka						
Primer		Ref			Ref	
Nüks	2,29	0,87-6,03	0,093	2,32	0,72-7,51	0,162
Sigara						
Yok		Ref				
Var	1,58	0,66-3,76	0,303			
Geçmişte Apse Drenaj Şekli						
Spontan		Ref				
Cerrahi	2,50	0,95-6,58	0,064			
Geleneksel	2,72	0,50-14,72	0,246			
Postoperatif Gaz İnkontinansı						
Yok		Ref				
Var	1,21	0,27-5,48	0,794			
Fistül Sayısı						
1		Ref				
2 ve üzeri	2,35	0,79-7,02	0,127			
Dış Delik Sayısı						
1		Ref			Ref	
2 ve üzeri	2,86	1,05-7,77	**0,039**	2,10	0,60-7,45	0,248
Dış Delik Lokalizasyon						
Anterior		Ref			Ref	
Posterior	2,65	0,99-7,05	0,052	2,48	0,74-8,31	0,140
Goodsal Kuralına Uygunluğu						
Uygun		Ref				
Değil	0,45	0,18-1,16	0,100			
En Yüksek Tip						
Aşağı Trans		Ref			Ref	
Transsfinkterik	3,43	0,40-29,66	0,263	2,57	0,24-26,55	0,429
Yüksek Trans	10,00	0,96-104,49	0,054	6,12	0,46-81,60	0,171
Suprasfinkterik	10,91	1,19-99,69	**0,034**	3,49	0,30-40,27	0,317
Komplikasyon						
Yok		Ref				
Var	0,47	0,15-1,41	0,180			
Seton Düşme Süresi						
	1,05	0,98-1,13	0,145			
Takip Süresi						
	0,98	0,96-1,01	0,267			

[S-416]

Long-term evaluation of fecal incontinence after lateral internal sphincterotomy: A single-center study

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Objective: Lateral internal sphincterotomy (LIS) is an effective surgical method commonly used in the treatment of chronic anal fissure; however, the risk of long-term incontinence remains controversial. This study aimed to evaluate long-term incontinence rates and associated factors in patients who underwent LIS between 2015 and 2020.

Material and Methods: Between 2015 and 2020, a total of 94 patients who could be contacted, agreed to participate in the study, and had not undergone any subsequent proctologic surgery after LIS were retrospectively analyzed out of 170 patients who underwent LIS. The Wexner incontinence score was applied to evaluate incontinence symptoms during long-term follow-up. Patients with a total Wexner score ≥1 were considered incontinent. Demographic data, surgical characteristics, and concomitant anorectal procedures were analyzed. Vaginal delivery and obstetric history were evaluated only in female patients.

Results: During long-term follow-up of the 94 patients: ● Wexner score >0 was observed in 19 patients (20.2%). ● Wexner score ≥5 was observed in 9 patients (9.6%).The rate of clinically significant incontinence was higher in female patients (15.9%) compared to male patients (4.0%). Among patients with diabetes mellitus, the rate of Wexner score ≥5 was 16.7%, whereas it was 8.5% in patients without diabetes. This rate was found to be 50% in patients with preoperative incontinence.

Conclusion: The rate of clinically significant incontinence in the long term after LIS is low. Preoperative incontinence, female sex, and the presence of diabetes mellitus appear to be associated with an increased risk of incontinence. Patient selection and preoperative evaluation are of critical importance for functional outcomes after LIS.

Keywords: Lateral internal sphincterotomy, anal fissure, long-term outcomes, fecal incontinence, Wexner score

[S-417]

Five-year recurrence and GIQLI outcomes in patients undergoing ligasure-assisted hemorrhoidal packet excision: A series of 84 patients

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Objective: This study aimed to evaluate demographic characteristics, five-year recurrence rate, and changes in quality of life using the gastrointestinal quality of life index (GIQLI) in patients who underwent hemorrhoidal packet excision with the aid of Ligasure.

Material and Methods: Eighty-four patients who underwent Ligasure-assisted hemorrhoidal packet excision at a single center between 2019 and 2020 were retrospectively reviewed. Age, gender, body mass index (BMI), hemorrhoid stage, and comorbidities were recorded. Recurrence was assessed based on clinical examination and/or symptoms at the fifth-year follow-up. Quality of life was measured using the **GIQLI (0–144)** scale before surgery and at the fifth year. Paired tests were used for statistical analysis.

Results: The mean age of the patients was **44.8±12.1** years, with **52 (61.9%) males and **32 (38.1%) females**. Hemorrhoid stage was determined as **stage III in 58 patients (69.0%)** and **stage IV in 26 patients (31.0%)**. The median follow-up period was **62 months (IQR 60–66)**. Recurrence was detected in **7 patients (8.3%)** during the five-year follow-up, and **3 patients (3.6%)** required repeat surgery. The total GIQLI score was **96.4±14.8** preoperatively and **124.2±12.3** at the fifth year (**p<0.001**). Significant improvement was observed in all sub-dimensions.

Conclusion: Ligasure-assisted hemorrhoidal packet excision provides significant and lasting improvement in quality of life as measured by GIQLI, along with low recurrence rates at five-year follow-up. The method can be considered a safe and effective surgical option in suitable patients.

Keywords: GIQLI, hemorrhoids, ligasure, quality of life, recurrence

Table 1. Demographic and clinical characteristics (n=84)

Değişken	Değer
Yaş (yıl), ort±SS	44,8 ± 12,1
Cinsiyet, n (%)	Erkek 52 (%61,9) / Kadın 32 (%38,1)
VKİ (kg/m²), ort±SS	27,6 ± 3,9
Hemoroid evresi, n (%)	Evre III: 58 (%69,0) / Evre IV: 26 (%31,0)
Kabızlık öyküsü, n (%)	49 (%58,3)
En az bir komorbidite, n (%)	28 (%33,3)
Antikoagülan/antiagregan kullanımı, n (%)	9 (%10,7)

Table 2. Five-year follow-up results

Parametre	Değer
Takip süresi (ay), medyan (IQR)	62 (60–66)
Nüks (+), n (%)	7 (%8,3)
Tekrar cerrahi gereksinimi, n (%)	3 (%3,6)
Konservatif tedavi ile izlenen, n (%)	4 (%4,8)

Table 3. GIQLI Scores (0-144)

Alt Boyut	Preop (ort±SS)	5. yıl (ort±SS)	p
Semptom (0–76)	50,8 ± 9,4	64,6 ± 7,1	<0,001
Fiziksel fonksiyon (0–28)	18,0 ± 3,6	23,1 ± 3,0	<0,001
Duygusal durum (0–20)	13,2 ± 3,1	17,2 ± 2,3	<0,001
Sosyal fonksiyon (0–16)	10,6 ± 2,8	15,4 ± 1,8	<0,001
Medikal tedavi memnuniyeti (0–4)	3,8 ± 0,5	3,9 ± 0,4	0,08
Toplam GIQLI (0–144)	**96,4 ± 14,8**	**124,2 ± 12,3**	**<0,001**

[S-418]

Clinical outcomes of botulinum toxin a injection in chronic anal fissure: A retrospective analysis of 50 patients

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Objective: Chronic anal fissure (CAF) is a common anorectal disorder characterized by internal anal sphincter hypertonia and anodermal ischemia, resulting in severe anal pain and impaired quality of life. Although lateral internal sphincterotomy (LIS) remains the gold standard treatment with high healing rates, concerns regarding permanent fecal incontinence have increased interest in sphincter-preserving therapies. Botulinum toxin A (BoNT-A) induces reversible chemical sphincterotomy by reducing resting anal pressure and improving local blood flow, thereby facilitating fissure healing. This study aimed to evaluate the efficacy and safety of a standardized high-dose Dysport protocol in patients with refractory CAF.

Material and Methods: Between January 2024 and August 2025, 50 adult patients with CAF refractory to at least 3 months of medical therapy were retrospectively analyzed. All patients received a total of 75 IU Dysport injected into the internal anal sphincter at three injection sites under topical anesthesia in an outpatient setting. At week 4, patients with persistent symptoms received a 20 IU booster dose.The primary endpoint was complete fissure healing at 12 weeks confirmed by anoscopy. Secondary endpoints included change in visual analog scale (VAS) pain scores, need for booster injection, requirement for salvage LIS, 6-month recurrence rate, and treatment-related complications.

Results: The mean patient age was 45.8±12.3 years, and 56% were male. Posterior fissures accounted for 84% of cases. Chronic constipation was the most common etiology (80%), and sentinel pile was present in 60% of patients.The mean VAS pain score decreased from 7.8±1.2 at baseline to 3.2±1.0 at 1 month and to 1.1±0.6 at 3 months. The complete healing rate at 3 months was 90%. Booster injection was required in 60% of patients. Salvage LIS was necessary in 10% of cases. Transient mild flatus/fecal incontinence occurred in 6% of patients and resolved with conservative measures. No major complications were observed. The recurrence rate at 6 months was 10%, and recurrent cases were successfully managed with repeat BoNT-A injection.

Conclusion: High-dose dysport injection (75 IU) is a safe and effective sphincter-preserving treatment for refractory CAF. It provides significant pain reduction, high healing rates, and a low complication profile. Selective booster application enhances treatment success, while surgical intervention is required in a limited subset of patients. BoNT-A represents a valuable minimally invasive therapeutic option prior to considering surgical sphincterotomy in appropriately selected patients.

Keywords: Chronic anal fissure, botulinum toxin A, dysport, chemical sphincterotomy

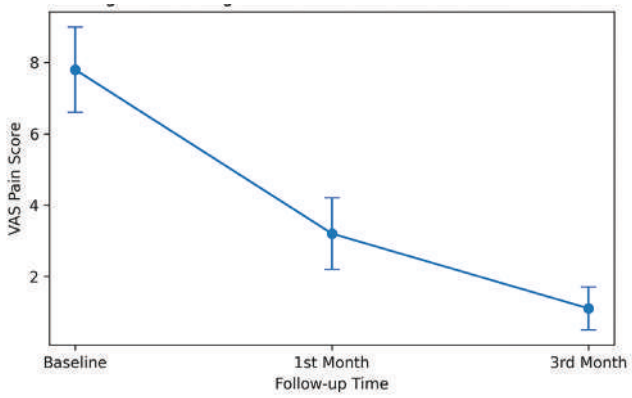

Figure 1. Change in VAS pain scores over time.

High-dose Dysport, time-dependent change of mean VAS pain scores at baseline, 1-month, and 3-month follow-up (mean ± SD).

VAS: Visual analog scale, SD: Standard deviation.

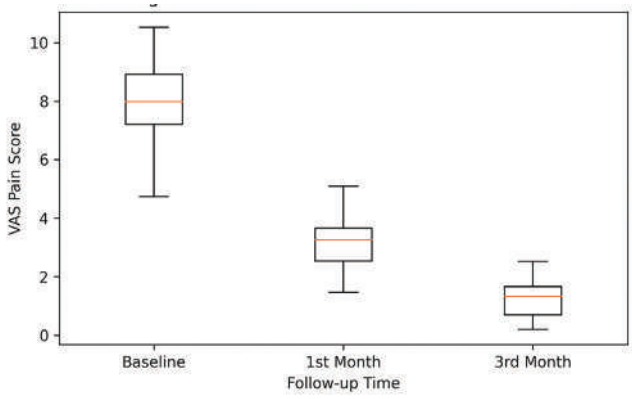

Figure 2. Box plot (distribution of VAS scores).

Distribution of VAS scores at baseline, 1 month, and 3 months, presented as median, interquartile range, and minimum-maximum values.

VAS: Visual analog scale.

[S-419]

Evaluation of the deepithelialization technique in pilonidal sinus surgery: A novel approach with clinical advantages

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Objective: Pilonidal sinus disease predominantly affects men and, if not adequately and appropriately treated during the initial surgical intervention, may negatively impact patients' quality of life for many years. In this study, the deepithelialization technique, a novel surgical method for the treatment of pilonidal sinus disease, will be retrospectively compared with the Karydakis procedure, and the prominent advantages of the deepithelialization technique will be highlighted.

Material and Methods: In our clinic, patients who underwent surgery for pilonidal sinus disease between January 2020 and December 2025 using either the Karydakis procedure or the deepithelialization technique were retrospectively evaluated. Length of hospital stay, operative time, visual analog scale pain scores, wound healing time, and cosmetic satisfaction were compared between the two groups.

Results: A total of 315 patients were included in the study, of whom 255 were male (81%). In the overall cohort, wound dehiscence was observed in 26 patients and hematoma in 20 patients. Among these, one patient with wound dehiscence and one patient with hematoma were in the deepithelialization group. Intergroup analysis demonstrated statistically significant differences in length of hospital stay, operative time, wound healing duration, and cosmetic satisfaction ($p<0.05$).

Conclusion: Although the deepithelialization technique is primarily used in breast surgery and plastic surgical procedures, it has demonstrated favorable outcomes in the surgical treatment of pilonidal sinus disease. It was associated with an earlier return to normal daily activities, fewer postoperative complications, and higher cosmetic satisfaction. We believe that more robust and significant evidence will be obtained in the future through the wider adoption of this technique and multicenter studies involving larger patient populations.

Keywords: Pilonidal sinus, Karydakis procedure, deepithelialization

[S-420]

Phenol for pilonidal sinus disease: A nationwide survey of practice patterns and safety gaps among surgeons in Türkiye

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Objective: Phenol is widely used as a minimally invasive treatment for pilonidal sinus disease (PSD); however, its clinical application shows substantial heterogeneity, particularly regarding safety practices. This nationwide survey aimed to evaluate real-world phenol use patterns among surgeons in Türkiye, with a focus on safety infrastructure and exposure control.

Material and Methods: A nationwide, internet-based, cross-sectional survey was conducted among surgeons managing PSD between July and August 2025. The 38-item questionnaire assessed demographics, surgical experience, phenol procurement and formulation, dosing practices, safety measures, and perceived complications. Data were analyzed using descriptive statistics.

Results: A total of 132 surgeons participated. Most respondents managed more than 30 PSD patients annually (81.1%). Crystalline phenol was the most commonly used form (77.3%), and only 7.6% reported measuring the dose per procedure. Dedicated ventilation and institutional exposure-prevention policies were lacking in many centers. Patient complications were reported in 20.5%, while operator-related adverse effects occurred in 5.3%.

Conclusion: Phenol use in PSD is common in Türkiye but is associated with marked variability and insufficient safety infrastructure. Establishing standardized national safety and dosing guidelines is warranted.

Keywords: Pilonidal sinus disease, phenol, occupational exposure, safety

[S-421]

Comparison of hybrid seton and Sailor's knot techniques in the treatment of perianal fistula: A single-center experience

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Objective: The primary goal in the treatment of perianal fistula is to eradicate the fistulous tract while preserving anal continence. In complex fistulas involving a significant portion of the sphincter muscles, cutting seton techniques are frequently preferred due to the risk of incontinence associated with fistulotomy. The clinical outcomes of seton techniques applied with different materials and tying methods remain controversial. This study aimed to compare the surgical outcomes of two different cutting seton techniques used in our clinic: the Hybrid seton and the polypropylene seton applied with the Sailor's knot technique.

Material and Methods: This single-center, retrospective observational study included 270 patients who underwent surgical treatment for perianal fistula. Patients with fistulas related to inflammatory bowel disease, a history of malignancy or trauma, horseshoe fistulas, and multiple fistulas were excluded. Patients were divided into two groups according to the surgical technique applied: Sailor's knot group (n=124) and hybrid seton group (n=146). Demographic data, fistula types, postoperative pain scores (VAS), continence status (CCIS), seton fall-off time, complications, and recurrence rates were evaluated. Cox proportional hazards regression analysis was used to assess the time to recurrence.

Results: The median age of the patients was 38.0 years (IQR: 16.25), and a statistically significant difference in age distribution was observed between the groups (p=0.033). The most common fistula type in both groups was intersphincteric fistula (70.4%). No postoperative complications were observed. There were no significant differences between the groups in terms of length of hospital stay, readmission rates, or seton fall-off time (p>0.05). The overall recurrence rate was 11.1%, with rates of 9.7% in the Sailor's knot group and 12.3% in the Hybrid seton group (p=0.490). Cox regression analysis revealed no significant association between the surgical technique and time to recurrence, whereas seton fall-off time was independently associated with recurrence (adjusted HR: 1.009; 95% CI: 1.002-1.016; p=0.018). No patient developed permanent incontinence.

Conclusion: Hybrid seton and Sailor's knot techniques are safe and effective methods for the treatment of perianal fistula. No significant differences were observed between the two techniques in terms of clinical outcomes or recurrence rates. Seton fall-off time may be an important predictor of recurrence. With appropriate patient selection, both techniques can be successfully applied while preserving continence.

Keywords: Perianal fistula, seton, continence, recurrence

[S-423]

Our clinical experience with laser hemorrhoidoplasty

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Objective: Hemorrhoidal disease is a common anorectal condition affecting approximately 4% of the general population worldwide. Although conservative and medical treatments are preferred in early stages, surgical intervention becomes inevitable in patients who do not respond to these approaches. Conventional hemorrhoidectomy is effective but often associated with significant postoperative pain, prolonged recovery, and procedure-related complications. Laser Hemorrhoidoplasty (LHP) has emerged as a minimally invasive alternative aimed at improving patient comfort while maintaining surgical efficacy.

Material and Methods: Between September 2024 and January 2026, a total of 243 patients diagnosed with Grade II and III hemorrhoidal disease underwent laser hemorrhoidoplasty. All procedures were performed under spinal or general anesthesia by a single experienced surgeon using a 1470 nm laser system. Perioperative pudendal nerve block was applied in all patients. Postoperative outcomes including operative time, hospital stay, pain, complications, and recurrence rates were evaluated during follow-up visits at the 3rd week, 3rd month, and 6th month.

Results: Of the 243 patients, 158 (65.02%) were male and 85 (34.98%) were female, with a mean age of 45.1 years (range: 20-65). The mean operative time was 18.5 minutes (range: 12-25), and the average length of hospital stay was 1.16 days. 176 patients had Grade II and 67 had Grade III hemorrhoids. Total 135 patients observed for follow-ups. At one-year follow-up, recurrence was observed in 3 Grade II patients (1,7%). Among the 42 Grade III patients who completed follow-up, recurrence occurred in 9 patients (13%). Postoperative bleeding not requiring blood transfusion was observed in three Grade III patients; one patient required reoperation with conventional hemorrhoidectomy due to persistent bleeding. Postoperative hematoma occurred in two Grade III patients and resolved with conservative management.

Conclusion: Laser hemorrhoidoplasty is a safe and effective minimally invasive treatment option for Grade II and III hemorrhoidal disease. The procedure offers short operative time, minimal postoperative morbidity, low complication rates, and acceptable recurrence rates, particularly in Grade II hemorrhoids. LHP represents a reliable alternative to conventional surgical techniques with the advantage of improved postoperative patient comfort.

Keywords: Laser hemorrhoidoplasty, minimal invasive surgery, hemorrhoid

[S-424]

Less is more? Early clinical outcomes of radiofrequency ablation in sacrococcygeal pilonidal disease

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Objective: Wide excision techniques in pilonidal sinus disease are associated with prolonged healing and work loss. Radiofrequency (RF) ablation is a minimally invasive technique based on controlled energy delivery to ablate the sinus tract. This study evaluated early clinical and functional outcomes and factors influencing day-15 epithelialization.

Material and Methods: Twenty-six consecutive patients undergoing RF ablation were analyzed. Demographic data, disease characteristics (pit number, location, MRI tract diameter), procedure time, and delivered energy were recorded. Pain was assessed using VAS at 0, 6, and 24 hours and on day 7. Analgesic use duration, return-to-work time, and complete epithelialization at day 15 were documented. Non-parametric and Fisher's exact tests were applied.

Results: Mean age was 21.1±3.1 years, and mean follow-up was 7.3±2.6 months. Mean procedure time was 18.1±6.9 minutes. VAS scores were 2.1±0.9 (0h), 3.8±0.9 (6h), 2.6±0.8 (24h), and 1.5±0.5 (day 7). Pain peaked at 6 hours in 96% of patients. Mean analgesic use was 2.5±1.1 days, and mean return-to-work time was 1.8±0.9 days. Complication rate was 11.5% (all minor), and recurrence rate was 3.8%. Complete epithelialization at day 15 was observed in 34.6% (9/26). Patients receiving more than 1000 Joules intraoperatively demonstrated no complete epithelialization at day 15 (0/8), whereas the rate was 50% (9/18) in the lower-energy group (p=0.023).

Conclusion: RF ablation provides low postoperative pain, rapid functional recovery, and low complication rates. Higher delivered energy may negatively influence early wound healing. Larger studies are required to validate these findings.

Keywords: Pilonidal sinus, radiofrequency ablation, minimally invasive surgery

Table 1. Factors associated with complete epithelialization on postoperative day 15

Variable	No complete epithelialization on day 15 (n=9)	Complete epithelialization on day 15 (n=17)	p-value
Applied energy			
≤1000 J	9/18 (50.0%)	9/18 (50.0%)	—
>1000 J	0/8 (0.0%)	8/8 (100%)	0.023
MRI tract diameter (mm), mean ± SD	22.4±7.9	25.7±9.7	0.239
Smoking (yes), n (%)	3/13 (23.1%)	10/13 (76.9%)	0.411
Number of pits, mean ± SD	1.33±0.50	1.53±0.80	0.308
History of abscess, n (%)	4/15 (26.7%)	11/15 (73.3%)	0.507
Procedure time (min), mean ± SD	17.0±6.5	18.6±7.2	0.722

Table 2. Patient characteristics

Category	Variable	Value
Population	Number of patients	26
	Age (years), mean ± SD	21.15±3.13
	Sex (male/female)	17/9
	BMI (kg/m^2), mean ± SD	24.97±3.69
Lifestyle	Smoking, n (%)	13 (50.0%)
	Sedentary lifestyle, n (%)	13 (50.0%)
	Family history, n (%)	20 (76.9%)
Disease characteristics	Disease type (primary/recurrent)	25/1
	Symptom duration (months), mean ± SD	7.46±6.67
	History of abscess, n (%)	15 (57.7%)
	Number of pits, mean ± SD	1.46±0.71
	Pit location (midline / lateral / combined), n	18/5/3
Imaging	MRI tract diameter (mm), mean ± SD	24.54±9.17
Procedure characteristics	Procedure time (min), mean ± SD	18.08±6.94
	Applied energy (≤1000 J / >1000 J), n	18/8
	Anesthesia (local/local + sedation), n	22/4
Follow-up	Follow-up duration (months), mean ± SD	7.31±2.56

[S-425]

Outcomes of primary closure compared with secondary intention healing in pilonidal sinus disease

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Objective: Pilonidal disease, derived from the Latin words pilus (hair) and nidus (nest), is an acquired condition mainly associated with three factors: hair, forces promoting hair accumulation, and skin vulnerability. Diagnosis is primarily clinical, and imaging is rarely required, usually reserved for differential diagnosis. Despite various non-operative treatment options, pilonidal disease remains primarily a surgical condition. Surgical approaches include primary closure, flap techniques, and secondary intention healing. This study aims to compare surgical outcomes according to operative technique, particularly in terms of postoperative pain, wound healing, and recurrence.

Material and Methods: This prospective, observational study was conducted at a single center. All procedures were performed by one surgeon, and outcomes were assessed by an independent physician to ensure objectivity. Patients aged 18-65 years without comorbidities or prior pilonidal surgery were included. Patients were followed for six months, with biweekly visits during the first three months and monthly follow-ups thereafter. Exclusion criteria included prior pilonidal surgery, inadequate mental capacity, and systemic or connective tissue diseases affecting wound healing.

Results: The primary closure (PC) and secondary intention (SI) groups were comparable in terms of age, sex, and smoking or alcohol use. No significant associations were found between these descriptive variables and clinical outcomes. Primary closure was associated with significantly shorter wound healing time, lower VAS scores, smaller specimen size, and shorter hospital stay compared to secondary intention healing.

Conclusion: In conclusion, primary closure appears to be more advantageous in terms of patient comfort, analgesic requirements, and wound healing time. Although the choice of surgical technique for pilonidal disease should be individualized, the potential benefits of wound closure for both patients and the healthcare system should not be overlooked. Our study is ongoing, and we believe that increasing patient numbers will yield more robust results and contribute meaningfully to the literature.

Keywords: Pilonidal disease, primary closure, secondary intention, pain, healing

[S-427]

Effectiveness and safety of elliptical midline excision and rectangular flap reconstruction in the treatment of pilonidal sinus disease

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Objective: Pilonidal sinus disease (PSD) is a chronic and recurrent condition primarily affecting young adults, significantly reducing their quality of life. Effective surgical management is crucial to maximize patient comfort and achieve satisfactory aesthetic outcomes while minimizing recurrences and complications. Among commonly employed techniques, the classical Limberg flap has demonstrated notable success; however, its square design increases susceptibility to complications such as corner necrosis. This study presents a surgical technique combining elliptical midline excision with rectangular flap reconstruction. Addressing the limitations of the traditional method, this approach aims to reduce the risk of corner necrosis and promote faster wound healing and improved patient satisfaction by providing a tension-free closure. This new technique specifically focuses on optimizing the patient recovery process by minimizing tension-related complications.

Material and Methods: A retrospective cohort analysis was conducted on patients who underwent elliptical midline excision and tension-free rectangular flap closure between February 2019 and February 2024. Preoperative ultrasonography was routinely used to assess sinus tract extension. Postoperative outcomes including recurrence rate, wound healing time, and complication rates were recorded. Statistical analysis was performed using SPSS version 25.0.

Results: A total of 102 patients (78 males, 24 females; mean age 26.4±5.8 years) were included. The mean wound healing time was 9.1±2.3 days. The overall complication rate was 7.8%, primarily consisting of minor wound dehiscence and seroma. The recurrence rate at one-year follow-up was 4.9%. No major complications or flap necrosis were observed. Patients returned to daily activities within a mean of 11.6±3.2 days.

Conclusion: Elliptical midline excision combined with rectangular flap reconstruction is a safe and effective surgical technique for PSD. It offers low recurrence and complication rates, rapid wound healing, and early return to daily life. Routine preoperative ultrasonography may enhance surgical planning and reduce postoperative morbidity.

Keywords: Flap reconstruction, pilonidal sinus disease, surgical treatment

Figure 1. Flap drawing. Preoperative flap plan.

Figure 2. Postoperative result.

Table 1. Patient demographics, procedure details, and postoperative outcomes

Parameter	Details
Study period	February 2019-February 2024
Number of patients	102
Gender distribution	93.1% male (95 patients), 6.9% female (7 patients)
Average age (male)	28.78 years
Average age (female)	23.71 years
Procedure performed	Elliptical midline excision and rectangular flap reconstruction
Anesthesia used	Spinal anesthesia
Average operation time	45±7 minutes (range: 35-52 minutes)
Average hospital stay	1.2±0.5 days (range: 1-3 days)

Table 2. Complications, pain scores, and recurrence rates

Parameter	Values
Minor complications	4.9% (5 patients)
Wound infection	2.9% (3 patients)
Seroma	2.0% (2 patients)
Major complications	2.9% (3 patients)
Wound dehiscence	2.9% (3 patients)
VAS pain scores	
Preoperative	4.2±1.1 (range: 3.0-5.5)
6 hours postoperative	3.8±0.8 (range: 3.0-4.5)
24 hours postoperative	2.5±0.5 (range: 2.0-3.0)
1 week postoperative	1.2±0.4 (range: 0.5-1.5)
Recurrence rates	
1 year	4.9% (5 patients)
Mean follow-up duration	12 months (range: 12 months)

[S-428]

Our experience with robotic surgery in colorectal cancer: A retrospective analysis of 110 cases

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Objective: Robotic surgery represents a major step in the evolution of minimally invasive approaches for colorectal cancer, particularly by providing technical advantages in pelvic dissection. However, its true clinical and oncological impact should be evaluated in large patient series. This study presents our center's retrospective experience with robotic colorectal cancer surgery.

Material and Methods: This single-center retrospective study included 110 patients who underwent robotic surgery for colorectal cancer at the Clinic of General Surgery, Ankara Bilkent City Hospital, between August 2022 and December 2025. Demographic characteristics, procedure type, operative time, postoperative length of stay, ostomy formation, and pathological lymph node counts were recorded. Major complications (Clavien-Dindo ≥III), reoperations, and their causes were classified. Medical oncology data were reviewed, and receipt of adjuvant therapy was evaluated.

Results: The mean age was 61.5±10.5 years; 35.5% were female and 64.5% were male. Procedures included robotic low anterior resection in 63 patients (57.3%), anterior resection in 16 (14.5%), right hemicolectomy in 24 (21.8%), left hemicolectomy in 5 (4.5%), and abdominoperineal resection in 2 (1.8%). An ostomy was created in 27 patients (24.5%). The mean operative time was 300 minutes and the mean hospital stay was 6 days. The overall mean lymph node count was 17.2. Mean lymph node numbers were 17.6 for low anterior resection, 16.3 for anterior resection, 17.6 for right hemicolectomy, 12.0 for left hemicolectomy, and 21.0 for abdominoperineal resection.The overall reoperation rate was 10.0% (11/110). Nine cases were due to surgery-related major complications, yielding a major morbidity rate of 8.2%. Six occurred within 30 days, corresponding to a 30-day major morbidity rate of 5.5%. All reoperations occurred in the low anterior resection group (17.5%). The most frequent complications were intra-abdominal abscess and anastomotic stricture (each 2.7%), followed by anastomotic leakage, bladder injury, and ostomy detorsion (each 0.9%). Oncological reoperations due to recurrence were observed in two patients (1.8%). Adjuvant therapy was administered in 58 patients (52.7%). No 30-day mortality was observed.

Conclusion: Robotic colorectal cancer surgery provides adequate lymph node dissection and acceptable perioperative outcomes. Major morbidity (8.2%) and 30-day major morbidity (5.5%) support the safety of the robotic approach. The concentration of reoperations in rectal resections emphasizes the importance of complication-prevention strategies in this subgroup.

Keywords: Colorectal cancer, robotic surgery, surgical oncology

Table 1. Outcomes of robotic colorectal cancer surgery (n=110)	
Clinical and follow-up characteristics	**Value**
Age (mean ± SD)	61.5±10.5
Gender, n (%)	
- Male	71 (64.5)
- Female	39 (35.5)
Type of surgery, n (%)	
- Low anterior resection	63 (57.3)
- Anterior resection	16 (14.5)
- Right hemicolectomy	24 (21.8)
- Left hemicolectomy	5 (4.5)
- Abdominoperineal resection	2 (1.8)
Ostomy formation, n (%)	27 (24.5)
Operative time (min), mean	300
Postoperative length of stay (days), mean	6
Total lymph node count, mean	17.2
Total reoperations, n (%)	11 (10.0)
Major morbidity (Clavien-Dindo ≥III), n (%)	9 (8.2)
30-day major morbidity, n (%)	6 (5.5)
Oncologic reoperation (recurrence), n (%)	2 (1.8)
Adjuvant therapy, n (%)	58 (52.7)
30-day mortality, n (%)	0 (0)

[S-429]

Totally robotic Ivor-Lewis esophagectomy in esophageal cancer: Early clinical and oncological outcomes

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Objective: Esophagectomy is a procedure with a high degree of morbidity. Minimally invasive esophagectomy performed with intrathoracic dissection and anastomosis is increasingly being performed. Robotic surgery enables complex resections to be performed, offering potential advantages over other surgical methods. The aim of this study is to share our perioperative and early postoperative clinical and oncological outcomes.

Material and Methods: Our study included patients who underwent total robotic Ivor-Lewis esophagectomy for esophageal cancer between 2015 and 2025. Data were obtained from a prospectively maintained database and analyzed retrospectively. Patients who underwent McKeown esophagectomy, open esophagectomy, or surgery for benign reasons were excluded from the study. Patients' demographic data, perioperative and postoperative outcomes, and 90-day follow-up data were evaluated.

Results: Of the 27 patients, 15 were male. The mean body mass index was 24±4 kg/m^2 and the mean age was 59±12 years. Seventeen patients received neoadjuvant radiotherapy and 24 received neoadjuvant chemotherapy. The mean operative time was 518±79 minutes. Overall, complications occurred in 7 patients (25.9%). The most common complications were chylous fistula in 3 patients (11.1%) and anastomotic leakage in 2 patients (7.4%). One patient died on postoperative day 40 due to septic shock secondary to massive pleural effusion and anastomotic leakage (3.7%). Patients were discharged after a median of 9 days (range, 6-120). R0 resection was achieved in 24 patients (88.9%). The mean tumor diameter was 3.81±2.21 cm. The mean number of harvested lymph nodes was 30±12. No statistically significant association was found between demographic variables, operative time, intraoperative blood loss, tumor size, neoadjuvant therapy, and complication rates

Conclusion: Robotic Ivor-Lewis esophagectomy is a safe surgical technique that can be performed in experienced centers, providing an alternative to standard minimally invasive and open techniques. It may contribute to improved postoperative clinical and oncological outcomes.

Keywords: Esophagus cancer, Ivor-Lewis esophagectomy, robotic surgery

[S-430]

Integration of robotic colorectal surgery into clinical practice: First year experience and early clinical outcomes

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Objective: Robotic surgery (da Vinci surgical system) offers advanced visualization and instrumentation advantages in colorectal resections. However, data regarding the early phase of integration of a robotic platform into an established surgical practice remain limited in the literature. This study aimed to evaluate the safety and early clinical outcomes of a robotic colorectal surgery program initiated at our center between December 2024 and December 2025.

Material and Methods: A total of 48 patients who underwent robotic colorectal surgery between December 2024 and December 2025 were retrospectively analyzed. Demographic characteristics, ASA score, type of operation, operative time, estimated blood loss, conversion rate (to open surgery), postoperative complications, and length of hospital stay were recorded. Major complications were defined as Clavien-Dindo grade ≥III. Continuous variables were analyzed using appropriate parametric or non-parametric tests, and categorical variables were compared using the chi-square test. A p-value <0.05 was considered statistically significant. All procedures were performed by the same experienced surgical team following standardized surgical principles.

Results: Among the 48 patients included in the study, 56.3% were male, and the median age was 61.5 years (range, 38-81). ASA ≥3 was present in 20.8% of patients. The most frequently performed procedures were anterior resection (n=20, 41.7%) and right hemicolectomy (n=16, 33.3%). The mean operative time was 213 minutes, and the median estimated blood loss was 120 mL. Conversion to open surgery occurred in 5 patients (10.4%). The overall complication rate was 18.8%, and the major complication rate was 6.2%. The anastomotic leak rate was 4.2%, and no mortality was observed. The median length of hospital stay was 7 days (range, 4-14). All oncologic resections achieved negative surgical margins (R0). Comparison between the early (first 24 cases) and late (last 24 cases) periods demonstrated a statistically significant reduction in operative time, blood loss, overall complication rate, and length of hospital stay (p<0.05).

Conclusion: The integration of robotic colorectal surgery into a tertiary referral center appears to be safe, with low mortality, acceptable complication rates, and conversion rates consistent with the literature during the first year of implementation. The observed improvements in clinical parameters suggest a structured learning curve. Although the retrospective design and limited sample size restrict generalizability, these findings support that robotic colorectal surgery can be effectively and sustainably integrated into clinical practice in the presence of an experienced surgical team and appropriate institutional organization.

Keywords: Robotic colorectal surgery, learning curve, clinical outcomes

Table 1. Learning curve analysis according to clinical parameters

Parameter	Overall	First 24 cases	Last 24 cases	p
Operative time, min (mean)	213.2	232.6	193.8	<0,001[a]
Blood loss, mL (median)	120.5	155.5	100.5	<0,001[b]
Length of hospital stay, days (median)	7.0	9.5	5.0	<0,001[b]
Conversion, n (%)	10.4	12.5	8.3	1,000[c]
Complications, n (%)	18.8	33.3	4.2	0,023[c]
Anastomotic leakage, n (%)	4.2	8.3	0.0	0,489[c]

[S-433]

Evaluation of early postoperative complications and oncological outcomes of laparoscopic vs. robotic surgery in colorectal cansers: A single-center retrospective study

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Objective: Laparoscopic surgery has been used in treatment of colorectal cancer for years and is well-established in the literature. Robotic surgery has become increasingly widespread in recent years, with rising number cases. This study aims to contribute to literature by comparing the early postoperative complications, oncological outcomes of patients who underwent laparoscopic and robotic colorectal surgery at between 2019-2025.

Material and Methods: A total of 362 colorectal cancer patients underwent surgery at the Ankara Bilkent City Hospital, General Surgery Clinics between 2019-2025. Of these patients, 250 were operated on laparoscopic technique, and 112 with robotic technique. Demographic data including age, gender, comorbidities, ASA scores were evaluated. Oncological factors T&N stages, number of lymph nodes, presence of LVI/PNI, and tumor grades were examined. Postoperative 30-day complications based on Clavien-Dindo, reoperation rates, mortality numbers were also investigated. Patients were divided into two groups: The laparoscopic surgery group and the robotic surgery group.

Results: No differences were detected in the demographic data of patients in the laparoscopic and robotic surgery groups. The mean age was 60.2 years in laparoscopy group, 59.13 years in the robotic group. Females constituted 36% of laparoscopy group and 35.7% of the robotic group. Intraoperative complications occurred in 12 patients (4.8%) in the laparoscopy group and 2 patients (1.8%) in the robotic group (p=0.169). Conversion to open surgery was observed in 25 cases in the laparoscopic group, compared to 2 in the robotic group (p<0.05). In terms of oncological outcomes, N1 stage was more frequent in laparoscopic group, while N0&N2 rates were relatively higher in the robotic group (p<0.05). Early reoperation was seen in 13 patients (4.9%) in the laparoscopy group and 7 patients (5.9%) in the robotic group (p=0.686). No significant difference was found in the comparison of Clavien-Dindo complications. When comparing hospital stay durations, the laparoscopic group was hospitalized for an average of 9.77 days, while the robotic group's average hospitalization was 8.50 days (p<0.05). This difference was accepted as statistically significant. Lower rates of conversion and shorter hospital stays were found in the robotic surgery group compared to the laparoscopy group. It is thought that the differences may be due to robotic surgery being performed by certified and experienced surgeons, while laparoscopic surgery was performed by a greater number of operators, including training cases in the laparoscopy group.

Conclusion: Although there is no significant difference in oncological outcomes and early postoperative complications, clear superiority or disadvantage of one technique over the other cannot be stated. Consequently, multi-center studies with larger sample sizes will contribute to literature.

Keywords: Colorectal, laparoscopy, robotic surgery

Table 1. Demographic data and postoperative complication data

	Laparoskopik Cerrahi (n=250)	Robotik Cerrahi (n=112)	İstatiksel değerler (p-value)
Yaş	60,22±10,59	59,13±10,08	0,459
Cinsiyet			0,958
Kadın	90(%36)	40(%35,7)	
Erkek	160(%64)	72(%64.3)	
ASA			0,375
I	35(%14)	10(%8.9)	
II	146(%58,4)	73 (%65,2)	
III	67(%26,8)	29 (%25,9)	
IV	2(%0,8)	0	
Komorbiditeler			
DM	53 (%21,2)	27(%24,1)	0,538
HT	90(%36)	44(%39,3)	0,550
KAH	40(%16)	21(%18,8)	0,518
Pulmoner	12(%4,8)	3 (%2,7)	0,348
Geçirilmiş Batın Cerrahi	24(%9,6)	9 (%8)	0,633
Clavien-Dindo			0,468
1	85 (%34)	32 (%28,6)	
2	26 (%10,4)	16 (%14,3)	
3a	9 (%3,6)	3 (%2,7)	
3b	10 (%4)	7 (%6,3)	
4a	1 (%0,4)		
4b	0	0	
5	1 (%0,4)	0	
Reoperasyon	13 (%5,2)	7(%6,3)	0,686
Anastomoz Kaçağı	5 (%2)	3 (%2,7)	0,737
Mortalite	1 (%0,4)	0	
Yatış Süresi(gün)	9,77± 6,20	8,50 ± 5,20	**0,013**

Table 2. Perioperative data and oncological outcomes

	Laparoskopik Cerrahi (n=250)	Robotik Cerrahi (n=112)	İstatiksel değerler (p-value)
Cerrahi Prosedür			0,233
Sağ Hemikolektomi	56 (%22,4)	24 (%21,4)	
Sol Hemikolektomi	27(%10,8)	13 (%11,6)	
LAR	158 (%63,2)	75 (%67)	
Subtotal Kolektomi	9 (%3,6)	0	
İntraoperatif Komplikasyo	12 (%4,8)	2 (%1,8)	0,169
Konversiyon	25 (%10)	2 (%1,8)	**0,006**
Stoma	78 (%31,2)	30 (%26,8)	0,396
T			0,470
Tis	8 (%3,2)	7 (%6,3)	
T1	16 (%6,4)	7 (%6,3)	
T2	39 (%15,6)	13 (%11,6)	
T3	170 (%68)	74 (%66,1)	
T4	17 (%6,8)	11 (%9,8)	
N			0,025
N0	144 (%57,6)	73 (%65,2)	
N1	86 (%34,4)	24 (%21,4)	
N2	20 (%8)	15 (%13,4)	
Grade			0,573
İyi	56 (%22,4)	31 (%27,7)	
Orta	185 (%74)	78(%69,6)	
Kötü	7 (%2,8)	3(%2,7)	
Total LN	19,12 ± 10,59	18,08 ± 9,43	0,732
Pozitif LN	1,19 ± 2,20	1,66 ± 3,91	0,955
LVI	110 (%44)	44 (%39,3)	0,402
PNI	74 (%29,6)	36 (%32.1)	0,624

[S-434]

Robotic surgery vs. laparoscopic surgery for rectal cancer: A systematic review and meta-analysis

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Objective: Minimally invasive surgery has become the standard approach for rectal cancer resection. While laparoscopic surgery offers advantages over open surgery, technical difficulties in the narrow pelvis have raised concerns about the conversion rate to open surgery. Robotic surgical systems potentially overcome these limitations by offering advanced 3D visualization, improved instrument handling, and better ergonomics. This systematic review and meta-analysis evaluated the comparative efficacy and safety of robot-assisted surgery versus conventional laparoscopic surgery for rectal cancer.

Material and Methods: We conducted a comprehensive systematic review in accordance with the PRISMA 2020 guidelines. The "scispace-deep agent" artificial intelligence program was used in the review. A total of 19 studies were screened from multiple databases (PubMed, Embase, CENTRAL, Google Scholar) up to January 2026. Following a rigorous screening process, five randomized controlled trials (RCTs) involving 1,588 patients (794 robotic, 794 laparoscopic) were included. The main studies were: ROLARR 2017 (International, n=471), Kim 2018 (South Korea, n=70), COLRAR 2023 (South Korea, n=280), Feng 2022 APR (China, n=117), and REAL 2025 (China, n=650). All studies were assessed as having a low risk of bias across all domains. A random-effects meta-analysis was performed using the DerSimonian-Laird method.

Results: Robotic surgery showed a significant 48.2% reduction in conversion to open surgery compared to laparoscopic surgery (risk ratio: 0.52, 95% CI: 0.35-0.76, $p<0.001$), with no heterogeneity observed ($I^2=0\%$). Conversion rates were 4.5% in robotic surgery and 9.2% in laparoscopic surgery. Operating time tended to be longer in the robotic group, but this trend was not statistically significant (mean difference: +14.7 minutes, 95% CI: -0.4 to 29.8, $p=0.06$). No significant differences were observed in overall complications (RR: 0.91, 95% CI: 0.79-1.04), positive peripheral resection margin (RR: 0.90, 95% CI: 0.57-1.42), hospital stay, blood loss, or lymph node harvest. Long-term oncological outcomes from the COLRAR study showed comparable 3-year disease-free survival rates (robotic 82.5%, laparoscopic 81.8%).

Conclusion: Evidence from 5 RCTs shows that robotic-assisted surgery for rectal cancer significantly reduces conversion to open surgery while maintaining equivalent safety profiles and oncological outcomes compared to laparoscopic surgery. The slight increase in operative time appears clinically acceptable given the significant reduction in conversion rates to open surgery. Robotic surgery should be seriously considered as a safe and effective minimally invasive approach for rectal cancer resection, particularly for mid- and lower-rectal tumors and cases with complex pelvic anatomy.

Keywords: Laparoscopic surgery, meta-analysis, rectal cancer, robotic surgery

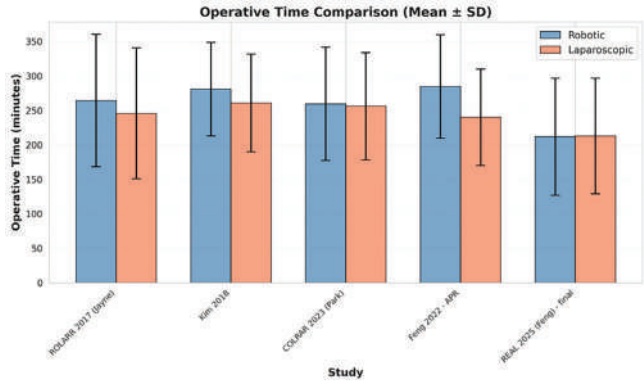

Figure 1. Comparison of operation time.

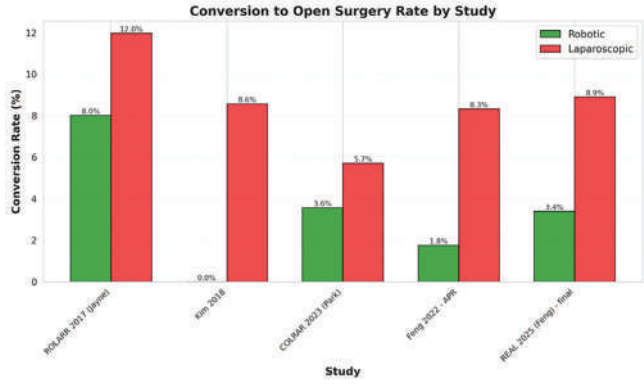

Figure 2. Comparison of the convertion to open surgery.

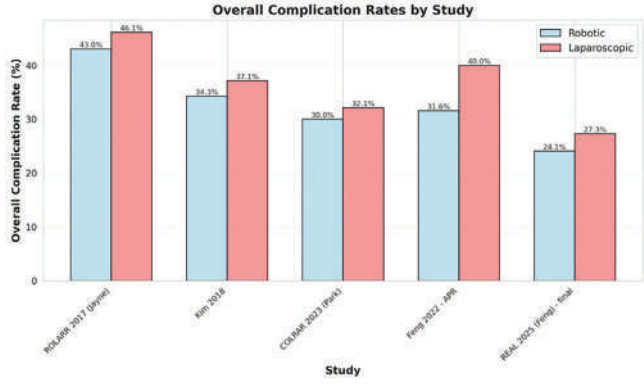

Figure 3. Complication rates.

[S-435]

Robotic pancreaticoduodenectomy for periampullary tumors

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Objective: The use of robotic systems in pancreatic surgery has increased worldwide in recent years. Although robotic surgery offers several potential advantages, adequate surgical experience and technical infrastructure are essential to ensure its safe and effective application in pancreaticoduodenectomy. We aimed to present the clinical and pathological characteristics of patients who underwent totally robotic pancreaticoduodenectomy at our institution.

Material and Methods: A total of 25 patients who underwent totally robotic pancreaticoduodenectomy between April 2022 and February 2026 were retrospectively analyzed in terms of treatment modalities, postoperative follow-up, complications and pathological outcomes.

Results: The cohort consisted of 14 male and 11 female patients with a mean age of 62 years. Among patients with a pancreatic head mass, 22 underwent pylorus-preserving pancreaticoduodenectomy, 1 underwent conventional pancreaticoduodenectomy, and 2 underwent total pancreaticoduodenectomy. The descriptive characteristics and perioperative and postoperative outcomes of patients who underwent robotic pancreaticoduodenectomy are presented in the table.

Conclusion: Robotic pancreaticoduodenectomy can be performed safely and effectively in appropriately selected patients at centers with sufficient experience and technical infrastructure, yielding clinical outcomes and complication rates comparable to those of the open approach.

Keywords: Minimally invasive, pancreaticoduodenectomy, robotic surgery

Table 1. Patients' demographic and clinical characteristics

Variable	RPD (n=25)
Age, years (mean ± SD)	62.11±9.07
Sex (male), n (%)	14 (56)
ASA score, n (%)	
- ASA I	8(32)
- ASA II	11(44)
- ASA III	6(24)
- ASA IV	0 (0)
Comorbidities, n (%)	
- Diabetes mellitus	9 (36)
- Hypertension	10 (40)
- Cardiac disease	12 (48)
- COPD	2 (8)

Table 2. Postoperative complications and oncologic outcomes

Complication	RPD (n=25)
Any complication, n (%)	14 (56)
Clavien-Dindo ≥3, n (%)	1 (4)
POPF (ISGPS)	
- Grade A	4 (16)
- Grade B	1 (4)
- Grade C	0 (0)
- Clinically relevant (B/C), n (%)	1 (4)
Resection margin	RPD (n=25)
- R0 resection, n (%)	25 (100)
- R1 resection, n (%)	0 (0)
Total number of lymph nodes	27.16±26.18
Number of positive lymph nodes	1.21±1.9
Lymph node positivity rate, %	4.45

[S-436]

Comparison of short-term outcomes of robotic and laparoscopic gastric cancer surgery

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Objective: In recent years, robotic surgery has rapidly gained popularity in gastric cancer resections. Robotic surgery is thought to provide advantages in terms of surgeon comfort during anastomosis, particularly in patients with high body mass index, short esophagus, and narrow operative fields. The aim of this study was to compare robotic and laparoscopic techniques in gastric cancer resections with respect to surgical outcomes.

Material and Methods: Patients who underwent total gastrectomy for gastric cancer at our clinic between 2020 and 2025 were retrospectively analyzed. Patients were divided into two groups according to the surgical technique: Laparoscopic surgery (Group 1) and robotic surgery (Group 2). The groups were compared in terms of demographic characteristics, perioperative findings, and pathological outcomes.

Results: A total of 63 patients were included in the study. The mean age was 62.22±12.17 years, and the female/male ratio was 23 (36.5%)/40 (63.5%). There was no statistically significant difference between the groups in total length of hospital stay or intensive care unit stay (p=0.573 and p=0.386, respectively). Similarly, no significant difference was observed in postoperative anastomotic leakage rates (p=0.687). One patient died in the postoperative period; this patient belonged to the laparoscopic group. There was no significant difference between the groups regarding T and N stages (p=0.268 and p=0.943, respectively). The median total number of harvested lymph nodes was 26.28±11.64. No significant difference was found between the groups in terms of total lymph node count or positive lymph node count (p=0.155 and p=0.923, respectively). During postoperative follow-up, metastasis was detected in two patients in the laparoscopic group and in one patient in the robotic group (lung, liver, central nervous system). The patient who underwent robotic total gastrectomy developed central nervous system metastasis within the first 6 months, whereas the other two patients developed liver and lung metastases one year after surgery.

Conclusion: Robotic total gastrectomy provides short-term surgical and oncological outcomes comparable to those of the laparoscopic approach in gastric cancer surgery. However, further prospective, randomized studies with larger patient cohorts and long-term follow-up are required to determine whether the potential advantages of robotic surgery—such as improved ergonomics, superior image quality, and enhanced surgeon comfort—translate into improved clinical and long-term oncological outcomes.

Keywords: Gastric, laparoscopic, robotic

Table 1. Comparison of demographic, clinical and perioperative characteritics

	Total cohort	Group 1 (laparoscopic) (n=40)	Group 2 (robotic) (n=23)	p-value
Age	62.22±12.17	61.45±13.67	63.56±9.12	0.592
Sex				
Female	23 (36.5%)	15 (37.5%)	8 (34.8%)	0.829
Male	40 (63.5%)	25 (62.5%)	15 (65.2%)	
ASA score				
2	55 (87.3%)	34 (85%)	21 (91.3%)	0.469
3	8 (12.7%)	6 (15%)	2 (8.7%)	
Comorbidities				
≤2	41 (65.1%)	24 (60%)	17 (73.9%)	0.265
>2	22 (34.9%)	16 (40%)	6 (26.1%)	
NACT				
No	39 (61.9%)	25 (65%)	13 (56.5%)	0.505
Yes	24 (38.1%)	14 (35%)	10 (43.5%)	
Interval after NACT				
0-4 weeks	15 (62.5%)	10 (7.4%)	5 (50%)	0.358
4-8 weeks	8 (33.3%)	4 (28.6%)	4 (40%)	
8-12 weeks	1 (4.2%)	-	1 (10%)	
Tumor location				
EGJ	2 (3.2%)	2 (5%)	-	0.588
Cardia	29 (46%)	18 (45%)	11 (47.8%)	
Fundus	8 (12.7%)	6 (15%)	2 (8.7%)	
Corpus	19 (30.2%)	12 (30%)	7 (30.4%)	
Antrum	5 (7.9%)	2 (5%)	3 (13%)	
Length of hospital stay (days)	9.84±5.90	9.77±5.12	9.95±7.18	0.573
ICU stay (days)	2.46±2.42	2.67±2.64	2.08±1.97	0.386
Anastomotic leakage				
No	61 (96.8%)	39 (97.5%)	22 (95.7%)	0.687
Yes	2 (3.2%)	1 (2.5%)	1 (4.3%)	

Table 2. Comparison of oncological and short-term follow-up outcomes				
	Total cohort	**Group 1 (laparoscopic) (n=40)**	**Group 2 (robotic) (n=23)**	**p-value**
T				
0	1 (1.6%)	1 (2.5%)	-	0.268
1	15 (23.8%)	8 (20%)	7 (30.4%)	
2	4 (6.3%)	2 (5%)	2 (8.7%)	
3	27 (47.9%)	21 (52.5%)	6 (26.1%)	
4	16 (25.4%)	8 (20%)	8 (34.8%)	
N				
0	24 (38.1%)	16 (40%)	8 (34.8%)	0.943
1	19 (30.2%)	11 (27.5%)	8 (34.8%)	
2	3 (4.8%)	2 (5%)	1 (4.3%)	
3	17 (27%)	11 (27.5%)	6 (26.1%)	
TLN count	26.28±11.64	24.65±10.59	29.13±13.01	0.155
PLN count	4.69±7.99	4.55±7.08	4.95±9.54	0.923
30 day readmission				
No	61 (96.8%)	38 (95%)	23 (100%)	0.276
Yes	2 (3.2%)	2 (5%)	-	
Metastasis during follow-up				
No	60 (95.2%)	38 (95%)	22 (95.7%)	0.907
Yes	3 (4.8%)	2 (5%)	1 (4.3%)	
Time to metastasis				
0-6 months	1 (33.3%)	-	1 (100%)	0.083
>1 year	2 (66.7%)	2 (100%)	-	
Site of metastasis				
CSS	1 (33.3%)	-	1 (100%)	
Lung	1 (33.3%)	1 (50%)	-	
Liver	1 (33.3%)	1 (50%)	-	
Mortality				
No	62 (98.4%)	39 (97.5%)	23 (100%)	0.445
Yes	1 (1.6%)	1 (2.5%)	-	

[S-437]

Robotic hepatopancreatobiliary surgery at a single center: A six-month clinical experience

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Objective: Minimally invasive surgery is superior to open surgery in terms of tissue trauma, risk of wound infection, postoperative pain, and length of hospital stay. Within minimally invasive surgery, robotic surgery offers advantages over laparoscopic surgery in terms of surgeon-patient interaction, three-dimensional visualization, and the maneuverability of robotic arms. In this study, we aimed to present our experience with robotic hepatopancreatobiliary surgery over a six-month period.

Material and Methods: For this study, patients who underwent robotic hepatopancreatobiliary surgery in the Liver, Pancreas, and Biliary Tract Surgery Unit at our center in 2025 were retrospectively evaluated. Patients' demographic data, clinical findings, perioperative findings, and histopathological findings were analyzed.

Results: The median age of the 16 operated cases was 54 years; 62.5% (10 patients) were male and 37.5% (6 patients) were female. Of these patients, 8 (50%) underwent the Whipple procedure, 5 (31%) underwent distal pancreatectomy with splenectomy, 1 (6%) underwent spleen-preserving distal pancreatectomy, 1 (6%) underwent the Partington-Rochelle procedure, and 1 (6%) underwent lateral sectionectomy of the liver. The mean length of hospital stay was calculated as 11 days. Conversion to open surgery was required in two patients: One due to invasion of the portal vein by a mass in the pancreatic uncinate process, and the other due to invasion of the inferior vena cava by a duodenal mass. In the five patients who underwent the Whipple procedure, the mean number of harvested lymph nodes was 23, while in patients who underwent distal pancreatectomy with splenectomy, the mean number of harvested lymph nodes was 12.

Conclusion: Robotic hepatopancreatobiliary surgery is a safe and feasible minimally invasive approach that can provide oncologic outcomes comparable to those of conventional surgery, even in major resections. Conversion was required in a limited number of cases with vascular invasion, highlighting the importance of appropriate patient selection and surgical experience. The findings support robotic surgery as an effective and sustainable alternative for hepatopancreatobiliary procedures in experienced centers.

Keywords: Hepatopancreatobiliary surgery, liver, pancreas, spleen, robot

Table 1. Clinical data analysis of robotic hepatopancreatobiliary surgery patients

	PD	DP + splenectomy	DP	Hepatic bisegmentectomy	Surgery for chronic pancreatitis
Gender	7 male 1 female	2 male 3 female	1 male	1 female	1 male
Median age	58	57	29	56	21
LOS	18	7	7	5	7
Pathology	Adeno ca	Adeno ca Mucinous cystic neoplasm	Serous cystadenoma	Adeno ca	Pancreatitis

[S-438]

Impact of PIPAC therapy on symptom management and quality of life in peritoneal surface malignancies

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Objective: In patients with peritoneal carcinomatosis (PC), improving quality of life (QoL) impaired by refractory ascites and pain is as important as prolonging survival. This study aimed to objectively evaluate the effects of PIPAC therapy on subjective well-being and quality of life scores in patients with PC who were resistant to standard treatments.

Material and Methods: Data from 28 patients who underwent PIPAC were analyzed. The EORTC QLQ-C30 questionnaire was used to assess quality of life, and the global health status score was considered the primary QoL outcome. The preoperative questionnaire was administered during hospitalization, and the postoperative questionnaire was conducted via telephone interview. Global health status scores before treatment and after the first PIPAC session (mean 6 weeks) were compared. Twenty-one patients completed the questionnaire.

Results: Fourteen patients (50%) were female, with a mean age of 56.9±12.4 years. The primary tumor was gastric cancer in 57% (n=16), ovarian cancer in 14% (n=4), and colorectal cancer in 11% (n=3). Among patients who did not complete the questionnaire, four (57.1%) were unreachable, two (28.6%) declined participation, and one (14.3%) had died. Among the 21 patients who completed the EORTC QLQ-C30, a statistically significant improvement in global QoL scores was observed after PIPAC compared to baseline ($p<0.001$), with a mean increase of 11.5 points. According to the EORTC QLQ-C30 symptom scales, pain decreased in 16 patients, remained unchanged in 3, and increased in 2; anxiety decreased in 12 patients, remained unchanged in 7, and increased in 2. Self-care, mobility, and daily activities improved in 8 patients, worsened in 2, and remained stable in 11. Parallel to symptomatic improvement, the majority of patients with massive ascites experienced elimination or reduction in the need for paracentesis. Radiological and clinical responses were consistent with the observed improvement in quality of life.

Conclusion: Beyond reducing tumor burden, PIPAC represents an effective palliative option that significantly improves quality of life in patients with peritoneal surface malignancies. In this population, often challenged by systemic chemotherapy toxicity and disease progression, PIPAC plays a critical role in symptom control and preservation of functional capacity.

Keywords: Peritoneal carcinomatosis, PIPAC, quality of life

[S-439]

Prognostic factors in peritoneal mesothelioma: Physiological reserve, inflammatory markers, or surgery

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Objective: Peritoneal mesothelioma (PM) is an aggressive malignancy with a challenging treatment course. Cytoreductive surgery (CRS) combined with hyperthermic intraperitoneal chemotherapy (HIPEC) represents the current standard of care. The aim of this study is to determine the factors affecting survival in patients treated for PM at our clinic, specifically by comparing the prognostic value of surgical quality parameters (CC Score, PCI) and intraoperative management (albumin requirement) against preoperative inflammatory indices (NLR, PLR, PNI, CALLY).

Material and Methods: Thirty-six patients diagnosed with PM who underwent CRS and/or HIPEC were analyzed retrospectively. Demographic data, peritoneal cancer index (PCI), completeness of cytoreduction score (CC Score), complications (Clavien-Dindo), intraoperative albumin replacement requirement, preoperative laboratory parameters and indices (NLR, PLR, PNI, and CALLY Index), and other relevant data were recorded. Survival analyses were performed using the Kaplan-Meier method, while group comparisons were conducted using the Log-rank, Mann-Whitney U, and Kruskal-Wallis tests. Correlations between variables were evaluated using the Spearman correlation test. Statistical significance was defined as $p<0.05$.

Results: The mean follow-up period for the 36 patients included in the study was 28.9 months, with a median overall survival (OS) of 18.5 months. The 1-, 3-, and 5-year survival rates were 61.1%, 33.3%, and 16.7%, respectively. Survival analysis revealed that the median survival was 48.0 months in patients who achieved complete cytoreduction (CC-0), whereas it decreased to 4.0 months in the group undergoing incomplete surgery (CC-1/2/3); this difference was highly statistically significant ($p<0.05$). Survival in patients requiring high perioperative albumin replacement (>2.5 units) (Median: 5.0 months) was significantly shorter compared to those with lower requirements (Median: 40.5 months) ($p<0.05$). The development of major postoperative complications (Clavien-Dindo Grade ≥ 3) was also identified as an independent factor negatively affecting survival ($p<0.05$). Conversely, NLR ($p=0.43$), PLR ($p=0.64$), PNI ($p=0.49$), and CALLY ($p=0.55$) scores—which are reported as prognostic in many diseases and malignancies in the literature—were not found to have any statistically significant value in predicting overall survival in our series.

Conclusion: Our study results demonstrate that "surgical quality (CC-0)" and "physiological reserve" are the most significant prognostic factors in the treatment of peritoneal mesothelioma. Successful complete cytoreduction and an uncomplicated recovery period represent the most critical determinants for long-term survival. In contrast, systemic inflammatory or nutritional scores prove insufficient in predicting outcomes in this patient group. In particular, the association between increased albumin replacement requirement and poor prognosis -reflecting the severity of surgical trauma- warrants evaluation in larger patient cohorts and further studies.

Keywords: Peritoneal mesothelioma, cytoreductive surgery, completeness of cytoreduction score

Table 1. Patient demographic and clinical characteristics table

Parameter	Value/distribution
Patients	36
Mean age	56.4±12.3
Gender	Female: 14 (39%) Male: 22 (61%)
Histopathology	Epithelioid: 32 (89%) Other: 4 (11%)
Median PCI score	16.5 (Range: 2-39)
Median follow-up	28.9 Months
Median overall survival (OS)	18.5 Months

[S-440]

How do complicatıons affect surgical architectural outcomes in complex cytoreductive surgery?

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Objective: Peritoneal metastasis (PM) surgery is defined as a complex architectural structure. The selection, preoperative optimization and postoperative management of this patient group, who have often undergone multiple treatment modalities, are exceptionally difficult. It is suggested that the development of high-grade complications in major oncologic surgery worsens outcomes. This study investigated how complications impact postoperative results in complex cytoreductive surgery (CRS).

Material and Methods: The data of 723 patients who underwent the CRS-HIPEC procedure for PM between 2003 and 2024 were retrospectively reviewed. Various parameters were evaluated, including age, BMI, CRP, albumin, smoking status, comorbid diseases, peritoneal recurrence surgery, peritoneal cancer index (PCI), CC score, symptom severity (ascites, hydronephrosis, ileus), and history of prior abdomino-pelvic operations. Additionally, the number of resected organs, gastrointestinal resections, number of anastomoses, surgical technical difficulties due to tumor location (diaphragm, pancreas, liver, pelvic side wall, major vascular structures, and mesenteric root), iatrogenic injury, operation time, surgeon experience, intraoperative blood product (ES/TDP) replacement, splenectomy, ileum resection, stoma creation, and duration of ICU stay were assessed. Patients undergoing complex CRS (defined as PCI ≥14) were divided into two groups: Those with and without complications. The relationship between this classification and peritoneal recurrent disease, distant metastasis, and survival was investigated using conventional statistical analyses, with the Clavien-Dindo (C-D) classification used to define complications.

Results: In this series, 497 patients (68.7%) are alive, while 226 patients (31.3%) are deceased. The mean follow-up period is 62.87±4.2 months. The 1, 2, and 5-year overall survival rates were found to be 82%, 64%, and 33%, respectively. The development of complications in patients undergoing complex CRS was found to be statistically significant concerning survival ($p<0.001$). Furthermore, a statistically significant correlation was identified between patients with complications and the development of local peritoneal recurrence ($p<0.01$). No significant correlation was found regarding distant metastasis ($p=0.743$). Ultimately, complicated complex PM cytoreduction results in a dramatic decrease in patient survival ($p<0.001$).

Conclusion: The cytoreductive surgery team bears the burden of not only the disease's complexity but also the oncologic outcomes that are adversely affected if complications arise. The best survival results are achieved in complex CRS patients who complete the process without developing complications.

Keywords: Complicated cases, complicated cytoreductive surgery, peritoneal cancer index, surgical complexity

[S-441]

Pressurized intraperitoneal aerosol chemotherapy (PIPAC) in the management of peritoneal carcinomatosis: Evaluation of efficacy in PCI response and ascites control

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Objective: In patients with peritoneal carcinomatosis (PC) who are not suitable for cytoreductive surgery or who receive neoadjuvant therapy due to high tumor burden, pressurized intraperitoneal aerosol chemotherapy (PIPAC) has increasingly been used for tumor regression or palliative purposes. Treatment response can be assessed by changes in the peritoneal cancer index (PCI) or by biopsy. In patients with malignant ascites, a reduction in ascites volume is also considered a response to PIPAC. The aim of this study was to evaluate the efficacy of PIPAC using PCI and ascites response.

Material and Methods: Data from 28 patients who underwent single or multiple PIPAC sessions for PC were retrospectively analyzed. PIPAC was administered under 12 mmHg CO_2 pneumoperitoneum for 45 minutes using pressurized aerosolized chemotherapy (cisplatin + doxorubicin or oxaliplatin). Demographic data, primary tumor origin, PCI, ascites volume, and postoperative complications (Clavien-Dindo classification) were prospectively recorded. In patients who underwent repeated sessions, changes in PCI were analyzed using the Wilcoxon signed-rank test. Tumor response was evaluated based on sequential PCI scores and changes in ascites volume.

Results: Fourteen patients (50%) were female, with a mean age of 56.9±12.4 years. The primary tumor was gastric cancer in 57% (n=16), ovarian cancer in 14% (n=4), and colorectal cancer in 11% (n=3). A total of 41 PIPAC sessions were performed (mean 1.5 sessions/patient). Ten patients (35.7%) underwent two sessions and one patient (3.6%) underwent three sessions. Multiple sessions could not be performed due to comorbidities (28.6%), death during follow-up (17.9%), patient refusal (14.3%), or recent prior PIPAC (3.6%). Mean operative time was 75 minutes and mean hospital stay was 2.4 days. Major complications (Clavien-Dindo ≥3) occurred in two patients. Among patients receiving at least two sessions (n=10), mean PCI decreased significantly from 14.5 to 11.1 ($p=0.041$). In patients with >1000 cc ascites preoperatively, 83% demonstrated a significant reduction in ascites volume ($p<0.001$). Twenty patients (71.4%) died during follow-up. One patient died during the index hospitalization due to postoperative respiratory complications. Median follow-up was 16.7 (2-100) months.

Conclusion: PIPAC may achieve objective tumor regression even in patients with high tumor burden and resistance to systemic therapy. Its significant impact on ascites control and PCI reduction suggests that it can be safely used in PC patients and may serve as a bridge to curative surgery.

Keywords: Cytoreductive surgery, peritoneal carcinomatosis, PIPAC

[S-442]

What are the determinants of long-term survival in colorectal carcinoma-peritoneal metastasis patients: An observational, ambispective cohort study

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Objective: Long-term survivors after cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS-HIPEC) for colorectal carcinoma peritoneal metastasis (CRC-PM) are quite rare. We investigated the factors determining long-term survival in this specific patient subgroup.

Material and Methods: Between 2003 and 2024, 244 patients who underwent CRS-HIPEC for CRC-PM were divided into two groups: Long-term survivors (≥36 months, n=47, 19.3%) and short-term survivors (<36 months, n=197, 80.7%). Following the consensus of multi-institutional studies of the Peritoneal Surface Oncology Group International, ≥36 months accepted as a long-term survival for CRC-PM patients. All the clinico-demographical factors were analyzed in both groups.

Results: In univariate analysis (chi-squared test), Clavien-Dindo complication classification (p=0.028), general

morbidity (p=0.024), intensive care unit (ICU) stay (p=0.038), peritoneal cancer index (PCI) (p=0.01), resected organ count ≥5 (p<0.01), extreme cytoreduction (p=0.035), ostomy creation (p=0.004), presence of an existing stoma(p=0.008), infection (p=0.014), and operation time(p=0.007) were statistically significant. Logistic regression analysis revealed that ICU stay (p=0.049, OR: 2.39; CI: 1.00-5.68), lack of neoadjuvant chemotherapy (p=0.016, OR: 2.56; CI 1.49-5.51), ostomy creation (p=0.034, OR: 2.78; CI: 1.08-7.16), number of resected organ ≥5 (p=0.012, OR: 5.22; CI: 1.44-18.90), and previous stoma formation (p=0.030, OR: 9.99; CI: 1.24-80.19) were strong independent predictive factors for short-term survival. Specifically, existing stoma from previous surgical attempts reduced survival 10-fold, while high organ resection counts reduced it 5-fold. PCI was not a direct determinant of long-term survival. PM severity (number of resected organs) and the complexity of surgical technique (stoma creation, prolonged operative time and ICU stay) were highly decisive for short-term survival. Patients receiving neoadjuvant chemotherapy showed significant survival benefit.

Conclusion: This study demonstrated that the primary determinants of long-term survival in CRC-PM patients after CRS-HIPEC were neoadjuvant treatment success and the extent of surgical intervention. PCI alone did not determine survival; however, factors mirroring surgical difficulty—such as ≥5 organ resections, ICU requirement and stoma presence—reduced survival by 5 to 10 times, respectively. Thus, the findings pointed out that these complex cancer patients must be treated at the specialised cancer care center. To achieve long-term survival, strategies should focus on controlling tumor burden with neoadjuvant chemotherapy and minimizing surgical morbidity.

Keywords: Colorectal carcinoma peritoneal metastasis, long-term survival

[S-443]

Perioperative inoperability despite radiological PCI assessment in peritoneal carcinomatosis: Analysis of 555 CRS/HIPEC cases

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Objective: Cytoreductive surgery (CRS) combined with hyperthermic intraperitoneal chemotherapy (HIPEC) is an effective treatment modality that improves survival in selected patients with peritoneal carcinomatosis (PC). Appropriate patient selection is crucial, and the Peritoneal Cancer Index (PCI) represents one of the key parameters in this process. Preoperatively, PCI is commonly estimated using radiological imaging modalities such as magnetic resonance imaging (MRI), computed tomography (CT), and positron emission tomography (PET)-CT. However, discrepancies between radiological PCI assessment and intraoperative findings may occur. This study aimed to analyze the incidence of perioperative inoperability due to unexpectedly high PCI despite preoperative eligibility for CRS/HIPEC, as well as the distribution of primary tumor origins, in the context of current literature.

Material and Methods: A total of 555 patients diagnosed with PC secondary to intra-abdominal malignancies and scheduled for CRS and HIPEC between June 2016 and January 2026 were retrospectively evaluated. All patients were discussed preoperatively in a multidisciplinary tumor board, and radiological PCI was calculated using MRI, CT, and/or PET-CT imaging. Patients who were deemed inoperable during perioperative exploration due to a higher-than-expected PCI and extensive peritoneal disease were analyzed in detail.

Results: Among the 555 PC cases, 24 patients (4.3%) were considered inoperable during perioperative assessment because of a high PCI score and diffuse peritoneal involvement. Of these inoperable cases, 21 were related to gastric cancer-associated PC, 1 to gastrointestinal stromal tumor-related diffuse peritoneal involvement (gistosis), 1 to pancreatic cancer-associated PC, and 1 to malignant melanoma-related melanomatosis. Extensive involvement of the small bowel serosa, mesentery, and widespread upper abdominal disease were identified as the main factors precluding complete cytoreduction. In the literature, particularly in gastric cancer-associated PC, radiological imaging methods have been reported to underestimate the actual PCI, with intraoperative inoperability rates ranging between 5% and 10%.

Conclusion: Patient selection for CRS and HIPEC in PCs is of critical importance. Although radiological PCI assessment is a valuable tool in preoperative evaluation, it may be discordant with intraoperative findings, especially in gastric cancer-related PC. The predominance of gastric cancer among perioperatively inoperable cases in our study highlights the need for more meticulous preoperative assessment in this patient group. Wider use of diagnostic laparoscopy and integration of advanced imaging techniques may help reduce unnecessary laparotomies and improve appropriate patient selection.

Keywords: Peritoneal carcinomatosis, cytoreductive surgery, inoperability

[S-444]

Oncologic outcomes after cytoreductive surgery and HIPEC for colorectal peritoneal metastases: The impact of cytoreduction completeness and pelvic disease CRS-HIPEC outcomes in colorectal peritoneal metastases

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Objective: Colorectal peritoneal metastasis (CRC-PM) represents a distinct oncologic entity associated with poor prognosis. Cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) has been adopted in selected patients; however, the relative prognostic impact of surgical completeness, disease burden, pelvic involvement, and evolving treatment-related factors remains incompletely defined.

Material and Methods: Patients with CRC-PM who underwent CRS + HIPEC between 2010 and 2025 were retrospectively analyzed. Eligibility required resectable abdominopelvic disease, ASA ≤III, ECOG 0-2, and complete operative and follow-up data. Peritoneal tumor burden was assessed using intraoperative Peritoneal Cancer Index (PCI), and cytoreduction completeness (CC) was graded using the CC score. Pelvic involvement was recorded based on multidisciplinary preoperative assessment and intraoperative findings. Overall survival (OS) and disease-free/recurrence-free survival (DFS/RFS) were evaluated using Kaplan-Meier analysis and multivariable Cox regression, with sensitivity analyses addressing key assumptions.

Results: Seventy-four patients were included. Meaningful cytoreduction (CC0-1) was achieved in 79.7%. Median OS and DFS/RFS were 21.7 and 15.1 months, respectively. On multivariable analysis, CC0-1 cytoreduction independently predicted improved OS (HR: 0.17, 95% CI: 0.08-0.35; p<0.001) and DFS/RFS (HR: 0.17, 95% CI: 0.08-0.34; p<0.001). Metachronous peritoneal metastasis was associated with inferior OS (HR: 2.61; p=0.015) and DFS/RFS (HR: 3.06; p=0.004). Increasing PCI adversely affected DFS/RFS but not OS after adjustment. Pelvic involvement was associated with inferior survival on univariable analysis and remained an adverse prognostic factor after multivariable adjustment, with partial attenuation of effect size. Major postoperative morbidity did not independently influence long-term outcomes.

Conclusion: In CRC-PM patients undergoing CRS + HIPEC, completeness of cytoreduction remains the dominant determinant of survival. Disease timing, peritoneal tumor burden, and pelvic involvement provide important contextual prognostic information. These findings support a selective, multidisciplinary approach emphasizing surgical radicality in real-world practice.

Keywords: Colorectal cancer, cytoreductive surgery, peritoneal cancer index

[S-447]

Predicting the development of complicatıons with complexity score in peritoneal metastases of colorectal carcınoma

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Objective: Patients with colorectal cancer peritoneal metastasis (CRC-PM) are often individuals with multiple organ involvement and comorbidities, who had received numerous chemotherapy treatments and previous operations. Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS-HIPEC) is a complex surgical oncological intervention. This study aimed to determine the correlation between objectively defined preoperative and intraoperative complexity factors and postoperative complications and mortality.

Material and Methods: Data from 251 patients who underwent the CRS-HIPEC procedure due to primary CRC-PM between 2003 and 2024 were retrospectively analyzed. A complexity score (0-52) was created by scoring age, body mass index, CRP, albumin, smoking, comorbid disease, peritoneal recurrence surgery, peritoneal cancer index (PCI) and CC score, symptom severity (ascites, hydronephrosis, ileus), history of previous abdomino-pelvic operations, number of resected organs, presence of GIT resection, number of anastomosis, technical difficulties due to tumor location (diaphragm, pancreas, liver, pelvic side wall, major vascular structure, and mesenteric root), iatrogenic injury, operation time, surgeons' experience, intraoperative ES/TDP replacement, splenectomy, ileum resection, ostomy formation, and length of stay in ICU. Patients with a complexity score <16 were defined as the low complexity group, and those with a score ≥16 were defined as the high complexity group. With this classification, the relationship of patients with complications, peritoneal recurrent disease, development of distant metastasis, and survival was investigated using conventional statistical analyses. The Clavien-Dindo (C-D) classification was used to define the development of complications.

Results: Regarding survival, the PCI score (p<0.01), number of resected organs (p<0.01), performance of extreme cytoreduction (p<0.01), anastomosis leak (p<0.01), ostomy formation (p<0.01), and neoadjuvant therapy (p=0.037) were statistically significant. While the PCI score was significant in the development of distant metastasis (p<0.01); the PCI score (p=0.028), presence of extreme cytoreduction (p=0.054), and neoadjuvant therapy (p<0.01) were found to be statistically significant in the development of peritoneal recurrence. PCI score, number of resected organs, ileum resection, type of intraperitoneal chemotherapy, presence of an ostomy, and neoadjuvant therapy were determined to be strong independent risk factors for the development of high-grade Clavien-Dindo complications (C-D III-IV). The complexity score was able to predict major complication development (p=0.01) and mortality (p=0.01). The development of high-grade complications was associated with increased local recurrence (p<0.001) and decreased overall survival (p<0.001).

Conclusion: An increasing complexity score can predict the development of major complications and early mortality. The development of major complications increases peritoneal local recurrence and reduces survival.

Keywords: Complexity, cytoreductive surgery and HIPEC, Peritoneal Cancer Index, peritoneal metastasis, postoperative complications

[S-448]

Comparative evaluation of ileocolic anastomosis techniques in patients undergoing cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC)

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Objective: Anastomotic leaks are the main cause of mortality and morbidity in patients who underwent hyperthermic intraperitoneal chemotherapy (HIPEC) with cytoreductive surgery. Many known risk factors (malnutrition, anemia, corticosteroid use, preoperative chemotherapy, etc.) are more common in this patient group. This increases the importance of surgical technique selection in anastomoses. In this study, we aimed to compare the clinical results of two different surgical techniques applied in ileocolic anastomosis during CRC + HIPEC.

Material and Methods: Patients who underwent SRC + HIPEC in the Surgical Oncology Clinic of Ankara University Faculty of Medicine between January 2018 and November 2025 were retrospectively analyzed. Regardless of the origin of the primary cancer, patients who underwent ileocolic anastomosis were divided into two groups according to the two surgical techniques applied (side-to-side linear stapler vs. end-side circular stapler). Patients who underwent additional gastrointestinal anastomosis proximal to the anastomosis or who had a diverting stoma opened were excluded. Patients who underwent additional distal anastomosis were not excluded. Anastomosis of all patients included in the study was performed before HIPEC. Patients with missing data were not included in the analysis. Demographic, clinical variables and postoperative outcomes of the patients were compared between the two groups. The International Rectal Cancer Study Group classification was used to define and grade anastomotic leakage.

Results: A total of 43 patients were included in the analysis. It was observed that 60.5% (n=26) of the patients underwent side-to-side linear stapler anastomosis and 39.5% (n=17) of the patients underwent end-side circular stapler. Both groups; were homogeneous and similar in terms of clinical variables, including age, gender, primary tumor origin, PSI score, comorbidities, HIPEC regimen, peroperative chemotherapy history, preoperative hemoglobin and albumin levels. Anastomotic leakage was detected in 4 (15.3%) patients in the side-to-side linear stapler group and 1 (5.8%) patient in the end-side circular stapler group. There was no statistically significant difference between the two techniques in terms of anastomotic leakage (p=0.192). There was no difference between the two groups in terms of the degree of anastomotic leakage and the need for re-operation (p=0.647, p=0.735, respectively). There was no 30-day anastomosis leak -related mortality in both groups.

Conclusion: Although the incidence of anastomotic leakage was observed to be lower in the end-side circular stapler group, the technique did not demonstrate statistically significant superiority. Further prospective studies with larger sample sizes and well-controlled risk factors for anastomotic leakage are warranted.

Keywords: Anastomotic leakage, cytoreductive surgery

Table 1. Comparison of clinical data and surgical outcomes between groups

	Linear stapler/side to side n=26 (60.5%)	Circular stapler/end to side n=17 (39.5%)	p
Age (years)	60.3 (±8.67)	59.6 (±7.55)	0.549
Gender Male Female	 11 (42.3) 15 (57.6)	 7 (41.1) 10 (58.9)	0.791
Body mass index (mean)	22.6 (±3.54)	21.8 (±2.81)	0.418
Diabetes mellitus	4 (15.3)	2 (11.7)	0.398
Hypertension	7 (26.9)	5 (29.4)	0.465
Chronic kidney disease	2 (7.6)	1 (5.8)	0.612
Chronic lung disease	5 (19.2)	3 (17.6)	0.748
ASA score I-II III-V	 14 (53.8) 12 (46.2)	 9 (52.9) 8 (47.1)	0.831
Primer origin Appendix Colorectal Ovarian Peritoneal mesothelioma	 15 (57.7) 2 (7.6) 6 (23.1) 3 (11.6)	 9 (52.9) 2 (11.7) 4 (23.5) 2 (11.7)	0.501
HIPEC regime Mitomycin + cisplatin Cisplatin Oxaliplatin	 13 (50.0) 5 (19.2) 8 (30.8)	 9 (52.9) 2 (11.7) 6 (35.4)	0.556
PCI (median)	10 (8-17)	11 (9-15)	0.788
Preoperative albumin	34.5 (33.1-40.5)	35.3 (30.3-38.5)	0.523
Preoperative Hgb, g/dL	11.5 (10.7-12.4)	11.85 (10.9-12.6)	0.805
History of chemotherapy (adjuvan/ neoadjuvan)	14 (53.8)	10 (58.8)	0.602

Table 1. Continued

	Linear stapler/side to side n=26 (60.5%)	Circular stapler/end to side n=17 (39.5%)	p
Number of anastomoses 1 2	 24 (92.3) 2 (7.6)	 16 (94.1) 1 (5.8)	0.773
Intraoperative blood transfusion	12 (46.1)	7 (41.1)	0.681
Anastomotic leakage	4 (15.3)	1 (5.8)	0.192
Anastomotic leakage Grade A Grade B Grade C	 0 (0%) 1 (5.8) 2 (7.6)	 0 (0%) 0 (0%) 1 (5.8)	0.647
Reoperation	2 (7.6)	1 (5.8)	0.735
Hospitalization (days)	17 (9-28)	19 (8-25)	0.578
Mortality (30-days associated with leakage)	0 (0%)	0 (0%)	>0.999

[S-449]

Decreasing threshold to identify and protect the external branch of superior laryngeal nerve (EBSLN) in neuromonitored thyroidectomy, a multicenter study

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Objective: During neuromonitored thyroidectomy, the external branch of the superior laryngeal nerve may not be detected due to lower amplitude or anatomic variations. In this study, we aimed to demonstrate the importance of identifying and protecting more nerves by lowering the threshold.

Material and Methods: Neuromonitoring data of patients who underwent thyroid surgery between October 2023 and October 2025 at two centers were retrospectively analysed. Patients with a history of previous thyroid surgery and neurologic disorder were excluded. The amplitude value for EBSLN before (S1) and after (S2) resection was evaluated. When amplitude could not be obtained from EBSLN, the device's default threshold setting of 100 µV was first lowered to 50 µV or lower to obtain amplitude.

Results: A total of 801 patients' neuromonitoring data (1,459 nerves at risk) were analysed. Total thyroidectomy was performed in 658 patients (82%). A total of 68 (4.6%) S1 amplitudes and 156 (10.6%) S2 amplitudes were obtained below 100 µV. The mean S1 amplitude on both sides was 253 µV, consistent with the literature. The mean S1 and S2 amplitudes, which were below 100 µV, were 89.45 µV (min 40-max 99) and 71.94 µV (min 13-max 99), respectively.

Conclusion: With a low mean amplitude, EBSLN may not be detected at a high neuromonitoring device threshold. During surgery, it is recommended to lower the threshold to below 100 µV (to 50 µV or lower) to better identify and protect the EBSLN.

Keywords: Nerve, neuromonitoring, thyroidectomy

[S-450]

The role of cadaveric multiorgan procurement surgery in resident training

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Objective: Unlike medical specialties, general surgery residency training prioritizes operative practice alongside theoretical knowledge. Mastery of surgical anatomy is a fundamental requirement for resident physicians. Cadaveric organ procurement is highly significant as it encompasses all abdominal quadrants and provides exposure to retroperitoneal anatomy, facilitating anatomical mastery and operative planning. This study aims to evaluate the contribution of cadaveric multiorgan procurement surgery to the technical proficiency and vascular surgical skills of residents.

Material and Methods: A cross-sectional study was conducted between January 2020 and December 2025, involving 26 general surgery residents who participated in multiorgan procurement operations at our center. Data were collected using an 18-item, 5-point Likert-type scale designed to assess operative gains. Statistical analyses were performed using Shapiro-Wilk, Independent Samples t-test, and Spearman correlation analyses, with a significance level of $p<0.05$.

Results: A total of 26 general surgery residents participated in this research study. Senior residents (4th and 5th years) comprised 53.8% of participants, while 46.2% were junior residents. Regarding case experience, 46.2% reported 1-5 cases, 11.5% reported 6-10 cases, 11.5% reported 11-20 cases, and 15.4% had over 20 cases. Highest educational gain scores were recorded for "recognizing anatomical variations" (4.00±1.57 points) and "mastery of retroperitoneal anatomy" (3.92±1.54 points). Residents reported that this process significantly increased trauma surgery readiness (3.84±1.51 points) and self-confidence in achieving vascular control (3.69±1.49 points). The lowest competency score involved supraceliac aortic dissection (2.03±0.95). Spearman correlation analysis revealed strong positive relationships between case volume and technical competency. Notably, a very strong positive correlation ($r=0.86$; $p<0.001$) was observed for supraceliac aortic dissection. Statistically significant parallel increases in Mattox ($r=0.65$) and Cattell-Braasch ($r=0.62$) maneuver competencies with case volume were also identified ($p<0.001$). Scarcity of cases was cited by 46.2% as being the primary factor limiting efficiency. Finally, 69.2% of residents believe participating in at least 6-10 cases is absolutely necessary during the current surgical residency training process.

Conclusion: Our findings demonstrate that multiorgan procurement surgery serves as a valuable operative platform for experiencing anatomy and complex vascular maneuvers, consistent with the literature. This process is a critical component in compensating for the reduced exposure to open surgery caused by the prevalence of minimally invasive techniques. Due to its unique contribution to vital skills such as supraceliac aortic control, it is essential to systematically integrate multiorgan procurement surgery into surgical training curricula.

Keywords: Organ procurement, surgical education, cadaver, resident

Table 1. Demographic characteristics and experience levels of participants

Variable	Category	n	%
Residency seniority	Years 1, 2, and 3	12	46.2
	Years 4 and 5	14	53.8
Total case experience	1-5 cases	12	46.2
	6-10 cases	3	11.5
	11-20 cases	3	11.5
	>20 cases	4	15.4

Table 2. Correlation analysis between case volume and technical proficiency

Variable	Correlation coefficient (r)	p value	Strength of relationship
Supraceliac aortic dissection	0.86	<0.001	Very Strong
Hepatoduodenal ligament dissection	0.78	<0.001	Strong
Mattox maneuver proficiency	0.65	<0.001	Strong
Cattell-braasch maneuver proficiency	0.62	<0.001	Strong
Vascular control confidence	0.40	0.041	Moderate

[S-451]

Comparison of postoperative renal function tests in living-donor and deceased-donor kidney transplantations in our organ transplant unit: A 10-year clinical experience

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Objective: Organ transplantation is a crucial treatment option that improves quality of life and prolongs survival in patients with end-stage organ failure. Living-donor kidney transplantation generally yields better outcomes when optimal donor–recipient compatibility is achieved, whereas deceased-donor kidney transplantation is frequently preferred in regions where organ donation is limited. Based on our ten-year clinical experience, the long-term effects of both transplantation methods on postoperative renal function were evaluated. Another primary objective of this study was to identify potential improvement strategies to enhance functional outcomes of kidney transplantation.

Material and Methods: This study was conducted on 197 patients who underwent renal transplantation in our clinic between January 2015 and December 2025. Demographic data such as age, sex, presence of diabetes mellitus (DM) and hypertension (HT), and donor type (living or cadaveric), as well as preoperative and postoperative urea, creatinine, and GFR values, were retrospectively analyzed. The aim was to determine whether there were significant differences according to donor type.

Results: Among the 197 patients followed in our transplant unit, the male/female ratio was 132/65. The mean age was 40.8 years (min 17-max 66). Eight patients had only DM, 81 had only HT, and 22 had both HT and DM. The cadaveric/living donor transplantation ratio was 65/132. After discharge, 169 patients did not require dialysis, while 24 patients required dialysis. Graft nephrectomy due to rejection was performed in 5 patients, all of whom had received cadaveric transplants. Of the 24 patients requiring dialysis, 15 had received kidneys from living donors and 9 from cadaveric donors. In our study, preoperative and postoperative urea, creatinine, and GFR values on postoperative days 1, 2, 7, and 30 were compared between cadaveric and living donor kidney transplants. The findings are presented in Tables 1 and 2.

Conclusion: When comparing renal function test measurements between living-donor and cadaveric kidney transplants, significant differences were observed in postoperative values. Creatinine and urea levels were lower in patients who received kidneys from living donors compared to those with cadaveric donors. On postoperative day 30, the mean creatinine level was 1.12 in living-donor transplants and 1.72 in cadaveric transplants ($p<0.001$). Additionally, GFR values showed a greater increase in patients transplanted from living donors. On postoperative day 30, the mean GFR was 80.9 in living-donor transplants and 60.84 in cadaveric transplants. It was concluded that optimization of organ preservation and the transplantation process is necessary to improve the long-term outcomes of cadaveric donor transplants.

Keywords: Kidney, transplantation, living, deceased

Table 1. The numerical values of kidney function tests in living-donor transplants

		n	Mean	p
Creatinine	Preoperative	67	5.94	<0.001
	Postoperative day 1	65	2.51	
	Postoperative day 2	65	1.52	
	Postoperative day 7	65	1.20	
	Postoperative day 30	65	1.12	
Urea	Preoperative	67	136.7	<0.001
	Postoperative day 1	65	115.8	
	Postoperative day 2	65	102.4	
	Postoperative day 7	65	68.4	
	Postoperative day 30	65	48.3	
GFR	Preoperative	48	9.24	<0.001
	Postoperative day 1	46	20.4	
	Postoperative day 2	46	35.2	
	Postoperative day 7	46	57.3	
	Postoperative day 30	46	80.9	

Table 2. The numerical values of kidney function tests in cadaveric transplants

		n	Mean	p
Creatinine	Preoperative	67	6.42	<0.001
	Postoperative day 1	65	5.34	
	Postoperative day 2	65	4.28	
	Postoperative day 7	65	2.77	
	Postoperative day 30	65	1.72	
Urea	Preoperative	67	138.4	<0.001
	Postoperative day 1	65	123.2	
	Postoperative day 2	65	111.4	
	Postoperative day 7	65	80.2	
	Postoperative day 30	65	60.6	
GFR	Preoperative	48	8.22	<0.001
	Postoperative day 1	46	10.63	
	Postoperative day 2	46	19.34	
	Postoperative day 7	46	46.85	
	Postoperative day 30	46	60.84	

[S-452]

The unwanted child of kidney transplantation: graft nephrectomy-when should the surgical decision be made, and how should it be performed?

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Objective: Graft nephrectomy (GN) is a rarely performed but technically demanding surgical procedure associated with significant morbidity after kidney transplantation (KT). There is no clear consensus regarding which patients should undergo GN or under which clinical circumstances it should be performed. This study aimed to evaluate the indications, timing of surgical decision-making, and early postoperative outcomes of GN performed at our center.

Material and Methods: Patients who underwent GN at our center were included. Demographic characteristics, GN indications, interval between KT and GN, mortality rates, and emergency versus elective procedures were analyzed and compared.

Results: Between June 2021 and June 2025, 200 KT were performed. Among these, 34 patients undergoing GN (24 males, 10 females) were included. The mean interval between KT and GN was 55.1 months. Transplantation had been performed at our center in 39% and at external centers in 61% of patients. Nineteen GN procedures were performed under emergency conditions and 15 were elective. Emergency indications included hemophagocytic syndrome (n=7), pyelonephritis (n=4), pancytopenia (n=4), hematuria (n=3), and renal vein thrombosis (n=1). Elective indications were most commonly PRA positivity (n=5) and pyelonephritis (n=5), followed by vesicoureteral reflux (n=2) and hematuria (n=1). Mortality occurred in 9 patients in the emergency GN group, while no mortality was observed in the elective group. The difference in mortality was statistically significant (p=0.012). In our center, iliac vascular injury occurred in two patients (right cadaveric graft) during GN. In one of these cases, an approximately 4-cm segment of the iliac artery was excised together with the graft kidney. Primary arterial repair was performed using the native iliac artery ends dissected from the graft kidney. The venous defect was repaired using a cadaveric iliac vein graft (the yellow vascular loop indicates the iliac vein, and the blue vascular loop indicates the iliac artery). A statistically significant difference in mortality was observed between emergency and elective groups (Fisher's exact test, p=0.006).

Conclusion: GN represents an undesirable yet sometimes unavoidable intervention following KT. Whether every failed graft should be removed and the optimal timing of GN remain unresolved. Some studies suggest that a failed graft may contribute to chronic inflammation and antibody formation, whereas others indicate that leaving the graft *in situ* may promote immunological tolerance, particularly in patients awaiting retransplantation. The technical difficulty of GN is multifactorial. Reoperative surgery results in distorted anatomical planes, and the proximity of the graft to iliac vascular structures increases the risk of vascular injury, especially in right-sided grafts. Hematological abnormalities related to chronic kidney disease, cardiovascular comorbidities, and septic conditions further increase surgical risk. A subcapsular approach is a safe and effective technique for GN. Dissection close to the graft kidney minimizes vascular injury, and in cases of diffuse bleeding, clamping of the graft renal artery and vein is the most effective method for hemorrhage control. Femoral pulse assessment after hilar control is essential for early detection of vascular complications. Emergency GN is associated with significantly higher mortality than elective procedures, emphasizing the importance of timely surgical decision-making careful patient selection

Keywords: Kidney transplantation, graft nephrectomy

Figure 1. Pyelonephritic graft kidney.

Figure 2. Intraoperative view during graft nephrectomy.

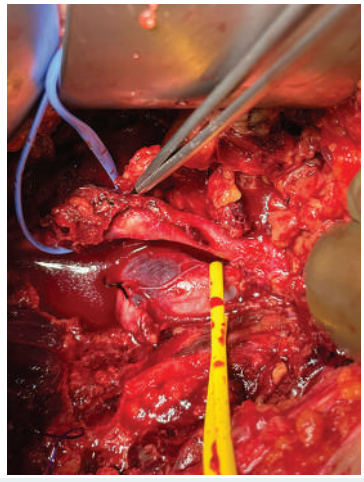

Figure 3. Iliac artery and iliac vein injury and repair during graft nephrectomy.

Table 1. Indications for graft nephrectomy

	Emergency surgery	Elective surgery	Total
Hemophagocytic syndrome	7	0	7
Pancytopenia	4	0	4
Pyelonephritis	4	5	9
Hematuria	3	1	4
Panel reactive antibody positivity	0	5	5
Renal vein thrombosis	1	0	1
Vesicoureteral reflux	0	2	2
Third kidney transplantation	0	2	2
Total	19	15	34

Table 2. Mortality in emergency and elective graft nephrectomy cases

	Mortality (+)	Mortality (-)	Total
Elective GN	0	15	15
Emergency GN	9	10	19
Total	9	25	34

[S-454]

Diagnostic performance of the inflammatory severity index in acute appendicitis: A retrospective single-center analysis

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Objective: Acute appendicitis remains one of the most common causes of emergency abdominal surgery. Despite advances in imaging, diagnostic uncertainty persists and negative appendectomy rates remain considerable. The Inflammatory Severity Index (ISI), combining the neutrophil-to-lymphocyte ratio and normalized C-reactive protein, has been proposed as a novel composite marker. This study aimed to evaluate the diagnostic performance of ISI in acute appendicitis.

Material and Methods: This retrospective observational study included 781 adult patients operated for suspected acute appendicitis between January 2014 and January 2024. Admission laboratory parameters (WBC, NLR, PLR, SII, CRP) and histopathological results were recorded. ISI was calculated as "NLR × (CRP/reference CRP)". Diagnostic accuracy was assessed using ROC analysis and optimal cut-off values were determined by the Youden index.

Results: The median age was 40 years and 52.2% were male. Acute appendicitis was confirmed in 92.1% of cases. WBC and NLR levels were significantly higher in the appendicitis group ($p<0.05$). Although ISI values were higher, no significant difference was observed ($p=0.314$). ROC analysis demonstrated poor diagnostic performance for ISI (AUC: 0.53). In subgroup analyses, NLR and SII showed better discrimination for complicated appendicitis.

Conclusion: Despite its theoretical appeal, ISI does not provide sufficient diagnostic accuracy for acute appendicitis. Clinical assessment and imaging remain the cornerstone of diagnosis.

Keywords: Acute appendicitis, inflammation, biomarker

[S-455]

Can the CALLY index predict complicated acute diverticulitis? A single-center retrospective study

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Objective: Acute diverticulitis is a common gastrointestinal disease with a clinical spectrum ranging from uncomplicated cases to severe complications. Predicting complicated diverticulitis in the early stages is crucial for determining the appropriate treatment strategy. This study aimed to evaluate the predictive value of the CALLY index in predicting complicated diverticulitis in patients diagnosed with acute diverticulitis.

Material and Methods: A total of 154 patients whose diagnosis of acute diverticulitis was confirmed by contrast-enhanced computed tomography were retrospectively analyzed. Patients were divided into two groups: non-complicated (n=136, 88.3%) and complicated diverticulitis (n=18, 11.7%). The CALLY index was calculated using laboratory data at the time of admission. Groups were compared using the Mann–Whitney U test, and discriminative performance was evaluated by ROC analysis.

Results: The mean age of the patients was 59.8±14.7 years, and 57.1% were female. The mean CALLY index value was 0.97±4.97 and did not show a normal distribution ($p<0.001$). A statistically significant difference was found between the complicated and non-complicated groups in terms of the CALLY index ($U=729.5$; $p=0.005$). However, ROC analysis revealed that the discriminative power of the CALLY index was low (AUC: 0.298; $p=0.005$), and no clinically significant cut-off value could be determined.

Conclusion: This study demonstrated that the CALLY index is not a clinically significant marker for predicting complicated diverticulitis. Despite a statistical difference between groups, an AUC below 0.5 revealed weak predictive power. While elevated CRP and decreased albumin are expected in complicated cases, the CALLY index's inadequacy may stem from the heterogeneous inflammatory response, small sample size, and low complication rate. Although CRP remains the most evaluated parameter -with values above 150 mg/L increasing complication risk- combined indices do not always yield the expected performance. Our findings suggest the CALLY index does not meaningfully contribute to clinical decision-making in acute diverticulitis. Limitations include the retrospective design and small complicated group, while strengths include CT-confirmed diagnoses and complete data. In conclusion, the CALLY index is not a reliable biomarker for predicting complicated diverticulitis, necessitating larger prospective studies.

Keywords: Acute diverticulitis, biomarker, CALLY index, complicated diverticulitis, inflammation

[S-456]

Analysis of etiology and resection rates in surgically treated ileus cases: A single-center one-year experience

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Objective: Ileus is a clinical condition characterized by the cessation of distal progression of intestinal contents. It is classified into mechanical and paralytic types. Paralytic ileus results from temporary impairment of intestinal peristalsis, whereas mechanical ileus occurs due to the presence of a physical barrier that obstructs luminal passage. Management depends on the underlying etiology and includes fluid and electrolyte resuscitation and nasogastric decompression for stabilization, followed by surgical intervention in cases of mechanical obstruction or strangulation, and medical and supportive treatment in functional cases. In this study, we evaluated patients who required surgical intervention for ileus over a one-year period.

Material and Methods: This single-center retrospective study included patients who underwent surgery for ileus at the Department of General Surgery, Necmettin Erbakan University Faculty of Medicine Hospital, within one year. Demographic characteristics, etiologies, operative findings, and surgical procedures were analyzed.

Results: A total of 60 patients underwent surgery for ileus during the study period. The mean age was 59.8±15.4 years (range, 18-87), with 40 males (66.7%) and 20 females (33.3%). Adhesions were the most common etiology (46.7%), followed by malignancy-related ileus (31-32%). Crohn's disease accounted for 6.7% of cases. Ileus due to endometriosis and pancreatic adenocarcinoma metastasis was identified in one patient each. Early postoperative and inflammatory causes of obstruction were also observed. Among malignancy-related cases, 8 patients had a known history of intra-abdominal malignancy, while 11 patients (18.3%) had no prior history but were found intraoperatively to have an obstructing mass or colorectal cancer and were classified as newly diagnosed malignant ileus. Most newly diagnosed cases were colorectal adenocarcinomas. The resection rate was higher in this group, whereas palliative procedures were more frequent in patients with previously known malignancy. Surgically, bowel resection was performed in 35 patients (58.3%), stoma formation in 13 (21.7%), adhesiolysis in 7 (11.7%), and jejunojejunal or ileosigmoidal anastomosis in 5 (8.3%).

Conclusion: Adhesions were the leading cause of surgically treated ileus, followed by malignancy. A notable proportion of malignant cases represented the initial presentation of colorectal cancer. The high resection rate suggests a predominance of complicated pathology. Rare causes such as endometriosis and pancreatic metastasis further demonstrate the broad etiological spectrum of ileus.

Keyword: Etiology

Table 1. Etiological distribution (n=60)

Etiology	n	%
Adhesions	28	46.7
Malignancy (total)	19	31.7
├─ Previously known malignancy	8	13.3
└─ Newly diagnosed obstructive malignancy	11	18.3
Crohn's disease	4	6.7
Endometriosis	1	1.7
Pancreatic adenocarcinoma metastasis	1	1.7
Early postoperative/inflammatory causes	7	11.7
Total	60	100

[S-457]

Our experience with omental patch and falciform ligament patch in the surgical management of perforated peptic ulcer

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Objective: Perforated peptic ulcer (PPU) is a clinical condition requiring emergency surgical intervention and is associated with high morbidity and mortality. Although omental patch (Graham patch) repair is considered the standard surgical approach, its use may be limited in certain patients due to previous malignancy-related resections, prior abdominal surgeries, anatomical inadequacy, or inflammation-related fragility of the omentum. The aim of this study was to evaluate the clinical characteristics of patients operated on for PPU in a single center and to present the early postoperative outcomes of falciform ligament patch repair in selected cases where the omentum was unavailable or unsuitable.

Material and Methods: In this retrospective descriptive study, 19 patients who underwent emergency surgery for PPU by a single surgeon at our institution between January 2023 and March 2025 were evaluated. Demographic data, perforation localization, surgical techniques applied (omental patch or falciform ligament patch), intensive care unit requirements, and early postoperative clinical outcomes were reviewed. Falciform ligament patch was considered an alternative option in selected cases with inadequate omentum, a history of previous abdominal surgery, or the presence of intra-abdominal malignancy. The collected data were presented descriptively.

Results: Of the 19 patients included in the study, 15 were male and 4 were female, with a mean age of 64 years. Standard omental patch repair was performed in 10 patients (52.6%), while falciform ligament patch was applied in 9 patients (47.4%). Perforations were predominantly located in the duodenum. The mean perforation diameter was 15 mm (range: 10-30 mm). The overall mortality rate was 15.7% (n=3), and all mortal cases were elderly patients with a high preoperative risk profile. In the falciform ligament patch group, no early postoperative leakage, need for reoperation, or technique-related major complications were observed.

Conclusion: Based on our experience, falciform ligament patch repair may represent a safe and feasible alternative in selected cases of PPU where the omentum is unsuitable for use. Owing to its anatomical proximity and well-vascularized structure, the falciform ligament provides an appropriate tissue option for surgical repair. Although the limited number of cases precludes definitive statistical conclusions, the present findings suggest that this technique can be applied without increasing morbidity. Further studies with larger patient series are warranted to validate these results.

Keywords: Omental patch, perforated peptic ulcer, falciform ligament patch

[S-458]

Serum LRG1 in acute mesenteric ischemia: A case-control study with exploratory mortality analysis

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Objective: We asked whether serum leucine-rich α2-glycoprotein-1 (LRG1) differs in acute mesenteric ischemia (AMI) and whether it predicts short-term mortality.

Material and Methods: In this case-control study, we enrolled 25 adults with abdominal pain and computed tomography angiography (CTA)-confirmed AMI and 25 volunteer controls. Peripheral venous blood was drawn in the emergency department before ward admission; serum LRG1 was measured by enzyme-linked immunosorbent assay. Groups were compared with appropriate parametric or non-parametric tests. Receiver operating characteristic (ROC) analysis was used to quantify discrimination (area under the curve, AUC). Within the AMI group, mortality was explored using ROC analysis and a multivariable logistic regression model including symptom duration and LRG1.

Results: Median LRG1 was higher in AMI than in controls (7.27 vs. 5.40 µg/mL; p<0.001), with an AUC of 0.788 (95% confidence interval 0.657-0.901) for distinguishing AMI from controls; the Youden cut-off was 6.08 µg/mL (80% sensitivity, 68% specificity). Eight AMI patients (32%) died. Non-survivors presented later (median 8.5 vs. 4 hours; p=0.006) and had higher LRG1 (median 10.37 vs. 6.96 µg/mL; p=0.086). For mortality, LRG1 showed an AUC of 0.721; in multivariable analysis, symptom duration remained independently associated with mortality (odds ratio: 2.42 per hour; p=0.012), while LRG1 showed a borderline association (odds ratio: 1.55 per 1 µg/mL; p=0.058).

Conclusion: Serum LRG1 is elevated in CTA-confirmed AMI and may add prognostic information, but the mortality signal needs confirmation in larger, prospectively validated cohorts.

Keywords: LRG1, acute mesenteric ischemia, biomarker

[S-459]

From emergency department to operating room in acute mesenteric ischemia

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Objective: Acute mesenteric ischemia (AMI) is a life-threatening surgical emergency associated with extremely high mortality rates, requiring rapid decision-making under the principle that time is critical. Delayed laparotomy has been consistently associated with intestinal necrosis and multiorgan failure. However, treatment delay may not solely depend on prehospital factors; in-hospital processes from emergency department admission to surgical intervention may also influence outcomes. This study aimed to evaluate the time intervals from emergency department admission to operation and to investigate the impact of these temporal parameters and laboratory findings on mortality in patients with AMI.

Material and Methods: Thirty-five patients who underwent laparotomy for AMI during the last two years at our tertiary care center were retrospectively analyzed. Patients were classified into two groups: survivors (group I) and non-survivors (group II). Time parameters were defined as admission-to-laparotomy time, admission-to-general surgery consultation time, and general surgery consultation-to-laparotomy time. Laboratory data (lactate, WBC, pH, creatinine), surgical procedures, and intensive care unit stays were recorded. Statistical analyses were performed using IBM SPSS version 25. A p value <0.05 was considered statistically significant.

Results: Overall mortality was 74.3%. For the entire cohort, the median admission-to-operation time was 10.0 hours (IQR: 5.5-25.0), admission-to-consultation time was 1.0 hour (IQR: 1.0-5.5) consultation-to-laparotomy time was 6.0 hours (IQR: 3.0-14.0). Surprisingly, patients in mortality group underwent surgery earlier than survivors. Admission-to-operation time was 26.0 hours (IQR: 15.0-44.0) in group I versus 7.5 hours (IQR: 4.25-13.5) in group II. Similarly, admission-to-consultation times were 4.0 and 1.0 hours, consultation-to-laparotomy intervals were 11.0 and 5.0 hours in groups I and II, respectively. Half of the patients were operated within 10 hours, while laparotomy performed after ≥24 hours demonstrated four-fold trend toward increased mortality. Preoperative lactate, WBC levels were significantly higher in non-survivors. Multivariate analysis identified preoperative lactate as the only independent predictor of mortality (OR ≈ 1.32; p<0.05). Regarding resected organs, jejunum and ileum involvement was most common among survivors (33.3%), whereas combined jejunum, ileum, and right colon resections predominated in non-survivors (38.5%).

Conclusion: The pathway to laparotomy in AMI reveals a clinical paradox. Patients with the most severe metabolic derangement and extensive bowel ischemia were operated on the fastest, yet experienced the highest mortality. These findings suggest that operative speed alone cannot overcome advanced ischemic burden at presentation. While minimizing time to surgery remains essential, the biological severity reflected by elevated lactate levels and extensive bowel involvement appears to be the strongest determinant of survival in AMI

Keywords: Urgent, mortality, mesenteric ischemia

[S-461]

Diagnostic value of computed tomography in bowel injuries due to penetrating abdominal trauma

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Objective: Bowel injuries resulting from penetrating abdominal trauma continue to pose diagnostic challenges. Although computed tomography (CT) is widely used in hemodynamically stable patients, its diagnostic accuracy for detecting bowel injuries remains variable. The aim of this study was to evaluate the sensitivity and specificity of CT in identifying bowel injuries in selected patients with penetrating abdominal trauma.

Material and Methods: This retrospective study included patients who presented to the Hacettepe University Faculty of Medicine, Department of Emergency with penetrating abdominal trauma between 2015 and 2025 and were hemodynamically stable at admission. Hemodynamically unstable patients and those requiring immediate surgical intervention were excluded. Demographic data, mechanisms of injury, CT findings, operative findings, and clinical outcomes were analyzed. To determine the sensitivity and specificity of CT in detecting bowel injuries, CT findings were compared with intraoperative findings or results from clinical follow-up.

Results: Between 2015 and 2025, a total of 304 penetrating trauma patients were admitted to the Emergency Department of Hacettepe University. Of these, 256 patients were consulted to the general surgery department due to abdominal penetrating trauma. Only 34 patients who met the study inclusion criteria were analyzed. The majority of patients were young males (93%) median age being 30 years old, and the most common mechanism of injury was stab wounds (88%). All included patients underwent abdominal CT imaging. CT demonstrated a sensitivity of 55.6% with a 95% CI (30.76% to 78.47%) and a specificity of 87% with a 95% CI (47.35% to 99.68%) for the detection of bowel injuries.

Conclusion: In hemodynamically stable patients with penetrating abdominal trauma, CT shows high specificity but limited sensitivity for the detection of bowel injuries. While a positive CT finding can be useful in guiding clinical decision-making, a negative CT scan does not reliably exclude bowel injury. Therefore, careful clinical assessment, close observation, and a low threshold for surgical exploration remain essential, particularly in patients with suspicious clinical findings. Further studies with larger patient populations are needed to improve diagnostic strategies and optimize the management of these patients.

Keywords: Penetrating trauma, bowel injury, computed tomography

[S-462]

Prediction of complication risk in acute appendicitis using the CALLY index

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Objective: Acute appendicitis is one of the most common surgical emergencies and shows significant differences between complicated and uncomplicated forms in terms of clinical course and treatment requirements. Preoperative prediction of complicated appendicitis is important for surgical planning, antibiotic management, and efficient utilization of hospital resources. This study aimed to investigate the predictive value of certain clinical and laboratory parameters for complicated appendicitis in patients undergoing laparoscopic appendectomy.

Material and Methods: This retrospective study included patients who underwent laparoscopic appendectomy with a diagnosis of acute appendicitis between September 2024 and December 2025. Based on intraoperative and histopathological findings, patients were divided into complicated and uncomplicated appendicitis groups. Demographic characteristics (age, sex), inflammatory markers such as white blood cell count (WBC) and C-reactive protein (CRP), CALLY index values, and total hospital length of stay were retrospectively analyzed. Data were analyzed using SPSS version 23.0. Categorical variables were presented as number and percentage, while continuous variables were expressed as mean ± standard deviation or median (interquartile range). Differences between categorical variables were analyzed using appropriate chi-square tests, and differences in continuous variables were evaluated using the Mann-Whitney U test. A p value <0.05 was considered statistically significant.

Results: A total of 97 patients were included in the study. The mean age of the patients was 43.1±18.8 years, and 50.5% were female. No statistically significant differences were observed between the complicated (18 patients) and uncomplicated (79 patients) appendicitis groups in terms of age ($p=0.203$), sex ($p=0.462$), or WBC values ($p=0.305$). Compared to the uncomplicated appendicitis group, the complicated appendicitis group had a significantly higher median CRP value ($p<0.001$) and a significantly lower median CALLY index value ($p<0.001$). The median hospital length of stay was 5.0 (3.0-6.0) days in the complicated appendicitis group and 2.0 (1.0-3.0) days in the uncomplicated appendicitis group. Hospital stay was significantly longer in patients with complicated appendicitis ($p<0.001$).

Conclusion: The study findings suggest that certain laboratory and clinical parameters reflecting inflammatory response may be clinically useful in predicting complicated appendicitis. The association of CRP and the CALLY index with complicated appendicitis indicates that these parameters may serve as supportive tools in preoperative risk stratification. Additionally, the longer hospital stay observed in patients with complicated appendicitis highlights the greater clinical burden associated with this condition. Combined evaluation of these easily accessible parameters in routine clinical practice may contribute to early prediction of complication risk. However, further studies with larger sample sizes and prospective designs are required to confirm these findings.

Keywords: Acute appendicitis, CALLY index

[S-463]

Management of biliary complications in liver lacerations: A preliminary assessment of clinical outcomes of cysticostomy in high-grade injuries

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Objective: High-grade liver lacerations are clinically challenging injuries due to postoperative bile leaks and the resulting secondary interventions. This study aimed to evaluate the effect of cysticostomy, performed to decompress the bile ducts in severe liver injuries, on the development of postoperative bile leakage and the need for additional drainage catheters.

Material and Methods: Data from 34 patients who underwent surgery for liver laceration at our hospital were retrospectively reviewed. Four patients (11.8%) who died peroperatively or in the early postoperative period were excluded from the analysis. The remaining 30 patients were divided into two groups: those who underwent cysticostomy (n=8) and those who did not (n=22). The severity of injury, need for transfusion, and rates of additional postoperative interventional radiological procedures were compared between the groups.

Results: Of the 34 patients included in the study (mean age 31.9), 47.1% had grade 4 injuries. Two patients died peroperatively and two died postoperatively within the first 24 hours. A total of 8 patients (23.5%) underwent cholecystectomy with tube cystostomy; 87.5% (n=7) of these patients were in the grade 4 injury group. The group that underwent cystostomy (group 1) was observed to have statistically higher grade injuries compared to the group that did not undergo cystostomy (group 2) (mean grade: 3.88 vs. 2.68, p=0.011; mean laceration length: 8.88 cm vs. 5.33 cm, p=0.035). In the clinical course, no additional interventional drainage was required due to postoperative bile leakage in group 1 (0%), while in group 2, 22.7% (n=5) of patients required additional percutaneous drainage catheters for various reasons. However, due to the limited sample size, these differences did not reach statistical significance (p>0.05). Similar results were observed between the groups in terms of mean length of hospital stay and concomitant organ injuries.

Conclusion: Although the limited number of patients in our series prevents us from drawing a definitive conclusion, we observed that although cases undergoing cysticostomy had a more severe injury profile, clinically successful biliary decompression was achieved in the postoperative period. It is thought that cysticostomy may be a helpful surgical maneuver in managing postoperative biliary complications in high-grade liver injuries. Larger series and prospective studies are needed to confirm this clinical trend.

Keywords: Bile duct decompression, cysticostomy, liver laceration

Table 1. Comparative analysis of patients with and without cysticostomy (n=30)

Parameter	Cysticostomy (+) (n=8)	Cysticostomy (-) (n=22)	p value
AAST injury grade (grade)	3.88±0.35	2.68±1.17	0.011*
Laceration length (cm)	8.9±3.8	5.4±3.2	0.035*
Age (year)	29.0±15.4	33.1±15.5	0.398
Hospitalization (day)	18.2±14.1	23.5±32.3	0.851
Need for additional postoperative drainage	1 (12.5%)	5 (22.7%)	
Associated pancreatic injury	1 (12.5%)	4 (18.2%)	1.000
Associated vena cava injury	1 (12.5%)	0 (0%)	0.267

[S-464]

Preoperative lactate and HALP score as predictors of perforated appendicitis: A single-center retrospective cohort study

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Objective: Appendiceal perforation is a major cause of morbidity and mortality in acute appendicitis, and reliable preoperative predictors remain limited. In this study, we evaluated the diagnostic value of routinely available laboratory parameters, particularly serum lactate and the hemoglobin, albumin, lymphocyte, and platelet (HALP) score, for predicting perforated appendicitis.

Material and Methods: This retrospective cohort study included 233 adult patients who underwent surgery for acute appendicitis between January 2022 and November 2025. Patients were classified as perforated or non-perforated based on intraoperative findings. Preoperative laboratory parameters were recorded. Diagnostic performance was evaluated using receiver operating characteristic (ROC) curve analysis, and independent predictors were identified by multivariable logistic regression.

Results: Perforated appendicitis was identified in 48 patients (20.6%). Patients with perforation were significantly older and had higher lactate levels and neutrophil-to-lymphocyte ratios, while HALP scores were significantly lower (all p<0.001). White blood cell count did not differ between groups. Lactate demonstrated the highest discriminative ability (AUC: 0.808), whereas the HALP score showed an inverse association with perforation (AUC: 0.315). In multivariable analysis, higher lactate levels and increasing age were independently associated with perforation, while a lower HALP score remained an independent inverse predictor. Baseline demographic and laboratory characteristics of patients with perforated and non-perforated appendicitis

Conclusion: Serum lactate is a strong independent predictor of appendiceal perforation, and lower HALP scores are associated with increased perforation risk. Their combined assessment may improve preoperative risk stratification in acute appendicitis.

Keywords: Acute appendicitis, perforation, lactate, HALP score, biomarkers

Table 1. Regression analysis

	OR	95% CI	p value
Age	1.02	1.00-1.05	0.024
Lactate	3.20	1.87-5.51	<0.001
HALP score	0.97	0.96-0.99	0.004

HALP score was included as a composite variable; its individual components were not simultaneously entered into the model to avoid multicollinearity.
OR: Odds ratio, CI: Confidence interval.

Table 2. Multivariable logistic regression analysis for predictors of perforated appendicitis

Parameters	Non-perforated (n=185)	Perforated (n=48)	p value
Age, median (IQR)	31 (24-45)	51 (34-64)	<0.001
Lactate (mmol/L), median (IQR)	1.1 (0.9-1.4)	1.8 (1.4-2.2)	<0.001
WBC (×10³/mm³), mean ± SD	14±4.2	14.3±4.1	0.64
Hemoglobin (g/L), mean ± SD	13.8±1.8	13.7±1.7	0.79
Albumin (g/L), mean ± SD	4.5±0.5	4±0.7	<0.001
Neutrophil, mean ± SD	10.9±4.1	11.9±4.1	0.13
Lymphocyte (×10³/mm³), median (IQR)	1.9 (1.4-2.6)	1.3 (0.9-1.9)	<0.001
Platelet (×10³/mm³), median (IQR)	243 (213-298)	235 (199-273)	0.21
HALP score, median (IQR)	49.4 (32.6-66.9)	31.6 (19.7-50.9)	<0.001
N/L ratio, median (IQR)	5.4 (3.5-8.5)	8.2 (5-14.5)	<0.001

N/L: Neutrophil-to-lymphocyte ratio, IQR: Interquartile range (25th-75th percentiles). Continuous variables are presented as mean ± standard deviation for normally distributed data and as median (interquartile range, IQR) for non-normally distributed data.

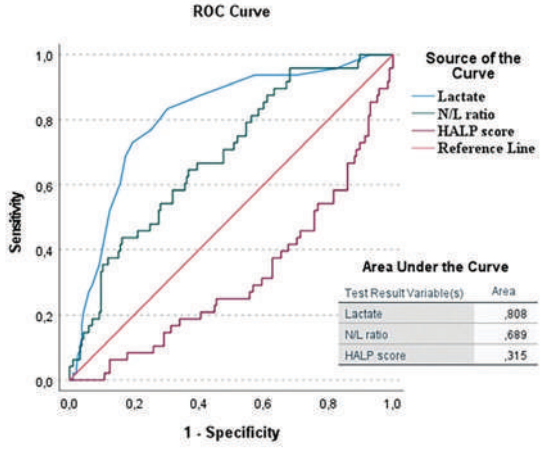

Figure 1. Receiver operating characteristic (ROC) curves of lactate, neutrophil-to-lymphocyte ratio (N/L), and HALP score for predicting perforated appendicitis. Lactate demonstrated the highest discriminative ability, while HALP showed an inverse association, with its curve lying below the reference line.

[S-465]

The value of lactate/albumin ratio (LAR) and inflammatory indices in predicting 30-day mortality in patients with acute mesenteric ischemia: A retrospective analysis of 104 patients

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Objective: Acute mesenteric ischemia (AMI) is a surgical emergency with mortality rates ranging from 60-80% despite early diagnosis and treatment. Predicting prognosis in the early stages is critical for determining treatment strategies. In this study, we aimed to investigate the relationship between next-generation biomarker ratios such as CALLY index, NLR, CAR, and lactate/albumin ratio (LAR) with 30-day mortality and anastomotic leakage in AMI patients.

Material and Methods: Data from 104 patients diagnosed and treated for AMI at our clinic between 2010 and 2025 were retrospectively analyzed. Patients' demographic data, ASA scores, and laboratory parameters (lactate, albumin, CRP, complete blood count) were recorded. CALLY, NLR, PNR, CAR, LAR, SII, and L/CR ratios were calculated. Mann-Whitney U test, Spearman correlation, and ROC analysis were used for statistical analysis.

Results: Mean age was 69.9±13.8 years, and 67.3% were in the ASA 4 group. The 30-day mortality rate was 62.5%. Surgical intervention was performed in all patients, 89 patients were eligible for resection and 30-day mortality was observed in 65 patients. •Mortality Analysis: LAR (1.56 vs. 0.79, p<0.001), age (74 vs. 66, p=0.002), and ASA score (4 vs. 4, p=0.004) were significantly higher in the mortality group. •ROC Analysis: LAR showed the highest success in predicting mortality (AUC: 0.744, p<0.001). The optimal cut-off value for LAR was determined as 1.38 (sensitivity 61%, specificity 85%). •Operations and Complications: LAR (2.35 vs. 1.07, p=0.005) and CAR (92.3 vs. 47.6, p=0.027) levels were significantly elevated in the non-resected group. Regarding patients with anastomotic leakage, no statistically significant difference was observed across the biomarkers studied (p>0.05).

Conclusion: The admission LAR is a stronger predictor of mortality in AMI patients than age and ASA score. Specifically, a LAR value above 1.38 can be used in clinical practice as an alarming parameter for poor prognosis.

Keywords: Lactate/albumin ratio, CALLY, biomarkers

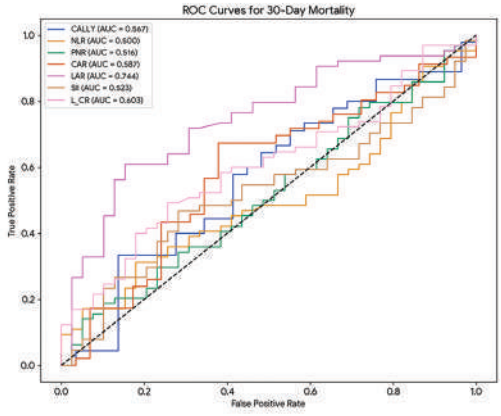

Figure 1. ROC curves for 30-day mortality. ROC analysis was conducted to evaluate the effectiveness of the examined biomarkers in predicting 30-day mortality.

Table 1. The effect of biomarkers and demographic characteristics on 30-day mortality

	Mortality (+) (n=65)	Mortality (-) (n=39)	p value
Age	74.0 (68-81)	66.0 (57-76)	**0.002**
ASA score	4.0 (4-4)	4.0 (3-4)	**0.004**
LAR	**1.56 (0.9-2.5)**	**0.79 (0.5-1.2)**	**<0.001**
CAR	65.6 (22-112)	39.3 (16-81)	0.209
L/CR	2.43 (1.4-4.2)	1.85 (1.4-2.6)	0.079
CALLY	0.01 (0.0-0.0)	0.02 (0.0-0.0)	0.335
NLR	14.5 (7.8-29.5)	16.1 (11-23.6)	1.000
SII	2900 (1483-7685)	3273 (2160-6020)	0.701
PNR	15.2 (10.6-23.9)	15.2 (11.3-25.5)	0.783

Table 2. The relationship between biomarkers and demographic characteristics and resection status

	Resection (+) (n=89)	Resection (-) (n=15)	p value
Age	70.0 (63-80)	69.0 (53-76)	0.195
ASA score	4.0 (3-4)	4.0 (3-4)	0.244
LAR	1.07 (0.7-1.9)	2.35 (1.3-7.2)	**0.005**
CAR	47.6 (16-94)	92.3 (55-136)	**0.027**
L/CR	2.11 (1.3-3.6)	3.19 (2.1-7.1)	**0.014**
CALLY	0.02 (0.0-0.0)	0.01 (0.0-0.0)	0.057
NLR	15.7 (9.6-24.5)	21.7 (6.0-33.4)	0.740
SII	3145 (1822-6383)	3538 (1110-15927)	0.819
PNR	15.2 (10.6-25.9)	15.3 (13.2-20.1)	0.691

[S-466]

Clinical-laboratory models in acute appendicitis diagnosis and complication prediction

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Objective: Acute appendicitis is the most common intra-abdominal pathology requiring emergency surgical intervention. Imaging modalities such as ultrasound (US) and computed tomography are frequently used to confirm diagnosis. The Alvarado score, commonly used in clinical practice, has limited diagnostic performance. Preoperatively determining whether appendicitis is simple or complicated (perforation, gangrene) is critical for surgical strategy and patient management. This study aimed to develop two logistic regression models based on clinical findings and laboratory parameters at presentation and compare their diagnostic performance with Alvarado score and imaging findings.

Material and Methods: Between 2021-2025, 584 patients underwent laparoscopic appendectomy. Pathology results were categorized as: (0) Normal appendix, (1) Acute appendicitis, (2) Complicated appendicitis (gangrenous or perforated), (3) Other pathologies. For model 1, acute and complicated appendicitis were classified as "true appendicitis". For model 2, only patients with confirmed appendicitis (n=543) were included. Preoperative data included age, symptom duration, body temperature, pain migration, right lower quadrant tenderness, rebound/guarding, nausea/vomiting, WBC count, and neutrophil percentage. Multivariate logistic regression models were developed. Model performance was evaluated using ROC analysis and AUC calculation.

Results: The clinical-laboratory model (AUC: 0.735) demonstrated significantly higher discriminatory ability than Alvarado score (AUC: 0.633). The model correctly identified 66.5% of patients with appendicitis and 72.5% without appendicitis. Right lower quadrant tenderness and WBC were the strongest predictors. The complication risk model showed moderate discriminatory ability (AUC: 0.638) with high specificity (89.2%) for identifying uncomplicated appendicitis but limited sensitivity (32.9%) for complicated cases. Laboratory parameters (WBC, neutrophil percentage) contributed more strongly to complication prediction than clinical findings.

Conclusion: Model 1 demonstrated significantly higher diagnostic performance than Alvarado score, supporting the hypothesis that traditional scoring systems have limited ability to provide individualized risk prediction. The low AUC of imaging-based approach reflects its application to selected patient groups. The limited diagnostic power of model 2 for complication prediction suggests that complicated appendicitis depends not only on presentation parameters but also on disease biological progression. The model's high specificity provides clinical value in correctly identifying low-risk patients and preventing unnecessary aggressive treatment approaches. Logistic regression models based on clinical and laboratory data at presentation provide valuable decision support tools for acute appendicitis diagnosis and complication risk stratification. The diagnostic model demonstrates higher accuracy than Alvarado Score and imaging-based assessment, potentially reducing dependence on imaging for appendicitis confirmation. The complication risk model provides modest but clinically meaningful ability for disease severity stratification in confirmed appendicitis patients. Integrated use of both models can be useful.

Keywords: Acute appendicitis, emergency surgery

Tablo 1. Özgüllük

Performans metriği	Değer
AUC	0,638
Duyarlılık	%32,9
Özgüllük	%89,2
Doğruluk	%81,0
Optimal cut-off olasılığı	0,21

[S-468]

HALP skoru ve CALLY indeksinin perfore apandisitlerde ameliyat süresi, uzamış yatış ve operatif zorluk üzerine etkisi

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Objective: Perforated appendicitis is associated with increased morbidity and a heterogeneous clinical course, making preoperative risk stratification critical for surgical planning and patient management. Laboratory-based inflammatory and nutritional scores have recently gained interest for outcome prediction. This study evaluated the impact of the HALP score (albumin × hemoglobin × lymphocyte/platelet) and the CALLY index (albumin × lymphocyte/CRP) on operative time, length of hospital stay, operative difficulty (conversion to open surgery), and their ability to predict prolonged hospitalization.

Material and Methods: This retrospective study included 232 patients who underwent surgery for perforated appendicitis between January 2021 and December 2025. Demographic data, surgical technique, conversion status, operative time, and hospital stay were recorded. HALP and CALLY scores were calculated from preoperative laboratory values. Continuous variables were expressed as mean ± standard deviation. Group comparisons were performed using the Mann-Whitney U test, and correlations were analyzed using Spearman's rank correlation. Prolonged hospitalization was defined as >5 days. The predictive performance of both scores was assessed using ROC analysis.

Results: Of the patients, 158 were male (68.1%) and 74 were female (31.9%). The mean age of the patients was 44.54±17.15 years, and the mean length of hospital stay was 4.44±2.97 days. The majority of cases underwent laparoscopic surgery, and the conversion rate to open surgery was determined to be 6.0% (n=14). In patients who underwent conversion, the duration of surgery and length of stay were significantly longer (p=0.00015 and p=0.0007, respectively). In these patients, the HALP score (mean 14.35 vs. 36.49) and CALLY index (mean 0.137 vs. 0.677) were significantly lower (p<0.001 for both). The HALP score and CALLY index showed a weak but statistically significant negative correlation with length of stay (ρ=-0.258 and ρ=-0.356; p<0.001) and surgery duration (ρ=-0.248 and ρ=-0.299; p<0.001). The AUC value of the HALP score for predicting prolonged hospitalization was 0.668, while the AUC value of the CALLY index was 0.708, indicating that the CALLY index performed better in predicting prolonged hospitalization.

Conclusion: The HALP score and CALLY index are significantly associated with operative time, prolonged hospitalization, and operative difficulty in patients with perforated appendicitis. Low HALP and low CALLY values are associated with more complex surgical procedures and prolonged hospital stays, and these scores can be used as practical and accessible biomarkers for preoperative risk classification.

Keywords: Perforated appendicitis, HALP, CALLY

[S-469]

Do serum lactate levels, metabolic acidosis, and resection length predict mortality in acute mesenteric ischemia?

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Objective: Acute mesenteric ischemia (AMI) is a life-threatening surgical emergency that develops as a result of sudden impairment of mesenteric arterial or venous circulation, leading to reduced or completely interrupted intestinal perfusion and potentially rapid progression to bowel necrosis. Reliable markers that can predict prognosis in the early stage of acute mesenteric ischemia are needed. This study aimed to evaluate the relationship between demographic characteristics, preoperative biochemical parameters (particularly serum lactate and pH), hematological indicators, and surgical findings with 30-day mortality in patients who underwent surgery for acute mesenteric ischemia, and to identify independent clinical risk factors that may predict mortality.

Material and Methods: Thirty-six patients who underwent surgery for acute mesenteric ischemia between January 2023 and December 2025 were retrospectively analyzed. Demographic data, comorbidities, preoperative pH, serum lactate levels, hematological parameters, resection length, surgical method (ostomy vs. anastomosis), and intensive care unit and hospital length of stay were recorded. The primary endpoint was 30-day mortality.

Results: Mortality occurred in 11 of the 36 patients (30.5%). In the mortality group, serum lactate levels were significantly higher (4.9±2.8 mmol/L vs. 2.3±1.4 mmol/L, p=0.004), pH values were significantly lower (7.27±0.12 vs. 7.40±0.07, p=0.001), and resection length was significantly greater (132±70 cm vs. 71±45 cm, p=0.01). Regarding the surgical technique, mortality was higher in patients who underwent ostomy compared with those who underwent anastomosis (42% vs. 15%), and this difference was statistically significant (p=0.048). Intensive care unit and hospital length of stay were longer in the mortality group (mean 10.6±6.8 days) compared to the survival group (3.9±3.1 days) (p=0.02).

Conclusion: Preoperative metabolic acidosis, elevated serum lactate levels, and extensive bowel resection due to ischemic intestinal segments during surgery are associated with mortality in acute mesenteric ischemia. These parameters may be useful in predicting mortality in patients with acute mesenteric ischemia.

Keywords: Acute mesenteric ischemia, bowel resection, ostomy

[S-470]

Evaluation of hematological parameters in complicated and uncomplicated acute cholecystitis: A retrospective study

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Objective: Acute cholecystitis is a frequently encountered surgical condition with a clinical course that may range from mild disease to severe forms accompanied by local or systemic complications. Identifying patients who are at risk of developing complicated acute cholecystitis at an early stage is essential for appropriate clinical management and surgical decision-making. Hematological parameters derived from routine complete blood count tests are inexpensive, rapidly available, and commonly used in daily practice. The present study aimed to compare demographic characteristics and hematological parameters between patients with complicated and uncomplicated acute cholecystitis and to investigate the potential predictive value of these parameters for complicated disease.

Material and Methods: This retrospective study was conducted on patients diagnosed with acute cholecystitis between December 2024 and December 2025. Patients were divided into two groups based on clinical, radiological, and intraoperative findings: uncomplicated acute cholecystitis (n=116) and complicated acute cholecystitis (n=46). Demographic data such as age and gender, as well as laboratory values measured at the time of admission, were recorded. The hematological parameters evaluated included hemoglobin, white blood cell count (WBC), neutrophil and lymphocyte counts, platelet count, neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), and platelet indices. Comparisons between groups were performed using appropriate statistical tests. Variables considered clinically significant were included in a multivariate logistic regression analysis to assess whether they were independent predictors of complicated acute cholecystitis.

Results: Patients with complicated acute cholecystitis were significantly older than those with uncomplicated disease (median age: 70 vs. 55 years, p<0.001). No significant difference was observed between the groups regarding sex distribution. In univariate analyses, neutrophil count, WBC, and NLR values were significantly higher in the complicated group. In contrast, hemoglobin levels, platelet counts, PLR, and platelet indices did not differ significantly between the groups. When these parameters were evaluated in the multivariable logistic regression model, none of the hematological variables remained independent predictors of complicated acute cholecystitis.

Conclusion: The findings of this study indicate that neutrophil count, WBC, and NLR are elevated in patients with complicated acute cholecystitis; however, these parameters do not independently predict complicated disease in multivariable analysis. This suggests that hematological parameters may reflect disease severity rather than serve as standalone predictors of complications. Therefore, assessment of acute cholecystitis should rely on a comprehensive evaluation that integrates hematological findings with clinical and radiological features. Further prospective studies with larger patient populations are warranted to better define the role of hematological parameters in risk stratification of acute cholecystitis.

Keywords: Acute cholecystitis, complicated cholecystitis, hematological parameters, complete blood count, neutrophil-to-lymphocyte ratio

Table 1. Results of multivariable logistic regression analysis for complicated acute cholecystitis

Variable	B	(95% CI)	p-value
Neutrophil count	−0.008	0.99 (0.82-1.20)	0.930
White blood cell count	0.087	1.09 (0.96-1.24)	0.196
Neutrophil-to-lymphocyte ratio	0.045	1.05 (0.96-1.14)	0.289

CI: Confidence interval.

Table 2. Comparison of demographic and hematological characteristics between complicated and uncomplicated acute cholecystitis patients

Variable	Uncomplicated (n=116)	Complicated (n=46)	p-value
Age, median (IQR)	55 (45-63)	70 (62-75)	<0.001
Sex, n (%) Male Female	 42 (36.2%) 74 (63.8%)	 18 (39.1%) 28 (60.9%)	0.680
Hemoglobin, median (range), g/dL	12.95 (8.20-17.80)	12.70 (8.30-18.00)	0.478
Lymphocyte count, median (range), ×10⁹/L	1.89 (0.43-14.93)	1.60 (0.41-24.85)	0.270
Platelet count, median (range), ×10⁹/L	244 (111-447)	225 (132-555)	0.328
Neutrophil count, median (range), ×10⁹/L	7.64 (1.17-23.29)	9.83 (1.18-22.54)	0.008
White blood cell count, median (range), ×10⁹/L	10.78 (2.54-25.34)	13.50 (1.49-30.78)	0.015
PDW, median (range), fL	13.75 (7.70-20.20)	15.70 (8.30-16.60)	0.484
RDW, median (range), %	13.70 (10.30-112.90)	13.80 (11.90-22.40)	0.755
MPV, median (range), fL	10.35 (8.30-20.20)	10.15 (8.40-14.20)	0.297

10⁹/L: 10⁹ cells per liter, CV%: Coefficient of variation, dL: Deciliter, fL: Femtoliter, g: Gram, L: Liter, MPV: Mean platelet volume, NLR: Neutrophil-to-lymphocyte ratio, PDW: Platelet distribution width, PLR: Platelet-to-lymphocyte ratio, RDW: Red cell distribution width, WBC: White blood cell.

[S-471]

Adult intussusception secondary to diffuse intestinal lipomatosis: A systematic review and clinical analysis

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Objective: Intestinal lipomatosis is a rare disorder characterized by multiple intramural lipomas that may remain asymptomatic but can lead to mechanical complications. Adult intussusception secondary to diffuse intestinal lipomatosis is uncommon, and data regarding recurrence patterns and optimal surgical strategy remain limited.

Material and Methods: A systematic search was performed in PubMed using the phrase "intestinal lipomatosis" (n=41) and "intestinal lipomatosis" AND intussusception (n=13), without time restriction. English-language publications describing adult patients with histologically confirmed diffuse or multiple intestinal lipomatosis complicated by intussusception were included. Reviews, solitary lipomas, pediatric cases, and studies without true intussusception were excluded.

Results: Among 13 full-text articles screened, 8 publications met inclusion criteria (Table 1). The reported patients ranged from 25 to 66 years of age, with no clear sex predominance. Most cases presented with obstructive symptoms and were managed with segmental resection. Ileocolic and jejunojejunal intussusception were the most frequently reported patterns. Computed tomography commonly demonstrated intramural fat-density lesions serving as lead points. Recurrence was rarely documented in the literature, and long-term follow-up data were limited. In addition to the cases reported in the literature, a patient managed at our institution was also evaluated. A 49-year-old female experienced recurrent intussusception secondary to diffuse intestinal lipomatosis over an 18-year period. In 2008, she underwent small bowel resection for intussusception associated with diffuse intestinal lipomatosis. Between 2008 and 2017, recurrent episodes of intestinal obstruction were observed and managed conservatively. In 2017, surgery included plication of the invaginated segment, resection of a dilated previous anastomotic site, and multiple ileotomies with selective submucosal lipoma excisions to preserve bowel length. In 2026, she developed jejunojejunal intussusception with mechanical obstruction, and approximately 20 cm of jejunum was resected with primary anastomosis (Figure 1). Histopathological examination confirmed diffuse intestinal lipomatosis containing more than fifteen mural and intramucosal lipomas (largest 5.5 cm), with no evidence of malignancy. The postoperative course was uneventful, and the patient remains asymptomatic on follow-up.

Summary of published adult cases of intussusception secondary to histologically confirmed diffuse intestinal lipomatosis, including patient demographics, anatomical location, type of intussusception, and management approach.

Conclusion: Adult intussusception secondary to diffuse intestinal lipomatosis is rare but may demonstrate recurrent and multifocal behavior over long-term follow-up. Although segmental resection remains the standard treatment in acute obstruction, bowel-preserving strategies may be considered in selected patients with diffuse disease to reduce cumulative bowel loss. Long-term surveillance appears essential due to recurrence potential.

Keywords: Intestinal lipomatosis, adult intussusception, bowel obstruction

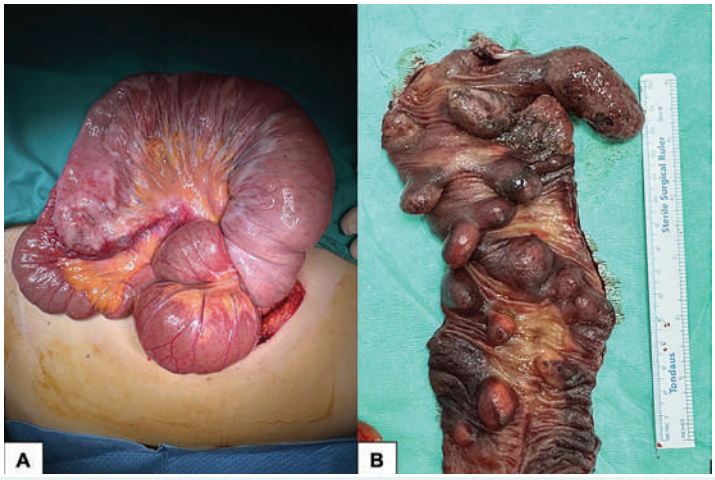

Figure 1. Small bowel intussusception secondary to diffuse intestinal lipomatosis. (A) Intraoperative view demonstrating segmental small bowel intussusception. (B) Resected jejunal segment showing multiple transmural and submucosal lipomatous nodules consistent with diffuse intestinal lipomatosis.

Table 1. Adult intussusception associated with diffuse intestinal lipomatosis

Author (year)	Age/sex	Location	Type of intussusception	Management
Tatsuguchi et al. (1999)	66/M	Ileocecal	Ileocolic	Endoscopic reduction + segmental resection
Shenoy et al. (2003)	33/M	Jejunum	Jejunojejunal	Segmental resection
Lee et al. (2010)	48/F	Jejunum	Jejunojejunal	Double-balloon endoscope-assisted reduction + surgery
Karthikeyan et al. (2012)	60 / M	Jejunum	Jejunojejunal	Segmental resection
Eyselbergs et al. (2014)	56 / F	Ileum	Ileocolic	Segmental resection
Gao et al. (2014)	52 / F	Ileum	Ileocolic	Segmental resection
Tabone et al. (2019)	25 / M	Jejunum	Jejunojejunal	Segmental resection
Yoshimoto et al. (2019)	47 / F	Jejunum + Ileum	Recurrent	Multiple local excisions + duodenal endoscopic submucosal dissection
Present case (2026)	49 / F	Jejunum + Ileum	Recurrent	Segmental resection, plication, multiple local excisions

[S-472]

Our outcomes of laparoscopic appendectomy: A retrospective analysis of 583 patients

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Objective: Acute appendicitis is one of the most common surgical emergencies, and laparoscopic appendectomy (LA) is currently considered the standard treatment modality due to its advantages over open appendectomy, including less postoperative pain, shorter hospital stay, and superior cosmetic outcomes. Nevertheless, negative appendectomy (NA) rates—defined as appendectomies performed in patients without histopathological evidence of appendicitis—remain a significant clinical concern. The aim of this study was to retrospectively analyze the demographic characteristics, clinical findings, laboratory and imaging results, and pathological outcomes of patients who underwent LA at our clinic between 2021 and 2026, and to evaluate our LA outcomes and NA rates.

Material and Methods: A total of 583 patients who underwent laparoscopic appendectomy at our clinic between January 2021 and February 2026 were included in this study. Demographic characteristics (age, sex), duration of symptoms, clinical findings (fever, pain migration, right lower quadrant tenderness, rebound tenderness/guarding, nausea/vomiting), laboratory parameters (WBC, neutrophil percentage, CRP), Alvarado scores, imaging findings (ultrasonography, computed tomography), and postoperative pathology results were retrospectively reviewed from the hospital database.

Results: 583 patients with a mean age of 36.5±15.6 years (range: 17-88). Of these, 54.2% (n=316) were male and 45.8% (n=267) were female. The mean duration of symptoms was 28.3±30.8 hours. The most common clinical findings were right lower quadrant tenderness (90.7%), rebound tenderness/guarding (58.5%), and nausea/vomiting (48.0%), respectively. The mean WBC count was 13.05±4.34 (×10³/μL), and the mean Alvarado score was 6.36±1.59. According to pathological evaluation, 79.6% of patients (n=464) were diagnosed with acute appendicitis, while 13.6% (n=79) had complicated appendicitis. The negative appendectomy rate was 2.4% (n=14). When patients who underwent negative appendectomy (Group 1) were compared with those diagnosed with appendicitis (Group 2), no statistically significant differences were observed in terms of age (30.1 vs. 36.6 years, p=0.124) or Alvarado score (5.57 vs. 6.38, p>0.05). However, the WBC count was significantly lower in Group 1 (10.78±3.15) compared to Group 2 (13.11±4.35) (p=0.047).

Conclusion: Laparoscopic appendectomy remains a safe and effective treatment for acute appendicitis. The negative appendectomy rate of 2.4% in our cohort is consistent with previously reported rates (2-10%), indicating high preoperative diagnostic accuracy. Lower WBC values in the negative appendectomy group support its role as a key biomarker, whereas age and Alvarado score alone were not reliable predictors. These findings highlight the importance of combining clinical judgment with laboratory and imaging modalities to improve diagnostic accuracy and reduce unnecessary surgery.

Keywords: Acute appendicitis, appendectomy

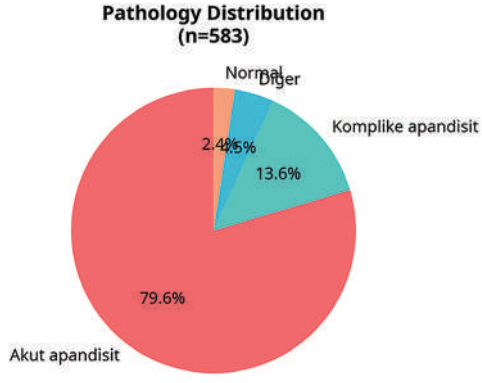

Figure 1. Outcomes of pathology.

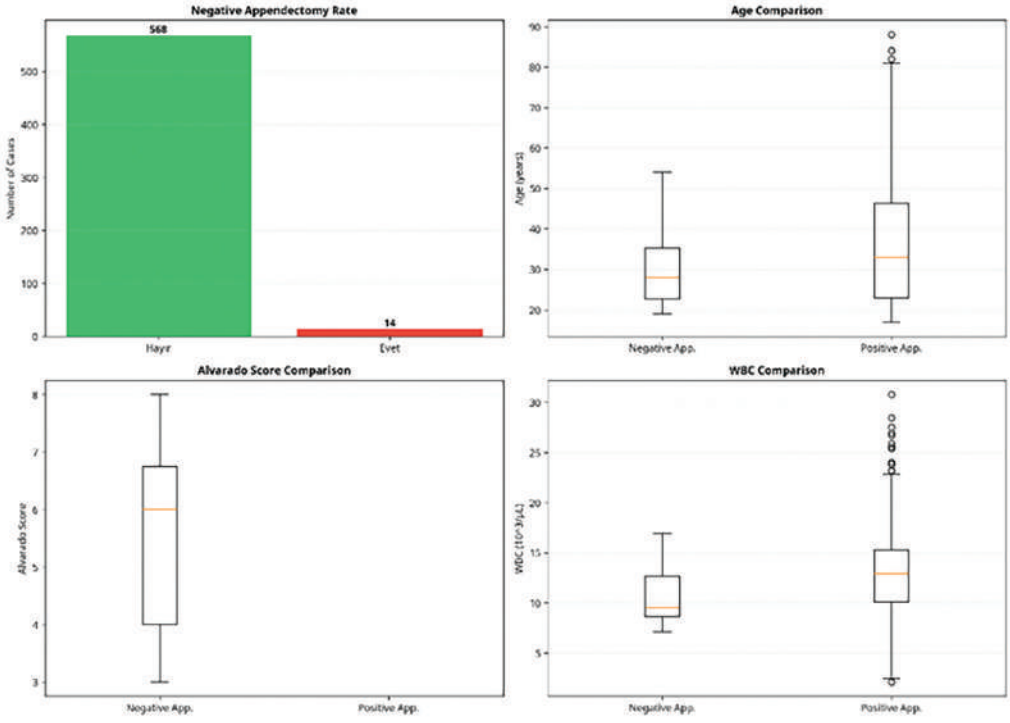

Figure 2. Negative appendectomy.

[S-473]

Assessment of clinical severity in acute diverticulitis: Hinchey stage and early laboratory findings

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Objective: Clinical decisions in acute diverticulitis are mostly based on the Hinchey classification; however, clinical burden indicators (length of hospital stay, intensive care need, and intervention requirement) cannot always be adequately explained by Hinchey stage alone. This study evaluated whether presentation CT findings and 48-hour laboratory parameters predict clinical severity in addition to Hinchey stage.

Material and Methods: Fifty-one patients admitted with acute diverticulitis within the last year were retrospectively reviewed and grouped as non-complicated or complicated. CT localization and abscess presence were recorded. Antibiotic treatment, culture results, percutaneous drainage, surgical intervention, intensive care requirement, length of hospital stay, and laboratory parameters at admission and 48 hours were analyzed.

Results: Twenty-seven patients (52.9%) were female and 24 (47.1%) were male. The median age was 55 years and the median body mass index was 30 kg/m². Hypertension was present in 14 patients (27.5%) and diabetes mellitus in 9 patients (17.6%). Age, gender, and BMI were not associated with clinical burden (p>0.05). Hinchey distribution was stage 1 in 66.6% (n=34), stage 2 in 5.9% (n=3), stage 3 in 3.9% (n=2), and stage 4 in 9.8% (n=5); complicated diverticulitis rate was 33.3% (n=17). The sigmoid colon was predominant (80.4%; n=41), and localization was not related to length of hospital stay, surgery, percutaneous drainage, or intensive care requirement (p>0.05). Antibiotic therapy was initiated in all patients: ceftriaxone + metronidazole in 96.1% and piperacillin/tazobactam in 3.9%. Culture results were available in three patients and all isolated pathogens were *Escherichia coli*; culture results were not associated with clinical burden (p>0.05). CT revealed abscesses in 14 patients (27.5%); hospital stay was longer in patients with abscesses. Abscess diameter showed a moderate positive correlation with hospital stay (p=0.009) and was a significant risk factor for prolonged hospitalization (≥7 days) (p=0.025) (Table 1). Percutaneous drainage was performed in 5 patients (9.8%), all in the complicated group (p=0.003). Surgical intervention was performed in 7 patients (13.7%) and occurred only in complicated cases (p<0.001). Intensive care was required in 2 patients (3.9%). Admission CRP correlated positively with length of hospital stay (rho=0.334; p=0.020), while lymphocyte count correlated negatively (rho=-0.375; p=0.006); as HCO_3 decreased, hospital stay increased (rho=-0.477; p=0.025). From admission to 48 hours, white blood cell, neutrophil, and platelet counts decreased significantly (p<0.001), CRP showed no significant change (p=0.71), and albumin decreased significantly (p=0.035) (Table 2).

Conclusion: Early laboratory profile and CT findings add meaningful predictive value beyond Hinchey staging for assessing clinical severity in acute diverticulitis. The lack of early CRP change despite decreases in other inflammatory parameters suggests that overemphasis on CRP alone may be misleading, supporting combined clinical, laboratory, and radiological assessment.

Keywords: Acute diverticulitis, Hinchey classification, computed tomography

Table 1. Length of hospital stay according to abscess diameter

Abscess diameter	n	Length of stay (days), mean ± SD	Median (IQR)
<3 cm	6	5.2±2.1	5 (4-6)
3-5 cm	4	7.1±2.8	7 (5-9)
≥5 cm	4	9.4±3.6	9 (7-12)

Spearman correlation: rho=0.364; p=0.009 Logistic regression for prolonged hospitalization (≥7 days): OR=1.31 (for each 1 cm increase), 95% CI 1.04-1.65; p=0.025.

Table 2. Comparison of application and 48-hour laboratory parameters

	Application	48th hour	p-value
WBC (×10⁹/L)	12.8±4.1	9.6±3.5	<0.001
NEU (×10⁹/L)	10.1±3.9	7.2±3.1	<0.001
PLT (×10⁹/L)	312±108	276±96	0.001
CRP (mg/L)	96.4±78.2	92.1±74.6	0.71
AST (U/L)	32.4±18.6	28.1±15.9	0.047
ALT (U/L)	41.2±29.7	34.6±24.8	<0.001
Albumin	3.4±0.5	3.1±0.4	0.035

[S-475]

Delay in consultation request, reconsultation burden, and diagnostic contribution of CT according to triage area in emergency general surgery consultations: Analysis of 10615 cases

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Objective: Timely surgical consultation requests in the emergency department are critical for patient safety. The triage area (red/yellow/green) may influence workflow; however, consultation request delays, reconsultation burden, and the diagnostic contribution of computed tomography (CT) have not been sufficiently quantified according to triage areas.

Material and Methods: In this single-center retrospective observational study, 10615 protocols and 15033 consultation records were analyzed. The first consultation was defined as the initial request within each protocol; subsequent requests within the same protocol were classified as reconsultations. Request time was calculated as the difference in minutes between arrival time and consultation request time; negative values and values exceeding 24 hours were excluded. The presence of CT was extracted from free-text fields; CT findings ("positive/acute") and consultation acceptance diagnoses were coded using a keyword-based approach. CT–diagnosis concordance was assessed by category matching. Continuous variables were summarized as median (IQR). Comparisons of request times were performed using the Kruskal–Wallis test, and proportions were compared using the chi-square test.

Results: For the first consultation, the median request time was 141.1 minutes in the red area, 239.0 minutes in the yellow area, and 188.4 minutes in the green area (p<0.001). The proportion of requests made within ≤60 minutes was 28.8% in red, 16.3% in yellow, and 22.9% in green. A total of 4418 reconsultation records were identified; 32.7% of protocols involved at least one reconsultation, with a higher rate in the red area (39.9%). The presence of CT was more frequently associated with reconsultation, particularly in the red area. The overall CT utilization rate was 74.0%, being highest in red (87.9%), followed by yellow (77.6%) and green (69.3%). The overall hospitalization rate was 15.2%, and the surgery rate was 52.1%; hospitalization rates were similar across triage groups (red 16.2%, yellow 16.7%, green 14.5%). In the CT-positive group, the surgery rate was 40.7%. A specific diagnostic category could be extracted from CT reports in 40.8% of cases; within this subgroup, CT category and consultation acceptance diagnosis matched in 51.8% of cases. Trauma protocols accounted for 7.6% of cases, with a median request time of 84 minutes, compared with 198 minutes in non-trauma cases (p<0.001).

Conclusion: The triage area is significantly associated with surgical consultation request delays and reconsultation burden, with the most pronounced delay observed in the yellow area. CT utilization is highest in the red area, and CT positivity is associated with a higher likelihood of surgical intervention. Early consultation triggers in the yellow area and standardization of CT–consultation timing should be considered key targets for quality improvement initiatives.

Keywords: Emergency department triage, surgical consultation, computed tomography (CT)

[S-476]

Determinants of clinical severity in rectus sheath hematoma: A single-center experience

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Objective: Rectus sheath hematoma (RSH) is a rare but clinically misleading cause of acute abdominal pain. Its incidence is increasing, particularly with the rise in anticoagulant use. In this study, we aimed to evaluate the relationship between clinical and laboratory parameters in patients diagnosed with RSH and the treatment approach and clinical course.

Material and Methods: Between 2014 and 2024, 37 patients diagnosed with RSH at our clinic were retrospectively reviewed. Demographic data, comorbidities, anticoagulant/antiplatelet use, INR levels, hemoglobin values at presentation and follow-up, hematoma size, location, treatment method, intensive care requirement, and transfusion need were recorded. Patients were divided into two groups based on treatment approach: conservative and invasive.

Results: A total of 37 patients were included in the study. Fourteen patients were male (37.8%) and 23 were female (62.2%). The mean age was 59.2±17.2 years. Most patients were managed conservatively, while invasive intervention was performed in 6 patients (16.2%). No statistically significant differences were found between patients requiring invasive intervention and those monitored conservatively in terms of age (p=0.680), hematoma diameter (p=0.606), and INR values (p=0.469). Twelve patients (32.4%) developed a need for intensive care. Patients requiring intensive care were significantly older [mean 68.7±16.4 vs. 54.6±15.6 years; p=0.011]. Furthermore, hematoma diameter was significantly larger in the group requiring intensive care [median: 117.5 mm vs. 50 mm; p=0.011]. No significant difference was observed between the groups in terms of INR values (p=0.159). No significant difference was found between patients requiring transfusion and those not requiring transfusion in terms of age, hematoma diameter, and INR values (p>0.05). Seventeen patients (45.9%) had a history of anticoagulant therapy. Although patients using anticoagulants were found to be significantly older, no significant difference was found between patients using anticoagulants and those not using anticoagulants in terms of hematoma diameter (median: 75 mm vs. 51 mm; p=0.307).

Conclusion: Rectus sheath hematoma is a benign clinical condition that can usually be managed with conservative treatment; however, large hematoma size and significant hemoglobin decline may indicate the need for invasive intervention. Early diagnosis and close hemodynamic monitoring are particularly important in elderly patients using anticoagulants. The combined assessment of clinical and radiological parameters can guide the determination of the treatment strategy.

Keywords: Rectus hematoma, pain, trauma, anticoagulant

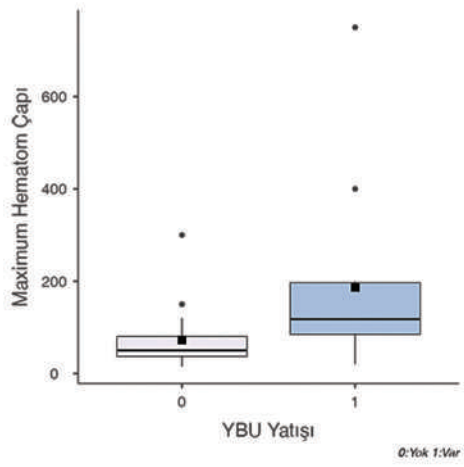

Figure 1. Relationship between ICU admission and hematoma diameter.

[S-477]

The impact of preoperative electrolyte imbalances on morbidity in intestinal obstruction surgery: A novel risk score model derived from a 764-patient cohort (TOES)

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Objective: The aim of this study was to investigate the impact of preoperative electrolyte imbalances (Na, K, Cl, Ca, Mg) on perioperative morbidity and mortality in patients undergoing surgery for acute intestinal obstruction, and to develop a novel risk score model—the Torun Obstruction Electrolyte Score (TOES)—using multivariable analysis.

Material and Methods: A total of 764 patients who underwent surgery for intestinal obstruction between 2013 and 2023 were retrospectively evaluated. Preoperative serum electrolyte levels, lactate concentrations, vital signs, and laboratory parameters were recorded. Intestinal viability, need for bowel resection, anastomotic leakage, and 30-day mortality were defined as primary outcomes. The associations between electrolyte abnormalities and clinical outcomes were analyzed using univariable and multivariable logistic regression models. A TOES risk score was developed based on significant parameters identified through receiver operating characteristic (ROC) analysis.

Results: Hyponatremia was present in 38% of patients, hypokalemia in 29%, hypochloremia in 33%, hypocalcemia in 24%, and hypomagnesemia in 9%. The bowel resection rate was significantly higher in patients with hyponatremia compared with those without (62% vs. 41%, $p<0.001$). Elevated lactate levels (≥2.5 mmol/L) were strongly associated with intestinal necrosis (OR=3.1, $p<0.001$). Multivariable analysis identified hyponatremia (OR=2.4), hypokalemia (OR=1.8), and lactate ≥2.5 mmol/L (OR=3.5) as independent risk factors. The TOES score derived from these three parameters demonstrated strong performance in predicting 30-day mortality (AUC=0.82). Mortality was 27% in patients with TOES ≥2 compared with 6% in those with TOES <2 ($p<0.001$).

Conclusion: Preoperative electrolyte imbalances and elevated lactate levels are strong predictors of morbidity and mortality in intestinal obstruction surgery. The TOES score developed in this study represents a practical and clinically applicable tool for risk stratification and surgical decision-making.

Keywords: Intestinal obstruction, electrolyte imbalance, hyponatremia, lactate, mortality

[S-478]

Clinical burden in fournier gangrene: An assessment beyond mortality

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Objective: Fournier gangrene is a life-threatening necrotizing infection, and disease severity is mostly assessed based on mortality. However, decreasing mortality rates due to early diagnosis and aggressive surgical treatment have raised concerns regarding the adequacy of mortality as a sole indicator of disease burden. This study aimed to identify clinical factors associated with morbidity and hospital resource utilization in Fournier gangrene, independent of mortality.

Material and Methods: Fifty-three patients diagnosed with Fournier gangrene and treated at our clinic between 2023 and 2025 were retrospectively analyzed. Age, gender, presence of diabetes mellitus, defect area according to computed tomography, microbiological findings, ostomy application and timing, ostomy closure time, sphincter involvement, fecal incontinence, infection recurrence, flap requirement, and length of hospital stay were recorded. Fournier-related mortality was evaluated separately.

Results: The study included 53 patients with a mean age of 58.6±12.9 years (median: 59). Sixteen patients (30.2%) were female and 37 (69.8%) male. Diabetes mellitus was present in 23 patients (43.4%). The median length of hospital stay was 18 days. Fournier-related mortality occurred in one patient (1.9%). Seven patients (13.2%) who died later due to other causes were excluded from Fournier-related mortality analysis. Ostomy was performed in 18 patients (34.0%). Patients who underwent ostomy had a significantly longer hospital stay than those who did not (median 27 vs. 15 days; $p=0.008$). The median time to ostomy was 3 days (range: 1-13 days). Two patients required permanent ostomy. In 8 patients with ostomy closure, the median closure time was 7 months (range: 3-18 months). Sphincter involvement was present in 17 patients (32.1%). Fecal incontinence occurred in 18 patients (34.0%), all of whom had undergone ostomy. Recurrent infection and flap requirement were each observed in five patients (9.4%). The median defect area was 1300 cm^2 (IQR: 476-3500 cm^2; range: 12-21,600 cm^2). *Escherichia coli* was the most frequently isolated microorganism–26 patients (49.1%). Gram-negative microorganisms were detected in 36 (67.9%) and Gram-positive microorganisms in 15 (28.3%) patients. No significant association was found between classical risk factors, microbiological findings, and clinical burden indicators.

Conclusion: Fournier gangrene causes substantial morbidity with functional impairment and prolonged hospitalization. Ostomy requirement is the main determinant of hospital resource utilization. Disease severity assessment should therefore focus on morbidity and clinical course rather than mortality alone.

Keywords: Perianal Fournier's gangrene, mortality, morbidity

[S-479]

Causes of pneumoperitoneum without intestinal perforation: Analysis of 28 cases

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Objective: The detection of free intraperitoneal air on radiological imaging is generally considered an indication for emergency surgery, most commonly suggesting perforation of a hollow viscus. However, in selected cases, surgical exploration reveals no evidence of gastrointestinal perforation (Figure 1). The aim of this study was to evaluate patients who underwent surgical exploration due to radiologically detected free intraperitoneal air but in whom no perforation was identified intraoperatively, and to investigate potential etiologies and clinical outcomes.

Material and Methods: Between October 2023-December 2025, 228 patients presenting with intra-abdominal free air were evaluated at the Department of General Surgery, University of Health Sciences Türkiye, Ankara Etlik City Hospital. Patients with confirmed perforated hollow viscus were excluded. 28 patients who underwent surgical exploration without detection of perforation were retrospectively analyzed. Demographic data, laboratory parameters, possible etiological factors, surgical approach, and postoperative complications were recorded. Major complications were defined as Clavien-Dindo ≥3. Statistical analyses were performed using SPSS 22, and p-value <0.05 was considered statistically significant.

Results: Among the 28 patients, the female-to-male ratio was equal, and the mean age was 61.4 years (18-94). Laparoscopic exploration was performed in 8 cases, while 20 patients underwent primary open exploration. The median length of hospital stay was 8.2 days (2-40) (Table 1). Twelve patients (42.9%) had no identifiable etiology, whereas 16 patients (57.1%) had a definable cause. Four patients had pneumothorax-hemothorax secondary to trauma. Eight patients presented with infectious findings such as mesenteric lymphadenopathy, diarrhea, nausea-vomiting, and emphysematous cystitis. Four patients had undergone gastroscopy-colonoscopy within the previous 24-48 hours (Table 2). When patients were grouped according to identifiable versus non-identifiable etiology, no statistically significant difference was found between the groups in terms of age (p>0.005). No significant differences were observed between the groups regarding CRP levels (Mann-Whitney U=78.5, p=0.423) or white blood cell counts (≥10 vs. <10) (Mann-Whitney U test, p=0.314). Similarly, no statistically significant difference was found in major complication rates (Clavien-Dindo ≥3) between the groups (Fisher's exact test, p=0.223). No statistically significant associations were identified when patients with definable etiologies were analyzed within subgroups.

Conclusion: The presence of intra-abdominal free air remains an emergency surgical indication with hollow viscus perforation as the primary suspected diagnosis. However, as demonstrated in our study and supported by the literature, rare cases of pneumoperitoneum may occur in the absence of visceral perforation. In particular, free intraperitoneal air without perforation may be observed in patients with a history of trauma associated with pneumothorax-hemothorax, in those who have undergone gastroscopy-colonoscopy within the preceding 24-48 hours, and in patients with recent inflammatory bowel attacks or abdominal infections such as emphysematous cystitis. Although radiologically detected free air strongly supports the diagnosis of perforation, clinicians should keep in mind that the underlying etiology may remain unidentified in a subset of patients.

Keywords: Pneumoperitoneum, perforation, negative exploration

Table 1. Baseline demographic and clinical characteristics

Variable	Value
Total number of patients	28
Female/male	14/14
Mean age (years)	61.4±18.2
Surgical approach (laparotomy/laparoscopy)	20/8
Mean length of hospital stay (days)	8.2

Table 2. Etiological distribution of patients according to possible causes and findings

Possible cause	n	%
No identifiable finding	12	43%
Post-trauma	4	14.5%
Gastroscopy/colonoscopy within 24-48 hours	4	14.5%
Infectious findings	8	28%
Total	28	100%

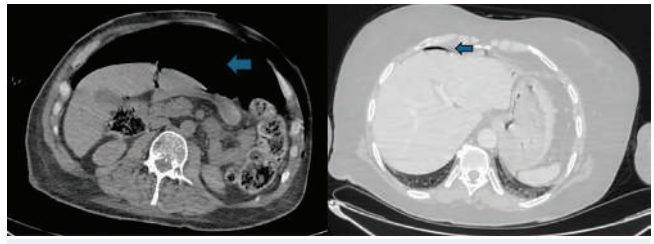

Figure 1. CT image demonstrating intra-abdominal free air.

[S-481]

Do we really need clips? Handmade loop ligation versus Hem-o-lok clip for appendiceal stump closure: A propensity score-matched study

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Objective: Laparoscopic appendectomy is currently regarded as the standard surgical treatment for acute appendicitis. Secure closure of the appendiceal stump is one of the most critical steps of the procedure. Common techniques include handmade loop suture ligation and Hem-o-lok clip application. While Hem-o-lok clips provide technical simplicity and ease of use, they are associated with higher procedural costs. In contrast, handmade loop suture ligation requires greater surgical expertise but is a low-cost technique believed to ensure reliable stump security. This study aimed to compare handmade loop suture ligation and Hem-o-lok clip closure in laparoscopic appendectomy with respect to perioperative outcomes and postoperative complications while minimizing selection bias using propensity score matching (PSM).

Material and Methods: In this retrospective study, patients undergoing laparoscopic appendectomy were analyzed. Patients were divided into two groups based on the stump closure technique: handmade loop suture ligation or Hem-o-lok clip application. Demographic characteristics, clinical data, radiological findings, perioperative outcomes, and postoperative complications were recorded. To reduce baseline differences, propensity scores were calculated using a logistic regression model including age, sex, ASA score, previous abdominal surgery, preoperative white blood cell count, histopathologic type, appendix diameter, periappendiceal fluid, and cecal edema. One-to-one nearest-neighbor matching without replacement was performed using a caliper width of 0.2 standard deviations of the logit of the propensity score.

Results: A total of 731 patients were included (handmade loop suture n=689, Hem-o-lok clip n=42). After PSM, 41 well-matched pairs (n=82) were obtained. Following matching, no significant differences were observed between groups in baseline characteristics, including age, sex, ASA classification, and histopathologic severity. Perioperative outcomes—operative time, length of hospital stay, and time to first flatus—were comparable. Rates of drain placement and conversion to open surgery were similar. Postoperative complications, including wound infection, intra-abdominal abscess, ileus, postoperative bleeding, total complications, and major complications (Clavien-Dindo grade ≥III), showed no significant differences. Thirty-day readmission rates were also comparable.

Conclusion: Handmade loop suture ligation for appendiceal stump closure during laparoscopic appendectomy was at least as safe as Hem-o-lok clip application regarding perioperative outcomes and postoperative complications. Additionally, the handmade loop technique offers a clear economic advantage by avoiding the cost of disposable devices. These findings suggest that, when sufficient surgical expertise is available, handmade loop suture ligation is a safe, effective, and cost-efficient alternative to Hem-o-lok clips.

Keywords: Laparoscopic appendectomy, appendiceal stump closure, propensity score matching

[S-482]

Prediction of the need for bowel resection in patients with incarcerated hernia: A retrospective analysis of preoperative clinical and laboratory parameters

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Objective: Incarcerated hernias are serious clinical conditions requiring emergency surgery and are associated with a high risk of bowel ischemia and necrosis. The need for bowel resection increases morbidity and prolongs hospital stay. Therefore, predicting bowel resection in the preoperative period is crucial for surgical decision-making and patient management. This study aimed to evaluate whether the need for bowel resection in patients with incarcerated hernia can be predicted using preoperative clinical and laboratory parameters.

Material and Methods: This retrospective study included 106 patients who underwent surgery for incarcerated hernia at University of Health Sciences Türkiye, Gülhane Training and Research Hospital between January 2022 and December 2025. Demographic characteristics, hernia location, time to hospital admission, presence of clinical and radiological ileus, and preoperative laboratory parameters (urea, creatinine, albumin, lactate dehydrogenase, C-reactive protein, lactate, and complete blood count) were recorded. Patients were divided into two groups according to whether bowel resection was performed. Categorical variables were analyzed using the chi-square test, while continuous variables were analyzed using Student's t-test or the Mann-Whitney U test, as appropriate. Receiver operating characteristic (ROC) analysis was performed to assess the diagnostic performance of significant parameters. A p-value <0.05 was considered statistically significant.

Results: The mean age of the patients was 63.1±14.5 years; 48.1% were female. The median body mass index was 27.5 kg/m², and 59.4% had comorbidities. No in-hospital mortality was observed. Median hospital stay was 6 days, and median time to admission was 20 hours. Clinical and radiological ileus were present in 68.9% and 70.8% of patients, respectively. The inguinal region was the most common hernia location (50.9%). Bowel resection was required in 44 patients (41.5%) (Table 1). Patients undergoing bowel resection had significantly higher rates of clinical and radiological ileus and longer time to admission (p<0.05). Preoperative urea, LDH, C-reactive protein, lactate, and platelet levels were higher, whereas albumin levels were lower in the resection group (all p<0.05). No differences were observed in age, body mass index, creatinine, or leukocyte count (Table 2). ROC analysis showed that LDH predicted bowel resection with an AUC of 0.646 (cut-off 222.5 U/L; p=0.011), while lactate demonstrated better accuracy (AUC 0.760; cut-off 1.85 mmol/L; p=0.001), with 70.5% sensitivity and 64.5% specificity (Table 3, Figure 1).

Conclusion: In patients with incarcerated hernia, clinical and radiological ileus and delayed hospital admission are significantly associated with the need for bowel resection. Elevated preoperative lactate, CRP, LDH, platelet, and urea levels, together with low albumin, may help predict bowel resection. Among these markers, lactate appears to be a practical and reliable biomarker for preoperative clinical decision-making.

Keywords: Incarcerated hernia, bowel resection, lactate

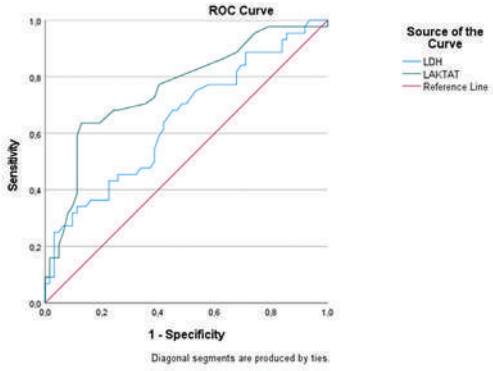

Figure 1. Receiver operating characteristic curves of LDH and lactate levels for predicting the need for bowel resection in patients with incarcerated hernia.

Table 1. Demographic, clinical, and laboratory characteristics of patients operated on for incarcerated hernia

Parameters	Values
Age (years)	63.09±14.46
Sex	
Female	51 (48.1%)
Male	55 (51.9%)
Body mass index (kg/m²)	27.5 (20.5-49.6)
Presence of comorbidity	
Absent	43 (40.6%)
Present	63 (59.4%)
In-hospital mortality	
Absent	106 (100%)
Length of hospital stay (days)	6 (1-22)
Time to admission (hours)	20 (1-120)
Presence of clinical ileus	
Absent	33 (31.1%)
Present	73 (68.9%)
Presence of radiological ileus	
Absent	31 (29.2%)
Present	75 (70.8%)
Hernia location	
Inguinal	54 (50.9%)
Umbilical	27 (25.5%)
Incisional	15 (14.2%)
Femoral	10 (9.4%)
Bowel resection	
Absent	62 (58.5%)
Present	44 (41.5%)
Urea (mg/dL)	41 (11-184)
Creatinine (mg/dL)	0.94 (0.56-7.85)
Albumin (g/dL)	3.7 (2.1-5.7)

Table 1. Continued

Parameters	Values
LDH (U/L)	221 (140-937)
C-reactive protein (mg/L)	17 (1-385)
Lactate (mmol/L)	1.85 (0.7-8.9)
White blood cell count (×10⁹/L)	10.25 (2.9-28.43)
Hemoglobin (g/dL)	14.19±2.08
Hematocrit (%)	42.67±6.06
Platelet count (×10⁹/L)	256.72±81.51
Neutrophil count (×10⁹/L)	7 (0.5-24.82)
Lymphocyte count (×10⁹/L)	1.59 (0.28-5)
Monocyte count (×10⁹/L)	0.6 (0.2-1.8)
Basophil count (×10⁹/L)	0.01 (0-0.5)
RDW-SD (fL)	44.4 (36.8-76.1)

Table 2. Comparison of clinical and laboratory parameters between patients with and without bowel resection

Parameters	Bowel resection (+)	Bowel resection (–)	p-value
Sex			
Female	25 (49.0%)	26 (51.0%)	*0.131
Male	19 (34.5%)	36 (65.5%)	
Comorbidity			
Absent	17 (39.5%)	26 (60.5%)	*0.733
Present	27 (42.9%)	36 (57.1%)	
Clinical ileus			
Absent	8 (24.2%)	25 (75.8%)	*0.015
Present	36 (49.3%)	37 (50.7%)	
Radiological ileus			
Absent	6 (19.4%)	25 (80.6%)	*0.003
Present	38 (50.7%)	37 (49.3%)	
Age (years)	63.98±12.53	62.47±15.76	**0.599
Body mass index (kg/m²)	26.55 (20.5-49.6)	27.85 (20.8-46.9)	***0.194
Time to admission (hours)	25 (2-120)	19.5 (1-60)	***0.015
Urea (mg/dL)	44 (21-184)	38 (11-137)	***0.015
Creatinine (mg/dL)	0.91 (0.56-7.82)	0.95 (0.60-7.85)	***0.758
Albumin (g/dL)	3.35 (2.1-5.7)	3.80 (2.6-5.0)	***0.011
LDH (U/L)	228.5 (153-937)	212 (140-514)	***0.011
C-reactive protein (mg/L)	36.5 (1-385)	11.5 (1-239)	***0.048
Lactate (mmol/L)	2.55 (0.7-8.9)	1.60 (0.9-5.9)	***0.001
White blood cell count (×10⁹/L)	11.10 (2.9-28.43)	10.05 (4.0-21.62)	***0.530
Hemoglobin (g/dL)	14.23±2.59	14.16±1.66	**0.879
Hematocrit (%)	42.93±7.67	42.49±4.65	**0.735
Platelet count (×10⁹/L)	277.09±94.84	242.26±67.71	**0.029
Neutrophil count (×10⁹/L)	8.1 (1.8-24.82)	6.9 (0.5-17.63)	***0.459

*: Chi-square test, **: t-test, ***: Mann-Whitney U test.

Table 3. ROC analysis results of LDH and lactate levels for predicting the need for bowel resection in patients with incarcerated hernia

Risk factor	AUC (95% CI)	Cut-off value	p-value	Sensitivity (%)	Specificity (%)
LDH (U/L)	0.646 (0.539-0.753)	222.5	0.011	59.1	59.7
Lactate (mmol/L)	0.760 (0.665-0.855)	1.85	0.001	70.5	64.5

[S-483]

Predictors of complicated appendicitis in adults: The role of the systemic immune-inflammation index

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Objective: Acute appendicitis is one of the most common surgical emergencies in adults. While many patients present with uncomplicated inflammation, others develop perforation, abscess or generalized peritonitis. This study aimed to evaluate clinical and laboratory predictors of complicated appendicitis in adult patients undergoing emergency appendectomy and to investigate the predictive value of the systemic immune–inflammation index (SII).

Material and Methods: This retrospective study included adult patients (≥18 years) who underwent emergency appendectomy for acute appendicitis between 28 August 2024 and 27 May 2025. Patients were classified as having uncomplicated or complicated appendicitis based on intraoperative and histopathological findings. Demographic data, symptom duration, Alvarado score, white blood cell count (WBC), C-reactive protein (CRP), neutrophil-to-lymphocyte ratio (NLR), and systemic immune–inflammation index (SII) were recorded. ROC curve analysis and multivariable logistic regression analysis were performed.

Results: A total of 99 patients were included; 55 had uncomplicated and 44 had complicated appendicitis. Patients with complicated appendicitis were significantly older (p=0.001). Symptom duration ≥48 hours was more common in the complicated group (p=0.012). CRP, NLR, and SII values were significantly higher in complicated cases. ROC analysis showed that SII had a moderate discriminative ability with an AUC of 0.692. In multivariable analysis, only age remained an independent predictor.

Conclusion: Complicated appendicitis is associated with advanced age and increased inflammatory markers. SII may assist early risk stratification, while advanced age remains the strongest independent predictor.

Keywords: Acute appendicitis, complicated appendicitis, systemic immune-inflammation index

Table 1. Clinical and laboratory characteristics according to complication status

Variable	Non-complicated (n=55)	Complicated (n=44)	p-value
Age (years)	26 (22-40)	41 (26-58.8)	0.001
Sex (M/F)	32/23	22 / 22	0.913
Symptom ≥48 h	14 (25.5%)	22 (50.0%)	0.012
Alvarado score	5 (3-6)	5 (4-6)	0.376
WBC	11.88	12.90	0.183
CRP	15.41	76.96	<0.001
NLR	4.59	7.66	0.002
SII	1098.8	1798.4	0.001

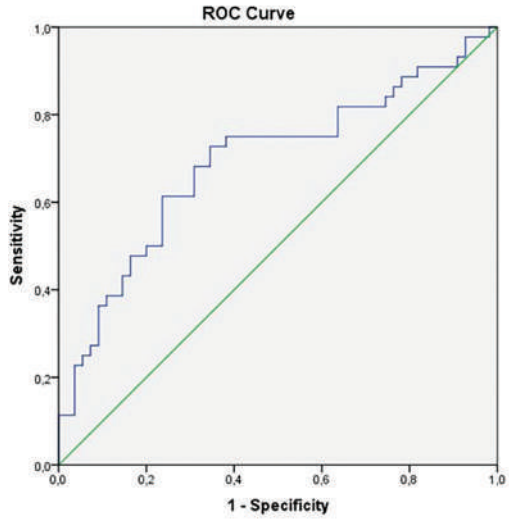

Figure 1. ROC curve of the systemic immune–inflammation index (SII) for predicting complicated appendicitis (AUC=0.692; 95% CI: 0.584-0.800; p=0.001).

[S-484]

The effect of enterostomy on clinical outcomes in Fournier's gangrene: A single center retrospective study

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Objective: Fournier's gangrene is a rapidly progressive necrotizing soft tissue infection involving the perineum and genital region and is associated with high morbidity and mortality. Early surgical debridement is the cornerstone of treatment; however, the role of enterostomy remains controversial and is generally reserved for selected cases. This study aimed to evaluate the impact of enterostomy on clinical outcomes and mortality in patients undergoing surgical treatment for Fournier's gangrene.

Material and Methods: This retrospective study included 78 patients who underwent surgical treatment for Fournier's gangrene at a tertiary referral center in 2025. Patients were divided into two groups based on whether enterostomy was performed during surgical management: Group 1 (no enterostomy, n=59) and Group 2 (enterostomy, n=19). Demographic characteristics, comorbidities, laboratory parameters, Fournier's gangrene severity index (FGSI) scores, perioperative management, and clinical outcomes were analyzed. Primary outcomes were mortality and intensive care unit (ICU) length of stay, while secondary outcomes included hospital length of stay and wound management methods.

Results: The mean age was 59.43±15.22 years, with no significant difference between the groups (p=0.807). The proportion of male patients was significantly higher in Group 2 (84.2% vs. 52.5%, p=0.016). Hypertension and chronic obstructive pulmonary disease were more common in the enterostomy group (p=0.016 and p=0.043, respectively). Preoperative WBC, CRP, and hemoglobin levels were similar between groups. However, lymphocyte count and albumin levels were significantly lower (p=0.005 and p=0.017), and procalcitonin levels were significantly higher in Group 2 (p=0.033). FGSI scores were comparable between groups. ICU length of stay was significantly longer in patients who underwent enterostomy (8.15±10.88 vs. 4.86±13.25 days, p=0.004). Hospital length of stay was longer in Group 2, but the difference was not statistically significant (p=0.051). Mortality was higher in the enterostomy group (31.6% vs. 20.3%), although this difference was not statistically significant (p=0.354).

Conclusion: Patients undergoing enterostomy had significantly worse inflammatory and nutritional parameters at presentation, suggesting more severe disease. Although enterostomy was associated with longer ICU stays, it did not significantly affect mortality. These findings indicate that enterostomy should be selectively performed rather than routinely applied in Fournier's gangrene. Further prospective studies with larger cohorts are needed to define optimal patient selection criteria.

Keywords: Enterostomy, Fournier's gangrene

Table 1. Tissue culture results

Crosstab

			Enterostomi		
			yok	var	Total
Kültür	,00	Count	7	1	8
		% within Enterostomi	11,9%	5,3%	10,3%
	E.coli	Count	25	6	31
		% within Enterostomi	42,4%	31,6%	39,7%
	Proteus	Count	2	2	4
		% within Enterostomi	3,4%	10,5%	5,1%
	enterobakter	Count	0	1	1
		% within Enterostomi	0,0%	5,3%	1,3%
	Enterokok	Count	5	3	8
		% within Enterostomi	8,5%	15,8%	10,3%
	Candida	Count	5	1	6
		% within Enterostomi	8,5%	5,3%	7,7%
	Streptokok	Count	6	1	7
		% within Enterostomi	10,2%	5,3%	9,0%
	Corynebacterium	Count	2	0	2

Table 2. Demographic information and preoperative assessment

	Total cohort (n=78)	Group 1 no enterostomy (n=59)	Group 2 enterostomy (n=19)	p-value
Age (years)	59.43±15.22	59.61±14.99	58.89±16.34	0.807
Sex				
Female	31 (39.7%)	28 (47.5%)	3 (15.8%)	0.016
Male	47 (60.3%)	31 (52.5%)	16 (84.2%)	
ASA score				
1	3 (3.8%)	1 (1.7%)	2 (10.5%)	0.283
2	56 (71.8%)	43 (72.9%)	13 (68.4%)	
3	18 (23.1%)	14 (23.7%)	4 (21.1%)	
4	1 (1.3%)	1 (1.7%)	-	
BMI	26.21±3.90	26.42±3.84	25.57±4.1	0.403
Hypertension				
No	41 (52.6%)	36 (61%)	5 (26.3%)	0.016
Yes	37 (47.4%)	23 (39%)	14 (73.7%)	
COPD				
No	74 (94.9%)	58 (98.3%)	16 (84.2%)	0.043
Yes	4 (5.1%)	1 (1.7%)	3 (15.8%)	
DM				
No	33 (42.3%)	27 (45.8%)	6 (31.6%)	0.302
Yes	45 (57.7%)	32 (54.2%)	13 (6.4%)	
WBC	17.89±9.08	17.80±9.54	18.16±7.71	0.322
CRP	192.43±86.39	183.31±79.85	220.78±101.30	0.108
Lymphocyte	1.35±0.79	1.48±0.8	0.97±1.65	0.005
Albumin	33.15±6.61	34.20±6.42	29.89±6.25	0.017
Procalcitonin	5.25±20.4	3.39±11.77	11.01±35.93	0.033
Hemoglobin	11.1±2.41	11.18±2.41	11.06±2.46	0.967
FGSI	6 (2-10%)	6 (2-10%)	6 (3-9%)	
Sepsis				
No	60 (76.9%)	48 (81.4%)	12 (63.2%)	0.123
Yes	18 (23.1%)	11 (18.6%)	7 (36.8%)	
Septic shock				
No	73 (93.6%)	55 (93.2%)	18 (94.7%)	0.814
Yes	5 (6.4%)	4 (6.8%)	1 (5.3%)	

Table 3. Treatment methods and postoperative follow-up

Number of debridements	**5 (1-17)**	**5 (1-17)**	**5 (1-17)**	**0.435**
VAC therapy				
No	72 (92.3%)	56 (94.9%)	16 (84.2%)	0.151
Yes	6 (7.7%)	3 (5.1%)	3 (15.8%)	
Hospital length of stay	24.41±16.68	22.57±16.06	30.10±17.69	0.051
ICU length of stay	5.66±12.72	4.86±13.25	8.15±10.88	0.004
Treatment method				
Open wound	30 (50%)	26 (55.3%)	4 (30.8%)	0.133
Primary closure	21 (35%)	16 (34%)	5 (38.5%)	
Skin graft	9 (15%)	5 (10.6%)	4 (30.8%)	
Mortality				
No	60 (76.9%)	47 (79.7%)	13 (68.4%)	0.354
Yes	18 (23.1%)	12 (20.3%)	6 (31.6%)	

[S-485]

Diagnostic value of platelet mass index (PMI) in predicting the necessity of bowel resection in incarcerated abdominal hernias

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Objective: Surgical planning and the requirement for bowel resection in incarcerated abdominal hernias (IAH) are pivotal determinants of postoperative morbidity and patient prognosis. In this context, the preoperative utilization of practical biomarkers capable of reflecting tissue ischemia and systemic inflammatory response has gained significant importance in clinical management. This study aims to evaluate the diagnostic accuracy and clinical potential of the platelet mass index (PMI)—a parameter reflecting platelet kinetics—in predicting intestinal necrosis among IAH cases within a rigorous scientific framework.

Material and Methods: A total of 340 patients who underwent emergency surgery for IAH between January 2022 and December 2025 were retrospectively evaluated. After applying inclusion and exclusion criteria, 209 patients with complete laboratory data were included in the final analysis. Patients were categorized into two groups based on intraoperative findings: the "Reduction" group (n=180) and the "Resection" group (n=29). PMI was calculated from preoperative complete blood count parameters using the formula (Platelet count × MPV/1000). Logistic regression analysis was employed to identify independent risk factors, and receiver operating characteristic (ROC) analysis was performed to assess the diagnostic performance of PMI.

Results: Bowel resection was required in 13.9% (n=29) of the 209 analyzed patients. While no statistical differences were observed regarding age or sex distribution, the prevalence of hypertension was significantly higher in the resection group (55.2% vs. 32.2%; p=0.016). Univariate analysis revealed that PMI (median 3.31 vs. 2.51; p<0.001), symptom duration (p<0.001), C-reactive protein (CRP) (p<0.001), and lactate levels (p=0.011) were significantly elevated in the resection group. ROC analysis for PMI yielded an area under the curve (AUC) of 0.719 (95% CI: 0.622-0.816; p<0.001), with an optimal cut-off value of >3.26. At this threshold, PMI demonstrated a specificity of 83.9% and a negative predictive value (NPV) of 92.1%. In multivariate analysis, increased symptom duration (OR: 1.011; p=0.020) and elevated CRP (OR: 1.007; p=0.046) were identified as independent risk factors, while PMI showed a strong trend toward being an independent predictor (OR: 1.475; p=0.090).

Conclusion: Platelet Mass Index serves as a clinically evaluable and accessible parameter for predicting bowel necrosis in incarcerated abdominal hernias. Due to its high negative predictive value, PMI can offer an objective contribution to clinical decision-making, aiding in the formulation of surgical strategies and the identification of low-risk patients. When evaluated alongside standard laboratory tests and symptom duration, PMI may be utilized as a guiding adjunctive marker in emergency surgical management.

Keywords: Incarcerated hernia, bowel resection, platelet mass index

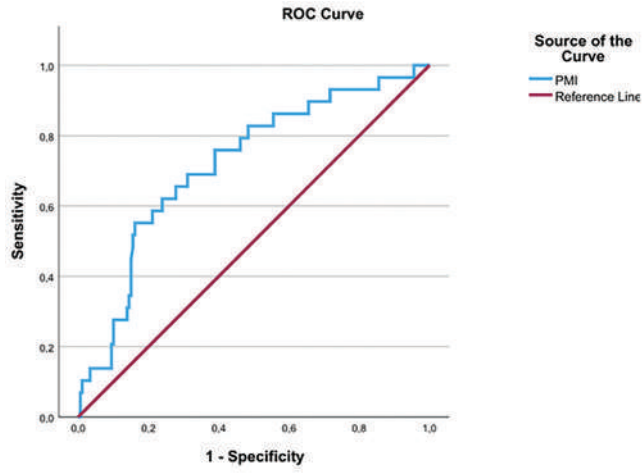

Figure 1. ROC curve.

[S-486]

Emergency splenectomy: A comparative analysis of traumatic and non-traumatic etiologies

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Objective: The spleen is an intraperitoneal organ that plays a pivotal role in immune regulation, particularly in protection against encapsulated bacteria. Splenectomy is performed for various indications, including traumatic injuries, hematologic disorders, infections, and benign or malignant pathologies. Blunt and penetrating abdominal trauma represent the most common causes of emergency splenectomy, whereas non-traumatic indications constitute a more heterogeneous patient population. Despite advances in non-operative management and spleen-preserving techniques, emergency splenectomy remains a critical surgical intervention in cases of hemodynamic instability, associated organ injury, or underlying pathological conditions. This study aimed to compare the demographic characteristics, clinical findings, perioperative course, and early outcomes of patients undergoing emergency splenectomy due to traumatic and non-traumatic etiologies at our center.

Material and Methods: Medical records of 140 patients who underwent emergency splenectomy between January 2019 and December 2025 were retrospectively reviewed. Patients were categorized into trauma and non-trauma groups. Since data were not normally distributed, continuous variables were analyzed using the Mann-Whitney U test, while categorical variables were compared using the chi-square test. A p-value <0.05 was considered statistically significant.

Results: Of the 140 patients, 117 (83.6%) underwent emergency splenectomy due to trauma, whereas 23 (16.4%) underwent surgery for non-traumatic causes. In the trauma group, 91 patients (77.8%) were male and 26 (22.2%) were female. In the non-trauma group, 13 patients (56.5%) were male and 10 (43.5%) were female. The mean age was 41 years in the trauma group and 60 years in the non-trauma group. The mean BMI was 24.53 kg/m² in the trauma group and 23.32 kg/m² in the non-trauma group. The average length of hospital stay was 10 days in the trauma group and 9 days in the non-trauma group. Comorbidity rates were significantly higher in the non-trauma group (p<0.001), whereas hemodynamic instability was significantly more common in the trauma group (p=0.004). Among trauma patients, 102 (87.2%) had blunt trauma and 15 (12.8%) had penetrating trauma. Preoperative computed tomography findings revealed splenic laceration grades of 3 in 26 patients (22.2%), grade 4 in 64 patients (54.7%), and grade 5 in 27 patients (23.1%). In the non-trauma group, the most common indication was splenic abscess (43.5%), followed by spontaneous splenic rupture (26.1%), splenic infarction (17.4%), iatrogenic splenic injury during pleurocan insertion (8.7%), and splenic artery aneurysm rupture (4.3%) (p<0.001).

Conclusion: Traumatic and non-traumatic etiologies in patients undergoing emergency splenectomy demonstrate significant differences in clinical presentation and perioperative characteristics. Separate evaluation of these two distinct patient populations may contribute to improved perioperative risk stratification and optimization of management strategies.

Keywords: Emergency surgery, trauma, splenectomy

Table 1. Comparison of demographic and laboratory parameters between trauma and non-trauma emergency splenectomy patients

Variable	Non-trauma (n=23), mean ± SD	Trauma (n=117), mean ± SD	p-value*
Age (years)	60.00±17.12	40.87±16.65	<0.001
BMI (kg/m²)	23.32±4.92	24.53±3.20	0.264
Hemoglobin	9.97±2.94	12.96±2.41	<0.001
Hematocrit	31.08±9.25	39.36±6.79	<0.001
WBC	15.09±8.40	15.74±6.34	0.556
Neutrophil	11.60±7.99	13.14±9.33	0.343
Lymphocyte	1.74±1.17	2.61±1.63	0.011
Platelet	316.83±171.89	259.28±80.76	0.088
Lactate	2.90±2.13	3.30±2.50	0.092
INR	1.47±0.46	1.30±0.82	<0.001
Albumin	3.12±0.74	4.16±2.67	<0.001
Luc	0.20±0.15	0.15±0.91	0.116
CRP	113.12±87.04	21.18±26.48	0.001
Length of hospital stay (days)	9.39±10.39	10.32±12.93	0.784

*: Mann-Whitney U test.

Table 2. Comparison of clinical and perioperative variables according to trauma status in emergency splenectomy				
Variable		**Non-trauma (n=23)***	**Trauma (n=117)***	**p-value****
Sex	Male	13 (56.5%)	91 (77.8%)	0.033
	Female	10 (43.5%)	26 (22.2%)	
Comorbidity	Yes	18 (78.3%)	21 (18.1%)	<0.001
	No	5 (21.7%)	95 (81.9%)	
Associated organ injury	Yes	3 (13.0%)	37 (31.9%)	0.068
	No	20 (87.0%)	79 (68.1%)	
Hemodynamic instability	Yes	19 (82.6%)	112 (95.7%)	0.004
	No	4 (17.4%)	5 (4.3%)	
Concomitant operation	Yes	5 (21.7%)	32 (28.6%)	0.503
	No	18 (78.3%)	80 (71.4%)	
Reoperation	Yes	3 (13.0%)	15 (12.8%)	0.977
	No	20 (87.0%)	102 (87.2%)	
ASA score	2	2 (22.2%)	15 (25.0%)	0.555
	3	4 (44.4%)	16 (26.7%)	
	4	3 (33.3%)	21 (35.0%)	
	5	0 (0.0%)	8 (13.3%)	
CT laceration grade (trauma group)	3		26 (22.2%)	
	4		64 (54.7%)	
	5		27 (23.1%)	
Indication	Hemorrhage	2 (8.7%)	6 (5.1%)	0.272
	Hemorrhage + hemodynamic instability	5 (21.7%)	9 (7.7%)	
	Hemorrhage + hemodynamic instability + associated organ injury	0 (0.0%)	4 (3.4%)	
	Hemodynamic instability	13 (56.5%)	81 (69.2%)	
	Hemodynamic instability + associated organ injury	2 (8.7%)	15 (12.8%)	
	Associated organ injury	1 (4.3%)	2 (1.7%)	
Clavien-Dindo classification	2	20 (87.0%)	94 (80.3%)	0.519
	4	0 (0.0%)	6 (5.1%)	
	5	3 (13.0%)	17 (14.5%)	

*: Column percentages, **: chi-square test.

[S-487]

The role of PNI and LRINEC scores in the preoperative differentiation of Fournier's gangrene in patients operated on for suspected perianal abscess

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Objective: Fournier's gangrene may be unexpectedly identified during surgery in patients initially diagnosed with perianal abscess. This study aimed to investigate the utility of the prognostic nutritional index (PNI) and the laboratory risk indicator for necrotizing fasciitis (LRINEC) scores, calculated at initial presentation, in the preoperative discrimination of patients subsequently diagnosed intraoperatively with Fournier's gangrene.

Material and Methods: This retrospective observational study included 294 patients who underwent surgical intervention with a preliminary diagnosis of perianal abscess. All patients were initially taken to surgery for suspected perianal abscess, and the definitive diagnosis was established intraoperatively as either perianal abscess or Fournier's gangrene. PNI and LRINEC scores were calculated using laboratory parameters obtained at initial admission. Comparative analyses between groups were performed, and independent predictors of Fournier's gangrene were identified using multivariate logistic regression analysis. The discriminative performance of the models was evaluated by receiver operating characteristic (ROC) curve analysis.

Results: Among the 294 patients, 179 (60.9%) were intraoperatively diagnosed with perianal abscess and 115 (39.1%) with Fournier's gangrene. Patients with Fournier's gangrene exhibited significantly lower PNI values (38.4 vs. 50.9; p<0.001) and significantly higher LRINEC scores (7.0 vs. 2.0; p<0.001). Multivariate logistic regression analysis demonstrated that PNI (OR: 0.93) served as an independent protective factor, whereas the LRINEC score (OR: 1.25) emerged as an independent risk factor for Fournier's gangrene. The overall discriminative capacity of the model was good, with an ROC-AUC of 0.80.

Conclusion: Low PNI and high LRINEC scores calculated at initial presentation are effective and readily available parameters for the preoperative identification of patients who are ultimately diagnosed intraoperatively with Fournier's gangrene among those operated on for suspected perianal abscess. The combined evaluation of PNI and LRINEC scores may facilitate timely optimization of preoperative antibiotic strategies, anticipation of intensive care unit requirements, and more objective intraoperative decision-making regarding early and adequate surgical debridement.

Keywords: Perianal abscess, Fournier's gangrene, prognostic nutritional index, LRINEC

[S-489]

Beyond the bones: The effect of osteoporosis on postoperative outcomes in elderly patients undergoing emergency abdominal surgery

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Objective: Although osteoporosis is generally associated with the risk of fractures, its prognostic significance in non-orthopedic emergency surgeries has not been sufficiently investigated. Osteoporosis screening is a recommended health service for women aged 65 and over in Türkiye. This study aims to evaluate the effect of osteoporosis on morbidity and mortality after emergency abdominal surgery in elderly patients.

Material and Methods: A total of 147 patients aged ≥65 years who underwent emergency abdominal surgery at our hospital between January 2020 and December 2024 were retrospectively reviewed. Osteoporosis diagnosis was determined using ICD codes, previous DEXA results, or a history of low-trauma fractures. Patients were divided into two groups: Osteoporotic (n=43) and non-osteoporotic (n=104). Primary endpoints were defined as 30-day mortality, intensive care unit (ICU) admission, and hospital stay duration.

Results: The following results were observed in osteoporotic patients:

- Need for intensive care: 60.5% (26/43) vs. 36.5% (38/104), p=0.013
- Non-surgical complications: 39.5% vs. 21.2%, p=0.038
- Length of hospital stay: 8.2±2.8 days vs. 6.3±2.4 days, p=0.024
- 30-day mortality: 13.9% vs. 5.8%, p=0.041

According to multivariate logistic regression analysis, osteoporosis was an independent risk factor for intensive care requirement (OR=2.2; 95% CI: 1.2-4.1; p=0.011) and prolonged hospital stay (OR=1.9; 95% CI: 1.1-3.4; p=0.019). Although it was associated with non-surgical complications and 30-day mortality, these associations were not statistically significant (p=0.073 and p=0.064).

Conclusion: In elderly patients undergoing emergency abdominal surgery, osteoporosis is an important parameter reflecting not only skeletal health but also general physiological reserve. In this study, it was demonstrated that the need for intensive care and prolonged hospital stay were significantly increased in osteoporotic patients. Non-surgical complications and 30-day mortality rates were also higher in osteoporotic patients; however, these associations did not reach statistical significance. Integrating the recommended osteoporosis screening programs in Türkiye into surgical patient management and risk classification has the potential to improve patient outcomes.

Keywords: Osteoporosis, emergency abdominal surgery, elderly patients, postoperative morbidity and mortality, intensive care requirement

Table 1. Comparison of postoperative outcomes in osteoporotic and non-osteoporotic patients

Parameter	Osteoporotic group (n=43)	Non-osteoporotic group (n=104)	p-value
Need for intensive care (%)	26 (60.5%)	38 (36.5%)	0.013
Non-surgical complications (%)	17 (39.5%)	22 (21.2%)	0.038
Hospital stay (days, mean ± SD)	8.2±2.8	6.3±2.4	0.024
30-day mortality (%)	6 (13.9%)	6 (5.8%)	0.041

Table 2. Effect of osteoporosis on postoperative outcomes: multivariate analysis

Dependent variable	Independent variable	Odds ratio (OR)	95% confidence interval (CI)	p-value
Need for intensive care	Osteoporosis	2.2	1.2-4.1	0.011
Non-surgical complications	Osteoporosis	1.6	0.9-2.9	0.073
Prolonged hospitalization	Osteoporosis	1.9	1.1-3.4	0.019
30-day mortality	Osteoporosis	2.1	0.9-4.2	0.064

[S-490]

The role of clinical and laboratory parameters in predicting postoperative complications in patients with peptic ulcer perforation

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Objective: Peptic ulcer perforation is a life-threatening condition requiring emergency surgery and is associated with high morbidity. Postoperative complications adversely affect outcomes and prolong hospital stay. Identifying preoperative clinical and laboratory markers that may predict postoperative complications is therefore essential. This study aimed to evaluate preoperative clinical and laboratory parameters associated with postoperative complications in patients undergoing surgery for peptic ulcer perforation.

Material and Methods: This retrospective observational study included patients who underwent surgery for peptic ulcer perforation at University of Health Sciences Türkiye, Gülhane Training and Research Hospital between January 2023 and January 2026. Demographic characteristics, comorbidities, preoperative findings, surgical techniques, and postoperative complications were recorded. Patients were grouped according to the presence of postoperative complications. Laboratory parameters and the HALP score were compared between groups. Continuous variables were analyzed using the Mann-Whitney U test and categorical variables using the chi-square test. The predictive performance of albumin levels and the HALP score was evaluated using receiver operating characteristic (ROC) analysis. Statistical significance was defined as $p<0.05$.

Results: A total of 72 patients were included. The median age was 48.5 years (range, 19-92), and 76.4% were male. At least one comorbidity was present in 50% of patients. Preoperative dyspeptic symptoms were reported in 75%, and 29.2% were regular proton pump inhibitor users. No in-hospital mortality occurred. The median hospital stay was 9 days (range, 5-26). Most perforations were gastric (86.1%), and modified Graham repair was the most frequently performed procedure (90.3%). Postoperative complications occurred in 21 patients (29.2%); 16.7% were minor (Clavien-Dindo grades 1-2) and 12.5% were major (grade ≥3). The most common complications were surgical site infection (11.1%), pleural effusion (6.9%), intra-abdominal abscess (5.6%), and anastomotic leakage (5.6%) (Table 1). Patients with complications were older (59 vs. 39 years, $p=0.019$), had higher comorbidity rates (44.4% vs. 13.9%, $p=0.004$), and longer hospital stays (12 vs. 8 days, $p=0.001$). Urea, LDH, CRP, and RDW-SD levels were significantly higher, while albumin and lymphocyte levels were lower in the complication group (all $p<0.05$). The HALP score was also lower in patients with complications (0.10 vs. 0.22, $p=0.021$) (Table 2). ROC analysis showed moderate predictive ability for albumin (AUC =0.692) and the HALP score (AUC =0.674) (Table 3, Figure 1).

Conclusion: In patients undergoing surgery for peptic ulcer perforation, advanced age and comorbidity are significantly associated with postoperative complications. Elevated urea, CRP, LDH, and RDW-SD levels, along with decreased albumin, lymphocyte count, and HALP score, may help predict postoperative complications in the preoperative period. These parameters may support risk stratification and individualized patient management.

Keywords: Peptic ulcer perforation, postoperative complications, HALP score

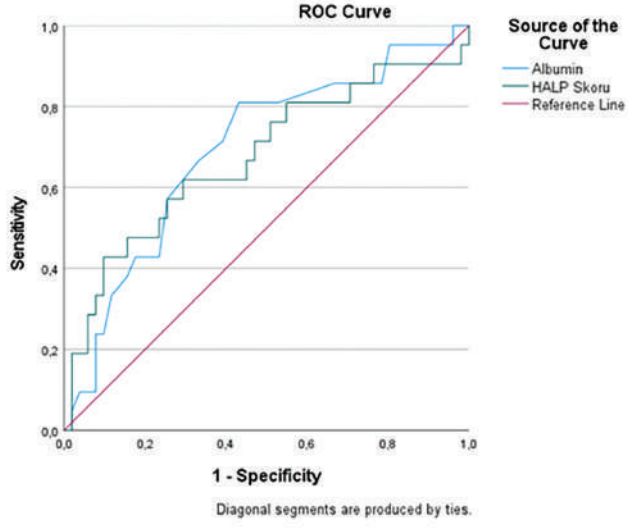

Figure 1. Receiver operating characteristic (ROC) curves of albumin level and HALP score for predicting postoperative complications in patients with peptic ulcer perforation.

Table 1. Demographic, clinical, surgical, and laboratory characteristics of patients operated on for peptic ulcer perforation

Parameters	Values
Age (years)	48.5 (19-92)
Sex	
Female	17 (23.6%)
Male	55 (76.4%)
Presence of comorbidity	
Absent	36 (50.0%)
Present	36 (50.0%)
Preoperative dyspeptic symptoms	
Absent	18 (25.0%)
Present	54 (75.0%)
Preoperative proton pump inhibitor use	
Absent	51 (70.8%)
Present	21 (29.2%)
In-hospital mortality	
No	72 (100%)
Length of hospital stay (days)	9 (5-26)
Perforation site	
Stomach	62 (86.1%)
Duodenum	9 (12.5%)
Stomach and duodenum	1 (1.4%)
Surgical procedure	
Modified Graham repair	65 (90.3%)
Graham repair	5 (6.9%)
Distal gastrectomy	1 (1.4%)
Laparoscopic repair	1 (1.4%)
Postoperative complications	
Absent	51 (70.8%)
Present	21 (29.2%)
Minor (Clavien-Dindo grades 1-2)	12 (16.7%)
Major (Clavien-Dindo grade ≥3)	9 (12.5%)
Type of complication	
None	51 (70.8%)
Surgical site infection	8 (11.1%)
Pleural effusion	5 (6.9%)
Intra-abdominal abscess	4 (5.6%)
Anastomotic leakage	4 (5.6%)
Urea (mg/dL)	37 (15-173)
Creatinine (mg/dL)	0.95 (0.46-3.49)
Albumin (g/dL)	3.4 (1.1-4.7)
LDH (U/L)	234.5 (135-598)
C-reactive protein (mg/L)	53 (1-395)
White blood cell count (×109/L)	11.6 (3.1-26.2)
Hemoglobin (g/dL)	14.65 (6.9-19.7)
Hematocrit (%)	43.5 (20.7-59.3)
Platelet count (×10^9/L)	278.5 (87-837)
Neutrophil count (×10^9/L)	9.45 (2.4-23.3)
Lymphocyte count (×10^9/L)	0.92 (0.2-9.1)
Monocyte count (×10^9/L)	0.6 (0-1.9)
Basophil count (×10^9/L)	0 (0-0.2)
RDW-SD (fL)	44 (38-76.8)
HALP score	0.19 (0.02-2.78)

Table 2. Comparison of demographic, clinical, and laboratory parameters between patients with and without postoperative complications

Parameters	No complications	Complications	p-value
Sex			
Female	11 (64.7%)	6 (35.3%)	*0.552
Male	40 (72.7%)	15 (27.3%)	
Presence of comorbidity			
Absent	31 (86.1%)	5 (13.9%)	*0.004
Present	20 (55.6%)	16 (44.4%)	
Preoperative dyspeptic symptoms			
Absent	13 (72.2%)	5 (27.8%)	*0.881
Present	38 (70.4%)	16 (29.6%)	
Preoperative PPI use			
Absent	37 (72.5%)	14 (27.5%)	*0.681
Present	14 (66.7%)	7 (33.3%)	
Age (years)	39 (19-92)	59 (22-84)	**0.019
Length of hospital stay (days)	8 (5-14)	12 (6-26)	**0.001
Urea (mg/dL)	34 (15-173)	49 (26-132)	**0.008
Creatinine (mg/dL)	0.96 (0.46-3.49)	0.95 (0.61-3.01)	**0.515
Albumin (g/dL)	3.5 (1.1-4.7)	3.1 (1.6-4.3)	**0.011
LDH (U/L)	225 (135-465)	264 (149-598)	**0.024
C-reactive protein (mg/L)	16 (1-352)	125 (2-395)	**0.004
White blood cell count ($\times 10^9$/L)	11.7 (3.69-25.3)	11.27 (3.1-26.2)	**0.406
Hemoglobin (g/dL)	14.8 (6.9-18.6)	14.2 (7.9-19.7)	**0.936
Hematocrit (%)	44 (20.7-56.0)	42.8 (23.8-59.3)	**0.647
Platelet count ($\times 10^9$/L)	289 (87-608)	267 (110-837)	**0.887
Neutrophil count ($\times 10^9$/L)	10.0 (2.65-23.3)	8.9 (2.4-22.5)	**0.642
Lymphocyte count ($\times 10^9$/L)	1.05 (0.2-9.1)	0.70 (0.3-8.8)	**0.036
Monocyte count ($\times 10^9$/L)	0.63 (0-1.9)	0.60 (0.21-1.7)	**0.651
Basophil count ($\times 10^9$/L)	0 (0-0.2)	0 (0-0.11)	**0.941
RDW-SD (fL)	43.3 (38.1-51.6)	45.0 (38-76.8)	**0.044
HALP score	0.22 (0.02-2.23)	0.10 (0.02-2.78)	**0.021

*: Chi-square test, **: Mann-Whitney U test.

Table 3. ROC analysis of albumin level and HALP score for predicting postoperative complications in patients with peptic ulcer perforation

Risk factor	AUC (95% CI)	Cut-off value	p-value	Sensitivity (%)	Specificity (%)
Albumin (g/dL)	0.692 (0.556-0.828)	3.25	0.011	66.7	66.7
HALP score	0.674 (0.526-0.822)	0.16	0.021	61.9	62.7

[S-491]

Predictive factors for the success of conservative treatment in uncomplicated acute appendicitis: A single-center prospective study

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Objective: Conservative antibiotic therapy is increasingly used as an alternative to surgery in selected patients with uncomplicated acute appendicitis. However, predictors of early surgical conversion remain unclear. This study aimed to identify clinical, laboratory, and radiological factors associated with the need for surgery during conservative management,

Material and Methods: In this single-center prospective non-randomized study conducted in 2024, patients with clinically and radiologically confirmed uncomplicated acute appendicitis were included. Exclusion criteria were perforation, presence of appendicolith, and refusal of antibiotic therapy. All patients received intravenous ceftriaxone plus metronidazole at admission. Septic or clinically unstable patients underwent immediate appendectomy. The remaining patients were reassessed after 48 hours with ultrasonography and laboratory tests. If clinical and laboratory improvement was observed, patients were discharged with oral amoxicillin–clavulanate therapy. The primary endpoint was appendectomy during index admission. The secondary endpoint was recurrence within one year.

Results: A total of 141 patients (median age 28 years, range 18-67) were included. Thirteen patients (9.2%) required surgery during index admission. Among the 128 discharged patients, 12 (9.3%) experienced recurrence within one year, resulting in an overall surgery rate of 17.7% (n=25). Comorbidity was present in 15.4% of surgical patients versus 8.6% of non-surgical patients (p=0.342). Mean symptom duration, white blood cell count, Alvarado score, and appendix diameter did not differ significantly between groups. However, median C-reactive protein (CRP) levels were significantly higher in patients requiring surgery (51.0 vs. 12.2 mg/L; p=0.002). ROC analysis demonstrated an AUC of 0.764 for CRP. A cut-off value of 14.9 mg/L yielded 92.3% sensitivity and 54.7% specificity for predicting surgical conversion.

Conclusion: Elevated CRP levels were associated with an increased likelihood of surgery during conservative management of uncomplicated acute appendicitis. Nevertheless, treatment decisions should integrate clinical findings, laboratory parameters, and imaging results. Conservative therapy may represent a safe and effective alternative in appropriately selected patients. Multicenter studies are warranted to validate these findings.

Keywords: Appendicitis, conservative treatment, predictive factors

[S-492]

Is the obesity paradox real in emergency surgery? The role of BMI in predicting morbidity and mortality in cases of bowel obstruction and perforation

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Objective: The obesity paradox suggests that in some clinical situations, a high body mass index (BMI) is associated with better survival. The aim of this study is to evaluate the effect of BMI on mortality and morbidity in patients operated on for acute intestinal obstruction and perforation, and to analyze it together with systemic inflammation (SIRS), albumin levels, and sarcopenia.

Material and Methods: Eight hundred forty-two patients who underwent emergency laparotomy between 2013 and 2023 were retrospectively evaluated. Patients were divided into three groups according to BMI: normal (18.5-24.9), overweight (25-29.9), and obese (≥30 kg/m²). The primary endpoint was 30-day mortality. Secondary endpoints were resection requirement, anastomotic leakage, intensive care unit requirement, and complication rates. Sarcopenia was assessed by measuring muscle area at the L3 level on preoperative CT. Independent predictors were analyzed using multivariate logistic regression.

Results: Thirty-two percent of patients were normal BMI, 41% were overweight, and 27% were obese. The 30-day mortality rate was 18% in the normal BMI group, 12% in the overweight group, and 10% in the obese group (p=0.003). Obese patients had a lower rate of SIRS (28% vs. 41%, p=0.01) and higher albumin levels (p<0.001). Sarcopenia was detected in 46% of the normal BMI group and 19% of the obese group (p<0.001). In multivariate analysis, low BMI (OR =2.1), sarcopenia (OR =2.8), and hypoalbuminemia (OR =3.4) were identified as independent risk factors for mortality. BMI ≥30 was found to be a protective factor against mortality (OR =0.58).

Conclusion: The obesity paradox in emergency surgery is supported. High BMI, especially when considered in conjunction with sarcopenia and hypoalbuminemia, may have a protective effect on mortality. The findings suggest that BMI should not be considered alone in emergency surgical risk assessment, but rather in conjunction with muscle mass and nutritional status.

Keywords: Emergency surgery, intestinal obstruction, obesity paradox, sarcopenia

[S-493]

Challenges in laparoscopic appendectomy

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Objective: The use of laparoscopic appendectomy (LA) has increased over the last decade compared with conventional appendectomy (CA), as it is considered a feasible and safe technique for both uncomplicated and complicated cases. In many studies, LA has become the preferred surgical approach due to improved postoperative outcomes when compared with CA. Moreover, several publications recommend LA as the gold standard technique. Although the global use of LA continues to rise, it has not yet been fully adopted into routine practice worldwide. Our hospital is a newly established tertiary university hospital with the highest patient volume in the region. In this study, we aimed to investigate the limitations preventing the widespread use of LA.

Material and Methods: All appendectomies performed during the first two years following the opening of our hospital were retrospectively evaluated. Patients were divided into two groups: those who underwent LA (Group I) and those who underwent CA (Group II). The groups were compared in terms of age, sex, ASA score, comorbidities, BMI, previous surgical history, surgeon's years of surgical experience, performance of advanced laparoscopic procedures by the surgeon, time of hospital admission, availability of laparoscopic equipment at the time of surgery, senior resident training year, and operative sequence number. Statistical analyses were performed using IBM SPSS version 25 software. A p-value <0.05 was considered statistically significant.

Results: A total of 201 patients were operated on; 62.2% underwent LA and 37.8% underwent CA. No significant differences were found between groups regarding age, gender, BMI, symptom duration, laboratory parameters (WBC, CRP), or the presence of complicated appendicitis ($p>0.05$). However, the LA rate was significantly lower in patients with ASA scores ≥3 ($p=0.015$).While operation time (within vs. outside working hours) showed no significant difference, LA was preferred in 94.4% of cases when laparoscopic equipment was available in the operating room. Multivariate analysis identified equipment availability (OR =46.6, $p<0.001$) and the surgeon's advanced laparoscopic experience (OR =80.6, $p=0.001$) as independent predictors for choosing LA. Furthermore, the feasibility of LA increased significantly after the 97th case ($p<0.05$).

Conclusion: This study demonstrates that the primary barriers to LA are systemic and organizational rather than patient-related. Uninterrupted 24/7 access to laparoscopic infrastructure and surgeon experience are the main determinants. LA rates can be increased through organizational improvements and targeted surgical training.

Keywords: Laparoscopy, experience, challenges

[S-497]

Clinical and functional outcomes of repair in acute anal sphincter injuries: A single-center experience

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Objective: Acute anal sphincter injuries pose a significant clinical problem due to the risk of fecal incontinence and reduced quality of life. Data on the safety and functional efficacy of anal sphincter repair in the acute period remain limited. This study evaluated clinical, surgical, and functional outcomes in patients undergoing anal sphincter repair under emergency conditions.

Material and Methods: Sixteen patients who underwent anal sphincter repair under emergency conditions within the last five years were retrospectively reviewed. Recorded variables included age, gender, body mass index (BMI), smoking status, comorbidities, injury etiology, obstetric history, preoperative symptoms, surgical technique, peri- and postoperative data, and functional Wexner scores at 6-12 months.

Results: Thirteen patients (81.3%) were female and 3 (18.7%) were male. Median age was 30.5 years (range: 21-64). Median BMI was 28.0 kg/m² (range: 27-34). Smoking was present in 6 patients (37.5%). Diabetes mellitus and hypertension occurred in 2 patients (12.5%), COPD in 1 (6.3%). No patients had congestive heart failure, chronic renal failure, neurological disease, or pelvic radiotherapy history. Etiology was obstetric in 13 (81.3%) and non-obstetric trauma in 3 (18.7%; two motor vehicle accidents, one assault). By OASIS classification, 10 injuries (62.5%) were grade 3A, 2 (12.5%) 3B, 2 (12.5%) 3C, and 2 (12.5%) grade 4. In females, median total births were 1.5 (0-4), vaginal births 1, cesarean sections 1 (0-2). Operative vaginal delivery occurred in 4 (25.0%). Preoperative symptoms included gas incontinence in 5 (31.3%), liquid incontinence in 3 (18.8%), solid incontinence in 1 (6.3%), urgent defecation in 1 (6.3%), pad use in 1 (6.3%), and obstructive defecation in 2 (12.5%). No dyspareunia was reported. Surgical techniques comprised overlapping repair in 13 (81.3%), end-to-end repair in 3 (18.7%), internal anal sphincter repair in 2 (12.5%), and levatoroplasty in 1 (6.3%). No protective stoma was created. Suture material was type 1 in 15 (93.8%) and type 4 in 1 (6.3%); thickness was 3/0 in 13 (81.3%), 2/0 in 2 (12.5%), and 1/0 in 1 (6.3%). Surgery occurred on the injury day. Median hospital stay was 3 days (range:1-7), median time to first defecation 3 days (IQR 2-3). Postoperative complications included surgical site infection in 1 (6.3%) and hematoma in 2 (12.5%). No wound dehiscence or reoperation occurred. At 6-and 12-month follow-up, continence was achieved in all patients with no pad use. Median satisfaction score was 5 (range 4-5). No significant association was found between surgical technique, OASIS grade, or comorbidities and complications or functional outcomes (Wexner scores).

Conclusion: Emergency anal sphincter repair is a reliable procedure with low complication rates and high functional success. Early surgical intervention achieves satisfactory continence without requiring protective stoma.

Keywords: Anal sphincter injury, anal sphincter repair, fecal incontinence

[S-498]

The role of preoperative hematological indices and CRP in predicting pathological severity in acute appendicitis

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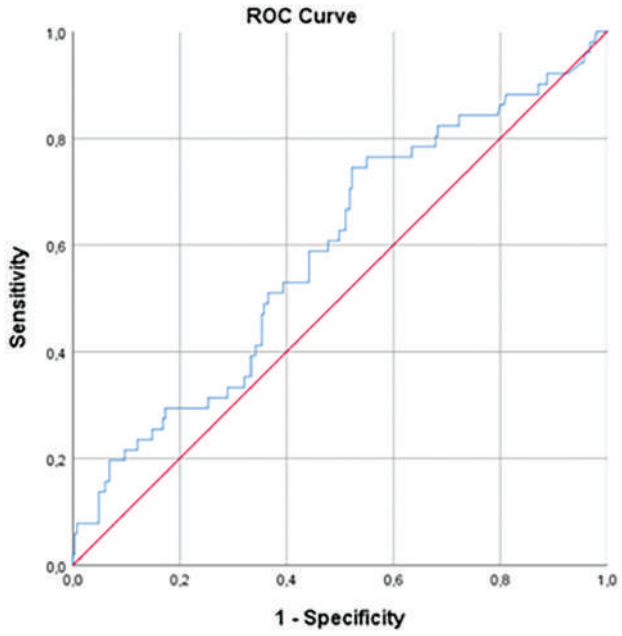
Objective: Acute appendicitis is one of the most common causes of emergency surgery. The preoperative prediction of complicated appendicitis is crucial for patient management and surgical decision-making. This study aimed to investigate the predictive value of readily available preoperative hemogram parameters, inflammatory indices, and C-reactive protein (CRP) levels for pathological severity in acute appendicitis.

Material and Methods: Between 2020 and 2025, 300 patients who underwent surgery for acute appendicitis at University of Health Sciences Türkiye, Fatih Sultan Mehmet Training and Research Hospital were retrospectively analyzed using random sampling. Patients were divided into two groups according to pathological findings: non-complicated appendicitis (n=249) and complicated appendicitis (n=51). Preoperative leukocyte, neutrophil, lymphocyte, monocyte, platelet, hemoglobin, CRP values, as well as NLR, PLR, MLR, SII, and SIRI indices were compared. Appropriate parametric and non-parametric tests were used for statistical analysis. Multivariate logistic regression analysis was performed for parameters found significant in univariate analysis. ROC analysis was conducted for CRP.

Results: No significant differences were observed between the groups in terms of age, sex, ASA score, or type of surgery (p>0.05). Leukocyte, neutrophil, and monocyte counts, as well as CRP, NLR, MLR, SII, and SIRI values were significantly higher in the complicated appendicitis group compared to the non-complicated group (p<0.05). In multivariate logistic regression analysis, only CRP was identified as an independent predictor of complicated appendicitis (p=0.025) (Table 1). ROC analysis for CRP revealed an AUC of 0.588 (p=0.047). A cut-off value of 8.1 mg/L demonstrated a sensitivity of 74.5% and specificity of 45.8% (Figure 1).

Conclusion: Preoperative CRP and certain inflammatory hematological indices may assist in predicting pathological severity in acute appendicitis. CRP, in particular, appears to be an independent marker for complicated appendicitis. However, combining these parameters with clinical and radiological findings may improve diagnostic accuracy.

Keywords: Acute appendicitis, C-reactive protein, inflammatory indices



AUCs	P value	95% CI	Cut-off	Sensitivity (%)	Specificity (%)
0,588	0,047	0,502-0,675	8,1	74,5	45,8

AUC: Area under the curve

Figure 1. ROC curve of CRP in predicting complicated appendicitis.

Table 1. Comparison of demographic, clinical, and laboratory findings and biomarkers between the groups

Variable	Non-complicated appendicitis (n=249)	Complicated appendicitis (n=51)	p-value†	p-value††
Age (years), mean ± SD	37.2±14.8	40.6±16.7	0.201[1]	
Sex, n (%)			0.670[2]	
Female	85 (34.1)	19 (37.3)		
Male	164 (65.9)	32 (62.7)		
ASA score			0.861[3]	
1	128 (51.6)	25 (49.0)		
2	91 (36.7)	19 (37.3)		
3	27 (10.9)	7 (13.7)		
4	2 (0.8)	0		
Type of surgery, n (%)			0.698[3]	
LA	238 (95.6)	50 (98.0)		
OA	11 (4.4)	1 (2.0)		
Leukocyte count (10^3/μL), mean ± SD	12.9±4.4	14.5±5.1	0.022[1]*	0.442
Neutrophil count (10^3/μL), mean ± SD	10.0±4.5	11.8±4.9	0.010[1]*	0.285
Lymphocyte count (10^3/μL), mean ± SD	2.0±1.1	1.7±0.7	0.057[1]	
Monocyte count (10^3/μL), mean ± SD	0.7±0.7	0.8±0.8	0.034[1]*	0.285
Platelet count (10^3/μL), mean ± SD	247.0±63.2	244.3±65.3	0.804[1]	
Hemoglobin (g/dL), mean ± SD	14.0±1.7	14.0±1.7	0.859[1]	
CRP (mg/L), mean ± SD	30.2±49.5	53.1±81.8	0.047[1]*	0.025*
NLR, mean ± SD	6.5±5.6	8.3±5.2	0.003[1]*	0.503
PLR, mean ± SD	151.3±104.4	167.3±86.6	0.061[1]	
MLR, mean ± SD	0.5±1.3	0.5±0.3	0.001[1]*	0.803
SII, mean ± SD	1590.1±1387.5	1980.0±1267.8	0.003[1]*	0.491
SIRI, mean ± SD	5.5±11.3	6.9±5.1	0.001[1]*	0.596

[1]: Mann-Whitney U test, [2]: Pearson chi-square test, [3]: Fisher's exact test †p-values from univariate analysis between groups, ††multivariate binary logistic regression analysis of variables with significant univariate p-values
LA: Laparoscopic appendectomy, OA: Open appendectomy, *p<0.05 considered statistically significant.

[S-499]

Development and prognostic performance of an admission-only mortality prediction model in Fournier's gangrene: The Kocaeli Fournier gangrene severity index (KFGSI)

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Objective: Fournier's gangrene (FG) remains a highly lethal necrotizing soft-tissue infection. Early identification of high-risk patients at presentation is essential for triage and timely management. We evaluated established prognostic indices [FG severity index (FGSI), Uludağ FGSI (UFGSI)] and developed an admission-only mortality prediction score, the Kocaeli Fournier gangrene severity index (KFGSI), using variables available at initial assessment.

Material and Methods: We retrospectively reviewed FG patients treated between January 2017 and January 2022. After excluding transferred cases and incomplete records, 69 patients constituted the study cohort. Admission demographic, clinical, laboratory, and radiologic data were collected. Disease severity was assessed using the FGSI, UFGSI, and ASA score. Predictors of in-hospital mortality were examined with univariate analyses and multivariable logistic regression restricted to admission-time variables. Discrimination was evaluated using ROC curve analysis; optimal cut-offs were defined by the Youden index. The admission-only KFGSI was constructed from admission variables to avoid time-dependent bias.

Results: Mean age was 58.6±13.5 years; 75.4% were male. In-hospital mortality was 40.6% (28/69). Admission parameters significantly associated with mortality included pulse rate, respiratory rate, body mass index (BMI), serum lactate, radiological extent grade, body temperature, and FGSI (all $p<0.05$). In ROC analysis, the strongest individual predictors were pulse rate (AUC 0.935, 95% CI 0.848-0.980) and radiological extent grade (AUC 0.898, 95% CI 0.797-0.966). UFGSI showed good discrimination (AUC 0.858, 95% CI 0.748-0.967); the Youden-derived cut-off ≥10 yielded sensitivity 96.4% and specificity 73.2%.The admission-only KFGSI, composed of five admission-time parameters (pulse rate, respiratory rate, BMI, serum lactate, radiological extent grade), demonstrated higher apparent discrimination than FGSI in this derivation cohort (AUC 0.943, 95% CI 0.860-0.985). A threshold KFGSI ≥4 yielded sensitivity 92.9% and specificity 85.4%. ICU stay duration was not included due to time dependency. In multivariable analysis, all five KFGSI components remained independently associated with mortality.

Conclusion: An admission-only composite score (KFGSI) using readily available physiological, metabolic, and radiologic parameters demonstrated excellent discrimination for in-hospital mortality in FG and showed higher apparent performance than FGSI/UFGSI in this single-center derivation cohort. External validation in larger multicenter datasets is required before routine clinical implementation.

Keywords: Fournier's gangrene, mortality, prognostic score, risk stratification

Table 1. Baseline demographic and clinical characteristics of the study cohort (n=69)

	Value
Age, years, mean ± SD (range)	58.6±13.5 (36-89)
Sex, male, n (%)	52 (75.4)
Sex, female, n (%)	17 (24.6)
ASA II, n (%)	20 (29.0)
ASA III, n (%)	43 (62.3)
ASA IV, n (%)	6 (8.7)
Length of hospital stay, days, mean ± SD (range)	24.4±21.4 (1-130)
Diabetes mellitus, n (%)	38 (55.1)
Hypertension, n (%)	20 (29.0)
Malignancy, n (%)	11 (15.9)
Chronic kidney disease, n (%)	10 (14.5)
Steroid use, n (%)	17 (24.6)
Bacterial infection, n (%)	29 (42.0)
Fungal infection, n (%)	3 (4.3)
Unknown etiology, n (%)	37 (53.6)
E. coli, n (%)	11 (15.9)
A. baumannii, n (%)	9 (13.0)
Radiological grade 1, n (%)	25 (36.2)
Radiological grade 2, n (%)	30 (43.5)
Radiological grade 3, n (%)	14 (20.3)
Scrotal extension, n (%)	35 (50.7)
Stoma required, n (%)	54 (78.3)
Debridement, mean ± SD (range)	3.8±3.4 (1-18)
ICU admission, n (%)	45 (65.2)
In-hospital mortality, n (%)	28 (40.6)

SD: Standard deviation, ICU: Intensive care unit.

Table 2. Univariate comparison of survivors and non-survivors

Parameter	Survivors (n=41)	Non-survivors (n=28)	p-value
Body temperature (°C)	37.3 (37.0-37.8)	38.2 (37.6-39.1)	0.021
Pulse rate (bpm)	100 (92-110)	122 (114-134)	<0.001
Respiratory rate (/min)	20 (18-22)	25 (22-28)	0.003
Body mass index (kg/m²)	27.1 (25.4-29.2)	30.0 (27.8-32.6)	0.007
FGSI score	6 (5-7)	9 (8-11)	<0.001
Serum lactate (mmol/L)	2.5 (2.0-3.1)	4.0 (3.3-4.9)	0.015
Radiological extent grade	2 (1-2)	3 (2-3)	0.001
ICU stay duration (days)†	3 (2-4)	10 (8-13)	0.003

ICU: Intensive care unit, FGSI: Fournier's gangrene severity index.

Table 3. Diagnostic performance of significant admission variables for in-hospital mortality (ROC analysis)

Parameter	AUC	95% CI	Sensitivity (%)	Specificity (%)	p-value
Pulse rate	0.935	0.848-0.980	82.1	97.6	<0.001
Respiratory rate	0.812	0.703-0.905	75.0	78.0	0.003
Body mass index	0.789	0.672-0.886	71.4	76.2	0.007
Serum lactate level	0.821	0.713-0.912	78.6	80.5	0.015
Radiological extent grade	0.898	0.797-0.966	89.3	82.9	0.001
Body temperature	0.742	0.621-0.852	67.9	71.4	0.021

CI: Confidence interval.

Table 4. Comparative prognostic performance of FGSI, UFGSI, and admission-only KFGSI for predicting in-hospital mortality

Severity index	AUC	95% CI	Cut-off	Sensitivity (%)	Specificity (%)
FGSI	0.860	0.755-0.932	≥7	82.1	78.1
UFGSI (Youden)	0.858	0.748-0.967	≥10	96.4	73.2
UFGSI (predefined*)	0.858	0.748-0.967	≥9	100.0	56.1
Admission-only KFGSI	0.943	0.860-0.985	≥4	92.9	85.4

CI: Confidence interval, FGSI: Fournier's gangrene severity index, UFGSI: Uludağ Fournier's gangrene severity index.

Table 5. Multivariable logistic regression analysis of admission-time predictors of in-hospital mortality (n=69)

Predictor (admission variables)	Adjusted OR	95% CI	p-value
Pulse rate (per 1 bpm increase)	1.08	1.03-1.13	<0.001
Respiratory rate (per 1/min increase)	1.29	1.10-1.53	0.002
Body mass index (per 1 kg/m² increase)	1.19	1.05-1.36	0.007
Serum lactate (per 1 mmol/L increase)	2.35	1.50-4.00	<0.001
Radiological extent grade (per 1 grade increase)	2.05	1.12-3.98	0.021

CI: Confidence interval, OR: Odds ratio.

[S-500]

Our single-center experience with abdominal firearm injuries

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Objective: Gunshot wounds are a significant cause of trauma due to their high morbidity and mortality rates. Abdominal gunshot wounds often require emergency surgery and are associated with a high mortality rate due to the frequent involvement of multiple organs and blood vessels. It is of great importance to identify the factors that determine prognosis in this patient group in order to improve surgical decision-making processes and optimise patient management. This study aimed to identify risk factors associated with mortality by evaluating the demographic, clinical and surgical characteristics of patients who underwent laparotomy due to abdominal firearm injuries at our clinic over the last 10 years.

Material and Methods: This retrospective study included a total of 147 patients who presented to the emergency department with gunshot wounds to the abdominal region over the past 10 years and underwent laparotomy. The patients' demographic data, bullet entry and exit characteristics, injury locations, intraoperative findings, injured organs, presence of vascular injury, transfusion requirements, intensive care and hospital stay durations were recorded. Patients with and without mortality were compared, and factors associated with mortality were analyzed. In the statistical evaluation, after univariate analyses, multivariate logistic regression analysis was used to determine independent risk factors for mortality. Statistical significance was set at $p<0.05$.

Results: Of the patients included in the study, 96% were male, with an average age of 35.56±10.75 years. Single bullet entry wounds were present in 69.4% of patients, multiple bullet entry wounds in 30.6%, and exit wounds in 20.4%. The organs most commonly injured were the colon (29%), the small intestine (27%), and the liver (15%). Single organ injury was present in 51% of patients and multiple organ injury in 49%. The vascular injury rate was 26.5%. Blood transfusions were administered to 77.6% of patients during the perioperative period. A total of 25 patients (17%) died. Patients who died were significantly more likely to have multiple organ injury, vascular injury, a single entry wound, and a high requirement for red blood cell suspension transfusion ($p<0.05$). Multivariate analysis identified multiple organ injury, vascular injury, receiving more than three red blood cell transfusions and age as independent risk factors for mortality.

Conclusion: The most important factors determining mortality in abdominal firearm injuries are the presence of multiple organ and vascular injuries and high transfusion requirements. In these patients, early and appropriate surgical intervention and effective hemodynamic management play a critical role in reducing mortality.

Keywords: Abdominal trauma, firearm injury, laparotomy, mortality, vascular injury

Table 1. Comparison of clinical and transfusion characteristics between patients with and without mortality

	Patients with mortality (n=25)	Patients without mortality (n=122)	p
Multiple organ injury	22 (88%)	52 (42.6%)	**<0.0001***
Vascular injury	19 (76%)	21 (17.2%)	**<0.0001***
Red blood cell transfusion >3 units	19 (76%)	15 (12.3%)	**<0.0001***
Multiple entry sites	3 (12%)	43 (35.2%)	**0.03***

Data are presented as n (%) *: Fisher's exact test.

Table 2. Multivariable logistic regression analysis of factors associated with mortality

	Multivariable logistic regression analysis	
	OR (95% CI)	p
Presence of multiple organ injury	14.29 (2.33-87.83)	**0.004**
Presence of vascular injury	7.14 (1.47-34.62)	**0.015**
High red blood cell transfusion requirement (>3 units)	5.55 (1.41-21.89)	**0.014**
Age (per year increase)	1.08 (1.02-1.15)	**0.014**
Presence of multiple entry sites	0.35 (0.08-1.46)	0.148

OR: Odds ratio, CI: Confidence interval.

[S-501]

The role of CT and laboratory parameters in predicting the clinical course of incarcerated hernias

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Objective: Incarcerated hernias may lead to significant morbidity and mortality. Resection requirement and postoperative complications determine clinical burden, yet the predictive value of CT findings and laboratory parameters at diagnosis remains unclear. This study evaluated the association between CT measurements, laboratory parameters, resection requirement, and postoperative complications in incarcerated hernias.

Material and Methods: A total of 351 patients who underwent surgery for incarcerated hernia were retrospectively reviewed. Laboratory parameters and CT measurements obtained at emergency admission were analyzed. Defect diameter, incarcerated bowel wall thickness, and segment length were measured on CT and compared with laboratory parameters regarding resection requirement and postoperative complication development.

Results: Mean age was 58.9±15.1 years; 170 patients (48.4%) were male and 181 (51.6%) were female. Mean body mass index was 28.1±4.8 kg/m². Hernia types were umbilical 38.7%, inguinal 45.6%, incisional 13.7%, and femoral 2.0%. Symptom duration was <24 h in 27.4%, 24-48 h in 40.2%, and >48 h in 32.5%, with no association with resection or postoperative complications (p>0.05). Mean CT measurements showed incarcerated segment diameter 37.4±10.0 mm, wall thickness 6.4±1.6 mm, and segment length 66.0±28.8 mm. Wall thickness and segment length were significantly higher in resected patients (p=0.006 and p=0.018), while segment diameter was similar (p>0.05). Resection was performed in 40 patients (11.4%); resected patients were older (p<0.01) and had lower glomerular filtration rates (p<0.001). Hernia type was associated with resection (p<0.001), with the highest rate in femoral hernias. CRP was higher in the resection group without statistical significance (p=0.10), and RDW-SD values were similar (p>0.05). Postoperative complications occurred in 20 patients (5.7%), most commonly wound infection. Patients with complications had lower glomerular filtration rates (p<0.001) and higher body mass index (p=0.006); CRP and RDW-SD were significantly higher at diagnosis (p=0.011 and p=0.027). ROC analysis showed an AUC of 0.69 for CRP (cut-off 90 mg/L, sensitivity 50%, specificity 90.9%) and an AUC of 0.65 for RDW-SD (cut-off 13.4, sensitivity 89.5%, specificity 35.6%).

Conclusion: Resection requirement in incarcerated hernias is mainly associated with CT findings and patient characteristics, whereas postoperative complications correlate more strongly with CRP and RDW values at diagnosis. Combined evaluation of CT measurements and laboratory parameters may improve early prediction of clinical course.

Keywords: Incarcerated hernia, C-reactive protein, RDW

[S-502]

A simple hematologic marker for surgical decision-making in intestinal obstruction: The predictive role of "neutrophil-to-lymphocyte ratio"

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Objective: Acute intestinal obstruction is a common surgical emergency, and timely identification of patients requiring operative management remains challenging. Clinical findings and imaging may be inconclusive during initial evaluation. Therefore, simple and readily available laboratory markers may aid early decision-making. This study aimed to evaluate the predictive value of the neutrophil-to-lymphocyte ratio (NLR) for determining the need for surgical intervention in patients presenting with intestinal obstruction.

Material and Methods: This retrospective cohort study included 744 consecutive patients diagnosed with intestinal obstruction at a tertiary referral center between 2021-2025. Demographic characteristics, laboratory parameters at admission, and clinical outcomes were recorded. Patients were categorized into two groups according to treatment strategy: conservative management and surgical intervention. Univariate comparisons were performed, followed by multivariate logistic regression analysis to identify independent predictors of surgery.

Results: Patients who underwent surgery had significantly higher admission NLR values compared with those managed conservatively. Multivariate logistic regression analysis demonstrated that NLR was an independent predictor of surgical intervention (OR: 1.034, 95% CI: 1.003-1.066, p=0.030). Age and sex were not independently associated with operative management. The model showed adequate calibration according to the Hosmer–Lemeshow goodness-of-fit test (p=0.138).

Conclusion: The NLR is a simple and readily available laboratory parameter that independently predicts the need for surgical treatment in patients with intestinal obstruction. NLR may serve as a useful adjunct in early clinical decision-making and patient risk stratification in the emergency setting.

Keywords: Intestinal obstruction, neutrophil-to-lymphocyte ratio (NLR)

[S-503]

Predictive value of certain biomarkers and immune indices in predicting mortality in acute mesenteric ischemia

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Objective: Acute mesenteric ischemia (AMI) is a life-threatening abdominal emergency characterized by high mortality rates and requiring early diagnosis and prompt surgical intervention. Reliable and readily accessible biochemical parameters that can predict mortality in the early phase are needed. In this study, the impact of preoperative biochemical parameters on survival was evaluated in patients who underwent surgery for AMI.

Material and Methods: A total of 81 patients diagnosed with AMI and managed at the General Surgery Department of Harran University Faculty of Medicine between January 1, 2020, and December 31, 2024, were retrospectively analyzed. Demographic characteristics, comorbidities, and preoperative hemogram and biochemical parameters were recorded. Preoperative hemogram parameters, serum lactate, lactate dehydrogenase (LDH), urea, creatinine, sodium, albumin levels, and inflammatory indices (NLR, PLR, SII) were analyzed. Binary logistic regression analysis was performed to identify independent factors affecting survival. Prognostic performance was evaluated using receiver operating characteristic (ROC) curve analysis.

Results: A total of 81 patients were included in the study, 47 females (58%) and 34 males (42%). The overall mortality rate was 66.6% (n=54). The mean age of the deceased patients was significantly higher than that of the survivors (68.57±12.90 vs. 56.81±14.81 years, p=0.001). No significant differences were observed between the groups in terms of hemoglobin, leukocyte count, CRP, platelet count, NLR, PLR, or SII (p>0.05 for all). In contrast, lactate (p<0.001), LDH (p=0.004), creatinine (p<0.001), and sodium (p=0.04) levels were significantly associated with mortality. In binary logistic regression analysis, only: lactate (p=0.013; OR =0.519; 95% CI: 0.310-0.870) LDH (p=0.043; OR =0.998; 95% CI: 0.995-1.000) were identified as independent predictors of mortality. ROC analysis demonstrated: lactate: AUC: 0.764 (p<0.001), cut-off 2.20 mmol/L LDH: AUC: 0.696 (p=0.004), cut-off 296.5 U/L lactate exhibited superior discriminative performance compared to LDH in predicting mortality.

Conclusion: In patients with AMI, preoperative lactate level is a strong and independent predictor of mortality. LDH has a more limited but still statistically significant prognostic value. Inflammatory hematologic indices were not found to contribute significantly to the prediction of survival. Consideration of lactate levels in clinical risk stratification may facilitate the early identification of high-risk patients.

Keywords: Ischemia, lactate, mesentery

[S-505]

Timing and predictors of recurrence in gastric cancer: A single-center experience

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Objective: Recurrence after gastric cancer surgery is one of the most important determinants of long-term prognosis. Knowledge of the timing of recurrence and the clinical factors associated with recurrence may contribute to the personalization of follow-up strategies. In this study, the time to recurrence and factors predicting recurrence were evaluated in patients who underwent surgery for gastric cancer. Aim to determine the postoperative recurrence rate, time to recurrence, and clinical and tumoral characteristics associated with recurrence.

Material and Methods: Patients who underwent surgery for gastric adenocarcinoma between 2015 and 2024 were retrospectively analyzed. Recurrence was recorded as present or absent based on clinical and imaging findings. In patients with recurrence, the interval between surgery and the date of recurrence detection was calculated in months. The following variables were included in the analysis: T and N stage, adjacent organ invasion, preoperative albumin level, ASA score, age, and surgical intent (curative/palliative). Factors predicting recurrence were evaluated using logistic regression analysis, and the distribution of time to recurrence was assessed descriptively. A p-value <0.05 was considered statistically significant.

Results: Among a total of 738 patients, recurrence was detected in 34 patients (4.6%). The median time to recurrence was 10.5 months (IQR: 3-18.8), and most recurrences occurred within the first two years after surgery. In the multivariable logistic regression analysis, advanced T stage (≥T3), high N stage (≥N2), adjacent organ invasion, low albumin level (<3.5 g/dL), palliative surgery, age, and ASA score were included. Due to the limited number of events, none of the variables reached statistical significance as an independent predictor of recurrence (all p>0.05). However, low albumin level, high nodal burden, and adjacent organ invasion showed a trend toward increased recurrence risk. No significant association was observed between histological grade (G1-G3) and recurrence (p=0.23).

Conclusion: Recurrence after gastric cancer surgery most commonly occurs within the first two years. Although no independent predictors of recurrence were identified in this study, nutritional status, nodal burden, and features of locally advanced disease demonstrated a tendency toward increased recurrence risk. These findings suggest that closer follow-up and individualized oncological strategies may be warranted for high-risk patients. Larger sample sizes and prospective data collection may allow for more robust identification of recurrence predictors.

Keywords: Gastric cancer, recurrens, stage

[S-506]

Retrospective study of short and long-term results of neoadjuvant therapy, surgical resection, and curative chemoradiation therapy in the treatment of esophageal cancer

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Objective: Approximately 500,000 new cases of esophageal cancer are diagnosed worldwide each year. In North America, its incidence has nearly doubled over the past 20 years, making it the 8th most common cancer globally. Squamous cell carcinoma and adenocarcinoma account for more than 95% of esophageal malignancies. Throughout much of the 20th century, SCC predominated. In the 1960s, SCC made up more than 90% of esophageal tumors in the United States, with adenocarcinomas being very rare. However, over time, the incidence of esophageal adenocarcinoma has dramatically increased in Western countries, to the point where adenocarcinoma now accounts for more than 60% of all esophageal cancers in the United States.

Material and Methods: This study aimed to compare the short- and long-term outcomes of different treatment strategies in patients diagnosed with esophageal cancer. Patients who underwent primary surgery were compared with those who received neoadjuvant therapy followed by surgery, and both surgical groups were also compared with patients treated with definitive chemoradiotherapy (CRT) without surgery.

Results: Patients were retrospectively categorized into three groups: Group 1–primary surgery, Group 2–surgery after neoadjuvant therapy, Group 3–definitive CRT without surgery. Demographic characteristics, tumor types, localization, surgical techniques, short-term morbidity (based on Clavien-Dindo classification), and long-term survival were analyzed. Kaplan-Meier survival analysis and Cox regression were applied. No significant survival difference was observed between patients undergoing primary surgery and those treated with neoadjuvant therapy followed by surgery. However, primary surgery may provide a survival benefit in early-stage disease. In the SCC subgroup, survival outcomes were comparable between surgical and CRT groups, while in the AdenoCa subgroup, surgery yielded better survival. Major complications (Clavien-Dindo ≥3) showed significant differences among groups. Statistically significant differences were observed in overall survival times according to sex among all cases. Overall survival was higher in females than in males, with mean overall survival durations of 79.04±10.87 months and 38.58±5.25 months, respectively (p=0.005). A statistically significant difference in overall survival was also detected based on the presence of metastatic lymph nodes at the time of diagnosis. Patients without metastatic lymph nodes had longer overall survival compared to those with metastatic lymph nodes, with mean survival times of 73.66±9.68 months and 39.73±6.52 months, respectively (p=0.006).

Conclusion: Surgery remains the mainstay of treatment in eligible patients with esophageal cancer. In adenocancer cases, surgery is associated with improved survival, whereas in SCC patients, definitive CRT can be a viable alternative. Although neoadjuvant therapy increases short-term morbidity, it may be balanced by favorable long-term outcomes.

Keywords: Esophageal carsinoma, squamous cell carcinoma, adenocarcinoma, neoadjuvant chemotherapy

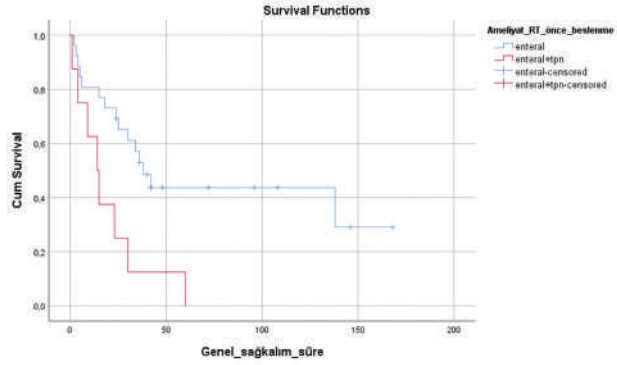

Figure 1. Comparison of overall survival (months) according to preoperative nutritional support in surgically treated patients.

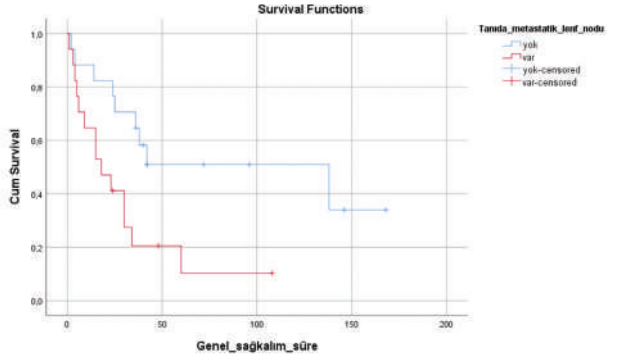

Figure 2. Comparison of overall survival according to the presence of metastatic lymph nodes at diagnosis in surgically treated patients.

Table 1. Comparison of overall survival in all cases

		n	Mean ± SD	p-value	
Surgery	Yes	68	53.02±6.90	0.560	
	No	34	64.17±12.01		
Sex	Female	39	79.04±10.87	**0.005**	
	Male	63	38.58±5.25		
Comorbid disease	Absent	66	58.05±7.75	0.799	
	Present	36	49.15±8.71		
Smoking	No	49	64.81±9.22	0.181	
	Yes	53	46.67±7.19		
Alcohol consumption	None	89	58.48±6.70	0.510	
	Social drinker	7	42.42±16.71		
	Regular drinker	6	31.50±12.85		
PET uptake at diagnosis	Absent	15	67.90±18.09	0.396	
	Present	87	51.92±5.79		
Metastatic lymph nodes at diagnosis	Absent	49	73.66±9.68	**0.006**	
	Present	53	39.73±6.52		
Nutritional support before surgery/ CRT	Absent	15	50.93±10.91	0.056	
	Enteral	79	60.82±7.36		
	Enteral + TPN	8	19.50±6.69		
Nutritional intervention (gastrostomy/jejunostomy)	Absent	80	56.15±6.65	0.726	
	Present	22	54.81±13.69		
Preoperative albumin (median: 3.2)	Normal	46	47.52±7.61	0.895	
	Low	56	56.04±10.21		
Tumor location	Upper thoracic	16	67.85±11.43	0.231	
	Middle thoracic	19	38.70±9.77		
	Lower thoracic	46	65.56±9.99		
	Gastroesophageal junction	21	40.13±11.62		
Histological type	SCC	85	61.51±6.94	**0.033**	
	Adenocarcinoma	17	27.49±7.44		
Clinical T stage	0	2	-	0.190	
	2	12	61.45±11.97		
	3	74	56.50±7.54		
	4	14	36.85±10.83		
Clinical N stage	0	50	74.75±9.30	**0.005**	0-1:**0.039** 0-2:**0.003** 0-3:**0.003** 1-2:0.444 1-3:0.297 2-3:0.529
	1	31	44.74±9.60		
	2	15	25.89±6.62		
	3	6	17.66±5.09		
Clinical (TNM) stage	2	41	84.56±10.85	**<0.001**	2-3:**0.002** 2-4:<**0.001** 3-4:0.480
	3	31	37.27±8.02		
	4	25	30.92±7.81		

Table 2. Comparison of overall survival in surgically treated patients (n=34)				
		n	Mean ± SD	p-value
Place of birth	Eastern and Southeastern Anatolia Region	12	60.83±22.01	0.083
	Other regions	22	75.23±13.17	
Surgical approach (direct/neoadjuvant)	Direct surgery	20	58.64±14.74	0.504
	Neoadjuvant	14	54.63±12.08	
Sex	Female	14	85.45±19.66	0.177
	Male	20	39.95±8.86	
Body mass index	18-25	25	59.62±14.04	0.702
	25-30	9	63.33±19.78	
Comorbid disease	Absent	20	49.49±13.72	0.087
	Present	14	73.70±18.34	
Smoking	Absent	17	70.70±16.79	0.563
	Present	17	53.80±14.42	
ASA score	1	14	38.39±9.76	0.628
	2	16	80.06±17.70	
	3	4	35.00±15.46	
Surgical technique	Transhiatal esophagectomy	6	60.17±19.18	0.701
	Ivor Lewis esophagectomy	12	40.60±8.02	
	McKeown esophagectomy	16	54.81±15.45	
Anastomosis technique	Hand-sewn	12	55.91±19.00	0.748
	Stapler (lineer)	5	46.00±22.71	
	Stapler (circular)	17	65.00±17.03	
Anastomosis level	Cervical	15	57.86±16.18	0.627
	Thoracic	19	53.27±10.63	
Anastomotic leak	Absent	30	64.54±12.62	0.745
	Present	4	47.75±29.54	
PET-CT uptake at diagnosis	Absent	6	88.66±31.50	0.284
	Present	28	54.15±11.24	
Reason for admission:	Dysphagia	19	68.20±14.41	0.625
	Dysphagia + weight loss	13	62.57±19.49	
Lymph node involvement at diagnosis	Absent	17	92.20±17.42	**0.013**
	Present	17	29.56±8.12	
Nutritional support before surgery/CRT	Enteral	26	80.77±14.37	**0.006**
	Enteral + TPN	8	19.50±6.69	
Nutritional intervention (gastrostomy/jejunostomy/PEG)	Absent	22	41.57±8.53	0.345
	Present	12	84.36±21.57	
Preoperative albumin level	Normal	16	46.64±13.17	0.588
	Low	18	50.66±18.32	
Tumor location	Middle and upper thoracic	6	51.66±18.46	0.624
	Lower thoracic	15	79.03±17.42	
	Gastroesophageal junction	13	52.53±17.84	
Histological type	SCC	22	81.01±15.39	**0.021**
	Adeno CA	12	26.27±9.52	
Perineural invasion	Absent	25	74.20±14.08	0.088
	Present	9	20.77±5.86	
Lymphovascular invasion	Absent	24	80.48±14.84	**0.034**

Table 2. Continued

		n	Mean ± SD	p-value
	Present	10	23.70±7.57	
Grade	1	4	41.25±19.33	0.264
	2	20	61.86±14.15	
	3	7	16.00±6.38	
Clinical N stage	0	17	92.20±17.42	0.075
	1	7	35.57±17.38	
	2	5	32.40±11.27	
	3	5	20.60±5.09	
Clinical TNM stage	2	11	107.63±20.86	**0.004**
	3	6	40.83±7.28	
	4	12	21.16±8.18	
Pathological T stage	2	4	46.00±8.61	0.453
	3	26	51.03±12.63	
Pathological N stage	0	18	78.89±16.63	**0.010**
	1	8	73.12±25.77	
	3	5	11.80±4.99	
Pathological TNM stage	2	14	56.42±15.51	**0.042**
	3	11	67.90±20.92	
	4	5	11.80±4.99	
Neoadjuvant RT	Absent	20	58.64±14.47	0.504
	Present	14	54.63±12.08	
Neoadjuvant CT	Absent	20	58.64±14.74	0.504
	Present	14	54.63±12.08	
Adjuvant RT	Absent	19	72.55±15.80	0.290
	Present	15	48.53±13.55	
Recurrence/metastasis	Absent	18	97.94±18.43	**0.027**
	Present	16	28.72±3.55	

[S-507]

Surgical decision-making in occult peptic ulcer perforations with no free air detected on computed tomography: Diagnostic power of inflammatory biomarkers (NLR and CRP)

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Objective: Peptic ulcer perforation is a serious clinical condition frequently encountered in emergency abdominal surgery practice, and despite effective treatment, it still has a mortality rate of 10-15%. Although the demonstration of free air on computed tomography (CT) is considered the gold standard for diagnosis, the literature reports that approximately 10-15% of perforations do not show radiologically detectable free air ("occult perforation"). The aim is to compare demographic and laboratory data in patients operated on with a diagnosis of PUP in our clinic, according to the presence of free air on CT, and to investigate the diagnostic power of inflammatory markers in predicting occult perforations that do not show radiological findings.

Material and Methods: A total of 48 patients who underwent emergency surgery for peptic ulcer perforation at our clinic between January 2023 and October 2025 (traumatic and iatrogenic injuries excluded) were retrospectively examined. Patients were divided into two groups: Group 1 (classic group): patients with free air detected on CT scan (n=35), Group 2 (occult group): Patients without free air detected on CT scan (n=13).

Results: The mean age of the 48 patients included in the study was 54.4±18.0 years, and 81.3% of the cases were male. Perforation localization was in the prepyloric/antral region in 93.8% of cases. Open omentopexy was performed in 93.8% of the patients. In 27% of the patients in our series (n=13), no free air was seen on CT scans despite the perforation being confirmed surgically. The most striking finding is that in patients whose CT scans were reported as "normal", white blood cell and NLR were paradoxically higher. Our data show that WBC >11.900 and NLR >10, combined with physical examination findings, provide sufficient evidence for surgical exploration despite a negative CT scan, thus preventing this delay.

Conclusion: In peptic ulcer perforation, the absence of free air on CT scans is not uncommon (27% in our series) and does not rule out surgery. In younger patients, especially those under 45, perforation may be self-limiting without releasing free air. In patients with clinically suggestive acute abdomen but no air visible on CT scans, a leukocyte count >12,000 and an NLR >10 are strong indicators for diagnosing "occult perforation." Using these simple biomarkers in cases of radiological negativity can prevent diagnostic delays and associated morbidity.

Keywords: Peptic ulcer perforation, occult perforation, negative free air

Table 1. Demographic data of patients

Parametre	Sayı (n=48)	Yüzde / Değer
Yaş (Yıl)		54,4 ± 18,0 (19 - 96)
Cinsiyet		
Erkek	39	%81,3
Kadın	9	%18,7
Perforasyon Yeri		
Gastrik / Prepilorik / Antrum	45	%93,8
Duodenum / Bulbus	3	%6,2
BTde Serbest Hava		
Serbest Hava Var (Pnömoperitoneum)	35	%72,9
Serbest Hava Yok (Okült Perforasyon)	13	%27,1
Mortalite (Exitus)	8	%16,7

BT;bilgisayarlı tomografi

Table 2. Comparison of groups based on the presence of free air in computed tomography (CT) scans

Parameter	Group 1 (n=35)	Group 2 (n=13)	p-value
Age (years) (mean ± SD)	58.3±16.6	44.0±17.9	0.021
WBC (leukocytes) (10^3/µL) (mean ± SD)	12.2±5.0	15.1±3.2	0.022
CRP (mg/L) median (IQR 25-75)	35.0 (7.0-120.0)	22.0 (5.0-184.0)	0.807
NLR (neutrophil/lymphocyte ratio) median (IQR 25-75)	8.9 (3.5-14.4)	9.9 (7.4-11.0)	0.634
NLR-CRP index (/100) median (IQR 25-75)	2.3 (0.3-9.5)	1.6 (0.4-16.7)	0.710

Table 3. ROC analysis in predicting "occult perforation" based on statistically differing parameters

Parameter	AUC	Cut-off (threshold value)	Sensitivity	Specificity	p-value
Age	0.722	<48 years	70.0%	71.4%	0.019
Leukocyte	0.688	>11.9 (10^3/µL)	92.3%	51.4%	0.048

[S-508]

Predicting stent success in esophageal anastomotic leaks: The clinical significance of the CT-based defect-to-lumen ratio

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Objective: Endoscopic stent placement is widely used for managing esophageal anastomotic leaks; however, reliable predictors of success remain poorly defined and often rely on absolute defect size. We hypothesised that relative defect geometry within the lumen might better predict mechanical sealing and clinical success.

Material and Methods: Patients with CT-confirmed esophageal anastomotic leakage after Ivor Lewis esophagectomy or total gastrectomy who underwent fully covered self-expandable metal stent placement were retrospectively analysed. Defect diameter and luminal diameter were measured on sagittal CT reconstructions to calculate the defect-to-lumen (D/L) ratio. Stent success was defined as complete clinical and radiological resolution without further intervention. ROC analysis was applied as a hypothesis-generating tool to explore the discriminatory performance of the D/L ratio within this cohort.

Results: Thirteen patients met inclusion criteria; stent therapy was successful in 7 (53.8%). Absolute defect size did not reliably discriminate outcomes. When patients were stratified according to the D/L ratio, a clear separation in clinical success was observed. No patient with a D/L ratio <0.21 achieved successful leak closure, whereas 7 of 9 patients (77.8%) with a ratio ≥0.21 were successfully treated (p=0.01). Failed cases presented significantly earlier (median 4 vs. 9 days, p=0.005) and were associated with higher mortality (50%). ROC analysis showed supportive discriminatory performance of the D/L ratio (AUC: 0.81), consistent with the observed clinical distribution.

Conclusion: Relative defect geometry, expressed by the CT-based D/L, may represent a clinically relevant parameter for predicting stent failure in esophageal anastomotic leaks.

Keywords: Anastomotic leakage, esophagogastric surgery, self-expandable metal stents

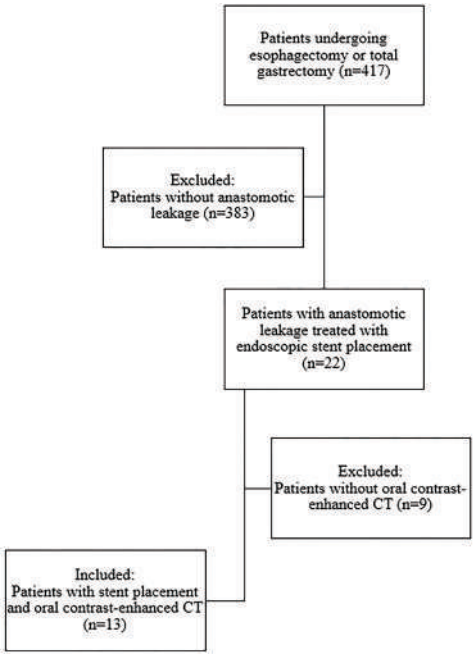

Figure 1. Flow diagram of patient inclusion and exclusion.

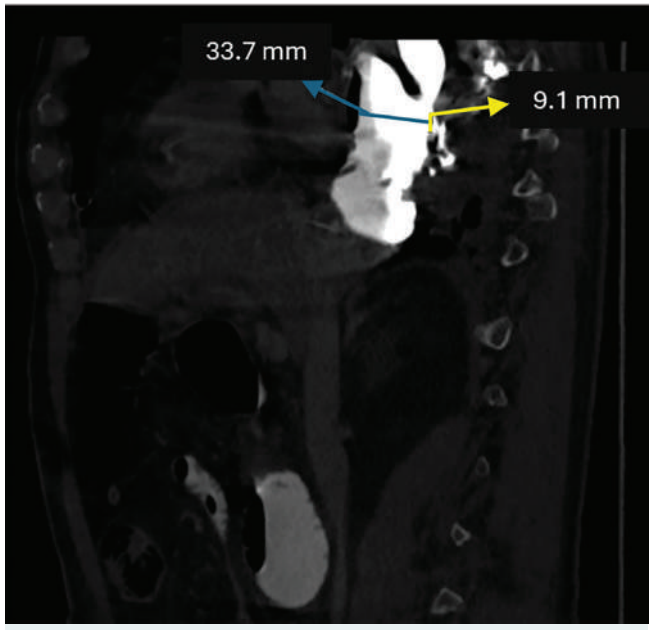

Figure 2. Computed tomography (CT)–based measurements used for calculation of the defect-to-lumen (D/L) ratio and assessment of contrast leakage in a patient who underwent Ivor Lewis esophagectomy. Sagittal CT image demonstrating the measurement technique at the esophagogastric anastomosis. The blue arrow indicates the luminal diameter measured perpendicular to the long axis of the defect, while the yellow arrow represents the maximum length of the anastomotic defect. The D/L ratio was calculated by dividing the defect length by the corresponding luminal diameter.

[S-509]

Diagnosis, treatment, and clinical outcomes in splenic infarction: A retrospective experience in a general surgery clinic

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Objective: Splenic infarction is a rare condition that may cause diagnostic and therapeutic uncertainty, particularly in elderly patients with multiple comorbidities. This study aimed to retrospectively evaluate the demographic characteristics, etiological factors, clinical presentation, treatment approaches, and clinical outcomes of patients admitted from the emergency department to the General Surgery Clinic of Etlik City Hospital with a diagnosis of splenic infarction.

Material and Methods: Twelve patients hospitalized and followed in the General Surgery Clinic with a diagnosis of splenic infarction were retrospectively analyzed. Demographic data, comorbidities, clinical presentation, laboratory findings, imaging results, extent of infarction, treatment strategies, and clinical course were recorded. Continuous variables were presented as mean ± standard deviation and median (interquartile range), and categorical variables as numbers and percentages.

Results: The mean age of the patients was 63.3±18.9 years,and 66.7%were male. Most patients had a high comorbidity burden; 83.3% had at least one comorbidity and 83.3% were classified as ASA III. Regarding a cardioembolic background, atrial fibrillation was present in 41.7% of patients, while 58.3% had a history of previous thromboembolic events and the same proportion had prior anticoagulant use. Diagnosis was established by computed tomography in all patients. In terms of infarct extent, 75% had subtotal, 16.7% segmental, and 8.3% total splenic infarction. Splenic artery thrombosis was observed in 25% of cases, whereas splenic vein thrombosis was less frequent. All patients received anticoagulation and antibiotic therapy. Surgical intervention was required in 33.3% of patients, all of whom underwent splenectomy. The intensive care unit admission rate was 25%. During follow-up, no cases of sepsis, major complications, 30-day mortality, or overall mortality were observed.

Conclusion: This study demonstrates that splenic infarction typically occurs in elderly patients with a high comorbidity burden, often in association with thromboembolic risk factors, and may progress to a severe clinical course if not properly managed early. Although the literature reports wide variability in complication, sepsis, and mortality rates depending on patient profile and risk factors, our series showed no 30-day or overall mortality and no major complications despite a high-risk population. Confirmation of diagnosis by computed tomography in all patients, prompt initiation of treatment, and standardized close clinical monitoring appear critical for improving outcomes. While conservative management was sufficient in most cases, timely splenectomy could be safely performed in selected patients requiring intervention, highlighting the importance of appropriate indication and timing. Overall, our experience indicates that early diagnosis, close follow-up, and individualized treatment can achieve safe and successful outcomes in splenic infarction, even in patients who require surgical management.

Keywords: Atrial fibrillation, computed tomography, emergency department, splenic infarction, thromboembolism

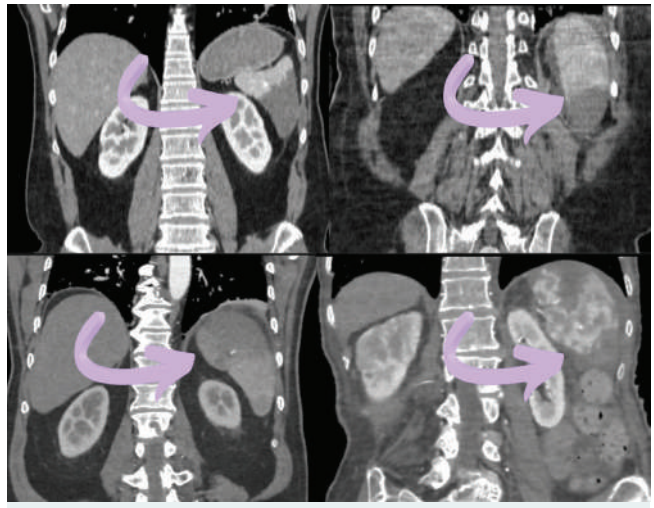

Figure 1. CT Imaging of splenic infarction cases.

Table 1A. Demografi/Başvuru/Laboratuvar

PARAMETRE	n	Ortalama ± SS	Medyan (ÇAA)	Min-Maks
Yaş (yıl), Numeric	12	63.33 ± 18.86	68.00 (53.75–77.25)	23.00–86.00
Vücut kitle indeksi (kg/m²)	12	31.42 ± 4.17	32.50 (28.00–35.00)	25.00–37.00
Başvuruda ağrı süresi (saat)	12	82.00 ± 52.39	72.00 (48.00–120.00)	12.00–168.00
WBC (Lökosit) (10^3/µL)	12	13.56 ± 4.52	13.50 (11.80–17.25)	4.65–20.00
Hemoglobin (g/dL)	12	13.29 ± 2.44	14.30 (10.97–14.83)	9.30–16.40
Trombosit (10^3/µL)	12	338.08 ± 177.62	305.50 (218.75–355.25)	95.00–686.00
CRP (mg/L)	12	86.27 ± 75.31	74.50 (12.22–149.75)	3.00–199.00
D-dimer (ng/mL)	3	3.09 ± 3.86	1.22 (0.87–4.37)	0.52–7.52
LDH (U/L)	12	274.92 ± 72.42	275.00 (226.50–321.50)	150.00–410.00

Table 1B. Demografi/Komorbidite/Başvuru Bulguları

PARAMETRE	KATEGORİ	n/N (%)
Cinsiyet	Erkek	8/12 (66.7%)
Cinsiyet	Kadın	4/12 (33.3%)
ASA skoru (1–4)	2	2/12 (16.7%)
ASA skoru (1–4)	3	10/12 (83.3%)
Ek hastalık varlığı	Yok	2/12 (16.7%)
Ek hastalık varlığı	Var	10/12 (83.3%)
Charlson komorbidite indeksi	1	5/12 (41.7%)
Charlson komorbidite indeksi	2	6/12 (50.0%)
Charlson komorbidite indeksi	3	1/12 (8.3%)
Atriyal fibrilasyon	Yok	7/12 (58.3%)
Atriyal fibrilasyon	Var	5/12 (41.7%)
Kapak hastalığı	Yok	10/12 (83.3%)
Kapak hastalığı	Var	2/12 (16.7%)
İskemik kalp hastalığı	Yok	12/12 (100.0%)
Önceki tromboembolik olay	Yok	5/12 (41.7%)
Önceki tromboembolik olay	Var	7/12 (58.3%)
Antikoagülan kullanımı (önceden)	Yok	5/12 (41.7%)
Antikoagülan kullanımı (önceden)	Var	7/12 (58.3%)
Aktif malignite	Yok	11/12 (91.7%)
Aktif malignite	Var	1/12 (8.3%)
Hematolojik hastalık (MPN, hemoglobinopati vb.)	Yok	12/12 (100.0%)
Eşlik eden enfeksiyon/endokardit	Yok	11/12 (91.7%)
Eşlik eden enfeksiyon/endokardit	Var	1/12 (8.3%)
COVID-19 öyküsü (son 3 ay)	Yok	12/12 (100.0%)
Sigara	Yok	10/12 (83.3%)
Sigara	Var	2/12 (16.7%)
Başvuru şekli	Acil	12/12 (100.0%)
Ağrı lokalizasyonu	Sol üst kadran	12/12 (100.0%)
Ateş (>38°C)	Yok	11/12 (91.7%)
Ateş (>38°C)	Var	1/12 (8.3%)
Bulantı/kusma	Yok	11/12 (91.7%)
Bulantı/kusma	Var	1/12 (8.3%)
Hipotansiyon (SBP <90 mmHg)	Hayır	11/12 (91.7%)
Hipotansiyon (SBP <90 mmHg)	Evet	1/12 (8.3%)

Table 2A. Görüntüleme/Enfarkt Özellikleri

PARAMETRE	n	Ortalama ± SS	Medyan (ÇAA)	Min–Maks
En büyük enfarkt alanı (mm)	12	69.83 ± 36.49	70.00 (50.00–92.50)	8.00–130.00
Ameliyat süresi (dakika)	4	60.00 ± 0.00	60.00 (60.00–60.00)	60.00–60.00

Table 2B. Görüntüleme/Enfarkt Yaygınlığı/Tromboz/Tedavi

PARAMETRE	KATEGORİ	n/N (%)
Görüntüleme	BT	12/12 (100.0%)
BT'de dalak enfarktı tanısı	Evet	12/12 (100.0%)
Enfarkt yaygınlığı	Segmental	2/12 (16.7%)
Enfarkt yaygınlığı	Subtotal	9/12 (75.0%)
Enfarkt yaygınlığı	Total	1/12 (8.3%)
Splenik arter trombozu	Yok	9/12 (75.0%)
Splenik arter trombozu	Var	3/12 (25.0%)
Splenik ven trombozu	Yok	11/12 (91.7%)
Splenik ven trombozu	Var	1/12 (8.3%)
Dalak absesi gelişimi	Yok	12/12 (100.0%)
Dalak rüptürü	Yok	12/12 (100.0%)
Preoperatif/ilk başvuruda tanı kondu	Hayır	2/12 (16.7%)
Preoperatif/ilk başvuruda tanı kondu	Evet	10/12 (83.3%)
Konservatif tedavi	Hayır	4/12 (33.3%)
Konservatif tedavi	Evet	8/12 (66.7%)
Antikoagülasyon başlandı	Evet	12/12 (100.0%)
Antibiyotik verildi	Evet	12/12 (100.0%)
Girişim gereksinimi	Yok	8/12 (66.7%)
Girişim gereksinimi	Var	4/12 (33.3%)
Girişim tipi	GİRŞİM YOK	8/12 (66.7%)
Girişim tipi	Splenektomi	4/12 (33.3%)
Acil cerrahi gereksinimi	Hayır	9/12 (75.0%)
Acil cerrahi gereksinimi	Evet	3/12 (25.0%)

Table 3A. Klinik Seyir/Yatış/Takip

PARAMETRE	n	Ortalama ± SS	Medyan (ÇAA)	Min–Maks
Yoğun bakım süresi (gün)	12	0.42 ± 0.79	0.00 (0.00–0.25)	0.00–2.00
Hastanede yatış süresi (gün)	12	4.50 ± 1.83	4.00 (3.75–5.25)	2.00–8.00
Takip süresi (ay)	12	2.00 ± 1.41	1.00 (1.00–3.00)	1.00–5.00

Table 3B. Komplikasyonlar ve Sonuçlar

PARAMETRE	KATEGORİ	n/N (%)
Komplikasyon	Yok	12/12 (100.0%)
Sepsis	Yok	12/12 (100.0%)
Yoğun bakım yatışı	Hayır	9/12 (75.0%)
Yoğun bakım yatışı	Evet	3/12 (25.0%)
30 gün mortalite	Hayır	12/12 (100.0%)
Toplam mortalite	Hayır	12/12 (100.0%)
Tekrarlayan trombotik olay	Yok	12/12 (100.0%)

[S-510]

Effect of neoadjuvant chemotherapy on lymph node burden and survival in pathological T4a gastric adenocarcinoma: A retrospective cohort study

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Objective: We aimed to evaluate the nodal downstaging effect and periodic survival rates of neoadjuvant chemotherapy (NACT) in gastric cancer patients who remain at pathological stage T4a (pT4a) after surgery.

Material and Methods: We retrospectively reviewed 250 patients with pT4a gastric adenocarcinoma. The cohort comprised an upfront surgery group (n=198) and a NACT group (n=52). Primary endpoints were metastatic lymph nodes and the lymph node ratio (LNR). Secondary endpoints included median overall survival (OS) and cumulative 1-, 3-, and 5-year survival rates. Mann-Whitney U, chi-square, and Kaplan-Meier (Log-rank) tests were utilized for analysis.

Results: Median follow-up times were comparable (23.0 months for upfront surgery vs. 19.0 months for NACT; p=0.065). Groups were balanced regarding age (p=0.407), gender (p=0.142), and the extent of resection (p=0.144). Median harvested lymph nodes did not differ significantly (27.0 vs. 31.0, p=0.427). Although NACT patients showed a numerically lower LNR (0.18 vs. 0.29, p=0.084), this trend lacked statistical significance. Median OS was identical in both groups at 23.0 months (p=0.687). The cumulative 1-, 3-, and 5-year survival rates for upfront surgery vs. NACT were 71.1% vs. 79.8%, 38.8% vs. 36.8%, and 29.4% vs. 24.5%, respectively.

Conclusion: In patients with a final pathological stage of T4a, NACT yields no statistically significant advantage in nodal response or survival rates over upfront surgery. These findings suggest that tumors failing to downstage despite neoadjuvant treatment possess high primary chemoresistance and aggressive biology.

Keywords: Gastric adenocarcinoma, metastatic lymph node, pT4a gastric cancer

Table 1.

Değişken	Doğrudan Cerrahi (n=198)	NAKT (n=52)	p-değeri
Yaş (yıl), Medyan [IQR]	63.5 [52.0 – 70.0]	58.5 [53.0 – 68.0]	0.407†
Cinsiyet , n (%)			0.142‡
Erkek	123 (%62.1)	38 (%73.1)	
Kadın	75 (%37.9)	14 (%26.9)	
Operasyon Tipi , n(%)			0.144‡
Total Gastrektomi	133 (%67.2)	41 (%78.8)	
Distal Subtotal Gastrektomi	65 (%32.8)	11 (%21.2)	

Kısaltmalar: IQR, Çeyrekler Arası Aralık . †Mann-Whitney U Testi. ‡Ki-kare Testi.

Table 2.

Değişken	Doğrudan Cerrahi (n=198)	Neoadjuvan Kemoterapi (n=51)*	p-değeri
Çıkarılan Toplam Lenf Nodu, Medyan [IQR]	27.0 [21.0 – 37.0]	31.0 [22.0 – 38.0]	0.427†
Metastatik Lenf Nodu, Medyan [IQR]	7.0 [2.0 – 15.0]	4.0 [2.0 – 13.0]	0.197†
Lenf Nodu Oranı (LNR), Medyan [IQR]	0.29 [0.09 – 0.56]	0.18 [0.06 – 0.36]	0.084†
Genel Sağkalım (Ay), Medyan [%95 GA]	23.0 [17.9 – 28.0]	23.0 [14.1 – 31.8]	0.687§

*Kısaltmalar: IQR, Çeyrekler Arası Aralık; GA, Güven Aralığı. *Neoadjuvan grubunda 1 hastanın lenf nodu verisi eksik olduğu için ilgili analizler N=51 üzerinden yapılmıştır. †Mann-Whitney U testi. §Kaplan-Meier yöntemi ve Log-rank testi.*

[S-513]

Factors affecting neoadjuvant therapy response in gastric cancer patients undergoing curative gastrectomy and D2 lymphadenectomy

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Objective: In this study, our aim was to examine the tumor regression degree (TRG) in the histopathology of the gastric cancer patients who received neoadjuvant chemotherapy (NAC) after curative surgical resection and to reveal the factors affecting this.

Material and Methods: Data of 97 patients who received NAC and curative surgery with the diagnosis of gastric malignant neoplasm at the General Surgery Department of University of Health Sciences Türkiye, Haydarpaşa Numune Training and Research Hospital between January 2012 and May 2024 were examined. According to the TRG response, 97 patients were divided into 2 groups as TRG 0, 1, 2 and TRG 3. Factors evaluated for TRG response; age, gender, tumor localization, tumor size, presence of signet ring cells, type according to Lauren classification, differentiation of the tumor, perineural invasion (PNI) and lymphovascular invasion (LVI), number of lymph nodes removed, number and rate of metastatic lymph nodes, TNM stage, NAC type, surgery type, tumor markers, HER2 status, preoperative neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR) and lymphocyte/monocyte ratio (LMR).The identified risk factors were evaluated with univariate and multivariate analysis. The study was conducted as a single-center and retrospective study. Demographic characteristics and basic clinical data of the patients were obtained from the hospital information system.

Results: Ninety-seven patients were included in the study. The mean age of the patients was 59.9±9, the number of male patients was 72 (74.2%), and the number of female patients was 25 (25.8%). Fifty-two (53.6%) patients were in the TRG 0-1-2 group, and 45 (46.4%) patients were in the TRG 3 group. In the univariate analysis, tumor size, presence of signet ring cells, differentiation, perineural invasion (PNI), N stage, metastatic lymph node number and rate were found to be significant. When the risk factors determined according to the univariate analysis were evaluated in the multivariate analysis, tumor size and PNI were evaluated as independent risk factors.

Conclusion: In our study, it was determined that PNI and tumor size were independent risk factors in TRG response in patients who received NAC treatment for gastric cancer and underwent curative surgery.

Keywords: Curative surgery, gastric cancer, neoadjuvant chemotherapy, tumor regression grade

Table 1. Results of multivariate analysis

	Univariate model					Multivariate model				
	OR	95% GA			p	OR	95% GA			p
Tumor size	1.184	1.036	-	1.353	**0.013**					
Tumor size <4.5/≥4.5	3.778	1.626	-	8.776	**0.002**	3.011	1.240	-	7.308	**0.015**
Ring cell	3.167	1.243	-	8.071	**0.016**					
Lauren	1.291	0.743	-	2.244	0.364					
Differentiation	2.526	1.329	-	4.802	**0.005**					
Lymphovascular invasion	1.722	0.736	-	4.032	0.210					
Perineural invasion	3.624	1.537	-	8.543	**0.003**	3.296	1.357	-	8.006	**0.008**
Total lymph nodes	1.018	0.988	-	1.049	0.235					
Number of metastatic lymph nodes	1.077	1.019	-	1.138	**0.008**					
Metastatic lymph node rate	28.716	2.871	-	>100	**0.004**					
Phase N	2.522	1.103	-	5.765	**0.028**					
Logistic Regression (Forward LR)										

[S-516]

Evaluation of the relationship between prognostic nutrition index and pathological stage in patients undergoing total gastrectomy due to gastric adenocarcinoma

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Objective: Gastric cancer is a major public health problem with high mortality, largely due to delayed diagnosis and presentation at advanced stages. Although TNM staging is fundamental for clinical decision-making, it does not fully reflect the biological heterogeneity of the disease. Therefore, the combined evaluation of CA 19-9, a marker of tumor burden, and the prognostic nutritional index (PNI), which reflects the patient's immuno-nutritional status, may allow more accurate preoperative risk stratification, particularly in candidates for total gastrectomy. This study investigates the relationship between the PNI, serum CA 19-9 levels, and pathological TNM stage in patients undergoing total gastrectomy for gastric adenocarcinoma. The association of low PNI and elevated CA 19-9 levels with advanced pathological stages suggests that these parameters may be useful in preoperative risk assessment and clinical decision-making.

Material and Methods: This retrospective, single-center study included 211 patients with gastric adenocarcinoma who underwent neoadjuvant chemotherapy followed by total gastrectomy with D2 lymph node dissection between 2020 and 2025 and had available laboratory data within 7-10 days after surgery. Demographic, clinical, and laboratory data were obtained from medical records. The PNI was calculated based on serum albumin and lymphocyte count; due to a right-skewed distribution, CA 19-9 values were log-transformed using log (1+CA 19-9). Pathological staging was performed according to the AJCC 8th edition. Statistical analyses were conducted using R software, including correlation, ordinal logistic regression, and receiver operating characteristic analyses, with $p<0.05$ considered statistically significant.

Results: This study investigated the association between the PNI, serum CA 19-9 levels, and pathological stage in gastric adenocarcinoma. PNI decreased significantly, while CA 19-9 levels increased with advancing pathological stage. Although PNI values were higher in patients with pathological complete response, this difference was not statistically significant. Correlation analyses showed a negative association between PNI and pathological stage and a positive association between log-transformed CA 19-9 and pathological stage. Ordinal logistic regression demonstrated that both PNI and CA 19-9 were independently associated with pathological stage and provided complementary predictive value. ROC analysis indicated that their combined use improved discrimination of stage III disease, suggesting clinical utility in predicting advanced disease.

Conclusion: PNI and CA 19-9 are independently associated with pathological stage in gastric adenocarcinoma. The combined assessment of these two parameters provides greater diagnostic value in predicting advanced-stage disease.

Keywords: Gastric adenocarcinoma, prognostic nutritional index, total gastrectomy, CA 19-9

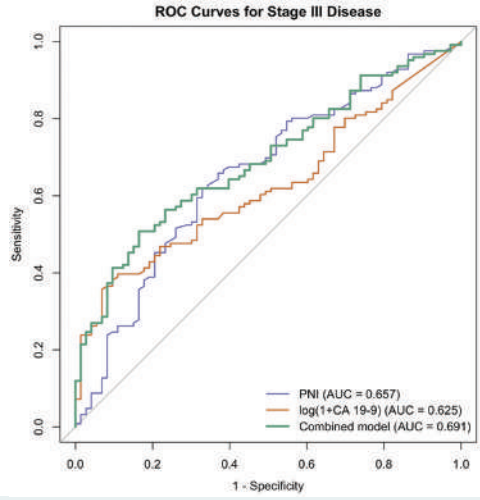

Figure 1. ROC curves for discrimination of stage III disease using PNI, log-transformed CA 19-9, and a combined model [PNI + log(1+CA 19-9)].

ROC: Receiver operating characteristic, PNI: Prognostic nutritional index.

Table 1.

Variable	Mean ± SD	Median (IQR)	Min-max
Age (years)	62.45±11.00	64.00 (54.00-71.00)	28-80
Body mass index (kg/m²)	4.23±4.73	23.90 (20.80-27.05)	13.2-38.5
Hemoglobin	11.20±2.40	11.10 (9.30-13.05)	4.9-16.5
Albumin (g/L)	39.62±4.86	40.00 (36.00-43.00)	24.00-51.00
Platelet count	276.16±105.28	262.00 (203.00-330.50)	44.00-616.00
Lymphocyte count (×10⁹/L)	2.08±0.70	2.02 (1.55-2.56)	0.61-4.21
Neutrophil count (×10⁹/L)	4.43±1.80	4.24 (3.31-5.29)	1.29-11.00
Monocyte count (×10⁹/L)	0.62±0.22	0.60 (0.45-0.73)	0.11-1.35
C-reactive protein (CRP)	12.16±21.93	3.50 (1.20-11.60)	0.20-142.60
Carcinoembryonic antigen (CEA)	7.88±26.26	2.53 (1.50-4.75)	0.30-298.00
Carbohydrate antigen 19-9 (CA 19-9)	93.23±388.16	13.70 (6.05-31.25)	2.00-4802.00

Demographic, clinical, and laboratory characteristics of the study population (n=211). SD: Standard deviation; IQR: Interquartile range; Min-max: Minimum-maximum.

Table 2.				
Variable	**β (SE)**	**OR**	**95% CI**	**p-value**
PNI (per 1-point increase)	-0.080 (0.024)	923	0.881-0.967	<0.001
log(1 + CA 19-9) (per 1-unit increase)	0.376 (0.121)	1456	1.149-1.846	0.002

Independent association of PNI and CA 19-9 with pathological stage (I-IIA-IIB-III): Ordinal logistic regression analysis (n=199). PNI: Prognostic nutritional index; CI: Confidence interval.

[S-517]

Laparoscopic duodenojejunostomy for the treatment of superior mesenteric artery syndrome: Analysis of 91 patients

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Objective: Superior mesenteric artery (SMA) syndrome (SMAS) is a rare condition caused by the compression of the third portion of the duodenum between the aorta and the SMA. Laparoscopic duodenojejunostomy has emerged as a safe and effective surgical treatment, particularly when conservative measures fail.

Material and Methods: We analyzed the clinical and surgical outcomes of 91 patients who underwent laparoscopic duodenojejunostomy for SMAS between February 2016 and July 2023. Our patients were diagnosed and treated according to an algorithm (Figure 1). Preoperative clinical characteristics, surgical data, postoperative symptom improvement rates, and weight regain were evaluated. Diagnosis was confirmed through computed tomographic angiography (CTA) demonstrating an aortomesenteric angle <20° and distance <10 mm. Conservative treatment was initially applied in all cases prior to surgical intervention. The following flowchart was followed in the study (Figure 2).

Results: Among the 91 patients, 58.2% were female, and the mean age was 29.2 SD 11 years. All surgeries were completed laparoscopically with no intraoperative complications. After an average follow-up of 42.5 SD 26.7 months, 93.4% of patients showed significant symptom improvement, with a mean postoperative weight gain of 4.5 SD 2.5 kg. Postoperative complications included delayed gastric emptying in 8 patients (resolved conservatively) and low-output chylous fistulas in 4 patients (resolved spontaneously). There was no mortality.

Conclusion: Laparoscopic duodenojejunostomy is a safe and effective treatment for SMAS, offering high success rates and minimal complications. While this study highlights the benefits of a multidisciplinary approach and standardized surgical techniques, further prospective studies are needed to optimize management protocols for this rare condition.

Keywords: Superior mesenteric artery syndrome, Wilkie's syndrome

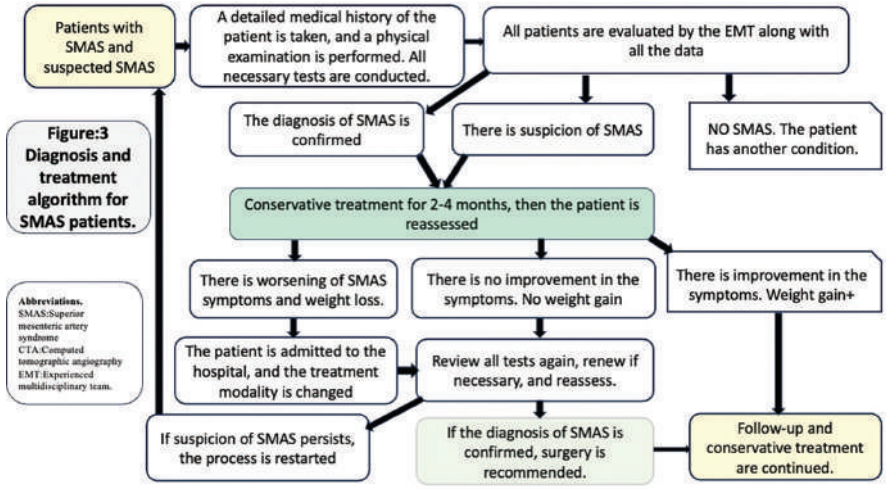

Figure 1. Diagnosis and treatment algorithm for SMAS.

SMAS: Superior mesenteric artery syndrome, EMT: Expert multidisciplinary team, CTA: Computed tomography angiography.

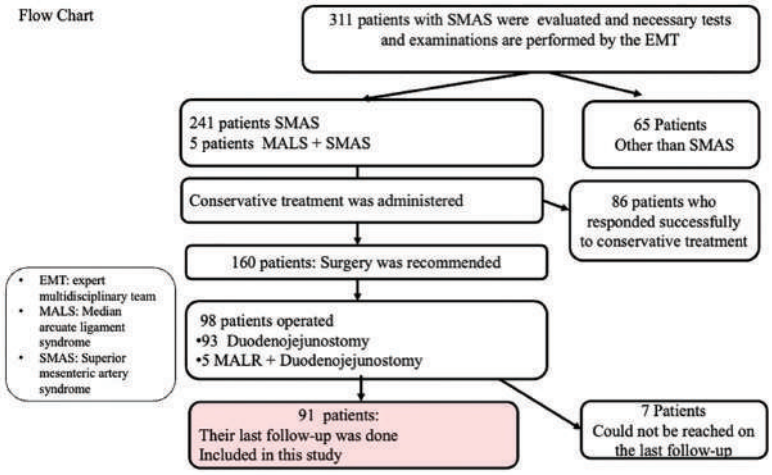

Figure 2. Flow chart of the study.

SMAS: Superior mesenteric artery syndrome, MALR: Median arcuate ligament release.

[S-518]

Superior mesenteric artery syndrome: Development and validation of a novel diagnostic and severity scoring system

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Objective: Superior mesenteric artery syndrome (SMAS) is a rare gastrointestinal disorder caused by compression of the third part of the duodenum due to a narrowed aortomesenteric angle (AMA) and aortomesenteric distance (AMD). Although AMD and AMA are essential diagnostic parameters, no standardized system exists to grade disease severity. This study introduces the SMAS-DAS (Superior mesenteric artery syndrome-diagnosing and severity scoring) system, which incorporates clinical and radiological parameters for both diagnosis and severity classification.

Material and and Methods: We retrospectively analyzed 37 patients diagnosed with SMAS between August 2023 and November 2024. The SMAS-DAS system integrates four parameters: vomiting frequency, involuntary weight loss percentage, AMD, and proximal duodenum diameter, scoring each from 0-3. Total scores range from 0-12, with classifications of mild (3-6), moderate (7-9), or severe (>9). Correlations between AMD, AMA, clinical symptoms, and radiological findings were assessed using Pearson's correlation coefficient.

Results: There was a significant correlation between AMD and key clinical parameters, including vomiting frequency ($p<0.001$) and weight loss percentage ($p<0.001$). Conversely, AMA showed weak and non-significant correlations, leading to its exclusion from the scoring system. Of the 37 patients, 8 had mild, 18 moderate, and 11 severe SMAS. The average AMD was 4.5 mm, and the proximal duodenum diameter was 28.5 mm.

Conclusion: The SMAS-DAS system provides a reliable framework for diagnosing SMAS and grading its severity, guiding tailored treatment strategies. While promising, further validation in larger, multicenter studies is necessary to confirm its clinical utility.

Keywords: Superior mesenteric artery syndrome, aortomesenteric distance, Wilkie's syndrome

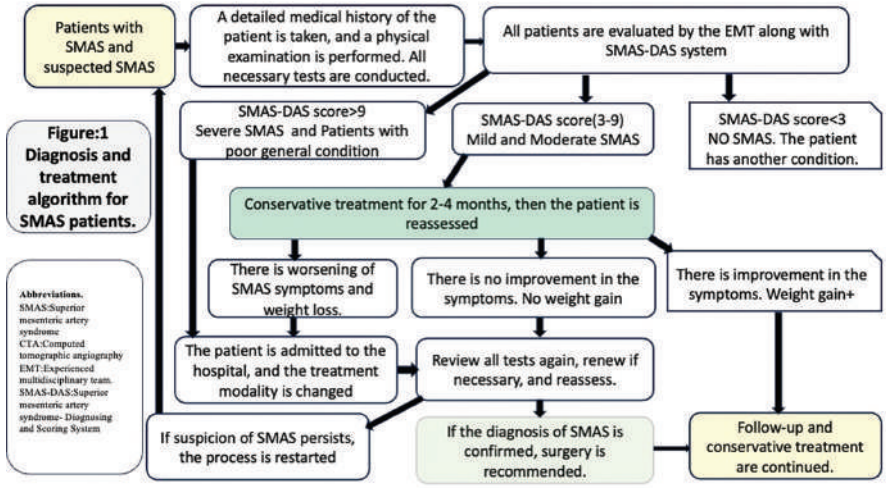

Figure 1. Superior mesenteric artery syndrome diagnosis and treatment algorithm.

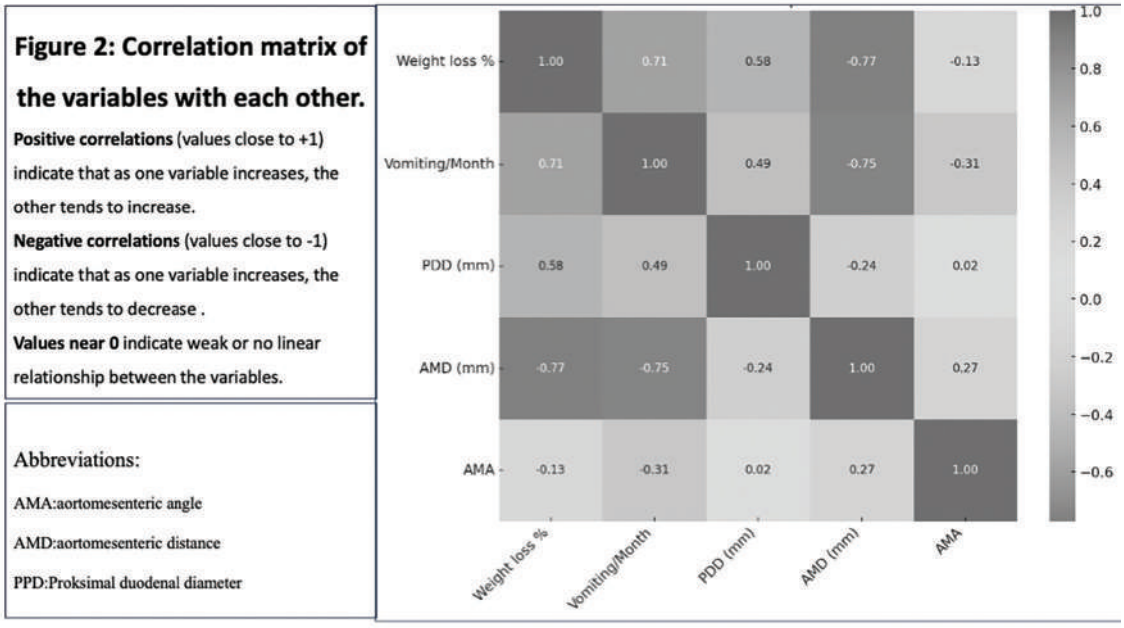

Figure 2. Correlation matrix of the variables (weight loss%, aortamesenteric angle, aortamesenteric distanse, proximal duodenal diameter, vomiting/month) with each other. Positive correlations (values close to +1) indicate that as one variable increases, the other tends to increase. Negative correlations (values close to -1) indicate that as one variable increases, the other tends to decrease .Values near 0 indicate weak or no linear relationship between the variables.

[S-519]

The value of advanced age and preoperative inflammatory markers in predicting mortality in perforated peptic ulcer

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Objective: Perforated peptic ulcer (PPU) is a serious clinical condition requiring emergency surgical intervention and is associated with high mortality. Mortality risk is known to increase significantly, particularly in elderly patients. This study aimed to evaluate the predictive value of advanced age and preoperative inflammatory markers on mortality in patients operated on for PPU.

Material and Methods: A total of 190 patients who underwent surgery for PPU between January 2014 and February 2025 were retrospectively analyzed. Preoperative neutrophil-to-lymphocyte ratio (NLR), C-reactive protein (CRP), lactate levels, and symptom duration were compared between patients who died (exitus) and those who survived.

Results: Mortality was observed in 27 patients (14.2%). Although NLR values were higher in the exitus group compared to survivors, the difference was not statistically significant (median 8.26 vs. 7.96, p=0.85). CRP levels were significantly elevated in the mortality group (median 39.35 vs. 10.7, p=0.006). Lactate was identified as the parameter most strongly associated with mortality (median 47.5 vs. 21.0, p=0.00001). Symptom duration was longer in the exitus group; however, the difference did not reach statistical significance (median 2 days vs. 1 day, p=0.086).When mortality rates were analyzed by age groups, the most striking finding was the marked increase in mortality among elderly patients. Mortality was 5.6% in patients younger than 70 years, whereas it was 39.6% in patients aged 70 years and older, indicating an approximately sevenfold higher mortality risk in the advanced age group.

Conclusion: Advanced age is one of the most important determinants of mortality in PPU surgery. The dramatic increase in mortality among patients over 70 years highlights this group as a high-risk population. Preoperative CRP and especially lactate levels were found to be significant biomarkers in predicting mortality. Although NLR values were higher in the mortality group, no significant difference was observed. Closer monitoring and aggressive perioperative management may help reduce mortality in elderly patients with elevated lactate and CRP levels.

Keywords: Perforated peptic ulcer, mortality

[S-520]

Prediction of complications and early mortality in gastric cancer surgery: A simple clinical score

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Objective: Gastric cancer surgery is associated with substantial morbidity and mortality, making accurate preoperative risk stratification essential. Postoperative complications and early mortality are influenced not only by tumor-related factors but also by the patient's physiological reserve, nutritional status, and comorbidity burden. Many existing prognostic models require postoperative or pathological variables, limiting their utility at the initial preoperative decision-making stage. Therefore, there is a need for simple, bedside-applicable tools based solely on preoperative parameters.

Material and Methods: Patients who underwent surgery for gastric adenocarcinoma between 2015 and 2024 were retrospectively analyzed. The composite outcome was defined as the occurrence of any postoperative complication or perioperative mortality. Candidate predictors included T stage, N stage, preoperative albumin level, ASA score, age, and surgical approach. Variables were evaluated using multivariable logistic regression analysis. A point-based prognostic score was developed using independently significant variables, with points assigned according to effect size and clinical relevance. Discriminative ability was assessed using receiver operating characteristic (ROC) analysis, and calibration was evaluated using the Hosmer-Lemeshow test.

Results: A total of 738 patients were included, and 127 patients (17.2%) experienced the composite outcome. In multivariable analysis, N stage ≥N2, low preoperative albumin (<3.5 g/dL), and ASA score ≥3 were independently associated with the composite outcome (all p<0.05). The resulting score ranged from 0 to 5 points: N stage ≥N2 (1 point), albumin <3.5 g/dL (2 points), and ASA ≥3 (2 points). Event rates increased stepwise with higher scores. The score demonstrated good discriminative performance, with an AUC of 0.81. An optimal cut-off value of ≥2 points provided high sensitivity for predicting adverse outcomes.

Conclusion: A simple prognostic score based on preoperative N stage, albumin level, and ASA score effectively predicts postoperative complications and early mortality following gastric cancer surgery. This easily applicable tool may assist in preoperative risk stratification, patient counseling, and identification of high-risk patients who may benefit from closer perioperative management.

Keywords: Gastric cancer, prognosis, mortality

Skor	Olay riski
0	%5,2
1	%16,7
2	%28,4
3	%32,1
4	%41,5
5	%58,3

Figure 1. Score-risk.

[S-521]

Comparison of oncological and perioperative outcomes of total radical and subtotal radical gastrectomy performed for gastric cancer over the last five years: A single-center retrospective cohort study

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Objective: Curative surgery for gastric cancer typically involves D2 lymph node dissection with either total gastrectomy (TG) or subtotal gastrectomy (STG). We aimed to compare perioperative and oncological outcomes of TG vs. STG in our institution.

Material and Methods: We retrospectively reviewed patients who underwent radical gastrectomy for gastric cancer between 2019 and 2025. Surgical approach was categorized as TG or STG. Perioperative outcomes (operative time, transfusion, length of stay, anastomotic leak, reoperation, 30-day mortality, Clavien–Dindo ≥3) and oncological surrogates (R0 resection, total retrieved lymph nodes, pT/pN and stage distribution, LN cut-offs ≥16 and ≥25) were compared between groups.

Results: A total of 147 patients were included (TG: 72; STG: 75). Operative time was longer in the TG group [286 (240-320) vs. 240 (209-280) minutes; p=0.0009]. The number of retrieved lymph nodes was comparable [23 (17-35) vs. 24 (15-33); p=0.543], and the proportion achieving ≥16 LNs did not differ (81.7% vs. 74.0%; p=0.361). R0 resection rates were similar (91.3% vs. 89.0%; p=0.865). There were no significant differences in anastomotic leak (5.6% vs. 8.2%; p=0.745), reoperation (16.9% vs. 13.7%; p=0.762), major complications (42.3% vs. 34.2%; p=0.414), or 30-day mortality (5.6% vs. 8.3%; p=0.745). Stage, pT, and pN distributions were comparable (all p>0.05).

Conclusion: In this single-center retrospective cohort, TG was associated with longer operative time, while perioperative morbidity/mortality and key oncological quality indicators (lymph node yield and R0 resection) were similar between TG and STG. Surgical strategy should be individualized based on tumor characteristics and patient factors.

Keywords: Gastric cancer, gastrectomy, perioperative outcomes, subtotal gastrectomy, survival, total gastrectomy

Table 1. Comparison of perioperative and oncological outcomes between total and subtotal radical gastrectomy

	Total	Subtotal	p
Sürekli değişkenler (medyan [IQR])			
Yaş	64.0 [57.0–71.0] (n=72)	67.0 [59.5–74.5] (n=75)	0.213
Cerrahi süre (dk)	286 [240–320] (n=71)	240 [209–280] (n=74)	0.0009
Kan transfüzyonu	1 [0–2] (n=71)	1 [0–4] (n=73)	0.507
Çıkarılan LN toplam	23 [17–35] (n=71)	24 [15–33] (n=73)	0.543
Pozitif LN	1 [0–7] (n=71)	2 [0–7] (n=73)	0.562
Yatış süresi (gün)	13 [11–19] (n=71)	13 [10–19.2] (n=74)	0.219
İkili sonuçlar (n/N, %)			
Neoadjuvan tedavi	19/71 (26.8%)	9/74 (12.2%)	0.044
Adjuvan tedavi	49/71 (69.0%)	47/74 (63.5%)	0.600
Anastomoz kaçağı	4/71 (5.6%)	6/73 (8.2%)	0.745
Reoperasyon	12/71 (16.9%)	10/73 (13.7%)	0.762
Tekrar yatış	13/71 (18.3%)	12/73 (16.4%)	0.939
30 gün mortalite	4/71 (5.6%)	6/72 (8.3%)	0.745
Nüks	10/71 (14.1%)	5/72 (6.9%)	0.263
Uzak metastaz	15/71 (21.1%)	15/72 (20.8%)	1.000
Majör komplikasyon (Clavien ≥3)	30/71 (42.3%)	25/73 (34.2%)	0.414
R0 rezeksiyon	63/69 (91.3%)	65/73 (89.0%)	0.865
LN cut-off kalite göstergeleri (n/N, %)			
LN ≥16	58/71 (81.7%)	54/73 (74.0%)	0.361
LN ≥25	34/71 (47.9%)	35/73 (47.9%)	1.000

[S-522]

Prognostic impact of pathological risk factors, molecular biomarkers, and selective HIPEC application in resected gastric adenocarcinoma

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Objective: Gastric cancer remains a major cause of cancer-related mortality worldwide. Prognosis is shaped by classical pathological features, molecular biomarkers, and locoregional interventions such as hyperthermic intraperitoneal chemotherapy (HIPEC) in selected cases. The aim of this study was to evaluate the combined prognostic impact of pathological risk factors, biomarker status (MSI, HER2, PD-L1), and the selective application of HIPEC on survival outcomes in patients undergoing gastrectomy with D2 lymphadenectomy.

Material and Methods: A retrospective cohort of 50 patients with gastric adenocarcinoma who underwent gastrectomy with standardized D2 lymph node dissection between 2005 and 2019 was analyzed. Disease-free survival (DFS) and overall survival (OS) were estimated using Kaplan-Meier methods, and independent predictors of DFS were identified using Cox proportional hazards regression. Peritoneal cytology-positive patients were selectively offered HIPEC according to institutional criteria.

Results: The median DFS was 14 months, and the median OS was 19.5 months. Stage I-II patients had significantly longer DFS compared with stage III-IV ($p<0.001$). Adverse pathological determinants included vascular invasion, perineural invasion, and an elevated lymph node ratio (LNR). MSI-positive tumors demonstrated prolonged DFS, whereas strong PD-L1 expression predicted markedly poorer outcomes. HER2 status did not significantly influence DFS. Peritoneal cytology was positive in 28% of patients; 13 of these received HIPEC, which was associated with improved DFS within this subgroup. Multivariate analysis identified MSI positivity and HIPEC as protective factors, while high LNR, vascular invasion, perineural invasion, and strong PD-L1 expression were independent predictors of poor DFS.

Conclusion: Integrating pathological risk factors, biomarker profiles, and selective HIPEC use provides a comprehensive prognostic framework for gastric cancer. These findings support biomarker-driven risk stratification and selective HIPEC application in cytology-positive patients.

Keywords: Gastric adenocarcinoma, microsatellite instability, PD-L1 expression, hyperthermic intraperitoneal chemotherapy, pathological prognostic factors

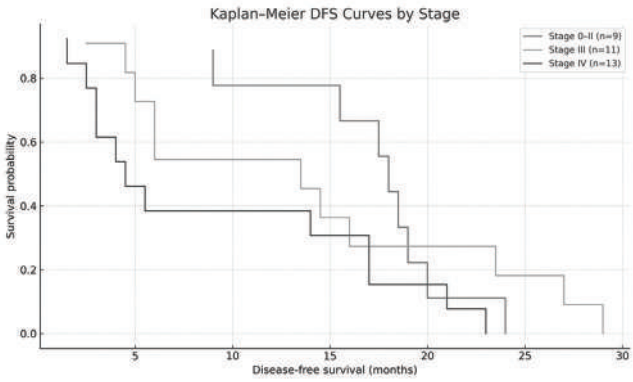

Figure 1. Kaplan-Meier DFS curves by stage. DFS stratified by AJCC stage (0-II, III, IV). DFS decreases with advancing stage.

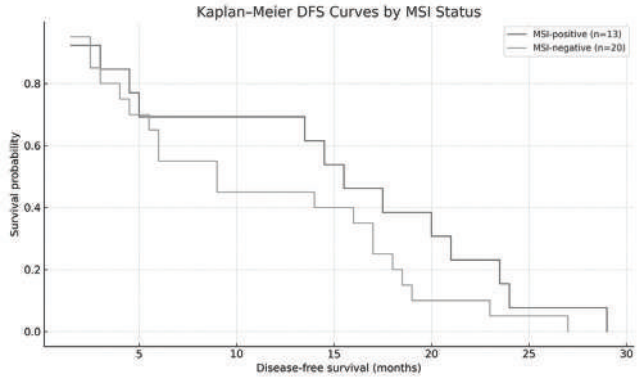

Figure 2. Kaplan-Meier DFS curves by MSI status. MSI-positive tumors show longer DFS compared with MSI-negative tumors.

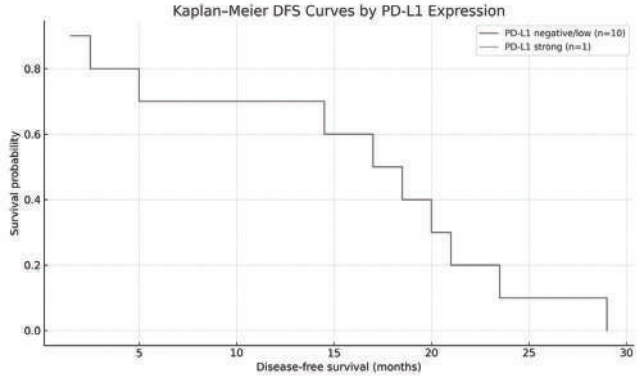

Figure 3. Kaplan-Meier DFS curves by PD-L1 expression. Strong PD-L1 expression (score 3) correlates with shorter DFS.

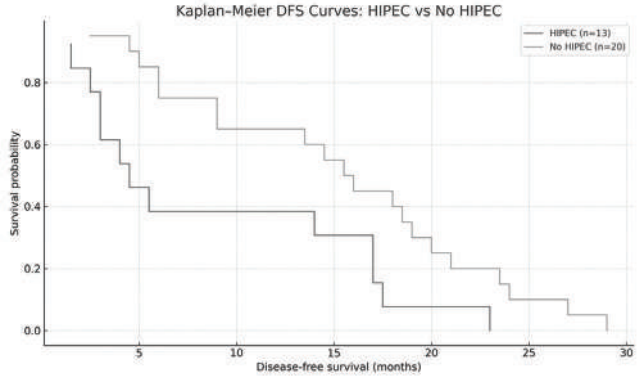

Figure 4. Kaplan-Meier DFS curves. HIPEC vs. No HIPEC: DFS comparison of HIPEC vs. non-HIPEC patients; small sample size noted.

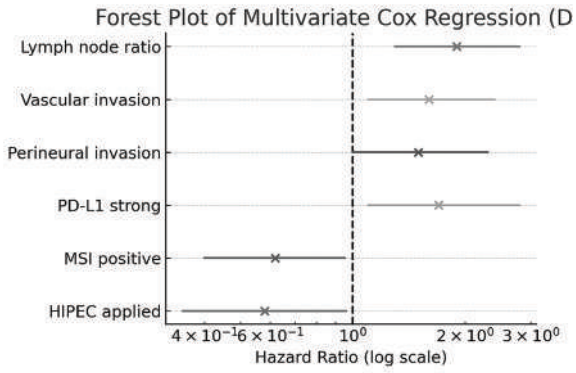

Figure 5. Forest plot of multivariate Cox regression analysis for DFS. Independent predictors of shorter DFS included higher LN ratio, vascular invasion, perineural invasion, and strong PD L1 expression. Protective factors were MSI positivity and HIPEC application.

Table 1. Patient demographics and surgical characteristics

	n	%
Total patients	50	100
Male	33	66
Female	17	34
Total gastrectomy	29	58
Subtotal gastrectomy	21	42

Baseline demographic and surgical characteristics.

Table 2. Tumor type classification

Tumor type	n	%
High-grade dysplasia	1	2
Intestinal-type adenocarcinoma	26	52
Diffuse-type adenocarcinoma	10	20
Mucinous gastric adenocarcinoma	3	6
Signet-ring cell carcinoma	7	14
Siewert type 2/3 GEJ tumor	3	6

Tumors stratified according to the updated 6-category system.

Table 3. Biomarker distribution and testing availability timeline

Biomarker	Category	n	%	Testing availability
MSI	Positive	18	36	Available since 2007
	Negative	32	64	
HER2	Negative (1+)	11	45.8*	Available since 2013
	Positive (2+)	7	29.2*	
	Strong positive (3+)	8	33.3*	
	Not assessed	26	52	(pre-2013 cases)
PD-L1	Negative (0)	12	63.2*	Available since 2013
	Weak (1)	1	5.3*	
	Moderate (2)	4	21.1*	
	Strong (3)	2	10.5*	
	Not assessed	31	62	(pre-2013 cases)

Percentages for HER2 and PD-L1 refer to subgroups with available testing. Percentages are calculated based on subgroups where PD-L1 and HER2 testing was actually performed. MSI: Microsatellite instability, PD L-1: Programmed death-ligand.

[S-523]

Etiology, surgical strategies, and clinical course of esophageal perforations: A single-center case series

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Objective: Esophageal perforation is a critical surgical emergency with high mortality, closely related to delays in diagnosis and treatment and requiring experienced decision-making. Heterogeneous clinical presentation and subtle early imaging findings may complicate diagnosis. This study aimed to evaluate the demographic characteristics, etiological and anatomical distribution, time to diagnosis, surgical strategies, and early clinical outcomes of patients operated on for esophageal perforation in a single center, and to assess the impact of diagnostic delay and surgical approach on clinical course.

Material and Methods: This retrospective single-center case series included four patients who underwent surgical treatment for esophageal perforation at the General Surgery Clinic of University of Health Science Türkiye, Ankara Etlik City Hospital. Demographic and clinical data (age, sex, ASA score, comorbidities), etiology and localization of perforation, time from symptom onset to diagnosis, laboratory parameters, and radiological findings were reviewed. Diagnosis was confirmed by computed tomography in all patients. Surgical technique, postoperative intensive care requirement, complications, reintervention, and mortality were recorded. Continuous variables were presented as mean ± standard deviation or median (IQR), and categorical variables as numbers and percentages.

Results: All patients were male, with a mean age of 36±22 years (18-68). Etiology was iatrogenic in three patients (75%) and foreign-body related in one (25%). Seventy-five percent of perforations were located in the distal esophagus. Diagnosis was established within 24 hours in three patients, while one had delayed diagnosis. All patients were diagnosed by computed tomography and underwent primary surgical management. Two patients underwent primary repair, one flap-reinforced repair, and one esophagectomy because of extensive contamination and tissue damage. All patients were monitored in the intensive care unit postoperatively. One patient developed persistent leakage requiring reintervention. The 30-day and overall mortality rates were both 50%; all deaths were associated with severe sepsis and multiorgan failure.

Conclusion: Esophageal perforation remains a difficult emergency with high mortality despite early diagnosis and appropriate surgery. Consistent with the literature, diagnostic delay and anatomical location were the main determinants of outcome. Primary repair was safe and effective in early-diagnosed cases with limited contamination, whereas delayed and complicated cases required more aggressive surgical approaches. This single-center experience highlights the importance of rapid diagnostic evaluation, early intervention, and individualized surgical strategy in improving clinical outcomes.

Keywords: Emergency surgery, esophageal perforation, iatrogenic perforation, primary repair, sepsis

Table 1. Olgu Bazlı Klinik ve Cerrahi Özellikler

Değişken	Olgu 1	Olgu 2	Olgu 3	Olgu 4
Yaş (yıl)	18	68	38	20
Etiyoloji	İyatrojenik	İyatrojenik	İyatrojenik	Yabancı cisim
Perforasyon yeri	Distal	Distal	Distal	Torasik
Tanı süresi	<24 saat	<24 saat	<24 saat	≥24 saat
Tanı yöntemi	BT	BT	BT	BT
Cerrahi yaklaşım	Açık/Lap*	Açık/Lap*	Açık/Lap*	Açık/Lap*
Cerrahi yöntem	Primer onarım	Primer onarım	Onarım + flep	Özofajektomi
YBÜ yatışı	Var	Var	Var	Var
YBÜ süresi (gün)	2	2	4	2
Hastane yatışı (gün)	2	10	7	7
Postop komplikasyon	Yok	Yok	Var	Var
Persistan kaçak	Yok	Yok	Var	Yok
Yeniden girişim	Hayır	Hayır	Evet	Hayır
30 gün mortalite	Hayır	Hayır	Evet	Evet
Son durum	Sağ	Sağ	Ex	Ex

Table 2. Karşılaştırmalı Literatür Tablosu

PARAMETRE	Bizim serimiz (Etlik, n=4)	Literatür / kıyas noktası
Çalışma tipi	Tek merkez, retrospektif olgu serisi	Kılavuz + sistematik derleme + çok merkezli/tek merkezli seriler
Cinsiyet	%100 erkek	EP etiyolojiye göre değişir; Boerhaave'da erkek baskın raporlanır
Yaş	**36±22** (18–68)	Serilerde geniş yaş aralığı; tek merkez serilerinde benzer heterojenlik
Etiyoloji	**%75 iyatrojenik**, %25 yabancı cisim	Endoskopi yaygınlaştıkça iyatrojenik perforasyonların arttığı vurgulanır
Lokalizasyon	**%75 distal**, %25 torasik	EP yönetimi lokalizasyona göre şekillenir (servikal/torasik/abdominal ayrımı)
Tanıda BT kullanımı	**%100 BT**	Şüpheli perforasyonda BT'nin önerildiği (tanı + komplikasyon/planlama) belirtilir
"İlk 24 saat"te tanı	**%75 <24 saat**, %25 ≥24 saat	"Altın 24 saat" gecikmesinde mortalite artışı; klasik veri (gecikmişte ~%40 vs erken ~%6)
Ana yaklaşım	**%100 cerrahi**	Kılavuzlarda olgu seçimine göre konservatif / endoskopik / cerrahi seçeneklerin yeri tanımlanır; ancak instabilite, yaygın kontaminasyon, sepsis gibi durumlarda cerrahi öne çıkar
Cerrahi teknik dağılımı	Primer onarım **%50**, onarım+flep **%25**, özofajektomi/diversiyon **%25**	Kılavuzlar; debridman + kapatma + (gerekirse) buttress/flep + drenaj prensipleri; uygun olguda primer onarım yaygın
Yoğun bakım yatışı	**%100**	EP'de sepsis/mediastinit riski nedeniyle kritik bakım ihtiyacı serilerde sık raporlanır
Persistan kaçak	**%25**	Kaçak/leak EP'nin temel komplikasyonlarından; güncel endoskopik yaklaşımlar bu hedefe yönelik (stent/EVT) çalışılmıştır
Yeniden girişim	**%25**	Komplike olgularda tekrar girişim gereksinimi serilerde raporlanır; erken uygun modalite seçimi vurgulanır
Hastane yatışı	Ortalama **6.5 gün** (2–10)	Serilerde yatış süresi geniş aralıkta; yöntem, gecikme ve komplikasyonlarla uzar.
30 gün mortalite	**%50**	Genel EP mortalitesi literatürde yüksek ve değişken; zamanında tanı/tedavi ile azalma eğilimi bildiriliyor (tarihsel ~%30'dan ~%15'lere)

Figure 1. Esophageal perforation.

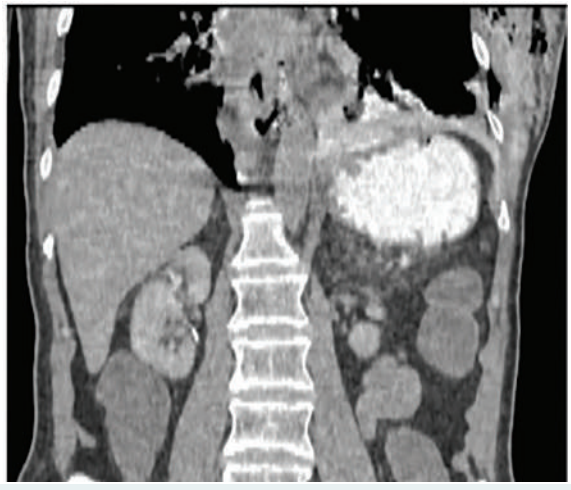

Figure 2. Esophageal perforation.

[S-525]

Retrospective analysis of the association between preoperative PET/CT findings and aggressive tumor behavior and recurrence risk in gastric GISTs

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Objective: This study aimed to evaluate, in gastric gastrointestinal stromal tumors (GISTs), the relationship between preoperative PET/CT FDG uptake and tumor size, mitotic index, risk stratification, and recurrence.

Material and Methods: Twenty-six patients who underwent surgery for gastric GIST between January 2010 and September 2024 were retrospectively reviewed. PET/CT findings, tumor size, mitotic index, NIH risk classification, and recurrence data were analyzed.

Results: In the group with intense FDG uptake, the proportion of tumors ≥5 cm was 75%, the proportion with a high mitotic index was 50%, and the proportion classified as high-risk was 50%. Recurrence was observed in 50% of patients with intense FDG uptake. Among cases who underwent PET/CT, 44.4% had large tumors and 44.4% showed radiologic invasion.

Conclusion: Intense FDG uptake on preoperative PET/CT is associated with aggressive pathological features and a higher risk of recurrence in gastric GISTs. These findings suggest that PET/CT may serve as a prognostic marker.

Keywords: FDG uptake, gastrointestinal stromal tumor (GIST), PET/CT

Table 1.	
Demographic and clinical characteristics	
Age (mean ± SD)	61.7±10.2
Sex, n (%)	Female 15 (57.7)/male 11 (42.3)
Young patient (<40 years), n (%)	1 (3.8)
Comorbidity, n (%)	17 (65.4)
Presenting symptoms, n (%)	Asymptomatic 5 (19.2); bleeding 2 (7.7); obstructive symptoms 2 (7.7); pain/dyspepsia 17 (65.4)
Tumor size, n (%)	≤2 cm: 10 (38.5); 2-5 cm: 10 (38.5); ≥5 cm: 6 (23.1)
Diagnosis and preoperative assessment	
Preoperative diagnostic method, n (%)	Endoscopy only 4 (15.4); endoscopy + CT/MRI 16 (61.5); EUS + FNB 6 (23.1)
PET/CT FDG uptake, n (%)	Not performed 17 (65.4); mild 5 (19.2); high 4 (15.4)
Elevated NLR/CRP-albumin ratio, n (%)	12 (46.2)
Neoadjuvant imatinib, n (%)	3 (11.5)
Surgical and pathological characteristics	
Surgical approach, n (%)	Laparoscopic 13 (50.0); laparotomy 9 (34.6); endoscopic + laparoscopic 1 (3.8); ESD 3 (11.5)
Type of surgery, n (%)	Wedge resection 16 (61.5); subtotal gastrectomy 3 (11.5); total gastrectomy 5 (19.2); proximal gastrectomy 1 (3.8); ESD 1 (3.8)
Resection margin, n (%)	R0 23 (88.5); R1/close 3 (11.5)
Mitotic index ≥5, n (%)	Mitotic index ≥5, n (%)
Risk classification (NIH), n (%)	Very low 5 (19.2); low 10 (38.5); intermediate 6 (23.1); high 5 (19.2)
Postoperative outcomes and follow-up	
Surgical complications (Clavien-Dindo ≥2), n (%)	2 (7.7)
Length of hospital stay (days, mean ± SD)	6.2±3.5
Postoperative motility problems, n (%)	4 (15.4)
Adjuvant imatinib/TKI, n (%)	4 (15.4)
Follow-up duration (months, mean ± SD)	35.6±48.2
Recurrence, n (%)	4 (15.4)
Time to recurrence (months, mean ± SD)	38.5±55.1

Patient characteristics, diagnostic/preoperative assessment, surgical/pathological findings, and follow-up outcomes (n=26).

Table 2. Association between PET/CT uptake and clinicopathological features			
Feature	**PET/CT not performed (n=17)**	**Mild FDG uptake (n=5)**	**High FDG uptake (n=5)**
Large tumor (≥5 cm), %	17.6%	20.0%	75.0%
High recurrens risk	17.6%	20.0%	50.0%
High mitotic index (≥5)	17.6%	20.0%	50.0%
Radiologic invasion	23.5%	20.0%	75.0%
Recurrence	11.8%	0.0%	50.0%
Elevated NLR/CRP-albumin ratio	41.2%	40.0%	75.0%

[S-526]

Psychotropic drug use in patients undergoing surgery for gastroesophageal reflux disease and/or hiatal Hernia: A retrospective cross-sectional study

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Objective: An association between gastroesophageal reflux disease (GERD), psychiatric disorders, and psychotropic drug use has been demonstrated in the literature. However, data regarding this relationship in surgically treated patient populations remain limited. Furthermore, studies evaluating the prevalence of psychiatric disorders and psychotropic medication use in patients with hiatal hernia (HH) are scarce. This study aimed to determine the frequency of psychotropic drug use in patients undergoing surgery for GERD and/or HH and to evaluate whether differences exist among clinical subgroups.

Material and Methods: Patients who underwent surgery for GERD and/or HH between 2015 and 2025 at the Department of General Surgery, Marmara University Pendik Training and Research Hospital, were retrospectively reviewed. Patients with a history of bariatric surgery or gastrectomy that could predispose them to GERD or HH were excluded. Patients were categorized into three clinical groups: GERD only (Group A), GERD+HH (Group B), and HH only (Group C). Psychotropic drug use was determined based on the patient's medication status on the date of surgery.

Results: A total of 124 patients were included. The mean age was 55.2±15 years, and 71.8% were female. The mean body mass index was 28.5±4.8 kg/m2. Laparoscopic surgery was performed in 79.8% of cases. The most common procedure was Nissen fundoplication (66.1%), followed by hiatal hernia repair without fundoplication (21.8%) and Toupet fundoplication (7.3%). The ASA distribution was as follows: ASA I 27.4%, ASA II 58.1%, and ASA III 12.9%. Group distribution was as follows: Group A, n=7 (5.6%); Group B, n=86 (69.4%); and Group C, n=31 (25%). HH accompanied GERD in 92.4% of patients who underwent surgery for GERD. Overall, 32 patients (25.8%) were using psychotropic medication. Psychotropic drug use rates were 0% in Group A, 26.7% in Group B, and 29% in Group C. No statistically significant difference was found among the groups regarding psychotropic drug use (Fisher's exact test, p=0.306). Among medication users, selective serotonin reuptake inhibitors (SSRIs) were the most common (62.5%), followed by serotonin–norepinephrine reuptake inhibitors (18.8%) and antipsychotics (18.8%).

Conclusion: Approximately one-quarter of patients undergoing surgery for GERD and/or HH were receiving psychotropic medication. Although no statistically significant difference was observed among the clinical groups, the highest rate was detected in the HH-only group. These findings suggest that the relationship between HH and psychotropic medication use warrants further investigation.

Keywords: Hiatal hernia, psychotropic drug, reflux

[S-527]

Prognostic value of aspartate aminotransferase lymphocyte ratio (AALR) in stage I-III gastric cancer

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Objective: Systemic inflammation is increasingly recognized as a key determinant of tumor progression and survival in gastric cancer. The aspartate aminotransferase-to-lymphocyte ratio (AALR) is a novel inflammation-based biomarker; however, its clinical and prognostic significance in gastric cancer has not been sufficiently elucidated. This study aimed to investigate the association between AALR and clinicopathological characteristics and to evaluate its impact on prognosis and overall survival in patients with gastric cancer.

Material and Methods: This retrospective study included patients who underwent surgical treatment for gastric cancer. Preoperative AALR was calculated using routine biochemical and hematological laboratory parameters. Patients were divided into low (<9.09) and high (≥9.09) AALR groups according to the optimal cut-off value of 9.09.Associations between AALR and clinicopathological variables were analyzed using the chi-square test and independent samples t-test. Overall survival was assessed using the Kaplan-Meier method and compared with the log-rank test. Prognostic factors were evaluated using univariate and multivariate Cox proportional hazards regression analyses.

Results: High AALR levels were significantly associated with adverse clinicopathological features. Kaplan–Meier survival analysis demonstrated that patients with AALR ≥9.09 had significantly worse overall survival compared to those with AALR <9.09 (median survival: 15 vs. 42 months, respectively). The difference in survival between the two groups was statistically significant (log-rank χ^2=8.14, p=0.004). In univariate Cox analysis, AALR was significantly associated with survival. Multivariate analysis identified high AALR (HR: 1.08; 95% CI: 1.01-1.15; p=0.033) and perineural invasion as independent prognostic factors.

Conclusion: AALR is an inexpensive, easily accessible, and independent prognostic biomarker in gastric cancer. Elevated AALR is associated with aggressive tumor characteristics and significantly poorer survival outcomes. Incorporating AALR into routine clinical assessment may improve risk stratification and prognostic evaluation in patients with gastric cancer. As a parameter readily obtainable from routine laboratory tests, AALR may serve as a practical and cost-effective tool for preoperative risk assessment in gastric cancer patients.

Keywords: Gastric cancer, aspartate aminotransferase-lymphocyte ratio, inflammation

[S-528]

Frequency of HER2 positivity and clinical prognostic significance in patients with gastric cancer

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Objective: Gastric cancer is one of the leading causes of death worldwide. The general characteristics of the disease show geographical, ethnic, environmental differences. This makes follow-up, treatment policies of this advanced-stage disease important. There are many genetic, molecular factors affecting the prognosis. HER2 positivity's one of these factors. The aim of this study was to determine the frequency of HER2-positive gastric cancer in our region and to identify the clinicopathological features associated with overexpression, as well as to understand prognostic significance.

Material and Methods: The study was conducted on 351 patients who were pathologically diagnosed with gastric malignancy and had HER2 analysis performed after admission to the General Surgery Clinic of Ankara City Hospital between July 2019 and January 2024. Evaluations were performed between tumor characteristics, prognosis, survival, laboratory parameters.

Results: A total of 351 patients were included, 71.51% were male. The mean age of the patients was calculated as 65.73±11.87 years. Approximately half of the patients were stage IV. A statistically significant relationship was found between HER2 positivity and differentiation. In HER2-positive patients, the rate of poor differentiation was significantly lower compared to HER2-negative patients. The rate of moderate differentiation was significantly higher in HER2-positive patients compared to HER2-negative patients. The mortality rate was found to be significantly higher in HER2-positive patients. MMR, MLH mutations weren't observed in HER2-positive patients. In HER2-positive patients, urea, ALT, neutrophil-to-lymphocyte ratio, CEA, and CA 15.3 levels were significantly higher compared to HER2-negative patients, while eosinophil count, lipase levels were significantly lower. Junctional tumor location increased HER2 positivity by 2.5 times compared to antral location.

Conclusion: In this study, the rate of HER2-positive patients among gastric cancer patients was found 27.07%. The significantly lower rate of poor differentiation, higher rate of moderate differentiation in HER2-positive patients indicate that HER2 plays role in determining the histopathological structure of the tumor. Statistical analyses of laboratory tests showed that tumor characteristics with more aggressive biology are expected in HER2-positive patients. The absence of MMR, MLH1 expression in the HER2-positive subgroup indicates that these tumors follow different pathogenic mechanisms at the molecular level, that factors affecting immune response, such as MSI, show variability. The more frequent detection of positivity in junctional tumors suggests that HER2 positivity may be effective also on tumor localization. All results provide that will contribute to determining the regional frequency of HER2 positivity as well as to the evaluation of HER2-related tumor physiology, clinical features and pathogenesis.

Keywords: Gastric cancer, HER2 positivity, prognostic factors

[S-529]

Prognostic nutritional index is an independent predictor of survival in gastric cancer: A comparative analysis with the CALLY index

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Objective: Inflammation and nutritional status are increasingly recognized as key determinants of oncologic outcomes in gastric cancer. Among several proposed biomarkers, inflammation- and nutrition-based indices have attracted interest; however, their comparative prognostic performance remains unclear. This study sought to assess the prognostic relevance of the prognostic nutritional index (PNI score) in comparison with the C-reactive protein-albumin-lymphocyte (CALLY) index in patients undergoing surgery for gastric cancer.

Material and Methods: This retrospective study included 144 patients who underwent curative-intent gastrectomy for gastric cancer. Demographic characteristics, pathological findings, laboratory parameters, and survival outcomes were reviewed. The PNI score was calculated using serum albumin and peripheral lymphocyte count, whereas the CALLY index incorporated albumin, lymphocyte count, and C-reactive protein levels. Overall survival (OS) and disease-free survival (DFS) were estimated using the Kaplan-Meier method. Optimal cut-off values were identified using maximally selected log-rank statistics. Multivariable Cox proportional hazards regression analyses were performed with adjustment for age, sex, T stage, N stage, histologic grade, lymphovascular invasion, and perineural invasion.

Results: Over the follow-up period, death occurred in 88 patients (61.1%), and disease recurrence was observed in 103 patients (71.5%). Patients with a higher PNI score demonstrated significantly longer OS and DFS. After adjustment for pathological tumor burden and other clinicopathological variables, the PNI score remained independently associated with OS (HR: 0.71, 95% CI: 0.43-0.98; p=0.041) and DFS (HR: 0.60, 95% CI: 0.42-0.86; p=0.005). Although higher CALLY values were associated with favorable outcomes in unadjusted analyses, this association did not persist in multivariable models. When both indices were evaluated simultaneously, only the PNI score retained independent prognostic significance.

Conclusion: The PNI provides meaningful and independent prognostic information for both overall and disease-free survival in gastric cancer. Compared with the CALLY index, the PNI score appears to more accurately reflect the impact of nutritional and immune status on long-term outcomes, supporting its use as a practical tool for risk stratification in clinical practice.

Keywords: Gastric cancer, prognostic nutritional index, CALLY index, overall survival, disease-free survival

Table 1. Demographic and clinicopathological characteristics

Variables	n=144
Age	61 (54-70)
Sex (M/F)	92/52
Albumin (g/dL)	3.82 (3.37-4.20)
CRP (mg/L)	5.86 (2.28-22.32)
CEA*	2.57 (1.52-4.12)
CA 19-9*	11.83 (6.59-34.98)
Number of examined lymph nodes	31 (25-39)
Number of metastatic lymph nodes	5 (1-13.25)
Lymphovascular invasion (present/absent)	120/24
Perineural invasion (present/absent)	113/31

Table 1. Continued	
Variables	**n=144**
Tumor location	
Distal	58 (40.3%)
Corpus	33 (22.9%)
Siewert II-III	46 (31.9%)
Linitis plastica	7 (4.9%)
T stage	
T1a	10 (6.9%)
T1b	6 (4.2%)
T2	7 (4.9%)
T3	31 (21.5%)
T4a	83 (57.6%)
T4b	7 (4.9%)
N stage	
N0	28 (19.4%)
N1	24 (16.7%)
N2	28 (19.4%)
N3a	29 (20.1%)
N3b	35 (24.3%)
Histological grade	
Grade 1	7 (4.9%)
Grade 2	57 (39.6%)
Grade 3	80 (55.6%)
TNM stage	
I (1A-1B)	15 (10.4%)
II (2A-2B)	30 (20.8%)
III (3A-3C)	99 (68.8%)
IV	0 (0.0%)

Table 2. Clinicopathological characteristics stratified by PNI score and CALLY index

Variable	PNI ≤49.6 (n=86)	PNI >49.6 (n=58)	p	CALLY ≤4.25 (n=117)	CALLY >4.25 (n=27)	p
Age, years (median, IQR)	63 (56-71)	58 (51-66)	0.041	62 (55-70)	59 (52-66)	0.19
Sex, n (%)			0.48			0.77
Female	33 (38.4)	19 (32.8)		43 (36.8)	9 (33.3)	
Male	53 (61.6)	39 (67.2)		74 (63.2)	18 (66.7)	
Albumin, g/dL (median, IQR)	3.42 (3.09-3.78)	4.26 (4.01-4.56)	<0.001	3.71 (3.33-4.02)	4.39 (4.18-4.61)	<0.001
CRP, mg/L (median, IQR)	11.8 (4.9-28.6)	2.6 (1.4-6.2)	<0.001	8.6 (3.5-22.9)	1.9 (0.9-3.8)	<0.001
T stage, n (%)			0.032			0.21
T1-2	8 (9.3)	15 (25.9)		19 (16.2)	4 (14.8)	
T3-4	78 (90.7)	43 (74.1)		98 (83.8)	23 (85.2)	
N stage, n (%)			0.018			0.34
N0-1	28 (32.6)	31 (53.4)		47 (40.2)	12 (44.4)	
N2-3	58 (67.4)	27 (46.6)		70 (59.8)	15 (55.6)	
TNM stage, n (%)			0.021			0.29
Stage I-II	17 (19.8)	28 (48.3)		40 (34.2)	5 (18.5)	
Stage III	69 (80.2)	30 (51.7)		77 (65.8)	22 (81.5)	

[S-531]

A bedside score for predicting 1-year major adverse limb events in peripheral artery disease

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Objective: Patients with peripheral artery disease (PAD) face a substantial risk of major adverse limb events (MALE) within the first year, yet clinically usable tools that rely on routine data and meaningfully stratify this risk remain limited. We aimed to develop and externally validate a simple, bedside-applicable risk score for predicting 1-year MALE using routinely available clinical, procedural, and ankle–brachial index (ABI) data.

Material and Methods: In this retrospective cohort study, PAD patients with baseline clinical assessment, ankle–brachial index (ABI), and routine laboratory data were included. The primary outcome was 1-year MALE (major/minor amputation, reamputation, or severe ischemic limb complications). Patients were randomly split into a derivation cohort (n=501) and an independent validation cohort (n=166). Logistic regression was performed in the derivation cohort, and a simplified beta-based point score was constructed and tested unchanged in the validation cohort.

Results: MALE occurred in 245 patients (49%) in the derivation cohort and 86 patients (52%) in the validation cohort. In univariate analyses, baseline clinical and ischemic variables associated with MALE included rest pain, tissue loss, severe ischemia, ABI no-flow patterns, and repeated revascularization (all p<0.001). In multivariable analysis performed in the derivation cohort for score development, tissue loss (2 points; OR: 0.34, 95% CI: 0.22-0.52), ABI no-flow (1 point; OR: 2.12, 95% CI: 1.33-3.37), repeated revascularization (1 point; OR: 1.89, 95% CI: 1.26-2.84), and inflamed tissue (1 point; OR: 2.12, 95% CI: 1.12-4) were retained in the final model. MALE rates increased stepwise from 0% at score 0 to 28.2%, 45.3%, 54.0%, 69.9%, and 88.5% across scores 1 through 5. In validation cohort, score demonstrated discrimination with an area under the receiver operating characteristic curve of 0.88 (95% CI: 0.83-0.93) and calibration with a Brier score of 0.15. Sensitivity was 73.3%, specificity was 88.8%, positive predictive value was 87.5%, and negative predictive value was 75.5%.

Conclusion: Bedside point summation allows rapid risk categorization, with higher scores serving as a practical cut-off to trigger closer follow-up, expedited vascular evaluation, or early limb-preservation pathways whereas patients with low scores may be managed with standard follow-up.

Keywords: Peripheral artery disease, major adverse limb events, risk assessment, ankle-brachial index, extremity ischemia

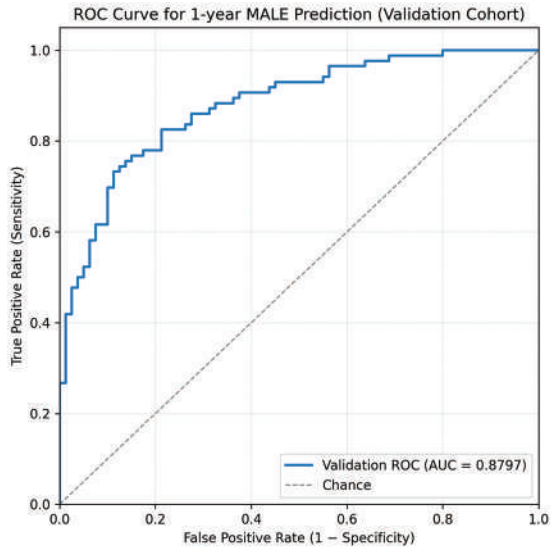

Figure 1. External validation curve. In the validation cohort (n=166), model performance remained robust (AUC=0.88; bootstrap mean=0.88, 95% CI: 0.83-0.93), with good calibration (Brier score=0.15) and a MALE incidence of 51.8%. (sensitivity 73.3%, specificity 88.8%, PPV 87.5%, NPV 75.5%).

Table 1. Components of the bedside risk score for predicting 1-year major adverse limb events

Variable	Beta	z	p	Points
Tissue loss	-1.09221	-4.95279	<0.001	2
ABI; no flow	0.749147	3.147591	0.001	1
Repeated revascularization	0.635158	3.054546	0.002	1
Inflamed tissue	0.75114	2.314942	0.02	1

This table presents the variables included in the risk score developed to predict 1-year major adverse limb events (MALE), along with their multivariable logistic regression beta coefficients and the corresponding beta-based point assignments.

[S-532]

Laparoscopic median arcuate ligament release: Outcomes of 59 cases

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Objective: Median arcuate ligament syndrome (MALS), also termed celiac artery compression syndrome, is an uncommon entity caused by extrinsic compression of the celiac artery (CA) and/or celiac plexus by the median arcuate ligament (MAL). Patients typically present with symptoms mimicking chronic mesenteric ischemia, including postprandial epigastric pain, nausea, weight loss, and food avoidance. Laparoscopic median arcuate ligament release (LMALR) has become the preferred treatment because of reduced morbidity and faster recovery compared with open surgery. However, challenging vascular anatomy may limit exposure with the conventional dissection route.To evaluate perioperative and mid-term outcomes of LMALR in a single-center cohort and to describe the feasibility of an alternative left-sided dissection approach in anatomically complex cases.

Material and Methods: This retrospective study included patients diagnosed with MALS who underwent LMALR between February 2017 and March 2023. A multidisciplinary team (general surgeon, gastroenterologist, interventional radiologist) systematically excluded alternative causes of chronic abdominal pain. Diagnosis required symptoms persisting >3 months plus computed tomography angiography (CTA) evidence of CA compression (Figure 1). All operations were performed under general anesthesia using a five-port laparoscopic technique. The standard approach dissected from the right side of the left gastric artery (9-12 o'clock). In selected patients with marked rightward and anterior CA angulation limiting conventional access, dissection was performed from the left side of the left gastric artery (1-3 o'clock) to improve visualization and facilitate the plane between the stomach and the left gastric artery (Figure 2). Outcomes included operative metrics, complications, symptom improvement, and weight change.

Results: Among 228 patients evaluated, 120 met diagnostic criteria, 64 underwent LMALR, and 59 had complete follow-up for analysis. Mean age was 31.5 years; 64.4% were female. Mean BMI was 19.35±4.18, with preoperative weight loss of 8.0±3.7 kg. CTA demonstrated mean CA compression of 71.8%±8.6%. Mean operative time was 153.8±42.5 minutes and mean length of stay was 2.38±1.4 days. One patient (1.7%) required reoperation for internal herniation; two (3.4%) developed chylous fistula that resolved spontaneously. No mortality or major intraoperative complications occurred. After 30.8±19.5 months of follow-up, mean symptom improvement was 85.1%±15.3% with mean weight gain of 3.44±2.23 kg.

Conclusion: LMALR is safe and effective for symptomatic MALS, providing high rates of symptom relief and postoperative weight gain. A left-sided dissection approach is a practical alternative when CA angulation limits exposure via the standard right-sided route. Prospective multicenter studies are warranted to validate long-term outcomes and refine patient selection and surgical strategy.

Keywords: Median arcuate ligament syndrome (MALS), laparoscopic median arcuate ligament release, celiac artery compression

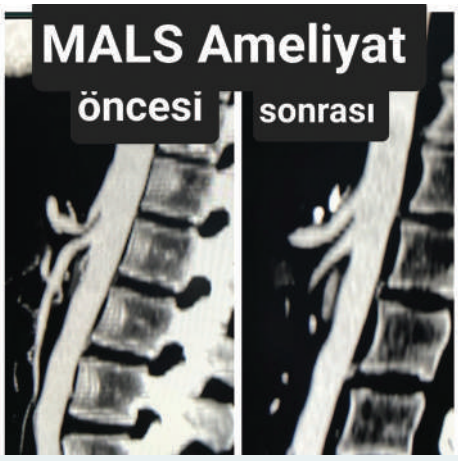

Figure 1. Preoperative and postoperative abdominal computed tomography images of a patient diagnosed with Median Arcuate Ligament Syndrome (MALS). A) The preoperative image demonstrates focal narrowing of the celiac artery secondary to external compression by the median arcuate ligament. B) The postoperative image shows complete division of the median arcuate ligament with subsequent decompression and restoration of the normal caliber of the celiac artery.

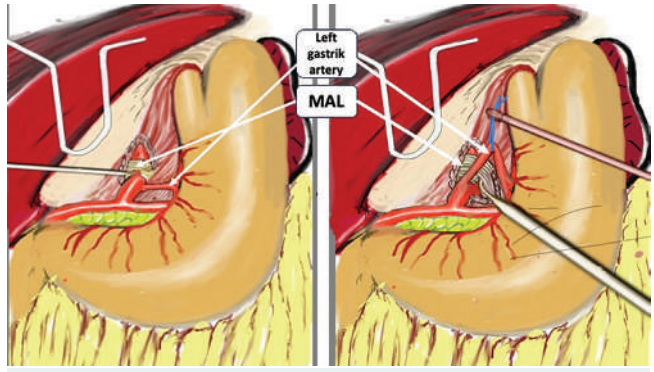

Figure 2. Illustration of the surgical technique. a) The technique we usually prefer involves approaching from the right side of the left gastric artery at the 11 o'clock position to excise the MAL. b) The method where we approach from the right side of the left gastric artery to cut the arcuate ligament.

[S-533]

Determinants of shunt patency after proximal splenorenal shunt: Analysis of early and late outcomes

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Objective: Portal hypertension is a serious condition that can lead to life-threatening complications such as gastrointestinal bleeding. Although endoscopic interventions are the first-line treatment for bleeding due to extrahepatic portal vein obstruction, they do not reverse established damage. In refractory cases, proximal splenorenal shunt (PSS) is performed to reduce portal pressure. Our aim is to evaluate early and late shunt patency rates after PSS and analyze potential risk factors for shunt thrombosis.

Material and Methods: Sixty-two patients who underwent PSS surgery in our clinic between 2018 and 2023 were retrospectively included in this study. Patient's demographic data,preoperative laboratory values, ASA scores, portal flow direction, surgical details, and postoperative outcomes were collected from hospital records. Shunt patency was assessed using Doppler ultrasonography on postoperative day 1 (early period) and at 1 year (late period). Statistical analysis was performed using the chi-square test for categorical variables and the Student's t-test for continuous variables. A p-value of <0.05 was considered statistically significant.

Results: The mean age of the 62 patients was 19.6±17.1 years, and most were pediatric (<18 years, n=43, 69.4%). Overall, 75.8% (n=47) were male. Preoperatively, 59.7% (n=37) had thrombocytopenia (<100,000/µL) and 14.5% (n=9) had hypoalbuminemia (<3.5 g/dL). Most patients were classified as ASA 2 (40.3%) or ASA 3 (46.8%). The early shunt patency rate (postoperative day 1) was 92.3% (n=36/39), decreasing to 79.3% (n=23/29) at 1 year. Shunt thrombosis occurred in 3 patients early and in 6 late. No significant differences were found between patients with and without thrombosis regarding age, sex, preoperative platelet count, or albumin level (p>0.05). The most common postoperative complication was bleeding (n=5). One patient died within 30 days.

Conclusion: Proximal splenorenal shunt is an effective treatment for portal hypertension; however, shunt thrombosis remains a significant cause of morbidity. The early (92.3%) and late (79.3%) patency rates in our study are consistent with the literature. Early thrombosis is likely related to technical or hemodynamic factors, whereas late thrombosis may be associated with fibrosis and prothrombotic conditions. No significant association was found between the evaluated preoperative factors and thrombosis, possibly due to the small sample size or the influence of unexamined variables such as vein diameter, flow velocity, and coagulation parameters. The predominance of pediatric patients may also contribute, as smaller vessel size can increase technical difficulty and thrombosis risk. Larger prospective studies are needed to better define predictors of shunt thrombosis.

Keywords: Splenorenal shunt, vascular surgery, portal hypertension

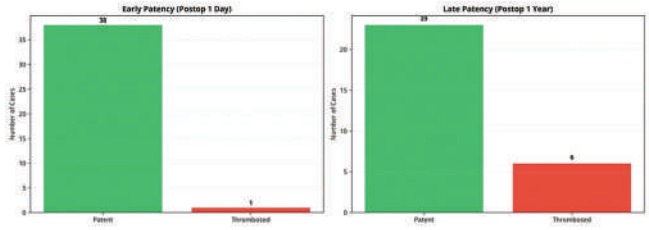

Figure 1. Patency.

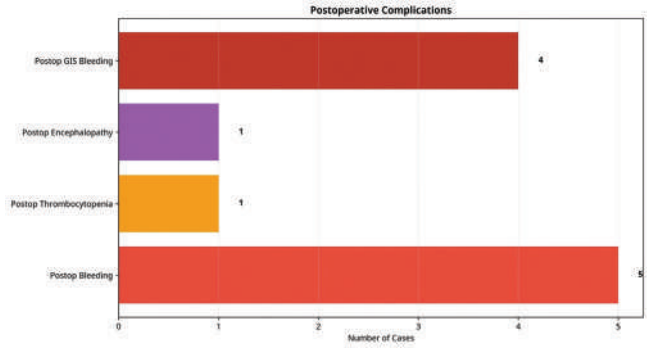

Figure 2. Postoperative complications.

[S-534]

Attitudes, experiences, and future projections regarding artificial intelligence in general surgery: A national survey of 136 surgeons

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Objective: Surgeons view artificial intelligence (AI) as a complementary "second opinion" tool rather than a replacement, retaining final decision-making authority. Major adoption barriers are technical reliability, data security, and legal liability. Successful integration requires high-level clinical validation, AI literacy training for physicians, and clear legal guidelines.

Material and Methods: This cross-sectional and descriptive study was conducted via an online survey. The questionnaire consisted of 16 closed- and open-ended questions evaluating demographics, overview of AI integration, current clinical use, preferred and future application areas, perceived benefits/risks, attitudes toward decision-making conflicts, and educational needs. Responses from 136 general surgery specialists, residents, and academicians practicing in various hospitals (university, training and research, state, and private) across Türkiye were analyzed using descriptive statistics (frequency, percentage).

Results: Participants (75% male) were largely positive toward AI (65%). Although 55% reported no clinical use, 80% of users utilized Large Language Models for risk scoring, literature review, and documentation. Concerns about role displacement were low (50% unconcerned). In conflicts, 70% would reconsider but retain final authority. Major risks included technical errors (55%) and privacy breaches (40%). Future impact is expected in early diagnosis (75%) and planning (70%). Key adoption needs are clinical evidence (30%) and transparency (25%). 92% deemed AI training beneficial.

Conclusion: Surgeons perceive AI as a "second opinion" or a "data synthesis tool", while retaining final decision-making authority. The primary barriers to adoption are technical reliability, data security, and unclear legal liability. Participants believe that AI will assume a complementary role supporting clinical decisions rather than replacing surgical skills. Consequently, for the ethical and safe integration of AI into surgical practice, there is an urgent need for: 1) High-level evidence-based clinical validation studies, 2) Practical AI literacy training programs for physicians, and 3) The development of national guidelines clarifying legal and ethical responsibilities.

Keywords: Artificial intelligence, surgery, large language models, clinical decision making, medical ethics

[S-535]

Clinicopathology-based machine learning for prediction of pathologic complete response to neoadjuvant chemotherapy in breast cancer

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Objective: Pathologic complete response (pCR) following neoadjuvant chemotherapy is a surrogate for long-term survival in breast cancer. While pCR status informs surgical and therapeutic decisions, accurate patient-level prediction is hindered by tumor heterogeneity and skewed outcomes. Standard parameters (T/N stage, molecular subtype, HER2 status, Ki-67) are routinely documented but rarely integrated into robust decision-support tools. We developed an interpretable machine learning (ML) framework to provide calibrated, data-driven predictions of pCR using routine clinicopathological data.

Material and Methods: This retrospective study analyzed a Turkish cohort of 298 breast cancer cases (n=84 pCR vs. n=214 non-pCR) using 20 expert-curated variables. To ensure a leakage-proof methodology, the dataset was partitioned into training and independent hold-out test sets, with all preprocessing and feature selection parameters were fitted strictly on training data. Model performance was evaluated using nested cross-validation. We screened 12 ML algorithms, comprising linear models [Logistic regression (LR), support vector machine], distance-based (k-nearest neighbors) and tree-based ensembles (XGBoost, CatBoost, Random Forest), along with meta-ensemble architectures (voting and stacking). Optimal model selection was guided by a composite score integrating Matthews correlation coefficient, precision-recall area under the curve (AUC), F1-score and Brier score. Models were benchmarked against a 100-iteration Monte Carlo simulation. Class imbalance was addressed through balanced weighting, and outputs were calibrated using Platt scaling. Decision thresholds were tailored using a weighted Youden's index to prioritize sensitivity. Interpretability was established through permutation importance and SHAP analysis.

Results: Calibrated LR emerged as the optimal model, achieving a receiver operating characteristic-AUC of 0.803. In the test set (n=60), LR correctly identifies 15 out of 17 pCR cases, yielding 88% sensitivity and 93.1% NPV (63% specificity, 48.4% PPV). These outcomes significantly outperformed random baseline estimates (NPV: 71%, PPV: 26.9%), confirming a substantial predictive gain. Feature analysis identified HER2 expression (0.60) as the primary positive predictor of pCR, whereas ER status (-0.56) and AJCC stage (-0.31) were the strongest negative predictors. Other contributors included nodal status (0.11) and Ki-67 (0.11).

Conclusion: We present the first clinicopathology-based ML framework for a Turkish breast cancer cohort. This calibrated LR model provides clinically meaningful pCR discrimination, potentially aiding clinical decision-making in the neoadjuvant settings.

Keywords: Machine learning, neoadjuvan chemotherapy, pathological complete response

[S-536]

Can artificial intelligence be used as clinical decision support for Parkland scoring in cholecystectomy?

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Objective: During laparoscopic cholecystectomy, the severity of gallbladder inflammation and anatomical characteristics play a critical role in determining surgical difficulty and complication risk. The Parkland scoring system is a practical and widely used classification that predicts surgical difficulty based on the macroscopic appearance of the gallbladder during the initial phase of the operation. In parallel with advances in medical imaging analysis, artificial intelligence (AI)-based systems have increasingly been explored as clinical decision support tools. This study aimed to evaluate the feasibility of performing Parkland scoring using AI by uploading intraoperative gallbladder images and to assess its potential contribution to clinical practice.

Material and Methods: This study included intraoperative initial exploration images of the gallbladder from 165 patients who underwent laparoscopic cholecystectomy. All images reflected the first macroscopic view of the gallbladder at the beginning of the operation. Parkland scores were assigned by surgeons as part of routine clinical assessment. The same images were independently uploaded to ChatGPT (Version 5.2), an AI-based language and image interpretation model, without any prior guidance, to obtain Parkland scores and qualitative interpretations regarding surgical difficulty. AI-generated assessments were compared with surgeons' evaluations, and qualitative agreement analysis was performed. Discriminatory performance of AI scoring across Parkland subgroups was evaluated using receiver operating characteristic analysis.

Results: AI-generated Parkland scores were generally successful in identifying key features related to gallbladder inflammation, adhesion to surrounding tissues, and dissection difficulty. AI interpretations showed a high level of agreement with surgeons' assessments, particularly in patients with moderate and high Parkland scores. Overall, a moderate correlation was observed between AI-derived scores and surgeon-assigned Parkland scores. Subgroup analysis revealed limited discriminatory power of AI in the low Parkland group (AUC: 0.16). However, discriminatory performance improved substantially in the moderate difficulty group (AUC: 0.75) and was high in the high Parkland group (AUC: 0.82). Due to the relatively small number of high Parkland cases, these findings should be interpreted with caution. Combined ROC curves showing the discriminatory performance of the AI score across Parkland subgroups. The AI score showed significant discrimination in the medium and high Parkland groups, while exhibiting limited performance in the low difficulty group.

Conclusion: This study demonstrates that intraoperative gallbladder images can be evaluated using artificial intelligence for Parkland scoring during laparoscopic cholecystectomy. AI-assisted image interpretation may serve as a complementary clinical decision support tool, particularly in predicting surgical difficulty in moderate and high-risk cases. Such applications may contribute to surgical training, experience sharing, and intraoperative decision-making. Further prospective and structured studies are needed to validate and standardize AI-based approaches in this field.

Keywords: Artificial intelligence, cholecystectomy, Parkland score

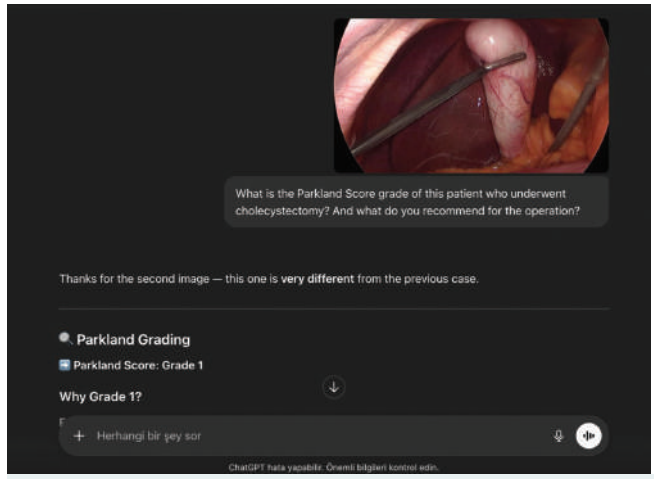

Figure 1. Here's an example of a Parkland scoring system asked to ChatGPT.

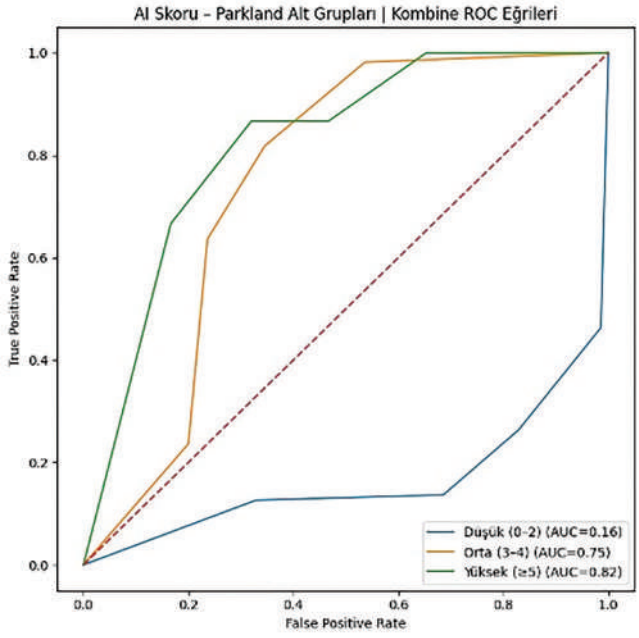

Figure 2.

[S-537]

AI-powered surgical copilot in minimally invasive adrenal surgery: Integrated recognition of anatomy, tools, and surgical phases

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Objective: This study aimed to develop an artificial intelligence–powered surgical assistant model capable of recognizing key anatomical structures, tools, and surgical phases during minimally invasive adrenal surgery, and to assess its clinical feasibility. The system has potential to enhance procedural safety and support training for adrenal operations, which are performed relatively infrequently.

Material and Methods: Video recordings from 20 laparoscopic transabdominal adrenalectomies (10 from each side; 2011-2025) were retrospectively analyzed. Surgical frames were annotated for tools, actions, anatomy, and surgical phases to build the dataset. A ResNet-50-based multi-head cross-attention network with dedicated heads for tools, actions, targets, and phases was developed. Laterality was incorporated through feature-wise linear modulation, and class imbalance was handled using weighted loss. Performance was assessed on a balanced test set using top-accuracy and mean average precision with 5-fold cross-validation.

Labeling Images

Results: A total of 10,747 frames were labeled with 53,152 annotations across 9 tool categories, 7 surgical actions, 13 anatomical targets, and 6 phases. The model achieved top-1 accuracies of 67.6% for tools, 86.2% for actions, 70.0% for targets, and 60.3% for phases. Top-3 accuracies increased to 93.8%, 94.2%, 90.9%, and 95.3%, respectively. Mean average precision values were 64.2% for tools, 62.4% for actions, 46.8% for targets, and 66.4% for phases.

Conclusion: The developed model can successfully recognize tools, actions, and key anatomical structures in adrenal surgery. It has the potential to provide comprehensive analysis of surgical scenes in minimally invasive adrenalectomy, which may help improve safety, reduce complications, and support surgeon training through objective, automated feedback.

Keywords: Adrenal surgery, artificial intelligence, computer vision

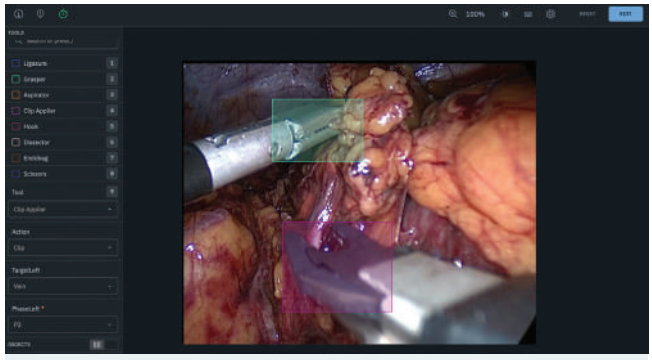

Figure 1. Distribution of phases in the right-sided labeled images.

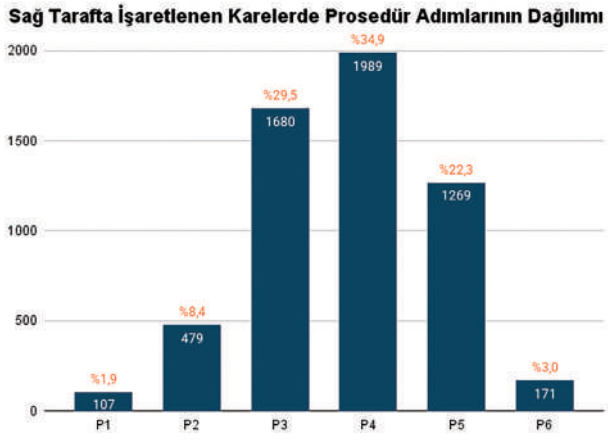

Figure 2.

[S-539]

Prediction of therapeutic endoscopy requirement in upper gastrointestinal hemorrhage using machine learning models

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Objective: Upper gastrointestinal bleeding (UGIB) is a common emergency with potentially life-threatening consequences. A major clinical challenge is that, at presentation, it remains controversial which patients will require urgent therapeutic endoscopy for hemostasis. Inaccurate selection can lead to unnecessary procedures in low-risk patients or dangerous delays in high-risk patients. Existing clinical scoring systems, such as the Glasgow-Blatchford score (GBS), have limited accuracy in predicting the necessity for therapeutic endoscopy. This study aimed to evaluate and develop machine learning (ML) models using routinely available admission data to improve the accuracy of patient selection for urgent therapeutic endoscopy.

Material and Methods: We retrospectively analyzed 376 adult patients presenting with UGIB who had emergency upper gastrointestinal endoscopy between January 2021 and June 2025 in University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital. Totally 26 clinical and laboratory parameters with demographics, comorbidities, vital signs, laboratory results, and GBS were recorded. The primary outcome was urgent therapeutic endoscopy (hemostatic injection, hemoclip, thermal coagulation, or variceal band ligation). Five ML algorithms—Decision Tree, Random Forest, LightGBM, CatBoost, and XGBoost—were trained with 80% of patients data and tested with 20% of patients. Model discrimination was assessed with the area under the ROC curve (AUC) and threshold-based performance metrics.

Results: Among 376 endoscopies, urgent therapeutic interventions were required in 70 (18.6%). The XGBoost model achieved strong discriminatory performance with an AUC of 0.774 on the test set. At the optimal threshold determined by the Youden index (0.14), the model yielded a sensitivity of 78.6%, specificity of 71.0%, overall accuracy of 72.4%, and a high negative predictive value (NPV) of 93.6%. This high NPV indicates that patients predicted to be low-risk had a very low probability of active bleeding, enabling safe clinical management without urgent intervention. In comparison, the GBS achieved an AUC of 0.591 on the same test set, confirming the superior predictive capacity of our multiparametric ML model over a widely used standard scoring system. Confusion matrix showing the positive and negative rates of the XGBoost model.

Conclusion: Our ML model provides a reliable and effective decision support tool for predicting active bleeding risk in emergency UGIB. Its high negative predictive value supports the safe identification of low-risk patients, helping to avoid unnecessary urgent interventions and optimize resource utilization. This innovative approach has the potential to assist clinicians in making more accurate decisions in patient triage and treatment planning.

Keywords: Emergency therapeutic endoscopy, machine learning, upper gastrointestinal bleeding

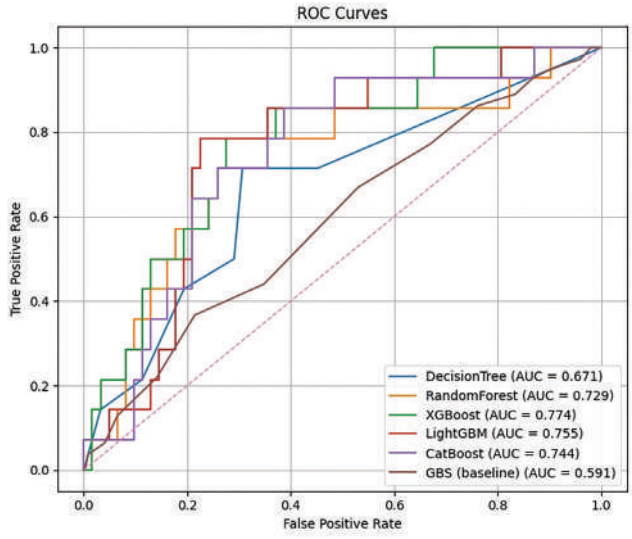

Figure 1. This curve shows a comparative representation of the performance of the machine learning and artificial intelligence models used.

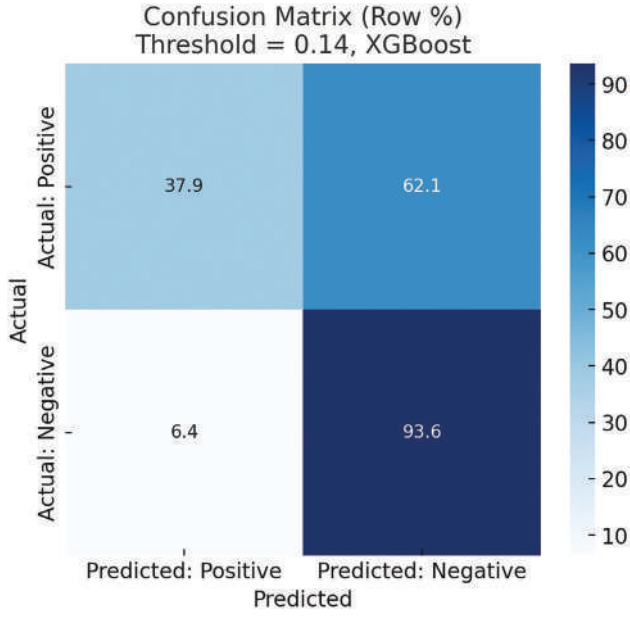

Figure 2. This diagram shows the false positive and false negative rates of the XGBoost model, which is the artificial intelligence model with the best performance.

[S-540]

AI-based prediction of anastomotic leak after colorectal surgery: A pilot study

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Objective: Anastomotic leak remains one of the most serious complications following colorectal surgery and is associated with substantial morbidity, mortality, and healthcare burden. Traditional risk scores show limited accuracy, highlighting the need for improved predictive approaches. Artificial intelligence (AI)-based models may enable individualized risk estimation by integrating complex perioperative data.

Material and Methods: This retrospective pilot study included 122 patients who underwent colorectal resection with primary anastomosis. Demographic characteristics, comorbidities, laboratory parameters, intraoperative variables, and early postoperative indicators were used as candidate predictors. Machine learning algorithms were trained using repeated cross-validation. Model performance was evaluated using area under the receiver operating characteristic curve (AUC), calibration analysis, and decision curve analysis. Model interpretability was assessed using SHapley Additive exPlanations (SHAP).

Results: Anastomotic leak occurred in 18 patients (14.8%). The best-performing model achieved an AUC of 0.86 (95% CI: 0.78-0.93), outperforming conventional clinical scoring approaches (AUC 0.68). Calibration analysis demonstrated good agreement between predicted and observed risk (Brier score: 0.12; calibration slope: 0.94). Decision curve analysis indicated a positive net clinical benefit across a wide range of threshold probabilities. SHAP analysis identified intraoperative hypotension duration, CRP levels, operative time, albumin levels, and ASA score as the most influential predictors.

Conclusion: AI-based prediction of anastomotic leak after colorectal surgery is feasible and shows promising discriminatory and calibration performance. Explainable machine learning approaches may support individualized perioperative risk stratification. Larger multicenter studies are required for external validation and clinical implementation.

Keywords: Anastomotic leak, colorectal surgery, artificial intelligence, machine learning, risk prediction, SHAP

[S-543]

The Gateway to the future of surgery in Türkiye: The use of artificial intelligence in medical specialty theses and its implications for general surgery

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Objective: AI technologies have increasingly been utilized in healthcare in recent years to improve diagnostic accuracy, develop clinical decision support systems, and predict patient outcomes. The nature of surgical practice requires the integrated evaluation of imaging, pathology, laboratory, and clinical parameters, thereby providing a suitable research framework for AI-based models. This study aimed to determine the general characteristics of AI-related medical specialty theses registered in the Turkish National Thesis Center database and to comprehensively evaluate studies conducted in the field of general surgery.

Material and Methods: The Turkish National Thesis Center database was searched using the keyword “artificial intelligence”. Among the retrieved records, medical specialty theses were analyzed. The distribution of theses by year and by specialty was evaluated. Theses in the field of General Surgery were further examined in detail using content analysis. Within this scope, study topics, applied methods, type of data used, and intended clinical application were analyzed.

Results: A total of 6,357 AI-related theses were identified in database, of which 224 were medical specialty theses. This rise was considered parallel to the growing adoption of AI applications in healthcare in recent years. Evaluation of specialty distribution revealed that a substantial proportion of studies were concentrated in radiology and imaging-based disciplines. A total of 6 theses were identified in the field of general surgery, all of which were conducted in recent years. Analysis of study topics demonstrated a focus on computed tomography-based diagnosis of acute appendicitis, detection of pancreatic and gastric tumors, assessment of axillary lymph node metastasis in breast cancer, prediction of response to neoadjuvant therapy, and estimation of surgical site infection risk following colorectal surgery. The methods used were predominantly machine learning and deep learning-based models, and most studies relied on imaging data. The primary aim of these studies was to improve diagnostic accuracy and to develop clinical decision support systems.

Conclusion: The use of AI in medical specialty theses in Türkiye has markedly increased in recent years, with studies predominantly concentrated in imaging-based disciplines. Although the number of studies in the field of General Surgery remains limited, they mainly focus on clinical decision processes such as improving diagnostic accuracy and predicting complications. This indicates that the integration of AI into surgical practice is still at an early stage but holds significant developmental potential. Increasing larger datasets, multicenter collaborations, and prospective studies in surgical research will accelerate the integration of AI-based systems into clinical practice.

Keywords: Medical specialty theses, artificial intelligence, general surgery

[S-545]

Comparative performance of large language models and general surgery specialists in liver laceration treatment decision-making

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Objective: Liver laceration is a critical condition in trauma surgery that requires rapid and accurate determination of whether surgical intervention is necessary. While decisions are traditionally based on clinical expertise, large language models (LLMs) may offer additional consistency in evaluating clinical data. However, their real-world comparative performance against practicing clinicians remains limited. This study compared two LLMs with general surgery specialists in determining surgical indications for liver laceration.

Material and Methods: Thirty-five liver laceration cases were analyzed. Two LLMs (Google Gemini 3 Pro Preview and OpenAI GPT-5.2) were evaluated. Key predictive variables were identified using a Random Forest algorithm with feature importance analysis. Three independent general surgery specialists reviewed each case separately and decided whether surgery was required. For each patient, structured clinical data (age, systolic blood pressure, INR, pH, lactate level) were provided to the models, and they were asked directly whether surgical intervention was indicated. The models were blinded to ground truth labels and to each other's outputs. Each model evaluated every patient five times, resulting in 350 total LLM outputs (10 per patient, 5 per model) and 105 specialist decisions (1 per patient per rater).Agreement with ground truth was assessed using Cohen's Kappa (κ), accuracy, F1-score, sensitivity, specificity, and AUC. A two-tailed p-value <0.05 was considered statistically significant. The dataset was imbalanced, with non-operative management constituting 82.9% of cases, meaning most patients were treated conservatively rather than surgically.

Results: In determining surgical indication (operative vs. non-operative management), GPT-5.2 demonstrated the highest performance, with almost perfect agreement [κ=0.89 (0.80-0.99)], accuracy 97.1% (94.7-99.6%), and F1-score 0.983. Gemini 3 Pro Preview showed substantial agreement [κ=0.77 (0.63-0.91)], accuracy 94.3% (90.8-97.7%), and F1-score 0.967.The mean performance of general surgery specialists showed substantial agreement [κ=0.62 (0.22-1.0)], accuracy 91.4% (82.2-100.0%), and F1-score 0.951. AI models were numerically more accurate than specialists in correctly identifying both operative and conservative cases, outperforming them by 3.3% in accuracy and 0.15 in Kappa agreement; however, these differences were not statistically significant (p>0.05). Discriminative ability was highest for GPT-5.2 (AUC: 0.93), followed by Surg_1 (AUC: 0.90).

Conclusion: LLMs, particularly GPT-5.2, achieved high accuracy and agreement in determining surgical indications for liver laceration, performing at least comparably to general surgery specialists in this cohort. The marked class imbalance—where 82.9% of cases were managed non-operatively—highlights the importance of evaluating sensitivity and specificity alongside overall accuracy. These findings support the potential integration of AI as a decision-support tool in trauma surgery. Future studies should focus on improving model performance in larger cohorts.

Keywords: Liver laceration, artificial intelligence, clinical decision system

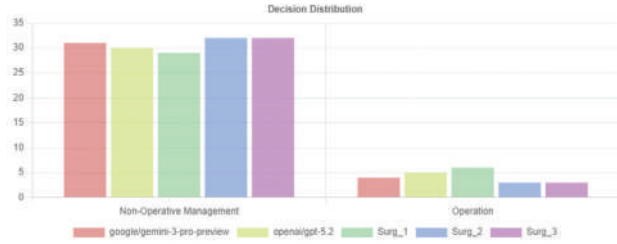
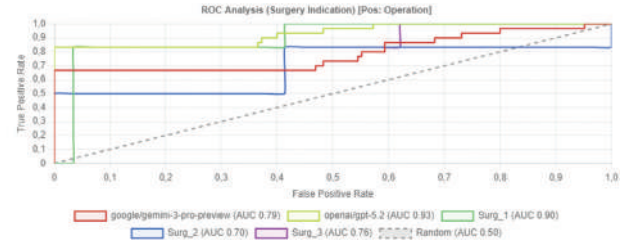


Figure 1. ROC analysis surgical indication.

ROC: Receiver operating characteristic.



Note. ROC = Receiver Operating Characteristic; AUC = Area Under the Curve

Figure 2. Decision distribution.

[S-547]

Digital imaging in general surgery practice: PACS competency, educational gaps, and perspectives on artificial intelligence versus teleradiology

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Objective: The aim of our study is to evaluate the PACS usage habits, competencies, and educational needs of general surgery residents, as well as the impact of infrastructure issues on clinical workflow, trust in teleradiology reports, and attitudes toward artificial intelligence applications.

Material and Methods: A survey study was conducted between September 2025 and January 2026 among general surgery residents working in clinics across Türkiye. The survey investigated PACS usage habits, proficiency levels in utilizing PACS tools, impact on workflow, training methods,and perspectives on teleradiology (outsourcing) and artificial intelligence integration.

Results: A total of 126 participants were included in the study. In-hospital desktop computers (95%) were the primary tools used to access PACS. Remote access and access via smartphones were reported at 43% and 39%, respectively. Notably, 52% of participants stated that they could not easily access PACS at the bedside during clinical rounds. PACS was most frequently utilized in the management of trauma and emergency surgical pathologies (86%), preoperative/postoperative staging (84%), and evaluation of organ anatomy (79%). Regarding emergency (STAT) imaging, 65% of participants reported accessing results within the first 15 minutes, while 19% stated this duration exceeded 30 minutes. Additionally, 92% of residents found PACS extremely beneficial during multidisciplinary boards. Although 87% of participants reported proficiency in basic functions such as measuring the distance between two points, the predominant response for more advanced features including area (53%),volume (75%), Hounsfield unit measurement (59%), and 3D reconstruction (73%) was "no knowledge at all". Most participants indicated that they learned to use PACS either from senior colleagues (74%) or through self-directed trial and error (73%). Only 54% stated that they were able to use PACS independently and effectively, and this proportion increased significantly with advancing year of residency (>4th year: 88% vs.<2nd year: 46%). Furthermore, concordance between residents' independent radiologic assessments and the expert radiologist's report was 70% among senior residents (>4th year), compared with 33% among junior residents (<2nd year). Radiology service procurement (outsourcing/teleradiology) was present in 49% of the institutions. 70% of participants reported low or no trust in teleradiology reports, 62% were unable to reach the reporting radiologist, and 55% believed that critical findings were frequently missed in outsourced reports. Regarding artificial intelligence (AI) usage, 40% of participants did not use AI, and 36% stated that AI was not available in their institution, while 22% reported active AI usage. Among those who use AI, 82% stated that their findings overlapped with AI, and 86% believed AI was helpful in detecting missed findings. Finally, 71% of participants stated that AI should serve as a reliable "second opinion" in radiology.

Conclusion: PACS usage among general surgery residents is considered vital for diagnostic accuracy and the efficiency of multidisciplinary boards. The lack of trust in teleradiology reports compels surgeons to improve their own radiological evaluation skills and necessitates positioning artificial intelligence algorithms as a reliable "second opinion".

Keywords: PACS competency, teleradiology, artificial intelligence

[S-548]

Can machine learning models predict pathological response to neoadjuvant chemotherapy in breast cancer patients?

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Objective: Neoadjuvant chemotherapy is a standard approach in the treatment of locally advanced breast cancer, and early prediction of pathological complete response (pCR) and axillary lymph node status is of critical importance for surgical planning and prognostic assessment. The aim of this study is to develop and compare the performance of machine learning (ML) models that predict pCR and sentinel lymph node (SLNB) status by integrating clinical, histopathological, and radiological data in breast cancer patients receiving neoadjuvant chemotherapy.

Material and Methods: The study included 214 female patients who underwent surgical treatment following neoadjuvant chemotherapy at the General Surgery Clinic of University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital between January 2014 and December 2024. Demographic data, pre- and post-treatment ultrasonographic measurements, and histopathological characteristics were analyzed retrospectively. The dataset was split into 80% training and 20% testing sets. Seven different ML algorithms (random forest, Gaussian Naive Bayes, SVM, logistic regression, kNN, decision tree, AdaBoost) were trained to predict pCR and SLNB outcomes, and performance was evaluated using Accuracy, Specificity, F1 Score, and ROC-AUC values.

Results: In predicting post-neoadjuvant SLNB results (positive/negative), the random forest algorithm demonstrated the highest performance with an F1 score of 97.8%, 98% Accuracy, 100% specificity, and an AUC value of 0.973. In predicting pathological complete response (pCR), the Gaussian Naive Bayes model achieved the highest discriminative power with an AUC value of 0.936, whereas the random forest model provided the most clinically balanced results with an 87% F1 score, 84% accuracy, and a 92.9% negative predictive value. The integration of ultrasonographic response data into the models significantly increased prediction success compared to models trained with clinical data alone. pCR using machine learning algorithms. Prediction of SLNB status using machine learning algorithms.

Conclusion: This study offers a robust and applicable AI-supported solution to the dilemma of predicting treatment response in surgical planning after neoadjuvant chemotherapy. The Random Forest model predicted axillary status with 98% accuracy and 100% specificity, proving to be a highly reliable tool for distinguishing positive and negative cases in patients scheduled for SLNB. This finding provides strong evidence regarding the clinical feasibility of "safe observation without SLNB" in breast cancer surgery. Furthermore, the high success in predicting pCR (AUC: 0.936) allows for early detection of non-responders and modification of chemotherapy regimens without losing time. Conversely, high-accuracy identification of pCR achievement provides a solid foundation for "watch-and-wai" strategies and non-operative management protocols. Integration of ultrasonographic response data opens the doors to "personalized surgery" with existing clinical resources, without the need for expensive genomic tests.

Keywords: Machine learning, pathological complete response

Table 1.

Model	Accuracy	F1-score	ROC-AUC	TP	FN	TN	FP	Sensitivity	Specificity	PPV	NPV
Gaussian Naive Bayes	0.72	0.74	0.936	5	2	11	4	0.714	0.733	0.556	0.846
Logistic regression	0.81	0.85	0.877	6	1	12	3	0.857	0.800	0.667	0.923
SVM-RBF	0.81	0.85	0.874	6	1	12	3	0.857	0.800	0.667	0.923
Random forest	0.84	0.87	0.847	6	1	13	2	0.857	0.867	0.750	0.929
Decision tree	0.81	0.85	0.824	6	1	12	3	0.857	0.800	0.667	0.923
Ada boost	0.79	0.82	0.869	5	2	12	3	0.714	0.800	0.625	0.857
kNN	0.74	0.83	0.818	6	1	10	5	0.857	0.667	0.545	0.909

Table 2.

Model	Accuracy	F1-Score	ROC-AUC	TP	FN	TN	FP	Sensitivity	Specificity	PPV	NPV
Logistic regression	0.816	0.808	0.811	15	4	25	5	0.789	0.833	0.750	0.862
SVM-RBF	0.898	0.889	0.878	15	4	29	1	0.789	0.967	0.938	0.879
Random forest	0.980	0.978	0.973	18	1	30	0	0.947	1.000	1.000	0.968
Gaussin Naive Bayes	0.939	0.933	0.921	16	3	30	0	0.842	1.000	1.000	0.909
kNN	0.878	0.868	0.861	15	4	28	2	0.789	0.933	0.882	0.875
Decision tree	0.918	0.917	0.934	19	0	26	4	1.000	0.867	0.826	1.000
Ada boost	0.918	0.914	0.914	17	2	28	2	0.895	0.933	0.895	0.933

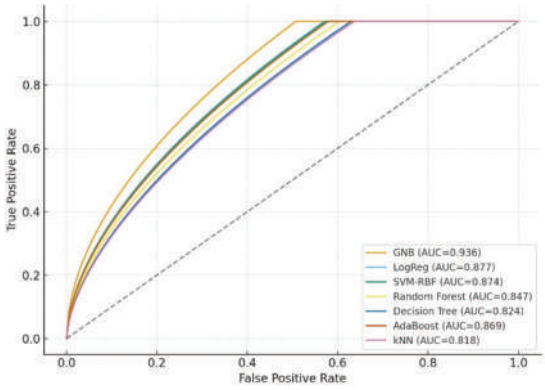

Figure 1. Receiver operating characteristic curve analysis for the prediction of pathological complete response status.

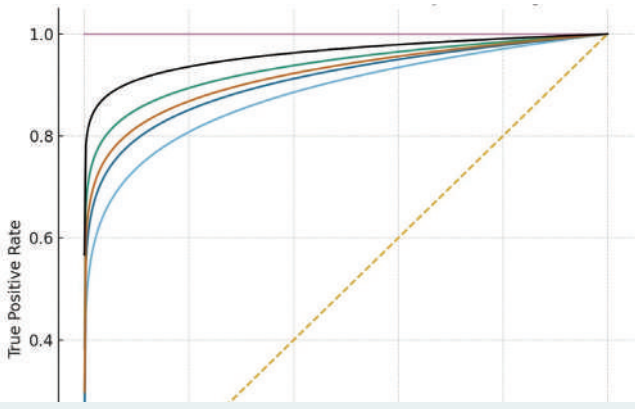

Figure 2. Receiver operating characteristic curve analysis for the prediction of sentinel lymph node biopsy status.

[S-549]

A national analysis supported by artificial intelligence: A 15-year panorama of general surgery specialty theses in Türkiye (2010-2025)

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Objective: Specialty theses in medicine prepared in the field of general surgery are the basic scientific outputs that reflect the research priorities and future trends of academic surgery. In this study, it is aimed to evaluate the temporal change of general surgery specialty theses completed in Türkiye in the last 15 years (2010-2025) in terms of study type, clinical area, research purpose and types of termination with a holistic perspective and analytical methods supported by artificial intelligence.

Material and Methods: In this retrospective and descriptive bibliometric study, a total of 2,004 general surgery specialty dissertations indexed in the Council of Higher Education (YÖK) National Thesis Center database with full-text access were analyzed. Dissertations were classified into four main categories—"Study Type", "Clinical Area", "Research Objective", and "Outcome Type"—based on a predetermined coding scheme. Natural Language Processing (NLP)-based AI algorithms were utilized as primary screening and decision support tools in data mining and classification processes. To ensure data reliability, AI outputs were systematically supervised by researchers at every stage (human-in-the-loop). "Grey area" data or those with low confidence scores were manually verified. Validated data were divided into three periods (2010-2014, 2015-2019, 2020-2025) and evaluated using trend analysis (Cochran-Armitage trend test/chi-square). Distribution of general surgery specialty theses by year according to study types, research objectives and termination types

Results: During the analyzed period, the rate of experimental animal studies decreased from 53.5% to 46.9% ($p<0.05$), while clinical retrospective studies significantly increased from 31.0% to 41.6% ($p<0.001$). Conversely, clinical prospective studies dropped from 11.1% to 7.4%. Regarding clinical areas, obesity and metabolic surgery dissertations increased more than threefold (from 2.1% to 7.2%), while a proportional decrease was observed in hepatobiliary surgery. Research focus shifted from biochemical outcomes at the tissue level (decreasing from 68.4% to 62.2%) toward patient-centered outcomes such as quality of life and survival. Distribution of general surgery specialty theses by clinical areas according to years.

Conclusion: General surgery dissertations in Türkiye have undergone a significant paradigm shift over the last 15 years, moving from experimental/laboratory-oriented research toward database-driven clinical retrospective research. Rising clinical trends like obesity surgery are rapidly reflected in dissertation topics; however, the rate of prospective clinical studies has not yet reached desired levels. This AI-assisted analysis highlights the need to re-plan surgical education curricula and research funding according to this evolving academic ecosystem.

Keywords: General surgery, medical specialty training, artificial intelligence

Table 1.

	2010-2014 (%)	2015-2019 (%)	2020-2025 (%)	Trend
Type of work				
Experimental (animal)	332 (53.5%)	224 (46.7%)	424 (46.9%)	↓
Clinical retrospective	192 (31.0%)	184 (38.3%)	376 (41.6%)	↑
Clinical prospective	69 (11.1%)	47 (9.8%)	67 (7.4%)	↓
Technical/methodological	27 (4.4%)	25 (5.2%)	37 (4.1%)	→
The purpose of the research				
Diagnostic accuracy/method evaluation	65 (10.5%)	49 (10.2%)	129 (14.3%)	↑
Prognostic/risk determinant	95 (15.3%)	92 (19.2%)	196 (21.7%)	↑
Therapeutic efficacy/treatment comparison	438 (70.6%)	323 (67.3%)	557 (61.6%)	↓
Physiopathological/mechanistic	18 (2.9%)	15 (3.1%)	19 (2.1%)	→
Technical/method development	4 (0.6%)	1 (0.2%)	3 (0.3%)	→
Type of termination				
Biochemical/histopathological	424 (68.4%)	291 (60.6%)	562 (62.2%)	↓
Morbidity/mortality	145 (23.4%)	139 (29.0%)	249 (27.5%)	↑
Functional results	6 (1.0%)	5 (1.0%)	6 (0.7%)	→
Quality of life	12 (1.9%)	21 (4.4%)	30 (3.3%)	↑
Survival (OS/DFS etc.)	25 (4.0%)	17 (3.5%)	49 (5.4%)	↑
Other	8 (1.3%)	7 (1.5%)	8 (0.9%)	→
Total number of theses	620 (100%)	480 (100%)	904 (100%)	—

Table 2.

Clinical area	2010-2014 (%)	2015-2019 (%)	2020-2025 (%)	Trend
Colorectal surgery	143 (23.1%)	107 (22.3%)	211 (23.3%)	→
Hepatobiliary-pancreatic surgery	142 (22.9%)	93 (19.4%)	182 (20.1%)	↓
Breast surgery	76 (12.3%)	59 (12.3%)	140 (15.5%)	↑
Thyroid-parathyroid surgery	69 (11.1%)	63 (13.1%)	105 (11.6%)	→
Obesity-bariatric surgery	13 (2.1%)	37 (7.7%)	65 (7.2%)	↑
Upper GIS surgery	33 (5.3%)	32 (6.7%)	65 (7.2%)	↑
Hernia surgery	38 (6.1%)	12 (2.5%)	31 (3.4%)	↓
Gastrointestinal emergencies	22 (3.5%)	14 (2.9%)	24 (2.7%)	→
Chronic wound/burn	10 (1.6%)	10 (2.1%)	12 (1.3%)	→
Endoscopy-colonoscopy	4 (0.6%)	6 (1.2%)	14 (1.5%)	→
Emergency surgery-trauma (non-GIS)	7 (1.1%)	3 (0.6%)	8 (0.9%)	→
Other	63 (10.2%)	44 (9.2%)	47 (5.2%)	↓
Total number of theses	620	480	904	—

[S-550]

Surgery 4.0: the AI revolution in operative note documentation - a 160-case prospective analysis returning the resident from "desk work" to the operating room

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Objective: Operative notes are cornerstone components of surgical practice, patient safety, and medico-legal processes. However, the heavy clinical and administrative workload on surgical residents turns manual documentation into a significant time burden and leads to variability in quality standards. This study aims to analyze the extent to which a KVKK-compliant, end-to-end encrypted, multimodal artificial intelligence (AI) architecture can optimize operative notes according to international BUPA surgical complexity scores and Royal College of Surgeons (RCS) standards. AI was designed as an indispensable assistant to liberate residents from administrative tasks, allowing them to focus on clinical training, surgical practice, and patient care.

Material and Methods: A total of 160 operations, categorized according to the BUPA classification as Group A (minor/intermediate; n=52, 32.5%), Group B (major; n=57, 35.7%), and Group C (complex major; n=51, 31.8%), were prospectively examined in this study. The system architecture was designed with a "Zero-Knowledge" principle, utilizing AES-256 end-to-end encryption on the client side. Surgeons' vocal findings were converted into dynamic operative notes using Scalpely v1.0.0, which is integrated with the multimodal Gemini 2.5 Flash API capable of direct semantic extraction from voice. All generated notes were blindly scored by three independent expert surgeons based on RCS criteria. Finally, a cost-efficiency analysis was conducted based on time efficiency and resident unit labor rates.

Results: The AI-supported system provided statistically significant improvements across all documentation parameters p<0.001):

• Standardization Support: The median AI score was 16.0,while the median resident score was 13.5 (p<0.001).This demonstrates AI's efficacy in standardizing quality.

• Time Management: Manual documentation took a median of 14.0 minutes for residents,whereas the AI process was completed in just 1.4 minutes, achieving a 90% time saving (p<0.001).

• Cost-Effectiveness: The median labor cost per operation was 124.46 TL for residents,which dropped to 14.12 TL with AI integration (p<0.001).

• BUPA Complexity Impact: The median success difference provided by AI was 23.6% in Group A, 22.2% in Group B, and 13.89% in Group C.Differences between groups B-C and A-C were statistically significant (p<0.05).

Conclusion: This study demonstrates that the AI-powered Scalpely v1.0.0 platform yields results 10 times faster and 9 times more economically compared to residents.The obtained data reveals that AI is not a competitor to the resident,but rather a technological necessity that alleviates their burden.The secure infrastructure, featuring AES-256 encryption,provides a robust foundation for the system's integration into clinical practice.AI serves as an education and efficiency tool that liberates the surgeon from "desk work" and returns them to where they belong:the operating room and the patient's bedside.

Keywords: Artificial intelligence, operative note, workload and efficiency

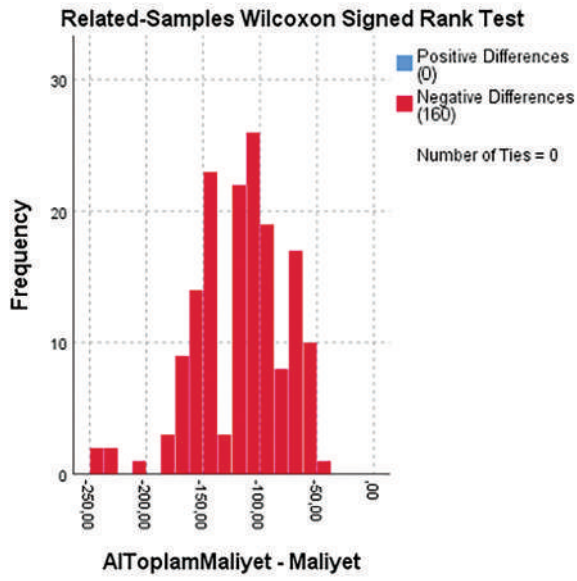

Figure 1. Resident cost and total AI cost.

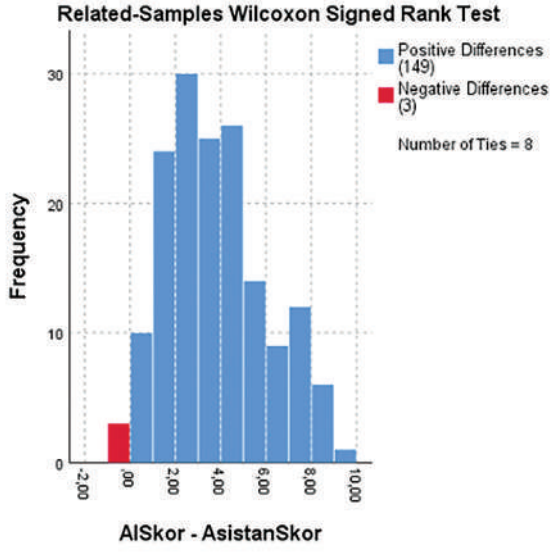

Figure 2. Resident score and total AI score.

[S-551]

Clinical decision variability in large language models: A delphi-like multiphase simulation using Chatgpt 5.2

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Objective: Large language models (LLMs) are increasingly used in clinical practice for generating text related to diagnosis,staging,and treatment planning. Their persuasive language raises patient safety concerns due to the risk of clinician over-reliance. However,the extent to which identical clinical data produce variable decisions under different contextual and normative frameworks has not been systematically evaluated. This study aimed to assess how usage variations affect clinical decision outputs and to highlight the risk of over-reliance.

Material and Methods: The study was a non-interventional, retrospective, simulation-based methodological investigation using OpenAI's ChatGPT-5.2. To standardize output language and format, 200 anonymized tumor board decisions without patient data were submitted to the model. NCCN and ESMO breast cancer guidelines were defined as normative frameworks. For each patient, raw and context-enriched data were created and evaluated without guidance and under NCCN and ESMO frameworks. A 2×3 factorial design generated six outputs per case, yielding 600 simulations. Outputs were structured into four domains: clinical staging, biological features, treatment approach, and qualitative risk assessment, producing 2,400 standardized texts. Cases with corresponding reference content were identified, and clinical equivalence was assessed semantically rather than textually. Classifications were performed by two independent clinicians and compared. Analyses were matched by patient and simulation condition across domains. I. Output Standardization (Phase 0): To standardize output language and format, 200 multidisciplinary tumor board decision texts containing no patient data were submitted to the large language model ChatGPT 5.2. II. Definition of Normative Frameworks: The NCCN and ESMO breast cancer clinical practice guidelines were defined as the normative clinical frameworks. III. Construction of Data Structures: For each patient, two different input structures were created: Raw clinical data Contextually enriched clinical data IV. Execution of Multi-Phase Simulations (2×3 Design): Each patient's data were evaluated under six simulation conditions, both without guideline direction and under NCCN and ESMO normative frameworks, resulting in six separate outputs: PHASE 1 (raw data) PHASE 2 (contextual data) PHASE 1_ESMO PHASE 2_ESMO PHASE 1_NCCN PHASE 2_NCCN V. Decomposition of Simulation Outputs into Decision Domains: The outputs generated under the six conditions were textually structured and decomposed into four predefined clinical decision domains: (a) Clinical staging (b) Biological characteristics (c) Overall treatment approach (d) Qualitative risk assessment VI. Identification of Cases with Available Reference Content and Domain-Based Enumeration: For each decision domain, the number of patients in whom the corresponding information was present in the reference tumor board decision was determined. Semantic equivalence classification was performed for these cases, and agreement rates were calculated. VII. Domain-Specific Agreement Comparisons (Reference vs. Alternative Simulations): Among cases in which the reference decision domain was available, agreement rates between the reference tumor board decision and alternative simulation outputs (PHASE 1, PHASE 2, and NCCN/ESMO repetitions) were compared for each clinical decision domain.

I. Selection of a single representative case and preparation of anonymized clinical data.

II. Implementation of six simulation conditions (raw, contextual, and ESMO/NCCN repetitions).

III. Decomposition of simulation outputs into four clinical decision domains.

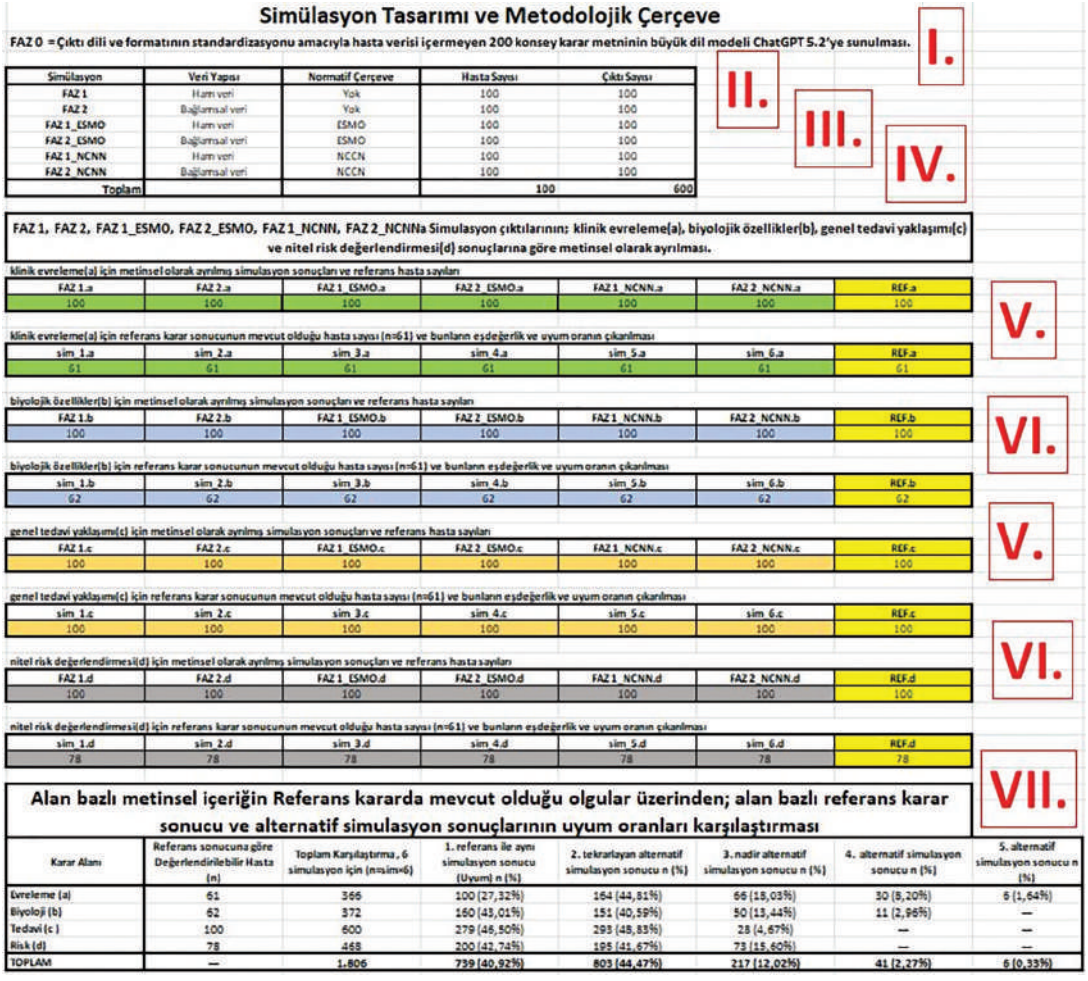
IV. Categorization of textual content based on clinical equivalence and coding of the reference decision.

V. Classification of alternative decision clusters and structuring for quantitative analysis.

Results: Evaluable reference data varied by decision domain. Analyses included 61 patients for staging (n=366 comparisons), 62 for biological features (n=372), 100 for treatment approach (n=600), and 78 for risk assessment (n=468). Of 2,400 outputs generated across six simulation contexts, n=1,806 were eligible for reference comparison. Full agreement rates were 27.3% (100/366) for staging, 43.0% (160/372) for biological classification, 46.5% (279/600) for treatment, and 42.7% (200/468) for risk, with an overall agreement of 40.92% (739/1806). In non-reference simulations, contextual variation altered decision distributions, expanding to up to five categories in some domains.

Conclusion: This study demonstrated that presenting identical clinical data under different contextual and normative frameworks leads to significant differences and domain-specific variability in LLM-generated clinical decisions. The findings indicate that LLM outputs are sensitive to presentation format and guideline framing, and that reliable use depends on appropriate contextual structuring, proper framework definition, and complete data input. Furthermore, standardized output formats are needed to ensure comparability between routine human clinical decisions and LLM outputs; however, consistently maintaining these conditions in clinical practice may pose methodological and operational challenges.

Keywords: Large language model, clinical decision variability, context sensitivity, simulation-based study, over-reliance



Simülasyon Tasarımı ve Metodolojik Çerçeve

FAZ 0 =Çıktı dili ve formatının standardizasyonu amacıyla hasta verisi içermeyen 200 konsey karar metninin büyük dil modeli ChatGPT 5.2'ye sunulması. I.

Simülasyon	Veri Yapısı	Normatif Çerçeve	Hasta Sayısı	Çıktı Sayısı
FAZ 1	Ham veri	Yok	100	100
FAZ 2	Bağlamsal veri	Yok	100	100
FAZ 1_ESMO	Ham veri	ESMO	100	100
FAZ 2_ESMO	Bağlamsal veri	ESMO	100	100
FAZ 1_NCNN	Ham veri	NCCN	100	100
FAZ 2_NCNN	Bağlamsal veri	NCCN	100	100
Toplam			100	600

II. III. IV.

FAZ 1, FAZ 2, FAZ 1_ESMO, FAZ 2_ESMO, FAZ 1_NCNN, FAZ 2_NCNNa Simulasyon çıktılarının: klinik evreleme(a), biyolojik özellikler(b), genel tedavi yaklaşımı(c) ve nitel risk değerlendirmesi(d) sonuçlarına göre metinsel olarak ayrılması.

klinik evreleme(a) için metinsel olarak ayrılmış simulasyon sonuçları ve referans hasta sayıları

FAZ 1.a	FAZ 2.a	FAZ 1_ESMO.a	FAZ 2_ESMO.a	FAZ 1_NCNN.a	FAZ 2_NCNN.a	REF.a
100	100	100	100	100	100	100

klinik evreleme(a) için referans karar sonucunun mevcut olduğu hasta sayısı (n=61) ve bunların eşdeğerlik ve uyum oranın çıkarılması

sim_1.a	sim_2.a	sim_3.a	sim_4.a	sim_5.a	sim_6.a	REF.a
61	61	61	61	61	61	61

V.

biyolojik özellikler(b) için metinsel olarak ayrılmış simulasyon sonuçları ve referans hasta sayıları

FAZ 1.b	FAZ 2.b	FAZ 1_ESMO.b	FAZ 2_ESMO.b	FAZ 1_NCNN.b	FAZ 2_NCNN.b	REF.b
100	100	100	100	100	100	100

biyolojik özellikler(b) için referans karar sonucunun mevcut olduğu hasta sayısı (n=61) ve bunların eşdeğerlik ve uyum oranın çıkarılması

sim_1.b	sim_2.b	sim_3.b	sim_4.b	sim_5.b	sim_6.b	REF.b
62	62	62	62	62	62	62

VI.

genel tedavi yaklaşımı(c) için metinsel olarak ayrılmış simulasyon sonuçları ve referans hasta sayıları

FAZ 1.c	FAZ 2.c	FAZ 1_ESMO.c	FAZ 2_ESMO.c	FAZ 1_NCNN.c	FAZ 2_NCNN.c	REF.c
100	100	100	100	100	100	100

genel tedavi yaklaşımı(c) için referans karar sonucunun mevcut olduğu hasta sayısı (n=61) ve bunların eşdeğerlik ve uyum oranın çıkarılması

sim_1.c	sim_2.c	sim_3.c	sim_4.c	sim_5.c	sim_6.c	REF.c
100	100	100	100	100	100	100

V.

nitel risk değerlendirmesi(d) için metinsel olarak ayrılmış simulasyon sonuçları ve referans hasta sayıları

FAZ 1.d	FAZ 2.d	FAZ 1_ESMO.d	FAZ 2_ESMO.d	FAZ 1_NCNN.d	FAZ 2_NCNN.d	REF.d
100	100	100	100	100	100	100

nitel risk değerlendirmesi(d) için referans karar sonucunun mevcut olduğu hasta sayısı (n=61) ve bunların eşdeğerlik ve uyum oranın çıkarılması

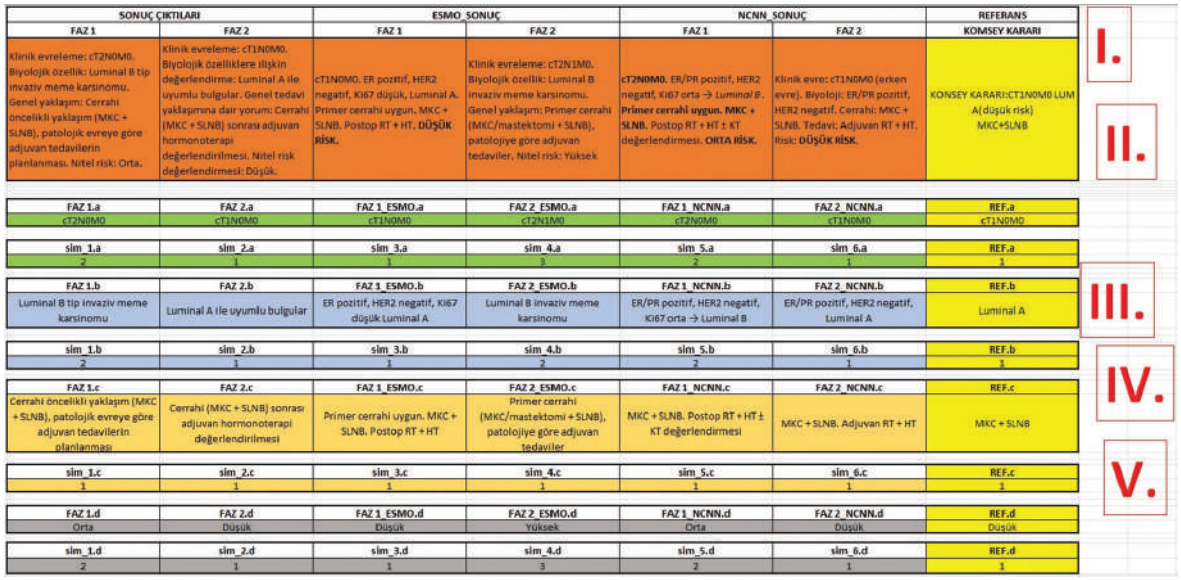
sim_1.d	sim_2.d	sim_3.d	sim_4.d	sim_5.d	sim_6.d	REF.d
78	78	78	78	78	78	78

VI.

Alan bazlı metinsel içeriğin Referans kararda mevcut olduğu olgular üzerinden; alan bazlı referans karar sonucu ve alternatif simulasyon sonuçlarının uyum oranları karşılaştırması VII.

Karar Alanı	Referans sonucuna göre Değerlendirilebilir Hasta (n)	Toplam Karşılaştırma, 6 simulasyon için (n=sim×6)	1. referans ile aynı simulasyon sonucu (Uyum) n (%)	2. tekrarlayan alternatif simulasyon sonucu n (%)	3. nadir alternatif simulasyon sonucu n (%)	4. alternatif simulasyon sonucu n (%)	5. alternatif simulasyon sonucu n (%)
Evreleme (a)	61	366	100 (27,32%)	164 (44,81%)	66 (18,03%)	30 (8,20%)	6 (1,64%)
Biyoloji (b)	62	372	160 (43,01%)	151 (40,59%)	50 (13,44%)	11 (2,96%)	—
Tedavi (c)	100	600	279 (46,50%)	293 (48,83%)	28 (4,67%)	—	—
Risk (d)	78	468	200 (42,74%)	195 (41,67%)	73 (15,60%)	—	—
TOPLAM	—	1.806	739 (40,92%)	803 (44,47%)	217 (12,02%)	41 (2,27%)	6 (0,33%)

Figure 1. Schematic representation of the multiphase simulation design, analytical decomposition process, and domain-based concordance analyses.



SONUÇ ÇIKTILARI		ESMO_SONUÇ		NCNN_SONUÇ		REFERANS	
FAZ 1	FAZ 2	FAZ 1	FAZ 2	FAZ 1	FAZ 2	KONSEY KARARI	
Klinik evreleme: cT2N0M0. Biyolojik özellik: Luminal B tip invaziv meme karsinomu. Genel yaklaşım: Cerrahi öncelikli yaklaşım (MKC + SLNB), patolojik evreye göre adjuvan tedavilerin planlanması. Nitel risk: Orta.	Klinik evreleme: cT1N0M0. Biyolojik özelliklere ilişkin değerlendirme: Luminal A ile uyumlu bulgular. Genel tedavi yaklaşımına dair yorum: Cerrahi (MKC + SLNB) sonrası adjuvan hormonoterapi değerlendirilmesi. Nitel risk değerlendirmesi: Düşük.	cT1N0M0. ER pozitif, HER2 negatif, Ki67 düşük, Luminal A. Primer cerrahi uygun. MKC + SLNB. Postop RT + HT. **DÜŞÜK RİSK.**	Klinik evreleme: cT2N1M0. Biyolojik özellik: Luminal B invaziv meme karsinomu. Genel yaklaşım: Primer cerrahi (MKC/mastektomi + SLNB), patolojiye göre adjuvan tedaviler. Nitel risk: Yüksek	**cT2N0M0.** ER/PR pozitif, HER2 negatif, Ki67 orta → *Luminal B*. **Primer cerrahi uygun. MKC + SLNB.** Postop RT + HT ± KT değerlendirmesi. **ORTA RİSK.**	Klinik evre: cT1N0M0 (erken evre). Biyoloji: ER/PR pozitif, HER2 negatif. Cerrahi: MKC + SLNB. Tedavi: Adjuvan RT + HT. Risk: **DÜŞÜK RİSK.**	KONSEY KARARI:CT1N0M0 LUM A(düşük risk) MKC+SLNB	I. II.
FAZ 1.a	FAZ 2.a	FAZ 1_ESMO.a	FAZ 2_ESMO.a	FAZ 1_NCNN.a	FAZ 2_NCNN.a	REF.a	
cT2N0M0	cT1N0M0	cT1N0M0	cT2N1M0	cT2N0M0	cT1N0M0	cT1N0M0	
sim_1.a	sim_2.a	sim_3.a	sim_4.a	sim_5.a	sim_6.a	REF.a	
2	1	1	3	2	1	1	
FAZ 1.b	FAZ 2.b	FAZ 1_ESMO.b	FAZ 2_ESMO.b	FAZ 1_NCNN.b	FAZ 2_NCNN.b	REF.b	III.
Luminal B tip invaziv meme karsinomu	Luminal A ile uyumlu bulgular	ER pozitif, HER2 negatif, Ki67 düşük Luminal A	Luminal B invaziv meme karsinomu	ER/PR pozitif, HER2 negatif, Ki67 orta → Luminal B	ER/PR pozitif, HER2 negatif, Luminal A	Luminal A	
sim_1.b	sim_2.b	sim_3.b	sim_4.b	sim_5.b	sim_6.b	REF.b	
2	1	1	2	2	1	1	IV.
FAZ 1.c	FAZ 2.c	FAZ 1_ESMO.c	FAZ 2_ESMO.c	FAZ 1_NCNN.c	FAZ 2_NCNN.c	REF.c	
Cerrahi öncelikli yaklaşım (MKC + SLNB), patolojik evreye göre adjuvan tedavilerin planlanması	Cerrahi (MKC + SLNB) sonrası adjuvan hormonoterapi değerlendirilmesi	Primer cerrahi uygun. MKC + SLNB. Postop RT + HT	Primer cerrahi (MKC/mastektomi + SLNB), patolojiye göre adjuvan tedaviler	MKC + SLNB. Postop RT + HT ± KT değerlendirmesi	MKC + SLNB. Adjuvan RT + HT	MKC + SLNB	
sim_1.c	sim_2.c	sim_3.c	sim_4.c	sim_5.c	sim_6.c	REF.c	V.
1	1	1	1	1	1	1	
FAZ 1.d	FAZ 2.d	FAZ 1_ESMO.d	FAZ 2_ESMO.d	FAZ 1_NCNN.d	FAZ 2_NCNN.d	REF.d	
Orta	Düşük	Düşük	Yüksek	Orta	Düşük	Düşük	
sim_1.d	sim_2.d	sim_3.d	sim_4.d	sim_5.d	sim_6.d	REF.d	
2	1	1	3	2	1	1	

Figure 2. Schematic representation of the multiphase simulation design and domain-based decomposition process using a single patient example.

[S-552]

Development and prospective validation of a machine learning-based diagnostic model in acute appendicitis

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Objective: Early and accurate diagnosis of acute appendicitis (AA), the most common emergency surgical abdominal condition, is critically important to prevent the morbidity and mortality it can cause. Despite advances in diagnostic methods, the misdiagnosis rate, which remains around 20% worldwide, continues to highlight the need for new and supportive methods. The aim of this study is to prospectively validate the diagnostic accuracy of a machine learning (ML) model trained with local data from a training and research hospital in AA.

Material and Methods: This study was designed in two phases on patients who underwent appendectomy at our hospital. In the first phase (retrospective), clinical, laboratory, radiological, and histopathological data of 908 patients (median age: 32 years, range: 17-93) who underwent surgery between January 2020 and December 2021 were analyzed, and models were trained using seven different ML algorithms (logistic regression, random forest, neural network, CN2 rule induction, KNN, naive bayes, gradient boosting). Since clinical history and physical examination findings were not adequately represented in the retrospective data, a structured data collection form including these variables was prepared in the second phase (prospective). The models were re-evaluated using data obtained from this form, which was administered by physicians to 107 patients consecutively admitted with a preliminary diagnosis of atrial appendectomy in 2023. Statistical analyses were performed using the R program; a p-value <0.05 was considered statistically significant.

Results: Among the algorithms tested on the retrospective dataset, the logistic regression model exhibited the highest performance in predicting histopathological diagnosis (AUC: 0.745). The accuracy rate of the model trained solely with retrospective data was found to be 76%. Prospectively including detailed clinical data such as patient history, system query, and physician's clinical impressions increased diagnostic accuracy statistically significantly to 84.6% (p<0.05). The model showed high sensitivity (84.6%), while specificity was found to be 32.9%.

Conclusion: Transferring experience gained from local and central-based data to machine learning models significantly improves AA diagnosis performanc e clinically. Our study demonstrates that even in digital diagnostic support systems, physician-patient interaction (history and physical examination) can play a more decisive role than objective examinations. In the future, testing these models in larger and more heterogeneous populations during the triage phase and improving them with additional parameters to increase specificity will enhance their clinical applicability.

Keywords: Acute appendicitis, machine learning, early diagnosis

[S-553]

Evaluation of colonic distension severity on abdominal radiographs with a machine learning-based score and its correlation with surgical outcomes

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Objective: This study aims to quantitatively predict segmental colon diameter on abdominal radiographs using machine learning methods and to evaluate the performance of the developed models.

Material and Methods: In this retrospective study, images from 330 patients were analyzed. The training set consisted of 130 patients with dilated colons and 130 patients with normal colons, while the test set comprised 70 patients. Patient age, sex, and malignancy status were recorded. A total of 68 radiographic features were extracted from each image. Five different machine learning models (Random Forest, Gradient Boosting, SVR, XGBoost, LightGBM) were trained using five-fold cross-validation. Performance was evaluated for each colon segment using the coefficient of determination (R^2) and the mean absolute error (MAE) in centimeters. The association between demographic variables and dilatation was examined using logistic regression analysis.

Results: The highest prediction accuracy was achieved for the ascending colon (XGBoost, CV R^2=0.496±0.129) and the transverse colon (random forest, CV R^2=0.377±0.155). Moderate performance was observed for the descending colon (R^2=0.197±0.105), while prediction accuracy for the sigmoid colon was limited (best R^2=0.059±0.067). MAE values across segments ranged from 0.18 to 0.48 cm.In the demographic analysis, age was found to be significantly associated with dilatation [odds ratios (OR): 1.03; 95% CI: 1.02-1.05; p<0.001]. Sex (OR: 0.81; 95% CI: 0.49-1.33; p=0.396) and the presence of malignancy (p=0.997) showed no significant association. Cross-validated determination coefficients (R^2) of machine learning models for segmental colon diameter estimation are presented. The highest predictive performance was observed in the ascending colon, followed by the transverse colon. Moderate performance was detected in the descending colon, while predictive accuracy was limited in the sigmoid colon. These findings indicate superior model performance in proximal colon segments. Mean absolute error (MAE) values in centimeters for segmental colon diameter prediction are shown. The lowest error was observed in the ascending colon, whereas higher error rates were detected in the sigmoid colon. Overall low centimeter-level error supports the potential clinical applicability of the model. The best-performing model for each colon segment is presented along with cross-validated R^2 values and MAE in centimeters.

Conclusion: Machine learning models demonstrated promising performance in predicting colon diameter, particularly in proximal colon segments. Quantitative prediction of ascending and transverse colon distension may aid the surgical decision-making process in patients with suspected obstruction. Further large-scale validation studies are required before clinical implementation.

Keywords: Abdominal radiography, colon dilatation, machine learning

Table 1. Best model performance by colon segment

Colon segment	Best model	CV R^2 (±SD)	MAE (cm)
Ascending	XGBoost	0.496±0.129	0.18
Transverse	Random forest	0.377±0.155	0.37
Descending	Random forest	0.197±0.105	0.35
Sigmoid	SVR	0.059±0.067	0.48

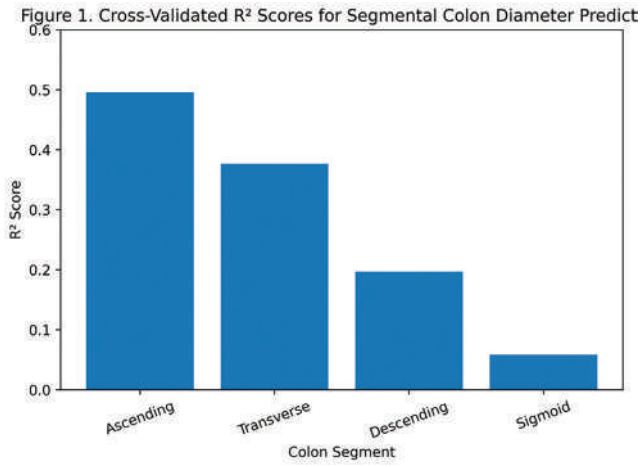

Figure 1. Cross-validated R^2 scores for segmental colon diameter prediction.

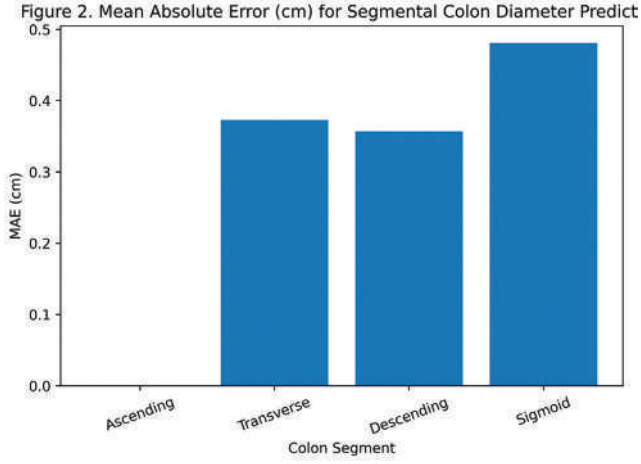

Figure 2. Mean absolute error (cm) for segmental colon diameter prediction.

[S-554]

Clinical decision superiority in colorectal cancer: Can it pass the 33-person human panel?

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Objective: Colorectal cancer (CRC) is the third most common malignancy worldwide and requires complex multidisciplinary decision-making. Multidisciplinary tumor boards (MDTs) integrate surgical, oncological, and radiological expertise to individualize treatment. Large language models (LLMs) have emerged as potential clinical decision-support tools; however, their real-world performance in consensus-driven oncology environments remains unclear. This study compared treatment recommendations generated by 33 contemporary LLMs with decisions made by a human gastrointestinal tumor board.

Material and Methods: This retrospective study included 116 CRC patients discussed at a tertiary MDT between 2023 and 2024. Human treatment decisions were extracted from official tumor board records. Thirty-three state-of-the-art LLMs were evaluated using structured clinical summaries. Each model selected one of five predefined categories: surgery, follow-up, neoadjuvant therapy, medical oncology, or radiotherapy. Each model was queried five times per patient to assess robustness. A total of 166 decisions per patient (1 human, 165 AI) were analyzed. Agreement was assessed using Cohen's Kappa, distribution differences with chi-square tests, and inter-model reliability with Fleiss' Kappa. Statistical significance was defined as $p<0.05$.

Results: Overall pooled agreement between LLMs and human MDT decisions was 66.3%, with moderate concordance (Cohen's $\kappa=0.457$; 95% CI: 0.321-0.593). The highest individual model agreement was observed with GPT-OSS-20B (accuracy 69.8%, $\kappa=0.498$), while the lowest κ was 0.256. Decision distributions differed significantly between AI and human experts (χ^2 $p<0.05$). LLMs more frequently recommended neoadjuvant therapy and medical oncology, whereas MDT decisions favored surgery in a higher proportion of cases. Performance for surgery showed moderate discrimination (F1=0.72), while follow-up and radiotherapy categories demonstrated poor sensitivity (F1=0.00). Inter-LLM reliability was high (Fleiss' $\kappa=0.815$), indicating strong internal consistency among models. The details of the patient characteristics and all patient cohort as well as details of the tumor grades are given The results of the tumor boards and responses of the artificial intelligence systems have been compared.

Conclusion: LLMs demonstrate moderate agreement with human tumor boards but generate statistically distinct treatment patterns. Although internally consistent, they do not replicate the nuanced, consensus-based reasoning of multidisciplinary oncology teams. Current evidence supports their use as assistive decision-support tools under physician supervision rather than autonomous clinical decision-makers. Further research should prioritize interpretability, bias mitigation, domain-specific fine-tuning, and prospective multicenter validation.

Keywords: Tumor boards, artificial intelligence, colorectal cancer

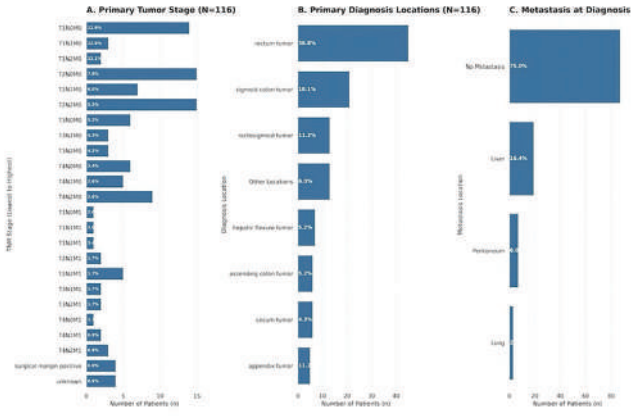

Figure 1. Patient charactheristics and cohort.

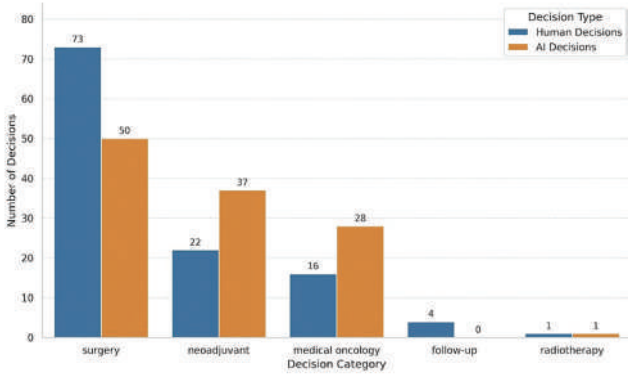

Figure 2. Decision distribution comparison.

[S-555]

AI-assisted triage in emergency general surgery: A pilot feasibility study comparing GPT and Gemini

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Objective: Timely triage in emergency general surgery is critical for reducing morbidity and optimizing resource utilization. Large language models (LLMs) such as GPT and Gemini have shown potential in clinical decision support; however, their reliability in surgical triage remains unclear. This pilot study aimed to evaluate the feasibility and accuracy of LLM-assisted triage in emergency general surgery by comparing GPT and Gemini against expert surgeon prioritization.

Material and Methods: In this cross-sectional pilot study, 60 real-world emergency general surgery scenarios (including acute appendicitis, bowel obstruction, perforation, cholecystitis, and gastrointestinal bleeding) were presented to GPT and Gemini using standardized prompts. Both models assigned triage categories (immediate, urgent, early, delayed). Three board-certified general surgeons established the reference standard. Primary outcomes included triage accuracy, weighted agreement (κ), sensitivity for high-priority cases, and safety errors defined as under-triage of critical conditions.

Results: Overall triage accuracy was 78% for GPT and 71% for Gemini. Agreement with expert consensus was moderate for GPT (weighted κ=0.62) and fair-to-moderate for Gemini (κ=0.54). Sensitivity for identifying high-priority cases was higher with GPT (86%) compared with Gemini (79%). Safety-critical under-triage occurred in 8% of GPT assessments and 14% of Gemini assessments. Both models demonstrated stronger performance in common presentations but variability in complex multi-morbid scenarios.

Conclusion: LLM-assisted triage in emergency general surgery is feasible and shows promising accuracy, with GPT demonstrating slightly superior performance compared with Gemini. Despite encouraging results, safety concerns related to under-triage highlight the need for clinician oversight. Larger prospective studies are required before implementation in real-time triage workflows.

Keywords: Artificial intelligence, clinical decision support, feasibility, emergency surgery, triage, large language models