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Hospital teaching status and patient outcomes in intestinal obstruction surgery: A comparative analysis

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ABSTRACT

Objective: Surgery at large teaching hospitals is reportedly associated with more favourable outcomes. However, these results are not uniformly consistent across all surgical patients. This study aimed to assess potential disparities in clinical outcomes by hospital type for patients with intestinal obstruction.

Material and Methods: 2018 NIS was queried for all adult non-elective admissions for intestinal obstruction. Hospitals were classified as either small-medium non-teaching hospitals or large teaching hospitals. Multivariate regression analyses were used to assess the association between hospital type and inpatient mortality, access to surgery, admission duration, non-home discharges, hospital costs, and postoperative complications.

Results: After adjustments, admission to large teaching hospitals was not associated with a reduction in inpatient mortality (AOR= 0.73; 95% CI= 0.41-1.31; p= 0.29), lower likelihood of surgery (AOR= 0.93; 95% CI= 0.58-1.48; p= 0.76) or increased chance of early surgery (p= 0.97). Patients admitted to large teaching hospitals had shorter hospital stays (p= 0.002) and were less likely to be discharged to other acute care hospitals (AOR= 0.94; 95% CI= 0.80-0.94; p= 0.04). Admission to large teaching hospitals was not associated with a reduction in perioperative complications (AOR= 1.04; 95% CI= 0.80-1.28; p= 0.91) or significantly higher hospital costs (mean increase= 1518; 95% CI= 1891-4927; p= 0.38).

Conclusion: Admission to large teaching hospitals does not necessarily result in better patient outcomes. Merely considering the teaching status of the hospital in isolation cannot explain the diverse outcomes observed for this condition.

Keywords: Intestinal obstruction, hospital teaching status, inflammatory bowel diseases, bands and adhesions

INTRODUCTION

Intestinal obstruction surgery and care is often an emergency with multifactorial etiopathogenesis, including malignant bowel obstruction (MBO); and its management is complex and costly. The emergence of new technologies and treatments has further increased the complexity and cost of care (1,2). Patient outcomes, as with any other surgical procedure, can vary substantially across hospital types. For instance, mortality rates have been reported to differ up to fourfold between hospitals for patients undergoing cancer surgery (3).

Despite evidence suggesting superior outcomes among patients admitted to large teaching hospitals (LTHs) (4), patients often worry about having a resident, intern, or medical student involved in their care, fearing that this might jeopardize their safety or compromise positive surgical outcomes. Previous reports have indicated that up to 60% of surgical patients lack confidence in the level of training of surgical residents, and up to 11% of surgical patients do not want residents involved in their care (5). Additionally, teaching hospitals (THs) are often considered more expensive than community hospitals (6,7), and intestinal obstruction care is already a significant financial burden to patients and payers (8,9). Therefore,

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it is important to investigate whether patient outcomes differ between teaching and non-teaching hospitals (NTHs).

The present study endeavored to explore four critical inquiries using national-level data. Primarily, we aimed to determine the extent to which mortality rates for intestinal obstruction diverge between THs and their non-teaching counterparts. Secondly, we aimed to investigate the variances in surgical accessibility, duration of hospitalization, total hospital expenses, and discharge status between teaching and NTHs. Thirdly, we aimed to examine whether postoperative complications were less prevalent in THs relative to NTHs. Finally, we endeavored to identify any autonomous predictors of unfavorable outcomes for patients admitted to LTHs.

MATERIAL and METHODS

Data Source

We conducted a retrospective cohort study using the 2018 Nationwide Inpatient Sample (NIS) database. NIS serves as a comprehensive collection of all inpatient stays across the United States (U.S.). NIS contains a collection of clinical and resource utilization information that is typically included in discharge abstracts. Given its large sample size, NIS offers a unique opportunity for a detailed investigation of medical conditions, treatments, and patient groups. Additionally, NIS encompasses data from 47 states and the district of Columbia, effectively representing over 97% of the U.S. populace and almost 96% of discharges from community hospitals (10). It provides information on all hospital stays, regardless of the expected payer. Notably, NIS includes Medicare advantage patients, a cohort that is frequently absent from Medicare claims data but accounts for up to 30% of Medicare beneficiaries (11).

Ethical Consideration

The U.S. Agency for Healthcare Research and Quality (AHRQ) designs and maintains NIS through its Healthcare Cost and Utilization Project (HCUP), ensuring compliance with HIPAA (The Health Insurance Portability and Accountability Act of 1996) and the removal of 16 direct patient- and hospital-level identifiers as specified in the privacy rule for all HCUP databases. The use of limited data sets such as the NIS under HIPAA does not require review by an institutional review board (IRB) (12,13).

Inclusion Criteria and Study Variables

All adult non-elective admissions for intestinal obstruction were identified using the International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure coding system (ICD-10-CM/PCS) and sub-classified into malignant bowel obstruction (MBO) and obstruction caused by non-malignant factors (NMFs). Study variables encompassed patients' demographic information such as age, sex, race, and median annual income. Hospitals were classified as small-medium non-teaching hospitals (SMNTHs) and LTHs. A hospital is classified as a teaching hospital if it meets any of the following criteria: approval for residency training by the Accreditation Council for Graduate Medical Education (ACGME), membership in the Council of Teaching Hospitals (COTH), or a full-time equivalent interns and residents to beds ratio of 0.25 or higher. Hospital size categories are based on the number of beds and are customized to the hospital's region, location, and teaching status. To adjust for the burden of chronic medical conditions, the Charlson comorbidity index (CCI) was utilized.

Outcome Measures

Primary outcome was inpatient mortality. Secondary outcomes were rate and time to procedures, hospital length of stay (LOS), rates and odds of non-home discharge (discharge to a skilled nursing home and other acute care facilities), mean total hospital charges, and postoperative complications. Prolonged LOS was defined as a diagnosis-specific length of stay above the median (7-12 days) reported in previous studies (14,15) or in the top decile of the index study population.

Statistical Analysis

Stata, v.17.0BE (StataCorp LLC, College Station, Texas, USA) was used for statistical analysis. Unadjusted odds ratios (ORs) were calculated for the primary outcome using univariate logistic regression analyses, incorporating all variables and comorbidities listed in Table 1. Variables with p-values less than 0.1 were selected for a subsequent multivariate logistic regression model. Through a thorough review of the existing literature, established confounders of primary and secondary outcomes such as anemias, deconditioning and frailty, metabolic disorders, higher CCI scores, and concurrent bowel gangrene were identified and added to the multivariate regression. Frailty was defined as a score of 3 or more using the Johns Hopkins Adjusted Clinical Groups clusters (16,17). Fisher's exact test was used to compare proportions, while Student's t-test was used for continuous variables. The log-rank test was utilized to calculate p-values. Significance level for multivariate analysis was set at p-values less than 0.05. Categorical and continuous variables were reported as proportions or mean with standard deviation, while regression outcomes were reported as adjusted odds ratios (AORs) or β coefficients with 95% confidence intervals (CIs). To account for confounders in the secondary outcomes, we used multivariate logistic and linear regression models that included all confounders identified from the literature and all variables listed in Table 1.

Table 1. Patient and hospital characteristics by hospital teaching status

	SMNTHs, n= 19.243 (72.1%)	LTHs, n= 7.446 (27.9%)	p
Patient characteristics			
Female (%)	47.1	48.3	0.73
Race/Ethnicity (%)			0.36
White	72.6	70.8	
Black	14.1	16.2	
Hispanic	9.4	8.1	
Asian or Pacific Islander	1.6	2.1	
Native American	0.5	0.6	
Other	1.8	2.2	
Mean age (years)	63.6 ± 0.3	61.6 ± 0.5	<0.001
Charlson comorbidity index score (%)			<0.001
0	36.8	33.2	
1	22.4	19.9	
2	15.3	15.7	
≥3	25.5	32.0	
Median annual income in patient's zip code, US$ (%)			<0.001
1-45.999	32.0	30.6	
46.000-58.999	29.1	24.9	
59.000-78.999	22.0	24.5	
≥79.000	17.0	20.0	
Insurance type (%)			0.04
Medicare	62.2	58.7	
Medicaid	12.7	13.7	
Private including HMO	21.8	25.0	
Uninsured	3.3	2.6	
Surgery <24 hr after admission (%)	1.7	1.9	0.61
Hospital region (%)			<0.001
Northeast	13.8	13.7	
Midwest	23.7	29.7	
South	45.6	33.5	
West	16.9	23.1	
Hospital bed size (%)			0.004
Small	13.5	22.6	
Medium	32.1	33.1	
Large	54.4	44.3	
Weekend admission (%)	27.9	28.4	0.71
Malignant bowel obstruction (%)	64.9	35.1	
Large bowel cancers	36.5	27.5	0.17
Small bowel cancers	2.0	2.5	0.82
Rectosigmoid cancers	12.8	20	0.15
Anal cancers	0.7	2.5	0.25

Table 1. (continue) Patient and hospital characteristics by hospital teaching status

	SMNTHs, n= 19.243 (72.1%)	LTHs, n= 7.446 (27.9%)	p
Endometrial cancer	2.0	6.3	0.10
Pancreatic cancer	12.8	17.5	0.35
Gastric cancer	2.0	3.8	0.43
Other cancers[†]	31.2	22.4	0.15
Non-malignancy-related causes (%)	72.3	27.7	
Strangulated hernias	0.5	0.1	0.08
Mechanical obstruction[‡]	0.9	0.5	0.13
Inflammatory bowel disease	30.7	39.1	0.10
Radiation	0.03	0.1	0.13
Adhesions and bands	2.4	5.5	0.06

SMNTHs: Small-medium non-teaching hospitals, LTHs: Large teaching hospitals, MBO: Malignant bowel obstruction, NMFs: Non-malignancy-related factors obstruction, HMO: Health maintenance organization.
All proportions are reported in percentages of the total study population except for NMFs and MBO variables where proportions are reported as percentages of NMFs and MBO subpopulations respectively.
All p values are rounded up and reported in two decimals.
[†]: Defines less common primary tumors like ovarian, gastrointestinal stromal tumors, splenic, uterine, and prostatic cancers, and other secondary neoplasia with peritoneal or retroperitoneal involvement e.g., metastatic breast cancer or melanoma causing bowel obstruction.
[‡]: Volvulus, intussusception, gallstone ileus, and impaction.

RESULTS

Baseline Patient and Hospital Characteristics

There were 26.690 adult admissions for intestinal obstruction included in the study. Of these, 4.3% (1.140) were attributed to MBO, while 95.7% (25.550) were caused by NMFs. Large bowel cancers were the most frequently observed malignancies associated with bowel obstruction in both teaching and non-teaching hospitals, with rates of 36.5% and 27.5%, respectively. Inflammatory bowel diseases (IBDs) were the most prevalent NMFs causing bowel obstruction in both THs and NTHs, with rates of 10.7% and 9.1%, respectively. The study population was predominantly admitted to SMNTHs (72.1%) as opposed to LTHs (27.9%). Table 1 outlines the baseline demographic, socioeconomic, and clinical characteristics of the study population by hospital type.

Average age in the study population was 63 years (SD 0.3). The primary payer for most patients was Medicare, with private insurers being the second most common. More than half of the patients resided in a zip code with an annual median income ranging from $1 to $58.999.

Inpatient Mortality by Hospital Type

About 365 (1.4%) deaths were recorded in the study population. Of these, 95.9% (350) were recorded among the NMFs population. Mortality rates were similar for SMNTHs and LTHs (1.4% and 1.2%, respectively). Similar results were obtained when mortality was compared among NMFs and MBO subpopulations.

Compared to patients who had surgery during index hospitalization, overall mortality was higher among patients managed conservatively (1.2% vs. 0.2%). However, mortality rates among patients managed surgically were slightly higher at SMNTHs compared to LTHs (1.6% vs 1.1%, respectively).

One point two percent of the patients who were admitted at SMNTHs and had surgery within the first 24 hours died during the index hospitalization. No deaths were recorded for similar patients in LTHs. About 2.6% of the patients who had initial conservative management (time from admission to surgery of five days or more) died during the index admission. All in-hospital mortality following initial conservative management in this study was recorded in SMNTHs.

Patients who stayed at LTHs for more than 12 days had a slightly higher mortality rate (5.6%) compared to those admitted at SMNTHs, where the rate was 5.2%. After adjustments for patient and hospital-level factors, admission to LTHs was not associated with a statistically significant reduction in the odds of in-hospital mortality (AOR= 0.73; 95% CI= 0.41-1.31; p= 0.29) (Table 2). A similar finding was obtained when regression models were built for both NMFs and MBO subpopulations. Independent predictors of increased in-hospital mortality were found to include: a higher Charlson comorbidity index, concurrent bowel gangrene, older age, and the presence of anemias (Table 2). Performing surgery within 24 hours of admission or after initial conservative management, the presence of metabolic disorders, and frailty were not associated with a statistically significant change in the odds of mortality in this study.

Table 2. Adjusted odds of mortality by hospital size/teaching status

Variables	AOR	Standard error	p	(95% CI)
In-hospital mortality				
Large teaching hospital	0.739	0.214	0.298	0.42-1.31
Weekend admission	1.305	0.360	0.335	0.76-2.24
Age	1.041	0.012	0.001	1.02-1.07
Female sex	1.181	0.311	0.529	0.70-1.98
Median annual income in patient's zip code, US$				
46.000-58.999	1.005	0.332	0.988	0.53-1.92
59.000-78.999	0.706	0.258	0.342	0.35-1.43
≥79.000	0.649	0.286	0.327	0.27-1.54
Race				
Black	1.012	0.421	0.98	0.45-2.29
Hispanic	0.966	0.413	0.94	0.42-2.24
Higher Charlson index	1.249	0.062	<0.001	1.13-1.38
Early surgery (<24 hrs of admission)	1.064	1.594	0.967	0.06-20.09
Prolonged LOS (≥12 days)	1.524	0.73	0.38	0.60-3.90
Any surgery	1.267	0.705	0.671	0.43-3.77
Delayed surgery (≥5 days from admission)	1.708	1.981	0.644	0.18-16.59
Bowel gangrene$^{\Phi}$	27.725	11.405	<0.001	12.38-62.11
Anemias	2.151	0.576	0.004	1.27-3.64
Frailty	1.364	1.104	0.701	0.28-6.67

LOS: Length of hospital stay, AOR: Adjusted odds ratio, CI: Confidence interval.
$^{\Phi}$: Including bowel damage with or without peritonitis.

Rate and time to Procedures

Of the study population, 5.1% (1.361) had at least one surgical procedure performed in the index admission. The number of surgeries for bowel obstruction was higher in SMNTHs than in LTHs (984 vs. 377). A total of 44 patients in the MBO subpopulation had surgery to relieve bowel obstruction (24 in non-teaching and 20 in LTHs). 1.317 surgeries (960 vs. 354 in SMNTHs and LTHs respectively) were performed in the NMFs subpopulation. Overall, bowel de-rotation and decompression via colonoscopy or open surgery made up the bulk of all procedures performed (76.5%). Others included: Bowel resection and anastomosis (6.6%), Hernia repair (6.6%), Adhesiolysis (7%), and Hartmann's colostomy (3.3%).

The unadjusted odds of any procedure in LTHs were: 0.94 in the overall study population (95% CI= 0.72-1.22; p= 0.64), 1.51 among the MBO subpopulation (95% CI= 0.40-5.74; p= 0.55), and 0.92 in the NMFs subgroup (95% CI= 0.70-1.21; p= 0.57). After adjustments, admission to LTHs was not associated with a statistically significant reduction in the odds of surgery (AOR= 0.93; 95% CI= 0.58-1.48; p= 0.76). However, admission lasting ≥12 days was associated with a significant increase in the likelihood of surgery, irrespective of hospital size or teaching status (AOR= 3.14; 95% CI= 1.58-6.20; p= 0.001).

Mean time to surgery in the total study population was 3.61 ± 0.26 days (3.71 ± 0.32 vs. 3.33 ± 0.45 days for SMNTHs and LTHs respectively). In the MBO population, mean time to surgery was 3.60 ± 1.93 vs. 0.75 ± 0.22 days in SMNTHs and LTHs respectively. In the NMFs subgroup, patients had similar times from admission to surgery across both hospital types (3.71 ± 0.32 vs. 3.49 ± 0.47 days). After adjustments, admission to LTHs was not associated with a significant increment in the chance of early surgery (AOR= 1.01; 95% CI= 0.64-1.57; p= 0.97).

Length of Hospital Stay

Mean LOS in the total study population was 4.5 ± 0.1 and 5.2 ± 0.2 for SMNTHs and LTHs respectively. Among patients who had any surgery during the index admission, at least 380 and 199 patients (38.6% and 52.7%) respectively, were admitted for longer than six days in both hospitals. After multivariable adjustments, patients admitted to LTHs were likely to be discharged half to one day earlier than those admitted to SMNTHs (β= 0.54; 95% CI= 0.21-0.88; p= 0.002). Similar results were obtained for the NMFs subgroup (β= 0.48; 95% CI= 0.14-0.83; p= 0.006).

However, admission for MBO was found to significantly affect LOS in LTHs (β= 1.58; 95% CI= 0.21-0.88; p= 0.03).

Initial conservative management (first five days of admission) was found to significantly increase LOS in LTHs (β= 9.15; 95% CI= 6.82-11.47; p< 0.001). When adjusted for the effect of delayed surgery, patients admitted to LTHs were found to stay at least 0.59 days shorter than those admitted to SMNTHs. Performing surgery within the first 24 hours of admission did not significantly reduce overall LOS for patients admitted to LTHs (β= 1.71; 95% CI= 0.22-3.20; p= 0.02). Factors found to independently increase LOS were the presence of anemias (p< 0.001), concurrent bowel gangrene at admission (p< 0.001), and a higher Charlson index (p≤ 0.001).

Rates of Non-Home Discharges

About 8.4% of the study population were admitted from other acute care hospitals to small-medium non-teaching hospitals compared to 14.4% admitted into LTHs. Twenty-five percent of the overall study population was discharged to another acute care hospital, home health care, or skilled nursing home from small-medium non-teaching hospitals compared to 9.9% from LTHs. Routine home discharge rates were 64.9% in SMNTHs and 64.6% in LTHs.

After adjustments, admission into a large teaching hospital was associated with a 6% reduction in the likelihood of non-home discharge (AOR= 0.94; 95% CI= 0.80-0.94; p= 0.04). Other factors found to independently increase the odds of non-home discharges included higher Charlson comorbidity index, older age, white race, anemias, concurrent bowel gangrene at admission, physical frailty, previous admission from an acute care hospital, and prolonged hospital stay (p< 0.001).

Postoperative Complications

Figure 1 summarizes the frequency of perioperative complications in the study by hospital teaching status. At least 60.1% of the total study population experienced one complication in the index admission while 21% of the study population developed more than one complication in the index admission. Anemias were found to be the most prevalent complication (39%) and were more common in SMNTHs (22% vs. 17%). Critical care unit admissions and incidences of nosocomial and aspiration pneumonia were more prevalent in the LTHs (0.4%, 2.1%, and 1.9%, respectively), while the development of sepsis, renal failure, wound dehiscence, and metabolic disorders was found to be more prevalent in the SMNTHs.

The unadjusted odds of developing any complication among patients admitted to LTHs was 1.06 (p= 0.55). After multivariable

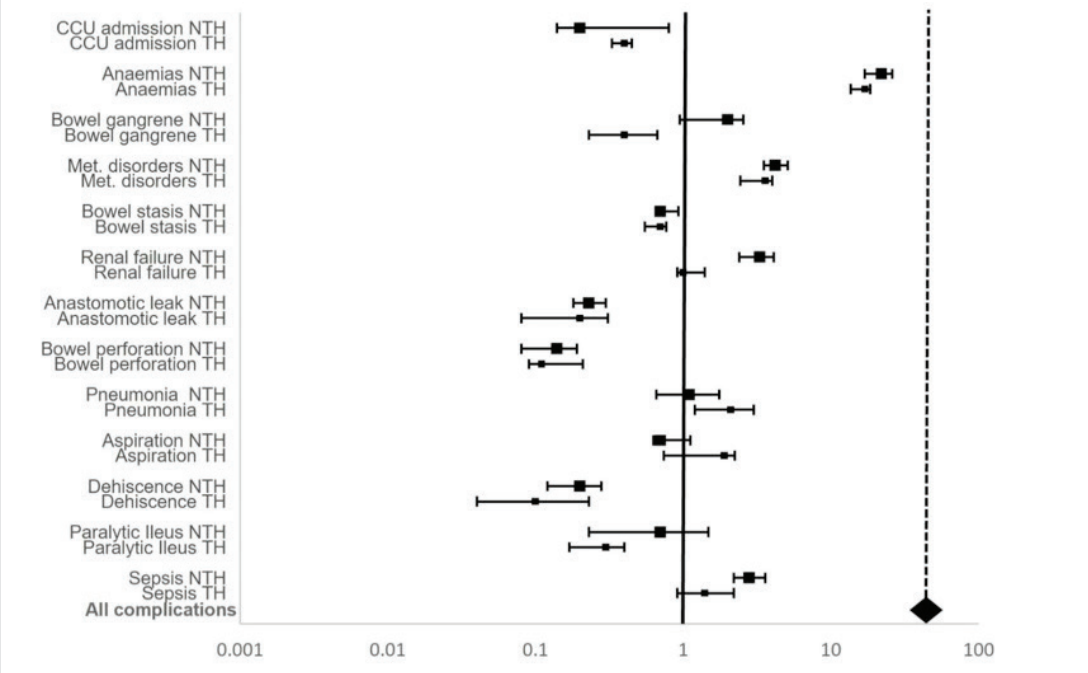

Figure 1. Frequency of perioperative complications by hospital type.

NTH: Non-teaching hospital, TH: Teaching hospitals, CCU: Crital care unit, Met. disorders: Metabolic disorders, Aspiration: Aspiration pneumonitis.

Pneumonia refers to patients who acquired nosocomoial pneumonia in the index hospitalization.

Dehiscence refers to postoperative wound breakdown.

adjustment, admission to a large teaching hospital was not associated with a significant reduction in the likelihood of perioperative complications (AOR= 1.04; 95% CI= 0.80-1.28; p= 0.91).

Total Hospital Costs

Mean hospital charge for patients admitted to SMNTHs was $36.534.43 while patients admitted to LTHs paid $40.498.6 on average. Patients admitted to the MBO subgroup paid more on average compared to patients admitted to the NMFs subpopulation ($42.399.1 vs. $37.435.05). Compared to patients managed conservatively, patients who had any surgery in the index admission paid more in mean hospital expenses ($90.496.71 vs $34.863.25). Any complication was associated with a mean increase of $38.294 in total hospital expenses.

When adjusted for any surgery, complications, prolonged hospital stay (≥12 days), delayed surgery (≥5 days from admission), early surgery (within 24 hours of admission), and other patient and hospital-level variables, admission to a large teaching hospital was not associated with significantly higher hospital charges (mean increase= 1518; 95% CI= 1891-4927; p= 0.38). Factors found to independently increase total hospital charges included high Charlson comorbidity index, any complication such as anemia, pneumonia, or bowel gangrene, black race, higher median income in the patient's ZIP code (≥$59.000), and prolonged hospital stay (p< 0.001). Performing surgery within 24 hours of admission or initial conservative management (first five days of admission) did not significantly reduce or increase mean hospital expenses for patients admitted to LTHs.

DISCUSSION

The results of this study suggest that there is no significant difference in the odds of mortality for patients with intestinal obstruction between SMNTHs and LTHs. Previous research suggesting that teaching status independently improves mortality odds contrasts with these findings (18-20). Recent advances in technology and medical knowledge have made it possible for non-teaching hospitals to provide care that is similar in quality to that of THs (21). Additionally, NTHs may have a smaller patient load per hospital, which could allow for more personalized care and similar patient outcomes.

Empirical evidence has demonstrated that bowel gangrene at admission, low hemoglobin levels, late presentation, postoperative complications, leukocytosis, elevated urea, metabolic disorders, and comorbidity were independent predictors of postoperative mortality in intestinal obstruction (22,23). Despite accounting for these factors in the index study, it was not possible to establish a meaningful connection between hospital teaching status and improved mortality rates. This suggests that the outcomes attributed to teaching status in prior studies may have been influenced by other patient factors that were not taken into consideration.

Admission to LTHs did not significantly reduce the odds of surgery or increase the chance of early surgery compared to SMNTHs. These findings indicate that THs may not necessarily provide better access to surgery for patients with intestinal obstruction. The comparable odds of surgery between LTHs and SMNTHs imply similar access to surgical care for patients irrespective of hospital teaching status. From the results, both types of hospitals can provide timely surgical care for patients with intestinal obstruction. However, mean time to surgery was slightly longer in SMNTHs. This alludes to longer waiting times for surgical procedures or different criteria for determining the need for surgery at SMNTHs. Likewise, comparable conservative care outcomes between the two hospital types imply no particular advantage for patients receiving conservative surgical care in teaching hospitals.

Patients admitted to LTHs were discharged half to one day earlier than those admitted to SMNTHs. One possible explanation for this difference in LOS could be the quality of care provided in THs or access to more resources and expertise than in NTHs, leading to shorter hospital stays. However, the study also found that admission into LTHs for MBO significantly increased LOS likely due to the complexities of treating other problems related to the underlying malignancy (24,25). Taken together, these findings suggest that patients with intestinal obstruction may benefit from early home discharges in LTHs when surgery is not delayed. However, the benefits may not extend to patients with more severe causes of intestinal obstruction.

Patients admitted to LTHs were 6% more likely to be discharged to their homes, which may reflect the higher level of expertise or intensive care available in these hospitals. The study also highlights the need to identify and address factors that increase the likelihood of non-home discharge, such as older age, comorbidities, and prolonged hospital stays in NTHs (26).

The results suggest that the higher prevalence of certain complications in LTHs, such as nosocomial and aspiration pneumonia, may reflect the higher acuity of patients and the greater use of critical care resources in these hospitals. On the other hand, the higher prevalence of sepsis, renal failure, wound dehiscence, and metabolic disorders in SMNTHs may reflect the challenges of managing complex patients in resource-limited settings. Patient factors such as age, comorbidities, and severity of illness may be more important predictors of perioperative complications than hospital teaching status. Future research could explore the relative contributions of patient and hospital factors to perioperative outcomes for patients with intestinal obstruction.

The current study is not without limitations. One noteworthy constraint pertains to the study's retrospective and predefined data source, which rendered the authors incapable of con-

trolling for all possible confounding variables. Also, the research only examined the prevalence of the most recognized causes of intestinal obstruction. Furthermore, the sample only comprised patients who had undergone surgery for intestinal obstruction, thereby constraining the generalizability of the findings to other surgical patients.

CONCLUSION

This study concludes that there are no notable differences in the quality-of-care indicators, including access to care and clinical outcomes, for intestinal obstruction between SMNTHs and LTHs. Teaching status alone does not independently improve the outcomes for this patient population. Both types of hospitals can provide timely surgical care for patients with intestinal obstruction, with comparable outcomes. Patients admitted to LTHs may benefit from earlier discharge and a higher likelihood of home discharge. However, the benefits may not extend to patients with more severe causes of intestinal obstruction. Drawing upon the preceding discussion, it is advisable to encourage patients who share similar surgical conditions to promptly seek care at the hospitals located closest to their vicinity rather than postponing hospital visits in preference for specific academic medical centers.

Ethics Committee Approval: This study was approved by JOS University Teaching Hospital Institutional Health Research Ethical Committee (Decision no: JUTH/DCS/ADM/127/XIX/5111, Date: 08.03.2023).

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Bağırsak tıkanıklığı cerrahisinde hastanenin akademik durumu ve hasta sonuçları: Karşılaştırmalı bir analiz

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ÖZET

Giriş ve Amaç: Büyük eğitim hastanelerindeki cerrahinin daha olumlu sonuçlarla ilişkili olduğu bildirilmektedir. Bununla birlikte, bu sonuçlar tüm cerrahi hastalarda aynı şekilde tutarlı değildir. Bu çalışmada, bağırsak tıkanıklığı olan hastalar için hastane tipine göre klinik sonuçlardaki olası farklılıkları değerlendirmeyi amaçladık.

Gereç ve Yöntem: 2018 NIS, bağırsak tıkanıklığı nedeniyle başvuran ve elektif olmayan tüm yetişkinlerde sorgulandı. Hastaneler, küçük-orta eğitim dışı hastaneler veya büyük eğitim hastaneleri olarak sınıflandırıldı. Hastane tipi ile yatan hasta mortalitesi, cerrahiye erişim, yatış süresi, evde olmayan taburculuklar, hastane maliyetleri ve postoperatif komplikasyonlar arasındaki ilişkiyi değerlendirmek için çok değişkenli regresyon analizleri kullanıldı.

Bulgular: Büyük eğitim hastanelerinde tedavi, yatan hasta mortalitesinde bir azalma (AOR= 0,73; %95 CI= 0,41-1,31; p= 0,29), daha düşük ameliyat olasılığı (AOR= 0,93; %95 CI= 0,58-1,48; p= 0,76) veya artmış erken cerrahi şansı (p= 0,97) ile ilişkili değildi. Büyük eğitim hastanelerine kabul edilen hastaların hastanede kalış süreleriyse daha kısaydı (p= 0,002) ve diğer akut bakım hastanelerine taburcu edilme olasılıkları daha düşüktü (AOR= 0,94; %95 CI= 0,80-0,94; p= 0,04). Büyük eğitim hastanelerine kabul, perioperatif komplikasyonlarda bir azalma (AOR= 1,04; %95 CI= 0,80-1,28; p= 0,91) veya önemli ölçüde daha yüksek hastane maliyetleri (ortalama artış= 1518; %95 CI= 1891-4927; p= 0,38) ile ilişkili bulunmadı.

Sonuç: Büyük eğitim hastanelerine kabul, mutlaka daha iyi hasta sonuçlarıyla sonuçlanmaz. Hastanenin eğitim durumunu tek başına ele almak, bu durum için gözlemlenen farklı sonuçları açıklayamaz.

Anahtar Kelimeler: Bağırsak tıkanıklığı, hastane akademik durumu, enflamatuvar bağırsak hastalıkları, bantlar ve adezyonlar

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