



How good is lobectomy for the Turkish population with papillary thyroid cancer? A clinicopathological evaluation

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ABSTRACT

Objective: In modern practice, there is an increasing recommendation for higher utilization of lobectomy in the management of papillary thyroid cancer (PTC). However, in this decision where the optimal balance of locoregional recurrence and complication burden should be achieved, there are still conflicting results in the literature. The aim of this study was to evaluate the effect of high-risk factors in the Turkish population with PTC on the decision of hypothetical lobectomy.

Material and Methods: In this study, 96 PTC patients undergoing total thyroidectomy were retrospectively analyzed. Preoperative and postoperative evaluation differences and the impact of high-risk factors (tumor size, multifocality, extrathyroidal extension and central lymph node metastasis) on the decision for hypothetical lobectomy were investigated.

Results: In all patients and lobectomy-eligible patients, postoperative evaluations of multifocality, contralateral multifocality, and central lymph node metastases were significantly higher than preoperative evaluations. Consequently, postoperative evaluation revealed that completion thyroidectomy would be required in 52.9% of 51 patients who were hypothetically suitable for lobectomy. Furthermore, comparisons of tumor size-based grouping in lobectomy and total thyroidectomy suitable patients showed similar high-risk factor distribution except for central lymph node metastasis for tumors <10 mm and contralateral multifocality between 11-20 mm.

Conclusion: Completion thyroidectomy will be required in approximately half of the patients evaluated as suitable for lobectomy in the treatment of PTC in the Turkish population. In the treatment decision, in which many patient- and surgeon-related factors are influential, each patient should be considered separately.

Keywords: Papillary thyroid carcinoma, thyroid, thyroid cancer, thyroidectomy

INTRODUCTION

Thyroid cancer is the 9th most common type of cancer seen today according to recent epidemiological data (1). The three-fold increase in incidence rates over the past three decades is mainly attributed to the overdiagnosis of thyroid nodules resulting from the increased use and improved sensitivity of thyroid ultrasonography (2-4). Although thyroid cancer has a low disease-related mortality rate, locoregional recurrence (LRR), which has an impact on patients' quality of life, is still a major treatment concern (5,6). The overall recurrence rate of thyroid cancer varies between 8-28%, and reducing the frequency of LRR requires more aggressive or recurrent surgical interventions and additional radioactive iodine (RAI) treatments (2,7).

In the low-risk patient group, locoregional recurrence rate is low and reported to be around 2% (8). Routine use of total thyroidectomy, prophylactic central lymph node dissection (CLND), and RAI is still a subject of debate in this low-risk group although total thyroidectomy and prophylactic CLND are known to provide more accurate staging (9). When referring to the widely accepted 2015 treatment guidelines by the American Thyroid Association (ATA), it is stated that in cases of papillary microcarcinoma and papillary cancer measuring between 1-4 cm, thyroid lobectomy might be sufficient for patients with low recurrence risk (8). The low-risk group is defined as intrathyroidal tumors (T1-2) with the presence of no more than five metastatic central lymph nodes measuring less than 2 mm, according to the ATA's 2015 guidelines (8). Especially with the consideration of active surveillance as an alternative in papillary microcarcinoma, there has been an increase in the

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frequency of lobectomy and a decrease in the use of prophylactic central lymph node dissection following the 2015 ATA recommendations (10). However, the utilization of guideline recommendations varies among surgeons worldwide due to several factors. Although minimally invasive treatment alternatives are more commonly used nowadays, aggressive surgical interventions have not lost their significance due to the impact of high-risk factors on LRR (11,12). There are studies in the literature reporting that even in the cN0 low-risk patient group, when prophylactic central lymph node dissection is performed, the rate of detecting metastatic lymph nodes is around 50-80% (13-15). Similarly, depending on prognostic factors determined through pathological evaluation, approximately half of the patients who undergo lobectomy may eventually require completion thyroidectomy (12,16). While a more aggressive approach might detect more significant disease, we do not know whether it has an impact on LRR or disease-related survival. Furthermore, depending on surgeon experience, total thyroidectomy is potentially associated with a higher risk of complications compared to lobectomy. Despite the lower rates of complications observed in high-volume centers in thyroid surgery, high-volume surgeons tend to perform lobectomy more frequently compared to low-volume surgeons (17). Therefore, personal and regional differences are also observed in treatment preferences (18,19).

Consequently, there is no consensus on treatment approaches that should be used for the low-risk patient group. Since optimal treatment should aim for the lowest possible rates of LRR and complications, the selection of an individualized treatment considering patient-related factors as well as local surgical practices becomes crucial (20,21). The aim of this study was to evaluate the feasibility of hypothetical lobectomy based on preoperative assessment and pathological outcomes in patients who had undergone total thyroidectomy in a Turkish thyroid cancer patient population.

MATERIAL and METHODS

This retrospective study included 96 patients who were operated by a single surgeon (CK) in the Department of General Surgery, Ankara University Faculty of Medicine, between February 2020 and May 2022, with histopathological confirmation of papillary thyroid carcinoma (PTC). The study was approved by the Ankara University Faculty of Medicine Ethics Committee (Decision No: İ04-236-23). In addition to demographic data and operative details, preoperative clinical factors influencing surgical indication, postoperative pathological examinations, and complications were recorded.

Risk factors determining the type of surgery (total thyroidectomy vs. lobectomy) were defined as tumor size, unilateral and contralateral multifocality, presence/number and size of central

lymph node metastasis, and extrathyroidal extension (ETE). Tumor size and metastatic lymph node size were identified preoperatively by ultrasonography and postoperatively by pathological examination and were recorded based on the largest diameters measured. Patients were classified into four groups according to tumor size as ≤ 10 mm, 11-20 mm, 21-39 mm, and ≥ 40 mm.

In the preoperative ultrasound evaluation of the patients, lesions that are distinct from the primary cancer focus and suspected to have a high malignant potential (TIRADS 4 and 5) were categorized as either multifocal or contralateral multifocal foci, regardless of biopsy confirmation. Similarly, lymph nodes located in the central region, showing sonographic evidence of metastases, were classified as metastatic. Lesions with a primary cancer diagnosis were recorded as positive for ETE if they demonstrated sonographic evidence of exceeding the thyroid capsule boundary or if such an extension was suspected. During the postoperative pathological assessment, only the involvement of primary cancer focus capsule was considered as capsule invasion, while cases showing extension into the soft tissue beyond the capsule were classified as ETE positivity.

All patients included in this study underwent total thyroidectomy. Central lymph node dissection (CLND) was performed in all patients except those with a preoperative cytology result classified as Bethesda 3. Based on preoperative clinical evaluations, we formed a hypothetical patient group as "suitable for lobectomy" with tumors measuring less than 4 cm, without contralateral multifocality, without extrathyroidal extension (ETE), and evaluated as cN0. Patients in this group were further analyzed for a hypothetical need for "completion thyroidectomy" based on their pathology results. We compared the preoperative and postoperative rates of those risk factors determining the type of surgery and calculated the number of patients who would need a completion thyroidectomy if they had been suitable for lobectomy in the preoperative evaluation.

Statistical Analysis

Descriptive statistics are presented as counts and percentages for categorical variables, mean and standard deviations for normally distributed continuous variables, and median (interquartile range) for ordinal or non-normally distributed continuous variables. The Mann-Whitney U test was used to test the difference between two groups in terms of ordinal or non-normally distributed continuous variables. The differences in categorical variables were compared by using the Chi-square or Fisher's exact test, where appropriate. Intragroup comparison, in terms of categorical variables, was tested by the McNemar test. *p* value less than 0.05 was considered significant. The R programming language 4.2.0 was used for statistical analysis.

RESULTS

Ninety-six papillary thyroid cancer patients were included in the study. Baseline characteristics of the patients are presented in Table 1. Mean age of the patients was 43.8 ± 13.1 years, and 81.3% of the patients were females. Mean preoperative tumor

size was 15.65 ± 11.91 mm. While 41 (42.7%) patients were suspected to have micropapillary thyroid cancer, only five (5.2%) patients had a preoperative tumor size of ≥ 40 mm. Contralateral multifocal tumor was considered probable in nine (9.4%) patients and ETE in 12 (12.5%) patients at the preoperative evaluation. The number of patients with cN1 in central lymph node evaluation was 31 (32.3%) (Table 2).

In the postoperative pathological evaluation, aggressive subtypes of papillary thyroid cancer were detected in 11 (11.5%) patients, which included tall cell variant in nine (9.4%) and diffuse sclerosing variant in two (2.1%). Mean postoperative tumor size was 15.25 ± 12.96 mm, and 38 (39.6%) patients had papillary microcancer while only three (3.1%) patients had a tumor size of ≥ 40 mm. ETE was present in 10 (10.4%) patients. Unilateral or bilateral CLND was performed in 90.6% of the patients, and central lymph node metastasis was detected in 46 (47.9%) (Table 2).

In terms of postoperative complications, no cases of recurrent laryngeal nerve (RLN) paralysis, permanent hypoparathyroidism, or postoperative neck hematoma were observed. However, temporary hypoparathyroidism developed in 23 (24%) and only five (5.2%) had hypoparathyroidism lasting for more than one month (Table 1).

The rate of risk factors influencing the decision on the type of surgery (lobectomy vs. total thyroidectomy) as multifocality, contralateral multifocality, presence of central lymph node metastasis, and number of central metastatic lymph nodes were significantly different between preoperative and postoperative evaluations. There were significantly higher rates of multifocality, contralateral multifocality, presence of central lymph node metastasis, and number of central metastatic lymph nodes in postoperative examination when compared to preoperative evaluation (Table 2). The number of patients preoperatively determined to be suitable for lobectomy significantly decreased from 51 (53.1%) to 24 (25%) when postoperative pathological examination was carried out ($p < 0.001$). The rate of ETE and the size of central metastatic lymph node were similar between preoperative and postoperative evaluations (Table 2). When the differences in those prognostic factors were analyzed pre- and postoperatively in the "hypothetical" suitable for lobectomy patient group only ($n = 51$), significant differences were observed in multifocality, contralateral multifocality, presence of central lymph node metastasis, number of metastatic central lymph nodes, and size of metastatic central lymph nodes (Table 2). If lobectomy had been performed in those 51 patients according to the preoperative evaluation results, 27 (52.9%) patients would have required a completion thyroidectomy based on postoperative findings.

Table 1. Baseline information of the patients

	n= 96
Age (years)	43.8 \pm 13.1
Sex (female/male)	78 (81.3)/18 (18.8)
BMI (kg/m ²)	27.50 \pm 5.65
Graves' disease (yes/no)	3 (3.1)/93 (96.9)
Hashimoto's disease (yes/no)	42 (43.8)/54 (56.3)
Bethesda classification	
3	9 (9.4)
4	8 (8.3)
5	17 (17.7)
6	62 (64.6)
Presence of nodules other than the primary site of cancer	
None	35 (36.5)
Unilateral	11 (11.5)
Bilateral	50 (52.1)
Thyroid volume (mL)	17.50 (14.00)
Pathological aggressive variant (yes/no)	11 (11.5)/85 (88.5)
Capsule invasion (yes/no)	29 (30.2)/67 (69.8)
Central lymphatic dissection	
None	9 (9.4)
Unilateral	63 (65.6)
Bilateral	24 (25.0)
Number of harvested central lymph nodes	12.00 (12.00)
RLN paralysis	
None	96 (100)
Temporary (<12 months)	0 (0)
Permanent (>12 months)	0 (0)
Hypoparathyroidism	
None	73 (76)
Temporary-Short term (<1 month)	18 (18.8)
Temporary-Long term (<12 months)	5 (5.2)
Permanent (>12 months)	0 (0)
Neck hematoma (yes/no)	0 (0)/96 (100)
BMI: Body mass index, RLN: Recurrent laryngeal nerve. All data are represented as either mean \pm SD or median (IQR) or number (percentage).	

Table 2. The characteristics of changes in high-risk factors in preoperative and postoperative evaluations in all patients and patients suitable for lobectomy

		Preoperative evaluation	Postoperative evaluation	p
All patients (n= 96)	Tumor size (mm)	11.70 (12.00)	12.00 (11.75)	0.336
	≤10 mm	41 (42.7)	38 (39.6)	0.278
	11-20 mm	34 (35.4)	37 (38.5)	
	21-39 mm	16 (16.7)	18 (18.8)	
	≥40 mm	5 (5.2)	3 (3.1)	
	Multifocality	18 (18.8)	45 (46.9)	<0.001
	Contralateral multifocality	9 (9.4)	36 (37.5)	<0.001
	ETE	12 (12.5)	10 (10.4)	0.824
	Central lymph node metastasis	31 (32.3)	46 (47.9)	0.014
	Metastatic central lymph node count	0.00 (1.00)	0.00 (3.00)	<0.001
	Metastatic central lymph node size (mm)	0.00 (5.00)	0.00 (2.50)	0.655
	Number of patients eligible for lobectomy	51 (53.1)	24 (25.0)	<0.001
Lobectomy eligible patients (n= 51)	Tumor Size (mm)	11.00 (12.00)	11.00 (13.00)	0.483
	≤10 mm	25 (49)	23 (45.1)	0.337
	11-20 mm	16 (31.4)	17 (33.3)	
	21-39 mm	7 (13.7)	10 (19.6)	
	≥40 mm	3 (5.9)	1 (2)	
	Multifocality	4 (7.8)	19 (37.3)	<0.001
	Contralateral multifocality	0 (0)	13 (25.5)	<0.001
	ETE	0 (0)	3 (5.9)	0.083
	Central lymph node metastasis	0 (0)	16 (31.4)	<0.001
	Metastatic central lymph node count	0.00 (0.00)	0.00 (1.00)	<0.001
Metastatic central lymph node size (mm)	0.00 (0.00)	0.00 (0.80)	<0.001	

ETE: Extrathyroidal extension.
All data are represented as either median (IQR) or number (percentage).

To determine whether preoperative tumor size had an impact on surgical selection, patients were grouped based on preoperative tumor size (≤10 mm, 11-20 mm, 21-39 mm) to compare for the postoperative presence of high-risk factors.

When preoperative tumor sizes were ≤10 mm, postoperative presence, number and size of central lymph node metastasis were higher in the total thyroidectomy eligible group compared to the lobectomy eligible group, while they had similar postoperative rates of multifocality, contralateral multifocality, capsule invasion, ETE and the presence of an aggressive variant (Table 3). No significant differences in the postoperative presence of any of the high-risk factors were found between the “lobectomy eligible” and “total thyroidectomy eligible” groups, with the exception of a higher rate of contralateral multifocality in the 11-20 mm group in total thyroidectomy eligible patients (Table 3).

DISCUSSION

In our study, we found that if hypothetical lobectomy had been performed in eligible patients according to preoperative evaluation, 52.9% of those patients would have required a completion thyroidectomy based on postoperative findings. To the best of our knowledge, this is the first study in the Turkish population that compares high-risk factors as multifocality, contralateral multifocality, ETE and central lymph node metastasis in the preoperative assessment as an indicator of proper surgical selection.

In our study, we determined rates of high-risk factors in the postoperative evaluation of our patient population. We found that mean tumor size was 15.25 mm and multifocality was present in 46.9%, contralateral multifocality in 37.5%, capsule invasion in 30.2%, ETE in 10.4%, and central lymph node metastasis in 47.9% of our cases. In a study examining 20 years

Table 3. Comparison of postoperative tumor characteristics in patients eligible for hypothetical lobectomy and total thyroidectomy based on preoperative tumor sizes

Postoperative presence of	Lobectomy eligible patients			Total thyroidectomy eligible patients			*p1	**p2	***p3
	≤10 mm, n= 25	11-20 mm, n= 16	21-39 mm, n= 7	≤10 mm, n= 16	11-20 mm, n= 18	21-39 mm, n= 9			
Multifocality	12 (48.0)	5 (31.3)	1 (14.3)	7 (43.8)	11 (61.1)	6 (66.7)	0.790	0.082	0.060
Contralateral multifocality	8 (32.0)	3 (18.8)	1 (14.3)	5 (31.3)	10 (55.6)	6 (66.7)	0.960	0.028	0.060
Capsule invasion	7 (28.0)	5 (31.3)	2 (28.6)	3 (18.8)	7 (38.9)	4 (44.4)	0.712	0.642	0.633
ETE	1 (4.0)	2 (12.5)	0 (0.0)	1 (6.3)	4 (22.4)	2 (22.2)	1.000	0.660	0.475
Presence of pathological aggressive variant	4 (16.0)	0 (0.0)	1 (14.3)	3 (18.8)	2 (11.1)	1 (11.1)	1.000	0.487	1.000
Central lymph node metastasis	8 (32.0)	5 (31.3)	3 (42.9)	12 (75)	11 (61.1)	6 (66.7)	0.007	0.082	0.615
Metastatic central lymph node count	0.00 (1.00)	0.00 (1.00)	0.00 (2.00)	2.00 (4.00)	2.00 (4.00)	5.00 (8.00)	0.007	0.117	0.142
Metastatic central lymph node size (mm)	0.00 (0.80)	0.00 (0.50)	0.00 (4.00)	2.30 (3.58)	0.55 (3.50)	2.20 (8.00)	0.001	0.095	0.252

ETE: Extrathyroidal extension.
All data are represented as either median (IQR) or number (percentage).
*p1: LT vs TT in ≤10 mm.
**p2: LT vs TT in 11-20 mm.
***p3: LT vs TT in 21-39 mm.

of pathological data on PTC in the Turkish population and with demographic data closely resembling our study, an average tumor size of 12 mm has been reported in 726 PTC patients, and the rates of multifocality, capsule invasion, ETE, and central lymph node metastasis have been reported as 31%, 24%, 13%, and 7.9%, respectively (22). However, in this study, 85% of PTC patients underwent total thyroidectomy and 7.9% underwent CLND. In a similar study comparing the characteristics of familial and sporadic PTC in the Turkish population, it has been reported that in all patients who underwent total thyroidectomy, the rate of multifocality was 42.6%, bilateral multifocality was 29.1%, ETE was 19.0%, and central lymph node metastasis was 22.1% (23). Furthermore, in another study examining the relationship between BRAF mutation and clinicopathological factors in the Turkish population, the rate of multifocality has been reported as 52%, while the rates of ETE, capsule invasion, and central lymph node metastasis have been reported to be lower compared to our study (24). While these studies are comparable in terms of primary tumor characteristics, the variability in multifocality and central lymph node metastasis might be attributed to different rates of total thyroidectomy (the extent of thyroidectomy) and CLND applied to the patients in each study. In this regard, we believe that our study reflects a more reliable data in the Turkish population due to the use of total thyroidectomy in every patient and the higher rate of CLND carried out.

In our study, central lymph node metastasis was observed in almost every other patient (47.9%) in the pathological evaluation, and contralateral multifocality was observed in one out of every three (37.5%) patients. Furthermore, significant differences were observed between the preoperative and postoperative evaluations of all patients, specifically in those who were suitable for lobectomy, in terms of multifocality, contralateral multifocality, presence and the number of central lymph node metastasis. Clinical reflection of lower detection rates of those game changer high-risk factors is the necessity of completion thyroidectomy. We determined that a total of 52.9% of the patients would have required a completion thyroidectomy if they had undergone a lobectomy based on their preoperative evaluation. Several studies in the literature have reported consistent results with our findings. In a study including 30.180 papillary thyroid microcarcinoma (PTMC) cases, where CLND was performed in 52%, there was a 19% incidence of high-risk factors identified through pathological evaluation (11). In another study evaluating 301 low-risk PTC patients with tumor sizes between 1-4 cm, 15% of the patients transitioned from the low-risk group to the intermediate or high-risk group based on postoperative evaluation (25). Similarly, in another study including 1513 patients with tumor sizes between 1-4 cm, 42.8% of patients had unknown high-risk factors identified postoperatively (26). Bakkar et al. have reported that among 245 patients with tumor sizes between

1-4 cm who were suitable for lobectomy, the rate of identifying one or more high-risk factors requiring completion thyroidectomy was 59% (12). In a recent study including 152 patients meeting the criteria for lobectomy according to the ATA guidelines and of whom 72.4% underwent total thyroidectomy, it has been reported that 61.8% of the patients had high-risk factors detected in postoperative evaluation. Accordingly, the authors have suggested that preoperative staging was inadequate in identifying those factors and recommended a more frequent use of total thyroidectomy (20). In a study by Wouter et al. involving 287 lobectomy-eligible patients with tumor sizes between 1-4 cm and without CLND, 43% of the patients required completion thyroidectomy based on lobectomy pathology (16). In another study reporting the need for completion thyroidectomy in 43.5% of cases, the authors have argued that total thyroidectomy, when performed in high-volume centers, remains a valid treatment option with low complication rates for low-risk patients with tumor sizes between 1-4 cm (27). These findings suggest that despite the advancements in technology and techniques, we still cannot accurately stage patients during the preoperative period and eliminate the need for a completion thyroidectomy.

In our study, when patients eligible for lobectomy and total thyroidectomy were compared for the postoperative presence of high-risk factors based on preoperative tumor sizes, no significant differences were found between the groups in terms of multifocality, ETE, or the presence of pathological aggressive variants. In the total thyroidectomy eligible group, when compared to the lobectomy eligible group, the frequency of central lymph node metastasis was higher in tumors measuring 10 mm and below, and the frequency of contralateral multifocality was higher in tumors measuring 11-20 mm. In the comparison of patients with PTMC, similar postoperative high-risk factors were observed between patients suitable for lobectomy and those suitable for total thyroidectomy, except for the rate of central lymph node metastasis and the number of metastatic lymph nodes. This finding supports the idea that the postoperative presence of most high-risk factors is irrelevant to tumor size for tumors under 40 mm. It also implies that the preoperative staging criteria are insufficient because they attempt to group patients with similar risk factors. This result is consistent with the recent discussion on the categorization of tumor size as a prognostic factor in the literature. For instance, Barbaro et al.'s review, which utilizes studies cited as references in the guidelines, highlights that the literature supports the use of lobectomy for PTMC, indicating that a "grey zone" still exists for tumors between 1-2 cm in size, and emphasizing an increased risk of LRR in tumors sized between 2-4 cm (28). In the study by Kiss et al., it has been reported that tumor size, except for angioinvasion, was not a significant predictor for the presence of postoperative risk factors (20). In another study

evaluating 906 patients with PTC and pathologic N1 metastasis, it has been reported that total thyroidectomy was associated with better survival outcomes compared to lobectomy in patients with more than five lymph node metastases and metastatic lymph node sizes between 2-5 mm (29). In a Korean study analyzing data from 3282 patients with tumor sizes below 2 cm, it has been found that patients who underwent lobectomy had higher rates of long-term recurrence in cases where the tumor size was larger than 18 mm, there were two or more lymph node metastases, or bilateral tumors were present. Based on these findings, total thyroidectomy has been suggested as a potential approach to prevent reoperations in these patients (30).

Aggressive interventions may be associated with a higher rate of complications. Our study results show that none of the patients experienced neck hematoma, permanent hypoparathyroidism, or temporary or permanent RLN paralysis. Additionally, the rate of temporary hypoparathyroidism lasting longer than one month was only 5.2%. These findings support the suggestion that in high-volume centers like ours, aggressive surgical interventions can be performed with low complication rates. A similar topic has been discussed in a review by Liu et al., which included treatment guidelines, and it has been stated that high-volume surgeons have significantly lower complication rates compared to intermediate and low-volume surgeons. According to the review, total thyroidectomy is emphasized for 1-4 cm tumors by high-volume surgeons in Europe and Korea, while the Japanese guidelines recommending lobectomy clarify that they are not intended for experts. Therefore, they have highlighted that in the decision-making process of surgery, which is influenced by many factors, a personalized approach for each patient is more appropriate (21). Certainly, the complication rate alone cannot be considered as the sole determinant in this decision.

The guideline recommendations on surgical selection are molded by local surgical practices as well as patient-related factors. In a multidisciplinary survey conducted by Makay et al. in Türkiye, it has been reported that total thyroidectomy was more prominent in patients with PTMC, while routine central neck dissection was not commonly preferred by general surgeons. The authors have reported that there were differing opinions among disciplines regarding these variable preferences in the country (18). In a study examining the impact of the 2015 ATA guidelines, Conroy et al. have found there was an increase in the incidence of lobectomy, but total thyroidectomy was still recommended in 67.9% of low-risk patients after the publication of the 2015 ATA guidelines (10). Moreover, a recent review suggests that total thyroidectomy should be favored in cases where high-risk factors cannot be meticulously evaluated (31). The diversity of surgical approaches

in the literature emphasizes the importance of a tailored treatment for each individual patient in each different setting. Considering that recurrences and repeated surgical interventions are the most common issues affecting the quality of life in patients with thyroid cancer, and that approximately two-thirds of patients after lobectomy require replacement therapy to maintain TSH levels below 2.0 $\mu\text{IU/mL}$, it might be suggested that total thyroidectomy performed in high-volume centers may offer a more reliable treatment option with lower complication rates than lobectomy (31,32).

The study exhibits several strengths, including the consistent implementation of total thyroidectomy in all patients and a high rate of CLND (90.6%). These factors are expected to yield more reliable results when evaluating pathological high-risk factors compared to studies that adopt lobectomy or have a lower rate of CLND. The single-surgeon approach also ensures standardization in thyroidectomy technique and the extent of lymphatic dissection. However, certain limitations should be acknowledged. Due to the study design, it was not possible to explore the relationship between high-risk factors and LRR or disease-free survival. Additionally, the lack of information on patients' family history of thyroid cancer and BRAF mutation status restricted the investigation of their impact on pathological risk factors. Moreover, as surgical procedures were solely performed by a single high-volume surgeon, thus the overall complication rates associated with total thyroidectomy might not be entirely represented.

CONCLUSION

Our findings indicate that nearly half of the patients undergoing lobectomy would require a completion thyroidectomy and that the patient population categorized as low risk based on certain criteria may not differ significantly from the group that does not meet the indications for lobectomy. Therefore, total thyroidectomy remains a safer option compared to lobectomy, particularly in high-volume centers for tumors measuring less than 40 mm. In each context, surgical and patient specific criteria must be considered individually to make a tailored surgical decision.

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ORİJİNAL ÇALIŞMA-ÖZET

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Papiller tiroid kanseri tedavisinde lobektomi Türk popülasyonuna ne kadar uygun? Klinikopatolojik bir değerlendirme

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ÖZET

Giriş ve Amaç: Günümüzde, papiller tiroid kanseri (PTK) tedavisinde lobektominin daha sık kullanımı önerilmektedir. Fakat lokorejyonel rekürens ve komplikasyon yükünün optimal dengesinin sağlanması gereken bu durumda literatürde halen çelişkili sonuçlar bulunmaktadır. Bu çalışmanın amacı total tiroidektomi uygulanmış PTK'li Türk popülasyonunda saptanan yüksek risk faktörlerinin varsayımsal olarak uygulanacak lobektomi kararına etkisinin değerlendirilmesidir.

Gereç ve Yöntem: Bu çalışmada PTK nedeniyle total tiroidektomi yapılmış 96 PTK hastasının verileri retrospektif olarak incelendi. Preoperatif ve postoperatif değerlendirme farklılıkları ve yüksek risk faktörlerinin (tümör boyutu, multifokalite, ekstratiroidal yayılım ve santral lenf nodu metastazı) varsayımsal olarak uygulanacak lobektomi kararı üzerindeki etkisi araştırıldı.

Bulgular: Tüm hastalarda ve lobektomiye uygun hastalarda multifokalite, kontralateral multifokalite ve santral lenf nodu metastazlarının karşılaştırılmasında postoperatif değerlendirmeler, preoperatif değerlendirmelere göre anlamlı daha yüksek saptandı. Sonuç olarak, varsayımsal lobektomiye uygun olan 51 hastanın %52,9'unda postoperatif değerlendirme sonunda tamamlayıcı tiroidektomi gerekeceği gözlemlendi. Ayrıca, lobektomi ve total tiroidektomiye uygun hastalarda tümör boyutuna dayalı gruplandırmanın karşılaştırmalarında, <10 mm tümörler için santral lenf nodu metastazı ve 11-20 mm arasında kontralateral multifokalite farklılığı dışında benzer yüksek risk faktörü dağılımı saptandı.

Sonuç: Türk popülasyonunda PTC tedavisinde lobektomiye uygun olarak değerlendirilen hastaların yaklaşık yarısında tamamlayıcı tiroidektomi gerekeceği gözlemlenmiştir. Hasta ve cerrahla ilgili birçok faktörün etkili olduğu tedavi kararında her hasta ayrı ayrı değerlendirilmelidir.

Anahtar Kelimeler: Papiller tiroid karsinomu, tiroid, tiroid kanseri, tiroidektomi

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