Original Article

Retrospective Analysis of Our Thyroidectomy Cases

Tiroidektomi Olgularımızın Retrospektif Analizi

Semih Ak[1], Mehmet Erkan Kaplama[2]

[1]Şanlıurfa Balıklıgöl Devlet Hastanesi, Kulak Burun Boğaz Hastalıkları Kliniği
[2]Sağlık Bilimleri Üniversitesi, Şanlıurfa M.Akif İnan Eğitim ve Araştırma Hastanesi, Kulak Burun Boğaz Hastalıkları Kliniği

ABSTRACT

Introduction: Thyroid diseases are common diseases in the community. There are different surgical options for benign or malignant lesions. The aim of this study is to retrospectively examine patients who have undergone thyroidectomy, and to evaluate age, gender, nodule size, fine needle aspiration biopsy results, complication development, postoperative pathology results, and types of malignancy.

Methods: In this study, 59 patients who underwent thyroidectomy at the Department of Otorhinolaryngology (ENT) in Sanliurfa M.Akif Inan Training and Research Hospital between September 2018 and June 2020 were evaluated retrospectively.

Results: 40 of the patients were female (67.7%) and 19 were male (22.3%). The mean age of the patients was 47.6 years and the age range was 32-74. The nodule size determined in the thyroid USG was between 8x7mm and 68 x 40mm (average 30.2 x 21.7mm).. Biopsy results; It was benign in 24 patients, atypia in 8 patients, nondiagnostics in 7 patients, papillary cell carcinoma in 10 patients, suspicion of malignancy in 8 patients, and follicular neoplasia in 2 patients. 25 patients underwent bilateral total thyroidectomy and 34 patients underwent unilateral total lobectomy. Postoperative pathology results; In 42 (71.1%) patients, benign (nodular hyperplasia, benign colloidal nodule, lymphocytic thyroiditis, hachyimato thyriditis) were reported as malignant in 17 (29.9%) patients. 15 of the malignancies were papillary carcinoma and 2 were follicular carcinoma.

Discussion and conclusion: In this study, the distribution of patients undergoing thyroidectomy and histopathological diagnoses in malignant patients are similar to those in the literature. However, the rate of malignancy after thyroidectomy is higher than the literature. This situation can be explained by repeating the biopsy when every patient needs to perform a fine needle biopsy before the surgery, showing sensitivity in patient selection, and avoiding unnecessary indications.

Keywords: Thyroidectomy, Fine-needle aspiration biyopsy, Thyroid cancers, Lobectomy, Goiter

ÖZET

Giriş ve amaç: Tiroid hastalıkları toplumda oldukça sık görülen hastalıklardır. Benign ya da malign lezyonlar için farklı cerrahi seçenekler mevcuttur. Bu çalışmanın amacı daha önce tiroidektomi ameliyatı geçirmiş olan hastaların geriye dönük olarak incelenerek yaş, cinsiyet, nodül boyutları ince iğne biyopsi sonuçları,komplikasyon gelişimi, ameliyat sonrası patoloji sonuçları, malignite türlerinin değerlendirilmesidir.

Yöntem ve gereçler: Bu çalışmada Eylül 2018-Haziran 2020 tarihleri arasında Sağlık Bilimleri Üniversitesi Şanlıurfa M.Akif İnan Eğitim ve Araştırma Hastanesi Kulak Burun Boğaz Hastalıkları(KBB) Kliniğinde tiroidektomi yapılan 59 hasta geriye dönük olarak değerlendirildi.

Bulgular: Hastaların 40'ı kadın (%67.7), 19'u erkekti (%22.3). Hastaların ortalama yaşı 47.6, yaş aralığı 32-74 idi. Tiroid USG'de belirlenen nodul boyutu 8x7mm ile 68x40 mm ile arasındaydı(ortalama 30,2 x 21,7 mm).. Biyopsi sonuçları; 24 hastada benign, 8 hastada önemi belirsiz atipi, 7 hastada nondiagnostik, 10 hastada papiller hücreli karsinom, 8 hastada malignite şüphesi ve 2 hastada foliküler neoplazi şeklinde idi. Hastaların 25'ine bilateral total tiroidektomi, 34'ine ise unilateral total lobektomi operasyonu yapılmıştı. Postoperatif patoloji sonuçları; 42 (%71.1) hastada benign (nodüler hiperplazi,

First Received: 03.12.2020, Accepted: 06.01.2021 doi: 10.5505/aot.2021.93823

benign koloidal nodül, lenfositik tiroidit, haşimato tiroiditi), 17 (%29.9) hastada malign olarak raporlandı. Malignlerin 15'i papiller karsinom ve 2'si foliküler karsinomdu.
Tartışma ve sonuç: Bu çalışmada tiroidektomi uygulanan hastaların dağılımı ve malign hastalarda histopatolojik tanıları literatür ile benzer özelliktedir. Ancak tiroidektomi sonrası malignite oranı literatürden yüksektir. Bu durum her hastaya ameliyat öncesi mutlaka ince iğne biyopsisi yapılması gerektiğinde biyopsinin tekrarlanması, hasta seçiminde hassasiyet gösterilmesi, gereksiz endikasyondan kaçınılması ile açıklanabilir.

Anahtar Kelimeler: tiroidektomi, ince iğne aspirasyon biyopsisi, tiroid kanserleri, lobektomi, guatr

Introduction

Thyroidectomy is one of the common operations performed in otorhinolaryngology clinics due to nodular, tumoral, functional or treatment-resistant diseases of the thyroid gland (1). The enlargement of the thyroid gland is called goiter. Besides nodular or diffuse type growth being seen, nodular goiter might also occur as solitary (single nodule) or multinodular (multiple nodules). The incidence of the disease in a community is around 4-5%, and it is more common among women (2). Malignancy suspicion, treatment-resistant hyperthyroidism, compression findings and aesthetic concerns constitute the surgical indication (3).Although relatively easy-to-control complications such as wound infection and hematoma are seen after thyroidectomy, the most important complications that matter to surgeon and are accepted as success criteria are permanent recurrent nerve damage and permanent hypoparathyroidism (4). The way to minimize complications is surgical experience and good anatomy knowledge. In this study, we aimed to share the results of the otolaryngology clinic of a training and research hospital where thyroidectomy surgery is performed frequently.

Material-method

In this study, 59 patients having underwent thyroidectomy in the Otorhinolaryngology (ENT) Clinic of Health Sciences University Şanlıurfa M. Akif İnan Training and Research Hospital between September 2018 and June 2020 were included. The approval of the Harran University Ethics Committee was obtained for the study.The data about the patients were scanned down retrospectively from the hospital system. Cases with parathyroidectomy with thyroidectomy and recurrent cases were not included in the study. Preoperative routine blood tests, neck ultrasonography (USG), thyroid function tests (TFT) and fine needle aspiration biopsy (FNAB) were performed in all patients. Verbal and written informed consent was obtained from all cases before surgery.

Results

Thyroidectomy was performed on 59 patients in our clinic. 40 of the patients were female (67.7%), 19 of them were male (22.3%).The mean age of the patients was 47.6, the age range was 32 to 74. The size of the nodule determined on thyroid USG was between 8x7mm and 68 x 40 mm (average 30.2 x 21.7 mm). Preoperative FNAB was performed in all patients. Those were the biopsy results: benign in 24 patients, atypia of indeterminate significance in 8 patients, nondiagnostic in 7 patients, papillary cell carcinoma in 10 patients, suspected malignancy in 8 patients, and follicular neoplasia in 2 patients. In patients with a thyroid nodule smaller than 10 mm, if the fine needle biopsy result was interpreted as malignant or malignancy, these patients were operated. Table 1 shows our preoperative FNAB results. Bilateral total thyroidectomy was performed in 25 patients and unilateral total lobectomy operation was performed in 34 patients. In addition to bilateral total thyroidectomy, unilateral neck dissection was performed in 4 patients whose biopsy result was malignant, and central neck dissection was performed in 5 patients. Central neck dissection was performed in patients with radiologically or clinically suspicious lymph node involvement in the

Table 1. Distribution of preoperative FNAB results

	Number	Percent
benign	24	40.6
Atypia of indeterminate significance	8	13.5
Nondiagnostic	7	11.8
Suspected malignancy	8	13.5
Papillary carcinoma	10	16.9
Follicular carcinoma	2	3.7

central region, and lateral neck dissection was performed in one patient, since there was a metastatic lymph node in the lateral region. In postoperative pathology results benign was reported (nodular hyperplasia, benign colloidal nodule, lymphocytic thyroiditis, hashimato thyroiditis) in 42 (71.1%) patients, and malignant in 17 (29.9%) patients. 15 of the malignancies were papillary carcinoma and 2 were follicular carcinoma. The postoperative pathology diagnosis of two patients with suspected malignancy on fine needle aspiration biopsy and one patient with a pre-diagnosis of follicular neoplasia was not malignant. Our postoperative pathology results are shown in Table 2, and our postoperative benign/malignant rates are given in Figure 1. Radioactive iodine therapy was applied in patients diagnosed with papillary thyroid cancer in the presence of metastatic lymph nodes, in patients with soft tissue involvement, for ablation of residual tissue and to facilitate follow-up. Considering the complications, transient hypocalcemia was seen in 8 (13.5%) of the patients. Postoperative unilateral vocal cord paralysis was seen in 4 patients (6.7%) and all but one came along in 6-month follow-up.

Discussion

Currently, the standard treatment method for malignant or benign thyroid pathologies is surgery (5). Thyroidectomy is the most common surgical procedure in the world today, and the first successful thyroidectomy was performed by Emil Theodor Kocher (6,7). Thyroid nodules are seen at a rate of 4 to 5% among the population and are more common among women (2). In this study, 40 of the patients were female (67.7%) and 19 were

Table 2. Postoperative pathological distribution

	Number	Percent
benign	42	71.1
malignant	17	29.9
Papillary carcinoma	15	25.4
Follicular carcinoma	2	4.5

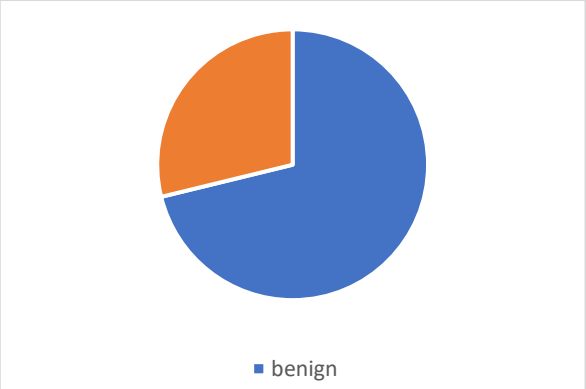

Figure 1. Malignant / benign distribution after thyroidectomy

male (22.3%). In today's practice, total thyroidectomy is more frequently applied in benign thyroid diseases, but methods such as subtotal thyroidectomy, lobectomy, near-total thyroidectomy, total thyroidectomy and contralateral subtotal thyroidectomy (dunhill procedure) are alternative procedures (3). Which of these methods will be used in patients with indication is discussed by the relevant surgeons. It has been reported that the recurrence rate is higher after methods such as subtotal thyroidectomy and lobectomy, and the rate of complications increases in necessary repetitive operations and it is more appropriate to perform total thyroidectomy due to the presence of incidental malignancy (2). One of the studies supporting this idea is the study of Delbridge et al. (8) with 3089 patients. Accordingly, although there was no significant difference between surgical techniques in terms of postoperative permanent nerve damage and permanent hypoparathyroidism, 23% recurrence was observed after subtotal thyroidectomy. In another study with similar results, Çolak et al. (9) similarly reported that there was no difference in terms of nerve damage and

hypoparathyroidism in their study of 200 patients.

Matsuzu et al. (10) followed the patients for averagely 17.6 years in their study involving 1088 patients who underwent lobectomy for papillary thyroid cancer between 1986-1995 and reported that lobectomy is a definite alternative to total thyroidectomy in patients under the age of 45 with a tumor size of less than 40 mm. Kuba et al. (11) performed total thyroidectomy in 53 of 173 patients with papillary thyroid cancer and lobectomy in 120 of them. Accordingly, transient hypocalcemia and recurrent nerve damage were less common in patients who underwent lobectomy. Bilateral total thyroidectomy was performed on 25 of the patients in our study, and unilateral total lobectomy operation was performed on 34 of them. There was no suspicion of malignancy or malignancy in preoperative FNAB in any of the patients who underwent lobectomy. Although none of these patients had temporary or permanent hypocalcemia, one patient had temporary recurrent nerve paralysis. In addition, when the postoperative pathology result was reported as papillary carcinoma in one of our patients, supplementary thyroidectomy was recommended. Although the patient accepted to undergo surgery, he came to our clinic for a follow-up in the first year following and no pathological findings were found in the USG performed, and the patient was recommended to have a complementary thyroidectomy, and the patient did not come for another control again.

In addition to lateral cervical neck dissection recommended for patients with metastatic lymph nodes in the neck, prophylactic central neck dissection is also recommended. Therapeutic central neck dissection is recommended for patients who do not have neck metastatic lymph nodes, but who have metastatic lymph nodes in the central region (12). In our study, unilateral cervical neck dissection was applied on 4 patients with malignant FNAB results in addition to bilateral total thyroidectomy, and central neck dissection in 5 patients. Transient hypocalcemia was observed in 4 of these patients.

Permanent recurrent nerve damage and permanent hypoparathyroidism are the most important complications for thyroidectomy surgery that worry the surgeon and are accepted as success criteria (4). In the literature, it has been reported that recurrent nerve damage is 0-4% and hypocalcemia is 0.4-8.8% (13,14). In our study, transient hypocalcemia was seen in 8 (13.5%) of the patients. Postoperative unilateral vocal cord paralysis was seen in 4 patients (6.7%) and all but one resolved at 6 months follow-up. The reason why our complication rate seems to be high is that these complications are transient, and recurrent unilateral nerve damage was observed in one patient permanently. Intraoperative nerve monitoring was performed in all patients. All patients were followed up by postooperative video-laryngoscopy.

Patients with thyroid nodules are at risk of malignancy. Occult cancer incidence is between 7-10% (8). While Akkoca et al. (15) reported the malignancy rate as 7.95% in patients who underwent thyroidectomy, Yıldırım et al. (16) reported it as 7.06%. In our study, postoperative pathology results were reported as benign (nodular hyperplasia, benign colloidal nodule, lymphocytic thyroiditis, hashimato thyroiditis) in 42 (71.1%) patients, and malignant in 17 (29.9%) patients. Of our malignant patients, 15 were papillary carcinoma and 2 were follicular carcinoma. The high rate of malignancy has been associated with the close follow-up of the patients with USG, preoperative diagnosis with recurrent FNAB in required patients, sensitivity in our patient selection and not performing thyroidectomy with unnecessary indication.

Thyroidectomy is an important surgical approach that we frequently do and will continue to do in our clinical practice. It is possible to get successful results with sufficient surgical experience, correct anatomy knowledge and meticulous study. However, it should be kept in mind that complications such as nerve damage and

permanent hypocalcemia might be seen even in experienced hands.

In conclusion, we recommend performing total lobectomy in patients without a diagnosis of malignancy due to the low complication rate in limited surgeries and the lack of difference in survival rates, but we believe that bilateral total thyroidectomy should be performed only for appropriate indications..

REFERENCES

1. Kafadar MT. Endemik bir bölgede 940 tiroidektomi olgusunun değerlendirilmesi: Tek merkez, tek cerrah deneyimi. Harran Üniversitesi Tıp Fakültesi Dergisi. 2016; 13: 207-14.
2. Ünal Y. Bir eğitim araştırma hastanesi genel cerrahi kliniğindeki tiroidektomi olgularının retrospektif analizi. Ankara Eğt. Arş. Hast. Derg. 2018; 52: 74-78
3. Polat Y.,Sarıcık B.,Berçin S. ve arkadaşları. Tiroidektomi Olgularımızın Retrospektif Analizi. Bozok Tıp Derg 2015; 5: 33-6
4. Caulley L, Johnson-Obaseki S, Luo L, Javidnia H. Risk factors for postoperative complications in total thyroidectomy: A retrospective, risk-adjusted analysis from the National Surgical Quality Improvement Program. Medicine (Baltimore). 2017; 96(5): e5752.
5. Revelli L, Damiani G, Bianchi CB, et al. Complications in thyroid surgery Harmonic scalpel, Harmonic Focus versus Conventional Hemostasis: A meta-analysis. Int J Surg. 2016; 28: 22-32.
6. Sözen S, Emir S, Alıcı A. et al.Complications after thyroidectomy and the affecting factors related with the surgeon. Ulusal Cerrahi Dergisi 2010; 26(1): 13-17.
7. Smith RB, Coughlin A. Thyroidectomy Hemostasis. Otolaryngol Clin North Am. 2016; 49: 727-48.
8. Delbridge L, Guinea AI, Reeve TS. Total thyroidectomy for bilateral benign multinodular goiter: effect of changing practice. Arch Surg. 1999; 134: 1389-93.
9. Colak T, Akca T, Kanık A, Yapici D, Aydin S. Total versus subtotal thyroidectomy for the management of benign multinodular goiter in an endemic region. ANZ J Surg. 2004; 74: 974-8.
10. Matsuzu, K., Sugino, K., Masudo, K. et al. Thyroid Lobectomy for Papillary Thyroid Cancer: Long-term Follow-up Study of 1,088 Cases. World J Surg 38, 68–79 (2014).
11. 21. Kuba S, Yamanouchi K, Hayashida N, et al. Total thyroidectomy versus thyroid lobectomy for papillary thyroid cancer: Comparative analysis after propensity score matching: A multicenter study. Int J Surg. 2017; 38: 143-8.
12. Haugen BR, Alexander EK, Bible KC, et al. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer: The American Thyroid Association Guidelines Task Force on thyroid nodules and differentiated throid cancer. Thyroid. 2016; 26: 1-133.
13. Filho JG, Kawalski LP. Postoperative complications of thyroidectomy for differentiated thyroid carcinoma. Am J Otolaryngol. 2004; 25: 225-30.
14. Rosato L, Avenia N, Bernante P, et al. Complications of thyroid surgery: Analysis of a multicentric study on 14934 patients operated on in Italy over 5 years. World J Surg. 2004; 28: 271-6.
15. Akkoca M, Buluş H, Yavuz A et al.Total Thyroidectomy: Our Clinical Experience. Orta Doğu Tıp dergisi 4 (1): 15-18 2012
16. Yıldırım K,Nuraydın Ö. Tiroidektomi uygulanan hastaların retrospektif analizi. Ahi Evran Medical Journal. 2018; 2: 35-38.

Corresponding author e-mail: dr.semih.ak@hotmail.com

Orcid ID:
Semih Ak 0000-0001-6919-9423
Mehmet Erkan Kaplama 0000-0003-4662-409X

Doi: 10.5505/aot.2021.93823

