

Follow-up Distress in Patients Undergoing Partial Thyroidectomy for Thyroid Cancer: A Descriptive Cohort Study

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Abstract

Thyroid nodules are a common issue in clinical practice, and 5 to 10% of them are malignant. Surgery remains the principal treatment, and total or partial thyroidectomy can be performed. Years ago, total thyroidectomy was the main recommendation in the guidelines, but studies have shown that partial surgery is acceptable in less aggressive cases. The type of surgery depends on the surgeon's expertise and the preservation of the patient's quality of life, so that the entire tumor is removed. Some issues may put the surgeon in distress when deciding to perform the partial operation, as they may lead to the need for reoperation. In this study, we retrospectively analyzed electronic medical records of patients with well-differentiated thyroid carcinoma undergoing partial thyroidectomy between 2015 and 2020 and reported what were the situations of distress related to the cases and the outcome (need of reoperation). In our sample, 63 (13,7%) of 458 patients with differentiated thyroid cancer treated surgically have undergone partial thyroidectomy and, of these, 10 (15,9%) patients had factors that caused distress to the surgeon and 53 (84,1%) had not. Of the patients with distress factors, five (50%) needed reoperation. Our results show that even when distress factors are present, partial thyroidectomy is still a viable option to the surgeon. We believe that the results obtained will help doctors in clinical practice to choose the surgical modality indicated for each patient.

Key words: thyroidectomy; thyroid; carcinoma

Introduction

Thyroid nodules are one of the most common complaints in medicine [1]. Besides that, with the popularization of diagnostic methods such as ultrasonography, and the availability of adequate cytology for analysis by fine needle aspiration (FNAB), the detection of well-differentiated thyroid carcinomas is on the rise [2]. Currently 5 to 10% of thyroid nodules are malignant neoplasms, 90% of these are well differentiated thyroid carcinomas (papillary or follicular) [3].

There is consensus among experts that the treatment of choice (classically) for thyroid cancers with curative intent is surgery. However, there are disagreements regarding the extent of the surgical approach, considering total or partial removal of the gland [4, 5]. For a long time, the total thyroidectomy was recommended by guidelines and advocated by surgeons, being more comfortable. More recently, starting with publications in 2015 [6, 7], partial thyroidectomy has begun to be more seen as advantageous for some cases of well-differentiated thyroid carcinoma. Studies show that

survival in this type of operation is similar to that of total thyroidectomy [8, 9].

Although there are a number of arguments supporting each of the therapeutic approaches, the choice of therapy relies on the expertise and experience of the specialist in question, and it is of utmost importance that the professional considers the extent of surgical resection, analyzing pre and intraoperative exams, and aiming not only to ensure that the patient's quality of life is not impaired but also to make sure that the entire tumor is removed [4, 5].

Regarding the total thyroidectomy, it is known that the rate of operative complications is higher than in the partial, including the risk of bilateral injury of the recurrent laryngeal nerve and hypoparathyroidism. Moreover, in this type of surgery the patient needs constant hormone replacement, which may affect his quality of life [6]. Finally, it is also worth mentioning that the cost of a total thyroidectomy is higher compared to a partial surgery [10, 11].

Although partial thyroidectomy has a higher reoperation rate, it should be chosen only in selected cases [6]. Tumor characteristics that point in favor of this type of surgery are: unifocal nodule; diameter less than 2 cm; absence of lymph node metastases; absence of capsular extravasation [9]. Microscopically, it should not have the following aggressive features (low degree of histological differentiation): tall, columnar cells; marked nuclear atypia; tumor necrosis; vascular invasion [3].

Poor prognostic factors in partial thyroidectomy include age > 60 years, family history of thyroid cancer, lymph node involvement, extrathyroid neoplastic extension, presence of aggressive microscopic aspects in the pathology [12]. Such factors distress the surgeon in the choice of surgical modality and may culminate in the need for reoperation for total resection of the gland. Therefore, the purpose of this article is to retrospectively analyze medical records of patients with well-differentiated thyroid carcinoma undergoing partial thyroidectomy, and report what were the situations of distress and outcomes related to the cases in this sample.

The purpose of this study is primarily to determine, among patients with surgically treated differentiated thyroid cancer, what proportion underwent partial thyroidectomy. Secondly, to observe the factors that brought distress to the surgeon and relate to the outcome (need for reoperation or not) in each case.

Methods

This is a retrospective cohort study, with descriptive character. The project relied on the systematic review of electronic medical records of patients who underwent surgery between 2015 and 2021 for well-differentiated thyroid carcinoma, with procedures performed by the same surgeon.

We enrolled 782 operated patients, among them, 63 patients had partial thyroidectomy for well differentiated carcinoma. These 63 individuals composed a final sample with both men and women, and a wide age distribution. The inclusion criteria are to have undergone partial thyroidectomy for well differentiated thyroid carcinoma in the timeframe of the study. There are no exclusion criteria.

Regarding bioethical aspects, this work has been approved by the national ethics committee (CAAE: 55645121.7.0000.5483). All information in the patients' charts were analyzed and compiled confidentially, the name or any other data that may harm the confidentiality of the patients were not taken into consideration. With regards to patient confidentiality, all data collected from electronic medical records were de-identified before analysis. After the analysis, these data were deleted

Medical records were analyzed to understand the factors that troubled the surgeon in cases in which partial thyroidectomy was performed, and to evaluate the outcome of each case. Regarding exposure data, both patient-related and neoplasm-related factors were assessed. Patient-related (demographic) data collected included sex, age, year of surgery, and date of last visit. Neoplasm-related factors of concern to surgeons included the presence of aggressive microscopic features of the tumor, involvement of lymph nodes or extension of the neoplasm outside the thyroid, and a family history of thyroid cancer.

The outcome variable to consider is the need for reoperation increase the extent of resection and completely remove the gland.

Results

A total of 782 patients were operated between 2015 and 2022 by a unique head and neck surgeon, 58,6% of these patients (458 individuals) have undergone thyroidectomies due to well-differentiated thyroid carcinoma.

Of these 458 patients, 13,3% (63 individuals) have undergone a partial thyroidectomy. Considering the aim of this study and focusing on the 63 patients, 10 (15,9%) individuals had factors that caused distress to the surgeon after the pathological results such as multifocality, presence of metastases and presence of aggressive cells in the histological study. Considering these 10 patients with distress factors, 5 (50%) needed to be reoperated for total resection of the gland. By the other hand, all of the 53 patients without distress factors were not reoperated. (Figure 1).

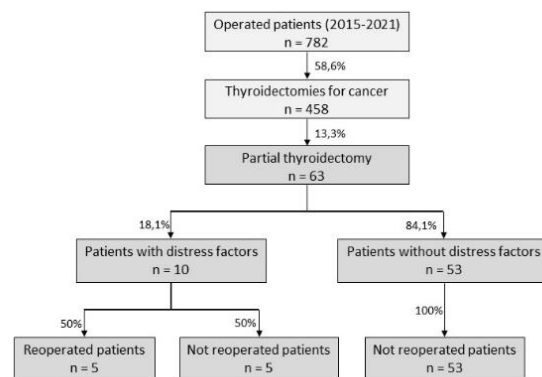


Figure 1: Diagram of surgeries. n: number of patients in each case

Our sample of patients consisted of 39 females (62%) and 24 males (38%), and the ages ranged from 18 to 91 years, with a mean of 42,37 and a standard deviation of 14,08 years. We believe this is a representative and large enough sample. The graphs in figures 2 and 3 show the distribution.

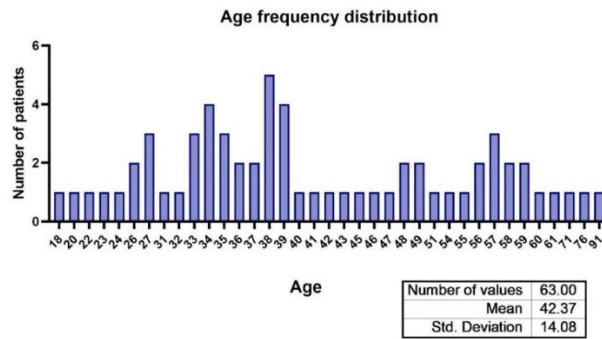


Figure 2: Age distribution.

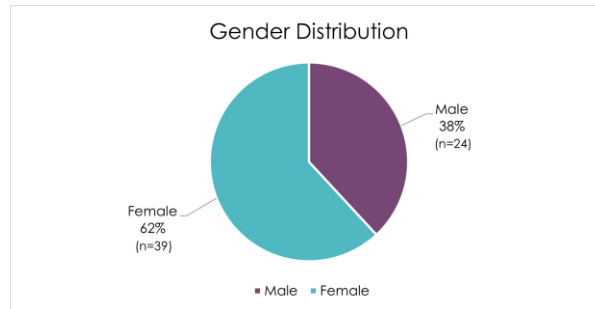


Figure 3: Gender distribution. n: number of patients in each case

Discussion

The treatment for thyroid cancer is usually expected to be total thyroidectomy, but partial thyroidectomy is now also very well accepted [13]. The results of a partial surgery, if well indicated, are great and show a good prognosis [8,9]. The current work demonstrates good results of partial thyroidectomies, although having a short follow-up time, being compatible with the literature. However, the intent of the work was not to reproduce such good results, but to bring at what points there are distresses in the follow-up of patients with thyroid cancer and which of them led to early reoperations of these patients.

Among the 63 patients who underwent partial surgery for thyroid cancer, 5 were taken to complementary operative treatment. The justification for this treatment was the identification of pathological situations not visible before the operation or intraoperatively. Three cases in this situation were due to the presence of aggressive cells in the histological study. One case was due to metastasis, and one case was due to multifocality. The patients with these types of complications progressed well after reoperation.

A total of 5 patients were not reoperated because the surgeon decided to share the management with the patient and wait for the evolution, some patients endured and others did not. This demonstrates that the psychological screening of patients for partial surgery is an important factor as well. Of those cases not reoperated, 3 presented multifocality as a distressing factor, and 2 the presence of micro metastases, all of them are evolving well. It is worth mentioning that the limiting factors of this paper were that it was retrospective and the short follow-up time for thyroid gland disease.

Conclusion

Considering all the thyroidectomies performed, 13,3% were partial surgeries. The factors that caused surgeons distress in this analysis were presence of aggressive cells in the histological study, metastasis (micro or not) and multifocality. The patients with these types of complications progressed well after reoperation. We have proved that even when distress factors are present, partial thyroidectomy is still a viable option to the surgeon. There are not

always reoperations, but, when necessary, they are enough to put patients in a proper follow-up situation.

We strongly believe that the results obtained will help doctors in clinical practice to choose the surgical modality indicated for each patient.

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