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SURGICAL ASPECTS OF GOITER WITH HASHIMOTO'S THYROIDITIS: CLINICAL EXPERIENCE IN A TERTIARY CARE CENTER

Surgery

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ABSTRACT

Summary: Hashimoto's thyroiditis (HT) is an organ-specifc autoimmune disease is usually treated conservatively with thyroxine. Thyroidectomy is not generally recommended because the dense inflammatory process that surrounds the thyroid gland can make resection more difcult. However, patients with HT are considered for surgery if they experience persistent symptoms after conservative therapy. In our experience with 104 thyroidectomies, 16 cases of goiter with associated HT who underwent thyroidectomy between June 2014 and May 2017 in a tertiary care center IMS & SUM Hospital,Bhubaneswar were analysed for indications of surgery. The mean age of 42.5 years, F:M ratio was 14:2 and 90% were female. Goiter was diffuse in 44% and nodular in 56%, 7 (44%) of patients were hypothyroid. Autoimmune association was found in 12%. Commonest surgery done was thyroid lobectomy in 9 (56%) followed by subtotal thyroidectomy in 4(25%) cases. Most frequent indication for surgery was nodular goiter in 10 (62.5%) followed by pressure symptoms, painful thyroiditis, persistent goite and associated malignancy. Histopathology showed diffuse HT alone in 2 (12%) and rest of the cases had HT as a component with other pathologies. Associated pathologies were benign multinodular goiter (5), colloid nodule (7), cyst(1), follicular adenoma (1). Surgery for HT is primarily indicated for associated pathologies like dominant nodule, pressure symptoms, painful thyroiditis, persistent goiter and suspicious or proven malignancy and rarely for HT alone . Therefore, HT patients should be considered surgery for palliation if they suffer from persistent symptoms after conservative therapy.

KEYWORDS

Hashimoto's Thyroiditis, Thyroidectomy.

INTRODUCTION

Hashimoto's thyroiditis (HT) is an organ-specifc autoimmune disease originally described in 1912 and characterized by the production of anti-thyroid antibodies, such as anti-thyroperoxidase (TPO), that destroy thyroid tissue and can lead to a decrease in normal thyroid function[1,2,3]. The histological appearance of the thyroid gland in HT is characterized by diffuse lymphocyte infltration, a reduction in size of follicular cells, and fbrosis[4,5]. HT is the most common cause of hypothyroidism in iodine-sufficient areas [6] and occurs more frequently in women[4,7]. The incidence of HT is higher in iodine-sufficient areas [6]. Patients with HT are usually treated conservatively with levothyroxine (L-T4) therapy. Thyroidectomy is not usually recommended for HT patients because the dense inflammatory process that surrounds the thyroid gland makes surgical resection more difficult [8]. In general, the indications for surgery in HT patients include suspicion of malignancy, persistent symptoms associated with the disease, or a goiter that is increasing in size. In the present study,we emphasize on the surgical aspects of goitre with HT on the basis of our own experience.

MATERIALS AND METHODS

The study was conducted in a tertiary care center at IMS & SUM Hospital,Bhubaneswar in Eastern India. It is a retrospective observational study of 104 patients who underwent thyroid surgery between June 2014 and May 2017. Clinicopathological data were collected from case records, 16 patients had signifcant preoperative symptoms forming our study cohort, had HT on final histopathology. Patients were subjectively evaluated for improvement or relief of symptoms postoperatively. In their preoperative visit, patients were subjectively evaluated for symptoms including pressure symptoms, pain, compression or neck discomfort and hormonal assay.The following data were collected; age, gender, type of operation, and any postoperative complications. Patients were subjectively evaluated afer thyroidectomy and the number of patients who reported improvement or relief of preoperative symptoms after surgery was documented.

RESULTS

In analyzing the demographics of the patients, sixteen of 104 patients(15%) with symptomatic HT on final histopathology, the mean age was 42.5 years and 90% of the patients were female. Operations performed(Table 1) included thyroid lobectomy (56%), subtotal thyroidectomy (25%), near total thyroidectomy(13%) or total thyroidectomy (6%).Different clinical presentations is displayed on (Table 2) for which thyroid surgery was performed on the patients. Commonest procedure done was thyroid lobectomy in 9 cases followed by subtotal thyroidectomy in 4, near total thyroidectomy 2 cases and total thyroidectomy in 3 cases. Most frequent indication for surgery was nodular goiter in the form of either solitary thyroid nodule (STN) or MNG in 11/16 (69%) of cases. Other indications were persistent goiter, pressure symptoms, painful thyroiditis and associated malignancy.

Clinicopathological details are shown in(Table 3). Macroscopically, solitary nodule(56%) was the most frequent finding followed by multinodular(25%) and diffuse variety(19%). Cytological analysis(Table 4) shows HT was diffusely present throughout the gland only in 2/16 (13%) cases and rest of the cases HT as a component synchronous with other pathologies colloid nodule(44%),benign MNG(31%) and cyst(6%).One case, which was suspicious for malignancy on FNAC, turned out to be follicular adenoma. In our series no postoperative mortality. Morbidity in the form of recurrent laryngeal nerve palsy and persistent hypocalcaemia did not occur in any case, although two patients had postoperative hypocalcaemia and one had transient unilateral recurrent laryngeal nerve palsy that improved within 6 months.

Table 1 Surgical Interventions

Surgery	Number (n)	Percentage (%)
Thyroid lobectomy	9	56
Subtotal thyroidectomy	4	25
Near total thyroidectomy	2	13
Total thyroidectomy	1	6

Table 2 Clinical Presentations for Surgery

Clinical Presentations	Number (n)	Percentage (%)
Solitary thyroid nodule	7	44
Large MNG	4	25
Pressure symptoms	2	13
Painful thyroiditis	2	13
Suspicious/proven malignancy	1	6

Table 3 Clinicopathological picture

Gross	Number(n)	Percentage(%)
Solitary Nodule	9	56
MNG	4	25
Diffuse	3	19

Table 4 Cytological analysis

Microscopic	Number (n)	Percentage (%)
Colloid Nodule + HT	7	44
Benign MNG + HT	5	31
Cyst + HT	1	6
Follicular adenoma + HT	1	6
HT only	2	13

DISCUSSION

HT is the commonest form of chronic autoimmune thyroiditis and occurs predominantly in women between 30 and 50 years and its incidence increases with age [9]. The incidence of HT varies from 0.1% to 5% and more commonly seen in iodine-sufficient areas of the world[6]. Treatment of HT is conservative in majority of cases with long-term surveillance and periodic examination in small, euthyroid goiter till thyroid failure occurs and full-dose thyroxine replacement for thyroid failure or TSH suppressive therapy to regress a large, symptomatic goiter [10]. In general, thyroidectomy is considered for patients if there is a suspicion of malignancy, if patients suffer from persistent symptoms due to the disease, or if patients experience discomfort and compressive symptoms due to an enlarging goiter that does not respond to suppression therapy[11]. However, thyroidectomy is not recommended in general because the thyroid gland is often more difficult to remove in patients with HT.There is some controversy in the published data on postoperative risks with HT patients for the indications for surgery. Tomas et al. conducted a study to determine reliable criteria for surgery in patients with HT. Out of the 260 patients who underwent thyroidectomy in their study, 11 patients were diagnosed with HT, including 4 patients with an associated diagnosis. The indications for surgery in the seven patients without an associated diagnosis included hyperthyroidism, oppressive goiter, residual mass, dominant"cold nodule," and enlarged thyroid with a malignant neoplasm. The authors concluded indications for thyroidectomy for patients with HT including 1) dominant mass that is unresponsive to suppressive therapy; 2) enlarging goiter despite suppressive therapy; 3) fndings that suggest malignancy; 4) indeterminate needle biopsy. While the authors did establish definitive criteria for thyroidectomy in patients with HT, they did not evaluate patients afer thyroidectomy regarding the status of their preoperative symptoms or any complications from the surgery. Gyory et al. performed a retrospective analysis of HT patients who underwent thyroidectomy and examined the incidence of malignancy and postoperative complications. Out of the 118 cases of HT, transient RLN injury occurred in 2 cases and permanent RLN injury .In another study Shimizu, et al. performed a study in which they identified surgical indications for patients with HT and reported that subtotal thyroidectomy was the safest procedure for patients with the disease. The 8 HT patients that were included in the study experienced preoperative symptoms and underwent subtotal thyroidectomy. None of the 8 HT patients suffered from postoperative complications, which the authors attributed to the conservative nature of the subtotal thyroidectomy procedure. However, it was difficult to distinguish whether the lack of postoperative complications was truly due to the particular surgical procedure or if it was impacted by the small sample size of the study. Based on that comparative analysis, the authors concluded that patients with HT who underwent thyroidectomy did not have a higher risk of postoperative complications than patients without HT.

In our series, we had high HT incidence of 15% among cases operated for goiter compared with many surgical series, which range from 3% to 33% [12]. The indications for surgery in HT patients that we found in our study was consistent with other published literature. In addition, we found that the majority of patients with other symptoms also experienced relief after thyroidectomy. Although 13% of patients su ered postoperative complications, 6% had transient complications and resolved within 6 months or less. Therefore, an overwhelming majority of symptomatic HT patients experienced benefit from thyroidectomy. While we feel that our study reflects the benefts of thyroidectomy for HT patients with persistent symptoms, we recognize the limitations to our study. In this study, the majority of patients with HT and signifcant symptoms reported improvement or relief of preoperative symptoms after thyroidectomy.

CONCLUSIONS

Surgical treatment is not the most common method of treatment for patients with HT. However, thyroidectomy must be considered in specifc cases if HT patients suffer from persistent symptoms after conservative therapy.

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