



Surgery

ANALYSIS OF THYROIDECTOMY CASES IN TERTIARY CARE CENTER

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ABSTRACT **Introduction:** The incidence of thyroid disorders is on the rise. The preferred treatment for most of the thyroid conditions is total thyroidectomy. The associated complications are transient hypocalcemia, recurrent laryngeal nerve palsy, and postoperative hematoma.

Objective: The objective of this study is to find out the causes of thyroidectomy over a period of one year at tertiary care centre

Materials and Methods: Study is conducted in tertiary care hospital for period of one year

Results: The rates of thyroidectomy are increasing. They are common among women and mostly following multi-nodular goiter, and malignancy. Total thyroidectomy has become the treatment of choice for multinodular goitre and malignant thyroid swellings. Hemithyroidectomy has decreased hypoparathyroidism and recurrent laryngeal nerve injury. However, second look surgeries in cases of recurrence has significantly increased complication rate. Total thyroidectomy is a safe and effective alternative when performed skillfully.

KEYWORDS :

INTRODUCTION

The incidence of thyroid disorders has risen by 20% over the past decade. It is an endocrine organ that produces hormones to regulate metabolic activities of the body. Thyroid disorders could be Benign: thyroiditis, goiter, thyroid adenoma, or malignant: papillary carcinoma, follicular carcinoma, anaplastic carcinoma.

The management is by thyroidectomy which requires careful ligation of superior and inferior thyroid artery to prevent damage of nerves. Despite complications, total thyroidectomy is still preferred as it reduces recurrence. There are controversies regarding the safety of the procedure, amount of gland to be resected, fear of morbidity associated with thyroidectomy. Addressing these becomes important as thyroidectomy procedures are being performed routinely nowadays. With increasing rates of thyroidectomy surgeries and their possible complications, this study was undertaken to evaluate the common causes for the surgery. Multinodular goiter (MNG) is a common disease of the thyroid gland most often caused by iodine deficiency (endemic goiter) and it is the most prevalent thyroid pathology with palpable thyroid nodules. Incidence that could be detected in 0.8%–1.5% of men and 5.3%–6.4% of women. Several retrospective studies evaluated the risks and complication rate of thyroid surgery and found that the three major complications could be detected: hemorrhage, recurrent laryngeal paralysis, and hypoparathyroidism with varying rates of incidence. Postoperative hemorrhage may occur as a devastating complication from thyroid surgery as an unrecognized or rapidly expanding hematoma that can cause airway compromise. Other complications include recurrent laryngeal nerve injury causing vocal cord palsy, hypoparathyroidism causing hypocalcemia.

MATERIALS AND METHODS

The study was conducted for period of one year. The study group included patients who were admitted with thyroid disorders. Patients who had swelling of the neck due to other causes were excluded from the study after confirming the diagnosis. These patients were evaluated with a detailed history, thyroid profile, history of drug intake, history of previous surgeries or radiation, imaging studies of the neck, fine needle

aspiration cytology of thyroid swelling, and complete hemogram. After evaluation, patients requiring surgery were assessed for fitness for surgery; informed written consent was obtained and proceeded with surgery. Specimen sent for histopathological confirmation of diagnosis. They were followed up till their discharge and reviewed at outpatient department. They were also advised thyroid supplementation or suppressive therapy as required.

Pre-operative evaluation:

1. The vocal cord status for the patients was checked preoperatively by indirect laryngoscope.
2. Investigations: neck ultrasound, determination of free T3, free T4, thyroid stimulating hormone, serum calcium concentration, and fine-needle aspiration cytology.
3. The intraoperative blood loss, operative time, postoperative drainage, and postoperative wound infection were recorded.
4. Postoperative follow-up includes the status of vocal cord function. The function of parathyroid was checked immediately in the postoperative period by serum calcium concentration and parathyroid hormone level.

Operative technique

Total thyroidectomy is defined as the removal of the entire thyroid gland including pyramidal lobe while preserving the parathyroid glands, RLNs, and external branches of the superior laryngeal nerves (SLNs). The internal branches of the superior thyroid artery were identified and dissected meticulously as close to the thyroid capsule as possible to avoid damaging the SLN. The external branch of the SLN travels inferiorly along the lateral surface of the inferior constrictor muscle until it terminates at the cricothyroid muscle. A delicate surgical technique was performed by identifying and exposing the RLN and its branches and following its course with care until it entered larynx. The main trunk of the inferior thyroid artery was preserved and the branches entering only the thyroid were cut between ligatures to preserve the blood supply of the parathyroid gland and all the parathyroid glands were identified, if possible.

RESULTS

During the study period, a total of 76 patients were admitted with

complaints of neck swelling. On evaluation, 53 cases were managed with thyroidectomy (Tables 1-5) and 23 patients were managed conservatively.

- Out of the 53 patients, 48 were female accounting for about 91% of the total incidence and 5 male patients which amounts upto 9% of the total thyroid disorders
- When age is considered incidence is maximum among the age group of 20-40 years, followed by 40-50 years . The incidence among extremes of age group is minimal.
- The incidence of benign disorders of thyroid is maximum which is about 66% of the total incidence the causes of which are multinodular goitre and solitary nodule thyroid. Malignant thyroid lesions are papillary carcinoma thyroid ,follicular thyroid carcinoma and anaplastic carcinoma thyroid which is about 34% of the total causes of thyroid surgeries.

Table 1: Patient demographics (n=53)

Sex of the patient	
Male	5
Female	48
Age of the patient (years)	
<20	0
20-40	33
40-50	13
>50	7

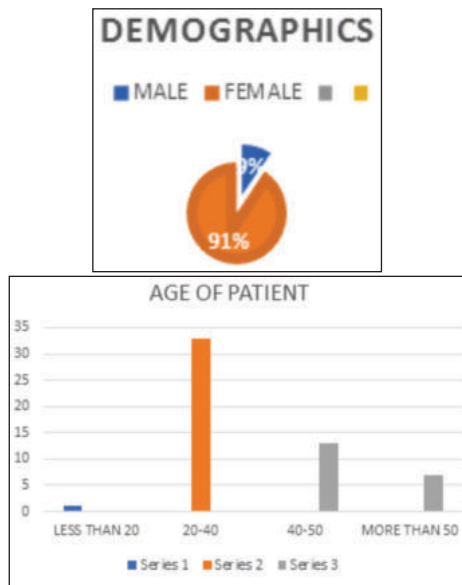


Table 2: Causes for thyroidectomy

Multinodular goiter	18
Solitary nodule thyroid	17
Thyroid carcinoma	18

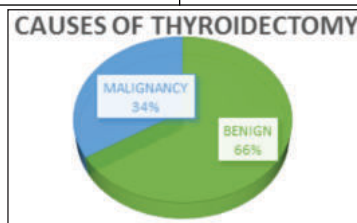
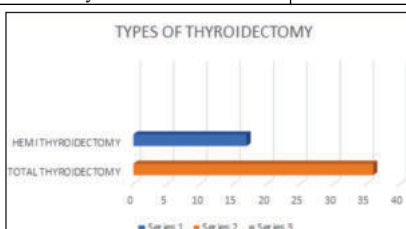


Table 3: Types of thyroidectomy

Total thyroidectomy	36
Hemi thyroidectomy	17



DISCUSSION

Thyroid gland disorders are a challenge to management medically or surgically. The common diseases affecting thyroid gland are goiter, hypothyroidism, hyperthyroidism, hashimoto's thyroiditis, malignancy. The preferred surgical management for these conditions would be total thyroidectomy. Among various thyroidectomy procedures, 34% are done for malignancy and 66% are done for benign conditions. The malignancies that are commonly encountered are papillary carcinoma of thyroid in about 80% cases. The other malignancies are follicular carcinoma, anaplastic carcinoma, and small cell carcinoma.

Nearly, 90% of thyroidectomies were performed on women. This is similar to Der *et al.* study1 which showed increased incidence among women.

Katz and Bronson2 study showed that the indications for thyroid disorders were 19% Graves disease, 62% nodules, 19% malignancy of thyroid gland like papillary carcinoma, medullary carcinoma, follicular carcinoma, and anaplastic carcinoma. Similarly, in our study, the indication for thyroidectomy was Graves' disease in 15%, nodular goiter in 56%, malignancy in 17%, thyroiditis in 12%.

All patients operated with thyroidectomy were discharged in good condition. There were no post-operative deaths. This shows that thyroidectomy is a safe and effective procedure when performed cautiously. Hemithyroidectomy has reduced incidence of complications but increased risk of recurrence. As complications are more common in second-look surgeries, it is preferable to perform total thyroidectomy.

CONCLUSION

Thyroid disorders are commonly manifesting endocrine disorders among South Indian population. As a result, the total thyroidectomy rates are on the rise. In hemithyroidectomy, the risk of recurrence overweighs the reduced rate of complications. Total thyroidectomy represents today the treatment of choice for Multinodular goitre. Proper preoperative preparations, meticulous surgical dissection with careful follow-up of patients will improve the surgical results and reduce postoperative complications. This is a safe and effective procedure when performed by expert surgeon.

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