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General Surgery

# CLINICO EPIDEMIOLOGICAL STUDY AND OUTCOME OF TOTAL THYROIDECTOMY IN BILATERAL BENIGN THYROID DISEASES AT A TERTIARY CARE HOSPITAL

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**ABSTRACT** **Background:** Benign thyroid diseases are the most common endocrinal surgical disorders. The extent of total thyroidectomy for bilateral benign thyroid diseases was controversial till recent times. Today, total thyroidectomy is an operation that can safely performed with low incidence of permanent complications, which allows to broaden its indications in various bilateral benign thyroid diseases. Subtotal thyroidectomy was previously the treatment of choice for benign thyroid diseases but was associated with high recurrence rates and when reoperated, lead to permanent injury to adjoining vital structures like recurrent laryngeal nerve, external laryngeal nerve and parathyroid glands. **Aim of the Study:** To study the clinico epidemiological pattern and the efficacy & safety of total thyroidectomy in the management of bilateral benign thyroid diseases. **Methodology:** This retrospective study was conducted on 50 patients from the period of january 2017 to december 2019 from the in-patients of surgical unit in Dr. PSIMS & RF.**Results:** 44 patients had uneventful recovery (88%), 3 patients developed recurrent laryngeal nerve palsy (6%), 3 patients presented with post-operative hypocalcemia (6%), 1 patient developed wound infection (2%) and there was no mortality (0%). **Conclusion:** Total thyroidectomy has evolved as safe and routine procedure for the surgical treatment of bilateral benign thyroid diseases.

**KEYWORDS :** Total thyroidectomy, Bilateral benign disease.

## INTRODUCTION

Thyroid surgery has been performed since ancient times. Technical improvements did not occur until the middle of the 19th century and it has followed all the steps of evolution to reach the time of endoscopic surgery. The extent of thyroidectomy (subtotal to total) for benign thyroid disease was controversial till recent times[1].Total thyroidectomy has an important role in the management of patients with bilateral benign diseases as this approach avoids recurrence and increased risk of morbidity associated with reoperation [2]. Historically surgeons avoided total thyroidectomy, due to the risk of damage to surrounding vital structures and stuck on to subtotal thyroidectomy.

Today total thyroidectomy is increasingly being done almost all over the world[3].The rate of complications associated with total thyroidectomy, namely recurrent nerve palsy, injury to external laryngeal nerve, hypocalcemia, wound infection and secondary hemorrhage, did not differ significantly from that associated with subtotal thyroidectomy. These findings indicate that total thyroidectomy is an acceptable surgical alternative in bilateral benign thyroid diseases [4]. The objective of this study was to determine whether total thyroidectomy is an effective, safe and appropriate procedure to manage bilateral benign thyroid diseases.

## METHODOLOGY

**Inclusion Criteria**

1. Benign thyroid disease (toxic and non-toxic goiters, large diffuse colloid goiters, hashimoto's thyroiditis)

**Exclusion Criteria**

1. Malignant thyroid disease.
2. Recurrent thyroid disease.

In this retrospective study, 50 patients from january 2017 to december 2019 were chosen from the in-patient of surgical unit of Dr. PSIMS & RF, Chinaoutapalli, who has undergone total thyroidectomy for bilateral benign thyroid diseases. Detailed history and clinical examination noted. All the patients had undergone pre-operative preparation including biochemical (T3, T4, and thyroid-stimulating hormone, serum calcium), pathological (fine-needle aspiration cytology), radiological (ultrasonography and x-ray neck AP, lateral), and ENT examination (indirect laryngoscopy).

## RESULTS

**TABLE 1: Age Distribution**

| AGE GROUP | NO OF CASES | PERCENTAGE |
|---|---|---|
| 0-10 | 0 | 0% |
| 11-20 | 1 | 2% |
| 21-30 | 16 | 32% |
| 31-40 | 24 | 48% |
| 41-50 | 4 | 8% |
| 51-60 | 3 | 6% |
| >60 | 2 | 4% |
| TOTAL | 50 | 100% |

**TABLE 2: Sex Distribution**

| GENDER | NO OF CASES | PERCENTAGE |
|---|---|---|
| FEMALES | 48 | 96% |
| MALES | 2 | 4% |
| TOTAL | 50 | 100% |

**TABLE 3: Symptomatology of MNG**

| SYMPTOMS | NO OF CASES | PERCENTAGE |
|---|---|---|
| SWELLING | 50 | 100% |
| PAIN & DISCOMFORT | 5 | 10% |
| DYSPNOEA | 3 | 6% |
| DYSPHAGIA | 4 | 8% |

**TABLE 4: Duration of illness**

| DURATION (MONTHS) | NO OF CASES | PERCENTAGE |
|---|---|---|
| <1 | 4 | 8% |
| 1-4 | 2 | 4% |

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|---|---|---|
| 5-12 | 20 | 40% |
| 13-24 | 10 | 20% |
| 25-36 | 8 | 16% |
| 37-48 | 2 | 4% |
| >48 | 4 | 8% |
| TOTAL | 50 | 100% |

**TABLE 5: Postoperative complications**

| COMPLICATION | NO OF CASES | PERCENTAGE |
|---|---|---|
| RECURRENT LARYNGEAL NERVE PALSY | 3 | 6% |
| HYPOCALCEMIA | 3 | 6% |
| WOUND INFECTION | 1 | 2% |
| MORTALITY | 0 | 0% |

**TABLE 6: Histopathology**

| HISTOPATHOLOGY | CASES | PERCENTAGE |
|---|---|---|
| Multinodular goiter | 31 | 62% |
| Colloid goiter | 9 | 18% |
| Toxic goiter | 6 | 12% |
| Hashimoto's thyroiditis | 4 | 8% |

## DISCUSSION

The present study was conducted with the aims of assessing age, sex distribution, clinical features, indications and complications of surgery of 50 cases of total thyroidectomy in bilateral benign thyroid diseases admitted to Dr.PSIMS & RF, Chinaoutapalli. Goiters have an annual growth potential of up to 20%, which can complicate treatment, if it is delayed. In the present study, out of 50 cases, the minimum age recorded was 19 years and a maximum of 75 years. Maximum distribution was observed in 3rd and 4th decades,the reason being more TSH fluctuation noted during adolescence and in reproductive age groups. 48 were females and 2 were males. Almost all the thyroid related disorders are common in females, the reason being more thyroid stimulating hormone fluctuation is seen in females during adolescence, pregnancy and childbirth. All the patients presented with swelling in front of the neck. Other symptoms were pain , discomfort, dysphagia and dyspnoea. In 40% of patients, the duration of swelling at presentation to the outpatient department was 5-12 months. The majority of patients had thyroid lesions with symptoms for more than 5 months. The main indication for surgery in our study was the swelling itself either due to cosmetic reasons or the fear of malignancy on the part of the patient. Pain & discomfort and pressure symptoms were the other indications for surgery. In our study group, all the 50 patients underwent total thyroidectomy. The goal of surgical treatment is to eliminate the disease with a minimal complication rate, and to minimize the necessity for reoperation. Total thyroidectomy is a safe choice for the treatment of bilateral benign Multinodular goiter which provides a radical and definitive control of the disease, without the risk of recurrence.

In our study, complications are recurrent laryngeal nerve palsy which was transient and recovered in 1-3 months, transient hypocalcemia and wound infection. Histopathology revealed multinodular goiter, colloid goiter, toxic goiter and hashimoto's thyroiditis.

## CONCLUSION

In our study, total thyroidectomy in bilateral benign thyroid diseases is recommended as a routine procedure of choice . It avoids leaving behind residual, and healthy thyroid tissue liable for recurrence and it offers permanent cure of the disease at the same time. Total thyroidectomy was found to be an adequate and safe treatment for bilateral benign thyroid diseases with minimal complications.

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