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Research Paper

TOTAL Vs.SUBTOTAL THYROIDECTOMY IN THE TREATMENT OF BENIGN THYROID DISEASE

Medical Science

KEYWORDS :

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ABSTRACT

Thyroidectomy for benign diseases is the most commonly performed endocrine surgical procedure worldwide.Bilateral subtotal thyroidectomy has been the preferred operation for benign thyroid disorders for many years.Despite increase in number of retrospective reports recommending the use of total thyroidectomy for bilateral thyroid diseases, surgeons continue to debate whether the potential benefits of this procedure outweigh the potential complications. Through this study the various factors influencing total thyroidectomy and bilateral subtotal thyroidectomy with reference to a benign thyroid disease will be assessed and the pros and cons will be evaluated such as recurrence rate, need for revision surgery, complications (postoperative morbidity rate, bleeding, hypoparathyroidism and recurrent laryngeal nerve injury).

AIMS AND OBJECTIVES OF THE STUDY:

To compare the outcomes of Subtotal versus total thyroidectomy for benign bilateral thyroid disease in terms of:

•Recurrence rate

•Need for revision surgery

•complications

SOURCE OF DATA:

•Adult patients admitted in JSS hospital Mysore satisfying the inclusion and exclusion criteria during the period of study: October 2012-October 2014 will be taken for study after taking informed and written consent.

TYPE OF STUDY:

•Comparative and exploratory study

SAMPLE SIZE:

•Group 1: 15 patients undergoing total thyroidectomy for benign bilateral thyroid disease satisfying the inclusion and exclusion criteria

•Group 2: 15 patients undergoing subtotal thyroidectomy for benign bilateral thyroid disease satisfying the inclusion and exclusion criteria.

SAMPLING TECHNIQUE:

•Purposive sampling technique

CONCLUSION:

•It was found that there was no significant difference in the rate of early or late complications in both the groups and hence both can be advocated as treatment for benign thyroid diseases considering patient factors as well as long term compliance of patient for medication.

•In our study there was no recurrence or need for revision surgery in the subtotal thyroidectomy group and this could not be adequately followed up possibly due to the short follow up time frame.

•There were no mortalities or significant rate of long term complications in our study.

INTRODUCTION

The thyroid gland is an endocrine gland situated in the lower part of front and the sides of the neck. Its main function is regulation of the basal metabolic rate, stimulates somatic and psychic growth and plays important role in calcium metabolism. The term thyroid is derived from Greek, which means shield (Thyros – shield, eidos – form). Normal thyroid gland is impalpable. Enlargement of the thyroid gland is the most common manifestation of the thyroid disease. The enlargement may be either generalized or localized, which again may be, toxic or nontoxic. The nontoxic goiter is further divided on etiological basis as endemic goiter and sporadic goitre. The endemic goitre is defined as one where more than 10% of population shows thyroid enlargement. Diseases of thyroid gland especially multinodular goitre due to deficiency of iodine are prevalent in India. Though exact incidence of nodular goitre is not available WHO, in 1958, estimated that goitre was present in 200 million, which represented 7% of World's population at that time. Nodular goiters are more common in women than in men and the nodularity increases with increasing age. Multinodular goitres (MNG) can become malignant but it is rare.

AIMS AND OBJECTIVES OF THE STUDY:

To compare the outcomes of Subtotal versus total thyroidectomy for benign bilateral

thyroid disease in terms of:

➢ Recurrence rate

➢ Need for revision surgery

➢ Complications (postoperative morbidity rate, bleeding, hypoparathyroidism

and recurrent laryngeal nerve injury)

Materials and methods:

Source of data :

Adult patients admitted in JSS hospital Mysore satisfying the inclusion and exclusion criteria during the period of study: October 2012-October 2014 will be taken for study after taking informed and written consent.

Sample size:

Group 1: 15 patients undergoing total thyroidectomy for benign bilateral thyroid disease satisfying the inclusion and exclusion

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criteria

Group 2: 15 patients undergoing subtotal thyroidectomy for benign bilateral thyroid disease satisfying the inclusion and exclusion criteria.

Sampling technique: Purposive sampling technique

Methods of collection of data:
Cases will be selected based on purposive sampling technique. Written informed consent will be taken from the patient before inclusion into the study. Data for this study will be collected in a pretest proforma containing all relevant information about the patient and surgery conducted and the associated complications, if any. Randomization will be done in order to divide the selected patients into Group 1 and

Group 2. Even numbers will be taken into group 1 to undergo total thyroidectomy and odd numbers will be taken into group 2 to undergo subtotal thyroidectomy. 95

INCLUSION CRITERIA:
1. Benign bilateral thyroid diseases

EXCLUSION CRITERIA:
1. Age less than 18 years
2. Thyroid disease involving the posterior aspect of either of the thyroid lobes
3. preoperative suspicion of thyroid cancer
4. previous thyroid surgery
5. pregnancy or lactation

STATISTICAL ANALYSIS:
EPIINFO, MICROSOFT EXCEL and SPSS softwares were used for data analysis in this study.

A descriptive analysis was conducted

Frequencies:
The frequencies procedure provides statistics and graphical displays that are useful for describing many types of variables.

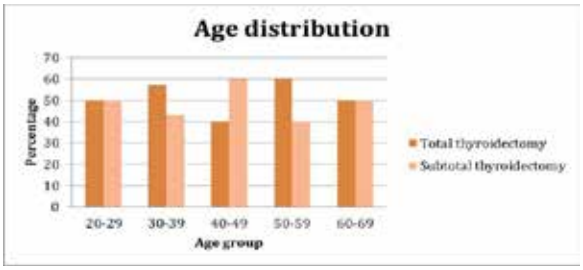
Descriptives:
The descriptives procedure displays univariate summary statistics with 95% confidence intervals for several variables in a single table and calculates standardized values. 96

RESULTS
In this study a detailed analysis of the factors affecting total and subtotal thyroidectomy and their outcomes with respect to the immediate and late postoperative complications and any recurrence which has occurred within 6 months follow up period has been analysed using the appropriate statistical methods and tests.

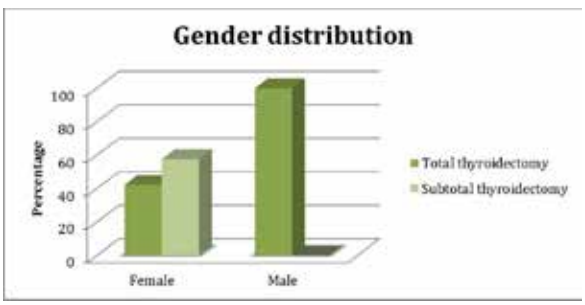
In our study 2 groups of 15 patients were made for total thyroidectomy and subtotal thyroidectomy and the outcomes were assessed using various parameters as shown in

the graphs above and descriptions were given. The rate of postoperative complications of our study and that of various other studies have also been made and will be described subsequently.

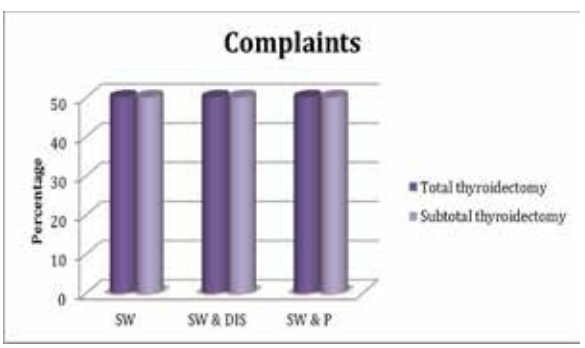
AGE:
ST GROUP: In our study the age group varied between 23-60years with a maximum of patients between the age of 40-49years- 40% There were minimum patients in the extremes of ages holding good for both groups. TT GROUP: There were maximum patients in the age group of 30-49years – 53.33%.



GENDER:
There was a female preponderance in our study wherein 100% of the ST group were females and 1 patient in the TT group was male. The female maximum in thyroid disorders are already well documented and known.

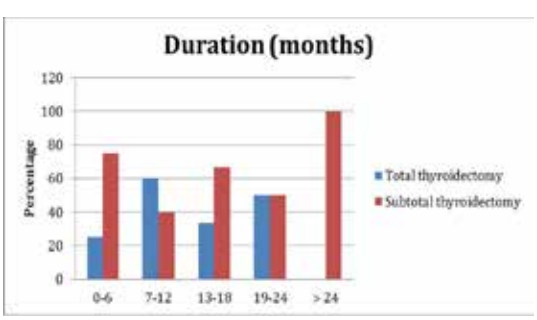


PRESENTING COMPLAINTS:
The main presenting complaints in our study were swelling, pain and difficulty in Swallowing.None of our patients presented with difficulty in breathing or other compressive symptoms. There were no complaints of palpitations or of menstrual irregularities.



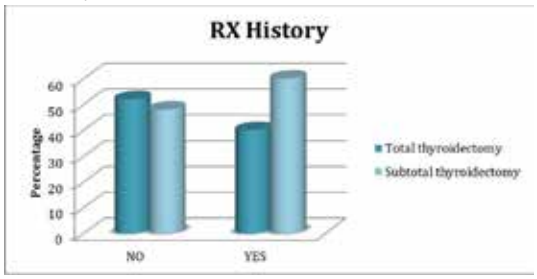
DURATION OF PRESENTING COMPLAINTS:
The mean duration for the presenting complaints were TT group: 11.13 ± 4.3 months

ST group: 12.47 ± 8.1 months 118



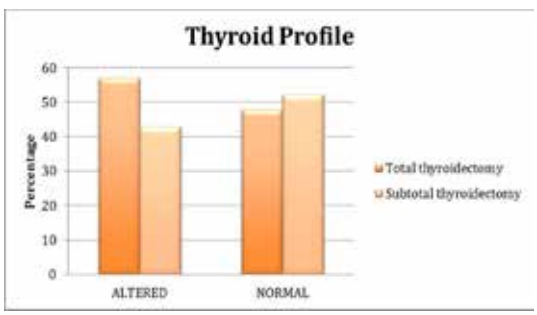
FAMILY HISTORY:
There was no family history of thyroid diseases in our study.

TREATMENT HISTORY:
In our study 4 patients in the TT group and 3 patients in the ST group were on anti thyroid medication. The most commonly detected thyroid disorders on FNAC were colloid goiter and hashimotos thyroiditis.

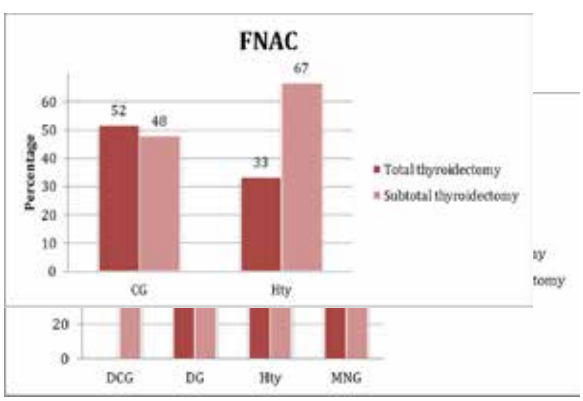


THYROID PROFILE was essentially normal in most of our patients but in the ST

group: 20% of the patients were hyperthyroid and in the TT group 26.6% of the patients had altered thyroid profile and were made euthyroid by appropriate medication. All patients were made to undergo USG in order to detect the involvement of both lobes as this was our inclusion criteria. Indirect laryngoscopy was essentially normal in all patients in our study.

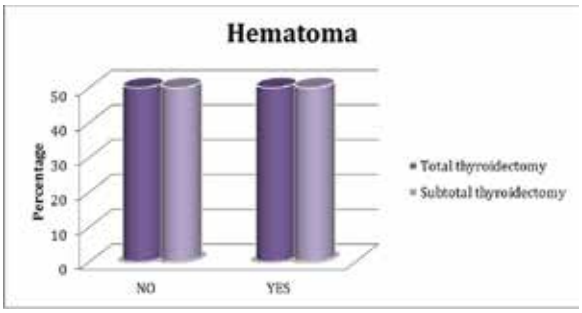


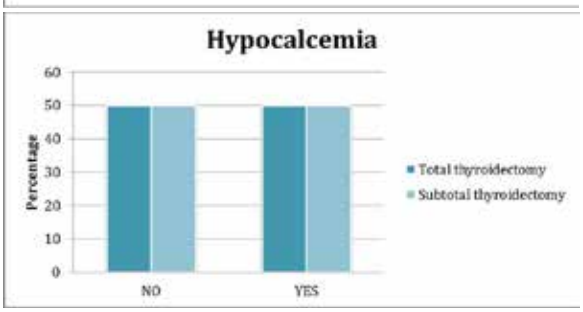
FNAC:
Colloid goiter and hashimotos thyroiditis were the most common thyroid disorders detected in our study.

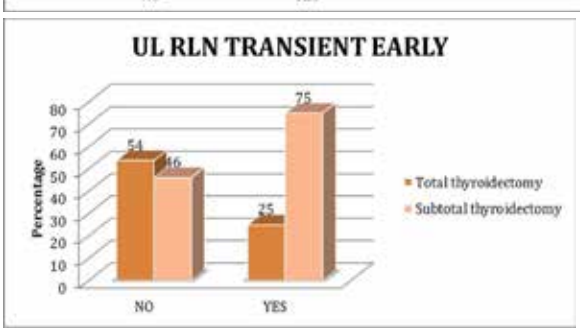


EARLY POST OPERATIVE COMPLICATIONS:
In the ST group the most common complication which was encountered was

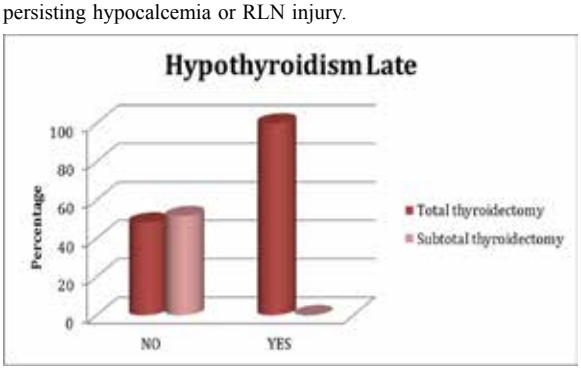
hypocalcemia (20%) and seroma (20%). Hypocalcemia was managed with calcium gluconate and oral calcium supplementation and these patients had normal calcium levels at discharge and at subsequent follow up. 1 patient had hematoma (6%) formation which was managed by needle aspiration and did not require any further intervention. 119 .3 (20%)patients had seroma formation which was probably due to faulty drain technique and was managed with pressure dressing antibiotics and needle aspiration.2(13.33%) patients had transient unilateral RLN injury which was due to possible neuropraxia and resolved by discharge. The paralysis was only temporary. In TT group the most commonly encountered complication was again hypocalcemia (20%) and 1 patient had seroma (6%)formation and 1 patient (6%) had hematoma formation managed conservatively required no further management and resolved spontaneously. There was no complication of RLN paralysis in this group. None of our patients had complications of bleeding, wound infection or of airway obstruction.







LATE POST OPERATIVE COMPLICATIONS
In both groups there were no late post operative complications of persisting hypocalcemia or RLN injury.



FOLLOW UP:
Patients were followed up at intervals of1 week after surgery and subsequently 2 months, 4 months and 6 months and were subjected to blood analysis for calcium and thyroid hormone analysis and objective questioning done to assess for complications. In our study 1 patient in the ST group came with recurrent hyperthyroidism which was managed with drugs and her subsequent follow up at month 4 and 6 were uneventful. In the TT group one

patient presented with hypothyroidism at month 4 and another at month . This was due to non compliance with thyroid supplementation inspite of discharge teaching. 1 patient improved in the next follow up visit and thyroid levels were normal again. The other patient was lost to follow up.120 there was no incidence of recurrence, need for revision surgery and mortality in our study.

However these could not be adequately assessed due to the relatively short follow up period. With longer follow up these measures can be better assessed.

CONCLUSION

- This study was conducted between the period of October 2012- October 2014 for patients admitted in JSS medical college and hospital satisfying the inclusion and exclusion criteria.
- The aim of the study was to compare the outcomes of total and subtotal thyroidectomy in terms of early and late post operative complications and recurrence in the specified time period for follow up.
- It was found that there was no significant difference in the rate of early or late complications in both the groups and hence both can be advocated as treatment for benign thyroid diseases considering patient factors and morbid factors as well as long term compliance of patient for medication.
- In our study there was no recurrence or need for revision surgery in the subtotal thyroidectomy group and this could not be adequately followed up possibly due to the short follow up time frame.
- There were no mortalities or significant rate of long term complications in our study.

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