

Multinodular Goitre Whether to do subtotal or Total Thyroidectomy

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Abstract: Multinodular goitre may be treated by subtotal thyroidectomy or total thyroidectomy depending on the factors like symptomology.

Objectives: To compare the efficacy and morbidity of total thyroidectomy and subtotal thyroidectomy.

Methods: Prospective study done in GMKMCH from June 2012 to June 2014.

Results: Based on symptomology decision to do either a subtotal or total thyroidectomy were performed, in compressive symptoms in MNG involving both lobes total thyroidectomy was preferred especially in endemic goitre, subtotal done in MNG without compressive symptoms. No permanent recurrent laryngeal nerve palsy noted in both groups. But transient hypoparathyroidism occur in both groups

Conclusion: Total thyroidectomy is a safe choice for the benign MNG disease with euthyroid state and it provide a radical but definitive control of disease without risk of recurrence. In experienced hand total thyroidectomy assures total relief of compressive symptom and comparable low incidence of major complications.

INTRODUCTION:

Although there has been increased acceptance for performing total thyroidectomy for well differentiated thyroid carcinoma, surgeons still continue to debate whether the potential benefits outweigh the potential complications.(1,2) there are still some who argue that total thyroidectomy is an operation that is almost never justified (3).The use of total thyroidectomy for benign thyroid disease is therefore even more controversial although there are increasing numbers of reports recommending its use for bilateral benign multinodular goitre.(4)

Nowadays total thyroidectomy is being accepted for the management of multinodular goitre with euthyroid state but indication are not well defined. Multinodular goitre especially in endemic iodine deficient region frequently involve the whole gland, there is no normal tissue left behind. Many surgeons prefer subtotal thyroidectomy for MNG owing to fact that the chance of permanent hypothyroidism are less, but recurrence in subtotal thyroidectomy is not uncommon and redo surgery increase the risk of morbidity because of fibrosis. On the other hand total thyroidectomy associated with temporary hypocalcemia and RLN palsy no chances of recurrence.

MATERIAL AND METHOD.

In the department of general surgery GMKMCH total no of 50 patients with multinodular goitre with euthyroid state were considered for surgical management from June 2012 to June 2014.

AIM AND OBJECTIVE:

The aim of the study to compare the efficacy and morbidity of total thyroidectomy and subtotal thyroidectomy.

Design of the Study – Prospective study.

ETHICAL CLEARANCE obtained.

CONSENT: Informed consent obtained from the participants.

INCLUSION CRITERIA:

All cases presenting in surgery department with clinical and radiological features of MNG which was diagnosed cytologically, with euthyroid state .

EXCLUSION CRITERIA

Thyroid malignancies

Toxic goitre

Solitary nodule thyroid.

DATA COLLECTION



Detailed history and clinical examination
Lab investigations(CBC/RFT/BT,CT/BLOOD GROUPING)
X-ray chest/neck
FNAC
TFT
Indirect laryngoscopy
Serum calcium

RESULTS:

Based on the symptomatology the decision to do either a subtotal or total thyroidectomy were performed. In compressive symptoms with MNG involving both lobes total thyroidectomy was preferred especially in endemic goitre. Subtotal thyroidectomy done in MNG without compressive symptoms. During surgery bleeding was variable in both the groups because some of the gland were very vascular. Meticulous dissection was used to minimise the bleeding. We did not record permanent RLN palsy either of the groups but temporary RLN palsy noted in both the groups. No permanent hypoparathyroidism was recorded but transient hypoparathyroidism was recorded in 5(20%) patients of total thyroidectomy and 4(16%) patients of subtotal thyroidectomy which was managed with calcium preparations. $p\text{value}=0.375(>0.05)$

1 patient(4%) was found to be having hematoma in subtotal thyroidectomy managed conservatively, no one in total thyroidectomy group.

Stitch granuloma was reported in 1 patient (4%) in subtotal thyroidectomy and managed conservatively.

The incidental papillary carcinoma was found in 2 patients(8%) of total thyroidectomy and no malignancy in subtotal thyroidectomy. But recurrence was found in a short span of 2 years in 3 patients(12%) in subtotal and surgery was done. 76% of TT were devoid of complication when compared to only 44% of ST without complications $p\text{value}=0.001$.

DISCUSSION:

The surgical management of benign MNG with euthyroid state is still controversial. Many modality of treatment like TT, NTT, ST, HT. The indication for TT for MNG are not well defined. MNG involving both lobes, compressive symptoms and nodules with suspected malignancy TT is recommended.

ST is best effective in older patients to avoid total and permanent dependence of the drugs. Also ST is of low incidence with RLN palsy. The incidence of permanent RLN palsy after ST AND TT varied from 0% to 1% and 0% to 1.3% respectively.

In our study there is no permanent hypoparathyroidism was noted. However transient hypoparathyroidism noted in 5(20%) patients and 4(16%) patient in TT and ST groups respectively.

Ambrose et al found that recurrence was inversely related to extent of resection. Recurrence after ST vary as much as 14%. Ozbas et al reported administration of L-thyroxine in all cases of TT AND ST efficiently prevents recurrence. In our study recurrence was 16%.

Equal rate of complication reported in TT AND ST which was consistent with the result of our study except recurrence, stitch granuloma, pain over scar site which are high in ST.

OBSERVATION

1. There is no significance difference in age, sex, duration of surgery, postoperative period in both groups.
2. No permanent hypocalcemia or RLN palsy in both cases.
3. Temporary hypocalcemia, RLN palsy present in both groups but there is no significant difference in both groups.
4. Recurrence present in ST group significantly.
5. Stitch granuloma, haematoma, pain in the scar site present in ST groups but no significant difference in both groups.
6. Incidental papillary carcinoma was found in TT groups.

CONCLUSION;

Total thyroidectomy is a safe choice for both the benign MNG with euthyroid state and it provide a radical but definitive control of disease without risk of recurrence. But ST associated with variable outcome with risk of recurrence. In experienced hand TT assures total relief of compressive symptoms and comparable low incidence of major complications.

REVIEW OF LITERATURE

HISTORICAL REVIEW

Goitres were recognized in antiquity and were described in Chinese literature in 2700BC.



The legendary Chinese emperor shen-nung(2838-2698)BC in his book Pen TSAO TSING(A Treatise on herbs and roots) is said to mention the sea weed Sargassum an efficient remedy for goitre.

The first accounts of thyroid surgery for goitres were given by RogerFrugardi in1170.

In the 12th and 13th centuries the school of Salerno in Italy was the cradle of thyroid surgery. At that time goitres were removed using horrific sounding instruments like setons, hot iron, stytics and asphodel powder. The American surgeon WILLIAM HALSTED did 8 operations where scalpel was used between1596 and1800.

In 1821 Hedenus reported successful removal of 6 suffocating goitres by dissection and ligation of all the arteries.

In 1849 Nikolai Pirogoff of St Petersburg was the first to use general anaesthesia for the thyroid surgery.In1850 the French Academy of Medicine condemned operations on thyroid gland.

Thomas Peel Dunhill performed thyroidectomy in 1907 under local anaesthesia.

In1909 Kocher was awarded the NOBELPRIZE for MEDICINE in recognition for his work on the physiology, pathology and surgery of the thyroid gland.

1930 Martin and Eliis first described FNAC of thyroid.

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