



## Original Article

# COMPLICATIONS OF TOTAL THYROIDECTOMY IN 50 CASES IN THE DEPARTMENT OF ENDOCRINE SURGERY IN BSMMU

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### Abstract:

**Objective:** To determine the complications of the patients undergoing total thyroidectomy.

**Method:** A prospective study was held at Department of Endocrine Surgery in BSMMU from January 2006 to December 2006

**Method:** Fifty patients with multinodular goiter and carcinoma thyroid of both sexes were selected from admitted patient of endocrine surgery department. All patients were evaluated preoperatively and total thyroidectomy was done and post operative was followed up. Out of 50 patients 35 patients were female and 15 patients male, male – female ratio 1:2.3. 40 patients were carcinoma thyroid, 10 patients were multinodular goiter. The overall incidence of postoperative complication in this series was 4. Out of 50 patients 1 patient developed haematoma. 1 patient developed wound infection and 1 patient developed transient tetany on 2<sup>nd</sup> postoperative day which was improved later on. 1 patient developed a thyroid nodule 6<sup>th</sup> month after total thyroidectomy for carcinoma thyroid. In long term from total thyroidectomy 40 patients were followed up, 10 patients did not attend an subsequent follow up. Out of 40 patients 36 patients were out of complication.

**Conclusion:** The results are comparable with the current published data and demonstrate that total thyroidectomy can be performed with minimum complication rate.

**Keywords:** Total thyroidectomy, Outcome.

### Introduction

Bangladesh is an endemic area for iodine deficiency goiter. Many patients present with diffuse or multinodular goiter. In many cases non neoplastic goiter present as a solitary thyroid nodule (STN). Most of the STN are benign few are malignant.

The mortality rate from thyroid surgery during the 1800s was approximately 40%<sup>1</sup>. Most of the death was caused by infection and hemorrhage. Sterile operative areas, general anesthesia, and improved surgical

techniques have made death due to thyroid surgery extremely rare today. Theodor Kocher, Theodor Billroth, and William S. Halsted are just a few of the names intimately associated with the development and refinement of thyroid surgery. Their contributions helped make thyroid surgery a less-feared and better-understood procedure<sup>1</sup>.

While the complication rate of thyroid surgery has certainly decreased, surgeons must nevertheless maintain a healthy respect for the possibility of such complications. Patients must be counseled appropriately and preoperatively regarding potential complications. They must be well aware of the surgical risks they are to undertake. By developing a thorough understanding of the anatomy and of the ways to prevent each complication, the surgeon can minimize

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each patient's risk. By understanding the presentation and treatment of each complication, the surgeon can handle complications expediently and avoid worse consequences.

### Methods:

Prospective study was done in the department of surgery, Bangabhandu Sheikh Mujib Medical University, Dhaka from January 2006 to December 2006. 50 patients with Multinodular goiter and carcinoma of thyroid of both sexes were selected from admitted patients. All patients were evaluated preoperatively and total thyroidectomy was done and postoperative followed up for duration study period.

### Results

**Table-I**  
*Age incidence (n=50)*

Age (year)	Number of patients	Percentage (%)
11-20	5	10
21-30	11	22
31-40	20	40
41-50	9	18
51-60	5	10

In this series of 50 patients age range from 15 to 60 years. There was no patient after 6<sup>th</sup> decade. Most of the patients were between 21-46 years of age with maximum incidence in the 4<sup>th</sup> and 3<sup>rd</sup> decade.

**Table-II**  
*Sex incidence (n=50).*

Sex	Number of patients	Percentage (%)
Male	15	15
Female	35	35

**Table-V**  
*Diagnosis and types of operation (n=50).*

Diagnosis	Total thyroidectomy	Total thyroidectomy with berry pricking	Number of patients	Total
Simple multinodular goitre	10	0	0	10
Carcinoma thyroid	30	5	5	40
Total	40	5	5	50

In this series total thyroidectomy was carried out in 40 patients. Total thyroidectomy with berry pricking 5 patients and near total thyroidectomy 5 patients.

Table-II shows that out of 50 cases 35 patients (70%) were female and 15 patient were male (30%).

In this series thyroid disease was prevalent among female which shows a similarly of incidence with other studies and Textbook, female to male ratio in this series is 2.3:1.

**Table-III**  
*Age, sex, relationship (n=50).*

Age group years	Male		Female		Total
	No.	%	No.	%	
11-20	0	0	5	10	5
21-30	3	6	8	16	11
31-40	8	16	12	24	20
41-50	3	6	6	12	9
51-60	1	2	4	8	5

In table-III incidence of thyroid disease in male and female patients according to different age groups has been shown in all group. Incidence was quite high among the female patients.

**Table-IV**  
*Types of thyroid disease where surgery was carried out (n=50).*

Types of thyroid disease	Number of patients	Percentage (%)
Simple multinodular goitre	10	20
Papillary carcinoma	26	54
Follicular carcinoma	13	26
Medullary carcinoma	1	2

Table-IV shows the type of thyroid disease for which patients were submitted to surgical intervention (total thyroidectomy). In this series out of 50 patients, 10 patients had simple multinodular goitre.

26 patients had papillary carcinoma (54%). 13 patients follicular carcinoma (26%). 1 patient was medullary carcinoma (2%) which as confirmed by histopathological examination.

**Table-VI***Complication of total thyroidectomy (n=50).*

Complication	Number of	
	patients	Percentage (%)
Wound infection	1	2
Haematoma	1	2
Hypoparathyroidism- Temporary	1	2
Permanent	0	0
Recurrent laryngeal nerve paralysis		
Temporary	1	2
Permanent	0	0
Discharging sinus	0	0
Total	4	8

Table-VI shows different types of complication with an overall incidence is 8% out of 50. 1 patient developed hematoma (2%). 1 patient developed temporary recurrent laryngeal nerve paralysis (2%) and shows significant improvement and 1 patient (2%) developed transient tetany (2%) on 2<sup>nd</sup> post operative day which was improved later on. 1 patient (2%) developed wound infection and later improved.

**Table-VII***Local recurrence in carcinoma thyroid (n=40).*

Total number of patients	Recurrence	
	Number of patients	Percentage (%)
40	1	2.5

In this series 40 patients of thyroid carcinoma, subsequent follow up revealed that 1 patient developed recurrence after total thyroidectomy. Recurrence rate in this series was (2.5%).

**Table-VIII***Post operative follow up (n=40).*

State of patients at subsequent follow up	Number of patients	Percentage (%)
Free of complication	36	90
Local recurrence needs repeated surgery	1	2

In this series of 50 patients, 10 patients did not attend in the subsequent follow up. So 40 patients were

followed up subsequently up to an average period of 6 months after operation. Out of 40 patients 36 (90%) remain free of complication.

1 (2%) patient developed local recurrence which was subsequently diagnosed by FNAC, needed repeated surgery.

**Table-IX**  
*Mortality (n=50)*

Total number of patients	Number of patients	Percentage (%)
50	0	0

Table- IX shows- there is no death in this series.

### Discussion

In this study 50 patients were included who had undergone surgical treatment for various thyroid disorders in surgical dept. in BSMMU, Dhaka from January 2006 to December 2006. The diagnosis of all these cases were established preoperatively by various thyroid function test and later confirmed by histological examination.

Age of the patient ranged from 11 to 60 years. 5 patients (10%) were between 11-20years. 11 patients (22%) were between 21 to 30 years age group and 20 patients (40%) in between 31 to 40 years age groups and 9 patients (18%) were 41 to 50 years age group 5 patients (10%) were between 51 to 60 age groups with maximum incidence in 4<sup>th</sup> and 3<sup>rd</sup> decade. (Table-I) Lalida<sup>2</sup> et al. in his study of 361 patients found that, age ranged from 15-82 years and Siddique in his study found a maximum incidence in 4<sup>th</sup> and 5<sup>th</sup> decade in our country.

In this series out of 50 patients female were 35 (70%) male 15 (30%) female to male ratio 2.3:1 there was a female preponderance in this series that was firmly consistent with the study of Lalida<sup>2</sup> in all age group incidence of thyroid disease were quite higher in female.

10 patients in this series presented with simple multinodular goitre (20%) patient with thyroid carcinoma with or without metastasis (Table-IV) out of 40 patients of thyroid carcinoma 27 had papillary carcinoma (54%) and 13 patients with follicular carcinoma (26%) and 1 had medullary carcinoma (2%) which was confirmed by histopathological examination.

Out of 50 cases 4 patient developed post operative complication (Table-VI) of this 1 patient developed post operative haemorrhage. It was due to oozing from remaining thyroid tissue and wound surface.

Haemorrhage into the thyroid bed following thyroidectomy is a life threatening condition<sup>4</sup>. Respiratory distress from a wound haematoma should be managed by opening the wound at the bed side, if necessary and evacuating the haematoma.

During operation, haemorrhage can be avoided by positioning, the patient with the neck hyper extended and the head of the operating table elevated at 30°. This position provides excellent exposure and reducing cervical venous pressure. Substantial blood vessels in the operative field should be tied with fine silk ligature. Whereas small vessels can be managed with the bipolar diathermy<sup>4</sup>, also should that application of methylcellulose (Surgicel) can be used to effectively manage bleeding from the cut surface of the thyroid gland. Most surgeons favours the use of a small-caliber closed Suction drain for the fist 24hours to remove blood and serum from operative bed.

Hoarseness of voice occurs in 1(2%) cases and recovered within 3 month. 1 patient developed transient tetany on 2<sup>nd</sup> postoperative due to hypocalcaemia

Out of 50 patients 1 patient developed wound infection. Which was improved by dressing and antibiotics.

In this series 40 patients with carcinoma thyroid. After completion of treatment of 40 carcinoma thyroid patients, one of them presented with local recurrence and managed by surgery with radioiodine ablation.

In long term thyroid surgery 40 patients were followed up subsequently up to an average interval of 6 month after operation. (10 patients did not attend in subsequent follow up). Out of 40 patients, 36(90%) patients were free of complication. 1 patient (2%) had local recurrence.

So this study indicate that thyroid surgery can be performed with acceptable morbidity under the prevailing circumstances.

Gould et al. reviewed 1000 patients operated a consecutively by large group of surgeon over 5 years period and reported no hospital death.

There was no death in our series.

## Conclusion

In conclusion, the outcome of total thyroidectomy for multinodular goitre (MNG) and carcinoma thyroid can be performed safely in the majority of patients<sup>5</sup>. We can say that total thyroidectomy for Multinodular Goitre can be performed in endocrine surgery department, definitive complication rate of 4%<sup>35</sup>. The scope of endoscopic method which is available in BSMMU. A thorough knowledge of potential surgical complication are mandatory for the thyroid surgeon.

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