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Original Article

Thyroid Surgery under Local Anaesthesia: Study of 30 Cases

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Abstract

Background: Thyroidectomy is usally done under general anaesthesia. **Objective:** The purpose of the present study was to present our experience and evaluate effectiveness of thyroid surgery under local anaesthesia. **Methodology:** This is a cross-sectional study carried out in upazila health complex, Boalkhali, Chittagong and 250 bed General Hospital, Chittagong since January 2013 to December 2015. 30 patient underwent thyroidectomy for benign and malignant diseases under local anaesthesia. All patients are adult from 20 to 60 years, examined thoroughly investigated accordingly, euthyroid or made euthyroid, normotensive or made normotensive. Each patient was given Tab. Bromazepam 3mg at night before the day of surgery and repeated in morning on the day of surgery. Half an hour before the surgery patient is given injection Pethidine 1mg/kg I.M, injection Ketorolac 30mg I.V, injection Ranitidine 50mg I.V, injection Ondansetron 8mg I.V, injection Ceftriaxone 1gm I.V. **Result:** Among 30 patients male 8, female 22. Male-Female ration 1:2.75. Mean age 33.8 years. Mean lesion size 5.95cm. Mean Operation time: 91min. Surgery included hemithyroidectomy 18, subtotal thyroidectomy 8, total thyroidectomy 6. Post operative complication included infection in 1 and haematoma in 1 case. **Conclusion:** In our study thyroidectomy under local anaesthesia found effective and safe in a setup of limited anaesthesia facilities and safe alternative where general anaesthesia is contraindicated. [*Journal of Current and Advance Medical Research 2016;3(2):56-59*]

Keywords: Throidectomy; local anaesthesia; thyroid surgery; thyroid gland

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Introduction

Thyroidectomy is usally done under general anaesthesia now a days. Initially it was done under local anaesthesia[1]. General anaesthesia for thyroid surgery is safer but recently local anaesthesia is becoming popular[2]. Local anaesthesia avoids complication of general anaesthesia like nausea, vomiting in post operative period, causes rapid recovery from the operation[3]. Local anaesthesia is cost effective, easy to administer, less hospital stay and less complication[4]. Many studies reported thyroidectomy under local anaesthesia where general anaesthesia had high risk. In case of local anaesthesia analgesia continues in post operative period reducing the dose of post operative

analgesic. Few surgeons in the west are doing thyroid surgery under local anaesthesia exclusively[5].

Methodology

This cross-sectional study was done in Upazila health Complex, Boalkhali, Chittagong and 250 bed General Hospital, Chittagong from January 2013 to December 2015. Age was 20 to 60 years of both male and female. Very young and old were not included in this study as because they may not cooperate during operation under local anaesthesia. Patients were euthyroid or made euthyroid before operation. Meticulous history taken. Relevant investigations done i.e CBC, BT, CT, RBS, HbsAg, Blood grouping, Serum Creatinine, T3, T4, TSH, Urine routine examination, Ultrasonography of thyroid/thyroid scan, X-Ray Chest P/A view, ECG, FNAC of thyroid swelling. All patients were explained about the procedure and informed consent was taken. To minimize anxiety one tablet Bromazepam 3mg given at night before and repeated in morning on the day of surgery. Just before operation injection 5% Dextrose Saline 1000cc at the rate of 30 drops/min, injection Pethidine 1mg/kg I.M, injection Ketorolac 30mg I.V, injection Ranitidine 50mg I.V, injection Ondansetron 8mg I.V, injection Ceftriaxone 1gm I.V given. During operation infiltration anaesthetic Xylocaine with Adrenalin 2% used not exceeding 7mg/kg. The local anaesthetic given in anterior border of sternomastoids, incision line, superior and inferior skin flaps. After operation negative suction drain kept in situ in all cases, removed after 48 hours. Thyroid lesion size which was not more than 10 cm in ultrasonography or thyroid scans and age within 20 to 60 years were included in this study. Patients with the age of below 20 or above 60 years, lesion more than 10 cm in Ultrasonography/Thyroid scan or regional or distant metastasis, recurrence, significant retrosternal extension, chronic cough or obese short neck were excluded from this study. Patients had satisfaction during discharge from the hospital. Stitches removed on 7th post operative day. Post operative follow up revealed no other complication later on. Data analysis was done by using IBM-SPSS Statistics V.20.0 for windows.

Results

A total number of 30 patients with benign and malignant thyroid disease were operated under local anaesthesia. Among 30 patient male was 8 and female was 22. Male-Female ratio is 1:2.75. Age was from 20 to 60 years. The mean age was 33.8 years. Lesion size was 2.5 cm to 10cm. Mean lesion size 5.95cm. Operation time 70min to 120min.

Table 1: Distribution of Socio-Demographic Factors Among the Study Subjects (n=30)

Socio-demographic Factors	Frequency	Percentage
Sex		
Male	08	26.7
Female	22	73.3
Age Groups		
< 30 years	12	40.0
30-40 years	11	36.7
> 40 years	07	23.3
Total	**30**	**100**
Mean±SD	33.80±10.46	
Range	20.5-60.0	
Median	30.50	

Table 2: Distribution of Operative Factors among the Study subjects (n=30)

Operative Factors	Frequency	Percentage
Operative Types		
Hemi Thyroidect.	16	53.3
Subtotal Thyroidect.	08	26.7
Total Thyroidect.	06	20.0
Post-operative Complications		
Haematoma	01	3.3
Wound Infection	01	3.3
Nil	28	93.4
Total	**30**	**100.0**

Thyroidect=Thyroidectomy

Table 2a: Mean with Standard Deviation of Different Variables (n=30)

Variables	Mean±SD	Median	Range
Lesion Size (cm)	5.95±2.19	5.45	2.5-10.0
Operation Time (Min.)	91.03±14.29	89.00	70 – 120
Hospital Stay (Days)	2.47±0.51	2.00	2 - 3

Mean operation time was 91 min. One patient developed post operative haematoma and one infection which were successfully managed.

Table 3: Distribution of FNAC and Histopathology findings among the study subjects (n=30)

Variables	Frequency	Percentage
FNAC Findings		
Nodular Goitre	27	90.0
Papillary Carcinoma	03	10.0
Follicular Carcinoma	00	0.0
Histopathology Finding		
Nodular Goitre	25	83.3
Papillary Carcinoma	04	13.3
Follicular Carcinoma	01	3.3
Total	**30**	**100.0**

FNAC findings showed that the most common variant of thyroid swelling was the nodular goiter which was 27(90.0%) cases followed by papillary carcinoma which was 3(10.0%). Histopathology showed that nodular goiter was the most common type of thyroid abnormal growth which was 25(83.3%) cases followed by papillary carcinoma which was 4(13.3%) (Table 3).

Table 4: Distribution of FNAC and Histopathology Diagnosis among the Study Subjects (n=30)

Variables	Frequency	Percentage
FNAC Diagnosis		
Benign Lesion	27	90.0
Malignant Lesion	03	10.0
Histopathology Diagnosis		
Benign Lesion	25	83.3
Malignant Lesion	05	16.7
Total	**30**	**100.0**

Table 5: Association between FNAC and Histopathology diagnoses among the study subjects (n=30)

FNAC Diagnosis	Histopathology Diagnosis		Total
	Benign Lesion	Malignant Lesion	
Benign Lesion	24	03	27
Malignant Lesion	01	02	03
Total	**25**	**05**	**30**

χ^2 test Significance : $\chi^2 = 6.000$; P = 0.014; Significant

Table 6: Distribution of lesion size, operation time and post operative hospital stay among the study subjects according to Histopathology diagnoses (n=30)

Lesion Size (cm)	N	Mean	±SD	Median	Range
Benign Lesion	25	5.52	1.72	5.30	2.7 – 8.2
Malignant Lesion	05	8.10	3.15	9.20	2.5 – 10.0
Total	**30**	**5.95**	**2.19**	**5.45**	**2.5 – 10.0**

Independent Samples t-test significance: t = 2.652; P = 0.013; Significant

Operation Time (Minutes)	n	Mean	±SD	Median	Range
Benign Lesion	25	88.44	12.57	87.00	70 – 116
Malignant Lesion	05	104.00	16.73	100.00	80 – 120
Total	**30**	**91.03**	**14.29**	**89.00**	**70 – 120**

Independent Samples t-test significance: t = 2.397; P = 0.023; Significant

Hospital Stay (Days)	n	Mean	±SD	Median	Range
Benign Lesion	25	2.44	0.51	2.00	2 – 3
Malignant Lesion	05	2.60	0.55	3.00	2 – 3
Total	**30**	**2.47**	**0.51**	**2.00**	**2 – 3**

Independent Samples t-test significance: t = 0.637; P = 0.529; Not Significant

Discussion

Introduction of local anaesthesia by Koller in 1884, its techniques has been developed progressively. It is now accepted as a modality of choice in different surgical fields[6-8]. Local anaesthesia is a safe alternative of general anaesthesia. This study was carried out to share our experience with local anaesthesia concerning the safety and outcome in thyroid surgery. Accidental intravenous infection of local anaesthesia may cause seizure activity[9]. Any signification complication of local anaesthesia was not found except nausea in few patients managed immediately. Similar result reported by Hisham et al[10]. Quick post operative recovery and short hospital stay reduces the cost of operation. Under local anaesthesia complication of general anaesthesia like hazards of endotracheal complication, side effects of anaesthetics, injury to recurrent laryngeal nerve can be avoided. Injury to recurrent laryngeal nerve can

be avoided by voice monitoring during operation under local anesthesia as well as cardiac changes[4, 11].

In this present study some patients showed anxiety which was minimized by proper counseling. During operation some patients complained of pull and pressure in the neck[12]. In our study male and female ratio is 1:2.75. In a study it was found 1:3[13] which is almost similar to our study. In our study mean age of patient is 33.80 years which is consistent to 34.5 years in a study[14]. In this present study mean lesion size is 5.95cm which is similar to another study (5.26cm)[15]. Post operative complication is 6.6% in this study which is 6% in other study[16]. Mean operation time in our study is 91 minutes which is 109 minutes in another study[17]. This more operation time may be due to large size of the lesion. In our study mean post operative hospital stay is 2.47 days which is consistent to other study (2 days)[18].

Histopathologically, this present study reveals 16.6% malignant thyroid which is 12% in a study[15]. This may be due to our smaller sample size. In our country where majority of patients are poor and limited number of anaesthesiologist are there thyroidectomy under local anaesthesia is economically feasible.

Conclusion

Local anaesthesia is simple to perform and complication is less than general anaesthesia. Thyroid surgery can be done under local anaesthesia and more suitable when general anaesthesia is contraindicated. It is cost effective and becoming popular modality of thyroid surgery whole over the world.

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