



Surgery

ASSOCIATION OF POST OPERATIVE COMPLICATIONS AFTER THYROIDECTOMY WITH PATIENTS' SATISFACTION WITH THE TREATMENT'S RESULTS AND DURATION OF HOSPITAL STAY, IN A TERTIARY CARE FACILITY OF EASTERN INDIA

Dr. Tejaswi Mishra M.S.(Gen Surgery), Assistant Professor, PGIMER & Capital Hospital, Bhubaneswar

ABSTRACT **Background:** One of the most frequently performed surgeries in the world; thyroidectomies are performed by a variety of qualified surgeons in specialties including general surgery, endocrine surgery, otolaryngology, thoracic surgery, head and neck surgery, and oncological surgery. As surgical techniques advance, the length of hospital stays following thyroidectomies gradually get shorter. The study is aimed to find the association of post operative complications with hospital stay and patients satisfaction. **Methods:** A total of 107 individuals who undergone thyroidectomies and met the inclusion criteria were enrolled in this cross-sectional, retrospective, record-based study using the convenience sample technique. A tertiary care hospital was the site of this study from January 2021 to December 2021. After receiving ethical approval from the institutional ethics committee, data were extracted from medical records using a data extraction form designed by the researcher. The discharge criteria was stable vital signs; apyretic; no wound or airway problems; tolerating diet; and established autonomy at discharge. Data was collected regarding patients' discharge criteria status, length of hospital stay and patients satisfaction level after surgery from the hospital record. Epi Info software (Atlanta, GA: Centres for Disease Control and Prevention) was used to evaluate the data; a p-value of 0.05 was considered to be statistically significant. **Results:** Out of 107 patients, 98.13% of the patients met the established discharge criteria while 2 patients failed the discharge criteria as they could not tolerate the diet during the immediate post-operative period. They required an additional stay in hospital as compared to rest of the patients. The association between major complication following surgery and patients whose hospital stay was less than 10 days was found to be statistically significant ($p < 0.05$). Among 107 patients, who has undergone surgery, 80.3% were satisfied after surgery and 15.9% of the patients were highly satisfied with their surgery. **Conclusion:** With the major complications following surgery, the satisfaction level was found to be statistically significant. The prompt identification of this disease and the early use of complementary therapies prevented the symptoms and long-term issues. In this study, a statistically significant relationship between serious complications following surgery and patients with hospital stays less 10 days was found.

KEYWORDS : hospital stay, patient satisfaction, complications, thyroidectomy

INTRODUCTION

Thyroidectomies are among the procedures performed most often worldwide. Studies estimate that 42 million people in India suffer from thyroid disorders [1-2]. With improvements in anesthesia, immediate postoperative care, and surgical techniques during the past ten years, the length of hospital stays following surgical procedures has significantly decreased [3].

Cost savings, shorter inpatient wait lists, more beds available for inpatients, less postoperative complications, and the psychological advantage of avoiding lengthy hospital stays are all advantages of this practice. Patients having thyroid surgery are often monitored for up to 72 hours before their discharge [4]. Patients with drains may require a longer post-operative hospital stay [5]. Following a thyroidectomy, certain conditions can be utilized to determine whether a patient can be discharged, including stable vital signs, no wound or airway issues, the ability to tolerate nutrition, ambulation, and the ability to do at-home and self-care tasks, as well as a rising post-operative three-point serum calcium curve [6].

To the best of our knowledge and after reviewing the most recent medical literature, no research has been done on the length of hospital stays and thyroidectomy complications in Odisha, India. The aim of this study was to evaluate length of hospital stay in our experience, its relationship with complications observed and feasibility of short-stay hospitalization regimen.

Objectives

1. To assess the association of complications as a predictor for longer hospital stay.
2. To find the satisfaction level after thyroid surgery

MATERIALS & METHOD

A cross sectional, record based, retrospective study was done among 107 operated thyroid surgery patient in general surgery department, of the selected tertiary care hospital during January 2021 to December 2021. During the study period of the total 124 patients were operated for thyroid. 107 satisfied the inclusion criteria & comprised the final sample size. The sampling technique used was convenience sampling. Data was extracted using the researcher-made extraction form, from the patient's medical records, manually. All information related to the hospital stay for post-thyroidectomy complications was recorded.

The study covered all thyroid surgery cases that had complete medical records and the appropriate record. Chronic kidney illness, preoperative hypoparathyroidism, a history of dysphonia, and

recurrent thyroid surgery were the exclusion criteria.

Operational Definitions

"Major Complications of thyroid surgery": Temporary recurrent laryngeal nerve, Permanent recurrent laryngeal nerve, Temporary hypoparathyroidism, Permanent hypoparathyroidism, Incision site infections, Bleeding, Hematoma, Flap edema, Seroma, Superior laryngeal nerve injury, Systemic complications, Organ injury.

Statistical Analysis

The collected data were entered into a Microsoft Excel spreadsheet and analyzed using Epi Info software (version EnUS 7.4.2.1) (Atlanta, GA: Centers for Disease Control and Prevention). All categorical variables were expressed as frequency and proportion. Descriptive statistics were expressed as mean $\pm$ SD, with range. A chi-square test and Fisher's exact test were used as tests of association, with <0.05 considered to be statistically significant.

Ethical Considerations

Ethical approval for this study was obtained from the institutional ethics committee (No. 1159/chairman-IEC, MKCG, Medical College).

Table 1: Association Of Age, Gender And BMI Of Study Participants With Complications (n=107).

Variable	Complications present (n=92)	Complications absent (n=15)	P value
Age group (years)			
18-24 (n=18)	13(72.3%)	5(27.7%)	0.14#
25-34 (n=41)	37(90.2%)	4(9.8%)	0.46#
35-44 (n=24)	21(87.5%)	3(12.5%)	0.92*
45-54 (n=15)	13(86.6%)	2(13.3%)	0.75*
55-64 (n=9)	8(88.8%)	1(11.2%)	0.81*
Gender			
Male (n=35)	32(91.4%)	3(8.6%)	0.41#
Female(n=72)	60(83.3%)	12(16.7%)	
BMI			
Underweight (n=4)	4(100%)	0	0.92*
Normal (n=60)	52(86.7%)	8(13.3%)	1.0#
Overweight(n=31)	27(87.1%)	4(12.9%)	0.92#
Obese(n=12)	9(75%)	3(25%)	0.47*

*using fischer exact test for association

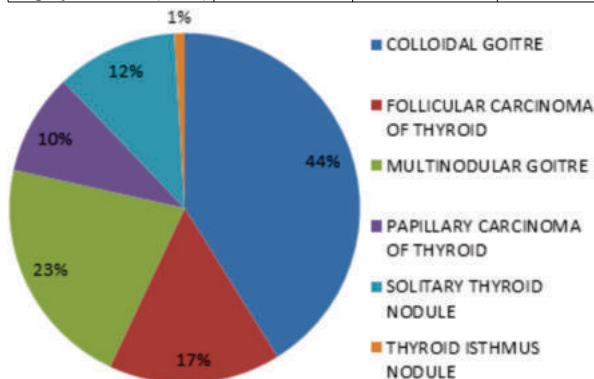
using chi square test for association

Table 2: Association Of Hospital Stay With The Major Complications

Duration of hospital stay	Complications present	Complications absent	P value
<3 days (n= 43)	31	12	0.001
3-10 days (n=63)	60	3	0.002
>10 days (n=1)	1	0	0.298

Table 3: Association Of Satisfaction Level After Surgery With Major Complications

Satisfaction level after surgery	Complications present	Complications absent	P value
Not Satisfied (n=4)	4	0	0.920
Satisfied (n=86)	78	8	0.011
Highly satisfied (n=17)	10	7	0.001

**Figure 1: Diagnosis Of Thyroid Conditions****Table 4: Patient's Outcome (n=107)**

S.no.	Discharge Criteria	No.(%)
1.	Stable vitals sign	107(100)
2.	Apyretic	107(100)
3.	No surgical site problem	107(100)
4.	No airway problem	107(100)
5.	Tolerating diet	105(98.1)
6.	Ambulating and self care activities	107(100)

RESULTS

Majority of the 107 patients were between the ages of 25 and 34 years, and there were more female patients than male patients. 60 (56.07%) of the 107 patients had a normal BMI. In this study, (Fig 2) 44% of the patients were diagnosed with colloidal goitre, 23% were diagnosed with multi nodular goitre, 17% were diagnosed with follicular carcinoma of thyroid, 12% were diagnosed with solitary thyroid nodule, 10% with diagnosed with papillary carcinoma of thyroid and only 1% were diagnosed with thyroid isthmus nodule.

40.2% of patients had hospital stays of fewer than 3 days, while 58.9% of patients had stays of between 3 and 10 days 15.9% of the patients had hospital stays more than 10 days. The association between major complication following surgery and patients whose hospital stay was less than 10 days was found to be statistically significant ($p < 0.05$).

Among 107 patients, (table 3) who has undergone surgery, 80.3% were satisfied after surgery and 15.9% of the patients were highly satisfied with their surgery. Satisfaction level was found to be statistically significant with the complications after surgery.

DISCUSSION

In the majority of patients, thyroid surgery can be performed successfully with a short hospital stay schedule. Although early discharge has a positive influence on quality of life, there are no drawbacks to lowering the period of stay, except in the event that major complication does arise.

In this study, females outnumbered males. Despite the fact that more women had thyroidectomies, problems were more frequent in the male individuals. In Saudi Arabia, Alqahtani et al. discovered that among all patients who had thyroidectomies, females reported higher problems than males [7]. 70 of the 80 patients in a 2013 research by Pandey et al. were females [8]. In a research conducted in 2021 by Alqahtani et al., 151 of the 182 patients were females [7]. The operational classification

of the problems may be the reason for this discrepancy.

In our study BMI was not associated with complications after thyroid surgery similar results were found in a study done in Boston in the year 2022 by Magdalena et.al. over 362 patients where thyroid surgery was not associated with BMI [9].

In actuality, the symptom and long-term problems were avoided by the prompt diagnosis of this condition (within the first 24 hours following surgery) and the early start of complementary therapies. In this study the association between major complication following surgery and patients whose hospital stay was less than 10 days was found to be statistically significant ($p < 0.05$). No studies could be found out which aimed at the association of the complications after thyroidectomy with the hospital stay.

In this study patient's who has undergone surgery, 80.3% were satisfied after surgery and 15.9% of the patients were highly satisfied with their surgery. Satisfaction level was found to be statistically significant with the major complications after surgery. Similar study done in Philippines in the year 2019 by Mahir Gachabayon et.al Ninety-seven percent of patients were satisfied with outcomes of surgery [10].

CONCLUSION

To sum up, in the study we conducted, the most common diagnosis was colloidal goiter, followed by multinodular goiter. Although there were post-operative complications, they were effectively controlled and the majority of patients reported being satisfied with their surgery. This may be due to the surgeon's skill and good care given while they were hospitalized. With the major complications following surgery, the satisfaction level was found to be statistically significant. The prompt identification of this disease and the early use of complementary therapies prevented the symptoms and long-term issues. In this study, a statistically significant relationship between serious complications following surgery and patients with hospital stays less 10 days was found.

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