



## Surgery

## A CASE STUDY OF POST OPERATIVE COMPLICATIONS OF THYROID

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**ABSTRACT** Thyroidectomy is a surgical procedure indicated as elective treatment for symptomatic thyroid swellings or neoplasms. Today most of the complications of thyroid surgery are related to either metabolic derangements or injury to the recurrent laryngeal nerve injury. Other complications include superior laryngeal nerve injury, infection, airway compromise, and bleeding. **Results:** Thyroid swelling was more common in females & in 3rd and 4th decades, Hemithyroidectomy was the most common procedure performed, followed by total and near total thyroidectomies. On histopathological examination most common finding was nodular goiter followed by multinodular goiter, follicular adenoma and malignancies. The post-operative complications after thyroidectomies were hypocalcemia, recurrent laryngeal nerve (RLN) injury, and surgical site infection. **Conclusions:** Careful evaluation of post thyroidectomy complications will help in reducing these complications.

## KEYWORDS :

## INTRODUCTION:

Thyroid surgery is one of the most commonly performed surgery for benign and malignant conditions of the thyroid gland worldwide<sup>1</sup>. Despite being performed frequently, thyroidectomy remains a technically demanding procedure<sup>2,3</sup>. Thyroidectomy is carried out for benign condition like hyper functioning of thyroid gland, degenerative disease like MNG and also for neoplastic condition (both differentiated and undifferentiated carcinomas of thyroid). Thyroid gland is closely related to vital structures like RLN and parathyroids. And parathyroids also receive same blood supply as thyroid gland receives that is from inferior thyroid artery. Thyroidectomy remains the third most common cause of bilateral vocal fold immobility and also a significant number of unilateral vocal cord paralysis are caused by it. Patients who develop complications such as permanent hypocalcemia and recurrent laryngeal nerve injury have a diminished quality of life and increased health costs.

## AIMS &amp; OBJECTIVES:

1. To study postoperative complications in all types of thyroidectomies irrespective of Indication carried out in Department of GENERAL SURGERY in Santhiram Medical College and Hospital from January 2020 to January 2022.

2. To evaluate Preoperative factors which are likely to influence on occurrence of postoperative complication rates. 3. To study incidence of various Complications and time of onset in relation to date and time of surgery. 4. To study length of hospital stay of patients with different postoperative complications. 5. To study management and outcome of each complication during the study period.

## METHODS:

It is a prospective study. The details of the patient were recorded according to proforma. Patient particulars are noted. The chief complaints were recorded in chronological order and history asked in detail along with past history, family history and personal history. The mode of onset of goitre, its progression whether associated with pain, sudden enlargement of swelling were asked in detail. Any symptoms suggestive of hypo or hyperthyroidism and of pressure effects is taken. Medication history and history of any previous irradiation is taken. General physical examination, local examination and systemic examination done Indication for surgery and risk factors for postoperative complications were noted. Suction drains usually removed when drain is less than 20ml and serous.

## Inclusion Criteria:

All patients who are posted for thyroid surgery in SANTHIRAM MEDICAL COLLEGE AND HOSPITAL

## Exclusion Criteria:

Patients with previous thyroid surgeries and anaesthetic complications.

## RESULTS:

The present study was done in 50 patients who were admitted and operated in SANTHIRAM MEDICAL COLLEGE AND HOSPITAL during the study period from January 2020 to January 2022.

| Symptoms                   | No.of Cases | Percentage |
|----------------------------|-------------|------------|
| swelling                   | 44          | 88         |
| swelling+pain              | 3           | 6          |
| swelling+palpitations      | 2           | 4          |
| swelling+pain+palpitations | 1           | 2          |
| total                      | 50          | 100        |

| DIAGNOSIS              | NO.OF CASES | PERCENTAGE |
|------------------------|-------------|------------|
| MNG                    | 24          | 48         |
| PRIMARY THYROTOXICOSIS | 2           | 4          |
| PAPILLARY CA           | 7           | 14         |
| FOLLICULAR ADENOMA     | 6           | 12         |
| FOLLICULAR CA          | 4           | 8          |
| DIFFUSE COLLOID GOITRE | 3           | 6          |
| HASHIMOTOS THYROIDITIS | 4           | 8          |

## Histopathological Diagnosis

The commonly performed procedure in our study was Total thyroidectomy was done 36 cases out of 50 cases (72%). Hemi thyroidectomy was the second most commonly performed 13 cases (26%). Total thyroidectomy with lymph node dissection was done in one case (2%).

No intervention procedure was required in 40 cases (80%). Oral Calcium and Vitamin D therapy combined with intravenous Calcium gluconate were instituted in 10 of our cases who showed evidence of both clinical and biochemical hypocalcemia. All the patients were advised to continue oral Calcium supplements at time of discharge.

Hypocalcemia was the most common complication seen in present study. It was seen in 10 cases out of 50 cases (20%) followed by RLN Paralysis seen in 2 cases (4%) followed by wound infection (2%) and Haemorrhage (2%) Malignancy was associated with an increased occurrence of complications hypocalcemia (6 cases), and 1 case of haemorrhage. 3 cases of hypocalcemia and one case wound infection were observed in patients who had been diagnosed with nodular goiter.

One case of hypocalcemia was seen in Hashimoto's thyroiditis. Two cases of RLN paralysis were noted in Primary thyrotoxicosis. Haematoma, thyrotoxic storm, hypothyroidism, recurrent hyperthyroidism and hypertrophic scar/keloid were not seen in our patients following surgery.

All hypocalcemia patients were followed up to 3 months. During follow up they did not develop any symptoms and no biochemical evidence of hypocalcemia. They were on oral calcium supplements till

3 months. RLN paralysis were followed till 3 months no hoarseness of voice.

#### DISCUSSION:

The Thyroid gland is situated in the portion of the neck where it is closely related to numerous important structures. The complications arising after thyroid surgery can be classified as intra-operative complications and immediate post-operative complications and late post-operative complications. In addition, allergy, drug, or other abnormal reactions are reported in 0.4% of patients. Hyperextension of the head causes nausea and headache during the early postoperative course. 3 Major complications of thyroidectomy are hypocalcemia, RLN injury and postoperative bleeding. In recent days, thyroid crisis is rare as almost all toxic patients undergo surgery only when they are converted euthyroid adequately by antithyroid drugs/beta blockers or by both.

| Authors       | MALIGNENCY | BENIGN |
|---------------|------------|--------|
| RIX5          | 10%        | 90%    |
| SAKORAFAS6    | 27%        | 73%    |
| SASSON4       | 52%        | 48%    |
| PRESENT STUDY | 22%        | 78%    |

The ideal situation is to expose the nerve over its entire cervical course (from the jugular angle to the entry into the larynx); devascularization is best avoided by keeping the nerve surrounded by connective tissue and by avoiding removal of the nerve from its substratum 70 The incidence of injury to the nerve when the nerve is identified and dissected is found to be 0- 2.1%. When the nerve is not identified the incidence is 4- 6.6%. There are numerous descriptions on how to locate the recurrent laryngeal nerve. Intraoperative haemostasis and a thorough understanding of the anatomy is essential In a study done by Crumley R.L, twenty cases of unilateral laryngeal paralysis are reported. Satisfactory follow-up intervals and data (videostroboscopy and 62 glottographic analysis) were available on 12 patients. The excellent to normal phonatory quality achieved in many of these patients indicates that the ansa cervicalis to recurrent laryngeal nerve anastomosis is the procedure of choice in selected patients with unilateral vocal cord paralysis. Excellent medialization of the paralyzed cord, as well as correction of arytenoid malposition and thyroarytenoid muscle atrophy appear to explain the technique's success, since the reinnervated cord neither abducts nor adducts. We feel that this technique is the procedure of choice in younger patients, or those who use their voices professionally, since the phonatory quality achieved is superior to Teflon injection or Isshiki thyroplasty, and the technique is reversible. 71

#### CONCLUSION:

In present study, the most common complication occurring after thyroidectomy was hypocalcemia seen in 20% of the cases. This can be attributed to total thyroidectomy accounting for almost three fourth the number of the thyroidectomy procedures. All the cases of hypocalcemia observed were temporary and no case of permanent hypocalcemia was seen in the study.

The incidence of RLN paralysis was 4% and could be due to neuropraxia. The paralysis was temporary. The incidence of haemorrhage was 2% in present study and could be Due to injury to anterior jugular veins. Wound site infection occurred in 2% of our patients. Improved knowledge about the thyroid gland anatomy and the variations in both course of the RLN and the position of the parathyroid glands combined with a meticulous dissection has gone a long way in reducing the incidence post-operative complications following thyroidectomy.

#### REFERENCES:

1. Ravikummar S, Vasantha WE. A Study of Incidence of Complications In Thyroid Surgery. Indian J Applied Res. 2018;8(9).
2. Bhattacharyya N, Fried MP. Assessment Of The Morbidity And Complications Of Total Thyroidectomy. Arch Otolaryngol-Head Neck Surg. 2002;128(4):389-92.
3. Richmond BK, Eads K, Flaherty S, Belcher M, Runyon D. Complications Of Thyroidectomy And Parathyroidectomy In The Rural Community Hospital Setting. Am Surgeon. 2007;73(4):332-6
4. Sasson AR, Pingpack JF Jr, Wetherington RW, Hanlon AL, Ridge JA. Incidental parathyroidectomy during thyroid surgery does not cause transient symptomatic hypocalcemia. Arch Otolaryngol Head Neck Surg 2001;127(3):304-308
5. Rix T, French M, Sinha P. incidence of inadvertent parathyroid gland excision during thyroid surgery. Br J Surg 2005;92(1):130.
6. Sakorafas GH, Stafyla V, Bramis C, Kotsifopoulos N, Kolettis T, Kassaras C. Incidental parathyroidectomy during thyroid surgery : An under appreciated complication of thyroidectomy. World J Surg 2005;29:1539-43