

# A study of the prevalence of early and late post-operative complications of thyroid surgeries at rural hospital

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## Abstract

**Introduction:** Surgery to remove the thyroid gland is well tolerated and has low complication rates, when performed by an experienced thyroid surgeon. In general, thyroid surgery is very safe and has a low risk of major complications but if complications occurs they are much serious. **Aims and Objectives:** To Study the Prevalence of Early and Late Post-Operative Complications of Thyroid Surgeries at rural hospital. **Methodology:** This was a Prospective study carried out in General Surgery department of at rural hospital attached to tertiary health care center during the one year period from November 2014-November 2015. During the one year period total 65 patients were posted for various surgeries for thyroid nodule, goiter or malignancy were total thyroidectomy, total thyroidectomy with parathyroid auto-transplantation, subtotal thyroidectomy, hemi thyroidectomy and Dunhill procedure. **Result:** Majority of the of the patients were in the age group of 40-50-40.00%; >50-24.61%; 30-40-15.38%; 20-30-10.76%; 10-20-7.69%; 1-10-1.53%. Majority of the patients were Female i.e. 69.09% followed by Male - 30.91%. The majority of the patients in Early Post-Operative Complications were having Transient hypocalcaemia -32.30% followed by Voice Changes -18.46%; Bleeding -15.38%; Infection-13.84%; Seroma-7.69%; Stridor -3.07%. Majority of the Patients in Late Post-Operative Complications were having Hypothyroidism-18.46%; Transient RLN Palsy-13.84%; Airway Obstruction-10.76% **Conclusion:** The most common Early Post-Operative Complications observed were Transient hypocalcaemia followed by Voice Changes, Bleeding, Infection, Stridor and most common late Post-Operative Complications were Hypothyroidism, Transient RLN Palsy; Airway Obstruction.

**Keywords:** Transient hypocalcaemia Stridor, Hypothyroidism, Transient RLN (Recurrent Laryngeal Nerve) Palsy.

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## INTRODUCTION

Surgery to remove the thyroid gland is well tolerated and has low complication rates, when performed by an experienced thyroid surgeon. In general, thyroid surgery is very safe and has a low risk of major complications but if complications occurs they are much serious. Most

patients undergoing surgery for multinodular goiter (MG) require bilateral thyroid resection. However, there is currently no consensus on what the most appropriate technique is.<sup>1-4</sup> Subtotal thyroidectomy (ST) has been the surgical treatment of choice in surgery for MG, but it does have several inconveniences, among which is a high rate of recurrence (10 to 30%).<sup>3</sup> Total thyroidectomy (TT) does not have these disadvantages, but it does involve a higher potential risk of complications. Reported morbidity rates are as high as 3.5% for definitive hypoparathyroidism and 3.1% for permanent recurrent laryngeal nerve (RLN) injury, to reach 5% and 17%, respectively, when there are recurrent goiters. These figures are unacceptable for the surgical treatment of a benign pathology occurring in a relatively young population.<sup>1-14</sup> It has now been seen that with skilled training these complications could be reduced.<sup>15</sup> However, there are few prospective studies<sup>3-4</sup> to confirm

these data. The risk factors for definitive complications, whether hypoparathyroidism or recurrent lesion, have not been investigated systematically. There are exceptional multivariate analyses that evaluate the influence of risk factors for disease and hospital on the rates of complications of benign thyroid surgery, and those that exist are very heterogeneous with regard to surgical technique and surgeons' experience.<sup>9</sup>

**MATERIAL AND METHODS**

This was a Prospective study carried out in General Surgery department of at rural hospital attached to tertiary health care center during the one year period from November 2014-November 2015. During the one year period total 65 patients were posted for various surgeries for thyroid nodule, goiter or malignancy were total thyroidectomy, total thyroidectomy with parathyroid auto-transplantation, subtotal thyroidectomy, hemithyroidectomy and Dunhill procedure. A detailed history was taken from all the patients. A thorough clinical examination along with examination of other systems was performed. Apart from routine laboratory tests, serum calcium, electrolyte, thyroid profile, FNAC, indirect laryngoscopy, ECG, Echo, X-ray Chest and Neck and USG of Neck and Abdomen were performed. Patients who were fit to undergo surgery were included in the study. Patients were monitored from time of admission till their 10th postoperative day. They were followed for next 6 month for various late complication.

**RESULT**

**Table 1: Age wise distribution of the Patients**

Age	No.	Percentage (%)
1-10	1	1.53%
10-20	5	7.69%
20-30	7	10.76%
30-40	10	15.38%
40-50	26	40.00%
>50	16	24.61%
<b>Total</b>	<b>65</b>	<b>100.00%</b>

Majority of the of the patients were in the age group of 40-50-40.00%;>50-24.61%;30-40-15.38%;20-30-10.76%;10-20-7.69%;1-10-1.53%

**Table 2: Genderwise Distribution of the Patients**

Sex	No.	Percentage (%)
Male	21	32.30%
Female	44	67.69%
<b>Total</b>	<b>65</b>	<b>100.00%</b>

Majority of the patients were Female i.e. 69.09% followed by Male - 30.91%.

**Table3: Early Post-Operative Complications**

Post-Operative Complication	No. of Cases	Percentage
Transient hypocalcaemia	21	32.30%
Voice Changes	12	18.46%
Bleeding	10	15.38%
Infection	9	13.84%
Seroma	5	7.69%
Stridor	2	3.07%

The majority of the patients in Early Post-Operative Complications were having Transient hypocalcaemia - 32.30% followed by Voice Changes -18.46%; Bleeding-15.38%; Infection-13.84%; Seroma-7.69%; Stridor - 3.07%.

**Table 4: Late Post-Operative Complications**

Post-OperativeComplication	No. of Cases	Percentage
Hypothyroidism	12	18.46%
Transient RLN Palsy	9	13.84%
Airway Obstruction	7	10.76%

Majority of the Patients in Late Post-Operative Complications were having Hypothyroidism-18.46%; Transient RLN Palsy-13.84%; Airway Obstruction-10.76%

**DISCUSSION**

Majority of the of the patients were in the age group of 40-50-40.00 %; >50-24.61%;30-40-15.38%;20-30-10.76%;10-20-7.69%;1-10-1.53%. Majority of the patients were Female i.e. 69.09% followed by Male - 30.91% the thyroid diseases are more common in females. The majority of the patients in Early Post-Operative Complications were having Transient hypocalcaemia -32.30% followed by Voice Changes - 18.46%; Bleeding -15.38%; Infection-13.84%; Seroma-7.69%; Stridor -3.07%. The reason for Stridor was massive hematoma. Majority of the Patients in Late Post-Operative Complications were havingHypothyroidism-18.46%; Transient RLN Palsy-13.84%; Airway Obstruction-10.76%. These findings are confirmation with The study of Richmond *et al.*<sup>15</sup> who noticed an incidence of 13%. Transient RLN palsy which was noticed in 6 patients with incidence of 6% is more when compared to the studies of Chow *et al.*<sup>16</sup> who noticed an incidence of 2%. Other complications like wound infection, wound hematoma and thyroid storm were not seen in this study similar to the studies of Steurer *et al.*<sup>17</sup> and Erbil *et al.*<sup>18</sup>.

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