

## Original Article

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# Thyroidectomy without drain

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### Abstract:

**Aim:** The aim of the study is to observe the result of thyroidectomy without keeping drain tube.

**Methods:** This is a prospective study of a series of patients who underwent thyroidectomy without drain from January 2017 to December 2019. Presence of any post-operative complications like hematoma, seromas and hemorrhage were recorded.

**Results:** Among 105 patients included in this study only one patient had post-operative hematoma. There was neither hemorrhage nor seroma in other any patients. Proper hemostasis was maintained during surgery of all these cases. Their post-operative recovery was good.

**Conclusion:** Drainage is may not be required after thyroidectomy if proper and adequate hemostasis is ensured.

**Keywords:** Thyroidectomy, hematoma, drain, complications.

### Introduction:

Thyroidectomy is a common surgery. The first documented partial thyroidectomy was carried out by Mr. Pierre Joseph Desault in 1791 in France. Drainage Given in thyroidectomy was a common practice in the past. It is due to reduce the complications like acute airway obstruction caused by hemorrhage or postoperative hematoma or

seroma.<sup>1,2</sup> But, many problems of using drainage in thyroidectomy have been reported without significant benefits.<sup>3</sup>

So, using drainage in thyroidectomy operation has become controversial.<sup>4,5</sup> Some randomized controlled trials<sup>6-15</sup> and two meta-analysis<sup>4,5</sup> have been performed to solve this controversy. These trials could not identify a statistical difference in the rates of neck hematomas, seromas between groups using drains or not.

### Methods:

**Type of study:** Prospective study

**Period of study:** From January 2017 to December 2019, (3 years).

**Study design:** Our study of non-drainage thyroidectomy comprises of 105 patients admitted over 3 years period from January 2017 to December 2019. Patients with pre-operative diagnosis of benign or malignant

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conditions were admitted for elective thyroidectomy. Cases with high vascularity and thyroidectomy with neck dissection were excluded. Hemithyroidectomy was performed to patients with benign conditions and total thyroidectomy for malignancy. All the events were including indications for surgery, post-operative complications like seroma, hematoma, hemorrhage were recorded properly for all the patients. The post-operative recovery and outcomes were analyzed.

### Results:

From January, 2017 to December, 2019, about 105 thyroidectomies were performed including total thyroidectomy and hemithyroidectomy. The mean age for above patients was 49 [range 18-70]. The male to female ratio was 1:4. The patient's characteristics included gender, age, hormonal status and histopathological results. The age chart is presented in Table 1 and rest of the characteristics are presented in Table II.

**Table 1 :**  
Age chart: n=105

Age Limit (years)	Number of patients
0-10	0
11-20	3
21-30	43
31-40	29
41-50	6
51-60	12
61-70	12

Lowest: 18 years, Highest: 70 years, Average: 49 years, Highest: 70 years, Average: 49

**Table II:**

Different variables of study population: n=105

Variable	Ratio
Age	49 [18-70]
Gender: Male/Female	21/84
Benign	33%
Malignant	67%
Toxic	3%
Nontoxic	97%

Only one patient had (0.9 %) presented hematoma in the zero post-operative day. Symptoms included sudden increase in neck volume and mild dyspnea. The patient was treated by bandage. A second surgical intervention was not needed for any of the patients.

### Discussion:

In this study, among 105 cases, age of majority 43(41%) was in 3rd decade (21-30). Highest age were 70 years and lowest 18 years, average age was 49 years. These findings correlate with others.<sup>9,10</sup>

Among all the cases, there were 21 males and 84 were females, male female ratio was 1:4 which is similar with other studies.<sup>12-14</sup> Among them benign case was 33% and malignant case was 67%. Hemithyroidectomy was done in 31% cases and total thyroidectomy was done in 69% cases. Some benign nodule but big sized involving the whole thyroid gland undergone total thyroidectomy. Total thyroidectomy was done in all the malignant cases. Same results were found in some series.<sup>15-16</sup>

This study presents our experience regarding the results of thyroidectomy without drain. Use of drainage after thyroidectomy surgery was a common practice among surgeons despite its limited benefits. The life threatening complications like suffocating hematoma or hemorrhage

appears very rarely. Risk increases in case of intrathoracic goiter as well as in grave's disease. Hematoma may appear in 2-6 hours after surgery. Despite many prospective randomized studies and meta analysis, using drainage after thyroid surgery remains controversial.

Using drainage in thyroidectomy operation has many disadvantages like it leaves a scar on the chest, that makes psychological impact on patients both male and female, and is not cosmetically good. Also the presence of a drain in the chest gives discomfort feeling to the patients. Surgeons generally use drain if there is a large dead space, a concern for bleeding, an oozing thyroid bed, or if any other unusual concern about postoperative accumulation of blood or fluid beneath the skin flaps.<sup>17,18</sup> Though drain does not prevent hematoma, presence of blood in the drain in the immediate post operative period may ensure early diagnosis of significant hemorrhage. Sometimes blockage of this drain may cause hematoma. Such hematoma around the trachea compromise the airway. Also, site of drainage become a potential target for infections. So, if a complication arises, it must be treated by immediately reopening the wound.

Nowadays, using drainage in thyroidectomy became very selective and most of them are performed without a drain because of its less advantages and more disadvantages. Proper hemostasis and adequate surgical techniques are enough to avoid hemorrhage and hematoma formation. Drain should be inserted in highly vascular thyroid and thyroiditis with neck distention.

#### **Conclusion:**

According to international literatures and articles, use of drain in thyroidectomy has no significant benefits in decreasing the rate

of post-operative complications. Concluding drainage is not required after thyroidectomy if proper and adequate hemostasis is ensured.

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