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No-Drain Thyroid Surgery: A Single-Surgeon Experience

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Abstract

Introduction: The routine use of drain in thyroid surgery becomes debatable. The insertion of drain may cause discomfort for the patients and it may not prevent the detrimental effect of rapid hematoma and tamponade effect in the neck. Herein, the analysis of no-drain thyroid surgery of single surgeon experience is reported.

Material and method: This is the hospital based retrospective descriptive study.

Results: Between January 2020 to January 2026, 136 thyroid operations were performed by single consultant surgeon with no insertion of drainage tube. The characteristic of study group, indications, extent of surgery and complications are reviewed and analyzed.

Discussion: In each and every case of reported series, we created potential space and outlet in neck by cutting strap muscles and suturing at the angle with absorbable suture to prevent life-danger tamponade effect of rapid hematoma formation within investing layer of deep cervical fascia. The occurrence of complication in our report was comparable with other reported data.

Conclusion: This report verified that no-drain thyroid surgery is safe and there is no added morbidity for the patients who underwent thyroidectomy.

Keywords: thyroid surgery, no-drain, complications, seroma.

INTRODUCTION

Nowadays, the routine insertion of drain in thyroid surgery is debatable (Suslu, N., et. al 2006 & Saadia, N., et. al 2015). There are many notable evidences about no-drain in thyroid surgery. The main reason of surgeons who put the drain in thyroid operation is to prevent the life-threatening hematoma resulting from postoperative bleeding which compromise the patient airway within a short period of time (Sapalidis, K., et. al 2013). But the evidences show no preventable effect of drain in this disastrous condition (Deveci, U., et. al 2013 & Maroun, C. A., et.al 2020). Furthermore, the drain will definitely cause patient discomfort, increase chances of infection, increase post operative pain, scar formation and longer duration of hospital stay. Actually, the mitigation of complications may depend more on the experience and expertise of surgeons, meticulous hemostasis and precise attention to fine detail during surgery (Manjunatha, H. A., et.al 2023). Herein we analyze the outcomes of no-drain thyroid surgery performed in the general surgical unit.

MATERIAL AND METHODS

This study is the hospital based retrospective descriptive study. The adult patients who underwent routine thyroid operation with no drain insertion within six years period are included. The patient characteristics, indications, extent of surgery and occurrence of complications such as hematoma, seroma, vocal cord palsy, hypocalcemia are retrospectively reviewed and analyzed.

RESULTS

Between January 2020 to January 2026, 136 thyroid operations were performed by single consultant surgeon with no insertion of drainage tube (Figure-2). There were 5 total thyroidectomy, 43 subtotal thyroidectomy and 88 hemithyroidectomy. Among these patients, 94 % were benign and 6 % were malignant. Out of 136 patients, 6 were toxic. The mean age of patients was 41.9 years (range 18-87). The male to female ratio was 1:7.5 (Table-1). Among these patients, only one patient needed wound exploration for hematoma during immediate postop period. The seroma formation was occurred in 10 patients (7.4%). Two patients (1.5%) encountered transient vocal cord palsy and 4 patients (2.9%) had transient hypocalcemia. No one had respiratory distress and there was no mortality within 30 postoperative days. The mean visual analog scale in first 24 hour after surgery was 2.5 (Table-2).

TABLES AND FIGURES

Table (1) Characteristics of the study group (N=136)

Mean age of patients (year)	41.9 (18-87)
Sex (Male: Female)	1:7.5
Benign	128 (94%)
Malignant	8 (6%)
Toxic	6 (4%)
Non-toxic	130 (96%)
Total thyroidectomy	5 (4%)
Subtotal thyroidectomy	43 (32%)
Hemithyroidectomy	88 (64%)

Table (2) Postoperative complications encountered (N=136)

Hematoma	1 (0.7%)
Transient vocal cord palsy	2 (1.5%)
Transient hypocalcemia	4 (2.9%)
Seroma	10 (7.4%)
Mean VAS in postop 24 hour	2.5

(VAS: Visual Analog Scale)

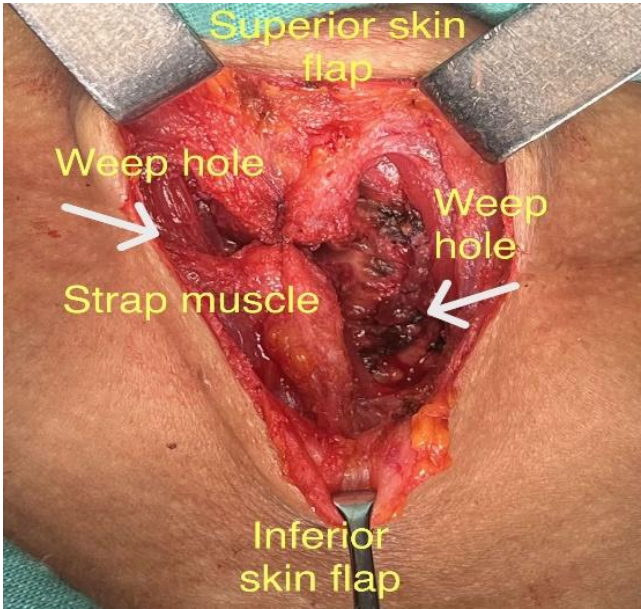


Figure (1) Left weep holes after right hemithyroidectomy



Figure (2) Surgical site with no drain

DISCUSSION

In our daily practice, many surgeons put the drain routinely in thyroid surgery with the intention to prevent airway compromises due to post operative hematoma and to evacuate the collection of fluid (Alexiou, K., et.al 2015). Actually, the evidence showed that the patient who complicated with hematoma also had the drain in-situ and they might be needed urgent exploration of the wound (Sanna, A., et. al 2024). Some researcher stated that the current practice of post-surgical drainage in thyroidectomy did not offer

any significant advantages (Tian, J., et.al 2017). There was also a superiority in postoperative outcomes of patients with no-drain compared to patients with a drain following thyroid surgery (Ahmad, M., et. al 2024 and Soh, et.al 2021).

In each and every case of reported series, we created potential space and outlet in neck by cutting strap muscles and suturing at the angle with absorbable suture to prevent life-danger tamponade effect of rapid hematoma formation beneath the investing layer of deep cervical fascia (Figure-1). Therefore, the patient who needed exploration of hematoma in our reported series had never experienced the respiratory compromises. The resulting hematoma and seroma only presented below the subcutaneous plane of the neck and which caused no pressure symptoms. The occurrence of seroma in our no-drain thyroidectomy patient was 7.4 percent. Most of the seroma resolved spontaneously and it could be easily aspirated percutaneously if it was required. Some researcher highlighted the leaving weep hole after transversely cutting the strap muscle to prevent compressive hematoma as in our report (Reeve, T., & Thompson, N. W. 2000). In our reported series, 2 out of 136 patients acquired transient vocal cord palsy and which were found to have recovery within 3 months. There was no occurrence of permanent nerve injury.

The occurrence of complications in our report was comparable with other reported data and no added adverse incidences were encountered (Gerardi, I., et.al 2025).

CONCLUSION

This retrospective analysis verified that no-drain thyroid surgery is safe and there is no added morbidity for the patients who underwent thyroidectomy. The routine usage of drain in thyroid surgery is not always necessary and insertion of drain should only be considered in the selected cases.

CONSENT

The informed consents were obtained from the patients for publication of this study and corresponding photographs.

ETHICAL APPROVAL

This study was ethically approved by ethical review committee of Defence Services Medical Academy, Yangon, Myanmar.

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