DRAIN IN THYROID SURGERY: IS IT ALWAYS A MUST?

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ABSTRACT: AIM: The aim of this study is to present our experience on not using drain for thyroidectomy in a teaching hospital. **MATERIALS AND METHODS:** A 5 years single surgeon's clinically study in a teaching hospital conducted between July 2007 to June 2012. Age group considered was from 11 years to 70 years. Data was obtained from a pre designed profroma from the hospital records and analyzed by chi square and percentages. **RESULTS:** Indication for thyroid surgery was more in females. More cases were between 21 0 30 years. Out of 87 cases in 68 cases drain was not placed and in 19 cases drain was placed. Out of 68 cases in which drain was not placed, only 2 had minor post-operative complications. In almost all patients without drain were discharged within 48 hours of surgery. **CONCLUSIONS:** Placement of drains after routine thyroid surgery has no influence on complications. Impact it leads to an extra scar and increase the hospital stay. Meticulars haemostasis during surgery are more important. Routine use of drains after thyroid surgery may therefore not be necessary.
KEYWORDS: Thyroidectomy, Lobectomy, Drain, Post-operative complications.

INTRODUCTION: Thyroidectomy is one of the most commonly performed operative procedures in general surgery.[1] Indications for thyroid surgery are hyperthyroidism, thyroid swellings and thyroid cancers.[2]

After thyroid surgery, the chief reason for surgeons placing a drain is to detect early post-operative haemorrhage[3] and to avoid its risk of blocking the respiratory passage.[4] However, a common problem is that the drains become blocked with clotted blood and are useless in alerting the surgeon even if major bleeding occurs. The probability of a post-operative hematoma forming after thyroid surgery ranges between 0 to 30%.[5] However, past studies have failed to show that placement of drains prevent the haematoma formation. These are also very low chances of postoperative seromas forming in the absence of drains.[6]

Past studies conducted on the usefulness of drain placement after thyroid surgery have failed to show only benefits.[7] Instead it was found that usage of drains increased the chances of surgical wound infections.[8]

From two studies conducted in Pakistan, both reported that the use of drains is not mandatory after thyroidectomy provided that strict principles of haemostasis are followed.[6,9]

In our study, drains are commonly placed post operatively. We have conducted this trial to see if results from other studies are relevant ours and if disadvantages of the use of drains significantly outweigh its advantages.[10] The use of drains after thyroid surgery is being questioned worldwide now that surgical techniques have improved for thyroid disorders. This study aims to assess the necessity of drains and to eliminate their routine use after thyroid surgery.

MATERIAL AND METHODS: A randomized clinical trial of diagnosed patients of goiter was conducted at K R Hospital, Mysore between July 2007 to June 2012. Cases were grouped into two groups, one with drain and other without drain placed post operatively. All cases of thyroid surgery were included. Cases were confirmed by all or at least two of the following tests; ultrasound of neck, fine needle aspiration of cytology, histopathology. Data was obtained from a predesigned profroma from the hospital records and analyzed by chi square test and percentages.

Emphasis was given to six ration, age distribution, type of thyroidectomy, indication for placing drain and the complications in cases where drain was not placed.

RESULTS: Out of 87 cases 13 were male (13 – 80%) and 74 were female (80.15%) with a ratio of 1:9. Out of the age group considered between 11 – 70 years, maximum cases were found between age groups 21 – 30 years (36.9%) and minimum cases were found between age groups 61 – 70 years (3.8%). Out of 87 cases, drain was not placed in 68 cases (73 – 84%) and drain was placed in 19 cases (26.15%). Maximum cases were drain not placed was in 2012 (20 cases). Maximum cases were drain was placed was in 2007 (12 cases).

Out of 87 cases, solitary nodular thyroid (SNJ) was 44 (48.2%), Multinodular goiter (MNG) was 26 (32.3%), papillary carcinoma 16 (16.9%) and follicular carcinoma 1 (1.5%).

Minimum time drain was placed in subtotal thyroidectomy (o cases, o%). Maximum time drain was placed in total thyroidectomy with modified radical neck dissection (2 cases, 100%).

Mainly two complications were found even when drain placed. 1 case had hematoma and 1 case had would infection. In 1 case were drain was not placed patient had haematoma.

Mean hospital stay without drain was 2 days and mean hospital stay with drain was 5 days.

Mortality rate was 0 (0%).

DISCUSSION: It is common practice for surgeons to routinely insert a drain after every case of thyroid surgery, whether it is total thyroidectomy or lobectomy. This is mainly due to the fear of post-operative haemorhage or accumulation of excess lymphatic fluid which needs to be drained as it can compromises the airway. Postoperative bleeding after thyroid surgery is reported to be as rare as 0.3 to 1%.[11] In two studies of 250 and 400 patients no benefit of using drains after thyroid surgery has been documented.[12,13] It has been observed that if correct surgical techniques and hemostatic procedures are followed, excessive post-operative bleeding can be avoided. Precautions such as staying within the subplatysmal plane during surgery and using coagulation diathermy along with proper ligation of bleeding vessels will reduce chances of postoperative hemorrhage.

In real practice insertion of drain should be rationalized on the basis of the operative procedure performed and the extent of neck dissection along with patients to patient's variation. Many authors recommend the use of drains only for complicated cases such as resection of substernal goiter, large dead space, raw thyroid bed[14] or in hyper vascular diseases of thyroid (eg: grave's disease) or certain carcinoma.

A study showed that there was fluid collection in the surgical field regardless of the use of a drain, the reason being either the drain triggered inflammation and fluid formation itself or the negative pressure created by the drain sealed of the lymphatics[16]. In our present study, there were no cases of seroma formation in either the drain or non-drain groups, which coincides with the facts that seroma formation does not specifically occur when drains are not used.

The insertion of drain after every thyroid surgery increases the risks of introducing infection into the patient. Post-surgical would management and aseptic techniques used during surgery also play a major role in determining the development of infection.

Similarly, our study also suggests that insertion of drain after the thyroid surgery increases the hospital stay of the patients (5 days) as compared to the ones that were left without the drain (2 days).

Placement of drains can also cause poor cosmetic results and create separate surgical scars. It also increases operating time by 5 – 10 minutes[17]. Other complications can include hypopara thyroidism, hypocalcaemia, voice change, stridor, dyspnea.

The present clinical trial, in conformity with numerous international clinical trials, could not show only benefit of routinely placing drains after every case of thyroid surgery, particularly in complicated cases.

CONCLUSION: In uncomplicated surgeries, especially in cases of lobectomy, use of drain can be omitted which will help decreasing chances of would infection, with substantial shortening of patient stay while increasing patient comfort and satisfaction.

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Sex	No. of cases	%
Male	13	13.80
Female	74	86.15

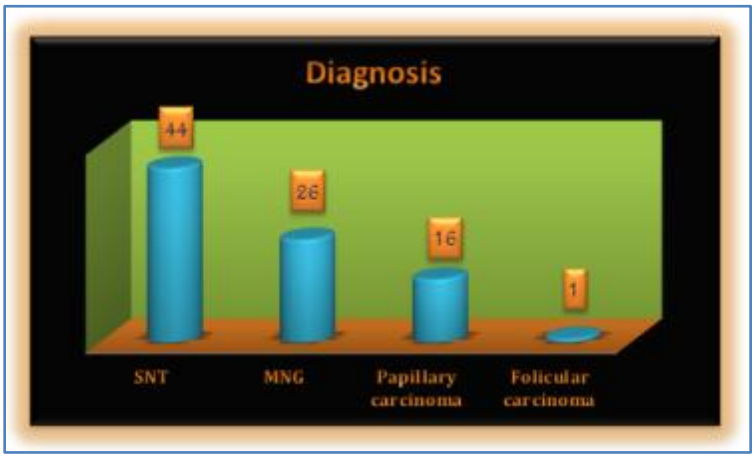
Table 1: Total number of cases sex wise

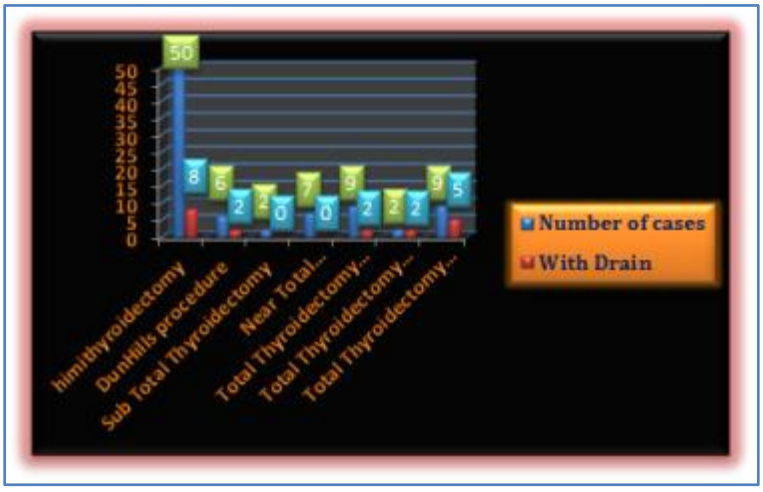
Age in years	No. of cases	%
11 – 20	5	6.15
21 – 30	31	36.9
31 – 40	29	29.2
41 – 50	16	20
51 – 60	3	3.8
61 – 70	3	3.8
Total	87	100.0

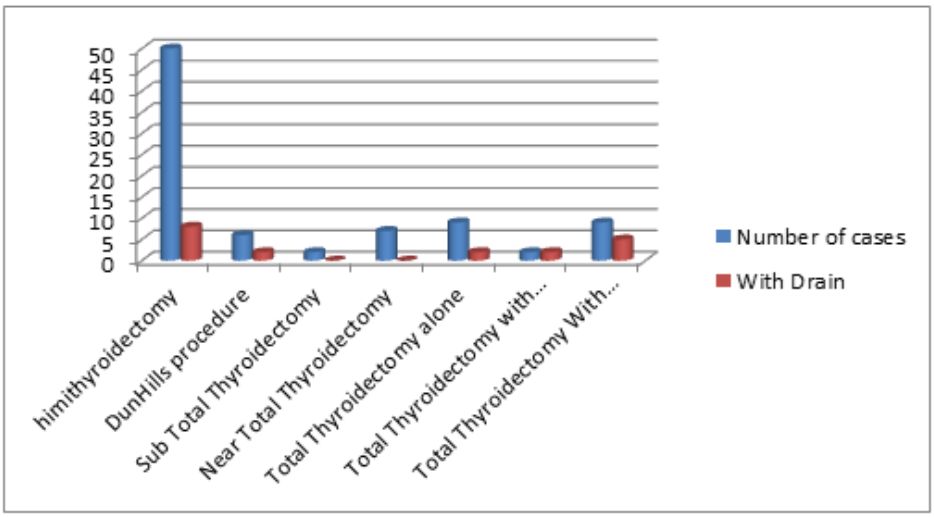
Table 2: Age wise distribution of cases

Drains	Number	Percentage
Placed	19	26.15
Not placed	68	73.84
Total	87	100.0

3. Drains







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