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# INSERTIONS OF POSTOPERATIVE DRAIN VERSUS NO DRAIN AFTER TOTAL THYROIDECTOMY: A COMPARISON

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**Abstract:**

***Objective:*** *To contrast total thyroidectomy and inclusion of post-operative drain versus no drain as far as level of post-operative pain, term of clinic remains and post-operative hematoma, seroma and wound contamination.*

***Study Design:*** *Randomized controlled clinical examination.*

***Place and Duration of Study:*** *This investigation was directed at the Department of General Surgery, Lahore General Hospital, Lahore for a long time from June 2018 to June 2020.*

***Materials and Methods:*** *After taking consent from clinic moral advisory group, a total of 62 patients were incorporated, who were going through total thyroidectomy for kind multinodular goiter conceded in Department of Surgery, Lahore General Hospital, Lahore.*

***Results:*** *Mean period of patients was 39.90 ± 14.13 years. Male patients were 54.8% while females were 45.2%. The score of pain and term of medical clinic remain was factually high in the drain bunch in contrast with the no drain gathering. After T-test and Chi-square test, there was no critical affiliation found in the two gatherings as far as medical clinic remain or Post-operative pain with respect to impact modifiers like age or sex.*

***Conclusion:*** *In post-worked instances of thyroid surgery where drains were not placed, were related with brief span of emergency clinic remain and less post-operative pain. So, the results of this investigation don't uphold the standard inclusion of drain after thyroid surgery.*

**Key Words:** *Postoperative thyroid difficulties, Total Thyroidectomy, Post thyroidectomy drain.*

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## INTRODUCTION:

Among all the operations of general surgery, thyroidectomy is an ordinarily performed operations. Thyroid is an exceptionally vascular organ, having different meager walled vessels. This is the explanation that thyroidectomy is related with preoperative and postoperative draining entanglements. Postoperative discharge in a shut space prompts pressure of the aviation route making respiratory despondency and afterward driving deadly confusions. To recognize the early event of postoperative draining numerous specialists, like to embed a drain.

Then again, there are contentions that postoperative draining is an uncommon confusion of thyroidectomy. [1]

Albeit postoperative draining can prompt deadly difficulties in thyroid surgery, yet it is accounted for in just 0.3–1 % of thyroid medical procedures. Drains are placed to demonstrate early draining intricacy in postoperative time of thyroid surgery however ordinarily these drains are obstructed with coagulated blood and give a bogus impression of no postoperative dying. Site of exit of a drain is generally around the collar bone of the patient, which is a profoundly cosmetically delicate zone, and this injury of drain leaves a terrible scar here. Additionally, drains are partners with patient's tension and at times are likewise monetary weight for the patient. [2]

As of late, the quantity of the relative multitude of malignancies are expanding worldwide and thyroid carcinomas are about 1.7% of the relative multitude of malignancies. Because of this ascent of thyroid malignancies, thyroidectomies are likewise increasing.[3] With the advancement of careful strategies, generally event of postoperative inconveniences is decreased in instances of thyroidectomies yet there are cases which are getting postoperative intricacies, including discharge (0.3–6.5%), haematoma formation (1–%), repetitive laryngeal nerve wounds (0.5–4.4%)4 and hypocalcemia (3.1–11%) [5]. As indicated by numerous specialists, addition of a drain in postoperative instances of thyroidectomy lessens dead space which helps in anticipation of seroma formation and furthermore helps in early recognition of draining complication. [6]

Numerous patients going through thyroidectomy have draining issues, in these cases drains are extremely advantageous. Yet, inclusion of postoperative drains have terrible effect on patients and causes scar formation [7], heightened pain [8], high contamination rate[9] and longer term of emergency clinic stay [10].As thyroidectomy is a typical surgery and various examinations were completed to identify both the need just as the complexities of postoperative drain placement, however inspite of this there is still no organized formation of rules or proposals; so climate to place a drain or not postoperatively relies on the specialist's very own insight and choice. [11]

## MATERIALS AND METHODS:

A total of 62 patients going through surgery for favorable multinodular goiter conceded in Lahore General Hospital, were chosen for the investigation. Consent from medical clinic moral survey council was dominated. Composed educated assent was taken from all the patients. Patients were partitioned into 2 equivalent groups arbitrarily by lottery technique. Each group having 31 patients. All the patients were analyzed by complete history, intensive clinical assessment, ultrasound neck, FNAC of thyroid and research facility examinations including thyroid capacity tests. Patients analyzed as being multinodular goiter and with typical thyroid capacity tests (euthyroid) were remembered for the investigation.

In Group A patients, Redivac pull drain of size 14 F was placed after total thyroidectomy underneath the profound cervical sash. Drain yield was estimated after at regular intervals and drain was eliminated when the yield was not expanding in a 6-hour time span. While in group B patients, drain was not placed and the injury was shut by consistent subcuticular stitches. All the patients were followed postoperatively for the seriousness of pain, term of emergency clinic remain and other post-operative inconveniences like hematoma formation, seroma formation and wound disease. Patients were shown VAS(visual simple score) for pain and a record of pain was made on first postoperative day and afterward on seventh post-operative day. Clinic remain and postoperative confusions were recorded. Post-operatively patients were followed on first, seventh and fourteenth postoperative days for advancement of hematoma formation, seroma formation and wound contamination. Information in both the groups were recorded on a predesigned proforma. All patients were given due regard and their solace was considered during the examination.

Information was examined by SPSS variant 20. Mean and SD were determined for quantitative factors including age, pain according to VAS and emergency clinic remain. Recurrence and rate were processed for

subjective factors like sex and postoperative difficulties including hematoma formation, seroma formation and woundinfection. Information was separated for age and sexual orientation. Post-definition free example t-test was utilized to think about mean postoperative pain and emergency clinic remain between the two groups. Chi square test will be utilized to investigate postoperative inconveniences between the two groups. P-esteem ≤0.05 was taken as critical.

**RESULTS:**

Least age was 15 years and greatest was 60 years with mean and standard deviation of 39.90 ± 14.13 years. The base postoperative pain was 3 and greatest was 6 with mean and standard deviation of postoperative pain was 4.5 ± 1.13. Least span of clinic remain was 1 day, and most extreme length was 4 days with mean and standard deviation of 2.53 ± 0.99 days.

Guys were 34/62 (54.8%) while females were 28/62 (45.2%). Hematoma formation was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients. Seroma formation was available in 6/62 (19.7%) patients while it was missing in 56/62 (90.3%) patients. Wound contamination was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients.

Free T-test was applied after delineation old enough, it was discovered that in the two groups old enough (< 40 years and > 40 years) p-values were 0.208 and 0.103 individually. Subsequently, no huge affiliation was found in the two groups and clinic stay with respect to the time of patients. By the definition old enough, it was discovered that in the two groups old enough (< 40 years and > 40 years) the mean Post-operative pain was not critical in the two groups. Free T-test was applied, and it was discovered that there were no huge contrasts in groups and medical clinic remain, post-operative pain with respect to male and female patients.

**Table No.1: Descriptive statistics**

| | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Age | 15 | 60 | 39.90 | 14.13 |
| Postoperative Pain | 3 | 6 | 4.5 | 1.13 |
| Hospital stay | 1 | 4 | 2.53 | 0.99 |

**Table No.2: Hematoma formation**

| Hematoma formation | Frequency | Percent |
|---|---|---|
| Present | 2 | 3.2 |
| Absent | 60 | 96.8 |
| Total | 62 | 100.0 |

**Table No.3: Seroma formation**

| Seroma Formation | Frequency | Percent |
|---|---|---|
| Present | 6 | 19.7 |
| Absent | 56 | 90.3 |
| Total | 62 | 100.0 |

Chi-square test was applied to see effect in the both groups of age (< 40 years and ≥ 40 years) and there was no significant association in both groups and hematoma formation. There was no significant association in both groups (insertion with drain and without drain) between hematoma formation and gender. Chi-square Test was applied to see the effect in both groups of age (< 40 years and > 40 years) and there was no significant association found in both groups (With drain or without drain) and Seroma formation according to the age of patients. There was no significant association between both groups (p-value greater than 0.05). When Chi- square Test was applied to see effect in the both groups of age (< 40

years and > 40 years), there was no significant association between both groups and Seroma formation. When Chi-square Test was applied to see effect in the both groups of gender, no significant association was between both groups and Seroma formation.

**Table No.4: Wound infection**

| Wound infection | Frequency | Percent |
|---|---|---|
| Present | 2 | 3.2 |
| Absent | 60 | 96.8 |
| Total | 62 | 100.0 |

## DISCUSSION:

The objectives of the current investigation were to contrast total thyroidectomy and inclusion of post-operative drain versus no drain regarding seriousness of post-operative pain, term of clinic remain and recurrence of post-operative intricacies. In such manner, the current study was led from the patients visiting at division of General Surgery, Lahore General Hospital. An example of 62 patients was chosen by utilizing non-likelihood sequential inspecting strategy.

From 62 patients, the base age was 15 years and most extreme was 60 years with mean and standard deviation of 39.90 ± 14.13 years. The base postoperative pain was 3 and greatest were 6 with mean and standard deviation of 4.5 ± 1.13. The base length of medical clinic remain was 1 day, and greatest was 4 days with mean and standard deviation of 2.53 ± 0.99 days.

Guys were 34/62 (54.8%) while females were 28/62 (45.2%). Hematoma formation was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients. Seroma formation was available in 6/62 (19.7%) patients while it was missing in 56/62 (90.3%) patients. Wound disease was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients.

Autonomous T-test was applied after delineation old enough, it was discovered that in the two groups old enough (< 40 years and > 40 years) p-values were 0.208 and 0.103 individually. Consequently, no critical affiliation was found in the two groups and clinic stay with respect to the period of patients. By the definition old enough, it was discovered that in the two groups old enough (< 40 years and > 40 years), the mean Post-operative pain was not critical in the two groups (for example inclusion with drain and without drain). Free T-test was applied, and it was discovered that there were no huge contrasts in the two groups and clinic stay with respect to male and female patients. Free T-test was applied, and it was found that there were no critical contrasts in the two groups and Post-operative pain with respect to male and female patients. Chi-square Test was applied to see impact in the two groups old enough (< 40 years and > 40 years) and there was no huge relationship in the two groups and hematoma formation. There was no critical relationship in the two groups (inclusion with drain and without drain) between hematoma formation and sex. Chi-square Test was applied to see the impact in the two groups old enough (< 40 years and > 40 years) and there was no huge affiliation found in the two groups (With drain or without drain) and Seroma formation in regards to the time of patients. There was no critical affiliation was found between the two groups and Seroma formation regarding sex having p-esteem more prominent than 0.05. At the point when Chi-square Test was applied to see the impact in the two groups old enough (< 40 years and > 40 years) there was no critical affiliation found between the two groups and Seroma formation. At the point when Chi-square Test was applied to see the impact in the two groups of sex, no huge affiliation was found between the two groups and Seroma formation.

Tian J et al directed a meta-investigation in which 14 examinations involving if 1927 patients were incorporated. This meta-investigation was directed to discover the recurrence of postoperative intricacies of thyroidectomy, for example, sroma or hematoma formation, wound site diseases, hypoparathyroidism, injury to repetitive laryngeal nerve and span of medical clinic remain. The aftereffects of that meta-examination indicated that the patients in which drain was embedded, had more recurrence of postoperative disease than when contrasted with the patients where no drain was embedded (pooled OR = 2.94, 95 % CI 1.27–6.85, P = 0.012). In the event of the emergency clinic remain, it was drawn out in patients where drain was embedded in contrast with the patients having no drain (pooled distinction in mean = 1.16, 95 % CI 0.72–1.59, P < 0.001). Because of this meta-examination there was no factually huge contrasts between the groups regarding seroma or hematoma formation, hypoparathyroidism, injury to repetitive laryngeal nerve. It was finished up from the

investigation that there is no critical bit of leeway of postoperative drain addition in thyroidectomies. In any case, then again, this Study additionally reasoned that recurrence of contamination and length of emergency clinic remain was higher in patients where drain was embedded. [12]

In a past report the postoperative pain score of 24 hours had uncovered finding of a critical higher pain score in the group that had placement of a drain. The base medical clinic remain in drain group was 4 days and in the event of no drain 1 day. In patients where drain was embedded mean span of medical clinic remain was 3.63 days ± 0.707 SD and 1.19 days ± 2.145 SD in the group that had no postoperative drain (p esteem <0.05). [13]

Comparable outcomes were found in this current examination for example clinic remain in drain group was at any rate 3 days and in the event of no drain 1 day and mean length of emergency clinic remain was 3.12 ± 0.60 in drain group and 3.42 ± 0.51 in the group that had no drain. As to intricacy there was no by and large demonstrated measurable variety between the two groups. Larger part of specialists embed drain after thyroidectomy to forestall seroma or hematoma assortment in the operative field.

Draining inconvenience after thyroidectomy prompting hematoma formation isn't consistent and ranges between 0.3–2.5%.2The length of clinic remain was discovered lesser in the patients without a drain and these discoveries were likewise detailed by other studies. [1]

Short medical clinic stay is additionally affordable for our patients as dominant part of them are helpless patients having least assets, have a place with distant and they can't take long leave from work. So, in all instances of thyroidectomy, drains are not generally needed. Alongside delayed emergency clinic remain, drains are a wellspring of disease just as inconvenience for the patient. Post-thyroidectomy draining possibilities are more with intermittent goiter, Graves' illness, retrosternal goiter and in patients taking anticoagulants. At the point when thyroid medical procedures are performed by fastidious specialists then the pace of major postoperative entanglements is low. As draining is a typical intricacy among all the confusions of thyroidectomy, hence, specialists for the most part place drains after thyroid operations to identify draining early. [14]

Then again, the inclusion of drains itself causes high pace of contamination and delayed emergency clinic remain. Post-operative draining generally happens in the initial 6 hours of the thyroid surgery, prompting the hematoma formation and respiratory misery, so patients should be held under close perception during this period and can be released on the following day. This training lessens length of clinic remain just as decrease in monetary burden. [9,10].

## CONCLUSION:

Total thyroidectomy, without inclusion of post-operative drain is in a way that is better than with drain regarding post-operative pain, emergency clinic stays and cost viability. There is no need of embeddings a drain in patients who don't have any danger factor. On the off chance that an expanded hematoma is shaped, it very well may be suctioned by a needle. Lastly, the inclusion of a drain inclines a patient to diseases just as increment quiet inconvenience, draws out the hospital stay and helps lower monetary weight on patient.

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