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NEAR TOTAL THYROIDECTOMY;
ROLE OF DRAIN

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ABSTRACT… Objective: To evaluate the role of surgical drains in near total thyroidectomy. **Study Design:** It was a Randomized clinical trial conducted at department of surgery, DHQ teaching Hospital, Dera Ghazi Khan from Jun 2012 to May 2013. **Patients and Methods:** Patients were randomized into two groups by lottery method. Group A were those in which drains were placed and Group B patient were operated and no drains were placed. Inclusion criteria included all patients presenting for near total thyroidectomy for benign diseases. Those with massive goiters or nodules larger than 6 cm were excluded. 40patients were enrolled in the study. Complications, length of hospital stay, and overall cost were evaluated. **Results:** In the Group B (no drain group), there was 03 days mean hospital stay with no increase in postoperative complications like swelling. While Group A (drain group) mean hospital stay was 06 days. **Conclusions:** Thyroid surgery without the use of a drain decreases the length of hospital stay, with no increase in patient morbidity. The overall cost is significantly reduced.

Key words: Near total thyroidectomy, Neck hematoma, Postoperative hospital stay, Goitre

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INTRODUCTION

Goiter due to iodine deficiency is still an endemic disease in Himalayans and Northern areas of Pakistan. Neck operations have always been a field of interest in general surgery. Thyroidectomy is one of the most commonly performed procedures in neck operations in general surgery[1]. An acute complication of this procedure is the formation of hematoma (in 1 to 2.5% of cases)[2], which require either intubation or tracheostomy. Various factors are the cause of this hematoma formation which includes slipping of ligature on major vessel, reopening of cauterized veins, retching, vomiting, bucking during recovery, valsalvamaneuver, increase blood pressure during recovery, large dead space and oozing from the cut of thyroid[3]. Reactionary haemorrhage has been rarely previously reported after 24 hours from surgery[4]. Some complications such as hypocalcaemia[5] and recurrent laryngeal nerve palsy can be quite disturbing for patients in their permanent form and can prolong hospital stay and add to patients' morbidities.

This fear prompts general surgeons to use drains post operatively in any kind of thyroid surgery. While studies show that Postoperative bleeding is an uncommon but unavoidable complication of thyroidectomy[6]. This also suggested that drains may be blocked by clotted blood and do not alert surgeons. Numerous studies failed to show any benefit of drains[7]. Drains increase rate of SSI[8]. Drains contribute to discomfort of patient[9].

Increase hospital stay[10], and deteriorated cosmetic results[11]. The present study is aimed to evaluate whether draining the wound results in decreased morbidity, less hospital stay, decreased SSI incidence, decreased cost and improves cosmetic results.

MATERIAL AND METHOD

It was a randomized clinical trial conducted at DHQ Teaching Hospital D G Khan over a period of one year from June 2012 to May 2013. All patients of either sex fulfilling the inclusion criteria were included in this study. Written informed consent was taken from patients and study was approved by the Hospital Ethics Committee.

RESULTS

Total 40 patients were enrolled. All the patients under went near total thyroidectomy.

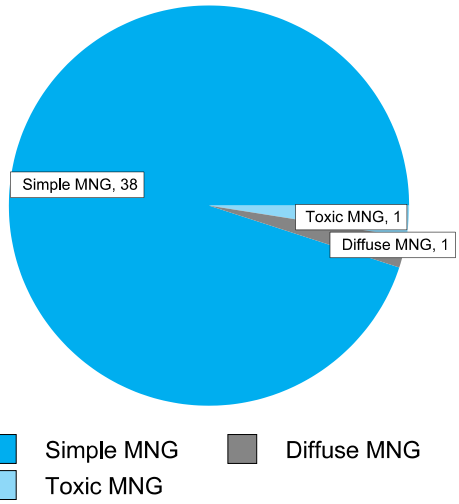
The 38 patients (95 %) out of 40 having near total thyroidectomy had simple multinodular goiter (MNG), 1 patient (2.5 %) had toxic MNG while 1 patient (2.5 %) had diffuse toxic goiter both were optimized by anti-thyroid drugs. Drain was placed in 20 cases randomly.Out of 40 patients 32 (80 %) patients were females and 8 (20 %) were males. Among the 32 female patients the mean age was 30 years (between 18 to 40 years) and among 8 male patients the mean age was 30 years (25 to 35 years). Total 40 patients were randomly allocated into two groups 20 with drains and 20 without drains containing 16 females and 4 males in each group.

The one patient (5 %) from drain group had post-operative hoarseness of voice .The three patients (15%) from drain group had tetany while one patient (5%) from drain group had Surgical Site Infection(SSI).

Only 1 patient (5%) from no-drain group suffered from tetany. While there was no significant difference in post operatively swelling / hematoma in both the groups. The mean hospital stay among no-drain group was 3 days and among drain group was 6 days.

Pre-op diagnosis	No. of Cases	%
Simple MNG	38	95%
Toxic MNG	1	2.5%
Diffuse MNG	1	2.5%

Table-I. Disease distribution (N= 40)



Total number of patients (n=40)

Sex	No. of cases	With drain	Non-drain
Females	32	16	16
Males	08	04	04

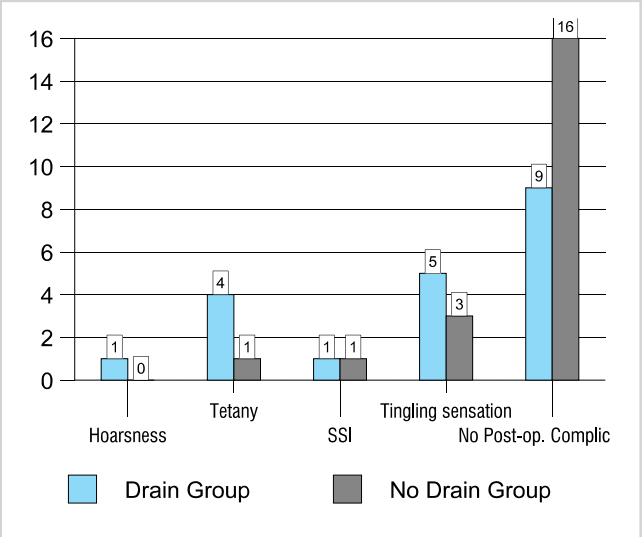
Table-II. Sex distribution (N = 40)

Post op. Complication	No. of cases	With drain	Without drain
Recurrent laryngeal N. (Hoarseness)	01	01	-
Tetany	05	04	01
SSI	01	01	-
Tingling sensation	08	05	03
No post op. Complication occurred	25	09	16

Table-III. Comparison of complications

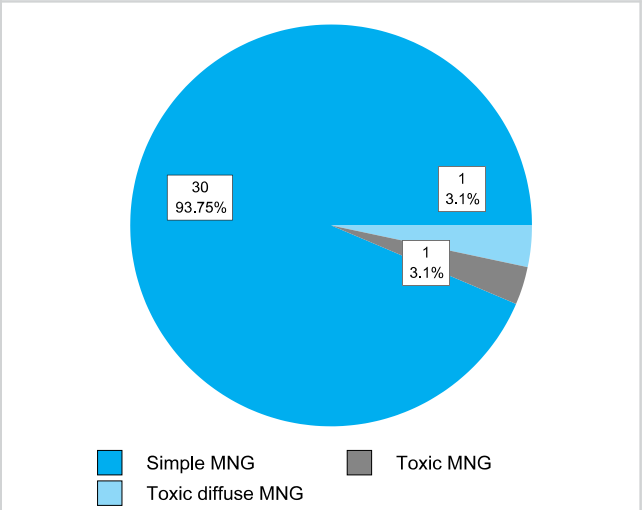
DISCUSSION

Drains have been traditionally used in most of the surgical procedures with limited evidence to suggest any benefit[12,13,14]. The parent study has showed that regarding the risk of hemorrhage, drainage by drains provides no extra benefit if meticulous hemostasis is secured while doing thyroid surgery. Rather drain less surgery improves post-operative recovery, decrease SSI



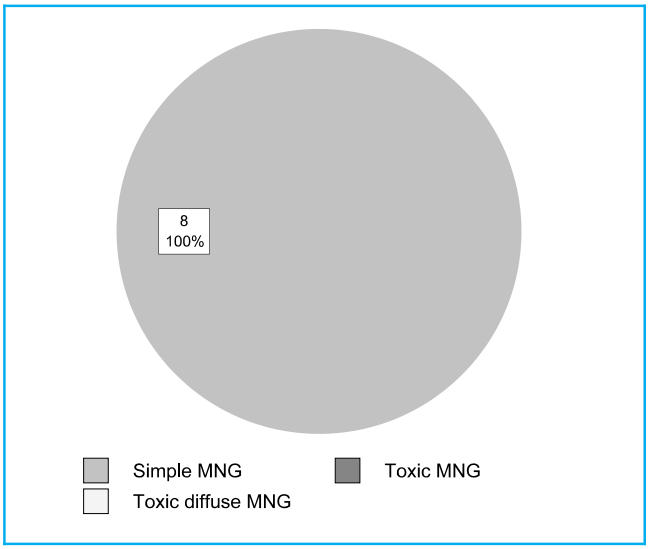
Gender	Simple MNG	Toxic MNG	Toxic diffuse goiter	Total
Females	30 (93.75%)	1 (3.1%)	1 (3.1%)	32
Males	8 (100%)	-	-	08

Table-IV. Frequency distribution of types of thyroid diseases in male and female sample population.



Thyroid diseases in female sample population

and hospital stay thus reducing morbidity of patients. Many surgeons in the world are going beyond the use of pressure dressing on



thyroidectomy to completely abandoning the use of drain in it[15,16].

Two large non randomized studies of 250 and 400 patients have also demonstrated no benefit of using drains after thyroid surgery[17,18]. Debry et al had used ultrasound of neck for post-operative assessment of fluid collection in 2 patients while Schwartz used to compare two types of drains[19,20]. The drains by the virtue of inflammation induced due to their presence may actually increase the drianage. The vacuum created by the negative suction may prevent the lymphatics from sealing off and thus cause increase in seroma formation and drainage

CONCLUSIONS

The present study highlights the placement of drains after routine thyroid surgery may not give extra benefit but can lead to an extra scar,keloid formation, discomfort , increase in hospital stay which is not cost effective. Meticulous hemostasis and attention to finer details during surgery are more important. Routine use of drainage after thyroid surgery therefore may not be necessary. Same findings were reported in a prospective randomized study that routine drain placement after thyroid surgery for benign diseases is not necessary and therefore is not effective in decreasing the rate of postoperative complications.

REFERENCES

1. Colak, Tahsin, Tamer Akca, Ozgur Turkmenoglu, Hakan Canbaz, Bora Ustunsoy, Arzu Kanik, and Suha Aydin. **"Drainage After Total Thyroidectomy Or Lobectomy For Benign Thyroidal Disorders."** Journal of Zhejiang University Science B 9.4 (2008): 319-323.

2. Hung, Brian , Hin Lang, and Patricia Chun. **"A Review of Risk Factors and Timing for Postoperative Hematoma After Thyroidectomy: Is Outpatient Thyroidectomy Really Safe?."** World J Surg 36.10 (2012): 2497–2502.

3. Savargaonkar A: **Post-thyroidectomy Haematoma Causing Total Airway Obstruction- A Case Report.** Indian J Anaesth. 2004, 48(6): 483-485.

4. R. Mirnezami, A. Sahai, A. Symes, and T. Jeddy, **"Day-case and short-stay surgery: the future for thyroidectomy?"** International Journal of Clinical Practice, vol. 61, no. 7, pp. 1216–1222,2007.

5. A. Bergenfelz, S. Jansson, A. Kristoffersson et al., **"Complications to thyroid surgery: results as reported in a database from a multicenter audit comprising 3,660 patients,"** Langenbeck's Archives of Surgery, vol. 393, no. 5, pp. 667–673, 2008.

6. Abbas, Ghulam, Sanford Dubner, and Keith S. Heller. **"Re-operation For Bleeding After Thyroidectomy And Parathyroidectomy."** Head & Neck 23.7 (2001): 544-546.

7. Memon, ZA , G Ahmed, and SR Khan. **"Postoperative use of drain in thyroid lobectomy - a randomized clinical trial conducted at Civil Hospital, Karachi, Pakistan."** Thyroid Res 5.28 (2012): 1-9.

8. Memon, ZA , G Ahmed, and SR Khan. **"Postoperative use of drain in thyroid lobectomy - a randomized clinical trial conducted at Civil Hospital, Karachi, Pakistan."** Thyroid Res 5.28 (2012): 1-9.

9. Saratzis, Athanasios, Soni Soumian, Rachel Willetts, Sarah Sarah Rastall, and Paul S. Stonelake. **"Use Of Multiple Drains After Mastectomy Is Associated With More Patient Discomfort And Longer Postoperative Stay."** Clinical breast cancer 9.4 (2009): 243-246.

10. Ren, JA. **"Current practice in the prevention and management of surgical site infections in gastrointestinal surgery.."** Zhonghua Wei Chang Wai Ke Za Zhi 15.6 (2012): 533-6.

11. Shukla, Rm, Bb Tripathy, B Mukhopadhyay, A Chattopadhyay, K Saha, and BasuK Saha. **"Outcome Of Colostomy Closure With Different Skin Closure Techniques In A Developing Country."** African Journal of Paediatric Surgery 7.3 (2010): 156. Print.

12. Morrissey AT, Chau J, Yunker WK, et al. **Comparison of drain versus no drain thyroidectomy: randomized prospective clinical trial.** J Otolaryngol Head Neck Surg. 2008;37:43–7.

13. Suslu N, Vural S, Oncel M, et al. **Is the insertion of drains after uncomplicated thyroid surgery always necessary?** Surg Today. 2006;36:215–8.

14. Khanna J, Mohil RS, Chintamani D, et al. **Is the routine drainage after surgery for thyroid necessary? A prospective randomized clinical study.** BMC Surg. 2005;5:11.

15. Corsten M, Johnson S, Alherabi A: **Is suction drainage an effective means of preventing hematoma in thyroid surgery?** A meta-analysis. J Otolaryngal 2005, 34(6):415-417.

16. Pothier DD: **The use of drains following thyroid and parathyroid surgery: a meta-analysis,** J LaryngolOtol 2005, 119(9):669-671.

17. Arriyanayagam DC, Narayan Singh V, Busby D, Sieunarine K, Raju G: **Thyroid surgery without drainage; 15 years of clinical experience.** Journal of Royal College of Surgery Edinburgh 1993, 38:69-70.

18. Abboud,, Bassam, Ghassan Sleilaty,, and Habib Rizk. **"Safety of thyroidectomy and cervical neck dissection without drains."** Can J Surg. 55.3 (2012): 199-203.

19. Debry C, Renou G, Fingerhut A: **Drainage after thyroid surgery: a prospective randomized study.** The Journal of Laryngology and Otology 1999, 113:49-51.

20. Schwartz W, Willy ,Ndzee C, Gerugross H: **Gravity or suction drainage in thyroid surgery Control of efficacy with ultrasound determination of residual haematoma.** Archives of Surgery 1996, 381:337-342.

21. **"Is the Use of a Drain for Thyroid Surgery Realistic? A Prospective Randomized Interventional Study."** Resolve a DOI. N.p., n.d. Web. 12 Aug. 2013.