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PROSPECTIVE ANALYSIS OF THYROID SURGERY AND ITS COMPLICATION RATIO AMONG 100 SELECTED CASES

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Abstract:
Aim: *To evaluate various complication of thyroidectomy and how to minimize the possible complications.*
Design: *prospective descriptive study.*
Place and duration: *The study was conducted on 100 patients with thyroid gland treated in the Department of Surgery Unit II, Services Hospital Lahore for three years duration from March 2017 to February 2020.*
Methodology: *This study covers all thyroid goiter cases and were hospitalized. Details have been added in a proforma.*
Results: *100 patients were operated in the above period. 90 women and 10 men; therefore, the ratio of women to men was observed in this study as 9: 1. 60 of these patients had non-toxic multi-molecular goiter; 22 simple diff use goitre; 10 had diff use toxic goitre; 3 patients had toxic multinodular goitre and 1 had toxic adenoma.*
Conclusion: *Thyroid goiter is a common surgical disorder. We concluded that all patients should be carefully inspected and thoroughly examined. An experienced surgeon should perform thyroid surgery to prevent complications.*
Key words: *Multinodulargoiter, toxic nodule, thyroidectomy.*

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INTRODUCTION:

The goiter is an enlarged thyroid gland. This is a global health issue. This is also a serious issue in Pakistan, especially in northern-mountainous regions that are endemic. A simple goiter can grow to large sizes without any symptoms. This is generally considered a normal feature in endemic areas, and patients do not consult physicians unless they have some complications such as airway obstruction, malignancy or toxicity[1-3]. The anatomical location of the thyroid gland increases the risk of surgical complications due to many important structures such as the trachea, parathyroid glands and recurrent laryngeal nerves[4]. Thus, the probability of complications after modern thyroidectomy is very-high, but relapses in this area of modern surgery are very low[5]. Possible complications include damage, bleeding, recurrent laryngeal nerve or the external branch of the upper laryngeal nerve, damage to the bloodstream, or removal of the parathyroid glands[6]. Recurrent hyperthyroidism or myxedema may be the result of inappropriate or overly aggressive surgical treatment.

Today, death from thyroid surgery is very rare before 1850. About 100% of thyroid surgery is performed at 41% of mortality, but major bleeding is an important factor[7]. At the end of the 19th century, three important events changed the course of thyroid surgery:

1. Lister's discovery of antiseptics.
2. The use of hemostatic forceps (1870) and
3. Technical development of the "Father of thyroid surgery" by the famous Theodor Kocher (1878).

Despite these advances, mortality after thyroid surgery decreased from 50% to 0.2%. Effective thyroid surgery is based on a solid understanding of fluid and unhurried surgical technique as well as normal and pathological anatomy. The frequency of complications can be minimized by paying attention to preoperative assessment, well planned surgery, meticulous dissection and postoperative details[8]. Thyroidectomy is one of the major surgical operations performed at furthermost Pakistani university hospitals. Though surgeons are familiar with most thyroid complications, the rate of complications varies between surgeons. Therefore, each thyroid surgeon should determine an individual indicator of complications.

PATIENTS AND METHODS:

This study was conducted in department of Surgery Unit II, Services Hospital Lahore for three years duration from March 2017 to February 2020. The clinical evaluation and test results and postoperative complications are specifically designed. In all cases, a comprehensive preoperative assessment was performed. All patients underwent a detailed history and full physical examination. It was palpated systematically to determine the size of the thyroid gland, contour, consistency, tuberosity, fixation, tracheal displacement and the presence of cervical lymph nodes. In addition to routine testing, uptake of I-131 for thyroid screening I-131 or TC-99 scanning, total serum T3, T4 and TSH levels, serum calcium, ECG and heart rate were estimated in all patients. Cervical spine x-ray and thoracic inlet were made in patients with large goiter to see tracheal displacement. Indirect laryngoscopy was performed on all patients before surgery and as indicated after surgery. FNAC was applied to almost all cases of single nodules. According to the clinical trial, hormonal analysis and thyroid tests, 4 patients had hyperthyroid toxicity, 4 patients had 4% hypothyroidism, and 88 patients were euthyroid. All patients with hyperthyroidism were initially treated with anti-thyroid drugs.

RESULTS:

A total of 100 patients with numerous types of goiter were operated in surgery department. Non-toxic multinodular goitre is the most common swelling in 60 patients (60%), followed by a solid nodule in 22 patients (22%), simple diffuse goiter in 10 patients (10%), diff use toxic goiter, toxic multinodular goiter 4 (4%) and toxic adenoma 1 (1%).

90 out of 100 patients included in the study are women (90%) and 10 men (10%). The ratio of women to men was 9: 1. The age of the patients ranged from 16 to 55 years. The average age was 36.4. The maximum numeral of patients belongs to the age group 21-30 (37%), followed by 27 patients to the age group 31-40 years (27%). The most common surgery was subtotal thyroidectomy in 72 patients (72%), followed by lobectomy and isthmusectomy in 22 patients (22%), total thyroidectomy in 5 patients (5%) and total thyroidectomy with modified radical neck dissection in one patient (1%). The most frequently reported histopathologic changes were nodular goiter (65%), followed by colloid goiter (12%). Toxic multinodular goiter (2.22%) was found in 2 out of 5 patients with thyrotoxicosis, severe disease (2.22%) in 2 patients and toxic adenoma (1.11%) in one patient. Hashimoto's thyroiditis was detected in two patients (2.22%) and malignant goiter (3.33%) in 3 patients. Patients were admitted one day before the surgery and discharged 3-4 days after the surgery. The average length of hospital stay in uncomplicated cases was 6.5 days. Only high-risk patients who required pre-operative treatment had to stay in hospital longer. On the day of surgery, the patients had to have euthyroid disease.

Table 1: Various Types of Goiter Included in Th is Study Are

Type of Goitre	No. of Patients	Percentage
Simple multinodular goiter	60	60
Toxic multinodular goiter	4	4
Simple diff use goiter	10	10
Diff use toxic goiter	3	3
Solitary nodule	22	22
Toxic adenoma	1	1
Total:	100	100%

Table 2: Sex Incidence

Sex	No. of Patients	%age
Male	10	10%
Female	90	90%
Total:	100	100%

Table 3: Age Incidence

Sex	No. of Patients	Percentage
Nov-20	16	16
21-30	37	37
31-40	27	27
41-50	14	14
51-60	6	6
Total:	100	100%

Table 4: Operative Procedures Adopted On 100 Patients Included in Th is Study

Procedure	No. of Patients	Percentage
Subtotal thyroidectomy	72	72
Near and thyroidectomy	05	5
Lobectomy + Isthmusectomy	22	22
Total thyroidectomy with modified radical neck dissection	01	1
Total	100	100%

Table 5: Histopathological Reports of Th e Resected Thyroid Glands

Description	No. of Patients	Percentage
Simple modular goitre	65	65
Toxic multinodular goitre	3	3
Colloid goitre	12	12
Th yroid hyperplasia (Grave's disease)	2	2
Hashimoto's thyroiditis	2	2
Follicular adenoma	6	6
Papillary Carcinoma	2	2
Degenerative cyst	6	6
Medullary carcinoma	1	1
Toxic adenoma	1	1
Total:	100	100%

Table 6: Postoperative Complications

Complications	No. of Patients	Percentage
Haemorrhage and haematoma formation	---	0
Hoarseness of voice		
Transient RLNP	1	1.11
Permanent RLNP	---	0
Larygeal Obedema	3	3.33
Wound Complications		
Wound infection	1	1.11
Adherent skin with underlying structures	1	1.11
Oedema of skin flaps	2	2.22
Transient Hypoparathyroidism		
(Hypocalcaemia)	2	2.22
Thyrotoxic crisis	---	0
Hypothyroidism	1	1.11
Total	11	0.1221

DISCUSSION:

Although surgery is an accepted treatment for many thyroid diseases. However, postoperative complications such as recurrent laryngeal nerve damage, hypoparathyroidism, hypothyroidism, and recurrent thyrotoxicosis make the patient's surgery reluctant[9-10]. Most current reviews suggest that thyroidectomy can be performed at very low morbidity and mortality. In this last series, 0% compared to these studies, our incidence was quite low, and the mortality rate was still 0%. The reason for this was adequate preoperative evaluation, well-planned preoperative preparation for thyrotoxicosis, and rigorous dissection during surgery[11]. Compared with the total thyroid, Friedman M and Pacella BL Jr (1990) state that if full surgery is performed during surgery, the larynx or parathyroid nerves are at greater risk. Return to the subtotal procedure. Herranz Gj et al. (1991) 335, when retrospectively examining thyroidectomy, major complications can be attributed to technical difficulties even in the hands of experienced surgeons[12]. Sharma AK and Mishra SK (1993) reported that short-term thyroidectomy is possible in emerging countries[13]. According to them, 156 out of 162 patients were discharged within 48 hours after surgery. In our study, the average length of hospital stay was 3-4 days. We use subcutaneous prolenic sutures that cannot be absorbed, and generally prefer to remove them after the third day after surgery. Sharma AK and Mishra SK (1993)[14]. According to them, 156 out of 162 patients were discharged within 48-hours after surgery. Vickers P et al. (1990) in 130 hyperthyroidism studies, 16 patients reported symptoms of hyperthyroidism immediately after the postoperative period. Rao et al[15]. (1990), the reported incidence of postoperative hypoparathyroidism ranges from 3% to 32%. In a study of 126 patients treated at Shaikh Zayed Hospital in 1994, Khalid et al., Krwiak (2.38%), transient hypocalcaemia (2.38%), wound infection (1.58%) and RLNP (1.58%) after the Lahore thyroid gland.

CONCLUSION:

Thyroid diseases are common in our country. A rigorous clinical trial, the use of modern research, and above all a high suspicion rate are mandatory tools for early diagnosis, and therefore appropriate thyroid treatment states that in this study there are problems with the wound. general complications after thyroid surgery were small compared to current literature.

REFERENCES:

1. Gambardella, Claudio, Chiara Offi, Roberto Maria Romano, Maurizio De Palma, Roberto Ruggiero, Giancarlo Candela, Alessandro Puziello, Ludovico Docimo, Marica Grasso, and Giovanni Docimo. "Transcutaneous laryngeal ultrasonography: a reliable, non-invasive and inexpensive preoperative method in the evaluation of vocal cords motility—a prospective multicentric analysis on a large series and a literature review." *Updates in Surgery* (2020): 1-8.
2. Tae, Kyung, Yong Bae Ji, Chang Myeon Song, and Junsun Ryu. "Robotic and endoscopic thyroid surgery: evolution and advances." *Clinical and experimental otorhinolaryngology* 12, no. 1 (2019): 1. Tae, Kyung, Yong Bae Ji, Chang Myeon Song, and Junsun Ryu. "Robotic and endoscopic thyroid surgery: evolution and advances." *Clinical and experimental otorhinolaryngology* 12, no. 1 (2019): 1.
3. Quraishi, N. A., D. Pasku, J. E. J. Koch, Georgios Arealis, Bronek M. Boszczyk, and Kimberley L. Edwards. "Prospective analysis of health-related quality of life after surgery for spinal metastases." *European Spine Journal* (2020): 1-7.

4. El-kordy, Mohamed, Sameh Gabr Attia, Hesham Wefky Anwar, Ibrahim Aboulfotoh Mohamed, Eid Rezk Elgamal, Mohamed Ibrahim Shalamesh, Alsayed Basiony Moghazy, and Emad Ades Elewasy. "Lateral backdoor approach versus conventional anterior approach in recurrent Thyroid surgery." *Journal of Advanced Pharmacy Education & Research| Jan-Mar* 9, no. 1 (2019): 7.
5. Aspinall, S., D. Oweis, and D. Chadwick. "Effect of surgeons' annual operative volume on the risk of permanent Hypoparathyroidism, recurrent laryngeal nerve palsy and Haematoma following thyroidectomy: analysis of United Kingdom registry of endocrine and thyroid surgery (UKRETS)." *Langenbeck's archives of surgery* 404, no. 4 (2019): 421-430.
6. Yu, Jian, Shangrui Rao, Zhe Lin, Zhongliang Pan, Xiangjian Zheng, and Zhonglin Wang. "The learning curve of endoscopic thyroid surgery for papillary thyroid microcarcinoma: CUSUM analysis of a single surgeon's experience." *Surgical endoscopy* 33, no. 4 (2019): 1284-1289.
7. Philippe, Jean-Baptiste, Jérémie Riou, Annabelle Lemoult, Marine Sarfati-Lebreton, Antoine Hamy, and Stéphanie Mucci. "Feasibility criteria for total thyroidectomy in outpatient surgery." In *Annales d'endocrinologie*, vol. 80, no. 5-6, pp. 286-292. Elsevier Masson, 2019.
8. Iorio, Olga, Vincenzo Petrozza, Antonietta De Gori, Marco Bononi, Natale Porta, Giorgio De Toma, and Giuseppe Cavallaro. "Parathyroid Autotransplantation during thyroid surgery. Where we are? A systematic review on indications and results." *Journal of Investigative Surgery* 32, no. 7 (2019): 594-601.
9. Kim, Hong Kyu, Young Jun Chai, Gianlorenzo Dionigi, Eren Berber, Ralph P. Tufano, and Hoon Yub Kim. "Transoral robotic thyroidectomy for papillary thyroid carcinoma: perioperative outcomes of 100 consecutive patients." *World journal of surgery* 43, no. 4 (2019): 1038-1046.
10. Bove, Aldo, Paolo Panaccio, Gino Palone, Ludovica Esposito, Lucia Marino, and Giuseppe Bongarzoni. "Impact of the new guidelines of the American Thyroid Association on the treatment of the differentiated thyroid tumor in an Italian center with medium-high volume thyroid surgery." *BMC surgery* 18, no. 1 (2019): 127.
11. Donatini, Gianluca, Jerome Danion, Carlos Zerrweck, Pierre Etienne, Louis Lacoste, and Jean-Louis Kraimps. "Single dose steroid injection after loss of signal (LOS) during thyroid surgery is effective to recover electric signal avoiding vocal cord palsy and the need of staged thyroidectomy: prospective evaluation on 702 patients." *World journal of surgery* 44, no. 2 (2020): 417-425.
12. Dobnig, Harald, Wolfgang Zechmann, Michael Hermann, Michael Lehner, Dirk Heute, Siroos Mirzaei, Alois Gessl et al. "Radiofrequency ablation of thyroid nodules:"Good Clinical Practice Recommendations" for Austria." *Wiener Medizinische Wochenschrift* 170, no. 1 (2020): 6-14.
13. Cipolla, Calogero, Giuseppa Graceffa, Sergio Calamia, Eugenio Fiorentino, Gianni Pantuso, Salvatore Vieni, and Mario Latteri. "The value of total thyroidectomy as the definitive treatment for Graves' disease: a single centre experience of 594 cases." *Journal of clinical & translational endocrinology* 16 (2019): 100183.
14. Bartsch, Detlef K., Cornelia Dotzenrath, Christian Vorländer, Andreas Zielke, Theresia Weber, Heinz J. Buhr, Carsten Klinger, Kerstin Lorenz, and StuDoQ/Thyroid Study Group. "Current Practice of Surgery for Benign Goitre—An Analysis of the Prospective DGAV StuDoQ| Thyroid Registry." *Journal of clinical medicine* 8, no. 4 (2019): 477.
15. Othman, Ahmed Fayez, Bosat Elwany Bosat, and Hamed Ahmad Elbadawy. "Incidental Thyroid Carcinoma Diagnosed after Total Thyroidectomy for Benign Thyroid Diseases: A Prospective Observational Study." *The Egyptian Journal of Hospital Medicine* 77, no. 3 (2019): 5287-5292.