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ORIGINAL ARTICLE

Experience of Thyroid Surgery at a Tertiary Care Hospitals in Pakistan

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ABSTRACT

Introduction: A goitre is an enlargement of thyroid gland. It may be diffuse or nodular. It can be an isolated solitary nodule with a discrete swelling in one lobe with no palpable abnormality elsewhere or it can be a dominant nodule with discrete swellings and evidence of abnormality elsewhere in the gland.

Objectives: The main objective of the study is to find the experience of thyroid surgery at a tertiary care hospitals in Pakistan.

Material and methods: This cross sectional study was conducted in Ayub teaching hospital Abbottabad and SKBZ/CMH, Muzaffarabad during 2021 to 2022. The data was collected from 300 patients who were diagnosed with thyroid cancer and experienced the surgery in the hospital. Demographic information of patients, clinical features and tissue biopsy results were extracted.

Results: The data were collected from 300 patients of both genders. The most common presenting symptom was swelling in front of neck, which moved with swallowing. In 85(85%) patients the swelling which was of thyroid origin was benign, while in 15 (15%) patient it was malignant. The type of malignancy on histopathology reports are shown in Table 2.

Conclusion: It is concluded that the risk of malignancy in multinodular goitre is not as low as it was thought before and that it is quite significant and is mostly of the papillary type.

INTRODUCTION

A goitre is an enlargement of thyroid gland. It may be diffuse or nodular. It can be an isolated solitary nodule with a discrete swelling in one lobe with no palpable abnormality elsewhere or it can be a dominant nodule with discrete swellings and evidence of abnormality elsewhere in the gland [1]. Goitre can be nontoxic (euthyroid), toxic (overactive) or hypothyroid (underactive). Goitre can be benign or malignant causing only cosmetic disfigurement or can be as large as to cause compression of adjacent structures and morbidity and mortality. Worldwide, the most common cause of goitre is iodine deficiency. It is estimated that in a population of 800 million, goitre affect as many as 200 million people who have a diet deficient in iodine. In a study conducted in UK, about 16% of the population presented with goiter [2].

Surgery is usually reserved for large goitres with compression, malignancy and when other forms of therapy are not practical or ineffective. Establishing a euthyroid state prior to surgery is important due to multitude effects of thyroid hormones throughout the body especially cardiovascular system which may complicate the perioperative and postoperative management. Several studies has been conducted on the risks and complications of thyroid surgery among which most commonly encountered are hypocalcaemia, hoarseness of voice, wound infection, seroma formation [3-4].

Several retrospective studies evaluated the risks and complication rate of thyroid surgery and found that the three major complications could be detected: hemorrhage, recurrent laryngeal paralysis, and hypoparathyroidism with varying rates of incidence [5]. Postoperative hemorrhage may occur as a devastating complication from thyroid surgery as an unrecognized or rapidly expanding hematoma that can cause airway compromise and asphyxiation. The incidence of postoperative bleeding varied from 0.4% to 1.1% [6].

Temporary and permanent vocal fold paralysis rates were analyzed in several reports and the overall incidences of temporary and permanent vocal paralyses were 5.1% and 0.9%, respectively. When irreversible damage occurred at the recurrent laryngeal nerve (RLN), patients were usually presented with marked voice dysfunction changes [7].

Objectives: The main objective of the study is to find the experience of thyroid surgery at a tertiary care hospitals in Pakistan.

MATERIAL AND METHODS

This cross sectional study was conducted in Ayub teaching hospital Abbottabad and SKBZ/CMH, Muzaffarabad during 2021 to 2022. The data was collected from 300 patients who were diagnosed with thyroid cancer and experienced the surgery in the hospital. Demographic information of patients, clinical features and tissue biopsy results were extracted. Patients with solitary nodule, Graves' disease and metastatic lymphadenopathy with no palpable goitres were excluded from the study. All the selected patients underwent ultrasonography and fine needle aspiration cytology in cases with a suspicions nodule rapidly growing hard, irregular nodule which was detected on clinical examination and on ultrasound. All the patients were offered surgery as treatment based on diagnostic work up equivocal from various investigation. All patients underwent different thyroid operations ranging from hemithyroidectomy to total thyroidectomy and resected specimens were sent for histology. Age, gender, ultrasonography, FNAC, type and duration of Surgery and final histopathology report recorded.

The sensitivity, specificity, positive predictive value and negative predictive value in diagnosing each category were calculated. The cases with diagnostic discrepancies were reviewed and the possible causes of diagnostic errors analysed.

RESULTS

The data were collected from 300 patients of both genders. The most common presenting symptom was swelling in front of neck, which moved with swallowing. In 85(85%) patients the swelling which was of thyroid origin was benign, while in 15 (15%) patient it was malignant. The type of malignancy on histopathology reports are shown in Table 2. Out of all malignant tumors the papillary carcinoma was on the top with a percentage of 10%.

Table 01: Gender wise distribution of selected patients

Gender	No. of patients (%)
Male	110
Female	190

Table 02: Histopathological analysis of selected patients

Type of Malignancy	No. of patients
Papillary	10
Follicular	14
Medullary	1

Table 03: Distribution of type of thyroid surgeries in selected patients

Type of surgery	Complications n (%)	Level of Expertise n (%)		
		L1	L2	L3
STT		54 (10.76)	70 (53.78)	178 (35.46)
Lobectomy	18 (18.33)	12 (28.57)	20 (47.6)	10 (23.8)
NTT	31 (30.95)	12 (19.7)	30 (49.2)	19 (31.2)
TT	48 (47.5)	99 (43)	61 (28)	68 (29.8)
Total	97	177	181	275

DISCUSSION

Majority of the patients with of thyroid cancer in Pakistan present as multinodular goiter rather than solitary thyroid nodules [8]. A higher percentage of these patients have distant metastasis at the time of presentation, thereby reducing the chances of favorable outcome. Thyroid carcinoma usually presents as an asymptomatic painless nodule or a mass in the neck detected by the patient or health care professionals or as an incident thyroid nodule during increasingly widespread use of cross- sectional imaging of head and neck region [9].
Since thyroid nodules may be present in up to 76% of unselected females using ultrasound and only less than 5-10% of these nodules are malignant, the challenge is to diagnose and treat malignant thyroid nodules in a sea of benign nodules [10]. Certain features which increase the likelihood of a nodule to be malignant are local pressure symptoms, vocal cord paralysis, associated lymphadenopathy, rapid growth, male gender, family history and history of radiation exposure [11].

Literature review indicates higher complication rates for total thyroidectomy like postoperative hypoparathyroidism (about 6%), recurrent laryngeal nerve paralysis and wound complications (≈ 1%).26,27 Complications in total thyroidectomies were also higher in our study as compared to other surgeries but a worrying sign was the presence of higher complication rates for other surgeries as well [12]. Lack of experience on behalf of the surgeon performing total thyroidectomy can explain the higher morbidity and increased complication rates, but higher complications in other thyroid surgeries point towards a systemic workload and staff mismatch problem [13-15]. There was a progressive increase in number of thyroid surgeries over 20 years along with an increase in outpatient workload, admissions and other elective procedures (Table II). In contrast, the number of operating surgeons increased from 6 in 1998-2003 to only 10 in 2011-2018 while the number of Level 3 surgeons remained constant [16-18].

CONCLUSION

It is concluded that the risk of malignancy in multinodular goitre is not as low as it was thought before and that it is quite significant and is mostly of the papillary type. The risk of malignancy in multinodular goitre should not be underestimated as majority of the patients with thyroid cancers present with multinodular goitre.

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