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Research Article

**ANALYSIS OF INCIDENCE OF MULTINODULAR GOITER
AND FOLLICULAR CARCINOMA OF THYROID**Dr Irfan Ali Tahir¹, Dr Hafsa Qazi², Dr Jehanzaib Zafar¹¹Holy family hospital Rawalpindi, ²AJK Medical College, Muzaffarabad.**Article Received:** September 2020 **Accepted:** October 2020 **Published:** November 2020**Abstract**

Introduction: Cancer is becoming a leading cause of death in many countries of the world. Thyroid carcinoma is a relatively rare tumor, but represents the most frequent form of cancer of the endocrine glands. **Objectives:** The main objective of the study was to determine the frequency of thyroid carcinoma in multinodular goitre in patients undergoing thyroidectomy.

Material and methods: This descriptive study was conducted in Holy Family hospital, Rawalpindi during 2019 to 2020. The data was collected from 50 patients of both genders. Patients with solitary nodule, Graves' disease and metastatic lymphadenopathy with no palpable goitres were excluded from the study.

Results: The data were collected from 50 patients of both genders. The female predominated the male in the ratio of 7.5:2.5. 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.

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.

Corresponding author:**Dr. Irfan Ali Tahir,**

Holy family hospital Rawalpindi.

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INTRODUCTION:

Cancer is becoming a leading cause of death in many countries of the world. Thyroid carcinoma is a relatively rare tumor, but represents the most frequent form of cancer of the endocrine glands. It may present either as a solitary nodule or as a dominant nodule in a multinodular goiter. In Pakistan, thyroid cancer is responsible for 1.2% cases of all malignant tumors and studies from this region have reported papillary thyroid cancer to constitute 57% to 89% of all thyroid malignancies [1]. Thyroid carcinoma is the commonest endocrine malignancy and accounts for approximately 1% of all malignancies. Approximately 34000 new cases are diagnosed each year in USA [2]. Majority of diagnosed patients are women making thyroid carcinoma as the seventh most common female malignancy [3]. Outcome in thyroid carcinoma is very variable ranging from clinically insignificant disease to a very aggressive disease. Overall the prognosis of thyroid carcinoma is good with an excellent disease free survival. Hundahl SA et al reported ten year relative survival rate based on total cohort of 53,856 patients in USA of 93% for papillary and 85% for follicular carcinomas [4]. The incidence of thyroid carcinoma is increasing but some of it is due to early detection secondary to appropriate management of thyroid nodules [5].

Thyroid carcinoma arises from thyroid follicular cells (Papillary, follicular and anaplastic) or from other cells within the thyroid gland like lymphocytes (primary thyroid lymphoma) or neuroendocrine C cells (medullary thyroid carcinoma) [6]. Papillary and follicular carcinomas are considered differentiated carcinomas and are often managed similarly despite many differences between the two [7]. Exposure to ionizing radiation, changing levels of iodine nutrition and increased pathologic diagnosis of clinically unimportant thyroid neoplasia have all been proposed as explanations for a worldwide rise in the incidence of thyroid carcinoma over the past six decades.

Objectives:

The main objective of the study was to determine the frequency of thyroid carcinoma in multinodular goitre in patients undergoing thyroidectomy.

MATERIAL AND METHODS:

This descriptive study was conducted in Holy Family hospital, Rawalpindi during 2019 to 2020. The data was collected from 50 patients of both genders. 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 suspicious 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 analyzed.

RESULTS:

The data were collected from 50 patients of both genders. The female predominated the male in the ratio of 7.5:2.5. 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	25
Female	25

Table 02: Histopathological analysis of selected patients

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

DISCUSSION:

Majority of the patients with of thyroid cancer in Pakistan present as multinodular goiter rather than solitary thyroid nodules. 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.

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 [9]. 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 [10].

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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