

Original Article

Histopathological Analysis of Neoplastic Lesions of Thyroid Gland

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ABSTRACT:

Background: Among all the endocrine disorders, thyroid disorders are the most common in India. The present study was conducted to study histopathological neoplastic lesions of thyroid. **Materials & Methods:** The present study was conducted on 214 specimens of thyroid received in last 6 months in the department. General information such as name, age, gender etc. was recorded. USG findings, clinical features and gross features of specimens were obtained. Staining was performed with hematoxylin and eosin (H&E) stain. **Results:** Out of 214 cases, 102 specimens were from males and 112 from females. Age group 20-30 years had 56 lesions, 30-40 had 52, 40-50 had 44, 50-60 had 34 and >60 had 28 lesions. The difference was significant ($P < 0.05$). Common histopathological lesions were follicular adenoma seen in 46, papillary carcinoma in 68, follicular carcinoma in 56, medullary carcinoma in 34 and hurthle cell adenoma in 10 cases. **Conclusion:** Common lesions were seen such as papillary carcinoma and follicular carcinoma. Age group 20-30 years and 30-40 years exhibited higher number of lesions.

Key words: Histopathological, Follicular carcinoma, Thyroid.

Received: 15 September 2018

Revised: 16 November 2018

Accepted: 18 November 2018

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This article may be cited as: Kapoor N. Histopathological Analysis of Neoplastic Lesions of Thyroid Gland. J Adv Med Dent Scie Res 2018;6(12):45-47.

INTRODUCTION

Thyroid gland has wide and vital physiological roles in the body. The thyroid hormones affect all body organs and are responsible for maintenance of homeostasis and the body integrity. Thyroid disorders range from functional, immunological derangements to neoplastic lesions. The etiology of thyroid nodule is multifactorial; iodine deficiency, radiation exposure, and dietary goitrogenic factors all play an important role in the pathogenesis of thyroid nodules. The general population has an enormous burden of thyroid diseases. Among all the endocrine disorders, thyroid disorders are the most common in India.¹ There is enormous burden of thyroid diseases in the general population. Among all the endocrine disorders, thyroid disorders are the most common in India. Thyroid lesions may be developmental, inflammatory, hyperplastic and neoplastic. Diseases of the thyroid gland are common and comprise a spectrum of entities causing systemic disease (Grave's disease) or a localized abnormality in the thyroid gland such as nodular enlargement (goiter) or a tumor

mass.² The prevalence of goitre differs according to the geographical region, age and sex. Lesions affecting the thyroid can be accurately diagnosed by a careful histopathological examination of thyroidectomy specimens.³

Thyroid cancer is a relatively rare malignancy – representing only 1.5% of all cancers, but it is the commonest endocrine cancer accounting for 92% of all endocrine malignancies. Papillary carcinoma is the most common thyroid cancer followed by follicular, medullary, anaplastic carcinoma and lymphoma.⁴ The present study was conducted to study histopathological neoplastic lesions of thyroid.

MATERIALS & METHODS

The present study was conducted in the department of general pathology. It comprised of 214 specimens of thyroid received in last 6 months in the department. The study was approved from the institutional ethical committee.

General information such as name, age, gender etc. was recorded. USG findings, clinical features and gross features of specimens were obtained. Staining was performed with hematoxylin and eosin (H&E) stain. Classification of the

lesions was done based on WHO classification. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of lesions

Total- 214		
Gender	Males	Females
Number	102	112

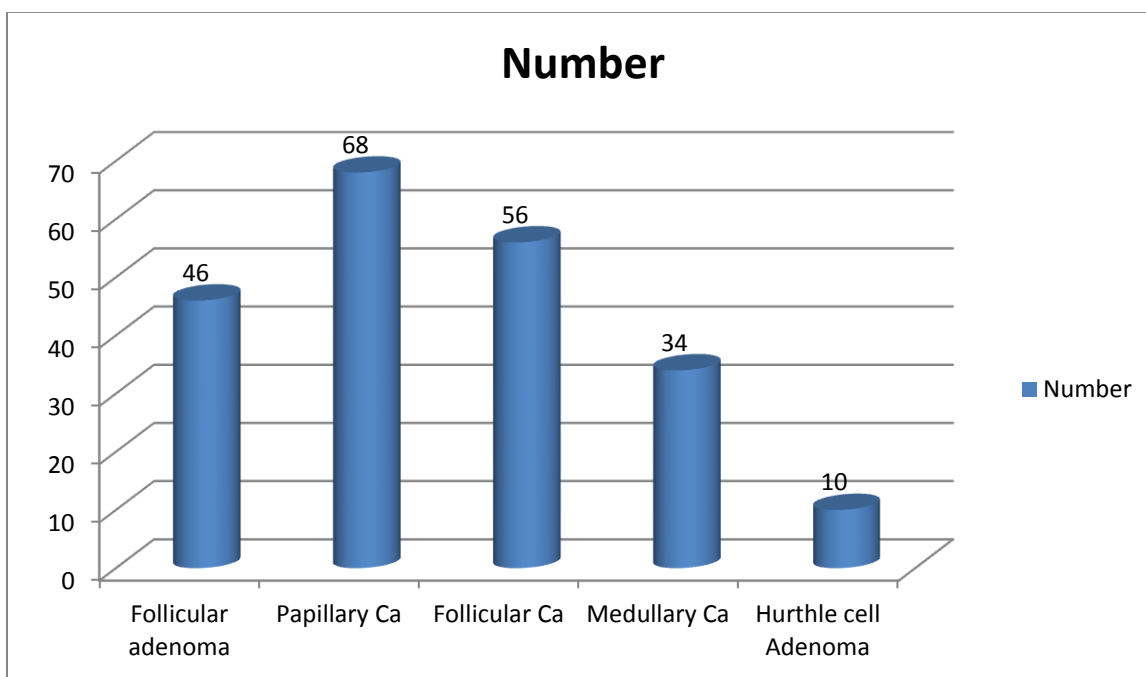
Table I shows that out of 214 cases, 102 specimens were from males and 112 from females.

Table II Age group wise distribution of lesions

Age group (years)	Number	P value
20-30	56	0.01
30-40	52	
40-50	44	
50-60	34	
>60	28	
Total	214	

Table II shows that age group 20-30 years had 56 lesions, 30-40 had 52, 40-50 had 44, 50-60 had 34 and >60 had 28 lesions. The difference was significant (P< 0.05).

Graph I Histopathological types of lesions



Graph I shows that common histopathological lesions were follicular adenoma seen in 46, papillary carcinoma in 68, follicular carcinoma in 56, medullary carcinoma in 34 and hurthle cell adenoma in 10 cases.

DISCUSSION

Thyroid disorders are common worldwide. Thyroidectomy is done since surgery may offer cure. Various studies conducted on thyroidectomy specimens in diverse parts of the world are documented in the literature.^{5,6} Disorders affecting thyroid in different geographic areas of India are well documented. Both the neoplastic and non-neoplastic diseases of thyroid are common all over the world, with a varying frequency and incidences depending upon iodine deficiency status. In India about 42 million people suffer from thyroid diseases. Diseases of the thyroid are of great importance as most can be controlled by medical or surgical management. Thyroidectomy has become a routine procedure as a result of safe anesthesia, antiseptics, fine surgical instruments, developments of new techniques and is offering the chances of cure to many patients.⁷ In present study we assessed thyroid specimens obtained in the department.

We found that out of 214 cases, 102 specimens were from males and 112 from females. Age group 20-30 years had 56 lesions, 30-40 had 52, 40-50 had 44, 50-60 had 34 and >60 had 28 lesions. Magdalene et al⁸ found that out of the 240 thyroidectomy specimens 214 (89.2%) were from females and 26 (10.8%) were from males. The female: male ratio was 8.2:1. The age of the patients ranged from 2 to 83 years with a mean age of 44.6 years. 160 cases (66.7%) cases were non-neoplastic and 80 cases (33.3%) cases were neoplastic. The common non-neoplastic lesions were colloid goiter (101 cases; 42.1%) and Nodular Hashimoto thyroiditis (28 cases; 11.7%). There were 22 benign tumors and 58 malignant tumors. Follicular adenoma was the most common benign tumor (18cases, 7.5%) and papillary carcinoma was the most common malignant tumor (46 cases, 19.2%).

We observed that common histopathological lesions were follicular adenoma seen in 46, papillary carcinoma in 68, follicular carcinoma in 56, medullary carcinoma in 34 and hurthle cell adenoma in 10 cases. Ambreen et al⁹ found that neoplastic lesions were found in 204 cases (72.34%). 78.92% cases were females and 21.08% cases were males. Out of 204 neoplastic lesions, 55 cases were benign accounting for 26.96% of neoplastic lesions. Malignant thyroid lesions accounted for 72.55% (n=148) of all neoplastic lesions. The age of the studied malignant thyroid neoplastic lesions ranged from 9 years to 74 years with relative peak age of incidence between 20-29 years of age followed by 30-39 years age group. One case was diagnosed as well differentiated tumor of unknown malignant potential. Papillary carcinoma was the commonest malignant tumor seen in 85.14% of all malignant lesions. Follicular adenoma was most common benign neoplasm.

Gupta A et al¹⁰ in their study found that the highest incidences (51%) of thyroid enlargements were found in age group of 21-40 years with females predominated (77%), ratio being 3.34:1. Out of total 100 cases, 28 were neoplastic and 72 were non-neoplastic. Thyroid function test was carried out of all 100 cases and out of them 81 were euthyroid. Most common clinical symptom in the patients of thyroid lesions was swelling in the neck which was present in all cases. Multinodular goiter was the most common radiological finding seen in 55% cases. Out of 55 cases of MNG one case turned out to be malignant after histopathological examination. USG diagnosed 10 cases were malignant, out of them 1 case turned out to be benign after histopathological examination.

CONCLUSION

Common lesions were seen such as papillary carcinoma and follicular carcinoma. Age group 20-30 years and 30-40 years exhibited higher number of lesions.

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Source of support: Nil

Conflict of interest: None declared

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