

A study of clinico-pathological profile of thyroid mass

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Abstract

Thyroid lesions are fairly common worldwide and are commonly encountered in clinical practice. From a clinical standpoint, the possibility of neoplastic disease is of major concern in persons who present with thyroid swelling. Although tumours of the thyroid account for only 1% of the overall human cancer burden, they represent the most common malignancies of the endocrine system and pose a significant challenge to pathologists, surgeons and oncologists. The present study describes the clinico-pathological profile of patients presenting with thyroid mass at our hospital. It is a prospective, hospital based study. Study duration was from January 2013 to July 2014. Sample size was 100 patients selected from all thyroid swelling patients attending ENT outpatient department of our hospital. All patients with palpable thyroid mass with normal thyroid function test requiring evaluation, surgery and histopathological examination were included in the study. Details like age and sex distribution of patients, site of lesion, clinical presentation, consistency of thyroid mass, histopathological analysis, distribution of thyroid neoplasms and malignancy was described. Out of the 100 patients studied maximum number of thyroid swelling was seen in females [86%] whereas male constituted for only 14%. Female: male ratio was 6.14: 1. Thus, maximum patients with thyroid swelling were seen in the age of 21-30 years i.e. 3rd decade which was 32%. Least number of patients was seen in 61-70 years age group which was 4%. In our study, all patients presented with the chief complaint of neck swelling. The next most common presentation was pain which was seen in 10% cases. Out of the 100 cases studied we found a predilection for the involvement of right lobe more as compared to left. Right lobe involvement alone was seen in 47 cases followed by left lobe in 18 cases. Involvement of right lobe + isthmus was seen in 11 cases (11%). Involvement of left lobe + isthmus was seen in 9 cases (9%). Bilaterality was seen in 15 cases. Involvement of isthmus alone was not found even in a single case. Regarding consistency, most of the thyroid swellings were firm in consistency (70%) followed by mixed consistency which comprised of 22%. Cystic consistency was seen in 6 cases (6%). Hard consistency was in 2 cases (2%) which turned out to be malignant on histopathological examination. Histopathological reports found that maximum cases were of colloid goiter comprising of 76% cases. This was followed by Hashimoto's thyroiditis in 7% cases and papillary carcinoma in 6% cases. Follicular carcinoma, Hurthle cell adenoma and medullary carcinoma was seen in 1 case each. Most of the cases were non-neoplastic comprising of 83% followed by benign neoplastic (9%) and lastly malignant neoplastic (8%). Of all the malignant lesions encountered in this study, papillary carcinoma was the most common (75%) followed by follicular carcinoma (12.5%) and medullary carcinoma (12.5%).

Key Word: Thyroid Mass.

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INTRODUCTION

Different types of thyroid diseases came into the limelight during the 19th century.¹ Thyroid lesions are fairly common worldwide and are commonly encountered in clinical practice. From a clinical standpoint, the possibility of neoplastic disease is of major concern in persons who present with thyroid swelling. Although tumours of the thyroid account for only 1% of the overall human cancer burden, they represent the most common malignancies of the endocrine system and pose a

significant challenge to pathologists, surgeons and oncologists. ² The present study describes the clinico-pathological profile of patients presenting with thyroid mass at our hospital during the study period.

METHODS

It is a prospective, hospital based study. Study duration was from January 2013 to July 2014. Sample size was 100 patients selected from all thyroid swelling patients attending ENT outpatient department of our hospital.

Inclusion criteria: All patients with palpable thyroid mass with normal thyroid function test requiring evaluation, surgery and Histopathological examination.

Exclusion criteria: [1] Serious underlying medical conditions that restrict diagnostic testing such as renal failure, congestive cardiac failure or active co-existing non-thyroid carcinoma. [2] Patients of thyroid mass with deranged thyroid function test. [3] Patients not willing to give informed consent.

According to proforma detailed history was taken. Thorough examination was carried out. Details like age and sex distribution of patients, site of lesion, clinical presentation, consistency of thyroid mass, histopathological analysis, distribution of thyroid neoplasms and malignancy was described.

RESULTS

Table 1: Gender distribution among the patients with Thyroid mass

Sex	No. of patients	Percentage %
Male	14	14%
Female	86	86%
Total	100	100%

Female: male ratio was 6.14: 1.

Table 2: Age distribution of cases

Age (years)	No. of patients	Percentage %
11-20	7	7%
21-30	32	32%
31-40	26	26%
41-50	20	20%
51-60	11	11%
61-70	4	4%
Total	100	100%

Thus, maximum patients with thyroid swelling were seen in the age of 21-30 years i.e. 3rd decade which was 32%. Least number of patients was seen in 61-70 years age group which was 4%.

Table 3: Clinical presentation

Clinical presentation	No. of patients	Percentage %
Thyroid swelling	100	100%
Pain	10	10%
Difficulty in swallowing	3	3%
Change in voice	4	4%

Table 4: Site of swelling

Site of swelling	Number of patients	Percentage
Right lobe	47	47%
Left lobe	18	18%
Isthmus	-	-
Right lobe + isthmus	11	11%
Left lobe + isthmus	9	9%
Bilateral	15	15%
Total	100	100%

Table 5: Consistency of thyroid swelling

Consistency of thyroid swelling	Number of cases
Firm	70
Cystic	6
Hard	2
Mixed	22

Thus we see from the above table that out of the 100 cases studied most of the thyroid swellings were firm in consistency (70%) followed by mixed consistency which comprised of 22%. Cystic consistency was seen in 6 cases (6%). Hard consistency was in 2 cases (2%) which turned out to be malignant on histopathological examination.

Table 6: Histopathology Examination reports of patient studied

Histopathology report of thyroid swelling	Number of patients	Percentage %
Colloid goiter	76	76%
Follicular adenoma	5	5%
Follicular carcinoma	1	1%
Papillary carcinoma	6	6%
Hashimoto’s thyroiditis	7	7%
Adenomatous goiter	3	3%
Hurthle cell adenoma	1	1%
Medullary carcinoma	1	1%
Total	100	100%

Table 7: Distribution of Thyroid Neoplasm

Category	No. of cases	Percentage %
Non-neoplastic	83	83%
Benign neoplastic	9	9%
Malignant neoplastic	8	8%
Total	100	100%

Table 8:-Thyroid Malignancy

Carcinoma in thyroid	Number of patients	Percentage %
Papillary carcinoma	6	75%
Follicular carcinoma	1	12.5%
Medullary carcinoma	1	12.5%
Total	8	100%

DISCUSSION

A total of 100 patients of thyroid swelling were studied in the department of ENT of our hospital over study period and majority (86%) of patients were females. Males

accounted for 14%. Female: male ratio was 6.14: 1. Study conducted by Htwe *et al*³ reviewed 820 thyroid cases of which 143 (17.4 percent) were male and 677 (82.6 percent) female. In another series conducted by Abdulla *et al*⁴, 110 cases were reviewed of which females constituted 76.6%. Bough *et al*⁵ studied 60 cases, of which 15.3% were male and 84.7% were females. In our study, maximum patients with thyroid swelling were seen in the age of 21-30 years i.e. 3rd decade which was 32%. Least number of patients was seen in 61-70 years age group which was 4%. Sukumar Shaha *et al*⁶ and Francis *et al*⁷ also showed maximum number of cases in the 3rd decade. In our study, all patients presented with the chief complaint of neck swelling. The next most common presentation was pain which was seen in 10% cases. In 1993, Ananthakrishnan N *et al*⁸ reported a clinico - pathological profile of 503 patients with a single thyroid nodule where the commonest symptom apart from swelling of thyroid gland was pain. Of all the malignant lesions encountered in this study, papillary carcinoma was the most common (75%) followed by follicular carcinoma (12.5%) and medullary carcinoma (12.5%). In a study conducted by Bukhari *et al*⁹, papillary carcinoma accounted for 90.2% cases followed by 4.5% cases of medullary carcinoma, 2% cases of follicular carcinoma, 2% cases of undifferentiated carcinoma and 0.7% cases each of mixed medullary and papillary carcinoma and poorly differentiated carcinoma. Limitations of our study include hospital based and cross-sectional design. Further studies with large and community representative sample over diverse geographical area need to be done to understand in detail the clinico-pathological profile of patients presenting with thyroid mass.

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