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Research Article

Clinical presentation of various thyroid lesions in a study population attending a teaching hospital in North India

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ABSTRACT

Background: The present study is undertaken to evaluate the different clinical presentations of thyroid lesions in Northern Indian population. Clinical examination, although very accurate in most cases of thyroid lesion, is inadequate in some areas especially, in staging of thyroid malignancies and in detecting the multi-nodularity of the gland.
Methods: The study was conducted in the postgraduate department of pathology of a teaching hospital for a period of 1 year. It was a prospective hospital based Study. In each case, a brief clinical history and physical examination along with evaluation of relevant investigation was carried out. Patient was explained about whole of the procedure & the consent for the procedure was taken in all patients. FNAC of thyroid gland was done and the results of FNAC were correlated with histopathology, wherever available. The final results were correlated with different clinical presentations using SPSS 11.5 software.
Results: Out of the 139 patients, 134 presented with swelling in the neck, 3 patients presented with pain in the neck while as 2 patients came with discomfort in the neck. 74 patients have duration of swelling more than 2 years, 51 patients have duration upto 1 year, 10 patients have duration between 1 to 2 years and 4 patients have less than one month. Out of 139 patients, 110 patients have solitary swelling, 87 have swelling on right side, 119 presented with regular margins, 91 presented with firm consistency, 130 were mobile and 135 presented with non-tender.
Conclusion: Majority of the patients presented after 2 years of illness i.e. 74. Only 4 patients presently acutely within 1 month of illness. The major complaint was swelling in neck i.e. in 134, rest presented with local pain and discomfort.

Keywords: Thyroid lesions, Goiter, FNAC, Histopathology

INTRODUCTION

Thyroid nodules are commonly encountered in clinical practice, with a prevalence of 2% to 5% for palpable thyroid nodules[1] and 19% to 46% for nodules detected by thyroid ultrasonography.[2] Thyroid nodules are more common in women, and the incidence increases with age, history of radiation and diet containing giotrogenic material.[1] Various studies have shown that the risk of malignant involvement of thyroid palpable nodules[3] is 4% to 7%. Clinically thyroid lesions present as goitre or thyroid enlargement which can be nodular (solitary or multiple) or diffuse.[3]

Clinicians have used clinical examination, biochemical lab tests (T_3, T_4, TSH), transcutaneous ultrasonography, scintigraphy with (I-123 or Tc-99 mm) and Fine Needle Aspiration Cytology (FNAC) for the evaluation of thyroid nodules. FNAC has surpassed most of other tests.[4]

The procedure is regarded as a valuable method of distinguishing between malignant from those with benign nodules that can be followed clinically.[5]

FNAC is proposed as a pre-operative screening method to reduce the number of patients with benign nodules referred for surgery.[6]

As a diagnostic test, FNAC can be used to diagnose most benign nodular goitres, cysts, thyroiditis and neoplasms (papillary, medullary, anaplastic, poorly differentiated and metastatic malignancy) with high degree of accuracy based on cyto-morphological features.[7]

The diseases of thyroid form a major share of head and neck surgery. Clinical examination, although very accurate in most cases, is inadequate in some areas especially, in staging of thyroid malignancies and in detecting the multi-nodularity of the gland.

The reported incidence of thyroid nodules in children and adolescents is estimated to be between 1% and 2%. However, this incidence may be increasing because diagnostic radiological procedures are detecting incidental thyroid nodules in children.[8]

FNAC and USG are thus used in association with clinical features. The present study is undertaken to evaluate the different clinical presentations of thyroid lesions attending the OPD in a teaching hospital.

METHODS

The study was conducted in the postgraduate department of pathology of a teaching hospital in northern India for a period of 1 year. It was a prospective hospital based Study. In each case, a brief clinical history and physical examination along with evaluation of relevant investigation was carried out. Patient was explained about whole of the procedure & the consent for the procedure was taken in all patients.

Fine needle aspiration cytology of thyroid gland was done by (a) palpable method and (b) ultrasound guided. The radiologist and cyto-pathologist carried out ultrasound-guided FNAC. The slide smears were stained by May-Grunwald Giemsa (MGG) and Papnincolaou (PAP) staining method.

The results of FNAC were correlated with histopathology, wherever available. Statistical evaluation was done using SPSS 11.5 software.

RESULTS

Out of the 139 patients, 134 presented with swelling in the neck, 3 patients presented with pain in the neck while as 2 patients came with discomfort in the neck (Table 1).

Table 1: Presenting symptom of patients.

Symptoms	No. of pts.	Percentage
Swelling in neck	134	96.40
Pain	3	2.15
Discomfort	2	1.43

Out of 139 patients, 74 patients have duration of swelling more than 2 years, 51 patients have duration upto 1 year, 10 patients have duration between 1 to 2 years and 4 patients have less than one month (Table 2).

Table 2: Duration of symptoms of patients.

Duration	Number	Percentage
<1 month	4	2.87
1-12 month	51	36.69
1-2 years	10	7.19
>2 years	74	53.23
Total	139	100

Out of 139 patients, 110 patients have solitary swelling, 87 have swelling on right side, 119 presented with regular margins, 91 presented with firm consistency, 130 were mobile and 135 presented with non-tender (Table 3).

Table 3: Details of the observations made on local examination.

Clinical characteristics	Number	Percentage (%)
Nodule		
Solitary	110	79.13
Diffuse	29	20.86
Location		
Right	87	62.58
Left	52	37.41
Margins		
Regular	119	85.61
Irregular	20	14.38
Consistency		
Firm	91	65.46
Hard	12	8.63
Soft	33	23.74
Cystic	3	2.15
Mobility		
Mobile	130	93.52
Restricted	9	6.47
Tenderness		
Tender	4	2.87
Non-tender	135	97.12

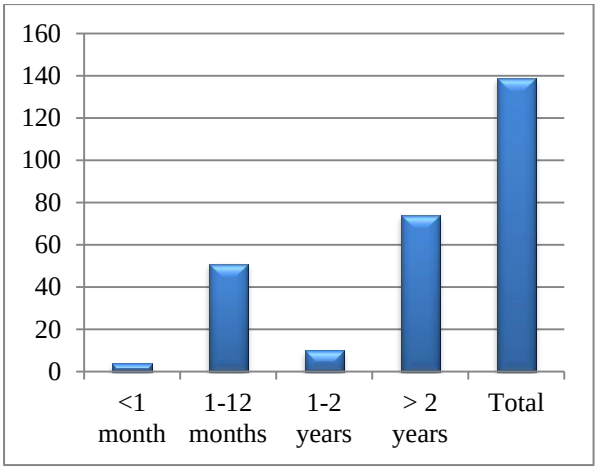

Figure 1: Duration of symptoms of patients.

DISCUSSION

The study was a prospective hospital-based study conducted in 139 patients with thyroid swelling in the postgraduate department of pathology in a teaching hospital in Northern India for a period of 1 year. The present study aimed at studying the different clinical presentations of thyroid lesions & confirmed cytological features of thyroid lesions by free/ultrasound guided Fine needle aspiration. Furthermore, the cytological findings were confirmed with Histopathology examination (HPE), wherever it was available.

Fine Needle Aspiration Cytology (FNAC) is the fundamental method for evaluation of thyroid nodules. Examination of the material obtained by FNAC enables to differentiate between benign and malignant lesions. However, FNAC of thyroid has its own limitations. Ultrasound guidance allows continuous visualization of the needle during insertion and sampling which results in pinpoint accuracy with a high level of safety.

Bouvet et al.[9] (1992) have found in their study that asymptomatic thyroid swelling was the commonest presenting complaint. In our study, the most common presenting complaint was swelling in the neck, which was present in 134 patients (95.80 %).Three patients complained of pain in the neck and two with throat discomfort.

The incidence of solitary and diffuse nodules was 79.1% and 20.8%, respectively in the present study. The right lobe was more frequently involved than the left lobe as reported by Psarras et al.[10] (1972). In our study, the right lobe of the thyroid was involved in 62.5% of the cases and the left lobe in 37.4% of the cases.

The diagnosis is mainly based on clinical signs and symptoms corroborated by laboratory confirmation by T_3, T_4, TSH levels and radio-active iodine uptake tests in some. FNAC provides cytomorphologic parameters that certainly help in understanding the pathogenesis of the thyrotoxicosis & hypothyroid state.

In the present study, goitre was the commonest thyroid lesion accounting for 51(57.3%) by USG-guided FNAC. Similar observation was made by A. Martinek et al.[11] who reported 156 (50.4%) out of 309 cases. Harsuolis et al.,[12] (1986) performed fine needle aspiration biopsy cytology in 1100 patients (aged 14-80, 993 women), with nodular goiter. Khurana KK et al.,[13] (1998) investigated the value of ultrasound-guided FNZC as a diagnostic tool in the management of non-palpable thyroid nodules as well as palpable thyroid nodules that were considered difficult to aspirate without guidance. Alexander EK et al.,[14] (2002) collected data of all patients at the Brigham and women's hospital thyroid nodule clinic like patient age, gender, nodule size, cystic content, solitary vs. multinodular thyroid, and nodule location were documented and evaluated. Handa U. et al.,[15] (2008) studied 434 patients with thyroid lesions over a period of three years. The most frequently encountered lesion was the colloid goitre in 250 (57.60%).

CONCLUSION

The present study was conducted in the post-graduate department of pathology in a teaching hospital in Northern India. The study compromised of 139 patients of thyroid lesions who were subjected to USG-guided and conventional method Fine Needle Aspiration Cytology (FNAC). Majority of the patients presented after 2 years of illness i.e. 74. Only 4 patients presently acutely within 1 month of illness. The major complaint was swelling in neck i.e. in 134, rest presented with local pain and discomfort.

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Ethical approval: The study was approved by the institutional ethics committee

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