

A CLINICAL STUDY ON DIAGNOSIS OF VARIOUS THYROID LESIONS IN ASRAM

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ABSTRACT

Diseases of the thyroid gland are common and comprise a spectrum of entities causing systemic disease. In spite of great advances in the understanding of thyroid tumours, there are wide variety of types and the wide range of aggressiveness of thyroid cancers continue to complicate both diagnosis and management, evaluation of different methods of therapy. This study was conducted in the Department of Otorhinolaryngology, Alluri Sitarama Raju Academy of Medical Sciences, Eluru. A total of 50 cases have been studied for 3 years from November 2015 to October 2018. All patients were subjected to fine needle aspiration cytology and their thyroid hormone status was also noted by eliciting serum T3, T4, TSH. Basic blood investigations like haemoglobin, total count, differential count were advised. Consent from all patients was taken after giving detailed information of the study. From the study it is concluded that it is important to know that most common thyroid lesions were benign so a thorough clinical examination and relevant investigations are warranted before it is diagnosed as malignant.

KEYWORDS

Thyroid, swelling, biopsy, gland, cytology

INTRODUCTION:

The word 'Thyroid' originated from 'Thyreos', a Greek word meaning shield. It was first used by Thomas Wharton (1614-1673) of London, UK. In old times, it was called Struma (Latin word for swollen gland), bronchocele (a cystic mass in the neck) and Goitre (Latin word-gutter meaning throat), the last name is in use even today.¹ Diseases of the thyroid gland are common and comprise a spectrum of entities causing systemic disease (Grave's disease) or a localised abnormality in the thyroid gland such as nodular enlargement (goitre) or a tumour mass.

After diabetes mellitus, the thyroid gland is the most common organ to cause endocrine disorders.² Thyroid disorders are the most common endocrine diseases particularly in countries where iodine intake through diet is low, thyroid carcinoma closely resembles its benign counterpart in physical characteristics, measurable physiological parameters such as serum T3/T4 levels and ultrasonic characteristics, therefore the surgical excision of the nodule and its histological examination is the only way to differentiate between the more frequent benign and much less frequent malignant nodules.

Since most of the thyroid nodules are benign, symptom less and small in size, they do not require surgical excision.³ A solitary thyroid nodule is defined as a palpable single, clinically detected nodule in the thyroid. They cause more concern because of high probability of malignancy in them, which can range from 5-35% of all solitary thyroid nodules.⁴

Diffuse thyroid lesions are those that are associated with conditions affecting entire gland such as hyperplasia and thyroiditis. Nodular lesion comprises those disorders that produce a clinical nodule and consists of non-neoplastic hyperplasia as well as benign and malignant tumours.⁵

Neoplasm of the thyroid are relatively uncommon disease, they constitute only 0.7% of all cancers in female and 0.2% in males. However, there has been an increase in the incidence of thyroid neoplasm in India and abroad.⁶ Striking advances in various disciplines of medicine and science as applied to the study of thyroid lesions have led to a better understanding and management of many thyroid disorders.⁷

In spite of great advances in the understanding of thyroid tumours, there are problems and unanswered questions, the great variety of types and the wide range of aggressiveness of thyroid cancers continue to complicate both diagnosis and management, evaluation of different methods of therapy continues to be a problem, partly because thyroid cancers are uncommon.⁸

In India, there are 2,16,000 new cases of thyroid malignancies per year⁹ and hence the role of properly evaluating thyroid lesions is significant. The commonest cause of thyroid disease worldwide is iodine deficiency, which causes goitre and hypothyroidism in some. However, autoimmune thyroid disease is the predominant form of thyroid dysfunction in the developed world. Although genetic (HLA-DR3, CTLA-4, and thyroglobulin gene mutations) and environmental factors (infection, smoking, iodine status) have been implicated, its precise cause is unclear.¹⁰

Hence the aim of the study is to study about various thyroid lesions, its clinical presentation age and sex distribution and to assess diagnostic parameters of thyroid lesions using (FNAC and T3, T4, TSH).

MATERIALS AND METHODS:

This study was conducted in the Department of Otorhinolaryngology, Alluri Sitarama Raju Academy of Medical Sciences, Eluru. A pre designed proforma was used to record relevant information from patients and a thorough clinical examination conducted, a detailed local examination of neck and lymph nodes was done. A total of 50 cases have been studied for 3 years from November 2015 to October 2018. This is a prospective study which was done over a period of two years. All patients were subjected to fine needle aspiration cytology and their thyroid hormone status was also noted by eliciting serum T3, T4, TSH. Basic blood investigations like haemoglobin, total count, differential count were advised. Consent from all patients was taken after giving detailed information of the study. Patients who presented with neck swellings to my otorhinolaryngology department were included in the study. Any neck swellings other than thyroid swellings after investigations were excluded. Patients who were not willing to undergo investigations like fine needle aspiration cytology, T3 T4 TSH and also not willing for follow up are excluded from the study.

RESULTS:

A detailed clinical history was taken and thorough clinical examination was done using the proforma as a guide. A total of 50 patients were taken up and enrolled in the study group. These 50 patients fulfilled my inclusion criteria. These 50 patients presented with thyroid swellings, prevalence of thyroid swellings in my otorhinolaryngology department was 2.27/1000.

AGE DISTRIBUTION IN STUDY: Age distribution: In our study age incidence ranged from 21-70 years. The highest incidence was seen in age group 21-30 i.e., 50% (25 patients). The lowest incidence was found in the age group 51-60 i.e., 2% (1 patient). The youngest patient was of the age 26 and the oldest patient was of age 68. [Table-1]

TABLE-1 AGE DISTRIBUTION		
AGE	TOTAL (N) 50	PERCENTAGE(%)
21-30	25	50
31-40	18	36
41-50	4	8
51-60	1	2
61-70	2	4
Total	50	100

SEX DISTRIBUTION IN STUDY: The ratio of female to male in our study was 7.33:1 88% were females and 12% males. The incidence of thyroid swellings was more in females than males, among 50 patients 44 were females and 6 were males. The incidence in our study showed females were commonly affected because of hormonal variations during pregnancy, multiparity. [Table-2]

TABLE-2 SEX DISTRIBUTION		
SEX	NUMBER OF PATIENTS	PERCENTAGE
FEMALE	44	88
MALE	6	12
TOTAL	50	100

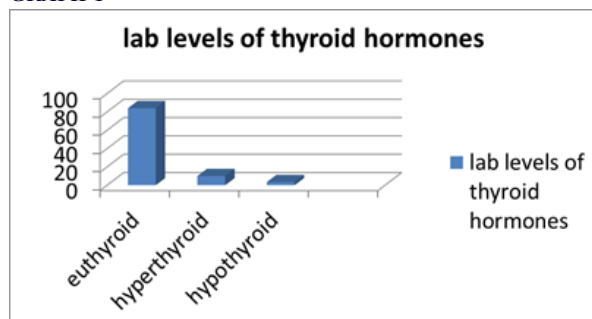
TYPE OF LESION: In our study benign lesions were predominant, constituting 60% i.e., (30patients), Malignant lesions was 40% i.e., (20 patients). Among the benign lesions most common was solitary nodule of thyroid, followed by multinodular goitre. The most common malignant lesion was papillary carcinoma of thyroid. [Table-3]

TABLE-3 TYPE OF LESION		
LESION	TOTAL NUMBER OF CASES(n)	PERCENTAGE%
BENIGN	30	60
MALIGNANT	20	40
TOTAL	50	100

LATERALITY DISTRIBUTION OF THYROID SWELLINGS: In our study majority of patients presented with unilateral neck swellings. Among unilateral neck swellings right sided lobe was most common involved side 44%, least common was midline swelling 8%. About 12% patients presented with bilateral swelling.

LEVELS OF THYROID HORMONES: Estimation is important to exclude some diagnosis like grave's disease, hashimoto's thyroiditis, toxic adenoma. It is also important to estimate levels of thyroid hormones before planning a surgery to prevent thyroid storm or complications during surgery due to high levels of thyroid hormones. Patients most commonly were euthyroid in our study.[Graph-1]

GRAPH-1



Based on clinical palpation 35 cases were solitary nodule of thyroid and when these patients were subjected to FNAC, 20 turned out to be colloid nodular goitre of thyroid, nine were papillary carcinoma of thyroid and six turned out to be follicular neoplasm.

Based on clinical palpation eight cases were diagnosed as multinodular goitre when these cases were subjected to FNAC six cases turned out to be dominant nodule in multinodular goitre, one turned out papillary carcinoma and one turned out as medullary carcinoma of thyroid. Seven were diffuse goitre by clinical palpation and when these cases were subjected to FNAC, four turned out to be hashimoto's thyroiditis and three cases were anaplastic carcinoma.

DISCUSSION:

Otolaryngologists frequently encounter thyroid swellings in all age groups. Diseases of the thyroid continues to be a common clinical problem having a prevalence rate of 4 - 7% in the general population. It

affects patients in all age groups and the treatment modalities include either a conservative management or a surgical excision of the gland.

In our study thyroid swellings were more common in age group 21-30. The highest incidence was seen in age group 21-30 i.e., 50% (25 patients), the lowest incidence was found in the age group 51-60 i.e., 2% (1 patient).

Our study finding was in accordance with journal by Balaji dhanaram et al¹¹, their study had similar findings where thyroid swellings was more common in the age group 21-30 i.e about 55 % (55 patients) were in the age group of 21-30. Similar to our study Balaji dhanaram et al study had lowest incidence among age group of 51-60, the incidence was 5% (5 patients)¹¹.

In our study of thyroid swellings, benign lesions were predominant i.e 60% (30 cases) and 40% was malignant. Our study was in accordance with Venkatesh TK et al¹² their study had similar findings in which benign lesions were predominant than malignant lesions, benign lesions were 85% and malignant lesions were 15%.

Out of 50 cases, 84% cases were euthyroid, among the thyroid derangements, cases 10% were hyperthyroid and 6% were hypothyroid. The diagnosis of hyperthyroidism is mainly based on clinical signs and symptoms corroborated by laboratory confirmation by T3, T4, TSH. A study by Dr Hariprasad et al also had similar findings, in their study too majority of patients were euthyroid¹³.

In our study the most common benign lesion was solitary nodule of thyroid followed by multinodular goitre, among malignant most common lesion was papillary carcinoma followed by follicular carcinoma of thyroid. My study finding was in accordance with Dr TK Venkatesh et al, his study had similar results¹².

CONCLUSION:

It is important to know that most common thyroid lesions were benign so a thorough clinical examination and relevant investigations are warranted before it is diagnosed as malignant.

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