EVALUATION OF THYROID SWELLINGS BY FNAC IN RIMS, SRIKAKULAM

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ABSTRACT

BACKGROUND

Rajiv Gandhi Institute is located in backward district in Andhra Pradesh. This study attempts to evaluate the types of Thyroid swellings, epidemiological factors in comparison with data available in literature. Fine needle aspiration cytology is now widely accepted as simple, most cost effective, least non-invasive investigation with minimal complications. The aim of the study is to evaluate the thyroid swelling based on fine needle aspiration cytology.

METHODS

A prospective longitudinal study is done over a period of 1 year from 1st August 2015 to 31st July on patients attending with midline neck swelling to the Outpatient Department of General Surgery, RIMS, Srikakulam. FNAC has been done with 23-gauge needle, smear was fixed with 90% alcohol solution and stained with Papanicolaou's stain. Detailed history regarding present complaint and duration of swelling, features of hypo- or hyperthyroidism and family history of thyroid swelling, and the results were plotted in charts.

RESULTS

Total number of patients visited surgical OP : 10482
 Patients with Thyroid swelling : 129
 Male Patients : 8
 Female Patients : 121
 Male: Female : 1:15.01
 Most commonly seen in age group : 25 to 35 yrs.
 Most common type is Colloid goitre : (47%)

Incidence of malignancy is 6% (Papillary carcinoma 3%, Follicular neoplasia 3%) commonest age for malignant thyroid swelling: 35-50 yrs. Most common presenting complaint is swelling in front of the neck (100%). Duration of swelling: 2 yrs. to 3 yrs. (63%). Positive family history is seen in 14 patients (10.93%).

CONCLUSION

Colloid goitre is more common benign thyroid swelling. Thyroid disorders are more common in females. Most common in the age group of 25-40 yrs. Papillary carcinoma is most commonly seen. The high incidence of colloid goitre and increased incidence of follicular carcinoma increased prevalence of Thyroid swellings as suggested by positive family history could be due to high endemicity of iodine deficiency in Srikakulam district and surrounding areas.

KEYWORDS

FNAC, Colloid Goitre Carcinoma of Thyroid.

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INTRODUCTION

Thyroid swelling is a common neck swelling worldwide, though regional variations are seen in incidence and type of swelling. More common in countries like India, which is endemic for Iodine deficiency.¹ Development of goitre is concern for both patient and clinician, as many of the thyroid swellings may turn malignant. Though most of the thyroid swellings are benign, prevalence of malignancy among the

solitary nodular goitre is 10%.⁽²⁾ Thyroid malignancy is the commonest endocrine malignancy. Papillary carcinoma is the most common followed by follicular, medullary, anaplastic and lymphoma.³ Fine Needle Aspiration Cytology (FNAC) is now being accepted as most cost effective, minimal invasive technique with very low incidence of complications in the diagnosis of thyroid lesions with an advantage of segregating the patients into operative and non-operative.⁴ A thyroid swelling which is usually considered for FNAC should be firm and palpable. FNAC can also be done on nodules suspicious on ultrasound: dominant or atypical nodules, dominant nodule of MNG, complex or cystic, recurrent nodules or any nodule associated with palpable cervical lymph nodes.⁵ FNAC is considered to be the "gold standard in selection of patients for surgery."⁽⁶⁾

METHODS

A prospective study was done over a period of 1 yr. from 1st August 2015 to 31st July on patients attending surgical OP of

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RIMS, Srikakulam. Patients with thyroid swelling with no other serious medical disorders were included. Patient's clinical features regarding present complaint, duration of swelling, any symptoms of hypo- or hyperthyroidism, pressure symptoms and family history. All the patients were evaluated for thyroid hormonal assay; 129 patients were included in the present study. FNAC was performed with 23-gauge needle smears were fixed with ether, 95% alcohol solution and staining was performed with Papanicolaou's staining.

RESULTS

Patients with Thyroid swellings attended to RIMS General Hospital. From 1st August 2015 - 31st July 2016.

Male : 8
Female : 121
Total Number of Patients : 129

Age	Males	Females	Number of Patients	%
5-15 Yrs.	2	4	6	4.65
16-25 Yrs.	1	26	27	20.93
26-35 Yrs.	0	40	40	31.01
36-45 Yrs.	1	26	27	20.93
46-55 Yrs.	2	16	18	13.95
56-65 Yrs.	2	7	9	6.98
66-75 Yrs.	0	2	2	1.55

Table 1: Age Distribution of Thyroid Swellings

Lymphocytic Thyroiditis	23	17.83
Multinodular Goitre	17	13.18
Adenomatous Goitre	20	15.50
Colloid Goitre	61	47.29
Papillary Carcinoma	4	3.10
Follicular Neoplasm	4	3.10

Table 2: Types of Thyroid Swelling Based on FNAC

Types of Thyroid Swelling	Age Distribution of Thyroid Swelling						
	5-15 Years	16-25 Years	26-35 Years	36-45 Years	46-55 Years	56-65 Years	66-75 Years
Chronic Lymphocytic Thyroiditis	1	4	9	6	3	0	0
Adenomatous Goitre	1	5	3	8	2	1	0
Multinodular Goitre	0	4	4	7	1	1	1
Colloid Goitre	3	8	28	7	9	5	1
Papillary Carcinoma	1	1	1	0	0	0	0
Follicular Neoplasia	0	2	1	0	0	0	0

Table 3: Age Distribution of Thyroid Swelling

DISCUSSION

In the present study most of the patients are in the age group of 25-35 yrs. (47%) and 51% of patients are in the age group of 25-40 yrs. with a median age of 32 yrs. Females are more commonly involved than males (M:F 1:15). Similar results were seen in study by Gardner HA et al⁷ and by Sengupta et al⁸ and by study by Gole PR et al.⁹ As per literature, people are more susceptible to hormonal changes in the age group of 20-40 yrs. leading to increased levels of thyroid binding globulin and increased requirements for iodine. This may be the cause for increased incidence of thyroid disorders in the age group. Colloid goitre is the most common benign condition in the present study. The results were similar to the study by Handa et al¹⁰ and Babu SBK et al¹¹ and by Gole PR et al.⁹

Papillary carcinoma is the most common malignancy in our study. Though papillary carcinoma is common, incidence of follicular carcinoma is also similar to the incidence of papillary carcinoma, probably due to high prevalence of iodine deficiency goitre. Most of (100%) the patients presented with swelling in front of the neck. Pressure symptoms are the next most common complaint followed by pain. Most patients presented within 2 yrs. of duration of their diseases. Sengupta et al reported that 93.2% patients presented with midline neck swelling and pain as the next most common symptom. The duration of complaints varied from 6 months to 3 yrs. In present study, 94.4% patients presented with euthyroid on thyroid hormonal profile similar to study by Sengupta et al and by Gole PR et al.

CONCLUSION

Colloid goitre is a more common benign thyroid swelling. Thyroid disorders are more common in females. Most common in the age group of 25-40 yrs. Papillary carcinoma is most commonly seen. The high incidence of colloid goitre and increased incidence of follicular carcinoma could be due to high endemicity of iodine deficiency in Srikakulam district and surrounding areas.

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