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Pathology

A RETROSPECTIVE STUDY OF EVALUATION OF THYROID LESIONS BY FINE NEEDLE ASPIRATION CYTOLOGY AT A TERTIARY CARE HOSPITAL IN JHARKHAND.

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ABSTRACT A retrospective study of diagnosed cases of 99 thyroid lesions patient presenting in duration of 6 months (September 2021- February 2022). Thyroid disorders are one of the common health problem that we come across in our day to day practice. However benign lesions are far more common than the malignant ones. FNA plays a very important role to help distinguish them. Also FNA is a very simple cheap and quick process, so it has emerged as an important step in further management of patient with thyroid disorder.

KEYWORDS : Colloid goitre, Carcinoma, Thyroid, FNAC, Iodine deficiency.

INTRODUCTION

Fine needle aspiration of the thyroid gland has proven to be an important and widely accepted, cost effective, simple, safe, and accurate method triaging patients with thyroid nodules. Awareness and understanding of wide spectrum thyroid disorders are of great value because most lesion are treatable by medical or surgical management [1]. Thyroid lesions are one of the commonest endocrine disorders in India as well as in the world. It is estimated that around 42 million people in India are suffering from thyroid disease. [2].Jharkhand being one of the iodine deficient area carries a significant burden of thyroid disorder patient. FNAC is now accepted as cost effective, minimally invasive, low complication, non-operative diagnosis for most of the thyroid lesions and is highly successful in triaging patients with solitary thyroid nodule (STN) into operative and non-operative group. The location of target lesion, careful searching for malignant cells and repeat FNAC are the key to successful diagnosis to plan a proper surgical management in thyroid mass [3 - 7]. Thyroid nodules are very frequent and it is estimated that 4% - 7% of adults have palpable enlargement of thyroid and 10 times more have impalpable nodules [8 - 9]. Most of the thyroid nodules are benign and fewer than 5% of them are actually malignant [10 - 11].

MATERIAL AND METHOD

A retrospective study was conducted in department of pathology RIMS Ranchi, for the period of 6 months (September 2021 - February 2022). A total of 99 FNA from thyroid swelling were done during this period. Aspiration was performed using disposable 10ml syringe with 23 gauze needle. Minimum 5 smears were made for each case and stained using Giemsa and H&E stain. Cytological slides were reviewed according to standard guidelines (TBSRTC) and diagnosis was accordingly classified and correlated with age and sex.

RESULT AND DISCUSSION

Our present study of 99 cases who underwent FNAC during the period from September 2021 to February 2022 with the thyroid swelling included 19 males (19.20%) and 80 females (80.80%). M: F ratio is 1:4. The age ranged from 9 to 78 years. The majority of patients belong to 21-30 years age group (32 cases) followed by 31-40 years age group (23 cases) followed by 41-50 years age group (18 cases).

Table 1

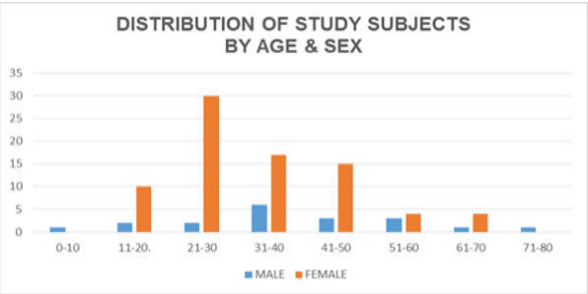

Table 2 Distribution of cases according to Cytological Diagnosis

Cytological Diagnosis	Total cases	Percentage
Colloid Goitre	60	60.60%
Lymphocytic Thyroiditis	12	12.13%
Colloid Cyst	9	9.09%
Hashimoto's Thyroiditis	5	5.05%
Follicular Carcinoma	5	5.05%
Hurthle Cell Neoplasm	3	3.03%
Medullary Carcinoma	2	2.02%
Subacute Thyroiditis	3	3.03%

In our study majority of the cases (60.60%) were found to have Colloid goitre, followed by Lymphocytic thyroiditis (12.13%), then colloid cyst (9.09%), hashimoto's thyroiditis (5.05), follicular carcinoma (5%), Hurthle cell neoplasm (3%), Subacute thyroiditis (3.03), and Medullary Carcinoma (2.02%). Out of 99 cases 10 cases were found to be malignant.

Table 3 Chart Depicting Prevalence Of Lesions In Different Age Groups.

Age Group	Colloid Goitre	Lymphocytic Thyroiditis	Colloid Cyst	Hurthle cell Neoplasm	Follicular Carcinoma	Medullary Carcinoma	Subacute Thyroiditis
0-10	1	0	0	0	0	0	0
11-20.	6	2	2	0	1	0	1
21-30	23	6	1	0	2	0	0
31-40	13	4	2	2	2	0	0
41-50	9	0	3	3	0	1	2
51-60	5	0	1	0	1	0	0
61-70	2	0	0	0	2	1	0
71-80	1	0	0	0	0	0	0

The etiology of colloid goitre is best explained in iodine deficient area due to deficient iodine in water and soil.The deficient iodine leads to decreased production of thyroid hormone from thyroid gland that induces stimulation of TSH secretion from pituitary gland. Excess TSH hormone causes thyroid follicular hyperplasia[12]. WHO assessment of global iodine status classified India as having optimal iodine nutrition in 2004[13]. The reason for the high prevalence of thyroid disease inspite of improvement in iodine status need to be looked at. It has been argued but not convincingly that iodine supplementation may precipitate the emergence of thyroid autoimmunity [14]. But Jharkhand being iodine deficient area, proper awareness and understanding is required for control of disease so that its prevention and associated diseases can be minimized.

CONCLUSION

In our study, we conclude that benign lesions are more common (89.90%) than malignant lesions(10.10%). Among the benign lesion majority of the cases of colloid goitre is most commonly seen in 20 - 40 years age group with female predominance. Since FNAC is cost effective, minimally invasive it helps to avoid unnecessary surgery in

patients with benign lesions, thereby improving the overall quality of life for patients with thyroid nodules.

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