

Comparative study of thyroid lesions in patients coming for FNA in RIMS, Ranchi

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Abstract: Thyroid disorders are one of the very common health problems 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 patients with thyroid disorders.

Keywords: Carcinoma, Colloid goitre, Fine needle aspiration, Iodine deficiency, Thyroid

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I. Introduction

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 diseases (1). Jharkhand being one of the iodine deficient areas, carries a significant burden of thyroid disorder patients. FNA is a simple and cost effective technique in management of palpable thyroid lesions (2).

II. Material and Method

A retrospective study was conducted in department of Pathology, Rajendra Institute of Medical Sciences, Ranchi for the period of 8 months (January 2017 to August 2017). A total of 290 FNA from thyroid swelling were done during this period. Aspiration was performed using disposable 10 ml syringe with 23 Gauge needle. Minimum 5 smears were made for each case and stained using Geimsa and H&E stains. Cytological slides were reviewed according to standard guidelines and diagnosis was accordingly classified and correlated with age and sex.

III. Result

In our study total of 290 cases were reviewed. Out of 290 cases, 256 were Females and 34 Males.



Fig 1.

The age and sex wise distribution of cases are given in Fig. 2

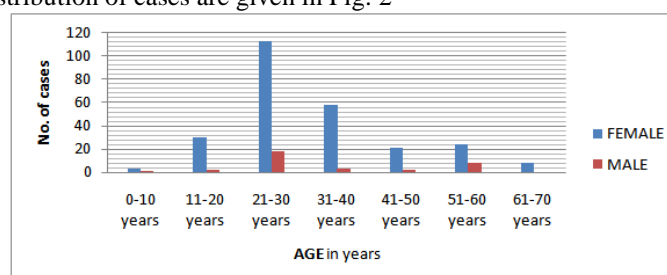
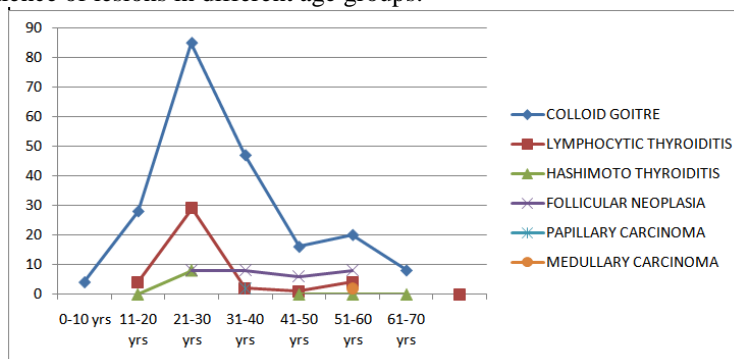


Fig 2

Table depicting various lesions obtained on FNA of thyroid:

LESIONS	CASES OUT OF TOTAL	PERCENTAGE
1.COLLOID GOITRE	208	71.8%
2.LYMPHOCYTIC THYROIDITIS	40	13.8%
3.HASHIMOTO THYROIDITIS	8	2.8%
4.FOLLICULAR NEOPLASIA	30	10.3%
5.PAPILLARY CARCINOMA	2	0.68%
6.MEDULLARY CARCINOMA	2	0.68%

Chart depicting prevalence of lesions in different age groups:-



The recommended diagnostic categories by TBSRTC are as follows: (3)

- I. Non diagnostic or Unsatisfactory
 - Cystic fluid only
 - Virtually acellular specimen
 - Other (obscuring blood, collecting artifacts, etc.)
- II. Benign
 - Consistent with a benign follicular nodule (includes adenomatoid nodule, colloid nodule etc.)
 - Consistent with lymphocytic (Hashimoto) thyroiditis in the proper clinical context
 - Consistent with granulomatous (subacute) thyroiditis
 - Other
- III. Atypia of undetermined significance or follicular lesion of undetermined significance
- IV. Follicular neoplasm or suspicious for a follicular neoplasm
 - Specify if Hurthle cell (oncocytic type)
- V. Suspicious for malignancy
 - Suspicious for papillary carcinoma
 - Suspicious for medullary carcinoma
 - Suspicious for metastatic carcinoma
 - Suspicious for lymphoma
 - Other
- VI. Malignant
 - Papillary thyroid carcinoma
 - Poorly differentiated carcinoma
 - Medullary thyroid carcinoma
 - Undifferentiated (anaplastic) carcinoma
 - Squamous cell carcinoma
 - Carcinoma with mixed features (specify)
 - Metastatic carcinoma
 - Non-Hodgkin's lymphoma
 - Other

According to Bethesda scoring adequacy of FNA specimen, at least 6 groups, each with at least 10 benign appearing well visualized follicular cells, should be present. However few conditions like Thyroiditis(benign), Abundant colloid(benign) and any atypia, are considered as exceptions to the adequacy criteria.

IV. Discussion

Thyroid disorders are among the commonest endocrine disorders in India as well as across the world. Thyroid hormones have pervasive effects on growth and development in the fetus, child and adolescent

regulating calorogenesis and metabolic rate throughout the life (4). The scope of thyroid disorder span from underneath hypothyroidism to more active hyperthyroidism. The proportion of thyroid disorder has been made by many research workers worldwide (5-10). It has been more than three decades since universal salt iodization program was introduced in India (11). India is undergoing a transition from iodine deficient to iodine sufficient state (12). Here in our study it can be seen that there is statistically significant difference between disorders in both gender (females being 256 and males 34). The M:F ratio comes to be 8:1. The majority of patients belonged to 20-40 years age group, with females being predominant. The similar type of results was also observed by the study done by Gardner HA et al and Miller JM et al (13,14). The most common disorder seen was colloid goiter 72%, with peak incidence in 21-40 years age group. Other studies also shows variable highest incidence of colloid goiter with variable results. Tilak et al (2002)(15) 50%, Naila Tariq et al(2007)(16) 56.9%, G.G. Swamy et al (2010)(17) 52%, Gunvanti et al (2012)(18) 55.7%, Richa Sharma(2012)(19) 43.3%, N.Kukur (61%)(20) Yogesh Pawde(2016)(21) 53.3%, present study (72%) . It was followed by Lymphocytic thyroiditis (13.8%) , Follicular neoplasia (10.3%) and Hashimoto thyroiditis (2.8%). The least common were Papillary and Medullary Carcinoma. WHO assessment of global iodine status classified India as having optimal iodine nutrition in 2004. (22) The reasons for the high prevalence of thyroid disease in spite of the 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 (23). But Jharkhand being iodine deficient area as well, proper awareness and understanding is required for the control of disease so that its prevention and associated diseases can be minimized.

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