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Research Article

FREQUENCY OF AUTOIMMUNE THYROIDITIS IN SARASWATHI INSTITUTE OF MEDICAL SCIENCES (SIMS), HAPUR

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ABSTRACT

To study the efficacy of FNA as a diagnostic tool and also to find out the incidence of autoimmune thyroiditis in SIMS Hapur. The study was carried out on 305 patient referred to cytology section of pathology department, SIMS, a rural based hospital in NCR. In all patients a detailed clinical history was taken & examination was done and FNA performed by non-aspiration technique. Of 305 patients, satisfactory aspirate was found in 300 patient and 71 was diagnosed as autoimmune thyroiditis.

Keywords: FNA, Autoimmune, Thyroiditis, Rural, Lymphocytic, Hurthle Cell Change.

INTRODUCTION

Hashimoto thyroiditis; a synonym of chronic lymphocytic thyroiditis or autoimmune thyroiditis is the second most common thyroid lesion diagnosed on FNAC after colloid goiter^{1,2}. Hashimoto thyroiditis is more common in female and has prevalence rate of 1-4% and incidence of 30-60 / 100000 population per year¹. Incidence is increasing day by day. It is the most frequent cause of hypothyroidism. Autoimmune thyroiditis is the most common inflammatory disease of thyroid gland. The first description of autoimmune thyroiditis as struma lymphomatosa in adult female was given by Hashimoto³ in 1912. Hurthle cell change, infiltration by lymphocytes (mature, transformed) impinging on follicular cells is hallmark of disease⁴.

The present study focuses on the detecting of frequency and elaborating cytomorphological variation in Autoimmune thyroiditis.

MATERIALS AND METHODS

The study was conducted in department of pathology (cytology) in collaboration with biochemistry and ENT department of SIMS Hapur from January 12- January 14. It comprise 305 cases of thyroid swelling subjected to FNAC. A detailed clinical history was taken. Sample for TFT was also taken. In cases diagnosed as autoimmune thyroiditis, serological investigations (anti- TPO) was done.

OBSERVATION AND RESULTS

A total of 305 patients (only one male patient) of variable age groups were included in study (Table 1). FNA was unsatisfactory in 5 patients and patients lost to follow up. Common clinical presentation were nodular goitre, solitary nodule, diffuse swelling, change of voice, pain, dysphagia and history of heat & cold intolerance in few patient. Cytologically the commonest diagnosis was colloid goiter [158/300], followed by autoimmune thyroiditis [71/300], adenomatous goiter [6/300], follicular neoplasm [6/300] and Papillary carcinoma [4/400]. However few case of colloid goitre with cystic change and hemorrhage, toxic, goitre, thyroglossal cyst were also reported cytologically. Autoimmune thyroiditis was cytologically diagnosed in (71/300) cases. Out of which anti TPO was done in 59 cases and rest patient did not come for follow up. TFT was also done on all patients.

Cytological findings

Revealed cellular smears with heterogeneous population of lymphoid cells along with hurthle cell change (Fig. 1 & 2), follicular cell fragments (or isolated few), lymphoglandular bodies, plasma cells, scant colloid, tingible body macrophages, giant cells and epithelioid cell granuloma. In few case fireflares, squamous metaplasia and an occasional psammoma bodies were noted. In one case atypia was noted in cytological evaluation.

DISCUSSION

Thyroid enlargement diffuse /nodular is a common clinical entity known. As far as the management is concerned, many patient face diagnostic difficulties. Although these diagnostic dilemma can be resolved by more sophisticated investigations requiring costly instruments and experts. These facilities are available in limited institution (not in our rural based medical college) and beyond the reach of poor suburban people of our country. FNAC provides the primary diagnosis of thyroid disorder. It is very reliable in terms of simplicity, rapidity and cost effective for pre- operative diagnosis of malignant as well as non-neoplastic lesions. It is still considered the best option for diagnosis in resource limited suburban areas of country like India. Since early 1950s it is used in routine for all thyroid lesion with least risk during the procedure.

Out of total 305 cases in which FNA was done, 300 were included for study, rest 5 were inadequate and lost to follow up. Our patient age ranged from 7-60 years. Out of these 71 cases that were diagnosed autoimmune thyroiditis, the Male: Female ratio was 1:10 similar to Gayathri et al¹. It can be concluded that thyroid mass are more common in females in 3rd-4th decade. In our study, autoimmune thyroiditis is more prevalent in middle age females. Bhaha et al² also confirm same age group. In present study anti TPO was high above the referene range (<5.61 IU/ml) among 53 (88.33%) cases and low or equal in 6 (11.66%) cases . Holowell et al⁴ showed that thyroid peroxide anti FPO ab and thyroglobin antibody (Tg – ab) may be found in normal population with normal TFT. The National Health and Nutrition examination survey III study⁴ also report that Tg-ab were present in 10% and TPO-Ab in 12% population.

Huber et al⁵ showed that TPO- Ab is most sensitive test for detecting autoimmune thyroid disease. The presence of TPO- Ab is the first abnormally to appear in the course of development of hypothyroidism secondary to autoimmune thyroiditis. TPO-Ab is detectable in serum many months before onset of the disease. When TSH is borderline, TPO- Ab correlation will tell the progression to hypothyroidism, therefore a proper TPO –Ab correlation is must⁵.

Baloch ^{1,6} found that TPO- Ab is detectable more often than Tg-Ab and alone is sufficient to confirm the cytological diagnosis of autoimmune thyroiditis.

CONCLUSION

From the study conducted at rural based hospital at SIMS Hapur it is concluded that fine needle aspiration cytology is a very reliable diagnostic method for thyroid mass. It has been found that incidence of autoimmune thyroiditis is high in our sub urban population at SIMS.

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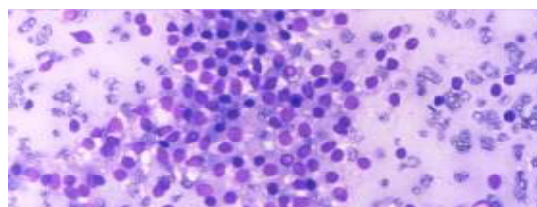


Figure 1: Photomicrograph revealing lymphocytic infiltration in the clusters of thyroid follicular cells (May Grunwald Giemsa stain, 400X)

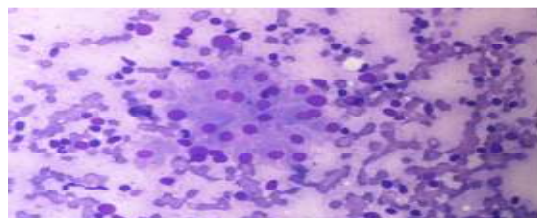


Figure 2: Photomicrograph revealing thyroid follicular cells with marked Hurthle cell change with abundant lymphocytes in the background (May Grunwald Giemsa stain, 400X)

Table 1: Age wise distribution of Autoimmune thyroiditis

Age	Number of cases	Percentage
0-10	0	0 %
11-20	3	4.22 %
21-30	20	28.17%
31-40	44	61.98%
41-50	4	5.63%
51-60	0	0%
Total	71	100%

Table 2: Antibody titre Vs Number of cases.

Antibody titre (Anti TPO)	Number of cases
Low	6 (11.66%)
High	53 (88.33%)

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