



Profile of Auto-Immune Thyroiditis in Surgical Outpatients

Bhavinder Arora

Associate professor, PT BD Sharma PGIMS, Rohtak-124001

ABSTRACT

Background: Auto immune thyroiditis or Hashimoto is a common inflammatory disease of the thyroid gland. Hashimoto described it as lymphoid inflammation of thyroid gland in adult women. This is a common cause of hypothyroidism. Auto immune thyroiditis commonly presents as solitary thyroid nodule in surgical outdoor patients.

Material and Methods: The present study was carried out in surgical outdoor patients who presented with thyroid swelling. A total number of 100 patients with thyroid swelling were studied. In all the patients' thyroid function tests, ultrasonography of neck, fine needle aspiration cytology was done as outdoor investigations. Those patients in who fine needle aspiration cytology reported as auto-immune thyroiditis; anti-thyroid peroxidase (anti-TPO) was measured.

Results: In this study of one hundred patients, 95 patients were females and 5 patients were males. Ultrasonography, thyroid function tests and fine needle aspiration cytology were done in all the patients. Fine needle aspiration cytology reported auto-immune thyroiditis in 30 patients. Out of these 30 patients, 29 were males and only 1 male patient. In these 30 cases in whom fine needle aspiration cytology reported auto-immune thyroiditis the anti-TPO was done. Only three cases reported low levels of anti-TPO while rest of twenty seven cases reported high levels.

Conclusion This study concludes that fine needle aspiration cytology is a very reliable tool for the diagnosis of the thyroid nodule and the incidence of auto-immune thyroiditis is high in surgical outdoor patients.

KEYWORDS : Thyroid, Hashimoto's thyroiditis, autoimmune thyroiditis, Thyroid peroxidase.

Introduction:

Hashimoto in 1912 described transformation of the thyroid gland into lymphoid tissue in women. He called it as 'Struma Lymphomatosa'. Initially these women were not hypothyroid but later became hypothyroid after thyroid surgery.¹ The presence of antithyroid antibodies was reported in these patients about forty years later.² Hashimoto's thyroiditis is now a recognized form of chronic autoimmune thyroid disease. The chronic autoimmune thyroiditis can have two type of clinical presentation. First type is Hashimoto's disease as goiter form, the second as Atrophic thyroiditis as atrophic form. Thyroid autoantibodies are present in serum in both forms. This can also present as painless goiter, hyperthyroidism or hypothyroidism.

Laboratory investigations include thyroid function test and autoimmune antibodies. TSH levels are increased in patients with subclinical and overt hypothyroidism. Free T4 levels can differentiate between the two as it is normal in subclinical hypothyroidism and low in overt hypothyroidism. A few patients may have normal thyroid function and normal TSH levels. In patients with hypothyroidism TSH levels are very low.³ Antithyroid peroxidase and antithyroglobulin antibody levels are indicator of thyroid autoimmunity. Antithyroid peroxidase antibody is more sensitive indicator than antithyroglobulin antibody. On ultrasonography, the degree of hypoechogenicity cannot be related to thyroid dysfunction in chronic autoimmune thyroiditis.⁴ Fine needle aspiration cytology is done to see the presence of lymphocytic infiltration. The cytology results can predict thyroid status of the patient but results can be misinterpreted easily in some cases.⁵ Auto-immune thyroiditis is the archetype for organ-specific auto-immune disorders. Incidence of auto-immune thyroiditis appears to be increasing.⁶ The present study was carried out with aim to study the efficacy of fine needle aspiration cytology in surgical out patients presenting as thyroid swelling.

Material and Methods:

The present study was carried out in surgical outdoor patients who presented with thyroid swelling. A total number of 100 patients with thyroid swelling were studied. A detailed history was taken in all the patients. Clinical findings were also recorded. In all the patients' thyroid function tests, ultrasonography of neck, fine needle aspiration cytology was done as outdoor investigations. Those patients in who fine needle aspiration cytology reported as auto-immune thyroiditis; anti-thyroid peroxidase (anti-TPO) was measured.

Results:

In this study of one hundred patients, 95 patients were females and 5 patients were males. Most of the patients were of the age group 21

to 60 years. The common clinical presentation of these patients was solitary thyroid nodule in 58 patients, diffuse goiter in 34 patients and multinodular goiter in 8 patients. Ultrasonography, thyroid function tests and fine needle aspiration cytology were done in all the patients. Fine needle aspiration cytology reported auto-immune thyroiditis in 30 patients. Out of these 30 patients, 29 were males and only 1 male patient. In these 30 cases in whom fine needle aspiration cytology reported autoimmune thyroiditis the anti-TPO was done. Only three cases reported low levels of anti-TPO while rest of twenty seven cases reported high levels.

DISCUSSION:

Goiter of the thyroid gland is common and it occurs commonly in the northern part of India in sub-Himalayan region as the fresh water supply by rivers in this region is deficit of iodine contents. These patients present with thyroid swelling in surgical outdoor. Not all the thyroid swellings require surgery. Therefore it is imperative to differentiate the types of thyroid lesions as this will assist in further management of the patient. The new generation of investigations are not available at all places neither trained technicians are available so are beyond the reach of common man of the country.

The fine needle aspiration cytology is easily available and is reliable for diagnosis of thyroid diseases. It is reliable, rapid and cost effective in diagnosis of thyroid disorders. It is effective in diagnosis of autoimmune thyroiditis and thyroid malignancy as well. The diagnosis of solitary thyroid nodule can also be made with fine needle aspiration cytology. The fine needle aspiration cytology is risk free and can be used debilitated patients. It can be used in pregnant females with no risk to pregnancy. The fine needle aspiration cytology is being used as diagnostic method for a few decades now. In the present study, the fine needle aspiration study was done in 100 patients suffering from thyroid enlargement. Out of these one hundred patients, the fine needle aspiration cytology has to be repeated once in five patients and twice in one patient. Ultimately fine needle aspiration cytology could be used as diagnostic tool in all the patients.

In the present study 100 patients included in this study, 95 were male patients and 5 were female patients. There was female predominance in all patients of thyroid diseases. Out of these one hundred patients, 30 patients were diagnosed as having autoimmune thyroiditis. The rest of 70 patients were diagnosed as colloid goiter, multi nodular goiter, diffuse toxic goiter and thyroid malignancy. Out of thirty patients suffering from autoimmune thyroiditis twenty nine were females and only one patient was male. Majority of patients included in this study belonged to 3rd and 4th decades. However in thirty pa-

tients diagnosed as having autoimmune thyroiditis all the patients were in 4th and 5th decades of life. This represents that autoimmune thyroiditis is more common in middle age females.

In this study the presenting symptoms was thyroid enlargement in all the patients. The other presenting symptoms were voice change, dysphagia, palpitation, weight loss or gain and intolerance to heat or cold.

In the present study the most common presenting symptom was neck swelling. This was followed by change of voice, pain, lymph node involvement, dysphagia, palpitations and intolerance to heat in very less number of cases.

In the present study anti-TPO antibody status was high in 27 cases and was low in 3 cases. Hollowell et al stated that thyroid peroxidase antibody (TPO-Ab) and thyroglobulin antibody (Tg-Ab) may be found in "normal" population with normal thyroid function. Their presence, however, correlates with a degree of intra thyroidal lymphocytic infiltration, which may or may not progress to damage thyroid function. The estimated prevalence of the Tg-Ab depends on the sensitivity and specificity of the methods employed for their measurement. The National Health and Nutritional Examination Survey (NHANES) study also reported that Tg-Ab were present in 10% and TPO-Ab in 12% of the population.⁷

Huber et al in their study described that TPO-Ab is the most sensitive antibody for detecting auto-immune thyroid disease. Typically, the presence of TPO-Ab is the first abnormality to appear in the course of developing hypothyroidism secondary to Hashimoto's thyroiditis. TPO-Ab is detectable in the serum many years before the onset of clinical disease. The presence of TPO-Ab identifies patients who will progress to hypothyroidism when their TSH is borderline. Hence, a positive correlation exists between TSH and TPO-Ab levels.⁸

Baloch et al demonstrated that TPO-Ab is detectable more often than Tg-Ab. When both are present, the titre of TPO-Ab tends to be higher because of the blocking nature of circulating Tg itself. So the measurement of TPO-Ab alone is usually sufficient to confirm the diagnosis of auto-immune thyroid disease.⁹

Conclusion:

This study concludes that fine needle aspiration cytology is a very reliable tool for the diagnosis of the thyroid nodule and the incidence of auto-immune thyroiditis is high in surgical outdoor patients.

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