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Nigarish M.

HASHIMOTO'S THYROIDITIS

Tutor: senior lecturer Aliakseyeva A.S.
Department of Outpatient Therapy
Belarusian State Medical University, Minsk

Hashimoto's thyroiditis is an autoimmune disorder characterised by chronic inflammation of thyroid gland; this is the most common cause of hypothyroidism. The incidence and prevalence have increased over the past 2 decades. A statistical analysis of various countries' population shows a significant increase in the incidence of autoimmune thyroiditis, including Hashimoto's thyroiditis, over a 20-year period, with annual incidence rates ranging from 6 to 18 per 100,000 people. It affects 1 to 2 % of people in U.S. and 2 % of the total world's population. The Hashimoto's thyroiditis study in India examined 6283 schoolgirls. Among them, 1810 schoolgirls had goitre. While Hashimoto's thyroiditis is observed throughout the world, it is happened more in iodine-sufficient regions than in iodine-deficient areas, suggesting a potential role of iodine intake in the disease development. Groups with lower socioeconomic status have a high prevalence of this pathology. Hashimoto's thyroiditis usually occurs in middle-aged women. The ratio of female to male patients is 20-30 to 1. As for age groups, the disease most often develops after 25 years, in particular at the age of 30-40 years; cases in infancy or preschool age are extremely rare. This pathology may be associated with type 1 Diabetes mellitus, celiac disease which is more common than diabetes, hypogonadism, Addison's disease, systemic lupus erythematous and Sjogren syndrome. Its genetic link is present with HLA-DR3, HLA-DR4. It is considered as precancerous condition that increases the risk of non- Hodgkin's lymphoma and papillary thyroid carcinoma developing.

The aim of this work is to clarify clinical manifestations, study preventive measures and highlight their impact on public health.

Signs and symptoms*:* all processes in the body slows down, which leads to weight gain with poor appetite (35%), swelling of neck (43.5%) constipation (12%), fatigue (39%), cold intolerance (16%), bradycardia, hair-loss (15%); and women complain of menorrhagia, then oligomenorrhea, dryness and flaking of the skin (15%); increased TSH stimulate fibroblasts and increase the accumulation of matrix glycosaminoglycans, which leads to swelling, periorbital oedema, Queen' sign Anna, calf muscle' pseudohypertrophy, goitre.

The laboratory method can detect the specific antibodies with ELISA*:* antibodies against TPO in 90-100% of cases; antibodies against the TSH receptor in < 20% cases, antibodies against thyroglobulin in 90% of cases. Thyroid function test shows a high TSH level along with low/normal free T3 and T4 levels. Doppler ultrasound reveals irregular, dense, heterogeneous hypoechoic enlargements of the gland and decreased vascularity. Fine needle aspiration can be used for biopsy for adenoma or oncology research. The Thyroid gland volume is calculated using the next formula{(R1*R2*R3*0.5)/1000} +{(L1*L2*L3*0.5)/1000-}. Values above 97th percentile are considered goitre. Microscopically founds include lymphocytic infiltration with germinal centre formation, follicular atrophy with oxyphilic metaplasia, the presence of hurdle cells and the absence of colloid. At the time of diagnosis, the cases euthyroidism (44.4%), subclinical hypothyroidism (35%), over hypothyroidism (16.6%) and hyperthyroidism (3.7%) are observed. Goiter was detected in 43.5% by thyroid ultrasonography.

Preventive strategies mainly focus on reducing autoimmune activity, adequate iodine intake, addressing nutritional deficiencies, and reducing exposure to environmental toxins, which may reduce the risk. Early initiation of treatment with L-thyroxine (1.6-1.8 mcg/kg/day in the morning) improves the prognosis. It is necessary to increase the drug intake during pregnancy, any gastrointestinal disorders or in the case of ferrous sulfate using due to decreased absorption. Regular screening from the age of 35 is advisable, especially if closed relatives have been diagnosed with Hashimoto's thyroiditis.

India has completed the transition from iodine deficiency to iodine replete status, which reduces the incidence of autoimmune thyroid dysfunction.