INCIDENCE OF HASHIMOTO’S THYROIDITIS AND ITS RELATIONSHIP TO AGE, SEX, SMOKING AND BLOOD GROUPS

(An article review)

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SUMMARY

Thyroid autoimmune diseases (AITDs) are many distinct clinical disorders, of which Hashimoto’s hypothyroidism (HT) and Graves’ hyperthyroidism were considered as the commonest disease (Caturegli et al.,2014). They reflect examples of autoimmune organ-specific diseases which are restricted to the thyroid gland (Casto et al.,2021). HT is highly abundant in female with an incidence ration of about 8:1. However, due to the laboratory findings of the thyroid autoantibodies in female, it appeared that about 10% of population are suffering from HT (Machała et al.,2019). In the pathogenesis, the thyroid antigens may be presented by dendritic cells as a foreign antigens to the T-cells leading to its proliferation and differentiation into thyroid-specific T-cells (Th1, Th2, and CD+8) producing different cytokines like IL-12, IL-17 and IFN-α which in turn mediate thyroid infiltration and cytotoxicity (Ramos-Leví, and Marazuela, 2016; Machała et al.,2019). Although the exact cause of AITD is unknown, however they are genetically expressed and require an environmental trigger (Ragusa et al.,2019). Hashimoto's thyroiditis can develop at any age, but it is most common in women between the ages of 30 and 60 years. The exact incidence of the condition is unknown, however it is thought to be similar to that of Grave's disease. According to researches, it's more common in areas with high iodine intake, and notably in people with genetic predispositions (Machała et al.,2019). Moreover, HT is more frequent in women than in men with an incidence of about 8 times higher in women than in men, however, according to the positive results of laboratory test in women for occurrence of autoantibodies for thyroid, it appeared that about 10% of population are present with HT (Vanderpump, 2019). The two environmental factors that have been researched more extensively in relation to HT are smoking and iodine. Smoking has a surprising positive effect on HT, despite the fact that it has a negative effect on Graves’ illness. Tobacco cause lowers thyroid autoantibodies levels and decreases the likelihood of hypothyroidism in an uncertain mechanism (Ferrari et al.,2017). In this context, the current investigation aims is to demonstrate the incidence of Hashimoto’s thyroiditis in Amara city patients. Also it can be evaluated if there is a correlation between the age, sex, family history and blood types with development of disease.

Materials and Working Methods The present study enrolled 100 persons (from both genders) aging between (9-50 years old) during the period Dec. 2019 to Dec. 2020. Study participants are classified into two groups. The 1st group (50 patients) are attended to specified center of diabetes and endocrine glands diseases in Amara city with symptoms suspected to have
Hashimoto thyroiditis. The second group (50 persons) are apparently healthy persons from comparable age and sex and considered as a control group. They all subjected to the serologic tests for the diagnosis of autoimmune thyroiditis. All of study participants have red and signed the patient consent form and the study has been accepted by Committee of Scientific Research Ethics / Amara Medical Institute. Sample collection Ten ml of venous blood were obtained from the enrolled persons then centrifuged (5000 cycled / min for 5 mins) and the obtained sera was used for the serological methods for the estimation thyroid antibodies (Anti-TPO and Anti-Tg) as well as thyroid hormones (FT3, FT4) and TSH. Estimation of thyroid hormones levels in the samples Blood concentrations of free triiodothyronine (fT3), free thyroxine (fT4) and thyroid stimulating hormone (TSH) were measured in the same day of blood collection by using electrochemiluminescence immunoassay method (Cobas, comp. Penzberg, Germany). As indicated in manufacturer's instructions, the results have been expressed in IU/mL. Detection of thyroid auto-antibodies in the serum Serum concentration of anti-Tg and anti-TPO were assessed using chemiluminescent immunoassay (Mindray, China). As indicated in instructions of the manufacturer, the results have been recorded in IU/mL. Statistical analysis The present study data were analysed using SPSS software package ver.23 (performed by IBM Co. USA). Independent T Test were used to test the significance between means. Odd ratio examination was also used to find out the relationship of H. pylori infection with HT disease. Statistical significant was detect when P value ≤ 0.05.

REFERENCES


