

BENEFITS OF ANTI-THYROID PEROXIDASE ANTIBODY AND ANTI-THYROGLOBULIN ANTIBODY FOR THE PREDICTION OF DIFFERENTIATED THYROID CANCER IN HASHIMOTO THYROIDITIS

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Introduction

Thyroid cancers are the most commonly seen endocrinologic cancers. Thyroid cancers make up approximately 90% of malignant tumors of endocrine origin and have a rate of 1% among all cancers. Differentiated thyroid cancers which are classified according to their histopathologic characteristics and clinical behavior make up 94% of all thyroid cancers. Papillary and follicular cancers are called differentiated thyroid carcinomas and both originate from the follicular epithelium. Hashimoto's disease is a common autoimmune disease characterized with thyroid destruction induced by lymphocyte infiltration. It is characterized with autoreactive T cell infiltration and thyroid cell death and B cell infiltration causing the production of anti-TPO (anti-thyroid peroxidase antibody) and anti-TG (anti-thyroglobulin) antibodies. The association between differentiated thyroid cancers and autoimmune thyroid diseases is well known. Therefore, we aimed to investigate the importance of thyroid peroxidase antibody (anti-TPO) and thyroglobulin antibody (Anti-Tg) in patients followed with the diagnosis of Hashimoto's thyroiditis regarding the development of differentiated thyroid cancer.

Material and Methods

A total of 56 patients including 22 Hashimoto's thyroiditis patients operated on for nodules and with a histopathologic diagnosis of malignant differentiated thyroid cancer (17 papillary cancer, 5 follicular cancer) and 34 individuals with benign nodular goiter, and 35 healthy controls (18 women, 17 men) were included in the study.

There were no statistically significant differences among the groups in terms of age and body mass index (BMI). Anti-thyroglobulin (Anti-Tg) and anti-thyroid peroxidase antibody (anti-TPO) values within one month before surgery were taken. Association between postoperative histopathologies and antibody levels was analyzed.

Results

22 (39.28%) of the patients included in the study were histologically diagnosed with a thyroid malignancy. In patients with Hashimoto's thyroiditis, anti-TPO and anti-Tg were significantly different between benign and malignant groups (9,4±1,3 IU/ml and 78,6±142,7 IU/ml) ve anti-Tg (19,0±5,3 IU/ml and 421,9±1061,4 IU/ml) (p=0.026, p=0.013, respectively). There was a positive correlation between anti-TPO and anti-TG in the malignant group (p=0.01 r=0.386, p=0.03 r=0.259, respectively). In ROC analysis, TPO≥15 had 62.5% sensitivity and 100% specificity, anti TG ≥21 had 50% sensitivity and 100% specificity in predicting differentiated thyroid cancer in Hashimoto's thyroiditis.

Discussion

In this study we reached the conclusion that anti-TG and anti-TPO values are significant in predicting the development of differentiated thyroid cancer in patients diagnosed with Hashimoto's thyroiditis. Similar to appears that preoperative high anti-TPO and anti-Tg levels are a useful indicator to predict differentiated thyroid cancers.