PENTRAxin 3 LEVELS IN PATIENTS WITH HASHIMOTO DISEASE

Unsal Aydin, Cavit Culha, Aydur Aktas, Muge Keskin, Muge Ozcan, Anara Karaca, Tulay Omna, Nese Erosoz Gulcellik, Gonul Koc, Yalcin Aral

Department of Endocrinology and Metabolism, Ankara Training and Research Hospital, Ankara, Turkey

OBJECTIVES

Pentraxin 3 (PTX3) is produced by several types of cells such as dendritic cells, macrophages, fibroblasts, activated endothelial cells, renal cells and smooth muscle cells in inflammation (1-3). PTX3 has been investigated in many autoimmune diseases including rheumatoid arthritis, systemic lupus erythematosus and small vessel vasculitis (4). Hashimoto disease is one of the autoimmune disorders of thyroid. The aim of this study was to investigate the relationship between PTX3 and autoimmune thyroiditis.

METHODS

112 female patients with hashimoto disease and 42 healthy controls were included to the present study. The study subjects were classified into four groups. Group 1 Control group included 42 euthyroid healthy women with negative autoantibody. Group 2 included 27 euthyroid women with positive autoantibody. Group 3 included 46 subclinical hypothyroid women with positive autoantibody (TSH 5-10 mU/L). Group 4 included 39 hypothyroid women with positive autoantibody (TSH>10 mU/L). Thyroid sonography was carried out by the same radiologist. PTX3 values were measured with ELISA method. High sensitive C-reactive protein (hsCRP) levels were measured with nephelometric method. One Way Anova test was used in normally distributed variables, Bonferroni adjusted Kruskal Wallis H test was performed in non-normally distributed variables. In groups with established differences, post Hoc dual matching tests for normally distributed variables, Mann Whitney U test for non-normally distributed variables were used.

RESULTS

There was no significant difference between groups in age, BMI and abdominal circumference. The laboratory values of thyroid function tests and PTX3 according to the groups are illustrated in Table 1 and Graphic 1. No significant difference was found for PTX3 levels between patients with autoimmune thyroiditis and control group. Although PTX3 levels were positively associated with TSH levels, we couldn't find any difference in PTX3 levels between our groups. The highest PTX3 level was determined in fourth group. There was no statically difference between groups in terms of hsCRP and PTX3. When the relation between Pentraxin levels and TSH, fT3 and fT4 was analysed; the only significant relation was found between TSH and Pentraxine-3 levels (p<0.05). There was a positive relation between PTX3 and TSH level in all groups (Table 2).

CONCLUSIONS

This is the first study investigating the relationship between PTX3 and autoimmune thyroid disease. Pentraxin-3 can be represented as a novel marker, unrelated to CRP in diagnosis and follow up in autoimmune and inflammatory diseases. Further studies should be performed to evaluate the impact of PTX3 on acquired autoimmunity and the risk of development of associated vascular complications.

References