PENTRAXIN 3 LEVELS IN PATIENTS WITH HASHIMOTO DISEASE

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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 inflamation [1-3]. PTX3 has been investigated in many autoimmune diseases included 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 subclinic 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 significiant 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 diffference in PTX3 levels between our groups. The highest PTX3 level was determined in fourth group. There was no statiscally 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).

Table 1. Laboratory values of groups

	Group1	Group2	Group3	Group4	p value
TSH (mU/ml)	2,4 1,2	3,3 1,1	7,4 1,2	50,2 51,0	0,000
fT3 (mU/ml)	3,1 0,5	3,3 0,4	3,1 0,4	2,5 0,7	0,000
fT4(mU/ml)	1,0 0,1	1,1 0,2	0,9 0,1	0,7 0,2	0,000
PTX- 3 (pg/ml)	5670 2972	5297 2002	6812 3528	7019 4200	0,224
hs-CRP (mg/dl)	1,3 1,7	1,3 1,4	1,5 2,0	1,8 2,4	0,990

Graphic 1: PTX-3 levels in groups

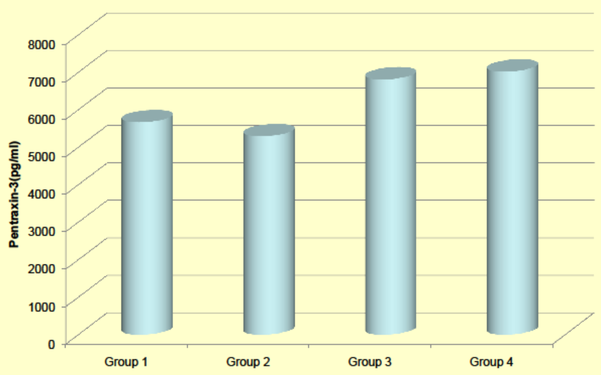

Table 2. The relation between thyroid function tests and PTX3

	Pentraxin-3	
	r	p
TSH	0.193	0.017
fT3	-0.035	0.670
fT4	-0.150	0.063

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

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17 ECE 972--EP

Thyroid non-cancer

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DOI: 10.3252/pso.eu.17ece.2015

Poster presented at: ECE2015 16-20 May 2015 DUBLIN, IRELAND 17th EUROPEAN CONGRESS OF ENDOCRINOLOGY

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