

IMMUNOLOGICAL CRITERIA FOR THE DIFFERENTIAL DIAGNOSIS OF THYROID DISEASE

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Introduction

Thyroid autoimmune disease is the major factor underlying hypothyroidism and hyperthyroidism and tends to occur in a genetically predisposed population. The major thyroid autoimmune diseases are: Hashimoto's diseases and Graves' diseases.



Aim of the study

To compare serum anti-TPO and anti-TG levels between patients with Graves disease, Hashimoto thyroiditis, and healthy controls. This test is commonly used to confirm or exclude Hashimoto's thyroiditis, as the reason for hypothyroidism.

Material

In this clinical study were assessed for prospective morning serum concentrations of anti-TPO in 50 subjects with Graves disease, Hashimoto thyroiditis, and 30 healthy subjects

Method of investigation

Quantitative measurement of antithyroid peroxidase (TPO) antibodies and autoantibodies to thyroglobulin (TG) in serum, EDTA, and heparinized plasma, as an aid in the clinical diagnosis of thyroid diseases. Serum concentration of Anti-TPO Ab and anti-TG Ab were determined by a solid-phase, enzyme-labeled, chemiluminescent sequential immunometric assays using analyzer Immulite 2000.



Conclusions

The consensus opinion today is that they are merely disease markers. It is felt that the presence of competent immune cells at the site of thyroid tissue destruction in autoimmune thyroiditis simply predisposes the patient to form autoantibodies to hidden thyroid antigens.

Results and Discussion

30% to 50% of individuals with autoimmune hypothyroidism, will have detectable anti-Tg autoantibodies, while 50% to 90% will have detectable anti-TPO autoantibodies. In Graves' disease, both types of autoantibodies are observed at approximately half of these rates. 10 percent of healthy individuals have TG autoantibodies at low levels, higher concentrations are found in 30 and 85 percent of patients with Graves' diseases and Hashimoto's thyroiditis, respectively. Patients with Graves disease and Hashimoto thyroiditis showed significantly higher concentrations of anti-TPO and anti-TG compared with healthy individuals. ($P < 0.001$). Following results were obtained: values of anti-TPO in patients diagnosed with sc Graves disease compared to the control group were 3.7 ± 0.46 , and in patients with Hashimoto thyroiditis 238.5 ± 0.95 . Values of anti-TG in patients diagnosed with sc Graves disease compared to the control group were 333.3 ± 0.55 , Hashimoto thyroiditis 500.5 ± 0.95 .

Serum levels of anti-TPO and anti-TG

Column1	Control group	Hashimoto Thyroiditis	Grave's Disease
ATPO	$3,7 \pm 4,6$	$238,5 \pm 0,95$	$4,0 \pm 3,5$
ATG	$167,4 \pm 57,5$	$500,5 \pm 0,95$	$333,3 \pm 0,55$

ATPO and ATG

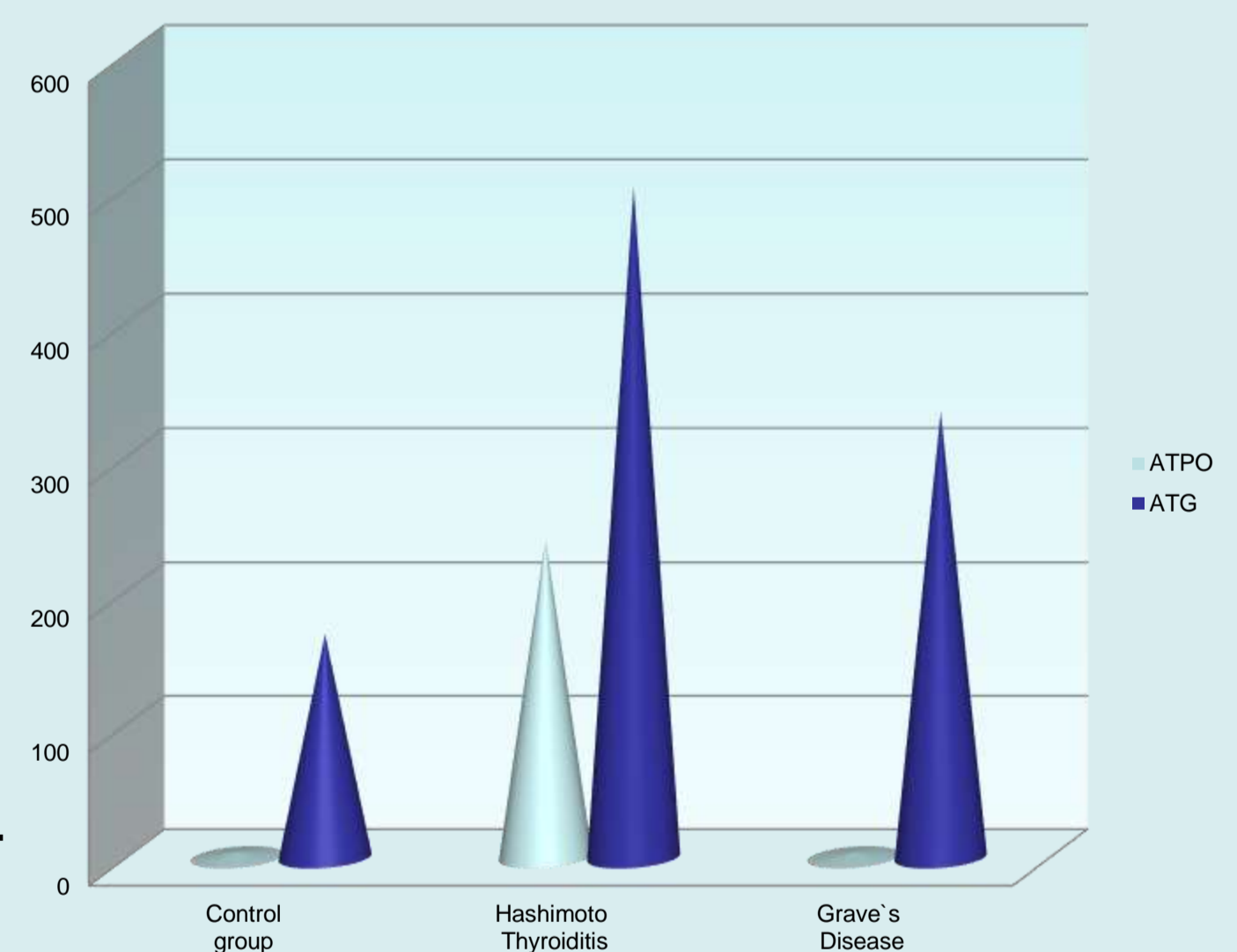


Figure 1. Values Anti-TPO and Anti-TG in the Graves disease, Hashimoto thyroiditis and control group

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