

Antithyroid antibodies in chronic urticaria and angioedema

To the Editor:

Chronic urticaria (CU) was a cutaneous disease of unknown origin until the past decade, during which a subpopulation comprising approximately 35% to 45% of patients was found to show evidence of an autoimmune disorder. At least 35% of patients with CU have an IgG antibody directed to the α subunit of the IgE receptor,^{1,2} whereas an additional 5% to 10% of patients have anti-IgE that is functional.³ These antibodies cross-link the IgE receptor to cause mast cell degranulation. Fixation of complement and liberation of C5a augments leads to further mast cell activation and histamine release^{4,5} by interaction with the C5a receptor.⁶ A cellular infiltrate with characteristics of a combined T_H1 or T_H2 (or T_H0) response results, with a perivascular distribution.

The first indications that CU might have an autoimmune origin were noted by Leznoff et al,^{7,8} who suggested that there is an increased incidence of antithyroid antibodies (antimicrosomal and antithyroglobulin) in such patients, the estimate being 12% to 15%. It is not clear, however, whether antithyroid antibodies segregate with antibodies to the IgE receptor or whether patients who remain "idiopathic" rather than autoimmune also have antithyroid antibodies. In this brief report, we have prospectively assessed 282 patients with CU for antibody to the IgE receptor, as assessed by histamine release from human basophils¹⁰ and antithyroid antibodies by commercial assay.

The percent positive for anti-thyroglobulin antibody was 8.5% (24 patients), and the percent positive for antimicrosomal antibody was 16.6% (47 patients); 5.7% (16 patients) had both antibodies. The percentage positive for histamine release from basophils (positive >15% release) was 51%.

We next divided patients into those who were positive or negative for anti-IgE receptor and determined the percentages positive or negative for antithyroid antibodies (Table I). For this assessment, a patient was considered positive if either antibody was present or if both were present; there were 55 such patients.

The results indicate that antithyroid antibodies clearly segregate with the presence of antibodies to the IgE receptor (or to IgE). However, there is not an absolute concordance between them.

At least 80% of patients lack antithyroid antibodies, regardless of whether they are considered autoimmune. On the other hand, the incidence of antithyroid antibodies in the population at large is reported to be between 5% and 10%,⁹ which is not too dissimilar from the 10.9% (15 patients) who lacked evidence of autoimmune CU. In another prospective study, the incidence of antiperoxidase antibodies was 13.9% in female patients and 2.8% in male patients.¹⁰ Our patients have a female-to-male ratio of 2 to 1.

Hashimoto's thyroiditis has an increased incidence in other autoimmune diseases, including autoimmune polyendocrinopathy and systemic lupus erythematosus.

TABLE I. Relationship of antithyroid antibodies to anti-IgE receptor antibody

	Antithyroid (+)	Antithyroid (–)	Total
Histamine release (+)	40 (27.7%)	104 (72.3%)	144
Histamine release (–)	15 (10.9%)	123 (89.1%)	138
Totals	55	227	282

$P < .001$ (χ^2).

Although there remains controversy regarding any efficacy of thyroid hormone in the treatment of CU, there is no evidence that thyroid hormone affects any of the aforementioned autoimmune disorders, and it seems more likely that antithyroid antibodies and antibody to the IgE receptor are associated immune abnormalities than that one causes the other. Our data reinforce the association of antithyroid antibodies with antibodies to the IgE receptor. Furthermore, we have considered the possibility that those patients who are currently termed "idiopathic" have some different autoimmune mechanism. However, thus far there has been no serologic evidence to support this possibility, inasmuch as such patients do not have an increased incidence of antithyroid antibodies and, by definition, lack anti-IgE receptor or functional anti-IgE.

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