ADDISON'S DISEASE IS MORE CLOSELY ASSOCIATED WITH HASHIMOTO'S THAN WITH GRAVES' DISEASE

Wiebolt J, Achterbergh R, den Boer A, van der Leij S, Marsch E, Suelmann B, de Vries R, van Haeften TW. Clustering of additional autoimmunity behaves differently in Hashimoto's patients compared with Graves' patients. Eur J Endocrinol 2011;164:789-94. Epub March 4, 2011.

SUMMARY • • • • • • • • • • • • • • •

BACKGROUND

The category of autoimmune thyroid disease (AITD) includes Hashimoto's disease and Graves' disease; these diseases are often part of autoimmune polyglandular syndromes. The purpose of this study was to determine the frequency of adrenal, beta-cell, celiac, and gastric antibodies in patients with AITD and to determine whether there is a difference in the frequency of these antibodies in patients with Hashimoto's as compared with Graves' disease.

METHODS

When patients were diagnosed with AITD and during annual follow-up, antibody studies were performed to determine the presence of other autoimmune diseases—primarily Addison's disease, type 1 diabetes mellitus, celiac disease, atrophic gastritis, pernicious anemia, and vitamin B12 deficiency. When antibody studies were positive, patients underwent clinical evaluation for the presence of the disease. As example, if antiadrenal antibodies were found, patients had an ACTH stimulation test.

RESULTS

There were a total of 882 patients, 523 with Graves'

disease and 359 with Hashimoto's thyroiditis; all were Caucasian. The mean age was about 50 years and the duration of disease about 11 years. Addison's disease was more prevalent in Hashimoto's than in Graves' disease (5.3% and 1.7%, respectively; P<0.03; odds ratio [OR], 3.19). Type 1 diabetes was more prevalent in Hashimoto's disease than in Graves' disease (15.9% and 9.2%, respectively; P<0.03). Beta-ell autoimmunity was also more prevalent in Hashimoto's disease (25.4%) than in Graves' disease (15.6%; P<0.001; OR, 1.84). In patients without type 1 diabetes, the frequency of GAD antibody was similar in Hashimoto's disease and Graves' disease (6.6% vs. 4.6%). There were no significant differences in gastric autoimmunity between Hashimoto's disease and Graves' disease (23.4% vs. 19.2%). The incidence of celiac autoimmunity was 1.2% in both Hashimoto's disease and Graves' disease. In patients with Hashimoto's disease, there was a clustering of gastric autoimmunity with adrenal autoimmunity, and this was not seen in patients with Graves' disease.

CONCLUSIONS

Hashimoto's disease shows a markedly higher clustering of additional autoimmunity, especially with adrenal and beta-cell autoimmunity, as compared with Graves' disease.

COMMENTARY • • • • •

I must admit that I have not recommended that patients with Hashimoto's thyroiditis be routinely evaluated for adrenal insufficiency in the absence of clinical features of Addison's disease. At a postgraduate teaching program, my late friend, Clark Sawin, advocated that this be done, and I disagreed with him. The current data showing a 5% incidence of adrenal insufficiency in these patients certainly favor Clark's point of view, even though it does not fit with my experience. A recent study in the United Kingdom

reported that the incidence of Addison's disease was 1.4% in Hashimoto's thyroiditis and only 0.11% in Graves' disease (1). Still, it would be undesirable to miss even this 1.4% incidence of Addison's disease in patients with autoimmune thyroiditis. Perhaps adrenal insufficiency will explain some of the lack of well-being in patients with hypothyroidism who are treated with levothyroxine to restore a normal serum thyrotropin. I shall now be more alert to this possibility.

- Jerome M. Hershman, MD

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Reference

1. Boelaert K, Newby PR, Simmonds MJ, Holder RL, Carr-Smith JD, Heward JM, Manji N, Allahabadia A, Armitage M, Chatterjee KV, et al. Prevalence and relative risk of other autoimmune diseases in subjects with autoimmune thyroid disease. Am J Med 2010;123:18.e1-9.