



## AUTOIMMUNE THYROID DISEASE

### Several forms of kidney disease may be associated with autoimmune thyroid disease

#### BACKGROUND

Hashimoto's thyroiditis, the most common cause of hypothyroidism in the United States, is an autoimmune disease that is characterized by high blood levels of antibodies against different thyroid proteins that attack the thyroid and destroy the gland. However, many patients with Hashimoto's thyroiditis will only have partial thyroid destruction and not develop hypothyroidism. It is known that patients with Hashimoto's thyroiditis have a higher risk to develop other autoimmune diseases, including type 1 diabetes and adrenal insufficiency. While there are several forms of autoimmune diseases that affect the kidneys, only a few isolated patients with Hashimoto's thyroiditis who also had kidney disease have been previously reported. The aim of this study was to evaluate the frequency and further characterize the renal disease in a group of patients with Hashimoto's thyroiditis.

#### THE FULL ARTICLE TITLE

Kocak G et al. Coexistent findings of renal glomerular disease with Hashimoto's thyroiditis. *Clin Endocrinol (Oxf)* 2012;76:759-62.

#### SUMMARY OF THE STUDY

This is a study of 28 patients with Hashimoto's thyroiditis who were evaluated for glomerular kidney disease in a kidney clinic between 2007 and 2011. No association was found between the blood antithyroid antibody or thyroid

hormone level and kidney function. The study showed significantly decreased renal function in patients with long-standing Hashimoto's thyroiditis compared to recent-onset (less than 12 months) Hashimoto's thyroiditis. Twenty patients underwent kidney biopsies, while eight patients had transient kidney abnormalities and did not require biopsy. The frequency of different glomerular kidney diseases diagnosed on the biopsy was similar in patients with and without Hashimoto's thyroiditis. A total of 7 out of 20 patients who underwent kidney biopsy required immunosuppressive therapy for their kidney disease. The response of the kidney disease to treatment did not differ in patients with or without Hashimoto's thyroiditis.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This is the largest published study evaluating patients diagnosed with both Hashimoto's thyroiditis and kidney disease. The fact that long-standing Hashimoto's thyroiditis was associated with more severe decrease in kidney function is suggestive of a possible relationship between the two diseases. These findings will need to be confirmed by further research in this area.

— Alina Gavrila, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism>

#### ABBREVIATIONS & DEFINITIONS

**Autoimmune thyroid disease:** a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).

**Hashimoto's thyroiditis:** the most common cause of hypothyroidism in the United States. It is caused by antibodies that attack the thyroid and destroy it.

**Immune system:** a system of organs, tissues and cells in our body that has the role to recognize potentially harmful foreign substances and organisms as well as abnormal body cells and produce antibodies to destroy these factors.

Antibodies: proteins that are produced by the

body's immune cells that attack and destroy bacteria and viruses that cause infections. Occasionally the antibodies get confused and attack the body's own tissues, causing autoimmune disease.

**Autoimmune disorders:** A diverse group of disorders that are caused by antibodies that get confused and attack the body's own tissues. The disorder depends on what tissue the antibodies attack. Graves' disease and Hashimoto's thyroiditis are examples of autoimmune thyroid disease. Other autoimmune disorders include: type 1 diabetes mellitus, Addison's disease (adrenal insufficiency), vitiligo (loss of pigment of some areas of the skin), systemic lupus erythematosus, pernicious anemia (B12 deficiency), celiac disease, inflammatory bowel disease, myasthenia gravis, multiple sclerosis and rheumatoid arthritis.