



## HYPOTHYROIDISM

### Patients with Hashimoto's thyroiditis and negative thyroid antibodies have a milder form of the disease

#### BACKGROUND

Hashimoto's thyroiditis, also known as chronic autoimmune hypothyroidism, is the most common cause of hypothyroidism in the United States. It is caused by antibodies that attack the thyroid and destroy it. Most patients with Hashimoto's thyroiditis have measurable antibodies in the blood, with ~90% of patients having positive TPO antibodies and ~50% of patients having positive thyroglobulin antibodies. About 5 % of patients with a diagnosis of Hashimoto's thyroiditis based on clinical grounds or by ultrasound appearance have no measurable thyroid antibodies. This study was performed to note any differences between patients with Hashimoto's thyroiditis with positive antibodies and those with Hashimoto's thyroiditis but without any antibodies present.

#### THE FULL ARTICLE TITLE

Rotondi M et al. Serum negative autoimmune thyroiditis displays a milder clinical picture compared with classic Hashimoto's thyroiditis. *Eur J Endocrinol* 2014;171:31-6. Epub April 17 2014

#### SUMMARY OF THE STUDY

Between 2008 and 2011, 55 patients were diagnosed with Hashimoto's thyroiditis without antibodies. There were 48 women and 7 men. The average age was 47.7 (ranging from ages 17-80). The comparison group included 110 patients (12 men, 98 women) with Hashimoto's thyroiditis and positive antibodies. The researchers made the diagnosis of antibody negative Hashimoto's thyroiditis by the following criteria: 1) An ultrasound showing the characteristic a hypoechoic pattern of Hashimoto's thyroiditis, 2) two blood TSH levels >4.0 mU/ml within

2-6 months of each other and. 3) the absence of serum TPO or thyroglobulin antibodies on two occasions.

Overt hypothyroidism (increased TSH and low T<sub>4</sub> levels) was more common in patients with positive thyroid antibodies at the time of diagnosis, while subclinical hypothyroidism (only an increase in TSH) was more common in patients with antibody-negative Hashimoto's thyroiditis. TSH and thyroid volume were also higher in these patients. Family history of thyroid disease was more common in patients with antibody positive Hashimoto's thyroiditis.

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

Patients with Hashimoto's thyroiditis and positive thyroid antibodies were more likely present with overt hypothyroidism and a larger thyroid. Patients with antibody-negative Hashimoto's thyroiditis had a milder form of hypothyroidism at the time of diagnosis. This could represent an earlier stage of the disease or simply a less aggressive form of Hashimoto's thyroiditis. This study suggests that treating patients with subclinical hypothyroidism and positive thyroid antibodies is important to prevent the development of overt hypothyroidism.

— Heather Hofflich, DO

#### ATA THYROID BROCHURE LINKS

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

Thyroiditis: <http://www.thyroid.org/what-is-thyroiditis>

Thyroid Function Tests: <http://www.thyroid.org/blood-test-for-thyroid>

#### 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).

**Hypothyroidism:** a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.



## **HYPOTHYROIDISM**, continued

**Subclinical Hypothyroidism:** a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.

**Overt Hypothyroidism:** clear hypothyroidism an increased TSH and a decreased T<sub>4</sub> level. All patients with overt hypothyroidism are usually treated with thyroid hormone pill

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

**Thyroiditis:** inflammation of the thyroid, most commonly cause by antibodies that attack the thyroid as seen in Hashimoto's thyroiditis and post-partum thyroiditis. It can also result from an infection in the thyroid.

**Thyroid Ultrasound:** a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound

uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

**TPO antibodies:** these are antibodies that attack the thyroid instead of bacteria and viruses, they are a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

**Thyroglobulin antibodies:** these are antibodies that attack the thyroid instead of bacteria and viruses, they are a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

**TSH: Thyroid Stimulating Hormone** — produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.

## Thyroid Awareness Monthly Campaigns

The ATA will be highlighting a distinct thyroid disorder each month and a portion of the sales for Bravelets™ will be donated to the ATA. The month of September is **Thyroid Cancer Awareness Month** and a bracelet is available through the [ATA Marketplace](#) to support thyroid cancer awareness and education related to thyroid disease.

