



## HYPOTHYROIDISM

### Thyroid surgery for patients with Hashimoto's disease

#### BACKGROUND

Hypothyroidism, or an underactive thyroid, is a common problem. In the United States, the most common cause of hypothyroidism is Hashimoto's thyroiditis. This is an autoimmune disorder where antibodies attack the thyroid, causing inflammation and destruction of the gland. Characteristic of Hashimoto's thyroiditis are high antibodies to thyroid peroxidase (TPO Ab) on blood tests. Hypothyroidism is treated by thyroid hormone and returning thyroid hormone levels to the normal range usually resolves symptoms in most patients.

However, in some patients, symptoms may persist despite what appears to be adequate treatment based on blood tests of thyroid function. This raises the possibility that some symptoms may be related to the autoimmune condition itself. Some studies suggest that TPOAb may cross-react with tissues other than the thyroid and may contribute to inflammation and general symptoms. Indeed, some patients with high TPOAb levels and normal thyroid hormone levels (without medication) will present with symptoms similar to those of patients with hypothyroidism. If persistent symptoms in patients with Hashimoto's thyroiditis are caused by the active autoimmune process rather than by thyroid hormone status, removing the thyroid gland through surgery may reduce the levels of the TPOAb and improve some symptoms. This study examines the effect of thyroidectomy compared to medical therapy for symptomatic hypothyroid patients with Hashimoto's thyroiditis despite achieving normal thyroid hormone levels after adequate thyroid hormone replacement.

#### THE FULL ARTICLE TITLE

Guldvog I et al Thyroidectomy versus medical management of euthyroid patients with Hashimoto's Disease and Persistent Symptoms: a randomized trial. Compared to Adequate Thyroid Hormone Replacement 2019 Annals of Internal Medicine. Epub 2019 Mar 12. PMID: 30856652.

#### SUMMARY OF THE STUDY

This study enrolled patients with hypothyroidism due to Hashimoto's thyroiditis who received treatment with thyroidectomy and thyroid hormone replacement or thyroid hormone replacement alone. The outcome of the study was a patient-reported health score on the generic Short Form-36 Health Survey (SF-36) after 18 months.

Patients were in the age group of 18 to 79 years. They all had a TPOAb titer >1000 IU/L and reported persistent symptoms despite having normal thyroid hormone levels based on blood tests. Typical symptoms included fatigue, increased need for sleep associated with reduced sleep quality, joint and muscle tenderness, dry mouth, and dry eyes. Follow up visits were done every 3 months for 18 months and the thyroid hormone therapy was adjusted as needed. After screening about 150 subjects were assigned to two groups

In the thyroidectomy and thyroid hormone replacement group, the health survey results improved 26 points and the average fatigue score decreased by 9 points. The thyroid hormone replacement only group had no significant change in either the health survey or the fatigue scores. After surgery, serum TPOAb levels declined sharply and significantly from a baseline of 2232 IU/ml to 152 IU/ml at 18 months, while levels declined only slightly in the thyroid hormone replacement-only group. Surgical complications included local postsurgical infections in 3 patients, prolonged low calcium levels in 3, and early post-operative hoarse voice quality which improved spontaneously or with therapy in 4.

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

This study suggests that thyroidectomy in patients with Hashimoto's thyroiditis who had persistent thyroid-related symptoms on thyroid hormone replacement resulted in significantly higher health-related quality-of-life scores and lower fatigue scores as compared with continued thyroid





## HYPOTHYROIDISM, continued

hormone therapy alone. Even though the results of this study indicate that surgical management of Hashimoto's thyroiditis may be beneficial, it is not clear whether undergoing surgery for this relatively common disease is necessary to treat symptoms in all patients. Also, patients had quite high levels of the TPO Antibody which may not be the case in all patients with Hashimoto's thyroiditis. Finally risk of surgical complications has to be taken

into consideration. This study does, however, increase our awareness of the disease and tells us that surgical management of this condition should be considered. Certainly this study needs to be repeated and longer term studies in this area will certainly be of benefit.

—Vibhavasu Sharma, MD

### ATA THYROID BROCHURE LINKS

Hypothyroidism (Underactive): <https://www.thyroid.org/hypothyroidism/>

Hashimoto's Thyroiditis: <https://www.thyroid.org/hashimotos-thyroiditis/>

Thyroid Surgery: <https://www.thyroid.org/thyroid-surgery/>

Thyroid Hormone Treatment: <https://www.thyroid.org/thyroid-hormone-treatment/>

### ABBREVIATIONS & DEFINITIONS

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

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

**TPO antibodies (TPOAb):** 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.

**Thyroid hormone therapy:** patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal. Replacement therapy means the goal is a TSH in the normal range and is the usual therapy. Suppressive therapy means that the goal is a TSH below the normal range and is used in thyroid cancer patients to prevent growth of any remaining cancer cells.

