



HYPOTHYROIDISM

Can black cumin powder improve thyroid function in Hashimoto's thyroiditis?

BACKGROUND

Hashimoto's thyroiditis is an inflammatory condition in which the immune system attacks the thyroid gland, usually causing destruction of the thyroid cells and low thyroid hormone levels (T_4 and T_3). In response to low thyroid hormones, the pituitary gland produces elevated levels of Thyroid Stimulating Hormone (TSH). Patients with this condition often have elevated markers of immune reaction against the thyroid, called antibodies, and the most common ones are called anti-TPO antibodies. *Nigella sativa* (also known as black cumin seed or black powder) is a plant that grows in Europe and Asia and has been used to treat inflammatory disorders; however, the effect of this seed on Hashimoto's has not been well studied. The goal of this study was to determine the effects of powdered black cumin on thyroid function and inflammation on patients with Hashimoto's thyroiditis.

THE FULL ARTICLE TITLE

Tajmiri S et al. *Nigella sativa* treatment and serum concentrations of thyroid hormones, transforming growth factor β (TGF- β) and interleukin 23 (IL-23) in patients with Hashimoto's thyroiditis. Eur J Integrative Med. March 10, 2016 [Epub ahead of print]

SUMMARY OF THE STUDY

A total of 100 patients with Hashimoto's thyroiditis were screened to see whether they qualified for the study. A total of 47 patients met inclusion criteria and were started on thyroid hormone replacement at 1.7 mcg/kg/day. No changes were made in dose during the study time. Patients were then divided in two groups, the treatment group, which received *Nigella sativa* powder and the placebo or control group. A total of 40 patients with Hashimoto's thyroiditis, aged 20-50 years, were included in the

analysis. Patients received either 2 grams a day of *Nigella sativa* (active compound) or 2 grams of corn starch (inactive compound) a day, 1 gram before lunch and 1 gram before dinner for 8 weeks. The body-mass-index (BMI), physical activity level, TSH, T_3 and T_4 , Anti-TPO antibodies, and the inflammatory molecules TGF- β and IL-23 were measured before and after the study time. BMI decreased from 27.1 to 26.2 in patients receiving *Nigella sativa*. Results also showed statistically significant decrease in IL-23 levels, anti-TPO antibodies, and TSH levels in the group treated with *Nigella sativa* seed. Also, T_3 and T_4 levels increased significantly in the treatment group. Limitations to the study include that it is not clear what the authors meant by "percent changes in the result table. It is also not clear how the patients were paired after excluding the seven patients. Also, patients were only studied for 8 weeks.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that powdered black cumin may have beneficial effects on patients with Hashimoto's thyroiditis. However, this was only an 8 week study and more studies are needed to confirm whether this compound may help in the management of thyroid disorders.

— Liuska Pesce, MD

ATA THYROID BROCHURE LINKS

Hypothyroidism: <http://www.thyroid.org/hypothyroidism/>

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

Thyroid Function Tests: <http://www.thyroid.org/thyroid-function-tests/>

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

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 caused 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.

Triiodothyronine (T3): the active thyroid hormone, usually produced from thyroxine, available in pill form as Cytomel™.

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

Levothyroxine (T4): the major hormone produced by the thyroid gland and available in pill form as Synthroid™, Levoxyl™, Tyrosint™ and generic preparations.

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.

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.

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.

