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HASHIMOTO'S THYROIDITIS

What is Hashimoto's thyroiditis?

Hashimoto's thyroiditis (also called autoimmune or chronic lymphocytic thyroiditis) is the most common thyroid disease in the U.S. It is an inherited condition that affects more than 10 million Americans and is about seven times more common in women than in men. Hashimoto's thyroiditis is characterized by the production of immune cells and autoantibodies by the body's immune system, which can damage thyroid cells and compromise their ability to make thyroid hormone. Hypothyroidism occurs if the amount of the thyroid hormone which can be produced is not enough for the body's needs. The thyroid gland may also enlarge forming a goiter – an enlargement of the thyroid which can be seen as a mass in the neck.

Features of Hashimoto's thyroiditis

Hashimoto's thyroiditis may not cause symptoms for many years and can remain undiagnosed until an enlarged thyroid gland or abnormal blood tests are discovered as part of a routine examination. When symptoms do develop, they are related either to pressure in the neck caused by the goiter or to low levels of the thyroid hormone. The first sign of the disease may be painless swelling in the lower front of the neck. Over time, this enlargement may become easily visible and be associated with an uncomfortable pressure in the lower neck. Additional symptoms may include difficulty swallowing.

Although many of the features associated with thyroid hormone deficiency occur commonly in patients without thyroid disease, those with Hashimoto's thyroiditis who develop hypothyroidism are more likely to experience the following:

- Pervasive fatigue
- Drowsiness
- Forgetfulness
- Difficulty with learning
- Dry, brittle hair and nails
- Dry, itchy skin
- Puffy face
- Constipation
- Sore muscles
- Weight gain
- Heavy menstrual flow
- Increased frequency of miscarriages
- Increased sensitivity to many medications

As the enlarged thyroid and/or hypothyroidism caused by Hashimoto's thyroiditis progresses, many patients' symptoms may worsen slowly. Therefore, it is important that patients with either of these findings should be identified. Optimal treatment with thyroid hormone will eliminate symptoms due to thyroid hormone deficiency, usually prevent further thyroid enlargement, and may sometimes cause shrinkage of an enlarged thyroid gland.

Causes of Hashimoto's thyroiditis

Hashimoto's thyroiditis is caused by a malfunction in the immune system. When working properly, the immune system is designed to protect the body against invaders such as bacteria, viruses and other foreign substances. The immune system of someone with Hashimoto's thyroiditis mistakenly recognizes normal thyroid cells as foreign tissue, and produces antibodies that may destroy these cells. Although various environmental factors have been studied, none have been positively proven to be the cause of Hashimoto's thyroiditis.

Diagnosing Hashimoto's thyroiditis

A physician who is experienced in the diagnosis and treatment of thyroid disease can detect a goiter by performing a physical examination and identifying characteristic symptoms, typical physical signs and by ordering the appropriate laboratory tests:

- **Antithyroid antibodies**
  Increased antithyroid antibodies provide the most specific laboratory evidence of Hashimoto's thyroiditis, but they are not present in all cases.
- **Thyroid Stimulating Hormone (TSH) or Thyrotropin test**
  Increased TSH level in the blood is the most accurate indicator of hypothyroidism. TSH is produced by another gland, the pituitary, which is located behind the nose at the base of the brain. The level of TSH rises dramatically when the thyroid gland under-produces thyroid hormone even slightly.
- **Other tests**
  An estimate of free thyroxine: This active thyroid hormone is found in the blood. A low level is consistent with thyroid hormone deficiency. However, free thyroxine values in the "normal range" may actually represent mild thyroid hormone deficiency in a particular patient and not drop below the "normal range" unless it becomes more severe.
- **Fine-needle aspiration of the thyroid:** This is not necessary for most patients with Hashimoto's thyroiditis, but another option to diagnose difficult cases and a necessary procedure if a thyroid nodule is also present.

Treatments

For patients with an enlarged thyroid (goiter) and hypothyroidism, thyroid hormone therapy is needed, since proper dosage corrects any symptoms due to thyroid hormone deficiency and may decrease the goiter's size. Treatment generally consists of taking a single daily tablet of levothyroxine. Older patients who may have underlying heart disease are typically started on a low dose and gradually increased, while younger, healthy patients can be started on full replacement doses immediately. Thyroid hormone acts very slowly in the body, so it may take several months after treatment is started to notice improvement in symptoms or shrinkage of the goiter. Because of the generally permanent and often progressive nature of Hashimoto's thyroiditis, it is usually necessary to treat it throughout one's lifetime and to realize that medicine dose requirements may need to be adjusted at times.

The body is very sensitive to even very small changes in thyroid hormone levels. Adjustment of thyroid hormone dosage should be guided by laboratory tests rather than symptoms alone. Levothyroxine tablets come in 13 different strengths, and it is

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essential to take them at the same time each day. If the dose is not adequate, the thyroid gland may continue to enlarge and symptoms of hypothyroidism will persist. This may be associated with increased serum cholesterol levels, possibly increasing the risk for atherosclerosis and heart disease. If the dosage is too strong, it can cause symptoms of hyperthyroidism, creating excessive strain on the heart and an increased risk of developing osteoporosis.

Other associated disorders

While Hashimoto's thyroiditis is a common disorder of the immune system which affects the thyroid gland, the immune system can also mistakenly target virtually any other part of the body, causing it to malfunction. Although the majority of patients with Hashimoto's thyroiditis and their genetic family members will never experience any other autoimmune condition, they do have a statistically increased risk of developing the following disorders:

- Type 1 diabetes mellitus (insulin-requiring)
- Graves' disease (goiter and hyperthyroidism or overactive thyroid)
- Rheumatoid arthritis
- Pernicious anemia (inability to absorb vitamin B12, potentially causing anemia and neurologic problems)
- Addison's disease (adrenal failure; the adrenal gland provides cortisol to handle stress and illness)
- Premature ovarian failure (early menopause)
- Vitiligo (patchy loss of skin pigmentation)
- Thrombocytopenic purpura (bleeding disorder due to an inadequate number of platelets in the blood)
- Lupus erythematosus (autoimmune disease that involves skin, heart, lungs, kidneys and joints)