CONDITION

Autoimmune thyroiditis

Learn how autoimmune thyroiditis affects thyroid hormone levels, including common symptoms, testing, treatment, pregnancy considerations, and follow-up care.

WHAT IT IS
Immune-caused inflammation of the thyroid

BODY SYSTEM
Hormone system

MAIN SYMPTOMS
Tiredness, feeling cold, dry skin, weight gain

WHAT CAUSES IT
Immune system attack

HOW IT IS DIAGNOSED
TSH, free T4, TPO antibody blood tests

MAIN TREATMENT
Thyroid hormone replacement

CAN IT BE CURED?
Sometimes - temporary forms may recover

IS IT AN EMERGENCY?
Sometimes - breathing trouble or altered consciousness

LONG-TERM OUTLOOK
Usually manageable, but hypothyroidism may persist

Overview

Autoimmune thyroiditis is inflammation of the thyroid caused by the immune system mistakenly attacking thyroid tissue. The thyroid is a small, butterfly-shaped gland in the lower front of the neck. It makes hormones that help control energy use, body temperature, heart rate, digestion, and many other functions.

The most common long-term form is Hashimoto thyroiditis , also called chronic lymphocytic thyroiditis. Over time, inflammation can damage the thyroid and reduce its ability to make hormones. This causes hypothyroidism , meaning an underactive thyroid.

Some forms of autoimmune thyroiditis have a temporary early phase in which stored thyroid hormones leak into the bloodstream. This may briefly cause thyrotoxicosis , or higher-than-normal thyroid hormone activity. The thyroid may then become underactive

before recovering. Painless, or "silent," thyroiditis and postpartum thyroiditis can follow this pattern.

Autoimmune thyroiditis matters because thyroid hormone changes can affect many parts of the body. Symptoms often develop slowly and may resemble those of other conditions. Blood tests can usually identify abnormal thyroid function, and hypothyroidism can generally be managed effectively with thyroid hormone replacement.

Having thyroid antibodies does not always mean that treatment is needed. Some people have antibodies but continue to have normal thyroid hormone levels. They may only need periodic monitoring.

Symptoms

Symptoms depend on whether thyroid hormone levels are low, temporarily high, or normal. Many people have few symptoms early in the condition.

When autoimmune thyroiditis causes hypothyroidism, possible symptoms include:

These symptoms are not specific to thyroid disease. For example, fatigue and weight changes can have many causes. Blood tests are needed to determine whether the thyroid is involved.

Some people develop a goiter , which is an enlarged thyroid. It may appear as fullness or swelling at the lower front of the neck. A goiter can be painless. A very large thyroid may cause pressure, difficulty swallowing, or changes in the voice.

During a temporary thyrotoxic phase, symptoms may include a fast or pounding heartbeat, shakiness, anxiety, heat intolerance, sweating, trouble sleeping, or unplanned weight loss. Unlike Graves disease, this phase usually results from the release of stored hormone rather than increased hormone production.

Postpartum thyroiditis occurs during the first year after pregnancy. Its symptoms may be mistaken for the normal physical and emotional demands of caring for a new baby. Palpitations, irritability, fatigue, low mood, and difficulty concentrating deserve medical discussion, especially when they persist.

- Tiredness, slowed thinking, or difficulty concentrating
- Feeling unusually cold
- Dry skin or thinning hair
- Constipation
- Unexplained weight gain or difficulty losing weight

- Muscle aches, weakness, or cramps
- Heavy or irregular menstrual periods
- Reduced fertility
- Low mood
- A slower-than-usual heart rate
- Puffiness around the face or eyes
- A hoarse voice

Causes and risk factors

Autoimmune thyroiditis develops when the immune system produces antibodies and immune cells that target the thyroid. Two commonly measured antibodies are thyroid peroxidase antibodies , or TPO antibodies, and thyroglobulin antibodies . Thyroid peroxidase is an enzyme the thyroid uses to make hormones. Thyroglobulin is a protein involved in storing them.

The exact reason this immune response begins is not always known. Genetics, sex hormones, environmental exposures, and immune regulation may all contribute.

Factors linked with a higher likelihood of autoimmune thyroid disease include:

Radiation to the neck and some thyroid medicines can also cause thyroid dysfunction, but these are not always autoimmune thyroiditis.

Normal dietary iodine is necessary for thyroid hormone production. However, taking iodine or kelp supplements without medical advice may worsen thyroid dysfunction in some people. Supplements marketed for "thyroid support" may also contain unpredictable amounts of iodine or thyroid hormone.

- A personal or family history of thyroid disease
- Another autoimmune condition, such as type 1 diabetes, celiac disease, rheumatoid arthritis, or autoimmune adrenal disease
- Pregnancy or a recent pregnancy
- Female sex, although people of any sex can be affected
- Increasing age
- Certain medicines or immune-based cancer treatments
- Exposure to unusually high amounts of iodine in susceptible people

Diagnosis

Diagnosis begins with a review of symptoms, medical history, medicines, supplements, pregnancy history, and family history. A clinician may examine the neck for thyroid enlargement, tenderness, or nodules and may check heart rate, reflexes, skin, and other signs of altered thyroid function.

The main blood tests are:

In primary hypothyroidism, TSH is usually high because the brain is signaling the thyroid to work harder. Free T4 may be low. A high TSH with a normal free T4 is called subclinical hypothyroidism . This term describes laboratory findings; it does not mean that symptoms are unimportant.

Positive TPO antibodies support a diagnosis of autoimmune thyroiditis, but antibody levels do not show how severe the disease is. Repeating antibody tests usually provides less useful information than following TSH and free T4. Some people with Hashimoto thyroiditis do not have measurable antibodies.

During a thyrotoxic phase, TSH may be low and thyroid hormone levels may be high. Additional tests can help distinguish destructive thyroiditis from Graves disease or another cause of excess thyroid hormone.

A thyroid ultrasound is not automatically needed. It may be used when the gland feels enlarged or uneven, a nodule is present, or the diagnosis remains uncertain. Ultrasound can show changes consistent with inflammation, but imaging alone does not determine thyroid function.

Biotin, an ingredient in some hair and nail supplements, can interfere with certain thyroid blood tests. Tell the clinician and laboratory about all supplements before testing. Do not stop a prescribed product unless a healthcare professional advises it.

- TSH , or thyroid-stimulating hormone, which tells the thyroid how much hormone to make
- Free T4 , one of the main thyroid hormones available to the body
- TPO antibodies , which can support an autoimmune cause

Treatment and management

Treatment depends on thyroid hormone levels, symptoms, age, pregnancy status, other health conditions, and whether the changes appear temporary or permanent.

For established hypothyroidism, the standard treatment is levothyroxine , a laboratory-made form of the T4 hormone normally produced by the thyroid. It replaces missing hormone rather

than stopping the immune response. The dose is individualized and adjusted using blood tests.

Levothyroxine is usually taken consistently in relation to food. Iron, calcium, some antacids, and certain other medicines can reduce its absorption if taken too close together. A clinician or pharmacist can explain how to separate these products. People should not change brands, timing, or dose without discussing the change with their care team.

After treatment begins or the dose changes, TSH is checked after enough time has passed for hormone levels to stabilize. Once the dose is stable, testing is generally less frequent. Monitoring may need to be closer during pregnancy, major weight changes, medication changes, or new illness.

Not everyone with positive thyroid antibodies needs medication. When TSH and free T4 are normal, treatment usually focuses on monitoring for future thyroid dysfunction. For subclinical hypothyroidism, the decision is individualized rather than based on antibodies alone.

A temporary thyrotoxic phase is not usually treated with antithyroid medicines because the thyroid is releasing stored hormone rather than producing too much new hormone. If symptoms such as tremor or a rapid heartbeat are troublesome, a clinician may consider a medicine that controls those symptoms. Thyroid function is then followed because an underactive phase may occur.

Postpartum thyroiditis may resolve, but some people develop lasting hypothyroidism. Treatment decisions take into account symptoms, test results, breastfeeding, and plans for another pregnancy.

No specific diet has been proven to reverse autoimmune thyroiditis. A balanced diet with an appropriate amount of iodine supports general health. High-dose iodine, kelp, or selenium supplements should not be started solely for thyroiditis without medical guidance because excess intake can be harmful.

Complications

Untreated or undertreated hypothyroidism can contribute to high cholesterol, heart problems, nerve symptoms, menstrual changes, reduced fertility, and problems with mood or thinking. Severe, long-standing hypothyroidism can rarely lead to myxedema coma , a life-threatening state involving slowed body functions and altered consciousness.

Thyroid hormone levels are especially important before and during pregnancy. Uncontrolled hypothyroidism can affect the pregnant person and fetal development. People who are pregnant, planning pregnancy, or undergoing fertility treatment should discuss thyroid testing and treatment targets with their healthcare team.

An enlarged thyroid may occasionally press on nearby structures. Autoimmune thyroiditis is also associated with a higher chance of developing other autoimmune disorders, although most people will not develop all of these conditions.

Taking more thyroid hormone than the body needs can cause palpitations, sleep problems, bone loss, or abnormal heart rhythms. Regular blood tests help reduce this risk.

Follow up

Routine follow-up focuses on symptoms, medication use, and TSH testing. Contact the prescribing clinician if symptoms return, a dose is missed frequently, a new medicine or supplement is started, or the levothyroxine product changes. Major weight changes can also affect hormone needs.

Arrange timely medical review for a new or enlarging neck lump, persistent hoarseness, trouble swallowing, new palpitations, unexplained weight change, or symptoms that continue despite normal thyroid tests. These concerns are not always caused by autoimmune thyroiditis and may need separate evaluation.

Tell the care team promptly about pregnancy or plans to become pregnant. Thyroid hormone requirements can change early in pregnancy, so testing should not be delayed until a routine annual visit.

Seek urgent or emergency care for:

These symptoms are not typical of stable autoimmune thyroiditis, but they require prompt assessment.

- Severe trouble breathing or rapidly increasing neck swelling
- Chest pain, fainting, or a very fast or irregular heartbeat with weakness or shortness of breath
- Marked confusion, unusual sleepiness, very low body temperature, or inability to stay awake
- Thoughts of self-harm or an immediate mental health crisis

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