CONDITION

Factitious hyperthyroidism

Factitious hyperthyroidism is excess thyroid hormone caused by taking more thyroid hormone than the body needs.

WHAT IT IS
Excess thyroid hormone caused by hormone taken from outside

BODY SYSTEM
Hormone system, heart, bones, and nervous system

MAIN SYMPTOMS
Fast heartbeat, sweating, tremor, weight loss

WHAT CAUSES IT
Taking more thyroid hormone than the body needs

HOW IT IS DIAGNOSED
Blood tests, thyroglobulin, and radioactive iodine uptake

MAIN TREATMENT
Remove excess hormone and control symptoms

CAN IT BE CURED?
Yes - removing excess hormone usually resolves it

IS IT AN EMERGENCY?
Sometimes - with chest pain, collapse, confusion, or high fever

LONG-TERM OUTLOOK
Usually full recovery after hormone levels normalize

Overview

Factitious hyperthyroidism happens when thyroid hormone taken from outside the body produces excessive hormone levels. Sources may include levothyroxine, liothyronine, desiccated animal thyroid, or products containing thyroid hormones.

Strictly speaking, this is a form of thyrotoxicosis , meaning the body is exposed to too much thyroid hormone. "Hyperthyroidism" usually means the thyroid gland itself is overactive. In factitious hyperthyroidism, the gland is not making the excess hormone.

The word "factitious" traditionally refers to hormone taken deliberately and sometimes secretly. However, the same medical effects can occur when someone accidentally takes too much prescribed thyroid medicine. Accidental overtreatment is not the same as factitious disorder.

Thyroid hormones control how quickly the body uses energy. Too much can affect the heart, temperature control, muscles, mood, digestion, and bones. Identifying the source matters because treatments that slow an overactive thyroid do not stop the effects of hormone already taken.

Symptoms

Symptoms resemble those of other causes of excess thyroid hormone and may include:

Older adults may have less typical symptoms, including unexplained weight loss, weakness, low mood, or an abnormal heart rhythm.

Features of Graves' disease are usually absent. Factitious hyperthyroidism does not normally cause Graves' eye disease, and the thyroid is generally not enlarged because it is not being stimulated to produce extra hormone.

Symptoms do not always match blood test results. Some people have few symptoms despite abnormal levels, while those with heart conditions may be affected by smaller changes.

- A fast, pounding, or irregular heartbeat
- Shaking hands, sweating, or feeling unusually warm
- Anxiety, irritability, restlessness, or difficulty sleeping
- Weight loss despite a normal or increased appetite
- Frequent bowel movements
- Muscle weakness and tiredness
- Shortness of breath during activity
- Changes in menstrual periods

Causes and risk factors

The direct cause is thyroid hormone entering the body from an outside source. This may happen through:

Factitious disorder is a mental health condition in which someone creates or exaggerates illness without an obvious outside reward. It should not be assumed simply because unexplained medicine exposure is found. Excess use may instead result from misunderstood instructions, medication errors, body-image concerns, or attempts to manage symptoms.

Risk is higher when thyroid medicine is used without regular blood tests. Confusion between tablet strengths or products can also cause accidental excess.

People who need lifelong thyroid replacement can become overtreated if their needs change because of weight changes, aging, pregnancy-related changes, medicines, or health conditions. This is usually described as overtreatment rather than factitious hyperthyroidism.

- Taking more prescribed thyroid medicine than intended
- Taking another person's thyroid medicine
- Using thyroid hormone to lose weight or increase energy
- Taking products containing undeclared thyroid hormone
- Deliberately producing symptoms as part of factitious disorder

Diagnosis

Diagnosis begins with thyroid blood tests. A typical pattern is a low level of thyroid-stimulating hormone, or TSH , with increased thyroid hormones. TSH is made by the pituitary gland and becomes suppressed when the body senses too much thyroid hormone.

The pattern may reflect the product taken. Levothyroxine mainly contains T4, while liothyronine contains T3. Liothyronine can therefore produce a high T3 level without the same increase in T4.

Blood tests confirm thyrotoxicosis but do not always identify its source. Other findings can distinguish hormone taken from outside the body from Graves' disease or thyroid inflammation:

Thyroglobulin antibodies can make the thyroglobulin result unreliable. Thyroid inflammation can also cause low iodine uptake, but thyroglobulin is commonly higher because stored hormone is leaking from thyroid tissue.

A careful, nonjudgmental review of prescriptions, over-the-counter products, supplements, and access to another person's medicine is important. Accurate information helps distinguish accidental exposure, inappropriate treatment, and deliberate use.

- Thyroglobulin is usually low. This protein is made by thyroid tissue and released with naturally produced thyroid hormone.
- A radioactive iodine uptake test usually shows very low uptake because the thyroid has reduced its own activity.

- Blood-flow imaging may show reduced activity rather than the increased blood flow often seen in Graves' disease.

Treatment and management

Treatment focuses on stopping or correcting the source of excess hormone. If thyroid hormone was prescribed for a genuine medical reason, changes should be planned with the prescribing healthcare professional. Stopping without guidance could later cause low thyroid hormone.

The body needs time to clear hormone already absorbed. Levothyroxine remains in the body longer than liothyronine, so symptoms and test results may not improve immediately.

A beta blocker like metoprolol or propranolol may be used to reduce a fast heartbeat, shaking, sweating, and anxiety while levels fall. It controls symptoms but does not remove thyroid hormone. Beta blockers are not suitable for everyone and require medical assessment.

Antithyroid medicines are generally not useful because the thyroid is not producing the excess hormone. Severe cases or large recent overdoses may require hospital monitoring and measures to limit absorption or help clear the hormone.

Follow-up blood tests check T4, T3, and TSH. T4 and T3 may normalize before TSH recovers, so a low TSH does not always mean exposure is continuing.

If hormone was taken deliberately, care may include confidential mental health support for factitious disorder, body-image concerns, depression, anxiety, or other reasons for use. A respectful approach can support honest discussion and reduce recurrence.

Complications

Most effects improve after the excess hormone is removed. Complications are more likely when levels are very high, exposure continues, or an existing heart condition is present.

Possible complications include:

A rare but serious complication is thyroid storm , in which severe thyrotoxicosis causes high fever, marked agitation or confusion, vomiting or diarrhea, and major heart or circulation problems. It can occur after taking thyroid hormone from outside the body.

- Atrial fibrillation, an irregular and often rapid heart rhythm
- Angina or worsening heart failure

- Loss of bone strength over time
- Ongoing muscle weakness and weight loss
- Menstrual or fertility problems
- Severe thyrotoxicosis affecting several organs

Prevention

Accidental excess can often be prevented through careful medication use.

Take prescribed thyroid hormone exactly as directed and attend planned blood tests. Check the tablet name and strength when a prescription changes, and ask about unclear instructions. Do not share thyroid medicine or use it for weight loss or increased energy.

Tell your healthcare team about supplements marketed for "thyroid support," metabolism, or weight loss. Some have been found to contain thyroid hormones even when this is not clear from the label.

Store thyroid medicine separately from other tablets and out of reach of children. If a large accidental dose is taken, contact a poison information service or seek prompt medical advice rather than waiting for symptoms.

Living with it and what to expect

After the outside source is removed, thyroid hormone levels usually fall over days to weeks. Timing depends on the hormone type, amount, duration of use, and general health. TSH may remain low for several weeks or longer after T4 and T3 improve.

Tremor, sweating, and a racing heartbeat often improve as levels fall. Weight, sleep, muscle strength, and exercise tolerance may take longer to recover. Follow-up may include repeat thyroid tests and, when relevant, heart rhythm or bone health checks.

Factitious hyperthyroidism does not usually permanently damage the thyroid. Someone with an underactive thyroid may still need replacement after the excess clears, but at an appropriately monitored dose.

Long-term recovery is usually good when exposure ends. Repeated use increases the risk of heart and bone complications. When use was intentional, ongoing psychological or psychiatric care may be as important as thyroid monitoring.

When to get medical help

Arrange a routine medical appointment for ongoing symptoms such as an unexplained fast heartbeat, tremor, sweating, weight loss, or difficulty sleeping. Seek medical review if you think your thyroid prescription strength is wrong or a supplement may contain thyroid hormone.

Seek prompt advice after taking more thyroid medicine than intended, even if you feel well, because effects may be delayed. In the United States, Poison Control can be reached at 1-800-222-1222; elsewhere, use your local poison information service.

Seek emergency care for:

These symptoms can indicate a serious heart problem, severe thyrotoxicosis, or another urgent condition.

- Chest pain, fainting, or severe shortness of breath
- A very fast or seriously irregular heartbeat with weakness or dizziness
- High fever with marked agitation, confusion, vomiting, or diarrhea
- A seizure, collapse, or inability to wake normally

Common questions

Is factitious hyperthyroidism the same as Graves' disease?

No. Graves' disease causes the thyroid to make too much hormone because of an immune-system problem. Factitious hyperthyroidism comes from hormone taken outside the body. Graves' eye changes and increased thyroid activity on an iodine uptake test are not expected.

Can levothyroxine cause factitious hyperthyroidism?

Yes, if more levothyroxine is taken than the body needs. During treatment for an underactive thyroid, this may be called thyroid hormone overtreatment rather than factitious disorder.

Does this diagnosis mean I have factitious disorder?

Not necessarily. Similar results can come from a prescribing problem, misunderstanding, supplement exposure, deliberate weight-loss use, or factitious disorder. The reason should be assessed rather than assumed.

How long does factitious hyperthyroidism last?

It may last from days to several weeks or longer after the source is removed. Levothyroxine clears more slowly than liothyronine, and TSH may remain low after active hormone levels

improve.

Will antithyroid medicine fix it?

Usually not. Antithyroid medicines reduce production inside the thyroid but cannot stop hormone already taken. Treatment focuses on removing the source, monitoring levels, and controlling symptoms.

Can thyroid supplements cause it?

Some thyroid or metabolic support products have contained T3, T4, or animal thyroid tissue. A complete list of products and supplements can help identify an unexpected source.

Sources

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