

# CAUSES OF THYROID DISEASES IN WOMEN

Kattaxodjayeva Dinara Utkurxodjayevna,  
Aytjanova Aysaule Yesemuratovna  
Tashkent Medical Academy

## Abstract

The work provides information that the thyroid gland can change its structure and volume under the influence of various factors, primarily during hormonal changes - puberty, menopause. It is shown that the manifestation of clinical signs of changes in the thyroid gland is diverse, where the cardiovascular system suffers first.

**Keywords:** Thyroid gland, hypothyroidism, pathology, organ, hereditary, deficiency, iodine, patient, disorder, thyroid, hormone, drug.

## INTRODUCTION

The thyroid gland is an endocrine organ located on the front of the neck and shaped like a butterfly. The thyroid gland's role in the body is to regulate human life. It is responsible for the coordinated work of the endocrine and central nervous systems, plays a major role in the formation of proper blood circulation and regulates a woman's reproductive capacity.

Thyroid diseases are not only accompanied by many unpleasant symptoms, but also cause a number of problems, such as sleep disturbances, loss of appetite, slowing down of metabolic processes, and a general deterioration in the patient's well-being.

In women, pathological disorders of the thyroid gland are five to eight times more common than in men.

The thyroid gland can change its structure and volume under the influence of various factors, primarily during periods of hormonal changes - puberty, menopause.

In women, the risk of pathologies is associated with hormonal imbalances, deficiency or excess of iodine.

## Causes of thyroid pathologies in women

Thyrotropic hormone is the main regulator of organ activity, it supports the production of thyroid hormones that control metabolic processes. Disruption of hormone synthesis leads to the development of endocrine diseases. The causes include:

- hereditary predisposition - if the patient's close relatives suffered from similar pathologies, the risk of developing the disease increases significantly;
- disorders of the pituitary gland and hypothalamus;
- long-term exposure of the body to radiation or various toxic substances;
- previous infectious diseases;
- prolonged exposure to direct sunlight;
- living or working in unfavorable environmental conditions;





- severe stress;
- nutritional errors.

During pregnancy, the risk of developing organ pathologies increases significantly. This is due to the increased load on the body of the expectant mother and changes in the hormonal background of the pregnant woman. The production of thyroid hormones slows down, the woman experiences iodine deficiency. Expectant mothers with a predisposition to changes in the thyroid gland should be under the supervision of a doctor, since a lack of thyroid hormones negatively affects the development of the fetus.

Women also experience hormonal changes in the body during menopause, which negatively affects the production of hormones by the thyroid gland. As a result, the risk of pathologies after the age of 50-55 increases several times.

The first signs of the disease are often ignored or explained by overwork, lack of sleep, premenstrual syndrome. These include:

- bad mood, irritability;
- excessive sweating;
- poor sleep;
- paleness of the skin;
- digestive disorders - frequent constipation;
- weight loss against the background of increased appetite;
- tremor of the limbs;
- heart problems, blood pressure surges;
- muscle weakness, loss of coordination;
- deterioration of memory and attention;
- depressive states, apathy.

Patients experience some or all of the above symptoms. If a woman notices a number of symptoms, she should have her thyroid checked by consulting a doctor.

#### Hypothyroidism

The pathological condition caused by the deficiency of thyroid hormones can be primary and secondary. In the first case, it occurs as a result of exposure to strong radiation, in the presence of anomalies in the structure of the gland, under the influence of trauma or surgery. Iodine deficiency is also included in the list of causes of the disease.

Secondary hypothyroidism occurs as a result of disturbances in the functioning of the pituitary gland.

Signs of the disease include:

- sudden weight loss not associated with dieting;
- feeling of heat and sweating;
- increased irritability, mood swings, tearfulness;
- increased heart rate despite normal physical activity;
- an unreasonable feeling of fear and anxiety.

Since the disease has no specific symptoms, its diagnosis can be difficult.





### Thyroiditis

This is the name given to a group of diseases caused by inflammatory processes. Symptoms of thyroid inflammation are:

- organ enlargement;
- difficulty swallowing;
- muscle pain;
- increase in body temperature;
- disorders of the digestive tract;
- general weakness, increased fatigue.

Thyroiditis often occurs as a complication after acute respiratory viral infections and other infectious diseases.

### Diffuse toxic goiter

Excess thyroid hormones due to autoimmune and endocrine disorders, trauma and severe infections worsen the thyroid gland. The disease occurs mainly in women aged 20-50 years.

The manifestation of clinical signs of changes in the thyroid gland is varied, but the cardiovascular system suffers first. The disease manifests itself with the following symptoms:

- increased heart rate;
- exophthalmos and chronic conjunctivitis;
- leaching of calcium from the bone - provokes processes of destruction of bone tissue;
- muscle weakness;
- fatty liver disease;
- violation of the body's thermoregulation;
- depressive states, insomnia.

This condition is dangerous due to the risk of complications, including severe heart failure and pronounced nervous excitability, turning into psychosis. In severe cases, there is a risk of death.

### Diffuse nontoxic goiter

The most common cause of the disease is iodine deficiency. In this case, an enlargement of the thyroid gland is observed, often without disruption of its functionality. If the organ grows without disruption of its activity, pathological processes in the body are not observed. But without treatment, hypothyroidism may develop.

### Benign and malignant neoplasms

In the presence of a goiter, a general enlargement of the organ is noted. The appearance of a compaction provokes the growth of only a separate part of the gland.

Adenoma is a benign tumor. It manifests itself by the formation of a node, often without disruption of the organ's functionality. The disease is asymptomatic in many cases, sometimes tachycardia, digestive disorders, and increased sweating are possible. Adenoma most often occurs in patients aged 45-55 years.

Despite the fact that adenoma may not bother a woman for a long time, it poses a health hazard, since it has the ability to become malignant.

Thyroid cancer is a malignant nodule. The causes may be chronic inflammatory processes, hereditary predisposition, some endocrine diseases, complicated adenoma. After the accident at the Chernobyl nuclear power plant, the number of cases of malignant thyroid tumors increased





sharply, including among children, although the risk of the disease usually falls on the age period after 50 years. The cause of the outbreak of the disease was the accumulation of radioactive iodine by the thyroid gland.

Symptoms of the disease include:

- enlarged lymph nodes;
- difficulty swallowing;
- hoarseness of voice;
- pain in the neck area;
- increased weakness;
- loss of appetite, weight loss.

Timely initiation of treatment allows achieving stable remission in 85-90% of cases.

If in childhood the changes in the thyroid gland manifest themselves insignificantly, then in women after 50 years of age the pathology often progresses rapidly. This is manifested by the formation of metastases in the lungs, brain, adrenal glands, bone tissue.

Disorders of the parathyroid glands

They are also called parathyroid glands, since they are located on the surface of the organ and are responsible for the synthesis of calcitonin . This substance is necessary for the normal functioning of the heart muscle, the transmission of nerve impulses, and the formation and development of bone tissue.

The disruption in the production of the active substance by the thyroid gland reduces the level of calcium in the blood, increases the risk of injury, causes digestive system disorders, and the development of renal failure. The patient has a high risk of fractures.

How is the thyroid gland diagnosed?

It is often difficult to determine the pathology due to the lack of specific signs of the disease and the vague nature of the course.

Diagnostic measures include:

- palpation of the gland to determine its size, structural features and location; the accuracy of the method does not exceed 40%;
- laboratory tests - measurement of hormone levels, blood lipid levels;
- instrumental methods - ultrasound diagnostics, scintigraphy , CT and MRI;
- performing a puncture biopsy - is prescribed when nodes with a diameter of over 1 cm are detected by palpation.

The normal level of thyroid stimulating hormone produced by the thyroid gland is 0.4-4.0 mIU /L. Ultrasound is the most common and informative method for diagnosing thyroid diseases. The procedure allows determining the location of the organ, its structure and volume, the presence of inflammation and other pathological processes in it.

An important indicator is the organ volume. It may differ depending on age and gender. In adult women, the norm is 9-18 ml, in adolescents this indicator should not be more than 15 ml.

Treatment of thyroid diseases is carried out by an endocrinologist. If symptoms of disorders of other organs and systems appear, additional consultations with related specialists are possible: therapist, ophthalmologist, neurologist.





The thyroid gland is treated mainly with medication. The main goal of treatment is to normalize the hormonal balance. In case of thyroid hormone deficiency, the patient is prescribed hormone-containing drugs that accelerate metabolic processes in the body. In case of excess, drugs called thyreostatics are indicated.

To correct the condition caused by iodine deficiency, patients are prescribed drugs containing this active substance.

Malignant tumors, severe forms of hypothyroidism, nodular goiter are treated surgically. Sometimes surgery is prescribed to pregnant women if there are contraindications to taking medications. Surgery is necessary if a woman has difficulty swallowing.

The operation involves partial or complete removal of the gland along with the adjacent lymph nodes. If there are cysts or other benign formations, the affected tissues are excised.

The prognosis after the operation is favorable. It usually goes without complications. Partial hoarseness and voice changes are possible.

The main preventive method that allows you to protect the thyroid gland is the elimination of iodine deficiency. It involves adding iodized salt to foods and dishes, as well as taking special vitamin complexes containing iodine.

When the first signs of thyroid disease appear, you should consult a doctor. Early treatment gives good results at any age. People living in regions with unfavorable environmental conditions or working in hazardous industries should be especially attentive to their health.

A good method of preventing iodine deficiency is to follow a diet. The menu should include fish, seafood, seaweed, spinach, tomatoes, eggplants, and legumes. These products are best consumed boiled or stewed.

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