

## ETIOPATHOGENETIC AND CLINICAL CHARACTERISTICS OF DIFFUSE TOXIC GOITER

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### Abstract:

The article provides detailed information about the effects of diffuse toxic goiter on human life and body, their treatment with several different methods, laboratory diagnostics and assessment of hormonal changes.

**Keywords:** diffuse toxic goiter, anemia, thyroid gland, autoimmune, thyrotoxicosis, non-thyroid disease, exophthalmos.

### Introduction

In diffuse toxic goiter, the thyroid gland enlarges and the amount of hormones produced by it increases significantly. This, in turn, leads to disruption of the functioning of all systems and organs in the body. Excessive production of hormones has a negative effect on the body. Symptoms such as general weakness, agitation, nervousness, crying, sleep disorders, sudden drop in mood, rapid heartbeat and pain, arrhythmia are observed. Sometimes sweating, hand and body tremors occur. In hot weather, the general condition changes dramatically. Hyperthermia - a feeling of constant heating occurs, the skin becomes warm and moist. Although a person's appetite increases, his weight decreases. The heart rate increases, even during sleep it beats up to 80 times per minute. The body temperature is higher than 37 degrees. As the disease worsens, the color of the skin on the neck, back, elbows and knees changes to light or dark. The expression of the patient's eyes changes, the gaze becomes fearful. The patient's physical activity decreases sharply, he cannot concentrate, his thoughts run away. As a result, a large goitre appears [16].

According to the evidence of the scientific literature, from the point of view of the profession, diffuse toxic goiter is more common among mental workers. People living in rural areas get sick with thyrotoxicosis 3-5 times less often. It seems that a relatively calm and comfortable environment (natural factors, working in the open air) is of great importance..

Symptoms characteristic of thyrotoxicosis occur not only in the type of toxic goiter with diffuse hyperplasia, but also in pathological types such as nodular (or multinodular), mixed. The degree of development of thyrotoxicosis does not always depend on the degree of enlargement of the thyroid gland: sometimes, even if the size of the gland is small, the degree of development of thyrotoxicosis is high, or vice versa, due to the size of the gland, thyrotoxicosis almost does not develop. Therefore, the size of the thyroid gland in goiter does

not always correspond to the severity of the clinical symptoms. In time, it should be said that the high level of development of thyrotoxicosis is often more evident in sporadic goiter. And in endemic goiter, despite the increased (or very large) size of the thyroid gland, the level of thyrotoxicosis may be low or not detected at all. For this reason, if the indication for surgery in sporadic goiter is due to the strong development of thyrotoxicosis, on the contrary, in endemic goiter, the indication for surgery is often due to the excessive increase in the size of the gland, affecting nearby organs (red ngach, trachea, etc.) due to compression or displacement, their dysfunction is put from a cosmetic point of view [17].

The main symptoms of thyrotoxicosis are changes in the nervous and cardiovascular systems. Changes in the nervous system: nervousness (overexcitability), restlessness, mood swings, anger and tearfulness are evident. In addition, there is a sharp increase in the activity of the sympathetic nervous system: profuse sweating, accompanied by tremors in all areas of the body, especially in the fingers (Marie's symptom). The face is often red, and the neck and chest are covered with spreading red spots. Body temperature does not change. Foot reflexes are preserved or hyperkinesis is observed. The patient's hair falls out, their color changes, nails become brittle and break. Restlessness, fear, lack of will, restlessness, and flickering eyes are noted..

In most patients, disorders of the cardiovascular system: tachycardia (acceleration of the heartbeat), arrhythmia, pain in the heart, shortness of breath, lack of blood circulation in the body come to the fore in the early stages.

If doctors think about the neuropsychological form of thyrotoxicosis in patients of type 1, they include patients of type 2 in the type of patients with more cardiovascular changes of thyrotoxicosis.

Early symptoms of thyrotoxicosis include general weakness for no reason. These symptoms of thyrotoxic myopathy are intrinsically related to metabolic or metabolic disorders, and patients often note the following obvious symptoms of the gastrointestinal system: abdominal pain attacks, vomiting, diarrhea, breaking down [22].

In men, sexual activity slows down, and in women, the menstrual period (cycle) is disturbed (even up to amenorrhea), ovaries, uterine hypoplasia, atrophy of the mammary glands may occur. These changes often cause infertility.

In thyrotoxicosis, increased metabolic processes lead to excessive breakdown of proteins and fats, as a result of which the patient's weight decreases, despite the fact that the patient eats more than usual. Violation of water and electrolyte exchange in the body (increased diuresis, thirst, strong sweating) leads to pancreatic dysfunction (hidden diabetes).

In the course of the development of the disease, most of the patients develop "eye symptoms" one after the other. "Enlargement" or squinting (exophthalmos) of the eye - swelling, thickening or covering of the retrobulbar cell with fibrous tissue, is inextricably linked with metabolic disorders. Exophthalmos is one of the main early symptoms of the disease.

Delrampel's symptom - large opening of the eyelids and widening of the eye fissure - is called lagophthalmos, as a result of which a striated line appears between the colored membrane and the upper eyelid.

Shtelvag's symptom - occasional blinking (opening and closing) of the eye, giving the eye a special motionless expression - "fixed gaze" and a decrease in sensitivity of the cornea of the eye.

Grefe's symptom - the patient lags behind the pupillary edge of the upper eyelid compared to the bottom. In this case, a white striped line of the sclera remains between the upper eyelid and the colored membrane.

Kocher's symptom is the opposite sign of Graefe's symptom, a white striated line due to the same part of the sclera when looking up, the same part of the sclera is wrongly, often, shrinks - "pupil retraction" appears.

Möbius syndrome is a loss of ability to see at close distances (convergence disorder).

Melikhov's symptom - "angry look".

Yellinek's symptom - darkening of the skin of the upper eyelid.

Rosenbach's symptom - trembling of the eyelids when closing.

Zenger's symptom - swelling and baggy drooping of the eyelids.

Dalmedi's symptom - "stiff face" (amymia). As a result of the increase in the tone of the facial muscles, facial movements are inhibited, while other movements are preserved [16].

Exophthalmos caused by thyrotoxicosis should be differentiated from dangerous exophthalmos, which are associated with midbrain damage and excessive production of thyroid hormone by the anterior pituitary gland. Dangerous exophthalmos is mainly observed in middle-aged people. It can be unilateral or bilateral. The eyeball is shriveled to such an extent that it protrudes from the eye socket. Patients are disturbed by severe pain in the orbit (eyeball), diplopia, and restriction of eye movements. The presence of conjunctivitis, keratitis, causes a tendency to ulceration and disintegration of the retina. Changes in pressure inside the orbit lead to complete atrophy of the optic nerve.

The results of special tests show that in severe types of thyrotoxicosis, the metabolism of the main substance can increase up to 60-70%, and in some cases it can be even higher. The absorption of iodine by the thyroid gland increases sharply compared to the norm in the first hours of the examination. The amount of T<sub>3</sub> and T<sub>4</sub> and TTG in the blood of patients increases. Biochemical analyzes show that liver and kidney function, carbohydrate, fat, protein and other types of metabolism are disturbed. An increase in the erythrocyte sedimentation rate (ESR), leukopenia, lymphocytosis, a decrease in the amount of hemoglobin and erythrocytes is determined in the blood [23].

Patients with DTB complain of nervousness, rapid heartbeat, restlessness, weight loss, hair loss, various rashes on the skin, fever, profuse sweating, tremors in the hands, enlarged eyes. In addition, they suffer from insomnia. Diagnosis of the disease is carried out as a result of laboratory blood tests and instrumental examinations [24].

The main group at risk of "threat risk" includes women who do not have regular sex. After the age of 40, endocrine ophthalmopathy syndrome is often observed in them - fear of light, tears and eye twitching. The most dangerous strain of the disease is a thyrotoxic crisis. It is often caused by surgery performed during the summer heat, damage to the thyroid gland,

mental illness, pregnancy, childbirth, various infections, and even the rude actions of the doctor. can also develop. Doctors distinguish three levels of this disease:

- Mild: heart rate does not exceed 100 beats per minute, arrhythmia and other symptoms are not observed, physical activity is slightly reduced. A person can lose up to 3-5 kilograms.
- In the middle level: heart rate is 120 beats per minute, body weight decreases by 8-10 kilograms, and physical activity slows down.
- Severe: the heart beats more than 120 times per minute. Arrhythmia, lack of blood circulation, damage to the liver (thyrotoxic hepatitis), dysfunction of the adrenal glands, and a sharp decrease in physical activity are observed
- Bazedov's disease - occurs due to a violation of the control of the body's immune system. Often this disease is observed in people with a genetic predisposition. The onset of the disease can be caused by mental trauma, prolonged illness, and some infectious diseases. The rate of anemia in patients with DTB is high [3-5]. Anemia is caused by metabolic disorders in DTB [20, 21]. As the severity of DTB increases, so does the severity of anemia [1]. In some patients, iron metabolism is intact and anemia is normochromic [7, 10, 12, 18, 19]. As the level of thyrotoxicosis increases, the osmotic resistance of erythrocytes decreases, as a result, anemia increases [6-9,13].

The development of thyrotoxicosis in DTB leads to an increase in endothelial dysfunction and thrombotic complications [2]. Disruption of protein metabolism in DTB is associated with increased catabolism [11, 14, 15].

In the initial stages of the disease, various drugs: including mercazolil, carbimazole, methimazole, iodine compounds, sedatives and  $\beta$ -blockers; radioactive iodine is used. Also, in general treatment, immunomodulators are used to increase immunity. Along with these drugs, antihistamine (anti-allergy) drugs are also used. Because treatment with hormones can often cause rashes and itching on the skin.

If the thyroid gland enlarges very quickly, if the patient cannot take the prescribed medicines, if the general condition does not change for the better, then it is necessary to solve the problem by surgery.

After the surgical operation, it is necessary to take medicines for a certain period of time. It is absolutely impossible to treat thyroid gland diseases arbitrarily. Of course, it is necessary to have the advice and supervision of a doctor.

Folk remedies are good for thyroid disease. However, they must be used together with the medicines prescribed by the doctor.

In a severe form of the disease, one of the following herbal teas can be treated. If the condition does not change after two weeks, it is necessary to try another herbal tea.

Two parts of royan and soap roots are mixed with one part of ordinary licorice and 250 grams of boiling water is poured into one tablespoon and steamed for 15 minutes. It is left for 12 hours, strained and drunk 1-2 cups once a day for lunch.

250 grams of boiling water is added to a tablespoon of wild strawberry, licorice root, royan, blackberry, common sachratki, bojmodaran, tograikhan herbs in equal amounts and boiled

in steam for 5 minutes. It is left to rest for 12 hours and after passing through gauze, it is drunk 3 times a day from a quarter cup half an hour before meals.

Mix equal amounts of oak bark, saffron leaves, sedum and black water grass, pour 250 grams of boiling water on two tablespoons and let it brew in a thermos for two hours. The prepared tincture is drunk 3 times a day [16].

Folk healers also used the following method in the case of incipient thyroid gland diseases: mix 30-40 drops of 10% propolis solution with a quarter cup of water and drink it three times a day half an hour before meals for a month.

Today's modern medicine offers 3 different ways to treat poison ivy. These are medical treatment, i.e. treatment with drugs, radioactive iodine and surgery. If, after appropriate examinations, the patient is diagnosed with poisonous goiter, treatment is necessary. Because the disease can cause various serious complications in the body.

Therefore, it is necessary to take the doctor's advice on time and undergo the necessary medical examinations. Through this, an accurate diagnosis of the disease is made, and the necessary treatment measures and procedures are carried out.

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