



Clinical Symptoms and Treatment of Hyperparathyroidism

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Abstract: **Hyperparathyroidism** is a pathology of the endocrine system, which is provoked by an excess amount of parathyroid hormone secreted by the parathyroid glands. As a result, the level of calcium in the blood increases greatly, which then leads to problems with the kidneys and bones.

Most often, women suffer from this disease - they get sick 2-3 times more often than men. The main risk group is age from 25 to 50 years.

There are primary, secondary and tertiary hyperparathyroidism. Primary is represented by three types: subclinical, clinical and acute. The subclinical form is represented by a biochemical and asymptomatic form - that is, at this stage the disease can only be determined by laboratory tests.

The clinical form comes in several varieties: bone, visceropathic, renal, gastrointestinal and mixed. Accordingly, in each case a certain system of the body suffers the most. For example, with the bone form, osteoporosis develops, and with the kidney form, urolithiasis, renal colic, and renal failure. Against the background of the gastrointestinal form, ulcers of different localizations, pancreatitis, etc. develop.

In approximately 10% of patients, primary hyperparathyroidism is combined with different tumors - the same pituitary tumor or thyroid cancer.

Secondary hyperparathyroidism refers to a condition that develops against a background of long-term low levels of calcium in the blood. If left untreated for a long time, it becomes tertiary.

Symptoms of the disease

In the early stages, symptoms of hyperparathyroidism do not always appear, so its signs are often discovered by chance during other examinations. Next, the patient begins to show primary signs of the disease:

- fatigue and weakness;
- headache;
- difficulties with enduring increased physical activity - for example, it is very difficult to climb several floors of stairs or take a long walk;
- memory impairment;
- Emotional instability: from irritability to depression.

Increasing symptoms greatly depend on the form of the disease. For example, with a bone form at a late stage, the patient begins to experience regular fractures (even without sudden movements), teeth

may fall out, bone deformations and softening occur. All this is accompanied by pain in the bones and spine.

Also, signs may be nonspecific, which is typical for visceropathic hyperparathyroidism. It begins with symptoms such as nausea, vomiting, stomach pain, loss of appetite and weight loss. Over time, problems with urination and constant thirst begin.

Excessive amounts of calcium in the blood have a bad effect on the condition of blood vessels, the heart, and contribute to increased blood pressure, including a bad effect on the eyes (red eye syndrome appears).

It is obvious that with such a variety of forms and symptoms, even people who feel completely different can have one disease in their database.

Causes of hyperparathyroidism

In this case, the direct causes of the disease are not identified, because it is often caused by a combination of many factors, including:

- heredity;
- intoxication of the body with various substances and in different situations;
- influence of radiation;
- taking medications that contain lithium or aluminum;
- bad ecology;
- serious lack of calcium in the diet;
- lack of vitamin D;
- chronic renal failure;
- Various pathologies of the skeletal system.

Diagnostics

The main analysis in this case is a blood test for calcium levels.

When a patient is found to have a large amount of calcium and with it an increase in parathyroid hormone, he is diagnosed with primary hyperparathyroidism. To clarify the form, additional blood tests are done - for example, for magnesium, vitamin D, celiac disease.

Additionally used Ultrasound of the parathyroid glands (it is mandatory) and x-ray (if there are problems with bones). CT and MRI are prescribed to patients optionally, depending on complaints and the results of previous studies. In some cases, it is necessary to perform a fine-needle aspiration biopsy of the parathyroid glands.

Treatment of hyperparathyroidism

If the so-called mild form of primary hyperparathyroidism is detected, the endocrinologist prescribes conservative treatment. Depending on the situation, patients are prescribed medications that lower the level of calcium in the blood, as well as correct other indicators. In this case, the patient needs to undergo regular examinations for calcium levels (up to 4 times a year), creatinine (every six months), parathyroid hormone (every six months), and calcium levels in the urine (every six months) and ultrasound of the kidneys (once a year). Additionally, a study of bone mineral density is required (once a year) and a check of the condition of the spine - for this purpose, an x-ray is taken once a year.

In difficult cases, patients are shown surgical treatment - that is, removal of the gland that is responsible for increasing the level of parathyroid hormone. It is important to find out whether there are any malignant tumors in the tissues. If they are present, then the tissue surrounding the gland is additionally removed, and the patient is then prescribed radiation therapy.

Most often, surgical treatment is required for very high calcium levels, disorders in internal organs, and decreased bone mineral density. It is also indicated based on age - if the patient is already over 50 years old.

Rehabilitation after surgery

The recovery period after surgery is individual. If the situation was uncomplicated and without malignant formations, then an average of 3-4 months pass before the restoration of a working state. If cancer is detected, the period of complete recovery may take 1-2 years.

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