

Osteoporosis
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Definition

Osteoporosis refers to generalized, progressive bone loss.

This reduces both the elasticity and stability of the bone, and even with a slight mechanical load or fall, bone fractures can occur. Synonyms: bone atrophy.

The activity of osteoblasts and osteoclasts is controlled by parathyroid hormones (PTH), calcitonin, vitamin D, estrogen, testosterone, interleukins.

The inhibitory effect on osteoclasts is exerted by ovarian estrogens and thyroid calcitonin. PTH of the parathyroid glands enhances the activity of osteoclasts. Calcitonin and PTH are antagonistic. Vitamin D is formed in the skin and increases the resorption of calcium through the intestinal epithelium.

Age dependence of bone metabolism

Bone mass at the age of 30 is especially dense. After 40 years, there is a gradual physiological destruction of 0.3-0.5% of bone mass per year. Starting from the 50th year, in men and women, the activity of osteoblasts sharply decreases, the compact becomes thinner, and the number and size of trabeculae decreases.

With age is changing physiological ratio between organic collagen fibrils and inorganic salts. The bones of infants are 50% mineral salts; in an elderly person, the salt content increases to 70%.

Every day, 500 mg of calcium is deposited in the skeletal system, and the same amount is removed from it. Also, the bones of the skeleton contain 500-800 g of phosphorus (85% of its content in the body).

During menopause, due to estrogen deficiency, osteoclast activity and bone resorption increase. With a long life expectancy in a woman, this can lead to a loss of up to 50% of bone mass. Testosterone levels that decrease with age in men increase the activity of osteoclasts. Bone loss in men, however, is less pronounced.

Etiological factors of osteoporosis

Symptomatic osteoporosis occurs when accelerated bone loss lasts 5-7 years. In this case, an unphysiologically rapid reduction of trabeculae occurs. When the minimum stability limit is reached, spontaneous fractures can form.

Bone mass, stability and elasticity improve with physical exertion and decrease with prolonged (several months) immobilization.

The risk of osteoporosis is increased in women with alcohol dependence, since alcohol and its metabolite acetaldehyde negatively affect

osteoblasts. In women who smoke, the risk is even higher, since the nicotine contained in cigarettes reduces estrogen levels and indirectly increases osteoblast activity. Long-term, over many years, consumption of coffee and phosphate-containing beverages can increase the excretion of calcium through the kidneys.

Insufficient intake of calcium, phosphorus and vitamin D into the body correlates with increased bone destruction.

Vitamin D activates the absorption of calcium and phosphorus from the intestine, stimulates the formation of osteocalcin and alkaline phosphatase from osteoblasts. Vitamin D inhibits the secretion of PTH. Sun exposure is associated with the formation of vitamin D by ultraviolet rays. But in order to get enough vitamin, it must be consumed with food.

Osteoporosis classification

In 95% of cases, there is primary osteoporosis. Postmenopausal osteoporosis occurs in women aged 50 to 75 years 6 times more often than in men. The cause of the disease is a decrease in the function of the gonads in combination with a decrease in estrogen levels in women and with a decrease in testosterone levels in men (for example, after castration). Bone biopsy shows a decrease in cancellous tissue due to increased formation of osteoclasts with increased activity. Another cause of the disease is a decrease in the number and activity of osteoblasts. In addition, the number of vitamin D receptors may decrease.

5% of cases of osteoporosis are due to secondary causes:

1. Endogenous disorders:

- hyperparathyroidism;
- hyperprolactinemia;
- Cushing's syndrome;
- hyperthyroidism;
- diabetes;
- hypogonadism.

2. Medicines:

- Glucocorticoids;
- Barbiturates;
- Hydantoin;
- Heparin.

3. Prolonged immobility.

4. Chronic renal failure.

5. Chronic obstructive pulmonary disease.

6. Primary liver cirrhosis.

7. Plasmacytoma.

Prevention of osteoporosis

Preventive measures include a healthy lifestyle, regular physical activity. It is very important to have a balanced diet with a sufficient amount of calcium and phosphorus, which should be in a ratio of 1/1.

Phosphates inhibit the resorption of calcium from the intestine. High

the content of phosphates is characterized by sausages, drinks "Cola" and preservatives in finished products. Oxalic acid also inhibits calcium absorption.

Further areas of prevention of osteoporosis include the elimination of benzodiazepines, minimization of caffeine and alcohol consumption, and smoking cessation.

Therapy

1. Vitamin D replacement therapy: daily need for vitamin D is 5 IU.

2. Antihomotoxic therapy optimizes calcium utilization when synthesis of bone tissue. For example, Calcohel (tablets) and Hormel (drops) contain Calcium carbonicum Hahnemanni D8, Osteochel C (tablets) - Calcium phosphoricum D6, and Lymphomyosot (drops) - Calcium phosphoricum D12. Also, the level of estrogen in women is positively influenced by the drug Ovarium compositum (ampoules) containing Ovarium suis D8, Placenta suis and Uterus suis D10. For men with osteoporosis, Testis compositum (ampoules) is recommended. Also, for osteoporosis, Os suis, Cimicifuga-Homaccord, Guanidin Methylguahidih-Injeel can be prescribed.

In case of intervertebral disc lesions accompanying a vertebral fracture, the drug Discus compositum is prescribed. To regulate cell metabolism, Coenzyme compositum (ampoules) and Ubiquinone compositum (ampoules) are recommended.

3. Frequency therapy:

- program "decalcification" E12 (100 Hz) at an intensity of 30 units;
- E105 (450 Hz);
- renewal of bone cells E101 (69 Hz);
- calcium deficiency E123 (52 Hz), E128 (52.5 Hz);
- exchange of magnesium E58 (62.5 Hz).

Over the past 3 years, our Center has treated 17 patients over 50 years old with a diagnosis of "Osteoporosis". Their recovery was achieved only by a complex of treatment methods: diet, exercise therapy, homeopathy, vitamin therapy and multiresonance therapy.

Zheleznova N.E. Osteoporosis // XI

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