

## BONE DISEASES AVASCULAR NECROSIS, OSTEOMYELITIS, METHODS OF STRENGTHENING BONE EROSION

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**Abstract:** This article describes the methods of natural treatment of types of bone erosion. Methods of using natural medicinal plants in the treatment process are shown.

**Key words:** 5 stages of bone loss, Avascular necrosis, Osteomyelitis, 5 causes of bone loss, bone loss healing recommendations, bone strengthening foods.

The disease of avascular necrosis develops in four stages, and accordingly the pain increases over time:

Phase I (6 months). The structure of the femoral head changes by up to 10%, however movement of joints is not limited. From time to time there are pains in the groin area will be. However, microscopic changes in the bone structure are visible on X-ray images is not visible.

II stage (6 months). Cracks form in the head of the femur. In the center of the disease the damage area is 10-30 percent. Joint movement is limited limitation, lameness, cutting pains in the groin area are observed.

III stage (3-6 months). During this period, secondary arthrosis develops. In the bone the volume of damage reaches 30-50%, and joint movement is sharply reduced and strong pains are constant.

IV stage. The head of the femur is completely destroyed. Constant pains in the joints move to the back and sides, and it becomes almost impossible to move the affected legs. The focus of damage is 50-80 percent. In aseptic necrosis, conservative treatments have been shown to be effective in the early stages of the disease.

### LITERATURE ANALYSIS AND METHODOLOGY

Although for the time being, it is restoring blood circulation in the femoral head artery Although there is no single drug, complex treatment measures, for example, for inflammation drugs for the blood-vascular system, vitamins, physiotherapy,

the process of bone loss can be stopped by special exercises and avoiding joint stress. In the last stages of the disease, endoprosthetic treatment is used.



5 causes of bone loss.

As we age, our bones become thinner and more brittle. Salt on top accumulation, deficiency of vitamin D3 and many other factors of bone condition it is also known to worsen. But these are also lacking, scientists they found several other reasons for deepening the problem.

The good news is that once you know the root, there are ways to solve the problem becomes clear. So, we can recognize bone-eroding factors We will analyze countermeasures.

How does it "appear" and "disappear"? Calcium and phosphorus, which are the basis of bones, are not constant. They are substances that "enter and leave" the bones. Simply put, bone is a storehouse that stores these minerals. 90 percent of calcium in the body is stored in bones.

Human bone tissue is constantly changing during life. For example, it can change its composition due to lifting or injury. Bone there are 2 types of cells in the tissue: osteoblasts - form the bone matrix and osteoclasts - break them down. This process is called resorption.

While osteoclasts create new tunnels in bone tissue, osteoblasts fill them with bone. For example, in order for baby teeth to erupt, osteoclasts must first break down the bone tissue in the area where the tooth erupts in the jaw.

The change in bone composition is called remodeling. In childhood, the formation of cartilage occurs more than the breakdown of bones. This is why the human skeleton grows. When you grow up, these processes become normal: every day, 0.4 g of calcium leaves the human skeleton and accumulates as much. And in old age, resorption

the norm of the process disappears again and mineralization decreases, bones become mortified and osteoporosis develops. For example, a woman needs more calcium during pregnancy and breastfeeding. Because the body consumes a lot of calcium during this period.

Estrogen deficiency. This is one of the factors that affects women's bones. Especially during menopause, the amount of estrogen decreases significantly. And this increases bone breakdown (resorption). Bone tissue becomes thinner,

the skeleton is mortified. Excess of thyroid hormones. If these hormones are normal, the formation and decay processes in the bone are also moderate. But in hyperthyroidism, the breakdown process begins to prevail over the recovery process. As a result, the bones are crushed.

Vitamin D deficiency. This vitamin is essential for the mineralization of the bone matrix. Its deficiency derails bone processes and causes a decrease in calcium in the blood plasma. As a result of the lack of this vitamin, the bones become soft. Often, preparations based on glucocorticoids have a negative effect on bone tissue. They cause calcium to leach from the bones, making it difficult for the mineral to be absorbed in the intestines. It also interferes with protein synthesis. In general, such drugs are more likely to cause hypocalcemia and subsequent osteoporosis.

Alcohol and tobacco. These toxic products are not only "killers" of the liver and spleen, but also "killer" of the bones. These are especially dangerous for women in menopause. What to do? Helping bones by increasing calcium intake

Possible What to do? To control thyroid function it is necessary to consult an endocrinologist.

What to do? The source of vitamin D is the sun. Rickets and many bone problems can be avoided by simply spending some time in the sun.

But there's a problem with that: Vitamin D alone doesn't protect bones. In this work, he needs calcium. Therefore, doctors recommend taking calcium together with vitamin D.

Pharmacists

What to do? Do not take any medication without a doctor's prescription.

Before taking any medication, learn about its possible complications and side effects.

What to do? The answer is simple - give up bad habits.

Two measures of the problem

Eat right. There should be products rich in calcium in the diet. For example, milk, yogurt, yogurt, cheese, canned sardines and salmon, soy products, dark green vegetables.

Be physically active. Bones like to be active. So that they do not harden, stay away from the sofa and TV. But cycling is not good for bones. It can strengthen the heart and muscles, but not the bone it's not.

Osteomyelitis (osteo... and Greek. myelos - marrow, bone marrow) is inflammation of the bone marrow.

In this case, the inflammatory process is never limited to the bone spreads to the hard (compact) part and the membrane (periosteum) (see Periostitis). O.

most often, it is found in the area near the joint of the spongy bones of the human skeleton.

Purulent microbes (staphylococcus, streptococcus) often cause O. (nonspecific O.)

cause. Microbes enter the bone tissue from a distant source of pus, e.g.

from chipmunks, tonsils inflamed in angina, in newborns

coming from the infected navel with blood flow (hematogenously).

possible O. also appears as a result of tuberculosis, wound diseases (specific O.).

File:Osteomelit.JPG

Spread of infection in acute hematogenous osteomyelitis, a bone marrow abscess, abscess of the upper bone layer, total suppuration of v-g bone tissue is extensive

the muscles become phlegmon, d-phlegmon itself ruptures and fistula is formed[1].

There are acute and chronic types of O. Acute hematogenous O. is usually 8-17 years old will happen. It often starts suddenly after cooling down or after eating.

The patient is dizzy, the temperature rises to 39-40°, the pulse accelerates, the eyes are bright it gets dark, he can't sleep, he gets distracted. Then the inflamed bone hurts, the skin on it swells and turns red. When the pus breaks out, the temperature drops, the patient's condition improves. As a result of O. development of purulent arthritis, bone fracture, sepsis may occur. Leukocytes increase in the blood.

Chronic O. often develops from acute O. (after the pus breaks out), a hole is formed from which pus comes out. When the pus comes out freely temperature is normal, mainly at night or when the weather changes, physical pain is felt during work. Fever when the pus is closed for a short time comes out, the pain increases, the skin over the inflamed bone swells (O.'stension). Then the pus hole opens again. O. is treated by a doctor[2].

The causative agent of osteomyelitis is often staphylococcus aureus (60-80 percent), streptococcus (5-30 percent), less enterobacteria and mixed microflora (10-15 percent). In children and adolescents, inflammation often develops when the infection gets into the long tubular bones by a hematogenous route. In such cases, osteomyelitis occurs in the growth zone of the bone - metaphysis, which is rich in capillary types and has slow blood flow.

Microbes accumulate in the capillaries and blood clots appear. It is typical for staphylococcal infection that microblading accumulates in the form of a pus, these microbes immediately clog the capillaries. When bones are broken open, microbes can cause direct tissue infection or injury to the bone (bullet fracture, extensive soft tissue trauma).

as a result of injury) it is transferred to the marrow exogenously. As a result of inflammation

Thrombosis occurs in the blood vessels of the periosteum. Later, the infection enters the marrow through the Haversian ducts, as a result of which osteomyelitis develops.

The inflammatory process can also occur endogenously when microorganisms pass through the adjacent or distant purulent center of the marrow. For example, acute osteomyelitis of the lower jaw is usually caused by tooth decay. or occurs when the tissues around the teeth become inflamed (periodontitis). Anatomical and physiological characteristics of blood circulation in bones are related to the factors that aggravate the disease. If the main type of blood circulation network is typical for bone diaphyses, in metaepiphyses, blood vessels form a surface where microbes sit (the theory of embolism), and the expansion of the surface of the blood vessel, which continues to grow, allows microblam to grow. The bone epiphyses are closely connected with the joint capsule, so inflammation can spread from the joint to the metaphysis and on the contrary, it can easily pass from the metaphysis to the joint. Osteomyelitis immunological factors and the body's reactivity play a major role in its development.

N. N. Yelansky emphasized the importance of vascular spasm in the development of inflammation emphasizes. S.M. Derijanova's research shows that osteomyelitis is only sensitive to impact showed that it develops only in individuals who have become sensitized. In case of organism sensitization and even aseptic inflammation

can also cause protein degradation. Osteomyelitis among other factors that enable the development of hypovitaminosis, it is necessary to indicate severe fatigue of the body, acute infectious diseases. Infection in the marrow causes serous inflammation, heperemia and marrow edema goes along with. Serous inflammation with the development of tissue necrosis and phlegmon can be complicated. Purulent infection of bone through Haversian canals it passes to the bone marrow layer and causes purulent infiltration of the upper membrane of the bone emits Abscesses often appear under the periosteum. decay occurs in the area of the cortical layer of the bone. Haversian canals in connection with the thrombosis of blood vessels in the area, blood circulation continues to be disturbed in the area of the bone marrow layer, which leads to the development of bone necrosis on a large scale and the appearance of small bone fragments (sequestrations). In some cases of sequestration (sequestration of small bone fragments), one or both epiphyses of the tubular (medullary) bone, and sometimes the entire bone from the first to the second epiphysis (more often in infants) are affected. Bone sequestration is surrounded by granulation tissue and is located in the sequestration cavity with a lot of pus and bone autolysis products. Over time, pus infiltrates soft tissues and breaks the skin and comes out, as a result of which non-healing wounds appear, the process becomes chronic.

Bone sequestrations increase inflammation. Sometimes it disappears, or the fistula protrudes from the opening as small pieces of bone. At the same time as the destructive process, the productive recovery (regeneration) process, that is, the restoration based on the development of osteoblasts in the bone focused changes are observed. A periosteum layer appears, there is an increase in tissue elements of osteoblasts (proliferation). (ossifying-bone-forming periostitis). Bone over time connective tissue appears in the cavity, absorbing calcium salts bone tissue is observed. Eventually, new bone tissue is formed.

When the disease is chronic, it gradually worsens, the infection remains in the bone" for a long time, causing inflammation from time to time can strengthen. The processes of changes in the bone are in the compact layer damaged bone can cause sclerosis. Prolonged suppuration the process leads to damage (degeneration) of parenchymatous organs amyloidosis of the liver and kidneys may develop.

Classification.

Editing

Clinical classification of osteomyelitis is of great practical importance and in this the following are distinguished:

1. Acute osteomyelitis:
  - acute hematogenous osteomyelitis;
  - acute traumatic osteomyelitis;
2. Chronic (chronic) osteomyelitis:
  - primary chronic osteomyelitis;
  - a) Brody's abscess;
  - b) Ollie's albuminous osteomyelitis;
  - d) Garre's sclerosing osteomyelitis;
  - secondary chronic osteomyelitis.

Recently, postoperative osteomyelitis is also distinguished. It is based on the following factors: a decrease in the patient's protective power, endogenous infection, incorrect choice of construction during surgery, increase

in virulence of microbes and surgeon's mistakes (foreign body surgery Remaining in the field, incompetent osteosynthesis, in the postoperative period and organization tactical direction) etc. Bone is the most important tool for human movement. it's a pity later, after a state of sprain or fracture of human bones the restoration process is dragging on. Now you have a person for your attention 5 that are very beneficial for his bones when consumed by We want to introduce the product. Sardines The healthy omega-3 fats in sardines slow down the process of bone loss. This fish also contains vitamin D, which increases the beneficial properties of calcium for the body. Spinach Green leafy vegetables, including spinach, are a natural source of calcium. Spinach contains nutrients that are beneficial for bones - magnesium, vitamin K, vitamin C and phytonutrients. Nuts Pistachios, almonds and walnuts, which belong to the group of nuts, provide a large amount of magnesium, calcium, omega, which ensure bone strength. Eggs are another source of calcium and vitamin D, which are important for bones.

Black plum peel - Black plum peel contains polyphenols, a type of antioxidant that slows down the process of bone loss that occurs in the body with age.

The result

There are various methods of treatment aimed at preventing bone erosion, and as a result of the expansion of the range of natural methods of treatment, avoiding various pharmaceutical drugs, positive results of bone erosion are occurring.

Summary

In the process of bone erosion and its treatment, it is first of all effective to identify the occurrence of the disease early and choose the most optimal ways of treatment.

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