

# BIOCHEMICAL METHODS OF ASSESSMENT IN LONG-TERM REHABILITATION IN CHILDREN WITH CHRONIC HEMATOGENOUS OSTEOMYELITIS

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**Abstract.** *Recently, children are often diagnosed with such a disease as osteomyelitis. This is a necrotic process. This pathogen causes the production of pus. In this disease, bone deformations can make the skeleton out of shape, then there is a chance. Despite the fact that osteomyelitis in children is a very serious complication, modern medicine can successfully treat this terrible disease, providing the most favorable prognosis. According to statistics, every year the death of a small fall. Parents should pay more attention to the health of their children if they do not get an infection in the wounds and injuries, and immediately consult a doctor.*

**Keywords:** *osteomyelitis, treatment of osteomyelitis in children, acute hematogenous osteomyelitis in children, characteristics of odontogenic osteomyelitis in children.*

## **Osteomyelitis in children**

In children, osteomyelitis often affects the right leg, hip, jaw joints, humerus, spine. To protect the clothes from this health disease should be in the hospital because of this.

Often the cause of the disease in children is impetigo infection, purulent infections such as otitis, pyelonephritis, there are pockets, burns, wounds, scabies. osteomyelitis causes purulent ulcers, tooth decay, purulent tonsillitis, tonsillitis.

## **Acute hematogenous osteomyelitis in children**

After entering the body through damaged skin, mucus, or lymph nodes, the infection begins by spreading through the circulatory system. The most common agent of osteomyelitis, found in 80% of cases, is Staphylococcus aureus bacteria. The remaining 20% of patients with streptococci, staphylococci pathology, E. Bobini, Salmonella, bacillus Pfeiffer. In babies, bacteria enter the body through the umbilical wound. Not in all cases, the bone is a source of inflammation. Its infection can spread to the surrounding organs or soft tissues. It is possible, and the opposite situation, when the first only then involve the bone marrow, and there is - the surrounding tissue.

## **Symptoms of acute hematogenous osteomyelitis in children**

This pathology can manifest itself in different ways, depending on the age of the child, the immune system and the bone. Babies and children's disease affects their general health a little bit more. The child has nervous restlessness, loss of appetite, high fever, turns slowly, looks dim. Often, the pathological condition is accompanied by diarrhea and worms.

- Osteomyelitis is a bone infection that can occur in any age group.
- Treatment for osteomyelitis may include antibiotics, splinting, or surgery.
- Causes of osteomyelitis include bacteria in the bloodstream from an infectious disease that has spread to the bone, an open wound from trauma to the bone, recent surgery, or an injection into or around the bone.

The most common types of bacteria that cause osteomyelitis are *Staphylococcus*, *Pseudomonas* and *Enterobacteriaceae*. Risk factors for developing osteomyelitis include disease or medication, cancer, chronic steroid (cortisone) use, sickle cell disease, human immunodeficiency virus (HIV), diabetes, hemodialysis, drug users, infants, and the elderly. Symptoms of osteomyelitis vary. Symptoms of osteomyelitis in children may include pain or tenderness over the affected bone, inability to use the affected limb, or weight bearing or walking. In adults, symptoms of osteomyelitis include fever, chills, irritability, swelling or redness over the affected bone, discharge of pus, stiffness, and nausea. Doctors diagnose osteomyelitis with a history, physical exam, blood tests, imaging studies (X-rays, bone scans, CT, MRI, and ultrasound), and sometimes a bone biopsy. Treatment for osteomyelitis usually includes antibiotics and pain relievers. Sometimes the patient needs surgery. The prognosis of osteomyelitis is good with early diagnosis and proper treatment. The patient can fully recover without permanent complications. Delayed treatment or significant bone and soft tissue damage can lead to long-term problems and even deformity.

If the child is watching, we can see that they really care about him, touch him, or start trying to move him. The affected skin is often red. After a few days, redness and swelling start to increase. If only treatment is not started, there will be purulent metastasis throughout the body. Acute hematogenous osteomyelitis in older children is manifested in a more specific form. The development of inflammation is quite slow, and redness and swelling begin to appear only a week after the onset of the disease. If you do not start the treatment in time, it can be a chip inside the muscle, which means that there is a gradual spread of inflammation around it. In this case, surgery is inevitable. The improvement of the condition of the child with intermuscular phlegmons is observed first, but, if possible, it is considered wrong. Severe complications such as osteomyelitis in children can cause purulent arthritis and sepsis.

#### **Characteristics of odontogenic osteomyelitis in children**

This type of pathology has its own characteristics. Gums and canals begin to pus, and swelling of the surface of soft tissues. The skin and mucous membranes are discolored and dry, there is a high temperature, shivering, and general weakness. In young children, cramps, vomiting, less marked. This indicates that the central nervous system begins to get angry as strong intoxication develops. Odontogenic jaw osteomyelitis is elongated in children.

#### **Osteomyelitis, treatment**

This form of the disease is considered primary or secondary. the second, alternating between them, is represented by privileges and exacerbations. Regardless, it starts to get worse, but the temperature rises is not a complaint. Maybe the opening of the fistula with the formation of pus. If it affects the kidneys, liver and heart, these periods can last for years.

Pay attention to your children and consult your doctor as soon as possible. After all, the process of treating osteomyelitis in children takes a long time and requires a lot of effort. There are different ways to get rid of this dangerous disease: surgical intervention, when the infected bone is removed - this is the extreme measure that doctors resort to. Modern medicine, thanks to modern technology, is able to preserve the bones of your class using mechanical osteoperforation. As mentioned above, after the exact diagnosis of the disease, antibiotics prescribed by a specialist can also save the operation. In addition to bones, the disease often affects the liver, kidneys, thyroid and immune system. Many people use folk remedies, but remember that it cannot be replaced by antibiotics and prefer to consult a doctor before using it.

Finally, I want to talk about epiphyseal osteomyelitis in newborns. The peculiarity of the circulatory system is that babies suffer from the moment of birth. The defeat of the cartilaginous tissue can lead to invalidity by the child, and in the worst case, death. Therefore, it is very important to be careful before giving birth to a baby!

Chronic osteomyelitis of the main type is formed in children without an acute stage, and the onset of symptoms of the disease is blurred. A little pain does not have a clear localization. Most often, parents take their children to the hospital only when the pain increases or serious symptoms appear.

#### **Diagnosis of acute hematogenous osteomyelitis in children**

Because their symptoms are similar to severe rheumatic fever, purulent arthritis, it is important to correctly diagnose this disease. In children, osteomyelitis is formed at the very beginning of the development, and the doctor has symptoms that may cause the doctor to suspect the formation of a malignant infection. Only the correct diagnosis facilitates competent treatment, which ensures a successful outlook. A physical examination is the only way to diagnose osteomyelitis. The doctor conducts several series of tests, one of which uses a sample of the patient's blood. Blood sampling is aimed at checking the presence or absence of bacteria. Abnormal blood test results usually indicate an infection in the body. In addition to a blood sample, a bone biopsy can be done to determine the bacterial content. In addition to these two tests, imaging tests such as X-rays or MRIs may also be performed.

#### **Treatment of the disease**

In the case of such a pathology, osteomyelitis (children), the treatment should be carried out with the participation of a pediatrician, radiologist and other specialists. Most often, for this purpose, antibiotics are prescribed and surgery is performed.

Treatment for osteomyelitis depends on your symptoms, your age, and how severe the condition is. Children with osteomyelitis should be hospitalized so that their condition can be easily monitored. Injectable or oral antibiotics are usually used to treat osteomyelitis. Depending on the severity of this treatment, it may take a few days or a few weeks. In very severe cases, surgery to remove the infected tissue may be recommended.

Antibiotics should be used as soon as possible. First, the loading dose with this medicine allows the child to stop the inflammation. Most often, drugs from the penicillin group are prescribed for these purposes. need to take antibiotics for a long time, sometimes the treatment can last for three months. The dose should be reduced gradually. Antibiotics kill the microflora, because at the same time the child should be given drugs for thrush. Sometimes it may require surgical intervention. In this case, the autopsy removes pus and washes the canal. surgery is performed quickly using local anesthetic. Sometimes doctors put a drain to remove the fluid.

The main treatment of odontogenic osteomyelitis is surgical removal of the tooth that is the source of the infection. Under general anesthesia, the products of subperiosteal dissection are purulent. Culture is carried out to determine the attack of microorganisms on antibiotics. During surgery, the wound is dried, then the appointment of detoxification treatment, antihistamines, antibiotics, calcium supplements, vitamins and non-specific immunomodulators. The child should be given to drink a lot of water and feed him plant and milk food.

#### **Complications**

Osteomyelitis in children can cause various complications. It can:

Bone defects;

Arthritis;

There is instability in the joints;

Broken bone growth;

It begins to develop medium-chronic osteomyelitis, which later leads to body disorders;

Most often in men, the diagnosis is in the maxilla, the formation of osteomyelitis, which causes changes in the body, causes the formation of meningitis.

In conclusion, from what has been discussed above related to the topic of the subject, this can be concluded that despite the fact that osteomyelitis in children is a very serious complication, modern medicine can successfully treat this terrible disease, providing the most favorable prognosis. According to statistics, every year the death of a small fall. Parents should pay more attention to the health of their children if they do not get an infection in the wounds and injuries, and immediately consult a doctor.

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