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ADVANTAGES OF MODERN DIAGNOSTIC METHODS FOR TYPES OF ARTHRITIS

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Abstract: A joint is a connection between two or more bones separated by a space. The joint is covered with a synovial membrane, which moisturizes and protects the articular surfaces of the bones. They, in turn, are covered with cartilage tissue (cartilage). This design allows the bones to move and not rub against each other.

Keywords: Bones, Anatomy of a healthy joint, ICD code, M05 - seropositive rheumatoid arthritis, M06 - other rheumatoid arthritis, M07 - psoriatic and enteropathic arthropathy, M08 - juvenile (juvenile) arthritis.

Introduction: In arthritis, the synovium is inflamed. As a result, swelling appears in the affected area, the skin becomes red and painful. This reduces the mobility of the joint. Often, the inflammatory process spreads to other joints.

Arthritis symptoms can vary in severity from minor, moderate to excruciating and painful. But without treatment, the inflammation of the joints gradually increases, the articular surfaces of the bones are eroded and destroyed. Arthritis mainly affects the joints of the feet and hands, elbows and knees, but the disease can also affect other parts of the body.

ICD code

In the International Statistical Classification of Diseases and Related Health Problems, in the tenth revision (ICD-10), arthritis is classified in the class "Arthropathy" and is designated by codes M05 - M13.

Arthritis groups:

M05 - seropositive rheumatoid arthritis;
M06 - other rheumatoid arthritis;
M07 - psoriatic and enteropathic arthropathy;
M08 - young (juvenile) arthritis;
M09 - juvenile (juvenile) arthritis in diseases classified elsewhere;
M10 - gout;
M11 - other crystal arthropathies;

M12 - other specific arthropathy;
M13 - other arthritis.
osteoarthritis (ostearthrosis) is the most common form that develops due to wear and tear of the joints;
rheumatoid - associated with improper functioning of the immune system;
ankylosing spondylitis (ankylosing spondylitis) - chronic autoimmune inflammation of the joints of the spine;
infectious - develops when bacteria, viruses or fungi enter the joint;
reactive - acute inflammation, often develops after a genitourinary or intestinal infection;
psoriatic - arthritis that develops in people with psoriasis;
gout - damage to the joints with extremely painful exacerbations, in which uric acid crystals accumulate in and around the joints;
traumatic - occurs after a bruise or fracture;
juvenile idiopathic - autoimmune inflammation of the joints that develops in children under 16 years of age.
According to the nature of the course, acute and chronic arthritis are distinguished. In the first case, the disease develops rapidly, accompanied by severe pain and limited joint mobility. Chronic arthritis develops slowly and can occur continuously or with alternating periods of remission and exacerbation.

According to the prevalence of joint damage, they are divided into:
monoarthritis (inflammation of one joint);
oligoarthritis (inflammation of two or three joints);
polyarthritis (inflammation of more than four joints).
Monoarthritis is typical of gout and usually affects the joint of the big toe. Oligoarthritis occurs in infectious diseases such as gonorrhea and borreliosis. Polyarthritis usually occurs with rheumatoid arthritis.

Causes of arthritis
Each type of arthritis has its own causes and risk factors, but most often the joints become inflamed due to injuries, infectious diseases, genetic predisposition and lifestyle.
Young
Osteoarthritis usually begins between the ages of 40 and 50. The fact is that over time the joints wear out, the cartilage becomes brittle and can no longer recover quickly.

Injuries
Bruises, dislocations, or fractures often cause joint deformities, which can result in loss of bone and cartilage. As a result, joint mobility is disturbed and the inflammatory process begins.

Infections
With complex bacterial, viral or fungal infections, pathogens can enter the joint and synovium, causing the development of inflammation.

Autoimmune pathologies
Rheumatoid, psoriatic and juvenile idiopathic arthritis, as well as ankylosing spondylitis, are caused by errors in the functioning of the immune system. As a result, it attacks its own healthy

cells rather than foreign pathogens such as viruses or bacteria. The exact causes of the immune system malfunction are unknown. It is believed to occur due to genetic predisposition, certain infections or exposure to environmental factors.

Heredity

Genetic predisposition can play a major role in the development of some forms of arthritis, such as gout, rheumatoid, and others. Thus, about 40% of people with psoriatic arthritis have a family member who suffers from the same disease.

Mutations in the SLC2A9 and SLC22A12 genes can lead to impaired uric acid metabolism and its accumulation in the blood and then in the joints. People with these gene variants have a significantly increased risk of developing gouty arthritis.

Risk factors for arthritis

The most common risk factors for arthritis are being overweight, a sedentary lifestyle, certain eating habits, and smoking.

Excess weight

The more extra pounds you carry, the more stress you put on your joints. This is especially true for the hip and knee joints, which bear most of the weight. As a result, inflammation develops in the joint, which gradually wears out the joint structures.

In addition, being overweight is one of the important risk factors for gouty arthritis. The probability of developing the disease in people with excess fat in the abdomen is 47.4%, and in people with a healthy weight, it is almost half, 27.3%. This is partly due to the excessive consumption of high-calorie foods, which contribute to the deposition of uric acid crystals in the joints.

Occupational hazards

The development of arthritis (especially in the hip and knee joints) is often associated with occupational characteristics. Thus, an increased risk of the disease was found in agricultural workers, construction workers, miners and service workers (waiters, cleaners, hairdressers) who have to spend a lot of time on their feet or do heavy physical work. .

Joint wear and tear develops due to heavy lifting and repetitive motions that require constant bending and straightening of the arms and legs.

High performance sports

People who are professionally involved in sports have a high risk of developing arthrosis. This is often associated with sports injuries and regular high stress on the joints. Over time, they wear out and begin to break down, which causes inflammation.

Symptoms of arthritis

The main symptom of arthritis is joint pain. Swelling and redness of the skin at the affected joint may also occur. At the same time, its mobility is limited. Specific symptoms of arthritis vary depending on the type of disease.

Symptoms of arthrosis

Osteoarthritis, as a rule, begins slowly - aching pain appears in one joint, it increases with weight and decreases with rest, but can be constant over time .

Symptoms of arthrosis:

limitation of joint mobility - a person cannot move the joint freely;

swelling of soft tissues around the joint;
increased sensitivity of the skin when pressed on the joint or near it;
grinding, cracking, clicking, or snapping sounds when moving the joint.

Symptoms of infectious arthritis

Usually, infectious arthritis develops acutely: for several hours or days. A person experiences severe pain and swelling. The skin over the appendages is hot, red, and painful.

Children and adolescents with infectious arthritis may complain of excruciating joint pain, which prevents them from moving the affected limb independently.

fever;
rash on the mucous membrane of the mouth, genitals, body, hands or feet;
migratory pain in the small joints of the hands, wrists, elbows, knees.

Rodent

Infectious arthritis often develops as a result of bites from sick dogs, cats or small rodents.

Symptoms of gouty arthritis

The first symptoms of gout are almost always unexpected and often occur at night or in the morning. This is partly due to the fact that a person does not drink at night and the concentration of uric acid in the blood increases, and it crystallizes more easily against the background of a slight decrease in body temperature.

A person may wake up with a burning sensation in a joint (usually the thumb). The affected area is really hot, swollen and very painful. Even touching a bed sheet or clothing can feel unbearable.

Symptoms of acute gouty arthritis:

sudden severe pain in the joint. Some compare it to the pain of a fracture, a burning sensation, or describe it as "the sensation of biting glass";
swelling and redness of the skin over the affected joint;
pain when moving.

Attack

An acute attack of gout usually disappears within 7-14 days

Symptoms of rheumatoid arthritis

Rheumatoid arthritis is characterized by symmetrical inflammation of the joints. It usually starts in the small joints of the hands and feet.

joint pains that usually do not go away with rest;
joint stiffness for more than half an hour;
redness and swelling in the affected joint area;
increased fatigue;
loss of appetite.

Symptoms may disappear and then reappear.

Symptoms of traumatic arthritis

Usually, the symptoms of traumatic arthritis appear acutely and are associated with a previous injury: the joint hurts, swells, and its mobility is limited.

After an acute manifestation, the joint becomes swollen and painful, the skin over it may be red and hot.

Without treatment, the process can become chronic. The joint snaps or creaks when it moves.

Symptoms of psoriatic arthritis

Psoriasis is an autoimmune disease that causes red, itchy rashes on the skin. In addition to the rash, there may be other symptoms such as joint inflammation.

swelling and redness of the joints of the fingers and toes;

pain in the back of the ankle (Achilles tendon) or the sole of the foot;

pain in the back, hip and knee joints;

deformation (curvature) of joints.

Psoriasis

Skin signs or joint symptoms may be more pronounced with psoriasis

Symptoms of juvenile idiopathic arthritis

Juvenile idiopathic arthritis is inflammation of one or more joints that usually develops during a fever that lasts at least 3 days. In this case, short-term erythematous rashes may appear, lymph nodes, liver, spleen become enlarged, serous membranes of internal organs (peritoneum, pericardium, pleura, etc.) become inflamed.

In some cases, juvenile arthritis can cause growth and developmental delays. For example, the shape of the jaw changes (a crooked chin) or the length of the limbs (one is longer than the other). In addition, juvenile arthritis often develops iridocyclitis, inflammation of the anterior choroid. As a rule, it is asymptomatic or with mild blurred vision and photophobia.

Symptoms of ankylosing spondylitis

The disease usually develops unnoticed. With the development of pathology and damage to joint structures, characteristic symptoms appear.

Symptoms of ankylosing spondylitis:

limited movement of the spine,

fatigue,

eye inflammation,

pain in the lumbar region and hip joint,

change in gait,

a feeling of tightness in the chest.

Over time, other symptoms may appear: difficulty breathing and blurred vision. In addition, the spine loses flexibility, the movement in bending and turning the neck and torso is limited.

Complications of arthritis

Without treatment, arthritis can cause constant pain, limited movement, and even disability in the affected joint.

Advanced arthritis can lead to joint deformity and destruction. With infectious arthritis, purulent inflammation of the surrounding tissues and even sepsis (blood poisoning) can occur.

Disability

Progressive deformation of the joints due to arthritis can lead to disability

Diagnosis of arthritis

If a person has pain in the joints and his health deteriorates, he should consult a doctor as soon as possible.

Which doctor should you contact if you suspect arthritis?

As a rule, people first consult a general practitioner, who, if arthritis is suspected, is then referred to a specialist - a surgeon or a rheumatologist. Arthritis in children is treated by a pediatrician or a pediatric rheumatologist.

During the consultation, the doctor conducts a survey and examination, prescribes instrumental and laboratory tests.

Check

If arthritis is suspected, the doctor will determine what happened before the painful attack. This helps to understand the cause of the disease. For example, gouty arthritis is usually preceded by overeating and alcohol abuse, and traumatic arthritis is usually preceded by vigorous physical activity.

During the examination, the doctor assesses the condition of the joints: with arthritis, the affected joint may swell, the skin on it may be red, hot and painful.

Laboratory research methods

To assess the general condition of the body and determine the cause of the disease, the doctor prescribes a clinical blood test.

Complete blood count with leukocyte count and ESR, smear microscopy for pathological changes in leukocyte count (venous blood) Chronic arthritis and exacerbation of acute arthritis are characterized by an increase in ESR. If the disease is caused by a bacterial infection, an increase in the number of white blood cells is observed.

If gout arthritis is suspected, a blood test for uric acid is prescribed. Exceeding its values at the same time as characteristic symptoms is a reason for further targeted examination of the joint fluid.

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