

## Juvenile Idiopathic Arthritis with Artiovisceral Junction in Children

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**Abstract:** In this article Juvenile idiopathic arthritis in children information about its specific progress is provided. In the articular-visceral type of juvenile idiopathic arthritis, the inflammatory nature of the connective tissue is caused by damage to the system.

**Key points:** juvenile idiopathic arthritis (JIA), systemic lupus erythematosus (TQY), systemic scleroderma (SSc), Shegren's disease, dermatomyositis (DM), ankylosing spondylitis.

In children Juvenile idiopathic arthritis (JIA) is diagnosed before age 16. It is known that girls suffer from childhood arthritis 2-3 times more often than boys. According to statistics, 1 in 1000 children suffers from arthritis, most often under the age of four. Juvenile rheumatoid arthritis in children can affect various joints: elbows, shoulders, knees, as well as ankles, feet and lower back. Despite the variety of etiologies for the development of juvenile rheumatoid arthritis, all its types are painful and extremely dangerous, since arthritis in children can cause severe joint deformation, complete loss of motor functions, negative effects on vital internal organs, and can lead to injuries. and even disability. In particular, if not treated properly, there will be a lack of physical activity due to pain and decreased mobility[1,2].

Determining the exact cause of JIA in children is difficult, since a combination of several harmful factors plays a role, as well as genetic predisposition to the disease. The pathology can be autoimmune, that is, it occurs as a result of a disorder of the immune system, in which the body tries to destroy its own healthy cells and tissues, including cartilage tissue and joints in general, and produces antibodies[3].

Often the trigger for the pathological process is infection. Then in children JIA actually acts as a complication after influenza, hepatitis, rubella, dysentery, mumps (mumps), salmonellosis, dermatitis and even chronic tonsillitis and sinusitis, the causative agent of which is streptococcus[3,4].

So do children The most common causes of JIA are: -immune dysfunction; -metabolic disorders; -lack of vitamins (in particular, lack of vitamin D); -infections – viral, bacterial, fungal; both direct articular and systemic; -allergies, diathesis; -non-compliance with the vaccination schedule and rules; -injuries. The development of JIA in children is facilitated by weak immunity, poor sanitary and hygienic conditions, hypothermia, poor nutrition, and excessive physical activity[7].

Any symptoms of JIA in a child require immediate correct diagnosis: it is very important to detect problems in the musculoskeletal system of a child or adolescent in time so that the treatment measures taken are as effective as possible. Regardless of the types, etiology and form of arthritis in children, it is characterized by a number of common processes and symptoms. Thus, inflammation of the articular membrane and other articular structures occurs, deterioration in the quality of the joint fluid, drying and gradual degeneration (destruction) of hyaline, inflammation and swelling of soft tissues, redness, pain and limitation of skin movements appear[5].

If during active activities the child's condition and mood change for the worse, one may suspect that the child has problems with the joints. In addition, the child's gait may change and he may begin to limp, for example, if he develops a chronic form of arthritis, which is characterized by pain in the legs. In general, diagnosing arthritis in young children is difficult because it is not always clear what is bothering the child. In addition to general symptoms, different types of arthritis are characterized by specific features [6,8].

In young people, articular syndrome manifests itself as a manifestation of severe pathological processes, i.e., immune changes and systemic diseases, which in most cases lead to unfavorable outcomes; in patients with articular and mountain syndrome, it indicates dystrophic changes in menstural tissue. The doctor should not focus only on treating the affected joint, but must conduct a thorough comparative diagnosis and responsibly approach the assessment of the patient's pain syndrome. Helps to direct knowledge of common diseases associated with articular syndrome, and the necessary laboratory and instrumental studies for their diagnosis, timely diagnosis and pathogenetic treatment, if necessary, referral of patients to specialized medical institutions (rheumatology, oncology, urology, orthopedics, etc.) [5,7].

Joint pain is one of the pathological symptoms observed in primary and secondary lesions of the musculoskeletal system and occurs in more than 100 different diseases. Their occurrence is directly related to the impact on joint-forming structures (synovium, articular bones, ligaments) and nerve endings located in pre-articular tissue. Only the tendon of the joint does not have nerve fibers and blood vessels, and its limited damage does not cause pain. Arthritis is one of the causes of joint pain. It accounts for 80% of all joint diseases. They begin with degenerative changes in the ankle joint and in a short time involve the underlying bones, joint lining and even the synovium and muscles. Arthritis is the second most common group of diseases with pain syndrome. They are usually based on a pathological process localized in the joint cavity and synovium (synovitis). Swelling in the joint occurs not only due to synovitis, but also due to inflammation of the synovium and soft tissues around the joint. If arthritis occurs as a result of infectious, autoimmune inflammation, metabolic disorders, or injuries, in some cases it will not be possible to determine its cause. A pathological process in the joint can also occur as a result of non-rheumatic diseases of other organs and systems. In this case, the articular syndrome takes the form of arthralgia and arthritis. Develops as a result of systemic damage to connective tissue, disruption of the hormonal state of the autonomic nervous system, toxic, allergic, toxic-allergic mechanisms, and serious changes in the sensitivity of joint tissue. Their location is different and, depending on the underlying disease, they have specific symptoms [4,7]. Below is a classification of diseases often encountered in practice with articular syndrome.

1. Rheumatism (rheumatic fever).
2. Systemic connective tissue diseases (systemic lupus erythematosus (SLE), systemic scleroderma (SSc), Shegren's disease, dermatomyositis (DM), diffuse fasciitis, mixed connective tissue diseases, polymyalgia rheumatica, etc.).
3. Systemic vasculitis (nodular perarteritis, hemorrhagic vasculitis, Wegener's granulomatosis, etc.).
4. Rheumatoid arthritis (RA) (polyarthritis, RA with systemic involvement, Felty's syndrome).
5. Juvenile arthritis (juvenile RA, Still's syndrome, chronic juvenile arthritis, JIA).
6. Bekhterev's disease.
7. Arthritis accompanied by spondyloarthritis (psoriatic arthritis, Reiter's disease, arthritis observed in nonspecific intestinal diseases (CKD, Crohn's disease)).
8. Infectious arthritis.

From the above classification it is clear that there are many diseases associated with articular syndrome, and it can be further expanded. In practice, a patient with this syndrome, which is often

encountered in practice, requires deep knowledge and experience of a primary system occupational safety specialist for proper diagnosis, treatment and, if necessary, referral to appropriate specialists. For doctors, diarthrosis is important, that is, joints separated from each other by a completely hyaline membrane, the surface of which is surrounded by a fibrous capsule. The joint capsule consists of outer (fibrous) and inner (synovial) layers. The fibrous layer consists of collagen fibers and is inextricably linked with the synovial membrane. It protects the joint from the external environment. The synovium is directly connected to the joint cavity and is rich in blood vessels, lymphatic capillaries and nerve fibers. Produces a fluid containing all the elements of blood plasma. This fluid, by diffusion, nourishes the inside of the joint, reducing friction on its surface and removing unnecessary substances. Joint syndrome manifests itself as a combination of several symptoms and syndromes[7,8].

Joint pain is the first and most common symptom of this group of diseases. It can be directly related to the processes occurring in the joint and surrounding tissues, or it can be psychogenic. When making a diagnosis, the duration of the pain, the time of its onset, its nature, what it is associated with and what symptoms it is accompanied by are important.

Swelling in the joint- the second main symptom observed in its diseases, which is caused by inflammation of the synovium and soft tissues around the joint or the accumulation of fluid in the joint cavity[8].

Edema is a hypertrophy of the synovial membrane and soft tissues around the joint in chronic arthritis, a fibrosclerotic process in the periarticular tissue, leading to a change in the shape of the joint, i.e. disfigurement. Persistent changes in the shape of the joint due to the destruction of the ends of the bones, their fusion with each other, the development of ankylosis, semi-protrusion, damage to pre-articular muscles and connective tissues, i.e. joint deformation develops. . Inflammation of the joint and surrounding tissues is accompanied by hyperemia of the skin in this area and local hyperthermia (increase in temperature). Limitation of movements in the joint during a pathological process is one of the main components of articular syndrome. Articular syndrome in rheumatic diseases in the form of one (monoarthritis), two (oligoarthritis) and many (polyarthritis), acute (up to 3 months), subacute (up to 3-6 months), long-term (up to 9 months) and chronic (more than 9 months ) may pass.

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