DISORDERS OF CALCIUM ION EXCHANGE IN HUMAN BODY AT VARIOUS FORMS OF ARTHRITIS

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This work is devoted to the problem of the emergence and development of various clinical forms of arthritis. The subject of the study is the molecular mechanisms of joint damage. The purpose of the work is to analyze the role of calcium metabolism disorders in the body during the development of joint damage. Great attention to the problem of arthritis is due to its socio-economic importance. It is known that rheumatic diseases occupy one of the leading places in terms of the degree of negative impact on modern society. Today, the growth and spread of these diseases is observed in all countries of the world.

Keywords: calcium, arthritis, osteoarthritis, rheumatoid arthritis, microcrystalline arthritis.

Today, 150 varieties of arthritis are known. According to the World Health Organization, every tenth individual suffers from an arthritic disease.

Arthritis is characterized by a chronic, progressive course, early disability and a high percentage of disability. So, severe disability during 5 years of illness, despite treatment with "basic" drugs, is observed in 16% of patients, and after 20 years from the onset of the disease, approximately 90% of patients lose their ability to work, and a third become completely disabled. The prognosis for patients with arthritis is just as poor as for lymphogranulomatosis, insulin-dependent diabetes mellitus, and three-vessel coronary artery disease. Arthritis is associated with a high level of pain, functional impairment, on the one hand, and serious disorders in the psychoemotional sphere, on the other, which significantly worsens the quality of life of patients.

Arthritis is a generalized concept of all joint diseases. Arthritis can be both a major disease and a side complication of a number of ailments. Complex diagnostics and long treatment make arthritis one of the most serious diseases.

Most of all, this joint disease affects joints in the hands, phalanges of the fingers, elbows, knees and in the foot area. It is noticed that more often women suffer from this disease. This disease can occur at any age. During arthritis, inflammatory changes can be observed in the inner articular synovial membrane. In this place synovitis can occur and most often an inflammatory effusion begins to accumulate – exudate.

The reasons for the development of inflammatory processes in the joints can be very diverse. Acute inflammation can be caused by injury, infection, an allergic reaction, etc. The chronic form often develops against the background of various disorders in the functioning of internal organs and systems. The main types of arthritis include:

1) Osteoarthritis;
2) Rheumatoid arthritis;
3) Microcrystalline arthritis.

According to the results of international epidemiological studies of groups of patients with different types of arthritis, the prevalence of this pathology among the adult population is 115–271 cases per 100,000 people. In the Republic of Belarus in 2015, an increase in the absolute number of persons with diseases of the musculoskeletal system was noted.

It was found that there is a calcification process in osteoarthritis (deposition of calcium salts outside the bone tissue), calcium in the form of crystals is found in cartilage and in the synovial fluid. Hypercalcemia was detected in patients with rheumatoid arthritis. Microcrystalline deposition of calcium pyrophosphate dehydrate is observed in the synovial sac and articular cartilage in the presence of microcrystalline arthritis.

Arthritis has many types with different root causes, but one thing remains common – inflammation in the joints. Some types are common among women, others among men, some affect children. Symptoms are pain, swelling and stiffness in the movements. Most arthritis is irreversible, but with proper and timely treatment, the destruction and deformation of the joint can be significantly slowed down and even stopped.