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Magnetic Resonance Examination in the Diagnosis of Osteonecrosis of the Femoral Head

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ABSTRACT

The most common causes of non-traumatic angioedema are corticosteroid therapy and alcohol abuse. The main clinical manifestations in the pathology of the hip joints are pain in the joint, in the groin area with radiation along the femoral nerve to the knee joint and buttock area during physical exertion, sometimes night pain is also disturbed. Objectively, the smoothness of the contours of the hip joint and pain during palpation are determined. Restriction of rotational movements in the joint, abduction, adduction and flexion are also limited and painful. Special attention should be paid to patients who are potentially at risk.

Objective: MRI in the diagnosis of osteonecrosis of the femoral head.

Materials and methods. Magnetic resonance imaging used the T1, T2, and PD sequences with fat suppression and hydrography techniques. The results were evaluated using axial, coronal, and sagittal images. 45 patients (40 joints) (19 men and 21 women) with severe pain syndrome in the HIP area were examined by CT and MRI. The average age of patients was 45.6 years (43.4 years for men and 48.3 years for women). Aseptic necrosis of various stages was diagnosed in 13 patients (7 men and 8 women), and bilateral joint damage was detected in only 8 cases, which is 28.6%. The study was conducted in patients who complained of hip pain, especially pain in the groin area with radiating to the knee joint.

Results and discussion.

In the first stage of necrosis, X-ray examination is not effective. The femoral head retains its inherent shape, and the bone structure is also unchanged. Histological examination reveals a picture of necrosis of the spongy substance of the head and its bone marrow. Some authors call this stage "Dorentgen", "dumb" or "theoretical". Although the second definition is incorrect, since clinically already at this stage there are pains, restriction of movement in the joint, muscle atrophy, etc. This suggests that the absence of X-ray signs of the disease does not exclude the presence of a pathological process and requires further research and dynamic observation. However, initial changes in the structure of the femoral head can be detected during IBS and MRI by the presence of local changes in the structure of bone tissue in the loaded upper-lateral part of the femoral head, which is visualized on computer tomograms as a local hypodensive area of bone tissue with a possible" border " of moderate sclerosis. On MRI a hypointensive focus is determined in T1 VI and a hyperintensive focus in T2 VI, corresponding to the zone of bone edema and the formation of aseptic destruction. The articular gap is uniform, the cartilage structures are not changed (Fig. 1).

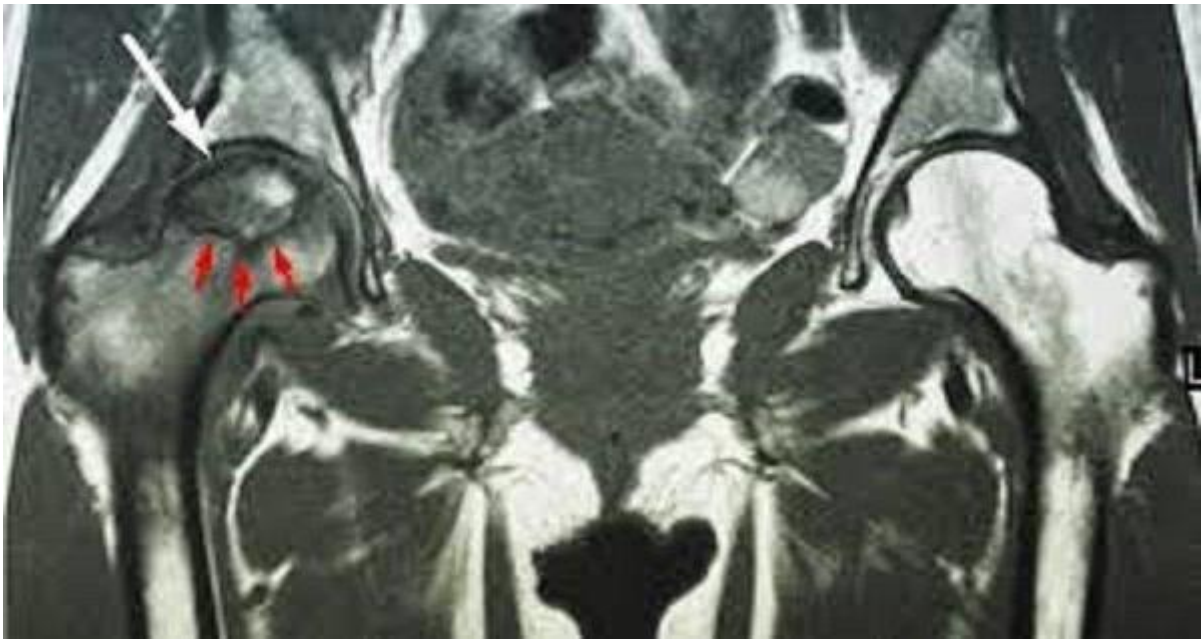

Fig. 1. Osteonecrosis of the hip joint on both sides.

The second stage of an impression fracture is characterized by many microscopic fractures against the background of pathological changes in (necrotic) bone tissue. Radiologically, at this stage, the femoral head is homogeneously darkened and there is no structural pattern, its height is reduced compared to the healthy side, the surface sometimes looks like compacted facets, and the articular gap is expanded. An MRI scan can detect a necrotic defect inthe femoral head. The third stage is characterized as a resorption or sequestration stage. The head is even more flattened and consists of separate structureless isolated fragments of irregular shape and size, the articular gap is even more expanded. The femoral neck is shortened and thickened. In the fourth stage, designated as the repair stage, the spongy bone substance of the head is restored. Radiologically, sequester-like areas are no longer visible, the shadow of the femoral head is outlined, but the bone structure is not yet traced, rounded cyst-like clearings can be traced for a long time. The fifth, final stage (the stage of secondary deforming osteoarthritis) is characterized by a number of secondary changes in the type of deforming osteoarthritis. The bone structure of the head at this stage can be traced, but its shape is significantly changed, it is flattened, expanded in diameter, so the articular cavity does not cover it, the congruence of the articular surfaces is disturbed. Marginal bone growths and secondary dystrophic cysts are visible (Fig.

Conclusions.

On MRI with fat suppression and hydrography, in addition to the above-mentioned changes in the head and neck of the right femur, a hypersignal is detected гиперсигналdue to edema, probably as a result of increased intraosseous pressure. Thus, early diagnosis of aseptic necrosis of the femoral head is not an easy task due to the late treatment of patients, smoothness of clinical manifestations, and a long "silent" "dorentgen" course. Therefore, it is very important to use high-tech diagnostic methods, such as RCT and MRI, which make it possible to detect pathological changes in the early stages, to study in detail the condition of bone and paraarticular tissues both in the initial stages of the disease and in the postoperative period, which in turn reduces the diagnostic period and allows you to start adequate treatment in a timely manner.

LIST OF REFERENCES:

1. Varshavskiy Yu. V., Stavitskiy R. V. Visualization of hip joint diseases and control of endoprosthetics / Yu. V. Varshavskiy, R. V. Stavitskiy, Moscow, 2005, 325 p.

2. Guryev V. N. Coxarthrosis and its operative treatment / V. N. Guryev. Tallinn: Valgus Publ., 1984, 342 p.
3. Zedgenidze, G. A. Clinical radiology: a guide / G. A. Zedgenidze. - Moscow: Meditsina, 1983. - Vol. 1, 2. - 120 p.
4. Zagorodny, N. V. Endoprosthetics for injuries and diseases of the hip joint: dis. Doctor of Medical Sciences / N. V. Zagorodny, Moscow, 1998, 405 p.
5. Kosinskaya, N. S. Degenerative-dystrophic lesions of the bone and joint apparatus / N. S. Kosinskaya.- L.: Medgiz, 1961 — - 196 p
6. Navruzov R.R. ONLINE-CONFERENCES" PLATFORM / Morphofunctional Lymphoid Structures of the Colon in Normal and Under the Influence of Radiation Sickness/ 2022 C. 63-67
7. Navruzov R.R. Web of Scientist: International Scientific Research Journal / Morphofunctional features of the lymphoid structures of the colon in normal and under the influence of a biostimulator on the background of radiation sickness/ 2022 C. 33-56