Introduction

Ischemic necrosis of the femoral head, is a serious complication of conservative treatment of congenital hip dislocation, the main reason is to be considered a violation of acute arterial blood supply to the epiphysis. This is facilitated by reflex spasm, resulting in an injury-stage reduction against the general underdevelopment of the vascular system and additional compression of the arteries due to swelling of soft tissues.

The main problem of diagnosis is to identify the difficulties in the early stages of the disease.

In the diagnosis of avascular necrosis of the femoral head actively used computed tomography and magnetic resonance imaging that can detect the disease at an early stage. Also, as a routine method of diagnosis of avascular necrosis, used X-ray.

At present not fully explored is the question of radionuclide methods, namely osteostsyntyhrafiyi in the diagnosis of avascular necrosis in hip arthroplasty.

The aim of this work is comparative analysis of X-ray imaging and bone scintigraphy in patients with avascular necrosis in the hip arthroplasty.

Material and methods

Using, bone scintigraphy and X-rays were examined 65 patients with avascular necrosis of femoral head in hip arthroplasty (39 women and 26 men) aged 17 to 45 years.

Bone scintigraphy was performed on single head scintillation gamma camera in a static mode in the front line and lateral projections. For the methodology used radiopharmaceutical 99mTc- pyrophosphate, 550-770 MBq activity that administered to the patient intravenously. Static bone scan was performed 3 hours after drug administration.

X-ray studies were performed on the digital X-ray diagnostic system RDK-VSM "Medaparatura". Hip X-ray study was conducted in a straight back and lateral plain projections.

Results

Comparative analysis has shown that certain area with reduced activity in the projection of the hip meets the stage subchondral femoral head necrosis. The greater portion of reducing accumulation of the radiopharmaceutical in the projection of the femoral head, the significantly higher degree of destruction of pathological process (p <0,05). Thus, X-rays can be used to determine the stage of pathological process with avascular necrosis, and in conjunction with the bone scan - to monitor the dynamics of the pathological process after total.

Conclusion

X-ray imaging and bone scintigraphy is objective methods of differential diagnosis in patients with avascular necrosis of the femoral head in the hip joints. These methods can be used
in the diagnostic screening of patients with hip arthroplasty. X-ray imaging can be used in
determining the prevalence of pathological stage process with avascular necrosis, and in
combination with bone scintigraphy - to monitor the dynamics of the pathological process after
arthroplasty.