

The Role of a Nuclear Arthrogram in Imaging for an Infected Prosthesis

Case Description

A 64-year-old male patient presented for a Nuclear Arthrogram. He had fallen in the garden resulting in cuts on his leg. Previous imaging performed demonstrated synovitis and a small effusion, however no infection within the joint replacement. An aspiration of the pes anserine bursa demonstrated infection within the bursa. After multiple drainages and aspirations of the knee joint, no infection was detected however a periprosthetic infection was still suspected. The surgeon requested to know 'Is the knee infected?'

Procedures Performed

Under fluoroscopy, a needle was inserted into the patella-femoral joint. An aspiration of synovial fluid was collected and sent for microbiological examination. 21MBq of 99mTc Phytacis was injected into the left knee joint. Early, 4 hour, and 24 hour delayed imaging were performed.

Findings

There was no scan evidence of loosening within the joint replacement. The scan findings were consistent with a fistula between the discharging sinus on the skin and the joint space of the medial femoral condyle of the left knee. The pathology results returned a positive multi sensitive staphylococcus reading, which confirmed infection within the joint space.

Outcome

The Nuclear Arthrogram was able to locate a fistula between the discharging sinus on the skin and the joint space. A discharging sinus is one of the definitive diagnostic criteria for a periprosthetic infection. By providing the referring doctor with a definitive diagnosis the patients management was changed. The prosthesis was removed and they were able to clear the infection.

Discussion

With strict diagnostic criteria, it can be difficult to diagnose a periprosthetic infection. A scoring system is used and the presence of a sinus is one of two major diagnostic criteria that can confirm infection. Though this Nuclear Arthrogram we were able to diagnose the presence of a sinus in this difficult case.