Tuberculous arthritis of the knee

Case Type: Clinical Cases

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Patient: 30 years, male

Clinical History:

Conventional radiography and MRI revealed signs of arthritis. Examination of the synovial fluid marks the presence of Mycobacterium Tuberculosis. The tuberculin test was positive.

Imaging Findings:

Clinical examination showed pain and swelling of the left knee, with impaired mobility of the joint. Conventional radiography revealed periarticular osteoporosis, osseous erosions, joint effusion and soft tissue swelling. Because of the suspicion of septic arthritis, aspiration and examination of the synovial fluid was done. Initially, no organisms were found on examination of the synovial fluid. An MRI was performed which showed signs of synovitis, with hydrops of the joint (Fig 1, axial T2-WI). At a lower level thickened synovium and intra-articular effusion presented with a much lower signal intensity (Fig 2, axial T2-WI). There is a large erosive lesion at the anterior aspect of the femur with presence of slightly enlarged lymph nodes in the popliteal fossa (Fig 3, sagittal T1-WI). Luxation of the remnants of a partially destructed meniscus (Fig 4, coronal T1-WI) and areas of increased signal intensity within the cortical and medullary bone, suggestive for osteomyelitis (Fig 5 and 6, sagittal T2-WI), are also noted. Several additional punctures were performed, and finally the presence of Mycobacterium Tuberculosis was confirmed. Synovial biopsies obtained from the knee showed granulomatous disease consistent with tuberculosis. Radiography and CT scan of the thorax revealed a state of active lung tuberculosis. The tuberculin test was positive.

Discussion:

Tuberculosis has become a rare disease, especially in causing septic arthritis. In most cases, the infection is monoarticular, but polyarticular localisation is also possible. The hip, knee and spine are most frequently affected. Immunosuppression (AIDS), corticosteroid therapy, trauma or alcohol abuse are well known predisposing factors. The diagnosis is difficult to obtain because the disease is rare, the radiographic signs are difficult to differentiate from other types of septic arthritis and the difficulty of growing Mycobacterium Tuberculosis. In the differential diagnosis, following diseases must be included: pigmented villonodular synovitis, idiopathic synovial osteochondromatosis, juvenile chronic arthritis, rheumatoid arthritis, gout, pyrophosphate arthropathy, seronegative spondylarthropathy, chondrolysis, chondral atrophy, osteoarthritis and haemophilia.

Differential Diagnosis List: Tuberculous arthritis is an uncommon form of infectious arthritis. Immunosuppression, corticosteroid therapy, trauma or alcohol abuse make patients more susceptible to tuberculous arthritis. A possible strategy to detect tuberculous arthritis is: first,
**Final Diagnosis:** Tuberculous arthritis is an uncommon form of infectious arthritis. Immunosuppression, corticosteroid therapy, trauma or alcohol abuse make patients more susceptible to tuberculous arthritis. A possible strategy to detect tuberculous arthritis is:

**References:**

Stecher DR, Gusis SE, Maldonado Cocco JA. Tuberculous arthritis in the course of connective tissue diseases: report of 4 cases. The journal of rheumatology. 1992 Sep: 1418-20.

Description: Synovitis with hydrops of the joint. Origin:
**Figure 2**

**Description:** Thickened synovium and intra-articular effusion with a much lower signal intensity. **Origin:**
**Figure 3**

*Description:* There is a large erosive lesion at the anterior aspect of the femur with slightly enlarged lymph nodes in the popliteal fossa. *Origin:*
Figure 4

Description: Luxation of the remnants of a partially destructed meniscus. Origin:
Figure 5

Description: Areas of increased signal intensity within the cortical and medullary bone, suggestive for osteomyelitis. 

Origin:
**Description:** Areas of increased signal intensity within the cortical and medullary bone, suggestive for osteomyelitis. **Origin:**