

Tuberculous Infection Following Total Hip Replacement on Traumatic Fracture-dislocation

A CASE REPORT

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Tuberculous infection is a very rare complication following total hip replacement. There are some reports^{1,2,3,4,5} of such cases in which the operations have been performed with the diagnosis of osteoarthritis secondary to tuberculosis in origin. We report a case of late tuberculous infection following total joint replacement on the hip with severe comminuted fracture-dislocation.

A Case Report

A 42-year-old female who had involved in a car accident 7 years ago, was treated by internal fixation and total hip replacement of the right hip joint. At that time, she had no clinical evidence of previous tuberculous infection. Unfortunately she had been lost from follow up one year after surgery. Three years later, she was admitted to the hospital. The diagnosis was alcoholic cirrhosis which was proved by needle biopsy. At that admission, the chest film was normal and she

had no symptom of hip pain. Six years following THR, after falling down, she complained of right hip pain and could not walk. Clinical examination revealed anterior dislocation of the right hip joint. The roentgenograms following reduction showed signs of prosthetic loosening. She suffered from right hip pain since then and could walk only with walking aid. On this admission she presented with right hip pain and inability to walk. The right hip was tender and warm. The hip rolling and, the Anvil test was positive. The range of motion was limited in all directions. Roentgenographic study revealed loosening of the components, the femoral head was subluxated from the acetabulum (Fig.1A, 1B). The chest film showed

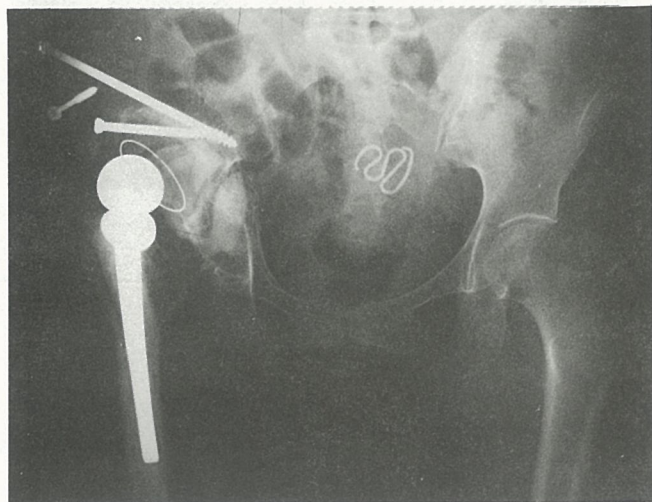


Fig. 1a AP film of pelvis included both hips shows subluxation of right hip joint.

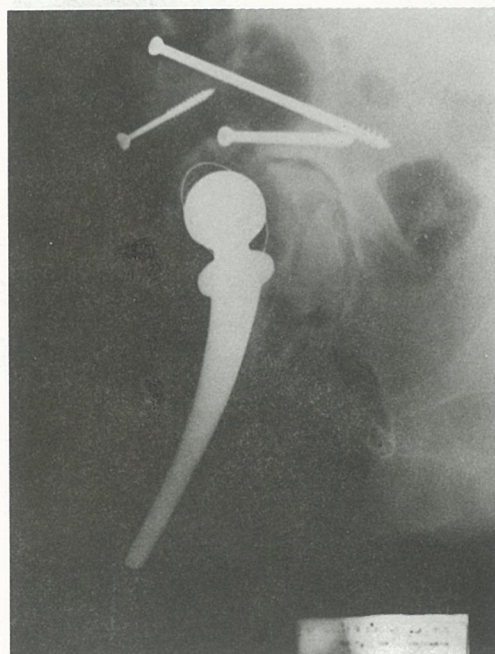


Fig. 1b Lateral film of right hip shows sign of loosening around the cement.

fibronodular and fibropatchy infiltration in both upper lobes (Fig. 2). Hematologic study showed WBC 8.47×10^3 Cells/mm³, PMN 66%, LYMP 23%, MONO 9%, EOSINOPHIL 2%, HEMATOCRIT 30.6%. Anti HIV and hepatitis were negative. Hemoculture was no growth in three successive specimens.

Operation Report

Through the posterolateral approach, the synovium was found to be hypertrophic, friable and granulated. Approximately 100 ml. of cloudy yellowish fluid was estimated within the joint. Both components of the prosthesis were loosening. The prosthesis and bone cement were then removed. Synovectomy and Girdlestone resection were performed (Fig.3). The histologic findings of the synovium showed caseous epithelioid granulomas. The ZIEHL-NEELSEN'S stain revealed few acid-fast bacilli. She was treated with antituberculous drugs. The patient was discharged one month after the operation.

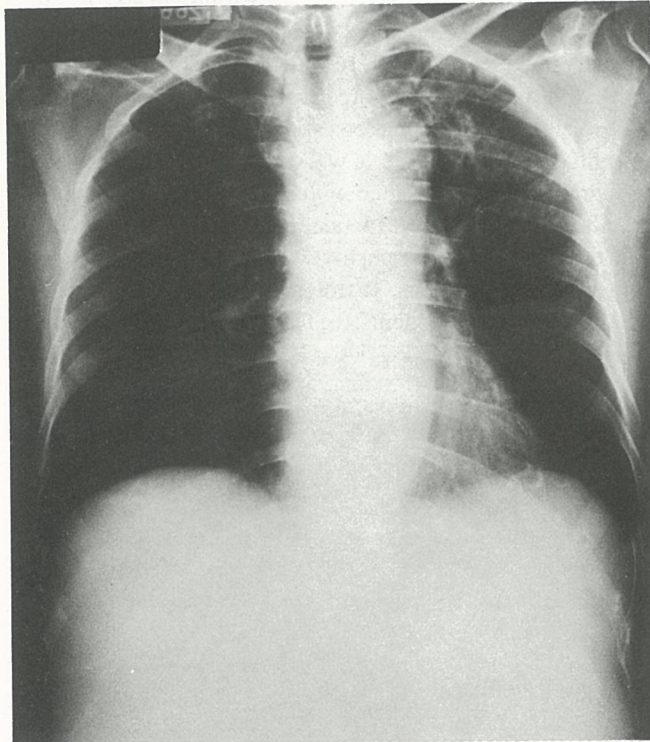


Fig. 2 Chest film shows fibronodular and fibropatchy infiltration in both upper lobes.

DISCUSSION

We report a case of the tuberculous infection developed seven years after total hip replacement. We believe that the patient had a normal hip at the beginning as the synovium and the articular cartilage were normal. In tuberculous arthritis the synovium should be thickening and covered with a heavy layer of fibrin². The prosthetic joint can be susceptible to bacteremic infection in the immunocompromised host⁶, especially in this case who suffered from alcoholic liver cirrhosis. By reviewing the literature, there are several reports of quiescent skeletal tuberculosis becoming reactivated after surgery⁴. Those osteoarthritic joints may be caused by tuberculosis and healed before prosthetic replacement is done^{4,5}.

We believed that the patient developed tuberculous infection of the prosthesis from metastatic spread of the pulmonary tuberculosis. Tuberculous infection of the prosthetic joint as a late complication must be aware in the patient who have extraskelatal tuberculosis, especially in the immunocompromised patient.

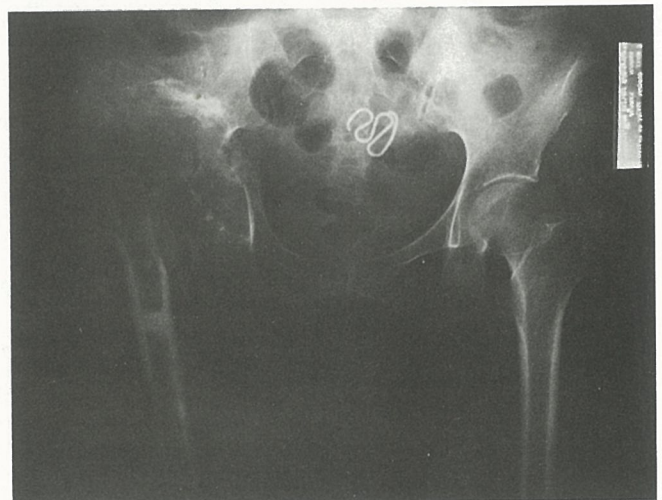


Fig. 3 Post-operative film after Girdlestone resection.

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