

TUBERCULOSIS AS A LATE COMPLICATION OF TOTAL HIP REPLACEMENT

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A case of tuberculosis developing in a hip joint which had undergone total prosthetic replacement arthroplasty 7 years previously is described. The patient had no manifestation of active systemic tuberculosis although calcified mesenteric nodes were noted on abdominal X-ray. It is assumed that hip joint infection occurred during a bacteraemia following activation of a latent tuberculous focus in the mesenteric lymph nodes.

Key words: tuberculosis; hip; arthroplasty

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Delayed infection of joints that have undergone prosthetic replacement arises following contamination at the time of original surgery (Charnley & Eftekhar 1969) or from metastatic spread from a septic focus elsewhere in the body (Hall 1974, Parsons 1971). A case of tuberculosis developing in a hip joint in which a total hip prosthesis had been inserted 7 years previously is described. No similar case can be found on review of the literature.

CASE REPORT

In March 1968, a 70-year-old lady underwent a right Ring total hip replacement for osteoarthrosis. Operative findings revealed eburnation of the femoral head and a shallow, worn acetabulum. When reviewed in December 1969, she had a good range of pain-free movements of the hip.

In November 1975, she presented with a 4 cm swelling in the right groin lateral to the femoral artery and attached to the underlying muscles. At operation, the swelling, found to lie between sartorius and pectineus, could not be enucleated

but its caseous contents were evacuated. The cyst wall and its contents were sterile on routine bacteriological culture, and tubercle bacilli were not cultured or seen on Ziehl-Nielsen stain, although the operative findings suggested a psoas abscess. Histology revealed non-specific chronic inflammation. X-ray of the lumbar spine was normal. Postoperatively, the patient developed a pyrexia and a purulent discharge from the wound, *Staph. pyogenes* being cultured.

Four weeks postoperatively, despite therapy with cloxacillin, there was a persistent staphylococcal discharge from the groin wound. A sinogram (Figures 1 and 2) defined a branching sinus arising from a cavity adjacent to the head of the Ring prosthesis. On January 22nd, the sinus was biopsied and laid widely open, the deep track being followed to the junction of the femoral neck and its prosthesis. The tissue was sterile on routine culture and histology revealed non-specific subacute inflammation.

The patient's hip remained extremely irritable and her ESR was raised to 100 mm/hour. Six weeks after the sinus exploration, Myco. tuberculosis was isolated on culture from the biopsied sinus wall and acid/alcohol fast bacilli were also identified by Ziehl-Nielsen stain. A Heaf test was strongly positive (Grade III) and calcified mesenteric nodes were noted on X-ray in the right iliac fossa. Chest X-ray was clear and sputum and early morning urine specimens were

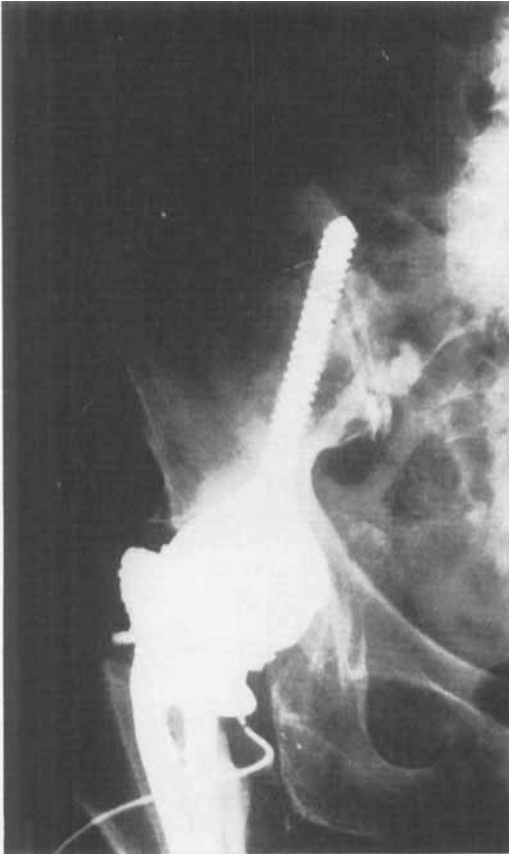


Figure 1. Sinogram of right hip showing cavity around neck of femoral prosthesis. Note calcified mesenteric nodes.



Figure 2. Sinogram of right hip defining branching sinus.

negative for tubercle bacilli. The patient was treated with intramuscular Streptomycin 0.5 g daily for 2 months and Rifampicin 450 mg daily and Isoniazid 300 mg daily (to be continued for 18 months). Eight weeks after beginning anti-tuberculous therapy, the groin sinus was healed and the ESR had fallen to 45 mm/hour. It fell to 23 mm/hour after 6 months of the therapy. She had 70° of active hip flexion and was able to walk with little pain.

DISCUSSION

A case of tuberculosis arising in a joint that had undergone prosthetic replacement is described. It is assumed that the tuberculous infection in the hip developed following a bacteraemia, secondary to activation of a latent tuberculous

focus, almost certainly in the mesenteric glands. That the hip contained a prosthesis may have made it susceptible to bacteraemic infection. At the original arthroplasty, operative findings were consistent with osteoarthritis, though the possibility of tuberculosis of the proximal femur has to be considered. It should be noted that healing of the sinus occurred without necessitating removal of the prosthesis. Although rare, tuberculosis should be excluded as a cause of delayed infection in a joint which contains a prosthesis.

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