Antituberculous Treatment And Total Hip Arthroplasty In Old Tuberculous Hip. A Case Report

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Summary
We report a case of Total Hip Arthroplasty using cemented Charnley prothesis. This was done in an old tuberculous hip without using antituberculous chemophrophylaxis. The patient developed peri-prosthetic bacterial infection not related to tuberculous site reactivation. We report our experience with this case and review of relevant literatures.

Key Words: Total hip arthroplasty (THA), coxalgia, antituberculous chemophrophylaxis

Introduction
Tuberculosis of the hip represents about 15% of the whole osteo-articular tuberculosis. In the long term, it is responsible for a major functional handicap by articular destruction with fibrous ankylosis. This is an indication for total hip arthroplasty. However, the use of post-surgery antituberculous chemophrophylaxis remains a controversial subject.

In this paper, we report a case of tuberculous left hip coxalgia. It was treated with cemented total hip arthroplasty and reconstruction of the labrum without post-surgery antituberculous chemophrophylaxis. This surgery was done two years after continuous dormancy of the old tuberculous focus. There was no tuberculous activation after three years of follow up.

Case Report
A 36-year-old male patient was admitted to the Orthopaedic and Traumatology Department of the University Hospital Hassan II of Fez by January 2002. He had a functional disability due to coxalgia of the left hip. The diagnosis of the left hip tuberculosis was made at age of 15 years. This was done using a biopsy that was complicated with fistula formation. Biopsy of the left hip yielded tuberculous bacillus. The patient was given antituberculous treatment consisting of Rifampicin (10 mg/kg) and Isoniazide 5 mg/Kg for 18 months, combined with Streptomycin 15 mg/kg, and Pyrazinamide 25 mg/Kg for two months. The fistula healed but there was persistent left hip pain during walking.

When the patient was 34 years old, the pain had become very severe, with marked hardness of the left hip causing a major functional disability. Indeed, the clinical examination during the last hospitalization showed a fixed flexion deformity (FFD) of the left hip with an active flexion that couldn’t exceed 45°; rotation and abduction movements were almost completely obliterated. Plain radiography showed an ankylosis of the left hip with lytic changes at the level of the acetabular labrum and destroyed femoral head (Figure 1). The hematological evaluations were normal. The HIV serology was negative. The patient was offered Charnley cemented total hip arthroplasty. There was difficulty with the dismantling of the ankylosis. The acetabular labrum was reconstructed using a screwed bone graft. Antibiotic prophylactic treatment using first generation Cephalosporine was given. The patient was not placed on antituberculous chemophrophylaxis.

The immediate post operative period was uneventful. The postoperative check radiography showed a good placement of the prosthesis (Figure 2). Partial weight bearing was allowed after six weeks. Six months post operation, the patient had abscess collection at the level of the previous incision with pains at the level of the left hip. Radiographs showed a loosening of the femoral implant with septic focus on the edge of the acetabular labrum (Figure 3).
Bacteriological examination of the pus showed Staphylococcus aureus. The patient was given Ciprofloxacin. Then we performed removal of the prosthesis. Fistulectomy was done and antibiotics impregnated bone cement (Gentamycin) was inserted. (Figure 4). Multiple biopsy analysis did not demonstrate either caseous necrosis or tuberculous bacillus by both direct examination and culture of specimen. The fistula healed, and there was extensive scar formation of the operation wound.

Discussion

During the last century, two treatment modalities were suggested for treating coxalgia that complicates tuberculous hip. These were arthrodesis in position of function and Girdlerstone excision arthroplasty. Presently, it is clearly established that this complication can be treated by cemented total hip arthroplasty. Although, technical difficulties still persist in this surgical approach, particularly with regards to dismantling of osseous ankylosis that can be time consuming, and in the case of loosening the osseous matter at the level of the acetabulum requiring labrum reconstruction. That was achieved in the case of our patient. Kim et al reported sixty cases of cemented total hip arthroplasty using Charnley prothesis in tuberculosis of the hip complicated by coxalgia, with satisfactory functional results. Other authors have reported similar results even in the presence of active tuberculosis and vigorous treatment with an antituberculous chemotherapy.

The institution of a post-surgery antituberculous treatment after total hip arthroplasty, the choice of drugs and the duration of the treatment remain all controversial issues. Many authors recommend a systematic post-surgery antituberculous chemotherapy, to prevent any reactivation of the disease old focus, while others do not administer such a therapy. Hardinge et al didn't report any case of tuberculosis reactivation after THA; this was the case of twenty one patients that didn't receive any post-surgery anti-tuberculous chemoprophylaxis. Jupiter et al didn't report any tuberculous reactivation in 7 patients that were treated using anti-tuberculous drugs during the period of one year after total hip arthroplasty. In contrast, Kim et al reports five cases among his series of twenty THA, that had tuberculous reactivation; this occurred despite the post-surgery antituberculous chemoprophylaxis. These patients were given rifampicin, isoniazide and ethambutol for three weeks duration pre-surgery and six to nine months after total hip arthroplasty.

In our patient, we opted for the exclusion of antituberculous chemoprophylaxis. This was after obtaining histological results, which did not show any sign of active tuberculosis. Unfortunately, bacterial infection occurred without the activation of the articular tuberculosis focus. Even two years of inactive old tuberculous focus should not make us exclude antituberculous chemoprophylaxis. A long time interval is usually encouraged between the active tuberculosis of the hip and the insertion of the prosthesis. In fact, a reactivation of old tuberculosis focus has been observed even after forty six years of the prosthesis insertion.

Long term studies are indispensable for establishing clearly the requirement of a postoperative antituberculous chemotherapy in the case of our patient.
case of coxalgia complicating tuberculosis of the hip and after total hip arthroplasty.

**Conclusion**

The benefit of total hip arthroplasty for treating coxalgia in tuberculosis of the hip is not fully established yet. It however, restores mobility, and improves the quality of life of the patients. However, the need to administer postoperative antituberculous chemoprophylaxis remains controversial.

**References**

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