CASE REPORT

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Total hip arthroplasty for tuberculous coxitis.

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Abstract We report a case of tuberculous arthritis of the hip in a 22 year old male patient, treated with arthrotomy and antituberculous antibiotic therapy for 9 months; the joint deteriorated and 2 years later he underwent uncemented total hip arthroplasty. He received antibiotic therapy for 3 months preoperatively and for 6 months postoperatively. At 5 year follow-up there was no evidence of recurrent infection.

Résumé. Nous présentons un cas d'un homme de 22 ans, avec une arthrite tuberculeuse, que nous avons traité en faisant une arthrotomie de nettoyage, suivie de traitement anti-tuberculeux pendant 9 mois. Dans les 2 ans suivants il s'est développé une sévère destruction de l'articulation avec douleur et limitation des mouvements. Alors, nous avons réalisé une arthroplastie totale de la hanche sans ciment, avec traitement antibiotique depuis 3 mois avant, et jusqu'à 6 mois après la chirurgie. Actuellement, le patient n'a pas de symptômes et il n'y a pas de signes d'infection, 5 années après la chirurgie.

Introduction

Tuberculous coxitis (TBC) accounts for 10% of skeletal tuberculosis and the hip is the most frequent site of bone involvement after the spine [6]. The prevalence of TB has reduced since 1950 in the developed countries; however, many preventive and therapeutic developments have not been available to the developing countries [2]. An increased incidence among risk groups such as HIV patients [16] and patients treated with corticosteroids [5] has been reported.

Patients with TBC have had a prior pulmonary infection from which the tubercle bacillus reaches the hip by

haematogenous spread [6]. Early diagnosis may be difficult as the onset of symptoms is often insidious. Hip pain is the earliest symptom [15]; movement may be conserved for a long time.

Radiological findings at an early stage are non-specific, showing bone demineralisation and soft tissue swelling; magnetic resonance imaging (MRI) and computerised tomography (CT) may help defining the extent of the disease locally. The diagnosis may be confirmed by joint aspiration and bacteriological culture; but this is negative in 30% of cases [15]. An open biopsy must then be performed. Improved antituberculous therapy has reduced the requirement for extensive surgical treatment. The most frequently recommended combination of drugs is Isoniazid (300 mg/day) Rifampicin (600 mg/day) and Pyrazinamide (20–30 mg/kg/day) [6]. A 12 month course of treatment has been recommended for safety [18], but a shorter course might suffice [1]. If the disease is not controlled by this treatment operative intervention will be required. This may take the form of arthrotomy and debridement [6]; or, with more extensive disease, excision arthroplasty or arthrodesis [13, 17]. There have been reports of total hip replacement (THR) in the treatment of TBC both in active disease [10,11] and for secondary joint reconstruction [3,7]. THR may however, be associated with reactivation of infection [4,8]. Reactivation may also be related to inadequate initial antibiotic therapy [10].

Case report

A 22-year-old male patient presented with a 4 month history of left hip pain, without associated constitutional symptoms. Xrays and CT studies showed irregularity of the femoral head and an osteolytic lesion within the acetabulum (Figs. 1, 2). An MRI scan showed fluid within the joint and oedema and osteopenia of the femoral head and neck as well as the acetabulum and destruction of the articular cartilage. (Fig. 3). Arthrotomy and debridement was performed and specimens were obtained for histological investigation and bacteriological culture. These studies confirm the diagnosis of TBC and treatment was started with Isoniazid, Rifampicin and Pyrazinamide for 2 months and continued with Isoniazid and Rifampicin for a further 7 months. Two years later there

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Fig. 1 Initial radiographical study with an osteolytic lesion in the central area of the acetabulum and epiphyseal deformity

Fig. 2 CT study with a hypodense lesion with sclerotic edges located in the central portion of the acetabulum

Fig. 3 MRI shows intraarticular fluid with osteoporosis and oedema of the femoral head and acetabulum and lesion of the epiphyseal cartilage

Fig. 4 Postoperative radiographical study with a non-cemented total prosthesis

was persistent severe pain and further radiological evidence of destruction of the hip joint; and it was decided to perform a total hip replacement. An uncemented BASIC total hip prosthesis was implanted (Fig. 4). The patient received a 3 month preoperative course of antibiotic therapy and a 6 month postoperative course. At 5 year follow-up he was free of symptoms with a stable gait and no sign of infection.

Discussion

THR for TBC continues to be a controversial issue due to the potential risk of reactivation of infection. Some authors advise allowing a long period of time between active infection and arthroplasty [7], while others consider that the risk of reactivation is always present and may not increase with the passage of time [4,8]. Recent reports highlight the possibility of reactivation being due to inadequate initial antibiotic therapy [12] and preoperative antibiotic therapy for a year prior to THR has been advised for patients who may not have received an adequate initial course of treatment [9]. Kim et al. [10,11] reported a lower reactivation rate when THR was performed 10 years after the disease had been treated

and advised that if the interval between active infection and operation is less than 10 years, preoperative antibiotic therapy should be given for three months, followed by 18 months postoperative treatment, if there was persistent histological evidence of active disease. If, at operation, there was no evidence of active disease treatment was continued for 2 months or until bacteriological results were available. In our case, THR was required due to rapid progression of the disease and pre- and postoperative antibiotic therapy prevented reactivation of the infection.

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