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Case Report: Total Hip Replacement for Recurrent Histiocytosis X of the Pelvis Involving the Hip Joint

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ABSTRACT

In 1977, a female patient, aged 31y, presented with histiocytosis X in the right pelvis and was treated with radiotherapy. She presented again in 1999 at the age of 53y with a similar problem at the same location this time also involving the acetabulum. The affected right hip was treated with cemented total hip replacement. Two years postoperatively, the patient was pain free with no evidence of local recurrence or loosening of implant, thus demonstrating that total hip replacement is a viable treatment option for histiocytosis involving the hip.

Key Words:
Histiocytosis, Hip joint, Total hip replacement

INTRODUCTION

Langerhans-cell histiocytosis (LCH) is a more descriptive and recently accepted term to describe the disease commonly known as histiocytosis X. These bone lesions are commonly referred to as eosinophilic granulomas. These are solitary or multifocal lesions that usually involved the skull, pelvis or the diaphysis of long bones.

A variety of treatments have been described for solitary eosinophilic granuloma of bone, including observation, injections with steroids, local excision, curettage with or without bone grafting, chemotherapy and irradiation. All of these treatments are reported to give satisfactory results with a recurrence rate of less than 20%. Lesions involving weight bearing bones or major joints present an additional challenge in view of the functional requirement of these structures. Here, we report a case of solitary eosinophilic granuloma of the pelvis involving the hip joint that was treated with total hip replacement.

CASE REPORT

A 53-year-old female presented with worsening right hip pain in June 1999. Previously, at the age of 31 years (in 1977) she injured her right hip after a trivial fall. At that time, a plain radiograph showed central dislocation of the right hip with a lytic lesion of the ischium involving the acetabulum. A skeletal survey showed no other bone abnormalities. Open biopsy of the lesion revealed multinucleate giant cells separated by a stoma of vacuolated histiocytes and spindle shaped cells. Clinical diagnosis of histiocytosis X was made and the patient was treated conservatively with skeletal traction and oral prednisolone followed by a course of (20 sessions) radiotherapy.

In 1999, this same patient presented with 2-year history of worsening right hip pain. The pain was aggravated by walking but did not affect her activities of daily living. A plain radiograph revealed erosion of the right femoral head and markedly reduced joint space (Fig. 1). At that time, the patient refused surgical intervention and was treated with analgesics. In 2000, a radionuclide bone Scan (technetium-99m methylenediphosphonate) showed a localized lesion involving the right hip joint. In 2002, an MRI revealed an expansible lesion involving the right ileum and ischium with no significant enhancement after contrast.

Due to worsening pain, the patient agreed to undergo surgery in January 2003. During surgery, the acetabular bone was noted to be osteoporotic and due to excessive bone encapsulating the right femoral head, a preliminary cut of the femoral neck was necessary before the head could be removed. We noted a soft cystic bony lesion over the inferior pubic rami, and sent tissue specimens for histological examination that were subsequently reported to be strongly suggestive of histiocytosis X. There was no acetabular defect that required bone grafting or augmentation. There was more bleeding from the acetabular bone than there normally is with degenerative hips, and hydrogen peroxide was used to reduce the bleeding and improve local tumour control. On the femoral side, bone quality was equally poor. During femoral preparation we noted a small crack in the proximal femur that was repaired with cerclage wire before insertion

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Fig. 1: Anteroposterior radiograph of the pelvis taken in 1999 showing the involvement of the right hip joint.

Fig. 2: Anteroposterior radiograph of the pelvis taken in 2002 showing gross destruction of the right hip joint.

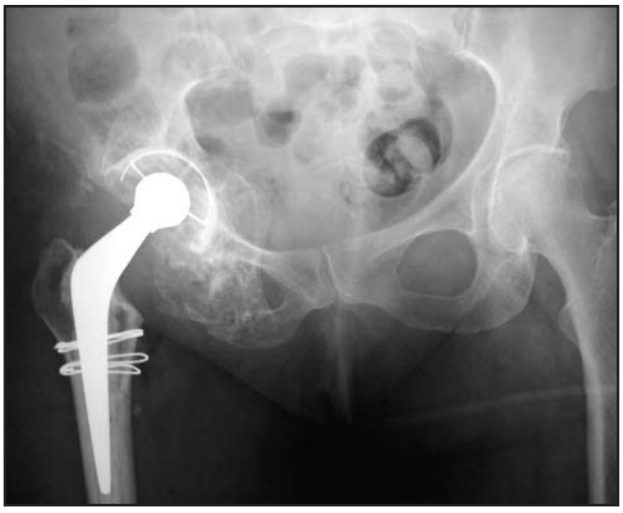

Fig. 3: Post-operative Anteroposterior radiograph of the pelvis taken in 2003 showing total hip replacement.

of the prosthesis. A cemented total hip replacement was then completed using a C-stem with Charnley LPW acetabular cup.

Postoperative recovery was uneventful; the patient started to ambulate on day 3 with the help of a walking frame. A plain radiograph performed two years after surgery revealed no signs of loosening or movement in the implant position and no evidence of local recurrence of the lesion. The patient is currently able to walk unaided and is pain free with good range of hip motion. The Harris hip score was 97 points postoperatively.

DISCUSSION

The aetiology of histiocytosis X is uncertain therefore rendering its therapeutic approach as controversial. Various forms of treatment have been reported for solitary eosinophilic granuloma with a local recurrence rate of less than 20%. Skeletally mature patients have a higher rate of recurrence as compared to those who are skeletally immature group[1] .

When there is major joint involvement, reconstruction may be required in addition to treatment of the pathology. For a major joint like the hip, total joint replacement can offer effective pain relief and good range of motion postoperatively[2,3]. Bleeding from the acetabular bone was relatively more than it that of degenerative hips. Packing with hydrogen peroxide can be used to reduce the bleeding with potential added benefit on improving local tumor control.

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