Fig. 3

Radiograph showing varus tilting of the femoral component and a fracture of the femoral neck two weeks after the operation.

Fig. 4

Radiographic follow-up at nine months showing union and remodelling of the fracture.

Score⁵ of 14 for the right and 12 for the left hip confirmed excellent function. Radiographs at 15 months showed further remodelling.

Discussion

Although there have been few published results of the Birmingham hip resurfacing technique, fracture of the femoral neck, particularly if there is notching of the bone and varus alignment of the femoral component, is a complication which has been described following previous similar techniques.⁶

There have been no previous reports of the conservative management of this complication of hip resurfacing. In patients who sustain a minimally displaced peri-prosthetic femoral fracture in the early post-operative period after hip resurfacing, it would seem reasonable to try a period of conservative management before considering further surgery.

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

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INTRAPELVIC DISLOCATION OF THE HEAD OF FEMUR THROUGH THE OBTURATOR FORAMEN ASSOCIATED WITH IPSILATERAL FRACTURE FEMUR

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We describe a case of traumatic anterior dislocation of the hip in a 14-year-old boy with associated intrapelvic displacement of the femoral head and ipsilateral fractures of the shaft of the femur and greater trochanter. There was a

delay in presentation of eight days. At operation the femoral head was reduced into the acetabulum after enlarging the obturator foramen by performing an osteotomy of the superior pubic ramus.

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Traumatic dislocations of the hip have been classified as anterior, posterior and fracture dislocations.¹ Anterior dislocations have been further classified as: inferior, luxatio erecta of the hip, supe-

Fig. 1a

Fig. 1b

Fig. 1c

Radiographs showing a) intrapelvic dislocation of the left femoral head, b) CT scan and c) 3-D CT reconstruction.

rior, pubic and obturator.²⁻⁴ To our knowledge, an associated intrapelvic dislocation of the femoral head has not been previously described.

Case report

A 14-year-old boy was involved in a road traffic accident in a remote rural area and was transferred to the nearest hospital. His vital signs were normal but there was suprapubic tenderness and haematuria. There was shortening of the left lower limb with crepitus and deformity of the thigh, but without neurovascular compromise. Radiographs revealed intrapelvic dislocation of the left femoral head, an ipsilateral femoral fracture and avulsion of the greater trochanter. He underwent emergency laparotomy and an extraperitoneal rupture of the bladder was repaired. An external fixator was applied to the fractured femur. Closed reduction of the dislocated femoral head was attempted and failed.

Eight days later, he was transferred to our hospital. His general condition was stable. Further radiographs, three-dimensional CT scans (Fig. 1) and angiography were performed and showed an associated fracture of the left inferior pubic ramus with no damage to the external iliac or femoral arteries.

Fig. 2

Postoperative radiograph showing reduction of the dislocation and fixation of the femoral shaft and greater trochanteric fractures.

At surgery the hip was approached through an ilioinguinal incision and the proximal pins of the femoral external fixator were used to manipulate the proximal femur. An osteotomy of the superior pubic ramus was performed in order to enlarge the obturator foramen and allow reduction of the femoral head. The hip seemed grossly stable. The external fixator was removed and through a lateral approach the femoral fracture was internally fixed by means of a dynamic compression plate, and the fractured trochanter fixed with two cancellous screws (Fig. 2). Postoperatively, skin traction was maintained for three weeks.

At the latest follow-up (one year postoperatively), radiographs showed grade II avascular necrosis (AVN) of the femoral head. He had a reduced range of movement and a mild limp.

Discussion

Approximately 11% of all hip dislocations are anterior, and of these, approximately 70% are inferior.^{4,5} Bilateral obturator dislocation of the hip has been described with the femoral heads lying anterior to the obturator membrane.⁶ Central dislocation involves a fracture of the acetabulum.⁵ Dislocation of the hip and ipsilateral femoral fracture⁷⁻⁹ and associated avulsion of the greater trochanter have been reported.¹⁰

The usual mechanism of injury is abduction, flexion and external rotation of the hip.^{5,6,10} However, to our knowledge, the type of dislocation in this case report has not previously been described. The head of the femur was lying within the pelvic cavity having passed through the obturator foramen by means of an associated fracture of the inferior pubic ramus. A three-dimensional CT scan and angiography were required to assess the injury fully.

Although several extended approaches to the hip have been described,¹¹⁻¹³ we chose to combine the ilioinguinal approach with a lateral approach to the femur in order to allow access to the hip and fixation of the ipsilateral femoral and trochanteric fractures. Extended approaches have high postoperative complication rates and require long periods of rehabilitation.¹¹ The ilioinguinal approach allowed osteotomy of the superior pubic ramus which was required to complete the reduction of the hip.

Although the incidence of AVN of the femoral head is reported to be less after anterior than posterior dislocation of the hip,^{3,14,15} we believe that in our case, the development of AVN was almost

inevitable. The extensive soft-tissue damage and the delay of eight days before reduction was performed would both have caused compromise to the blood supply to the femoral head.

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