It seems likely that our patient sustained secondary displacement of an injured epiphyseal plate, since the initial radiographs showed a wider plate on the left, though there was no trace of displacement of the femoral head. We did not at first appreciate that the epiphyseal plate was too wide; this, together with the lack of symptoms due to the brain injury caused delay in diagnosis. An injured but still undisplaced epiphysis of the proximal femur would probably cause enough pain to attract closer examination.

In the past we have seen patients with displaced femoral head epiphyses, who gave a history of adequate hip trauma one or two weeks earlier and only a minor injury on the day of admission. In such cases it is difficult to know if we are dealing with transphyseal fracture or an epiphyseal slip. Our patient clearly had secondary

displacement of an undisplaced fracture and therefore reduction and fixation seemed the appropriate treatment.

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FRACTURE OF THE HEAD OF A FEMORAL PROSTHESIS

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Failure of the implant in hip replacement is not a rare complication, but usually it involves the femoral stem (Galante, Rostoker and Doyle 1975; Collis 1977; Miller, Shastri and Shih 1982). Fracture of the metallic head, such as the case we report here, is very unusual.

Case report. In 1971 a 41-year-old man underwent bilateral total hip arthroplasty for osteoarthritis. On both sides the acetabular and femoral components were metallic, of the McKee-Farrar type, made from cobalt-chromium alloy (Francobal). The patient's height was 182 cm and his weight 100 kg.

Fifteen years later (1986) he developed a staphylococcal infection in the right hip. The implants and the cement were therefore removed and the right hip was left with a Girdlestone pseudarthrosis. A closed irrigation-suction drainage system with antibiotics was instituted and maintained for three weeks. Three months later he managed to walk with one crutch.

In February 1989, while standing and taking most of his weight on the left hip, he suddenly felt a crack in this joint and collapsed to the ground. He had severe pain and was taken to hospital. Radiographs showed a transverse fracture of the head of the femoral prosthesis and signs of stem loosening (Fig. 1). A few days later both components were removed, rather easily (Fig. 2).

Fig. 1

Fig. 2

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There were no signs of infection and therefore a Müller type of cemented prosthesis was inserted. His postoperative progress was uneventful and he is now walking using one crutch.

Discussion. The metallic head of the removed prosthesis had fractured leaving two hemispherical parts. The fracture surfaces were flat planes and looked polished. It was evident that the two casted parts had been joined together by welding to form the complete sphere. This was also indicated by the symmetry and characteristic colouring of the inner surfaces of both parts, adjacent to the fracture. The colouring suggested that the material had been red-heated to achieve welding and that the fracture occurred between these welded surfaces, probably starting where there was a fault. The concentration of high stresses at this point presumably initiated the separation; time and continually repeated stress caused it to extend until eventually the head was in two pieces.

Other factors which may have been related to this implant failure are the patient's heavy weight; the fact that the arthroplasty was bilateral, and the contralateral prosthesis had been removed; and the previous loosening of the implant (Collis 1977; Galante 1980).

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BILATERAL CHONDROLYSIS WITH UNILATERAL SLIPPED CAPITAL FEMORAL EPIPHYSIS

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Chondrolysis is a well recognised although uncommon complication of slipped capital femoral epiphysis (SCFE). We report a case of bilateral chondrolysis in the presence of unilateral SCFE. This combination has not, as far as we know, been previously reported.

Case report. A 16-year-old white male presented with a four-month history of right thigh pain and limp. He was at the 50th percentile for height and weight and there was no evidence of generalised disorder or hypogonadism. The right lower limb was 2 cm short and the hip had 25° of fixed external rotation. The left hip and spine were normal. Radiographic examination revealed a chronic grade 3 SCFE on the right and bilateral protrusio acetabuli. There was a cyst, with no surrounding sclerosis, in the left femoral head.

The epiphysis was fixed without reduction. Five months later the patient presented with increasing right hip pain and stiffness. Plain radiographs demonstrated joint space narrowing, confirming a clinical diagnosis of chondrolysis (Fig. 1). Conservative treatment failed and

Fig. 2

he subsequently underwent right hip arthrodesis. No radiological features of total or segmental avascular necrosis had developed.

Fourteen months after his initial operation the patient presented again with left hip pain and stiffness of

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