Hip dislocation after hip pinning has been reported in association with infection. In this report we describe a case of progressive dislocation of the hip after internal fixation of a basi-cervical hip fracture with a compression screw-plate device. This is only the second reported case of spontaneous dislocation after internal fixation of a hip fracture without infection.

CASE REPORT

A 36-year-old man suffered a basi-cervical fracture of the left hip, multiple rib fractures on the same side and an ipsilateral undisplaced fracture of the patella in a motor vehicle accident. Radiographs showed marked displacement of the hip fracture, with the base of the femoral neck pointing posteriorly (Fig. 1).

At operation for fracture reduction and internal fixation, the fracture was very difficult to reduce even under direct vision. Because we anticipated instability due to the comminution, we carried out medial displacement of the distal fragment, using a compression screw-plate for fixation. The fractured patella was immobilized with a prefabricated splint.

Radiographs of the hip after the surgery and at 10 days showed good positioning, with medial displacement (Fig. 2). The patient was discharged from hospital 17 days after surgery, with crutches and not weight-bearing. Two weeks later (31 days after surgery), a routine radiograph obtained in the outpatient clinic showed slight subluxation (Fig. 3). Radiographs obtained 7 weeks postoperatively showed nearly complete dislocation (Fig. 4), and at 12 weeks radiographs showed complete dislocation (Fig. 5). The patient had very little movement of the hip and complained of severe pain.

A bone scan showed complete avascular necrosis of the femoral head, so a total hip arthroplasty was done. At follow-up 6 years later, the patient was doing well.

DISCUSSION

Gradual dislocation of the hip after internal fixation of a fracture of the neck of the femur is almost un-
known, except when associated with purulent infection, and only 1 such case has been published. Two other cases were reported after that publication, but in those the cause was thought to be internal fixation in excessive valgus.

The unusual circumstances of this case were the young age of the patient, the high-speed trauma involved and the marked displacement of the femoral head and neck, which were rotated 90° posteriorly. Other factors were the difficulty in reducing the fracture and the subsequent need for a medial displacement position of the distal fragment to provide stability.

In the case previously reported, collapse of the femoral neck after pinning of a basi-cervical fracture in an 82-year-old woman was considered important in the etiology of the spontaneous dislocation, possibly allowing the greater trochanter to impinge on and lever the acetabular hip, causing the dislocation, or by otherwise altering the hip-joint mechanics. The other difference in that case was the suddenness of the dislocation, which occurred spontaneously when the patient turned over in bed, whereas in our case the dislocation was gradual over a period of 2 months.

One can only speculate about the
mechanism of dislocation in our case. Possibly some rotation of the proximal fragment was inadvertently caused when the fracture was reduced, resulting in twisting of the capsule previously torn by the trauma. This might result in forces that could dislocate the hip with time. Another possibility is that the hip was initially dislocated and only redislocated after surgery. The most likely causative factor, however, was the medial displacement of the distal fragment. The hip muscles such as psoas, rectus femoris, and gluteus, in their medially displaced insertions, could have caused a gradual lateral dislocation of the head of the femur.

References

FIG. 4. At 7 weeks postoperatively, the hip is completely dislocated and was causing pain.

FIG. 5. At 3 months postoperatively, the hip was dislocated with proximal migration of the femoral head.