A case of acetabular fracture with hip tamponade

Relief from aspiration of hemarthrosis

Bo Rööser[1], Sten Bengtson[1] and Kristian Herrlin[2]

Traumatic hip hemarthrosis causing tamponade may compromise the circulation to the femoral head (Strömqvist et al. 1985). This mechanism was suggested to be responsible for femoral head necrosis in a patient with an undislocated acetabular fracture (Bauer 1985). We report a case of hemarthrosis of the hip after a trivial trauma that caused a posterior wall fracture of the acetabulum.

Case report

A 30-year-old, healthy, female custom's officer was walking on pavement when she stumbled. She described that her left heel forcibly struck the ground in front of her. At that point, she heard a snap and felt pain from her left hip region. Afterwards, she was not able to bear her full weight on the leg and during the following night the pain got worse. When first examined 24 hours after the trauma, she was lying with a spontaneous semiflexion in the left hip. Extension made the pain worse. Passive flexion was restricted to 70° and total rotation to 20°.

The patient had a generalized joint laxity. Plain radiographs showed that a 1.5 x 2 cm fragment was avulsed from the posterosuperior area of the acetabular wall with minor dislocation (Figure 1). Ultrasonography suggested a joint exudate, and 7 mL of blood was aspirated with immediate relief of pain; the passive range of motion of the hip was restored to almost normal. A computed tomogram the day after did not show any further injury to the hip joint. The patient was treated with partial weight bearing for 3 weeks. After 5 weeks, the patient had no pain at rest or upon full

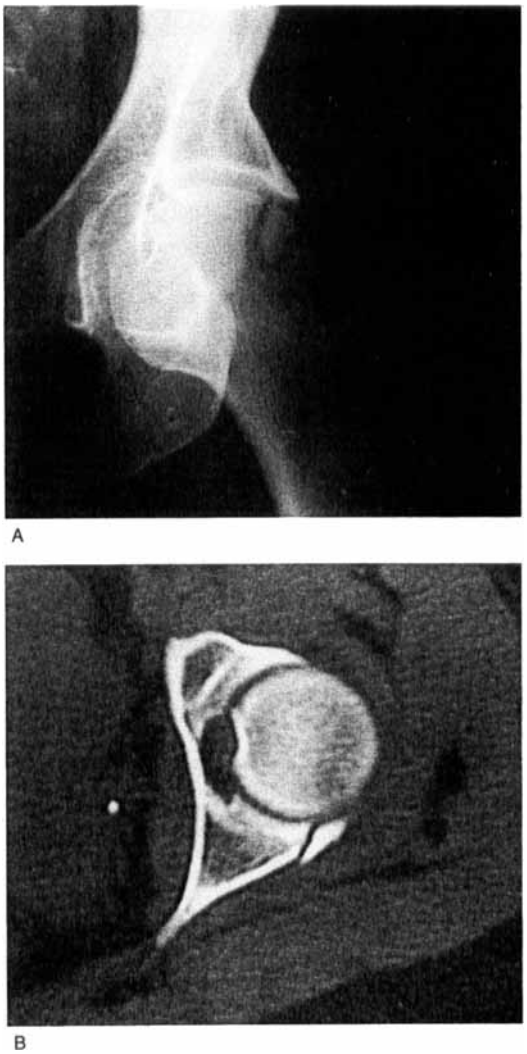

Figure 1. A 30-year-old woman stumbled and sustained a fracture of the left acetabulum.

A. Fracture of the posterosuperior acetabular wall with minimal dislocation.

B. No additional injury on the computed tomogram.

Lund University Departments of Orthopedics[1] and Diagnostic Radiology[2], S-221-85 Lund, Sweden

weight bearing; the range of motion of the hip joint was normal and plain radiographs showed signs of healing of the fracture.

Discussion

Acetabular fracture after low-energy trauma is uncommon; only 12 percent of the posterior acetabular fractures in Lansinger's (1977) series were caused by a fall on the same level. The injury in our patient resulted from an apparently trivial stumbling, which caused a sudden deceleration with the knee in extension and the hip in flexion transmitting a forcible impact of the femoral head at the acetabulum. There may well have been a spontaneously reduced posterior partial dislocation of the femoral head to which the general joint laxity of the patient may have contributed.

The hemarthrosis of the hip was probably responsible for the pain and restriction of movements because evacuation relieved the pain and restored the range of motion. Hemarthrosis with tamponade of the femoral-head blood supply is most likely to be present in undislocated fractures of the femoral neck (Wingstrand et al. 1986) and the acetabulum (Wingstrand et al. 1988), and is easily diagnosed by ultrasonography (Wingstrand et al. 1988). Aspiration of the joint effectively relieves pain and hyperpressure, and may sometimes save the femoral head from osteonecrosis.

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