CASE REPORT

Traumatic inferior hip dislocation with ipsilateral open subtrochanteric fracture: A rare case

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Introduction

The rise in accidents involving high-energy trauma has increased the incidence of traumatic hip dislocation. 1,2 True inferior hip dislocations in adults are rare, and only a few cases have been reported in the literature. 5 We present an adult case of traumatic inferior hip dislocation associated with subtrochanteric fracture. To our knowledge, this combination of injuries has not previously been reported in the English literature.

Case report

A 55-year-old man presented at our emergency department after falling from a moving bus while trying to board it. He complained of severe pain in his right hip and inability to lift the right lower limb. Examination found his right lower limb in an externally rotated position, with massive swelling over the upper thigh. Bone protruded from a wound measuring 4 cm × 5 cm on the lateral aspect of the trochanteric area. No distal neurovascular deficit was detected.

An anteroposterior radiograph of the pelvis showed a subtrochanteric fracture and inferior dislocation of the femoral head (Fig. 1). The man underwent reduction of the dislocation and reduction and fixation of the fracture under general anaesthesia, in the supine position. The femoral head was reduced after passage of a Shanz screw into the head from the greater trochanter, and an external fixator was applied to fix the subtrochanteric fracture (Fig. 2). Secondary suturing was carried out after 5 days.

The man underwent traction for 2 weeks following surgery, after which mobilisation had begun. The fixator was removed after 2 months, and a dynamic hip screw was used to fix the fracture. After 2 years of follow-up, the fracture remained united and the range of motion was comparable to that of the contralateral limb. There were no changes suggestive of avascular necrosis.

Discussion

Inferior dislocation of the hip is extremely rare. Until 2006, only five cases had been reported among adults. 5 Except for one publication recording an intertrochanteric fracture, no injury to the ipsilateral femur associated with inferior dislocation of the hip has been documented. 5 In the present case an open subtrochanteric fracture was associated with the inferior dislocation.

Inferior hip dislocation can be of two types—the ischial variety, which is rarer, and the obturator type, which is more common; the present case involved the obturator type. The proposed mechanism of injury causing inferior hip dislocation is the application of force to an abducted thigh, which is flexed and externally rotated to lever the femoral head out of acetabulum. It has also been proposed that continued high force can lead to fracture in the proximal hip. Another mechanism that has been suggested is collision between the femur and the iliac crest. Our patient had sustained...
high-velocity trauma; he had fallen out of a moving vehicle and was toppled over many times. It is possible that dislocation was due to the force with which he landed on the ground, the direct trauma also producing an open wound and subtrochanteric fracture. Previous authors have used the term luxatio erecta for the subgroup of inferior hip dislocations in which the attitude of the limb is typical. In the presence of fracture, it was difficult to say whether this man had luxatio erecta or not.

This severe injury demands prompt diagnosis and treatment. In the literature, fractures of the femoral head, acetabular rim and acetabular floor have also been associated with inferior dislocation of the hip. Computed tomography is advisable to rule out these complications but should not delay joint reduction, because such delay has been associated with worse prognosis and increased incidence of avascular necrosis.

Closed reduction in these cases is difficult because of associated fracture, but it should be tried, because opening the femoral head would further hamper the vascular supply. Postoperative rehabilitation, however, does not influence the incidence of avascular necrosis, which is not related to weight bearing. Nevertheless, the severity of injury in our case rendered likely a certain amount of soft-tissue incompetence, so the limb was kept on traction for 2 weeks to allow soft-tissue healing.

Conclusion

Inferior dislocation of the hip with open subtrochanteric fracture is extremely rare. To our knowledge it has not previously been documented, in the English language literature. With vehicular trauma on the rise, such complex injury patterns may become more frequent. Prompt diagnosis and treatment are crucial in the management of these cases.

References