OBTURATOR DISLOCATION OF THE HIP ASSOCIATED WITH FRACTURE SHAFT OF FEMUR: A CASE REPORT

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INTRODUCTION

A case of traumatic obturator dislocation of the hip associated with fracture shaft of femur is reported. Anterior dislocations of the hip associated with fracture of the shaft of femur are very rare. Seven cases have been reported in the literature to date (1, 2, 3, 4, 5, 6,). Often the dislocation of the hip is missed since attention is focused on the fracture of the shaft of femur, and other associated injuries which result from high energy trauma. This patient was managed by open reduction and internal fixation of the femur, followed by closed manipulative reduction of the hip.

CASE REPORT

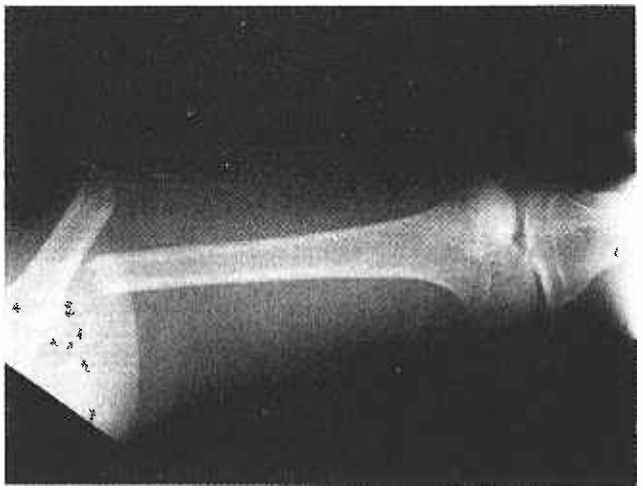
C.K.M. is a twenty year old Chinese male who was admitted to the University Hospital, following a motor vehicle accident. He was riding a motorcycle, when he was knocked by a car. He could not remember the mechanism of his injury, apart from being thrown off the motorbike. There was a history of loss of consciousness of a few minutres. On admission, he was not in shock, fully orientated in time and space. He had pain, swelling, and localised tenderness of both wrists and the left upper thigh. There was a laceration on the dorsum of the left hand, with weakness of extension of the little finger. The left lower limb was shortened, with obvious deformity of the upper thigh, the limb being held in mild external rotation and the hip flexed (Figure 1). He was found to have sustained the following injuries:-

(1) Cerebral concussion. At admission, he was rational and orientated.

(2) Closed fracture of the right distal radius, with minimal displacement.

(3) Open fracture of the left distal radius with minimal displacement, and dorsal laceration with division of the extensor digiti minimi.

(4) Closed obturator dislocation of the left hip associated with a transverse fracture of the femoral shaft at the junction of the upper and middle third, with marked abduction and flexion of the proximal fragment (Figure 1).



1.(b) "Lateral" view showing proximal fragment in "flexed" position and shortening.

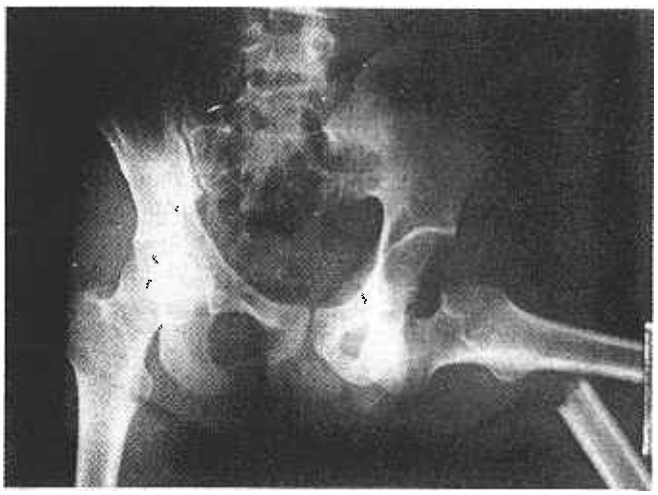


Figure 1 1.(a) A/P view showing obturator dislocation with fracture of shaft of femur. Note marked abduction of proximal shaft.

Eight hours after the injury; the patient was taken to the theatre. Closed manipulation of the right fracture radius with plaster immobilisation was done. The left compound fracture was managed by toilet and debridement, open reduction of the fracture, and primary repair of the severed extensor digiti minimi tendon with immobilisation in plaster. An attempt was made at closed reduction of the obturator dislocation, but was found to be impossible due to inability to control the proximal fragment of the femoral shaft fracture. The patient was placed in the right lateral position. The femoral shaft fracture was exposed by a lateral longitudinal incision. Attempts at manipulating the proximal fragment, by holding with Hey-Grooves bone holding forceps, with controlled traction of the limb failed to reduce the dislocation. A Kuntcher nail was introduced into the medullary canal of the proximal fragment, to help to lever the proximal fragment, and this too failed to reduce the dislocation. At this stage, the author decided to internally fix the fracture of the shaft of femur, and then attempt a closed reduction of the hip. The limb was adducted maximally, and the proximal fragment was flexed and adducted maximally, to ensure that the Kuntcher nail protruded into the buttock, during the retrograde insertion. Having reduced the fracture and stabilising by intramedullary nailing, closed reduction of the hip was attempted in the formal way, since the lever arm was now longer. But this failed to reduce the hip. The incision was extended sufficiently to gain access to the greater trochanter. Traction was now applied with the index finger hooked around the greater trochanter and nail while manipu-

lating the limb which resulted in the easy reduction of the hip. The hip was found to be stable following the reduction, and the wound was closed in layers with suction drainage. Five hundred mls. of blood was transfused during the operation (Figure 2). There was negligible drainage post operatively. Buck's traction was applied for three weeks, followed by a range of motion exercises to the hip in recumbency for a further three weeks. At discharge, he was advised not to weightbear on his crutches, for six weeks. However, when he presented for review at twelve weeks; he had discarded his crutches, and was walking normally without any aid. On examination, there was no shortening with full range of passive movement of the left hip. He had no pain or disability and was able to squat well.

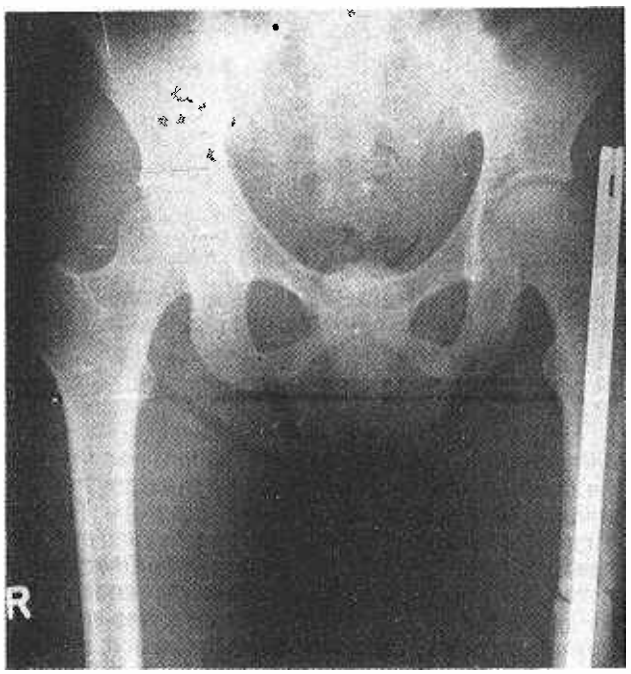


Figure 2 X-ray following open reduction and Kuntcher nail stabilisation of shaft of femur with closed reduction of the hip.

DISCUSSION

Dislocations of the hip associated with fractures of the shaft of femur are rare injuries, caused by high energy trauma. Majority of these injuries are posterior dislocations of the hip, associated with a fracture shaft of femur. Review of the literature of these combined injuries shows that in nearly half, the dislocation of the hip had not been diagnosed primarily. Since these injuries are caused by violent trauma, often with other associated injuries needing priority of management, and the characteristic deformity and posture of the limb is absent, due to the fracture of thte shaft of femur, the dislocaton is often overlooked. Often the initial x-rays taken, does not show the hip joint. Some of these patients have had their femoral shaft fractures fixed by intramedullary nailing and the dislocations diagnosed subsequently. Like in our patient, almost all the patients are unable to recollect the details of the mechanism of injury. Helal and Skevis (7) based on cadaveric studies, postulated that these combined injurles were caused by two separate forces. As it is common in motorcyclists; the axial force on the flexed femur, due to the crouched position of the rider could cause the dislocation, and the usually transverse fracture of the shaft of femur could be caused by direct trauma subsequent to the fall. The degree of adduction or abduction of the thigh may determine whether the dislocation would be anterior or posterior. Review of the English literature, has revealed only seven previous reports (1,2,3,4,5,6). Curiously, Ehtisham's (4) fourth case (P.B.) is more likely to be a posterior dislocation, the left leg was lying "Internally Rotated" according to the author. Figure 10 of the article showed the proximal fragment adducted and Figure 11 shows a post ilial posterior dislocation.

Though the limb lacks the classical posture of a dislocated hip due to the associated shaft fracture, the presence of marked medial or lateral tilt of the femoral shaft proximal to the fracture — depending on whether the dislocation is posterior or anterior should make one exclude an associated dislocation of the hip. Radiologically, if the proximal fragment appears markedly abducted, it is likely that there is an associated anterior dislocation of the hip — and the joint must be visualised, with a repeat x-ray if necessary. Closed reduction has been attempted successfully in posterior dislocations associated with a femoral shaft fracture. All anterior dislocations associated with fracture shaft of femur required open reduction of the femur. Attempts have been made to reduce the hip, by gaining control of the proximal fragment using Eponymous screws inserted into the meduallary canal or greater trochanter, or Steinmanns pins or bone holders. Having reduced and internally fixed the fracture shaft of femur, either by intrameduallary nailing or broad plate, one could attempt a closed reduction of the hip, using the long lever arm. Occasionally, if there is buttonholing of the capsule; an open reduction of the hip is indicated. The severity of the trauma, and the delay in diagnosis and reduction of the hip are responsible for the complication of avascular necrosis of the femoral head. The technique of inserting a Kuntcher nail for the femoral fracture, followed by closed manipulation of the hip was first described by Watson Jones (8) for combined injury of posterior dislocation with a fracture of the shaft of femur. The following axiom is worth remembering, if one is to prevent the delayed or missed diagnosis of the dislocated hip in these combined injuries: "In a fracture of the shaft of femur, where the proximal fragment is adducted or abducted, there is an associated posterior or anterior dislocation of the hip, until proven otherwise". It is only an awareness of this combined injury, that could prevent the delay in diagnosis, and the complication of avascular necrosis.

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