

# Traumatic dislocation of hip with ipsilateral femur shaft fracture – A case report

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## ABSTRACT

The incidence of traumatic dislocation of hip associated with ipsilateral femoral shaft fracture is an extremely rare occurrence. This type of injury poses various diagnostic and treatment difficulties to the surgeon. The identification of such injuries and timely treatment is important for a good functional outcome. We hereby describe one such case which was treated with closed reduction of the hip and closed reduction and intramedullary interlocking nailing of the femur primarily.

## INTRODUCTION:

Traumatic dislocation of hip with ipsilateral femoral shaft fracture is a rare occurrence. First described by Sir Ashley cooper in 1823.<sup>1</sup> There are not many cases reported in literature. This type of injury requires a special mention because of peculiar mechanism of injury, problems encountered in diagnosis and treatment difficulties. We hereby report a case of traumatic dislocation of left hip with ipsilateral femoral shaft fracture in a 40 year old male which was treated with closed reduction of the hip and closed reduction and intramedullary interlocking nailing of the femoral shaft fracture.

## CASE REPORT:

A 40 year old male patient was brought to our emergency department with a history of road traffic accident. The patient presented with pain and deformity of left hip and thigh. On arrival in the emergency department the patient was given analgesics, and I.V fluids. The patient was then clinically examined. On examination of the left hip, the hip was in attitude of flexion and adduction and leg and foot was in an attitude of external rotation. The femoral pulsation was not palpable (Positive Narath's Sign). Swelling was noticed in a left thigh with tenderness and abnormal mobility in the region of the femoral shaft. There was no distal neurovascular deficit of the left lower limb.

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In the emergency department radiographs of the pelvis with both hips and femoral shaft were taken. This showed a posterior dislocation of left hip with ipsilateral femoral shaft fracture (Figure 1). A CT scan of left hip was obtained to confirm the diagnosis and to rule out fractures of hip (figure 2). Patient was immediately taken to operation theater in the operation theater under general anesthesia one attempt of closed reduction of hip was tried with traction and manipulation which was unsuccessful. Further a using a stab incision a Steinmann pin was introduced into the greater trochanter maintaining a sustained longitudinal traction a lateral traction was given with help of Steinmann pin and head gently manipulated to be sited into the acetabulum. Reduction was confirmed using a image intensifier. Closed reduction and intramedullary interlocking nailing of shaft was performed (figure 3). Post operatively the left lower limb was immobilized in a Thomas splint with hip in abduction. Gradual knee bending exercises and quadriceps strengthening were started. Post operatively the patient was administered indomethacin 25 mg TDS. Patient was mobilized non weight bearing walker mobilization at the end of one month and was followed with serial radiographs of hip and femur shaft. Gradual weight bearing of the left lower limb was permitted sequentially. At the end of four months the patient was full weight bearing with a good range of movements of left hip and radiographs showing a uniting shaft of the femur.

## DISCUSSION:

Traumatic dislocation of hip comprises about 2 to 5 percent of all dislocations but traumatic dislocation of hip with ipsilateral femoral shaft fracture is an extremely rare occurrence. Wiltberger et al<sup>2</sup> estimated that traumatic hip dislocation with ipsilateral femoral fracture occurred in one in a 100000



Figure 1 – 40 year old male with traumatic dislocation of the left hip associated with ipsilateral fracture shaft femur

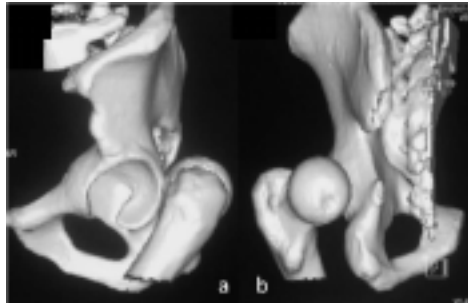


Figure 2: CT scan confirming the posterior dislocation without any associated acetabulum or proximal femur fracture



Figure 3 – Post operative radiograph with closed reduction of the hip and fixation of the shaft fracture with interlocking nail.

fractures. Majority of such injuries occur due to automobile accidents. This usually is caused by double injuries, with dislocation of the hip joint occurring first, followed by fracture shaft femur. Helal and Skeris<sup>3</sup> attempted to reproduce this injury on cadaveric specimen and speculated that combined injury is a result of two separated traumatic forces. The hip joint dislocate first as a result of axial impaction and the femoral shaft fracture occurs afterwards due to direct impaction to thigh.

Initial diagnosis is often missed in more than 50 percent of cases.<sup>4</sup> This is because the usual signs of a dislocated hip are masked by the fracture. In such cases the usual rotational deformities are absent and hip dislocation goes unrecognized. Since the prognosis in such cases is determined by the timing of reduction, an early diagnosis and reduction is mandatory for a good outcome and to reduce the risk of avascular necrosis of head of femur. Early diagnosis is possible only with the great awareness of such combined injury and crucial examination of the hip joint clinically and on the pelvic radiographs. Treatment in such injuries poses various difficulties. Closed reduction by manipulation alone is possible only in 29-43 % of the cases where the diagnosis is

made early.<sup>5</sup> Henry, Epstein, Watson-Jones<sup>6,7,8</sup> and others recommended open reduction of the fracture followed by manipulation or open reduction of dislocation. A.O Shannak<sup>9</sup> suggested that simple standard manipulative methods for reduction of the dislocation must be tried before restoring to open reduction which further adds to the rest of the injury.

Various methods of closed reduction are described by various authors for example- manipulation using Steinman pin, manipulation using Hoffmann half pin, manipulation using Lardennois Hoop apparatus. In our case we performed a closed reduction by manipulation using a Steinmann pin. Various authors has suggested early closed reduction of the hip joint and delayed treatment of the femoral shaft fracture. But in our case we performed a single stage surgery involving the closed reduction of the hip joint and fixation of the shaft of femur. This according to us is cost effective and reduces the hospital stay of the patient.

To conclude posterior dislocation hip with ipsilateral fracture shaft femur is a rare occurrence. This type of injury is unique due to the difficulties encountered in diagnosis and treatment. Majority of such injuries are missed diagnosis primarily, hence great awareness of such combined injuries coupled with a thorough clinical and radiological assessment aids in diagnosing such fracture. Early diagnosis of such injury and early treatment of such cases is advised for a good functional outcome.

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