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CASE REPORT

Simultaneous anterior and posterior traumatic hip dislocation: A case report and review of literature

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Introduction

The hip joint is an inherently stable joint, and dislocation requires a significant force. The position of the femoral head in relation to the acetabulum and the vector of the force determine the type of injury produced. Because of the intrinsic stability and massive bony columns of the pelvis surrounding the acetabulum, these injuries may include pure hip dislocations, dislocations with fracture of the femoral head, and dislocations with fracture of the acetabulum, injuries to the pelvis or to other organ systems, and can result in hemorrhage and shock.[22] As a result, hip dislocation, and more so bilateral hip dislocations, is highly associated with concomitant injuries that might delay the diagnosis of hip dislocation and divert attention away from the hip in view of other life-threatening conditions. It is considered an orthopedic emergency requiring prompt reduction.[5,16,18,31,43]

Case presentation

A 20-year-old female was the unrestrained driver involved in a high velocity motor vehicle accident. She was brought to the emergency department 5 h after the accident with bilateral hip pain and deformity. The right lower extremity was adducted, flexed, and internally rotated, with 20 cm shortening. The left lower extremity was abducted and externally rotated (Fig. 1). There was a 2 cm superficial laceration over the lateral aspect of the right knee. No other injuries were present. In the emergency department, AP radiograph of the pelvis revealed right hip postero-superior dislocation, and left hip anterior—inferior dislocation associated with fracture of the left acetabulum (Fig. 2).

The patient was transferred to the operating room where closed reduction under general anesthesia was performed. The left posteriorly dislocated hip was easily reduced using in-line manual traction. The right hip proved difficult to reduce but reduction was achieved in a closed manner. Post reduction radiographs showed bilateral concentric reduction of the femoral heads (Fig. 3). Ten pounds of skin traction was applied to both extremities.

CT scan was done postoperatively and confirmed the presence of a comminuted fracture of the left acetabulum extending into the superior pubic ramus

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Figure 1 Clinical presentation.

Figure 2 X-ray pelvis AP on presentation.

Figure 3 X-ray pelvis AP post reduction.

as well as the anterior lip of the acetabulum. The fracture fragments were in satisfactory position (Fig. 4). No further intervention was performed.

Skin traction was discontinued on the right side after 3 weeks and physical therapy in bed was started including quadriceps strengthening exercises and active range of motion. At 6 weeks, the traction on the left side was discontinued and the

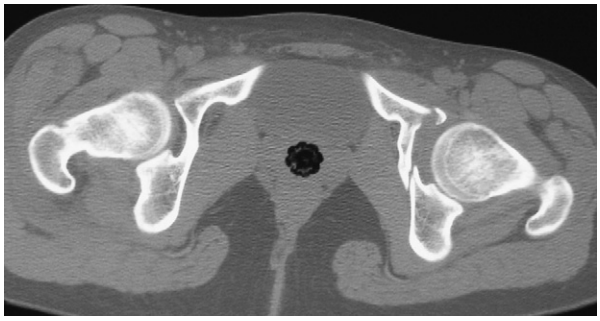

Figure 4 CT scan pelvis after closed reduction.

patient was started on strengthening physical therapy and active range of motion of the left hip, and the patient was ambulated with crutches. The patient continued to complain of right hip pain. MRI was requested and revealed grade one avascular necrosis of the right femoral head (Fig. 5).

The patient refused further surgery and was advised protected weight bearing and was discharged home. Follow up assessment and radiographs at 3 and 5 months were satisfactory and crutches were discontinued. On the latest follow up at 14 months, patient was ambulating freely with no radiologic evidence of collapse of the femoral head.

Discussion and literature review

Incidence

With the increase in high velocity trauma, traumatic hip dislocations are becoming common. Bilateral hip dislocations are, however, rare, constituting roughly 1% of all hip dislocations.[5,8] Simultaneous bilateral anterior and posterior hip dislocation is even less common. A thorough review of the literature revealed 20 documented cases of bilateral asymmetric anterior and posterior hip dislocations (Table 1).

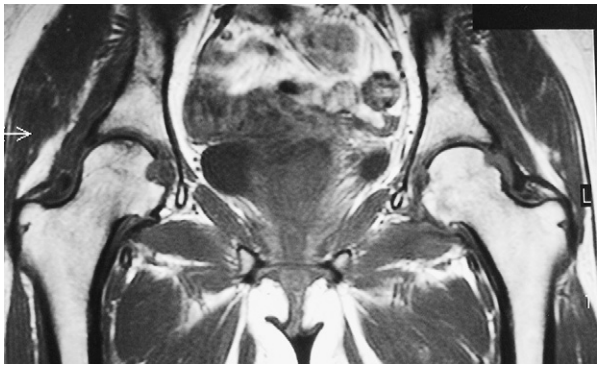

Figure 5 MRI left hip 6 weeks after closed reduction.