

Traumatic Bilateral Hip Dislocation: A Case Report and Review of the Literature

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Abstract

Bilateral hip dislocations are rare compared to unilateral ones. They are usually seen following high velocity injury. This case report describes a 42-year-old male passenger who was involved in a road traffic accident and had high posterior dislocation of both hips associated with a symphysis pubis diastasis, a fracture of the acetabulum on the right and a fracture of the inferior pubic ramus on the left. The reduction must take place as early as possible and within a period not exceeding six hours.

Keywords: Bilateral; Traumatic; Hip; Dislocation

Introduction

Bilateral traumatic hip dislocation is rare, comprising approximately 1,25% of all hip dislocations. Hip dislocation is usually seen following high velocity injury, with 62-93% occurring following road traffic accidents [1]. We present case of a passenger who was involved in a road traffic accident and had posterior bilateral hip dislocations.

Case Report

This is a 42-year-old man, worker, who reported no pathological history, admitted to the emergency room following a road traffic accident. He was a rear passenger in a vehicle that rolled over. On examination in the emergency room, both limbs were in extension, adduction and external rotation. Neurovascular examination was unremarkable, including no deficit in the territory of the great sciatic nerve on both sides. He was considered a polytrauma patient but the rest of the general examination was normal. The radiographic evaluation showed a high posterior dislocation of both hips associated with a pubic diastasis, a fracture of the acetabulum on the right and a fracture of the inferior pubic ramus on the left (Figure 1).



Figure 1: Pre-reduction radiograph.

An emergency body scan did not show any brain, thoracic or abdominal lesions. It confirmed the diagnosis in the pelvis (Figures 2 and 3).

The CT angiography did not show active bleeding. Emergency reduction in the operating room by external maneuver of the two dislocations was performed under general anesthesia by the BOEHLER maneuver with radiological control (Figure 4).

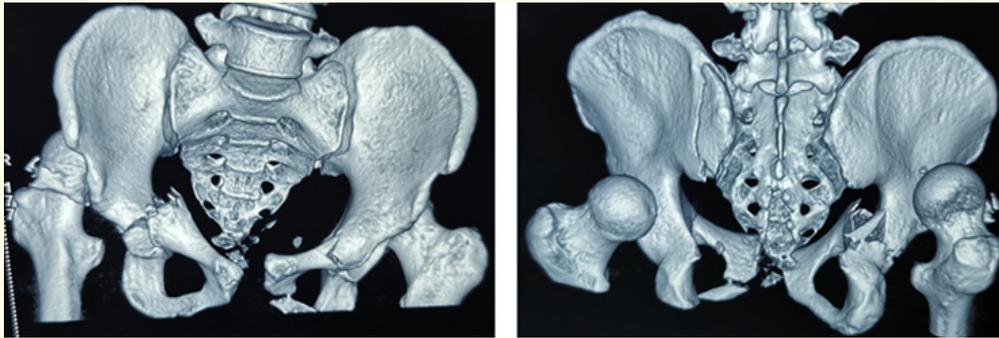


Figure 2: Pre-reduction 3D reconstruction Images.

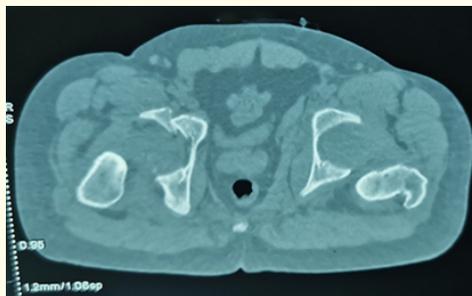


Figure 3: Pre-reduction axial CT Images.



Figure 4: Post-reduction radiograph.

An external pelvic fixator was applied at the same time to stabilize the pelvis (Figure 5). A traction system was placed bilaterally for three weeks with the prescription of analgesics and low molecular weight heparin, followed by gradual loading for another six weeks. The external fixator was removed at six weeks.

Discussion

Hip dislocations account for 2-5% of all joint dislocations [2]. Bilateral dislocations of the hip are very rare constituting 1.25% of all hip dislocations [3] and 0.025-0.05% of all joint dislocations [4]. Hip dislocations are 93% posterior with 74.4% associated with



Figure 5: Pelvic external fixator.

fractures mostly hip fractures [5]. Hip joint is very congruent and stable joint therefore it requires a traction force of more than 400N for separation [6]. So that hip dislocations whether pure ones or with fracture mostly occur with high energy trauma. Most of reported cases are caused by road traffic accident [7]. Most hip dislocations occur as dashboard mechanism [8]. In this case, our patient sustained asymmetrical bilateral simultaneous hip dislocation. There were two high posterior dislocations associated a symphysis pubis diastasis, a fracture of the acetabulum on the right and a fracture of the inferior pubic ramus on the left. In general joint dislocations are more common in male (81%) compared to female (19%) and are commonest in the 21-30 years age group, average age 32.9 years, range 11-65 years [9]. Hip dislocation should be reduced as soon as possible under general anesthesia in the operating theatre or in the emergency under sedation. In this patient closed reduction was done under general anesthesia in the operating theatre in less than 6h from the accident. It was reported that avascular necrosis of femoral head is increasing significantly with delayed reduction of hip dislocation from 4.8% if reduced within 6h to 58.8% if delayed more than 6h [10]. After hip reduction patient should undergo plain AP radiograph and Computerized Tomography scan of the pelvis with at least 2 mm cuts to detect any intra-articular loose bodies and to ensure concentric reduction [11] and also to detect any associated fractures. Open reduction may be required when labral avulsion-inversion or a retained acetabular fragment precludes concentric closed reduction. CT evaluation of the hip joint is recommended to ensure the adequacy of the reduction and identify any small retained acetabular fracture fragments or mini-

mally displaced acetabular or femoral head fractures not seen on plain films. There is no consensus as yet on the treatment regime following reduction; modalities employed include traction or bed rest, the duration of which is also controversial [12]. More recently, the literature would suggest that although each case needs to be closely followed radiologically and clinically, a period of 2-3 weeks bed rest (with or without skin traction) followed by a few weeks partial weight bearing should allow soft tissues to heal. Complications following hip joint dislocation include avascular necrosis of the femoral head, reported in up to 26% of patient [13] (the development of which can be delayed for as long as 3 years), osteoarthritis in 24% of adults without a co-existing fracture and, in 88% of adults where dislocation was associated with a fracture, sciatic nerve injury in up to 19% of patients [13]. Other common complications include heterotrophic ossification, deep vein thrombosis, limitation of hip movements and recurrent dislocation. The rates of these complications vary and, whilst depending on whether the reduction was achieved open or closed, it is assumed that the total complication rate is doubled in the case of bilateral traumatic dislocation.

Conclusion

Traumatic hip dislocation is a serious injury which if reduced early within a period not exceeding six hours, has good results; nevertheless, these results deteriorate very markedly over time, particularly in the case of delayed support, femoral head or acetabular fracture. The patient should therefore be scrupulously monitored over the long term and be warned of the possible future risks.

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