CASE REPORT

IPSILATERAL FRACTURE DISLOCATIONS OF THE HIP AND KNEE JOINTS WITH FRACTURE OF ACETABULUM: A RARE CASE AND ITS MANAGEMENT PRINCIPLES

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ABSTRACT
Simultaneous ipsilateral hip and knee dislocations can be a devastating injury rendering the limb useless if not treated for time. Long term results also vary because these two types of injuries are associated with complications like avascular necrosis of the femoral head, knee instability, and stiffness at both the joints. Early diagnosis and prompt reduction is must to prevent the complications. Here we report a case with such an injury with description regarding its management difficulties. The prompt reduction of dislocations was carried out to achieve good results. Our case report add to this existing literature.
Key-Words: Ipsilateral; Dislocation; Prompt Reduction; Neuro Vascular Compromise

Introduction

Association of knee injuries along with hip dislocation are quite common but ipsilateral hip and knee dislocation is a rare injury.[1-4] Hunter (1969)[5] reported the association of knee injuries with hip dislocation and reported 24 knee injuries in 58 dislocations of hip. Cases with ipsilateral posterior dislocation of hip with knee dislocation have been reported in literature[1], mentioned in many case reports like by Motsis et al[1] reported Concomitant ipsilateral traumatic dislocation of hip and knee following high-energy trauma. Dubois et al[2] reported Simultaneous ipsilateral posterior knee and hip dislocations. Schierz et al[3] reported Ipsilateral hip and knee dislocation. Many other authors[4-9] also reported similar injuries with management difficulties and complications. Such injuries occur in a forceful and major trauma. These are complex injuries associated with acetabular wall fractures, femoral head fractures, avascular necrosis of femoral head, knee instability and knee stiffness. Early diagnosis including a survey for neurovascular structures is a must so is the promptness of the treatment to achieve good results.[2,4] Ipsilateral posterior hip dislocation with acetabular wall fracture and posterior knee is extremely rare and rarely reported in literature to the best of our knowledge.

Case Report

A 32 year old truck driver was admitted two hours after the injury following a head on collision with a tempotruck. On examination the right lower limb was adducted and internally rotated at hip while knee was in flexion with tibia translated posteriorly. Distal pulses were palpable. Radiograph confirmed our clinical diagnosis of posterior dislocation of hip and ipsilateral dislocation of knee.

Both the dislocation were promptly reduced within two hours of patient reporting to the hospital by close means under general anaesthesia. Knee dislocation was reduced first to avoid any pressure on the posterior neurovascular structures and also to flex the knee for reduction of hip joint. Hip was reduced by gentle traction longitudinally and laterally and direct pressure on the head guiding it into acetabulum. Distal neuro vascular status was checked at every step. Reduction achieved for dislocation of hip was unstable though knee was congruous after reduction which was maintained in groin to toe cast. CT scan was done for HIP and we learn that there is posterior acetabulum wall fracture with a fractured fragment inside hip joint which was preventing stable reduction. Open reduction was achieve through standard posterior approach with

fixation of acetabular wall with inter fragmentary screw and recon locking plate.

Figure-1: X-Ray showing right hip dislocation

Figure-2: X-Ray showing right knee (ipsilateral) dislocation

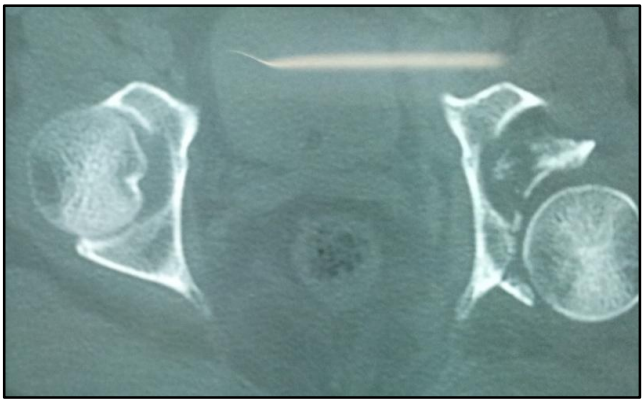

Figure-3: CT Scan showing acetabular wall fracture with fragment in joint

Figure-4: Post-operative X-Ray after acetabular wall fixation

Cast was continued for six weeks after which a hinged knee brace was applied for another six weeks. However the knee was a bit unstable because of ligaments injury (cruciate ligaments and lateral collateral) confirmed on MRI. We decided to repair it and did so by arthroscopic method. Patient has returned to his previous occupation as a truck attendant. Almost full knee and hip movements were gained except terminal fifteen degrees of knee flexion.

Discussion

Association of knee injuries along with hip dislocation are quite common but ipsilateral hip and knee dislocation is a rare injury. Such injuries occur in a forceful and major trauma. These are complex injuries associated with acetabular wall fractures, femoral head fractures, avascular necrosis of femoral head, knee instability and knee stiffness. Early diagnosis including a survey for neurovascular structures is a must so is the promptness of the treatment to achieve good result. In this case knee dislocation was reduced first as constant pressure on posterior neurovascular structure can cause ischemic necrosis of distal part and permanent neurological damage. Hip dislocation was associated with acetabular wall fracture with a fragment piece inside joint which pose a major difficulty for reduction and later fixation of wall.

Conclusion

Although such types of injuries are very rare it may not be so uncommon in future due to increased heavy vehicular accident and rash

driving. After occurrence of such injury there should be some point to be kept in mind.

- Neurovascular assessment and repaired if any should be done first.
- Assessment of associated injuries must be done and evaluated with investigation if required.
- Reduction of dislocation should be done as early as possible to reduce risk of AVN and pressure on neurovascular structure.

Reporting of such cases will guide other treating surgeons and improve in management in future cases. So that minimal complications and morbidity to the patient will be achieved.

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