Ipsilateral Anterior Hip and Posterior Knee Dislocation with Common Paroneal Nerve Palsy: A Peculiar mode of Trauma in a Case

P Kamboj, Z Kundu, S Sangwan, P Walecha

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Abstract

Simultaneous ipsilateral hip and knee dislocations can be a devastating injury rendering the limb useless if not treated in time. Long term results also vary because these two types of injuries are associated with 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. Ipsilateral anterior hip and posterior knee dislocation is a rare injury and not yet reported in English literature. In this report we present a case with this injury describing its peculiar mode of trauma. The prompt reduction of dislocations was carried out to achieve good results.

INTRODUCTION

Association of knee injuries along with hip dislocation are quite common but ipsilateral hip and knee dislocation is a rare injury[1,2,3,4]. Hunter[5](1969) 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[1,6] (Table I).

Figure 1

Table 1: Review of literature of previous such cases

Serial No.	Authors	Cases	Mode of trauma
1.	Motsis EK, Pakos EE, Zaharis K, Korompilias AV, Xenakis TA.[1]	Concomitant ipsilateral traumatic dislocation of the hip and knee following high-energy trauma: a case report.	Road traffic accident
2.	DuBois B, Montgomery WH Jr, Dunbar RP, Chapman J.[2]	Simultaneous ipsilateral posterior knee and hip dislocations: case report, including a technique for closed reduction of the hip.	Road traffic accident
3.	Schierz A, Holtz T, Kach K.[3]	Ipsilateral knee and hip joint dislocation.	Road traffic accident
4.	Freedman DM, Freedman EL, Shapiro MS.[4]	Ipsilateral hip and knee dislocation.	Road traffic accident
5.	Kreibich DN, Moran CG, Pinder IM[6]	Ipsilateral hip and knee dislocation. A case report.	Road traffic accident
6.	Magistroni A.[7]	Hip and knee homolateral dislocation	Road traffic accident
7.	Millea TP, Romanelli RR, Segal LS, Lynch CJ.[8]	Ipsilateral fracture-dislocation of hip, knee, and ankle: case report.	Road traffic accident
8.	Kundu ZS, Kamboj P, Sangwan SS, Grover S, Raj Singh. (Case being reported)	Ipsilateral Anterior Hip and Posterior Knee Dislocation with Common Paroneal Nerve Palsy – A Peculiar mode of Trauma in a Case	Road traffic accident with its peculiar mode of trauma. (Shown in fig. 2)

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 anterior hip dislocation and posterior knee is extremely rare and not reported in English literature to the best of our knowledge.

CASE REPORT

A 32-year-old pillion rider of a motorcycle was admitted two hours after the injury following a head on collision with a tractor. On examination the left lower limb was abducted and externally rotated at hip while knee was in flexion with tibia translated posteriorly. The head of the femur was palpable in the inguinal region. Femoral and distal pulses were palpable though common paroneal nerve palsy was present.

Radiographs confirmed our clinical findings of anterior dislocation of hip and ipsilateral posterior dislocation of left knee (Fig 1 a, b).

Figure 2

Figure 1a: Photograph of x-ray film showing anterior hip dislocation.

Figure 3

Figure 1b: Photograph of x-ray film showing ipsilateral posterior knee dislocation.

Both the dislocations were promptly reduced within two hours of patient reporting to the hospital by closed means under general anesthesia. 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 the acetabulum. Congruous and stable reduction was achieved for dislocation of hip though knee was unstable but congruous after reduction, which was maintained in a groin to toe cast. Cast was continued for six weeks after which a hinged knee brace was applied for another six weeks.

Full knee and hip movements were gained except for the terminal five degrees of flexion at knee. There was no evidence of avascular necrosis of hip at two years of follow-up. Lateral popliteal nerve recovered completely. However the knee was a bit unstable because of ligaments injury

(cruciates and medial collateral) but patient was happy with the range of movements and did not want any further reconstructive surgery and has returned to his previous occupation as a shop keeper.

DISCUSSION

Ipsilateral anterior hip dislocation with posterior dislocation knee is very rare and we could not search any literature in English language for such a combination.

Ipsilateral posterior dislocation of hip and posterior knee dislocation shares a common mode of injury. In this type of injury when the knee and hip are flexed along with adduction at hip any trauma from front as for example in dashboard injuries or head on collisions can result in simultaneous dislocations at these two sites.

In the present case this patient was riding on a motor bike on the rear seat. There were milk drums hanging on both sides of the motor bike between the driver and the injured, which forced him to ride with his hips abducted and flexed (fig 2).

Figure 4

Figure 2: Showing mode of trauma in a pillion rider of a motor-cycle with knee flexed and hip abducted due to a milk drum between the driver and the former (photo re-enacted).

He was struck on the front of the knee in a head on collision, resulting in posterior dislocation of knee and ipsilateral anterior dislocation of the hip from single traumatic force in continuation.

The patient had common paroneal nerve injury, and such association is also reported in literature.[6]

In such injury prompt reduction of the joints is a must to prevent avascular necrosis of femoral head and secondary osteoarthrosis of hip; at knee persistent pressure on the neurovascular structures in the popliteal fossa can cause volkman ischaemia in the leg and may cause irreversible neuronal damage.

Incidence of AVN of hip is 4.8% if reduced within 6 hrs and it increases to 58.8% if reduced later than that. It takes about 17 months for avascular necrosis to become clinically apparent.[9]

CONCLUSION

Although such type of injuries are very rare but these may not be so uncommon in future with increase of speedy vehicles and rash driving. After occurrence of such injuries the main focus should be on prompt reduction to avoid late complications.

CORRESPONDENCE TO

Dr. Pradeep Kamboj 11-Couples Hostel, Medical Campus, Pt. B.D. Sharma PGIMS, Rohtak Haryana-124001, INDIA
Telephone- +919896234151 Email: kambojdr@gmail.com

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Author Information

P. Kamboj, M.S.
Senior Resident, Department of Orthopaedics, Pt. B.D. Sharma PGIMS

Z. S. Kundu, MS, DNB
Reader, Department of Orthopaedics, Pt. B.D. Sharma PGIMS

S. S. Sangwan, MS, DNB
Professor, Department of Orthopaedics, Pt. B.D. Sharma PGIMS

P. Walecha, MS
Senior Resident, Department of Orthopaedics, Pt. B.D. Sharma PGIMS