

Asymmetric bilateral hip dislocation: A case report

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ABSTRACT

Bilateral hip dislocation is a rare phenomenon in which one hip dislocates posteriorly and the contralateral hip dislocates anteriorly. We describe a case of a 32-year-old man with bilateral hip dislocation. The patient arrived at our emergency room 30 min after the trauma, was hemodynamically stable, conscious with a Glasgow Coma Scale of 15, and was unable to stand or even sit. Within 40 min of admission, both hips were lowered using closed manipulation. The right hip was reduced using the Allis maneuver while the left hip was reduced using the reverse Bigelow's maneuver while lying in the lateral decubitus posture. Before the reduction, clinical management and radiological planning are required. The advanced trauma life support protocol must be followed when properly treating associated lesions.

Key words: Asymmetric dislocation, Bilateral dislocation, Hip dislocation, Rare phenomenon

The hip joint is the body's most stable joint. Hip dislocation occurs as a result of high-intensity trauma. Mostly, these dislocations occur posteriorly in 85–90% of cases. Only 10–15% of hip dislocations occur anteriorly [1]. Among them, only 1% of all hip dislocations are bilateral, and asymmetry of dislocation is even more uncommon as it only accounts for 0.01–0.02% of all joint dislocations [2]. To rule out any connected injuries that could cause persistent morbidities, precise trauma evaluation is crucial. To prevent avascular necrosis, a reduction must be applied as soon as possible [3].

We describe a case of a 32-year-old man with bilateral hip dislocation. By detailing the etiology, diagnosis, treatment, and follow-up, this unusual case report will provide us with few pieces of information now available concerning bilateral hip dislocation.


CASE REPORT

A head-on collision occurred between a car being driven by a 32-year-old man and another vehicle. The patient arrived at our emergency room 30 min after the trauma, was hemodynamically stable, conscious with a Glasgow Coma Scale of 15, and was unable to stand or even sit. We started managing him according to the advanced trauma life support (ATLS) protocol. He also held his left leg in a slight flexion, external rotation, and abduction while his right leg was internally rotated, adducted, and flexed.

A pelvic radiograph performed in the emergency room revealed bilateral hip dislocation with the femoral head displaced anteroinferior on the left side and posteriosuperiorly on the right side, and there was no associated fracture of the pelvis, acetabulum, or femur (Fig. 1a). A drawback in our report is the absence of a pre-reduction computerized tomography (CT) scan. Pre-reduction CT is a crucial component of the protocol for treating such high-energy injuries, but due to cost constraints, not all patients can afford it.

Within 40 min of admission (about an hour after the event), both hips were lowered using closed manipulation while receiving muscle relaxants and general anesthesia. The right hip was reduced using the Allis maneuver while the left hip was reduced using the reverse Bigelow's maneuver while lying in the lateral decubitus posture. Both hips were stable in every direction during a table examination. Postoperative X-rays and CT scan of the pelvis confirmed concentric reduction of both hips and showed no intraarticular fragments in both hips (Fig. 1b).

The patient was hospitalized for 1 day following reduction without traction and released the following day with instructions to avoid weight bearing for 3 weeks while receiving local protocol physiotherapy. The patient was healthy and pain-free at the 3-week follow-up. He had a full range of motion (ROM) in both directions and had begun partial weight-bearing with the use of a walking frame. He also had no mechanical symptoms. At the 6-week checkup, the patient was doing well, had begun full weight-bearing, and had a complete ROM in all directions. There

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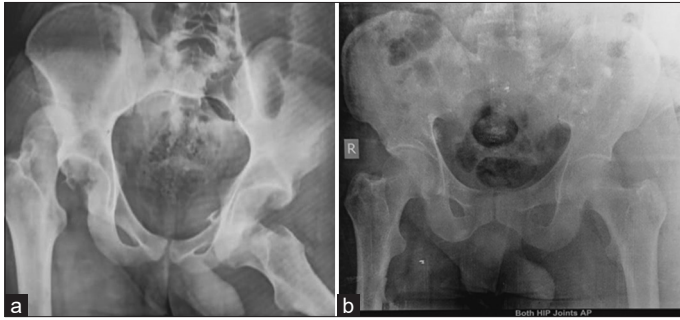


Figure 1: (a) A pelvic radiograph revealed bilateral hip dislocation with the femoral head displaced anteroinferior on the left side and posteriosuperiorly on the right side; (b) Postoperative X-ray of the pelvis confirmed concentric reduction of both hips and showed no intraarticular fragments in both hips

was no accompanying pelvic or femur fracture, sciatic nerve injury, or other high energy injury in addition to the bilateral asymmetrical injury.

DISCUSSION

Bilateral hip dislocation is a rare phenomenon [4]. The stability of the hip joint, which is a result of intrinsic factors such as the anteverted femur and acetabulum, extrinsic factors like the thick capsule, and intrinsic factors like the depth of the acetabulum cavity enhanced by the labrum, makes asymmetry of the dislocation even rarer [5]. A high level of medical suspicion of injuries other than the asymmetric dislocation itself is therefore required in cases of this high-energy trauma [4]. The hip joint requires high-energy force to dislocate because it is the body's most stable joint. Following such trauma, the ATLS procedure should be followed. Always be on the lookout for associated injuries, which can occur in up to 95% of patients and include proximal femoral fractures, pelvic, acetabular, and lower limb fractures. Hip dislocations are connected with head, chest, and stomach injuries, which is inconsistent with our patient's account of no related damage, in contrast to our case, which has no concomitant fracture [6]. In contrast to our example, numerous other cases also included acetabulum fractures [7].

The most important method for detecting hip dislocation is a clinical examination. A simple pelvic X-ray is sufficient to confirm the dislocation, and a CT scan after reduction is necessary to check that the reduction has been accepted, that the joint is concentric without a loose body inside it, and to rule out any pelvic or femur fractures, as was done in our instance [8]. In our case, the hip dislocation was classified as follows: According to Thompson-Epstein, a right posterior hip dislocation is radiographically characterized as type 1, a straightforward dislocation with a minimal posterior wall fracture. Epstein's radiological classification for left anterior hip dislocations is 1A: superior dislocations without a fracture present [9]. Applying

dislocation reduction quickly is necessary to prevent issues such as avascular necrosis [10]. That explains the reliance on clinical evaluation in the presence of plain radiographs, as in our patient's case, who was brought to us after a trauma that lasted 30 min due to the emergency department's lack of a CT scanner.

To avoid the possibility of open reduction problems and iatrogenic acetabulum or pelvic fractures, the reduction should be performed using a correctly closed maneuver. If there is a pelvic or femur fracture present, the dislocation is irreducible, or the reduction is not concentric, open reduction is preferred [5]. According to our protocol, weight-bearing after closed reduction should be avoided for only 3 weeks before mobilization can begin.

CONCLUSION

If the reduction was not done within the first 6 h following the trauma, a bilateral hip dislocation injury may have an adverse effect on the functional prognosis. Before the reduction, clinical management and radiological planning are required. The ATLS protocol must be followed when properly treating associated lesions. For effective rehabilitation, there must be interprofessional collaboration between the surgeon (who determines the amount of mechanical stress required for pelvic ring fixation) and the physical therapy team.

REFERENCES

1. Deakin DE, Porter K. Traumatic hip dislocation in adults. *Dent Traumatol* 2009;11:189-97.
2. Gillespie WJ. The incidence and pattern of knee injury associated with dislocation of the hip. *J Bone Joint Surg Br* 1975;57:376-8.
3. Sanders S, Tejwani N, Egol KA. Traumatic hip dislocation—a review. *Bull NYU Hosp Joint Dis* 2010;68:91-6.
4. Pascarella R, Maresca A, Cappuccio M, Reggiani LM, Boriani S. Asymmetrical bilateral traumatic fracture-dislocation of the hip: A report of two cases. *Chir Organi Mov* 2008;92:109-11.
5. Kalisvaart MM, Safran MR. Microinstability of the hip—it does exist: Etiology, diagnosis and treatment. *J Hip Preserv Surg* 2015;2:123-35.
6. Wu CC, Shih CH, Chen LH. Femoral shaft fractures complicated by fracture-dislocations of the ipsilateral hip. *J Trauma* 1993;34:70-5.
7. Sah AP, Marsh E. Traumatic simultaneous asymmetric hip dislocations and motor vehicle accidents. *Orthopedics* 2008;31:613.
8. Brooks RA, Ribbans WJ. Diagnosis and imaging studies of traumatic hip dislocations in the adult. *Clin Orthop Relat Res* 2000;377:15-23.
9. Thompson VP, Epstein HC. Traumatic dislocation of the hip; a survey of two hundred and four cases covering a period of twenty-one years. *J Bone Joint Surg Am* 1951;33-A:746-78.
10. Brav EA. Traumatic dislocation of the hip: Army experience and results over a twelve-year period. *JBJS* 1962;44:1115-34.

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