

# Bilateral anterior dislocation in the hips: a case report

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The hip is a stable ball-and-socket joint. Bilateral anterior dislocations of the native hip joints account for fewer than 1% of all dislocations. We present a unique case of a bilateral anterior dislocation in a patient who presented to our institution within 6 hours of trauma. The dislocations were promptly reduced under propofol anesthesia in the operating room. The patient did not suffer a concurrent fracture. After the procedure, we performed regular X-ray examinations for 2 years to rule out the development of avascular necrosis of the head of the femur. The course of the patient was unremarkable.

**Keywords:** Hip dislocation; Diagnosis; Therapy; Rehabilitation; Case reports

## INTRODUCTION

The hip is a ball-and-socket joint that can withstand substantial mechanical forces. It is stabilized by the acetabulum's depth, surrounding ligaments, labrum, and muscles [1]. Acquired unilateral posterior hip dislocation is typical of dashboard accidents and accounts for the vast majority of native hip injuries. Bilateral symmetric hip dislocations are exceedingly uncommon and are frequently accompanied by acetabular fractures [2]. It is imperative that a dislocated hip be reduced within 6 hours to prevent avascular necrosis of the hip [3,4]. The reduction can be either closed or open if associated with a femoral head or acetabular fracture.

We report a unique case of a bilateral anterior dislocation in a patient who presented to NC Medical College & Hospital (Panipat, India) within 6 hours of trauma. The dislocations were immediately reduced in the operating theater under propofol anesthesia.

## CASE REPORT

A 50-year-old male laborer presented to our institution with excruciating bilateral hip pain and an inability to walk following a fall off his bike after a head-on collision with a heavy vehicle from behind. According to the patient, he was seated in the rear seat, with both his hips flexed, abducted, and in mild external rotation, with his feet firmly planted on the foot paddles. They were traveling at 32 km/hr. There were no concussions, vomiting, or ear bleeds after the impact. The patient had no prominent family or prior medical history. He was neither intoxicated nor under the influence of any other substance. The patient's vital signs were steady, and his Glasgow Coma Score was 15. There was no open wound on either lower leg, and both lower limbs were in 85° flexion, abduction, and 35° external rotation.

There were no signs of motor, sensory, or vascular impairment. There were no injuries to the chest, abdomen, or spine. Intravenous line access and portable X-rays were ordered following analgesic administration per the Advanced Trauma Life Support

protocol. An anteroposterior X-ray of the pelvis with both hips revealed bilateral anterior dislocation of both hips (Fig. 1). Due to the position of both heads adjacent to the obturator foramen, the dislocations were classified as obturator type. We recommended a pelvic computed tomography scan to rule out the possibility of an accompanying acetabular fracture. However, due to the arrangement of both lower limbs, he could not undertake the scan (Fig. 2). The patient was then taken to the operating room for closed reduction under anesthesia. We were able to reduce the joints using the Howard maneuver [4].

In this maneuver, longitudinal and lateral traction was applied first to the right lower limb and later to the left. We used external and internal rotation to reduce the hips in conjunction with the traction. The reduction restored the range of motion and alleviated the pain. The neurovascular status was normal, and the clinical examination suggested that the hips were stable. Postreduction joint stability and fractures were checked on fluoroscopy. The hip joints appeared stable, and fluoroscopy pictures confirmed no fractures. Postoperatively, an X-ray examination verified concentric reduction of both hip joints with no fracture. The patient was given skin traction for 2 weeks and then ambulated with partial weight-bearing [5]. The abduction and external rotation of the limbs were maintained with an A-shaped pillow between the thighs. Full weight-bearing was



**Fig. 1.** Preoperative X-ray of bilateral anterior hip dislocation.

allowed after 6 weeks.

The patient had no difficulties walking or carrying out other daily activities. X-ray examinations performed at 6-month intervals for 2 years revealed no avascular necrosis or osteoarthritis changes (Fig. 3). The patient can squat and sit cross-legged, just as before the accident. The patient provided informed consent for publication of the research details and clinical images.

## DISCUSSION

Anterior dislocation of the native hip is the least prevalent type of dislocation and accounts for approximately 8% to 15% of total



**Fig. 2.** Inability to do computed tomography scan because of limb position. Informed consent for publication of the clinical image was obtained from the patient.



**Fig. 3.** Postoperative after 2-year follow-up.

hip dislocations [6]. Bilateral anterior dislocations comprise fewer than 1% of all hip dislocations. Anterior dislocations are more uncommon than posterior dislocations because the anterior capsule of the hip joint is thicker than the posterior capsule, and the insertion of the iliofemoral ligament reinforces the anterior capsule [7].

Most hip dislocations occur due to high-impact injuries, particularly in unrestrained passengers. The patient presented herein was riding a bike in the rear seat. The direction of the applied force and the local anatomy of the femur and acetabulum dictate the type of dislocation. If the applied force drives the hip into abduction and flexion, anterior femoral head dislocation occurs [2]. These forces may act from the knee up or along the inner thigh. The location of the hip dictates the femoral head's eventual position outside the pelvis. If the hip is in its resting flexion and extension postures before deforming stress, obturator and pubic anterior dislocations will occur, respectively.

The Epstein system categorizes anterior dislocations as superior or inferior. Dislocations have been subdivided depending on whether or not a fracture is present [8]. Because there was no concomitant fracture and the femoral head was below the obturator foramen, we diagnosed our patient with a type 2A Epstein dislocation. The timing of reduction is critical. Delay in reduction causes an increased risk of avascular necrosis of the femur head.

Our patient arrived 6 hours after the accident. The patient's initial visit to a primary health care center and subsequent referral to us caused the delay. We promptly took the patient to be reduced under propofol anesthesia. Patients with a dislocated hip and concomitant fracture are at elevated risk for avascular necrosis. Numerous factors play roles in the development of avascular necrosis in the aftermath of anterior dislocation. The primary explanation is that the femur head's blood supply is compromised due to mechanical injury to the vasculature caused by the head itself [8]. Another cause is spasms of the major blood vessels in the absence of pathology [8].

Complications following anterior dislocation have been divided into early or late. Acetabular fractures, femoral head fractures, femoral nerve or artery damage, sciatic nerve damage, and ipsilateral knee injuries such as meniscal tears are early sequelae. Late-term complications include avascular necrosis (2%–10% of cases), posttraumatic osteoarthritis (20% of cases), and heterotopic ossification (10% of cases) [1].

Anterior hip dislocation is infrequent, and bilateral anterior hip dislocations are particularly rare; nonetheless, they are a medical emergency. Dislocations should be promptly detected

clinically, verified radiologically, and reduced immediately. Anterior dislocations should be reduced within 6 hours to prevent complications. If closed reduction is unsuccessful, the head should be reduced by open reduction. Before attempting an open procedure, a computed tomography scan should be performed to rule out intraarticular or impacted fragments. Follow-up X-ray examinations should be performed every 6 months for 2 ensuing years after reduction to screen for late complications.

## NOTES

### Ethical statements

Informed consent for publication of the research details and clinical images was obtained from the patient.

### Conflicts of interest

The authors have no conflicts of interest to declare.

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None.

### Author contributions

Conceptualization: all authors; Data curation: DM; Project administration: RS; Visualization: RS; Writing—original draft: DM; Writing—review & editing: DM. All authors read and approved the final manuscript.

## REFERENCES

1. Dawson-Amoah K, Raszewski J, Duplantier N, Waddell BS. Dislocation of the hip: a review of types, causes, and treatment. *Ochsner J* 2018;18:242–52.
2. Qin W, Fang Y. Traumatic asymmetrical bilateral hip dislocation: a rare case report. *Jt Dis Relat Surg* 2021;32:767–70.
3. Zaizi A, Benomar HA, Fekhaoui MR, Grimi T, Boufettal M, Berrada MS. Bilateral posterior hip dislocation associated with right Pipkin II fracture: a case report. *Int J Surg Case Rep* 2019;61:103–6.
4. West C, Ranganath Y, Willey M. Fascia iliaca block for reduction of anterior native hip dislocation: a case report. *Iowa Orthop J* 2017;37:19–21.
5. Schlickewei W, Elsasser B, Mullaji AB, Kuner EH. Hip dislocation without fracture: traction or mobilization after reduction. *Injury* 1993;24:27–31.
6. Furness N, Da Costa TM, Bishay M. Anterior hip dislocation

- in conjunction with a stroke: a diagnosis not to miss. *BMJ Case Rep* 2013;2013:bcr2012008356.
7. Pfeifer K, Leslie M, Menn K, Haims A. Imaging findings of anterior hip dislocations. *Skeletal Radiol* 2017;46:723–30.
  8. Radulescu R, Badila A, Japie I, Papuc A, Manolescu R. Anterior dislocation of the hip associated with intertrochanteric fracture of the femur: case presentation. *J Med Life* 2013;6:336–9.