Case Report | Journal of Orthopaedic Case Reports 2025 September:15(9):Page 250-254

Asymmetrical Bilateral Complex Dislocations of the Hips: A Rare Case Report

Papa Kwabena Offeh Kyei[1], Tamsanqa Joseph Mazibuko[1], Collen Sandile Nkosi[1]

Learning Point of the Article:

Native hip dislocations are orthopedic emergencies and therefore need to be reduced as soon as possible. Proficiency in reduction maneuvers for anterior and posterior hip dislocations is necessary to improve patient outcomes.

Abstract

Introduction: Asymmetrical hip dislocations are rare injuries. The native hip joint is inherently stable, so both joints will dislocate in a high-energy setting. Therefore, it is imperative to exclude other associated injuries and fractures and ensure both hips are reduced timeously.

Case Report: We present a rare case of a 46-year-old male patient who presented with asymmetrical complex hip dislocations following a pedestrian-vehicle accident. Both hips were reduced; however, the left acetabulum posterior wall needed open reduction and internal fixation.

Conclusion: Early diagnosis and treatment are crucial in hip dislocations to mitigate the long-term complications. Patients who sustain asymmetrical complex dislocations should be evaluated for other injuries, as these are generally associated with poorer outcomes.

Keywords: Asymmetrical, hip, complex dislocation, fracture-dislocations.

Introduction

The hip joint is inherently stable. Therefore, a hip fracture dislocation requires high-energy transfer [1]. A simple hip joint dislocation occurs without an associated fracture [2]. A complex hip dislocation is associated with a concomitant acetabulum or femoral head/neck fracture [2]. Hip dislocations account for up to 5% of all dislocations [1]. Bilateral dislocations of the hip joint are rare, accounting for approximately 1% of all dislocations [3]. Asymmetrical hip dislocations are even rarer, accounting for 0.02% [3]. We present a rare case report of a patient who sustained asymmetrical complex hip dislocations.

Case Report

A 46-year-old male initially presented to a primary care facility after being involved in a pedestrian-vehicle accident and sustaining bilateral hip injuries. The primary care facility ordered X-rays and attempted to reduce the bilateral hip injuries he suffered but was unsuccessful. He was then referred to a tertiary-level facility. Upon arrival, he was evaluated by both the trauma surgery team and the on-call orthopedic team. Although intoxicated at the time, he complained of bilateral hip pain only and an inability to bear weight. He gave no history regarding any head, chest, or abdominal injuries. He confessed to being inebriated. He denied any previous medical or surgical history. He did not have any allergies, nor was he on any medication. He was at the time unemployed.

He was evaluated according to the advanced trauma life support principles on clinical examination. He was kept in headblocks as his cervical spine could not be clinically cleared, as he had

Access this article online

Website: www.jocr.co.in

DOI: https://doi.org/10.13107/jocr.2025.v15.i09.6088

Author's Photo Gallery


Dr. Papa Kwabena Offeh Kyei


Dr. Tamsanqa Joseph Mazibuko


Dr. Collen Sandile Nkosi

[1]Division of Orthopaedic Surgery, University of the Witwatersrand, Johannesburg, South Africa.

Address of Correspondence:
Dr. Papa Kyei,
Department of Orthopaedic Surgery, Charlotte Maxeke Johannesburg Academic Hospital, 7 York Road, Parktown, Johannesburg 2193. South Africa.
E-mail: Pko.kyei@gmail.com

Submitted: 04/06/2025; Review: 22/07/2025; Accepted: August 2025; Published: September 2025

DOI: https://doi.org/10.13107/jocr.2025.v15.i09.6088

Figure 1: Pre-reduction X-ray: Anteroposterior of the pelvic view.

Figure 2: Post-reduction applied bilateral lower limb skin traction.

distracting injuries, and he was intoxicated at the time. His airway was otherwise self-maintained. He had good air entry bilaterally, which was clear on the auscultation of his chest. All his pulses were present, he was hemodynamically stable, and there were no signs of bleeding from anywhere. His Glasgow coma scale was 14/15 due to his intoxication; there were no overt focal neurological sequelae identified. He did not have any open wounds on exposure. His musculoskeletal examination revealed his left hip flexed, adducted, and internally rotated. He had tenderness in the groin and the lateral aspect of his hip. Range of motion at the hip was deferred due to the pain. His dorsalis pedis and posterior tibialis pulses were palpable and comparable to the contralateral side. He was able to dorsiflex and plantarflex his ankle and toes.

His right hip was extended and externally rotated. He was tender in the groin, and there was also a fullness and a palpable firmness in the right groin. Range of motion was also deferred in that hip secondary to pain. However, he could still dorsiflex and plantarflex his toes and right ankle, and his dorsalis pedis and posterior tibialis pulses were present.

The plain radiographs (Fig. 1) that were done showed that he had suffered a left posterior hip fracture-dislocation and a right anterior hip fracture-dislocation. The left hip was classified as a Thompson and Epstein type 2, and the right hip was classified as a Thompson and Epstein type 1C. He was then counseled and given conscious sedation using a combination of ketamine and propofol under continuous monitoring of his vitals in the resuscitation bay. We reduced the left hip using the Captain Morgan technique and the right hip using the Allis leg extension technique. Both hips were stable post-reduction, and the patient's neurological function remained intact. The reductions were carried out within 24 h from the time of injury. Bilateral lower limb in-line skin traction (Fig. 2) was applied with 4 kg weights. Post-reduction plain radiographs (Fig. 3) of the pelvis (anterior–posterior and Judet views) confirmed that the hips were reduced. There was a posterior acetabular wall fracture on the left and a small anterior-superior acetabular wall fracture on the right.

He then had a pan computed tomography scan done (Fig. 4), which revealed no acute intracranial injury, no acute bony C-spine injury, no intra-thoracic injury, no intra-abdominal injury, a left posterior acetabular wall fracture, and a right superior margin acetabulum fracture. Biochemically, his renal function

Figure 3: Post-reduction X-rays: Anteroposterior and Judet pelvis views.

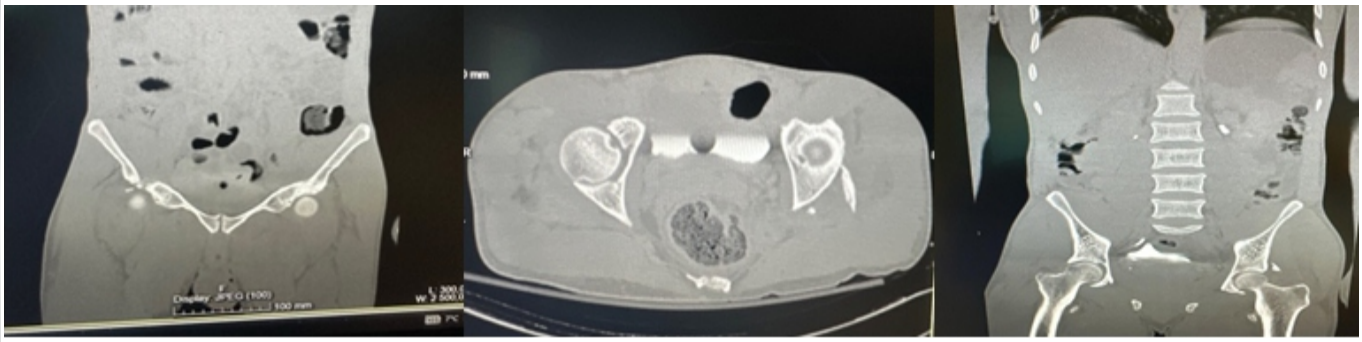

Figure 4: Post-reduction computed tomography scan: Sagittal, axial, and coronal images reveal a displaced left posterior acetabular wall fracture and an undisplaced fracture of the superior margin of the right acetabulum.

and full blood count were within normal limits. He was then admitted to the orthopedic ward. We prescribed analgesia, anticoagulation, and intravenous fluids for him. The left acetabulum posterior wall fracture was deemed significant and displaced and warranted surgical fixation. The acetabulum fracture on the right was minor and could be treated non-operatively.

He was then booked, prepared, and planned for the theater 7 days later. He then underwent left acetabulum open reduction and internal fixation for the displaced posterior wall fracture under general anesthesia. We placed him in the right lateral position. We then cleaned and draped the operative site under sterile conditions. The left acetabulum was approached using the Kocher–Langenbeck approach. The gluteus minimus was noted to be torn but attached to the large posterior wall fragment. The fracture was then reduced, and a spring plate and "tiara" plate were then applied to the fracture site, and screws were inserted to maintain the reduction. The reduction was acceptable under fluoroscopy imaging. Copious irrigation was carried out, and the wound was closed in layers, and a dry dressing was applied to the area. Control X-rays (Fig. 5) were ordered, and his post-operative hemoglobin level was normal. Postoperatively, he began non-weight-bearing physiotherapy and was discharged in a wheelchair and on anticoagulation. At the 2-week follow-up, his surgical wounds healed without complications, and the 6-week follow-up X-rays showed healing fractures. Post-operative rehabilitation included 6 weeks of wheelchair use followed by ambulation with crutches.

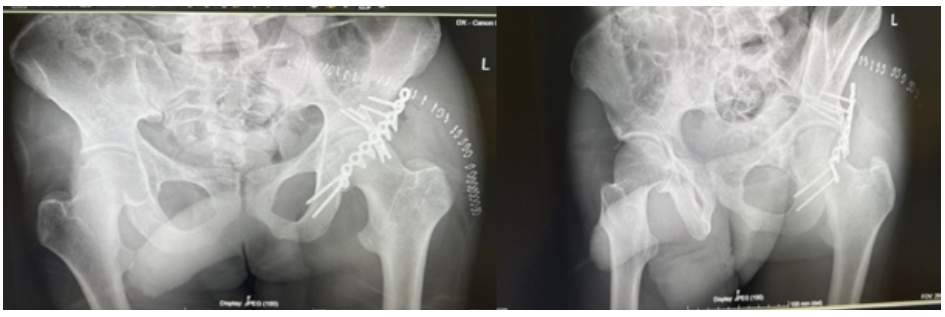

Figure 5: Post-operative X-rays showing a left acetabulum fixed fracture.

Discussion

The hip joint has a ball-and-socket configuration [4]. The labrum deepens the socket, which is the acetabulum. The hip joint is further reinforced by a robust ligamentous complex with a thick capsule and strong muscles [5]. Therefore, hip joint dislocations occur in high-velocity settings [6]. Buckwalter et al. divided the mechanism of injury in asymmetrical hip dislocations into five categories [6]. They identified motor vehicle accidents, pedestrian-vehicle accidents, falls from height, weight from height (collapsing wall), and others, e.g., aeroplane accidents [6]. Therefore, these patients must be evaluated extensively for other associated injuries [7]. As seen in the patient above, he sustained bilateral acetabulum fractures, of which the left side warranted surgical fixation. Buckhalter et al. noted that up to 44% of patients who sustain asymmetrical hip dislocations have an associated acetabulum or proximal femur fracture [6].

There are several hip reduction maneuvers [8,9]. Ninety percent of hip dislocations are posterior [9]. The maneuvers used for posterior hip dislocations are Allis, Stimson, East Baltimore, Captain Morgan, Bigelow, Lefkowitz, Piggyback, and Tulsa, to name a few [8,9]. The Captain Morgan technique was used in the patient above [9,10]. Hendey and Avila described a 92% success rate with the Captain Morgan maneuver [10,11]. The techniques described for anterior dislocations are Allis leg extension, Reverse Bigelow, Stimson, and lateral traction [8,11]. The Allis leg extension maneuver was used in the above patient for his anterior dislocation. A native hip dislocation is time-sensitive; physicians must be accustomed to some reduction techniques to limit

long-term complications [11]. There is controversy regarding where the reductions should be, whether in the emergency department or the operating theater [8]. This patient had a failed reduction attempt at the primary health care facility emergency room on presentation. Upon arrival at the tertiary facility, both hips were reduced in the emergency department. Muscular relaxation is imperative to achieve reductions in hip dislocations [6,8]. If achieving adequate relaxation in a safe and controlled manner in the emergency rooms is possible, then reduction should be attempted there [6,8]. Propofol has been noted to be safe and effective in achieving adequate procedural sedation for hip dislocations [12].

Hip dislocations are orthopedic emergencies [9]. A reduction of the joint carried out under 6 h from injury has a 5% risk of avascular necrosis (AVN) [9]. Hip dislocations reduced after 6 h from injury are associated with a 53% risk of AVN [9]. A hip not reduced within 12 h has a 5.6 times greater risk of developing AVN [8]. The other benefits of early reduction of hip dislocations are decreased chondrolysis, which leads to better hip function and pain management, and a decrease in the compression of local neurovascular structures [8]. Our case had his hips reduced within 24 h of injury. Therefore, close long-term follow-up is warranted for at least 2 years [2,13]. The review from Buckwalter et al. showed that bilateral asymmetrical hip dislocations generally have good outcomes [6]. The patients who had poorer outcomes were polytrauma patients with multiple other injuries [6].

Conclusion

Asymmetrical hip dislocations are rarely seen in orthopedic trauma casualties. Early identification, diagnosis, and reduction are essential to limiting long-term sequelae. Trauma and orthopedic doctors must also look for associated injuries, generally occurring in high-velocity scenarios. Many hip reduction maneuvers exist, and physicians must be proficient in some.

Clinical Message

Asymmetrical simultaneous dislocations of the hips are extremely rare. Awareness of the injuries warrants a holistic evaluation of the patient to exclude concomitant fractures and other systemic injuries.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest: Nil **Source of support:** None

References

1. Hachicha H, Chaker M, Brahim SB, Meddeb M, Makhlouf H, Mestiri M. Asymmetric fracture dislocation of the hips: Case report. Pan Afr Med J 2024;47:179.

2. Clegg TE, Roberts CS, Greene JW, Prather BA. Hip dislocations--epidemiology, treatment, and outcomes. Injury 2010;41:329-34.

3. Alnaser AA, Abd-Elmaged HM, Mohammed FE, Abd Allah RA, Mohamed Ahmed Hussien MA. A bilateral asymmetrical hip dislocation: A rare case report. Clin Case Rep 2022;10:e6439.

4. Meena UK, Joshi N, Behera P, Meena BP, Jain S. Simultaneous asymmetrical bilateral hip dislocations - a report of three cases with different presentations and management. J Clin Orthop Trauma 2021;23:101642.

5. Giaretta S, Silvestri A, Momoli A, Micheloni GM. Asymmetric bilateral hip dislocation in young man: A case report. Acta Biomed 2019;90:183-6.

6. Buckwalter J, Westerlind B, Karam M. Asymmetric bilateral hip dislocations: A case report and historical review of the literature. Iowa Orthop J 2015;35:70-91.

7. Sahito B, Abro A, Kumar V, Hussain B, Ahmed K, Kamboh A, et al. Bilateral asymmetrical hip dislocations with acetabulum fractures; a case report. Trauma Case Rep 2021;32:100453.

8. Tarchichi J, Daher M, Sakr I, Ghoul A, Zalaket J, Ghanem I, et al. Anterior hip dislocation: A current concepts review and proposal of management algorithm. Injury 2024;55:111252.

9. Gottlieb M. Managing posterior hip dislocations. Ann Emerg Med 2022;79:554-9.

10. Hendey GW, Avila A. The captain Morgan technique for the reduction of the dislocated hip. Ann Emerg Med 2011;58:536-40.

11. 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.

12. Eberson CP, Hsu RY, Borenstein TR. Procedural sedation in the emergency department. J Am Acad Orthop Surg 2015;23:233-42.

13. Honner S, Taylor SM. Bilateral anterior traumatic hip dislocation. J Emerg Med 2012;42:306-8.

Conflict of Interest: Nil
Source of Support: Nil

Consent: The authors confirm that informed consent was

How to Cite this Article

Kyei PKO, Mazibuko TJ, Nkosi CS. Asymmetrical Bilateral Complex Dislocations of the Hips: A Rare Case Report. Journal of Orthopaedic Case Reports 2025 September;15(9):250-254.