

Posterior Hip Dislocation Associated with Ipsilateral Femoral Head Fracture: A Case Report

Chouikh Younss *, Jalal Youssef, Fahl Moad, Lahmaidi Mohamed, Bennani Morad, Bousbaa Hicham, Zejjari Hassan and Cherrad Taoufik

Department of Orthopedic Surgery and Traumatology, Moulay Ismaël Military Hospital, Meknes, Morocco.

World Journal of Advanced Research and Reviews, 2026, 30(02), 082-086

Publication history: Received on 25 March 2026; revised on 30 April 2026; accepted on 02 May 2026

Article DOI: <https://doi.org/10.30574/wjarr.2026.30.2.1137>

Abstract

Posterior hip dislocation accounts for 75% of hip dislocations; its association with a femoral head fracture is a rare condition (6 to 28% of posterior hip dislocations). We report the case of a posterior dislocation with ipsilateral fracture of the femoral head classified as PIPKIN II in a 30-year-old man following a road traffic accident, surgically treated with reduction of the dislocation and then internal fixation of the femoral head by direct screwing. After 18 months of follow-up, the patient showed good clinical and radiological progress, with a Merle d'Aubigné score modified by Matta of 16 points out of a maximum of 18. The main complications are avascular osteonecrosis of the femoral head and coxarthrosis, hence the need for rapid and appropriate management.

Keywords: Posterior hip dislocation; Femoral head fracture; Avascular necrosis; Osteoarthritis

1. Introduction

Traumatic dislocation of the hip joint is defined as the permanent displacement of the femoral head from the acetabular cavity. It is generally the result of a violent trauma, most often a road traffic accident [1]. The position of the hip at the moment of impact and the site of action of the injury agent determine the direction of displacement of the bones [2]. The amount of energy required to dislocate a hip explains the frequency of associated injuries such as fractures of the acetabulum, femoral neck, or femoral head. Posterior dislocation is by far the most common (75% of cases), [3] It occurs when the point of impact is on the anterior surface of a flexed knee while the hip is in flexion-adduction and internal rotation (dashboard injury).

Femoral head fractures are rare injuries, occurring in 6 to 28% of posterior hip dislocations, [4] [5] [6] It was in 1869 that Birkett made the first description. The main complications are avascular osteonecrosis of the femoral head and coxarthrosis.

We report the case of a posterior dislocation with ipsilateral fracture of the femoral head in a 30-year-old man following a road traffic accident.

2. Case Report

2.1. Clinical Findings

This is a 30-year-old patient with no particular medical history who was the victim of a road traffic accident (Motorcycle fall). This resulted in a right hip injury. The initial examination revealed complete functional impairment of the right

* Corresponding author: Chouikh Younss

lower limb with pain, and a deformed posture of the lower limb in adduction, shortening, and internal rotation; without associated neurovascular damage.

2.2. Imaging

Standard anteroposterior (AP) radiographs of the pelvis and both hips were obtained, demonstrating a posterior dislocation of the right hip associated with an ipsilateral femoral head fracture (Figure 1).



Figure 1 Standard pelvic X-ray showing a posterior dislocation of the right hip associated with a fracture of the ipsilateral femoral head



Figure 2 Pelvic scans performed after orthopedic reduction revealing an anteroinferior fracture of the right femoral head, type II (according to Pipkin)

In accordance with established protocols for hip dislocations, which constitute a surgical emergency, a prompt reduction was performed in the operating room under general anesthesia. The Böhler maneuver was utilized to achieve stable closed reduction. The total time-to-reduction was 7 hours post-injury.

A post-reduction pelvic scan was systematically performed to confirm the fracture pattern and assess joint congruency. The CT confirmed the Pipkin Type II fracture of the right femoral head (Figure 2).

2.3. Treatment

The femoral head fracture was surgically managed under general anesthesia with the patient in the lateral decubitus position, a limited posterior approach of Kocher-Langenbeck to the hip was utilized. Intraoperative exploration revealed a large anteroinferior bony fragment detached from the femoral head, with no evidence of acetabular involvement. Following anatomical reduction of the fragment, temporary fixation was achieved using Kirschner wires (K-wires), definitive stabilization was then performed using three cortical screws. Great care was taken to countersink the screw heads beneath the articular surface to mitigate any atherogenic risk or joint irritation.

2.4. Follow-up

Postoperative anteroposterior (AP) pelvic radiographs demonstrated an anatomically accurate and stable internal fixation. The femoral head maintained its spherical contour, and **Shenton's line** (cervical obturator hanger) was fully restored (Figure 4).



Figure 2 Standard postoperative pelvic radiography after direct screw fixation demonstrates satisfactory osteosynthesis of a spherical femoral head with restoration of the cervico-obturator arch.

At the 18-month follow-up, the patient was reviewed in the outpatient clinic, demonstrating a favorable clinical and radiological evolution (Figure 4). He has successfully returned to all daily activities without limitations.

Clinically, the patient successfully regained full active and passive range of motion in the right hip. Functional assessment was conducted using the **Merle d'Aubigné score modified by Matta**. The patient achieved a final score of **16 out of 18 points**, indicating a "good to excellent" postoperative functional outcome.



Figure 4 Standard radiographs of the pelvis taken 18 months post-operatively show good progress without signs of avascular osteonecrosis or osteoarthritis.

3. Discussion

Posterior hip dislocations associated with a femoral head fracture are rare injuries [4]. They result from violent trauma and most often occur as part of multiple injuries.

Publications dealing with femoral head fractures are rare and the series are short, [4] [7] [8], it is difficult to identify a single therapeutic strategy, but the objectives of treatment are well defined: reduction of the dislocation, reduction and fixation of the head fragment.

If orthopedic reduction is not easily achieved, it should not be forced to avoid the risk of femoral neck fracture, which is the most serious complication. In cases of irreducibility, the hip must be approached to reduce the fragment and then perform open surgery to correct the dislocation. [7, 6]

Attitude towards the head fragment: This is frequently a subject of debate. Nevertheless, it appears that a conservative approach should be adopted whenever possible. In 26 cases reviewed with 10 years of follow-up, Vielpeau [8] [9] found the least favorable results when the fragment was removed (17% good results) versus when it was preserved (60% good results). Resection of the fragment should be reserved for very small fragments less than a quarter of the articular surface, which are not fixable and do not involve a weight-bearing area [10]. Resection can be performed arthroscopically or via open surgery using an approach adapted to the position of the fragment. [4] [11]. Removing even a small fragment is not without consequences and increases the risk of arthropathy; [8] [9] moreover, it would expose the patient to the risk of recurrent dislocation. Generally speaking, the fragment should be preserved and reattached, which allows for an expected 60% rate of excellent and good results at 10 years.

Several approaches have been proposed to fix this fragment. In young patients with a Pipkin I and II fracture, in which the hip is congruent after reduction and the fragment is anterior or anterolateral, it is preferable to use an anterior approach according to Hueter or an anterolateral approach according to Watson-Jones [12].

In our case, we performed direct screw fixation of the femoral head via a limited posterior Kocher-Langenbeck approach.

The synthesis must be anatomical and ensured by a solid screw (3.5 or 2 mm); this screw can be direct with the screw head buried, or indirect by pulling back (elegant but technically difficult solution). In elderly patients and those suffering from femoral head impaction, primary total hip arthroplasty is preferable [12].

Long-term complications of dislocation are numerous: necrosis of the femoral head, reported by all authors, and osteoarthritis, a probable consequence of cartilage damage. [13] The rate of coxarthrosis is estimated differently due to the varying follow-up periods of the studies; Those with at least 5 years of follow-up have around 20% osteoarthritis. Long-term functional results are poor. Vielpeau, [8] [9], with 26 cases at 10 years, found 50% fair to poor results and

50% good or excellent results. Radiologically, he found only seven hips with normal radiographs (27%), 19 abnormal radiographs (73%), including 16 cases of osteoarthritis and three cases of necrosis.

4. Conclusion

Posterior hip dislocation associated with a femoral head fracture is a rare condition resulting from high-energy trauma. The choice of surgical approach depends on the type of dislocation; the surgical indication will be determined based on the size and location of the fragment, and the Pipkin classification. Anatomical and stable reconstruction of the femoral head using countersunk screws provides satisfactory functional results. The main risk of progression is the occurrence of cervical necrosis, which can occur within 2 months to 5 years; the patient must therefore be closely monitored and must be clearly informed of this risk.

Compliance with ethical standards

Disclosure of conflict of interest

There are no conflicts of interest.

Statement of informed consent

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

References

- [1] Brau AE., Traumatic dislocation of the hip. J Bone Joint Surg [Am] 1962;44:1115–34..
- [2] Goddard NJ., Classification of traumatic hip dislocation Clin Orthop 2000;377:11–4..
- [3] Merle D'Aubigné R Mazas F., Luxations postérieures traumatiques de la hanche. Ann Chir 1963;17:1063–90..
- [4] Epstein HC Wiss DA Cozen L., Posterior fracture dislocation of the hip with fracture of the femoral head. Clin Orthop 1985;201:9–17..
- [5] Hoogaard K Thomsen PB., Traumatic posterior fracture dislocation of the hip with fracture of the femoral head or neck or both. J Bone Joint Surg [Am] 1988;70:233–9..
- [6] Mowery C Gershui DH., Fracture dislocation of the femoral head treated by open reduction and internal fixation. J Trauma 1986;26:1041–4..
- [7] Swiontkowski MF Thorpe M Seiler JG Hansen ST., Operative management of displaced femoral head fractures:case-matched comparison of anterior versus posterior forPipkin I and Pipkin II fractures. J Orthop Trauma 1992;6:437–42..
- [8] Vielpeau C Couette P Aubriot JH., Complications des fractures luxations de la tête fémorale (à propos de13 cas). Ann Orthop Ouest 1983;15:61–8..
- [9] Vielpeau C Lanoe E Delbarre JC Hulet C., Fractures luxations de la tête fémorale. Ann Orthop Ouest 2000;32:61–5.
- [10] Yoon TR Rowe SM Chung JY Song EK Jung ST Anwar IB., Clinical and radiological outcome of femoral head fractures.Acta Orthop Scand 2001;72:348–53..
- [11] Marchetti ME Steinberg GG Coumas JM., Intermediate term experience of PIPKIN fractures dislocations of the hip. J Orthop Trauma 1996;10:456–61..
- [12] Vincenzo Giordano et al., General principles for treatment of femoral head fractures. J Clin Orthop Trauma. 2017 Jul 29;10(1):155–160.
- [13] De Lee JC Evans JA Thomas J., Anterior dislocation of the hip with femoral head fractures. J Bone Joint Surg [Am] 1980;62:960–4..