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## Traumatic obturator dislocation of the hip: About a case

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### Abstract

Traumatic obturator hip dislocation is rare. It accounts for 6 to 10 % of traumatic hip dislocations. It occurs in the context of violent trauma to a hip in a favourable position. Classically, dislocation occurs when the impact is brought to the anteriomedial part of the knee while the hip is in flexion and the limb in abduction and external rotation. The diagnosis is evoked before a hip deformation in flexion abduction external rotation. Confirmation is made by imaging. We report the case of an unhelmeted motorcycle passenger who allegedly fell from his motorcycle and landed on the anteriomedial side of the knee. The pelvic X-ray showed an obturator dislocation of the left hip. Under general anaesthesia, the dislocation was reduced by performing hip flexion associated with axial traction and then internal rotation adduction. The limb was immobilized in a knee brace for 21 days, bearing allowed after 60 days. At 36 months follow-up, the functional and radiological results are satisfactory.

**Keywords:** Traumatic dislocation, obturator variety, motorcycle fall, reduction, external man oeuvres

### Introduction

Traumatic hip dislocation is defined by a permanent displacement of the femoral head out of the acetabular cavity following a violent trauma occurring on a hip in a favourable attitude [1]. Anterior hip dislocations are divided into two categories based on the position of the femoral head: pubic or superior and obturator or inferior. The obturator variety is the rarest and accounts for only 6-10 % of cases [2].

We report the case of an unhelmeted motorcycle driver who presented with traumatic pubic dislocation of the left hip following a fall from his motorcycle. The dislocation reduction was obtained by man oeuvres of axial traction and adduction-internal rotation of the hip.

### Clinical case

MS is a 20-year-old student with no reported pathological history. He was referred from the health centre of Kidira, a locality located 193 km from Tambacounda, for managing a hip trauma following a road traffic accident. The unhelmeted driver of a motorcycle skidded due to excessive speed causing his fall, landing on the antero-internal face of the left knee.

Clinically, he was conscious and in good general condition. He complained of pain and functional impotence of the left lower limb. The left hip was in flexion, abduction and external rotation. Distal pulses were felt, and sensitivity and motor skills were preserved. Elsewhere, the examination was unremarkable.

The pelvic X-ray showed a low anterior dislocation of the left hip [Figure 1]. Under general anaesthesia, we proceeded to reduce the dislocation by man oeuvres of flexion, axial traction of the knee, adduction, and hip internal rotation. The follow-up X-ray showed a well-fitted femoral head in the acetabular cavity [Figure 2]. The left lower limb was immobilized with a removable knee brace for 21 days. Walking without support was supervised by a pair of English canes, and full support was authorized after 60 days. At 36 months of follow-up, the radio-clinical evaluation was satisfactory. [Figures 3] and [Figures 4.5].

## Discussion

Traumatic hip dislocations have become more frequent since the increase in the car fleet, especially motorized two-wheeled vehicles and high-rise constructions. This sometimes anarchic increase results in the multiplication of the number of road traffic accidents and falls in building construction sites where there is a virtual absence of safety devices.

Even though dislocations are more and more frequent, the anterior varieties remain rare (25 %) [3].

Usually, they occur in the context of violent trauma because the coxo-femoral joint is a well-fitted enarthrosis. The femoral head articulates in the acetabular cavity; the latter is enlarged by peripheral fibrocartilage, the labrum. It is this head-acetabulum congruence that makes the hip very stable. This stability is reinforced by a thick capsule in the shape of an hourglass, by the iliofemoral ligament (which reinforces the capsule above and in front) and the pub femoral ligament (which lines the capsule below and in front), as well as by the ischiofemoral ligament (back) [4].

However, two mechanisms are reported in the occurrence of anterior dislocations:

- Either the point of impact is placed on the inside of the bent knee, or the hip is in a position of flexion-abduction and external rotation. This mechanism is the one reported by our patient. Following his fall from his motorcycle, the anteriomedial aspect of his knee struck the ground.
- Either the trauma is on the feet, legs in extension and hips in external rotation.

<< Split position >> [5].

The diagnosis is suspected on the clinical examination "vicious attitude" of the member. Confirmation is by imaging. The frontal X-ray of the pelvis shows a vacuity of the acetabulum, a rupture of the cervical-obturator arch, and a femoral head in the obturator position. Other incidences, such as the profile of the hip, the obturator, or alar  $\frac{3}{4}$ , can help diagnose. Our patient did not realize these views because he was hyperalgesic and refused collaboration.

As for the tom densitometry, it makes the complete lesion assessment. It specifies the direction of head displacement, osteochondral fractures of the femoral head, and incarcerations of small fragments in the acetabulum [6]. Our patient could not do this examination due to a lack of financial means. In our countries, the lack of health coverage means that health care is the responsibility of the patient, his family or people of goodwill.

The treatment consists of urgent reduction of the dislocation and immobilization in order to have a stable, painless and functional hip. Reducing dislocation is an urgent procedure; it is done under general anaesthesia immediately after the radiological investigations [7]. The ideal time frame for performing this act remains controversial. According to Hoggard, it is less than six hours [7, 8], but according to Brau, it could reach twelve hours [9]. We think it would be better to do it within six hours of the trauma. The methods commonly used to reduce hip dislocation are those of Allieu and Boehler [3].

However, some authors, like Toms *et al.*, recommend reduction with the help of the orthopaedic table [10].

The evolution is marked by the occurrence of aseptic necrosis of the femoral head, the rate of which is around 5 % if the hip is reduced before six hours, but this rate reaches 50 % if the reduction is made after six hours [11]. Our patient was 36 months from the trauma, and no complications were noted.



**Fig 1:** Dislocation of the hip in its obturator variety (emptiness of the acetabulum, head in the obturator position, rupture of the cervical-obturator arch)



**Fig 2:** Control X-ray after dislocation reduction.



**Fig 3:** Front view of the pelvis. No signs of osteoarthritis or osteonecrosis at 36 months



**Fig 4:** Full hip flexion



**Fig 5:** Full hip extension

### Conclusion

Traumatic obturator dislocation is rare. The diagnosis is evident before the hostile attitude, and the confirmation is done with imaging. The treatment consists of reduction by the orthopaedic method, and surgery is reserved for forms associated with fractures or those that are irreducible. Aseptic necrosis of the femoral head and osteoarthritis of the hip are the complications to be feared.

### Conflict of Interest

Not available

### Financial Support

Not available

### References

1. Pietu G, Malissard M, Raynaud G, Letenneur J. Luxations traumatiques pures de hanche. *Traité d'Appareil locomoteur*. 1993;14-077-A-10.
2. Phillips AM, Konchwalla A. The pathologic features and mechanism of traumatic dislocation of the hip. *Clinical Orthopaedics and Related Research*®. 2000 Aug 1;(377):7-10.
3. Burdin G, Hulet C, Slimani S, Coudane H, Vielpeau C. Luxations traumatiques de hanche: luxations pures et fractures de tête fémorale. *EMC - Rhumatologie-Orthopédie*. 2004 Nov 1;1(6):508-20.
4. Akiki A, Duvoisin C, Krupp F, Kombot C. Luxations du membre inférieur: les reconnaître et les traiter. *Rev Med Suisse*. 2012;2(331):539-42.
5. Ebstein H.C. Traumatic dislocation of the hip. Baltimore:

Williams & Wikins; c1980. p. 172-215.

6. Hamilton DA Jr, Wright RD Jr, Moghadamian ES, Bruce BT, Selby JB. Bilateral asymmetric hip dislocation: a case series and literature review of a rare injury pattern. *J Trauma Acute Care Surg*. 2012 Oct 1;73(4):1018-23.
7. Shim SS. Circulatory and vascular changes in the hip following traumatic hip dislocation. *Clinical Orthopaedics and Related Research*. 1979 May 1;(140):255-261.
8. Hoogaard K, Thomsen PB. Coxarthrosis following traumatic posterior dislocation of the hip. *J Bone Joint Surg (Am)*. 1987;69:679-83.
9. Brau AE. Traumatic dislocation of the hip. *J Bone Joint Surg (Am)*. 1962;44:1115-34.
10. Toms AD, Williams S, White SH. Obturator dislocation of the hip. *The Journal of Bone and Joint Surgery. British volume*. 2001 Jan;83(1):113-115.
11. Hougaard K, Thomsen PB. Traumatic posterior dislocation of the hip-prognostic factors influencing the incidence of avascular necrosis of the femoral head. *Archives of orthopaedic and traumatic surgery*. 1986 Dec;106(1):32-35.

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