

OBTURATOR DISLOCATION OF THE HIP AFTER A FALL FROM A HORSE: A RARE ENTITY WITH AN UNUSUAL MECHANISM- A CASE REPORT

Ismail Kabbaj*, Alae Neqrachi, Moncef Boufettal, Reda-Allah Bassir, Mohamed Kharmaz, Moulay Omar Lamrani and Mohamed Saleh Berrada

Orthopedic Surgery Department of Ibn Sina Hospital, University Mohamed V, Rabat 10100, Morocco.

*Corresponding Author: Ismail Kabbaj

Orthopedic Surgery Department of Ibn Sina Hospital, University Mohamed V, Rabat 10100, Morocco.

Article Received on 27/01/2021

Article Revised on 17/02/2021

Article Accepted on 07/03/2021

ABSTRACT

Obturator type traumatic anterior hip dislocation in adult is rare of all types of hip dislocation. It can occur as a result of a high-energy trauma, it must be reduced immediately. A delay in relocation of more than 6 hours has been associated with a high risk of avascular necrosis of the femoral head. We describe a case of traumatic obturator hip dislocation in 21 years old male practicing horseriding. Closed reduction was done under general anesthesia.

KEYWORDS: Hip dislocation, obturator, osteonecrosis, reduction.

INTRODUCTION

Anterior hip dislocations account for approximately 5% to 11% of traumatic dislocations,^[1-3] Epstein classified hip dislocations as anterior or posterior and subclassified anterior dislocations as pubic (superior) or obturator (inferior).^[4]

Obturator dislocations occur with forced abduction, flexion, and external rotation of the femur. Prompt reduction may reduce the risk of avascular necrosis of the femoral head.^[5] For that, a combination of hip flexion, internal rotation, and adduction is associated with elevating the femoral head into the acetabulum.^[2]

We came across a 21 year old male victim of a fall from a horse during a horse race resulting in obturator type of hip dislocation.

CASE REPORT

A 21-year-old male patient was brought to the emergency department following a fall during a horse race.

The patient was admitted after 3 hours of his injury in hospital. He complained about severe pain in his hip and inability to move the right lower limb.

In the clinical examination, her airway was intact and he was hemodynamically stable. The lower limb was found in flexion, abduction and external rotation (Figure 1). The patient's neurologic and vascular status was intact in the bilateral lower extremities.

Radiographic examination of the pelvis revealed an obturator dislocation of the right hip (Figure 2) and no associated fracture was seen.

The dislocation was immediately reduced under general anesthesia by traction in the line of the deformity followed by a gentle adduction and internal rotation, the pelvis was stabilized by an assistant. At that moment, the hip was flexed and internally rotated (Figure 3) and the fluoroscopic examination showed accurately relocated hip. (Figure 4).

Following reduction, X-ray and computed tomography was revealed a congruent right hip and no fracture signs (Figure 5 and 6).

The patient had an uneventful post-operative course and was immobilized for 3 weeks with progressive weight-bearing for 6 weeks. At 6–8 months follow-up, the patient is out of any complaints with a full range of motion of the right hip.

The patient is still under follow-up and advised follow-up after every 6 months to rule out avascular necrosis of femoral head or osteoarthritis.

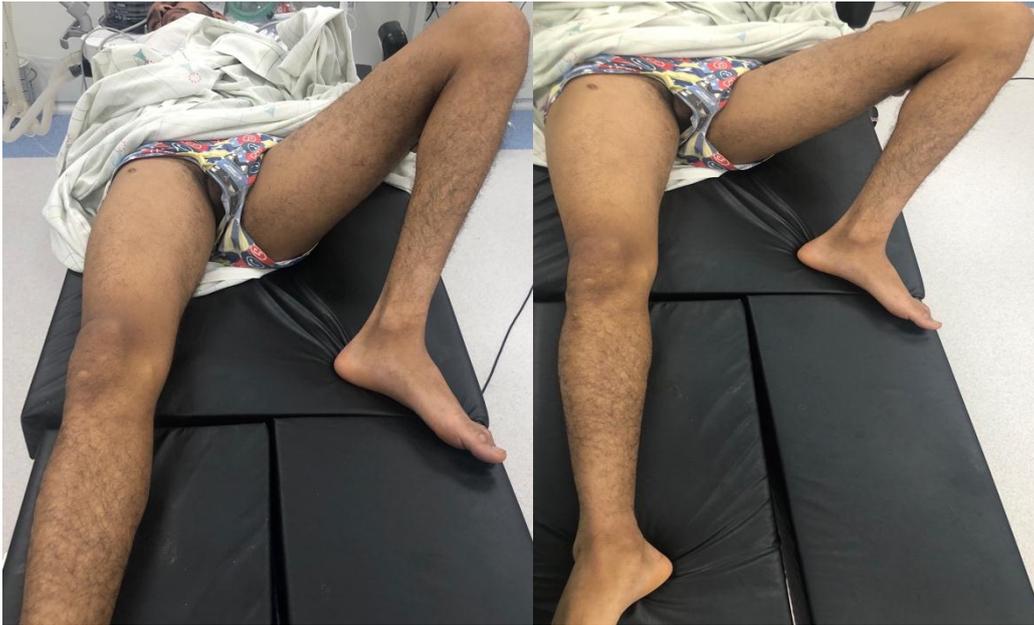


Figure 1: Clinical picture of obturator dislocation in flexion, abduction and external rotation.



Figure 2: Anteroposterior view of the right hip revealing the obturator dislocation.



Figure 3: Clinical picture of the limb after reduction.

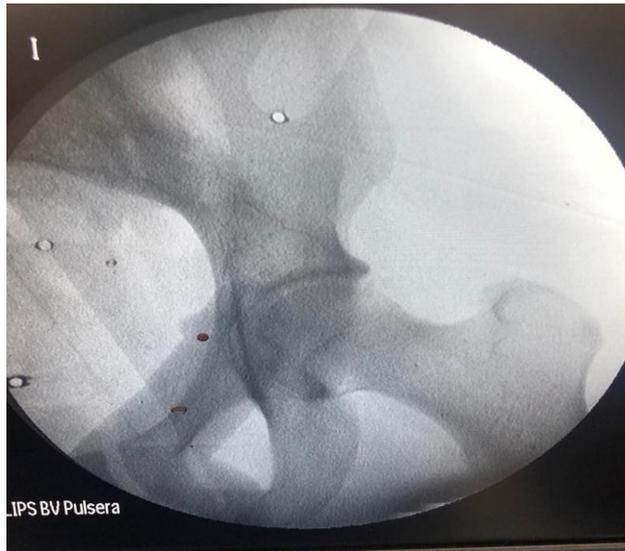


Figure 4: Fluoroscopic picture showing relocated hip.



Figure 5: Anteroposterior view of the pelvis showing the relocated hip.



Figure 6: Computed tomography revealing a congruent right hip and no fracture signs.

DISCUSSION

Traumatic dislocations are rarely isolated. In most cases, an association with an acetabulum or femoral head fracture is common. They represent less than 5% of all dislocations. Bigelow's Y-shaped ligament and the strong anterior capsule tend to decrease the incidence of these dislocations.^[6]

The mechanism of occurrence is a forced abduction, external rotation and flexion of the hip joint. Anterior capsular lesions are constant.^[7] These lesions can lead to irreducibility by the buttonhole effect.^[8] Also osteo-articular injuries are very frequent and depend on the mechanism and the violence of the initial trauma. In 52% of cases, there is an associated femoral head fracture.^[9] and in 64% of cases, cartilaginous lesions are present.^[9] Dislocation of the hip is an orthopedic emergency. The initial treatment for a patient with hip dislocation is gentle and prompt reduction within 6 hours and preferably under general anesthesia with curarization to prevent and minimize complications. This reduction can be difficult in muscular subjects.

There are several reduction methods for reduction. According to Epstein.^[10] and Brav,^[11] the reduction technique is traction in the axis of the femur followed by progressive flexion of the hip in internal rotation and abduction, while maintaining traction. Whereas Toms and al,^[12] recommend using the orthopedic table and associating axial traction with lateral traction of the thigh and then gradually releasing the traction while impregnating an internal rotation adduction movement.

The interest of post-reduced traction and unloading to reduce the risk of cephalic necrosis of the femoral head is still disputed. Currently, there is no consensus.^[4] An early relief then total support on day 15 with eversion external rotation for 3 weeks are recommended by Catonné et al in the context of anterior dislocations.^[9]

Complications can occur. The most frequent one is osteonecrosis due to prolonged and irreversible ischemia of the head of the femur. It occurs in 12–32% or more of cases, particularly if the dislocation is accompanied by severe bone destruction. Also, osteoarthritis is a common complication, even in the absence of associated fractures.

Other complications have been described by Beebe and al, namely heterotopic ossification, and sciatic nerve palsy in addition to osteoarthritis and osteonecrosis.^[13]

CONCLUSION

Obturator dislocation without fracture is rare injury with severe high-energy trauma. Prompt diagnosis and treatment are crucial in the management of these injuries because it involves the functional prognosis of the hip by the risk of necrosis of the femoral head and subsequent osteoarthritis.

Consent

The patient has given their informed consent for the case to be published.

Conflict of interests: None.

REFERENCES

1. Amihood S. Anterior dislocation of the hip. *Injury*, 1975; 7(2): 107-10.
2. Granahan A, McAuley N, Ellanti P, Hogan N. Traumatic anterior dislocation of the hip. *BMJ Case Rep.*, 2016; 2016(1): 55-7.
3. Phillips AM, Konchwalla A. The pathologic features and mechanism of traumatic Walker WA. Traumatic dislocations of the hip joint. *AmJ Surg*, 1940; 50(3): 545-9.
4. Jacob JR, Rao JP, Ciccirelli C. Traumatic dislocation and fracture dislocation of the hip: a long-term follow-up study. *Clin Orthop Relat Res.*, 1987; (214): 249-63.
5. Phillips AM, Konchwalla A. The pathologic features and mechanism of traumatic dislocation of the hip. *Clin Orthop Relat Res.*, 2000 Aug; (377): 7-10.
6. Boyer P, Bassaine M, Hutten D. La luxation obturatrice traumatique chez l'adulte: À propos d'un cas et revue de la littérature. *Revue de chirurgie orthopédique*, 2004; 90(7): 673-677.
7. Canale ST, Manugian AH. Irreducible traumatic dislocation of the hip. *J Bone Joint Surg*, 1979; 61(1): 7-14.
8. Catonné Y, Meyer A, Sariali E, Biette G. Pathologie du complexe pelvi-fémoral du sportif. *Pathologie du complexe pelvi-fémoral du sportif*, 2009; 88-99.
9. Epstein HC. Traumatic dislocations of the hip. *Clin Orthop Relat Res.*, 1973 May; (92): 116-42.
10. Brav EA. Traumatic anterior dislocation of the hip. *J Bone Joint Surgery (Am)*, 1962; 44(A): 1115-1121.
11. Toms AD, Williams S, White SH. Obturator dislocation of the hip. *J Bone Joint Surg (Br)*, 2001; 83(1): 113-115.
12. Beebe MJ, Bauer JM, Mir HR. Treatment of hip dislocations and associated injuries: Current state of care. *Orthop Clin North Am*, 2016; 47: 527-49.