

Pure Obturator Dislocation of the Hip, a Rare Variety of Regular Dislocations, and Long-Term Clinical Outcomes

Walid Bouziane¹, Machmachi Amine², Soufiane Aharram¹, Omar Agoumi¹, Abdelkrim Daoudi¹

Abstract

Introduction: The post traumatic dislocation of the hip is a surgical emergency. It is due, in almost all cases, to a trauma of high energy, and occurs, most often, in the context of a patient with multiple traumatic injuries, its pure antero lower variety is very rare. Indeed, very few cases are published in the literature, its management must be done within 6 hours, and by a qualified surgeon in order to reduce the risk of headache necrosis and iatrogenic fractures.

Case report: we report the case of a pure obturator dislocation of the hip, following a trauma of high energy. The management was made in time and consisted of a reduction by external maneuvers on a curarized patient. The functional and radiological results after two years were very good, without signs of aseptic necrosis.

Conclusion: Hip obturator dislocation is a rare variety of regular hip dislocations. Orthopaedic reduction must be done urgently, by a qualified surgeon who must be previously warned of the risk of complications.

Keywords: Hip Obturator dislocation, Pure, Case report.

Introduction

The post-traumatic dislocation of the hip is a surgical emergency. It is the consequence of a high energy trauma, its posterior variety is the most common, while the obturator variety is exceptional and represents only 6-10% of the cases of hip dislocations [1]. It is defined as a permanent and post-traumatic displacement of the femoral head in front of the obturator hole. The reduction must be done in less than 6 hours because the long-term functional prognosis of the hip joint depends on it. The fear of orthopaedic surgeons remains its evolution towards aseptic necrosis and hip osteoarthritis. We report the case of a pure obturator dislocation and the functional result after 2 years.

Case Report

We report the case of a 23-year-old patient who smokes at a rate of 10 packs per year with no significant pathological history. The patient was a victim of a public road accident and was a passenger, with the impact point being the inner side of the left leg. On admission, the patient was conscious. A device-by-device examination was done to eliminate any life-saving urgency. The physical examination objectified a characteristic vicious attitude of the left hip in flexion abduction external rotation (Figure 1), with absolute functional impotence, without associated cutaneous opening. A dermabrasion on the inner side of the homolateral leg was noted, and the vascular and nervous examinations were without abnormalities. A standard X-ray of the frontal pelvis showed a pure obturator dislocation of the right hip with

no associated fracture (Figure 1), no associated femoral neck fracture, or other bone lesion noted. The diagnosis of a pure obturator dislocation of the hip was retained and the patient was rushed to the operating room at H3 of the accident. A reduction by external manoeuvring was performed in a well-sedated patient under general anaesthesia by an experienced surgeon to avoid any iterative fracture. The reduction was made by a pull in the axis of the limb followed by a bending of the hip in internal rotation and abduction and was obtained from the first attempt. The disappearance of the deformation as well as the audible snapping testify to the success of the maneuvers. A scopic and radiological check were carried out in the operating room, which confirmed the reduction of the dislocation (Figure 1). A post-reductional examination was conducted by testing the stability of the hip joint as well as a nervous examination of the lower limb. Examination of the homolateral knee would eliminate an associated PCL rupture. A CT scan of the pelvis was done after reduction in search of foreign bodies in intra-articular and a possible fracture or osteochondral injuries of the femoral head. (Figure 2) Traction of the limb was maintained for two weeks to promote capsulo-labral healing and decrease intra-articular pressure. A strict prohibition of support was explained to the patient, as well as the possible risk of aseptic osteonecrosis of the femoral head. We followed the patient for 2 years, with authorization of support from the 6th week. The long-term results were excellent, without lameness or pain or radiological signs in favour of osteonecrosis of the femoral head (Figure 3).

¹Department of Orthopaedic Surgery and Traumatology, University Hospital Oujda, Morocco.

²Department of Medicine and Pharmacy, Mohammed First Oujda University, Oujda, Morocco.

Address of Correspondence

Dr Walid Bouziane,

Department of Orthopaedic Surgery and Traumatology, University Hospital Oujda, Morocco.

E-mail: walidbouziane93@gmail.com

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Figure 1 : A vicious attitude of the left hip in flexion, abduction, and external rotation associated with dermabrasion on the inner side of the leg, Standard X-ray of the pelvis showing a pure obturator dislocation of the left hip and Post-reductional radiography



Figure 3: Clinical and radiological results at 2 years without signs of osteonecrosis of the femoral head or coxarthrosis

Discussion

Hip obturator dislocation is one of the most uncommon types of trauma surgery [2], with only a few cases reported. This rarity can be explained by the very particular anatomy of the hip joint. Indeed, it is the deepest, most stable, and most embossed joint in the body, surrounded by a wide range of very powerful muscles and stabilized by a large capsulo-labral and ligament complex. This will also explain the violence of the trauma involved [3] and rarely encountered in sports practice [4, 6]. For most authors, the obturator dislocation of the hip occurs on a hip in a favourable attitude. The mechanism of occurrence of this entity is a movement in flexion, abduction, and forced external rotation [5]. In 2015, Dellan et al reported a similar case [7], noting that the most reported mechanism is the propagation of the shock wave from the medial side of a bent knee to the hip in external flexion abduction rotation. Toms et al. insisted on the cam effect of the great trochanter on the ilion in maximum abduction [8]. The orthopaedic reduction is urgently required; indeed, it is the key element in the therapeutic management. We insist, like all authors, on a reduction under general anesthesia with complete muscle relaxation made by a qualified surgeon. Moreover, the reduction maneuvers differ. In our case, we achieved traction in the axis of the femur followed by progressive flexion of the hip in internal rotation and abduction, while maintaining the traction. Epstein and Brav [9] described the same



Figure 2 : A post-reduction scanner confirms the dislocation's "pure" nature and the absence of foreign bodies in the intra-articular space.

maneuver. Tom et al recommend the reduction on an orthopaedic table and to associate with the axial traction, a lateral pull of the thigh. Then gradually release the traction while impregnating an internal rotation adduction movement. They criticized abduction, which may be responsible for the femoral neck fractures described in the literature [8] [10]. These discussions draw attention to the reduction difficulties and the significant risk of complications that can lead to a surgical approach for a bloody reduction.

Fractures of the anterior wall of the acetabulum should be investigated in the post-reduction. Indeed, a CT scan of the pelvis seems very useful. It will also allow the detection of an osteochondral lesion of the femoral head or an infra-radiological fracture frequently associated with this variety of luxation [11]. These two elements will determine the functional prognosis of the hip joint, and the patient must be warned of any complications. We believe that traction for about ten days is very logical because it serves a dual purpose: it reduces intra-articular stresses and pressures while also promoting capsular healing. Catonné et al [12] recommend early relief and then total support on the 15th day with eversion of the external rotation for three weeks in the context of anterior dislocations. The evolution of isolated hip dislocation is often favourable in 85 to 100% of cases, according to the authors [13]. Two essential complications exist: necrosis of the femoral head and coxarthrosis. The risk of cephalic necrosis occurring increases with the delay in reduction. Hoogard [14] observed 47% necrosis when the reduction time exceeded 6 hours. But these figures mostly concern lesions associated with fractures of the cotyle or femoral head. This rate is certainly lower in isolated dislocations.

Conclusion

The obturator dislocation of the hip is a rare entity. Its diagnosis is obvious, and its correct and urgent management by a qualified surgeon determines the functional prognosis of the hip joint.

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

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