

Case Report

Traumatic posterior dislocation of hip with ipsilateral fracture of shaft of the femur: external maneuvers reduction and osteosynthesis by screw plate about a case and review of literature at Tambacounda regional hospital in Senegal

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ABSTRACT

Traumatic hip dislocation associated with an ipsilateral femoral fracture is a rare injury. It occurs in a high-energy traumatic context. The classic mechanism consists of a fall with landing on the hip, which initially dislocates and the femur fracture occurs secondarily by adduction of the proximal fragment. The diagnosis is difficult in front of the fracture whose signs mask the vicious attitude of the dislocation. We reported the case of a passenger of a motorcycle who collided with a parked car. He was ejected from the motorcycle and landed on his right hip. We performed X-rays of hip and lower limb at his admission which revealed a dislocation of hip in its high posterior variety and a medio-diaphyseal fracture of femur on same side. Reduction of dislocation by external maneuvers was made and osteosynthesis of femur with screwed plate performed 48 h later. After 16 months of care, functional and radiological results sufficient.

Keywords: Hip dislocation, Fracture shaft of femur, External reduction maneuvers, Osteosynthesis

INTRODUCTION

Traumatic hip dislocations are uncommon injuries. The posterior varieties (75%) are by far the most frequent.¹ They may be associated with several particular forms such as bilateral, recurrent, late discovery, and in children; forms associated with a fracture of the femur on the same side are not exceptional but rare.²⁻⁴ We reported the case of dislocation of the right hip associated with a diaphyseal fracture of ipsilateral femur post trauma in order to share our experience in management of such associated injury.

CASE REPORT

A 16-year-old student, admitted from the emergency of the Hospital complaining about the thigh injury post traffic

accident. He was a passenger on a motorcycle that collided with a parked car and he fell down on the land by the side of his right hip.

Clinically, he complained of pain and functional impotence of the right lower limb. There was swelling of the right hip with a shortened and externally rotated right lower limb with the outer edge of the foot resting on the bed. There were no vascular-nervous disorders and the general examination was unremarkable.

This clinical review led us to undertake the radiographs of the pelvis, thigh and knee that allowed us to objective the dislocation of the right hip in its high posterior variety and a diaphyseal fracture of the right femur, we obtained reduction of the dislocation by external maneuvers did at

the operative room (Figure 1 and 2). The post reduction radiograph of the pelvis showed an inverted head in the acetabular cavity (Figure 3). Osteosynthesis of the fracture with an 8-hole screw plate was performed 48 hours later. The postoperative state was simple. Seven days after the surgery we let him go back home. His right lower limb was immobilized with a removable knee brace for 21 days and then discharged for 45 days. Support with a pair of walking sticks was allowed after 60 days. The 16 months later, the radiographic and clinical review results were sufficient (Figures 4-9).



Figure 1: Dislocation of the hip + fracture of the right femur.



Figure 2: X-ray of the knee seen from the front and from the side.



Figure 3: X-ray of the pelvis from the front after reduction of the dislocation.



Figure 4: Profile view of the hip. No signs of coxarthrosis.



Figure 5: Front view of the hip. No signs of coxarthrosis and consolidation of the fracture.



Figure 6: X-ray of the normal face pelvis at 16 months.



Figure 9: Hip flexed 90°.



Figure 7: Full hip extension.



Figure 8: Full hip flexion.

DISCUSSION

Traumatic hip dislocation associated with an ipsilateral femoral fracture is a rare injury. Classically, hip dislocation occurs in the context of high-energy trauma to a hip that is in a favorable position. In the high posterior variety, it is the dashboard accident where the impact is to the anterior knee.²

However, when associated with a fractured femur, the load is carried directly to the hip. This will result in a first dislocation of the hip and adduction of the hip will then result in a fracture of the femur. In addition, axial compression on a flexed and adducted hip is also considered as an injury mechanism.^{5,6}

The first mechanism is the one described by our patient. When he hit the car, he was ejected from the motorcycle and landed on his hip, which would have resulted in hip dislocation and the adduction of the hip caused the femur to fracture.

The diagnosis of hip dislocation is usually easy when there is a characteristic deformity of the limb. However, it becomes difficult when it is associated with a femur fracture on the same side, because the examiner's attention is often focused on the fracture, which breaks the vicious attitude of the dislocation.

Imaging is a crucial diagnostic aid. That is why X-rays of the pelvis and the knee were systematically requested after any trauma to the thigh.

CT scans would be much more useful in osteochondral fractures of the femoral head or the acetabulum.

In the literature, several therapeutic approaches exist, the final goal of which would be the reduction of the

dislocation and the osteosynthesis of the fracture in order to achieve consolidation of the fracture and to have a stable, painless and functional hip.

Reduction of a dislocation is an urgent procedure, performed under general anesthesia as soon as the radiological investigations are completed.⁷ The ideal time to perform this procedure remains controversial. Hoogaard suggests that it is less than six hours but Brau according to him suggest that it could be as long as twelve hours.¹⁰ The common methods used to reduce hip dislocation are those of Allieu and Boehler.^{2,8,9} However, the fractured femur prevents us from having the knee as a lever arm, we perform the maneuver directly on the proximal fragment. The body mass of the patient certainly made reduction easier.

Sometimes, if reduction by external maneuvers failed, the surgeon is obliged to use exo-fixation on the proximal fragment to reduce the dislocation and take advantage of the same operating time to fix the femur fracture. Our choice of screw-plate osteosynthesis is justified by the young age of the patient, who was still in growth. Some authors opt for locked centro medullary nailing.^{11,12} Osteonecrosis of the femoral head and osteoarthritis of the hip are the complications to be feared.

The absence of a picture of the reduction maneuvers and the limited time available to evaluate the patient were the limitations of our work.

CONCLUSION

Hip dislocation associated with an ipsilateral femur fracture remain rare injury. The diagnosis is difficult because of the fracture. Standard radiography is usually sufficient for diagnosis. Treatment consists of reduction of the dislocation and fixation of the femur. Osteonecrosis of the femoral head and osteoarthritis of the hip are the complications to be feared.

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