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RESEARCH ARTICLE

BILATERAL TRAUMATIC DISLOCATION OF HIP ASSOCIATED WITH FRACTURES OF TWO OBTURATOR RINGS (A CASE REPORT)

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ABSTRACT

The authors report a case of traumatic bilateral posterior dislocation of hip associated with two pubic rams fractures occurring in a young adult driver with no previous history of hip abnormality or ligamentous laxity, when the strong force is applied to the hip joint in the patient sitting with knees and hips flexed, a posterior lumbar shock in the hips adducted and rotated internally wich is associated with a direct shock on pelvis. The clinical diagnosis was the severe hips pain confirmed on X-rays. The two hips were reduced emergently under general anesthesia by classical method of Boelher. For the pubic ram fractures; discharge and a traction system of the legs pasted on the bed has been applied bilaterally for 45 days followed immediately with physiotherapy. On follow-up six weeks after discharge from hospital the patient has no complaint and six months later we obtained a satisfactory result with painless hips, stable and the patient was returned his activity.

INTRODUCTION

Traumatic dislocations of the hip joint are a permanent displacement of the femoral head outside the acetabular cavity. The hip is a ball and socket joint; the ball is femoral head and socket is acetabulum surrounding with many tough ligaments and strong muscles; this situation makes hip stable and the dislocation is exceptional in adults, and require high-energy trauma. The traumatic dislocation of the hip is a veritable injury that should be reduced quickly if possible within six hours of the injury for reducing the avascular necrosis of the femoral head.

It represents 1-5% of all dislocations [1]. Bilateral form was firstly described in 1937 by Marquardt [2]. The common mechanism of posterior dislocation occurs when the knee and hip are flexed and a posterior force is applied at the knees. When the knees of the front-seat occupant stricke the dashboard and energy is transmitted along the femoral shaft to the hip joint ,if the leg is struk while in an adducted position, but the association with the fractures of two pubic bones seems in our knowledge undescribed in the literature and being particular and still not elucidate. But there is no consensus regarding management following reduction, duration of discharge, thrombophlebitis control and physiotherapy. The aim is to present our experience in management of this lesionnel association.

Case Report

A 24-year-old male driver following lack of fuel his car was sudden stopped and was hit behind by another car travelling in the same direction (collision).

He was admetted in the Emergency Department in a context of polytrauma. On admission the patient presented pain and functional impotence of two lower limbs. The score of Glasgow was 13/15. The two upper limbs, the spine, the crane and thoraco-abdominal examination were normal. Two lower limbs were in adduction and internal rotation with knees slightly bent (fig.1). The Vascular examination was normal. The left foot had a deficit of flexion with hypoesthesia. The x-ray pelvic demonstrating a bilateral posterior dislocation of hip associated with bilateral two bones pubic fractures (fig. 2,).

The closed reduction was performed under general anesthesia by classical technic of Boelher [3]. Immediately after the reduction patient recovery of the motricity and the sensitivity. Physiotherapy was started .A radiograph post reduction confirmed a concentric reduction and excluded any intra articular fragments (fig.3) . A traction system of the legs pasted on the bed has been applied bilaterally for 45 days with a weigth (fig.4). The monitoring of thrombophlebitis of lower limbs was performed every two weeks. On follow-up six weeks after discharge from hospital the patient had no complaint.

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Six months later, the hips remained stable, mobile and painless. the fractures consolidated normally. The perimeter of market was not limited. The mobility of knees and ankles were normal.

DISCUSSION

The hip is a joint stable and mobile formed by the femoral head which is nested in the cavity outgrowths by the capsule and strong anterior and posterior ligaments with the muscles of the gluteal region; this situation makes exceptional the dislocation of hip in adults. But when the hip is in flexion-adduction and internal rotation, become unstable, and require high-energy trauma before knees or behind the lumbar to trigger a dislocation of hip, but the association of two pubic bones fractures is not explained.

In our case the mechanism was lumbar posterior shock on hips fixed and flexed in adduction (CRISS CROSS DISLOCATION) caused the bilateral posterior dislocation of hip but the association of two pubic bones fractures is not explained and the mechanism still not elucidated. In our knowledge we believe a direct anteroposterior shock was made on pubic bone relief against support.

In the posterior dislocation of hip the impact point is located on the before a knee flexed while the hip still in flexion-adduction and internal rotation. This type of dislocations is the most frequent of hip dislocations (75%) and can be accompanied by fractures of the posterior wall acetabular or femoral head.

The vascular prognosis is less good and the risk of necrosis of the femoral head is estimated at 5% versus more than 25% [4]. They are much higher in 50% the iliac forms and the low forms or Ischial in 25% of cases. In the latter form the femoral head moves and goes in the front of the sciatic spine can compress the sciatic nerve. It is the case that we have found on the left leg of our patient a deficit of flexion and hypoesthesia in the admission. Immediately after the reduction patient recovery of the motricity and the sensitivity

Upadhyay *et al*. [5] showed the influence of the degree of internal rotation and femoral anteversion on the risk of bone lesion.

The anterior dislocations are rare 25% and other asymmetric forms involving the posterior dislocation of one side and anterior on the other have been described [6,7].

When the dislocation of hip is billateral and associated with bilateral fracture of two pubic bone fracture it's required a emergency reduction in 6 hours [8]. Several studies have shown that the risk of osteonecrosis occurring after a hip dislocation is related to the long length of the time the hip remains dislocated.

Various methods to reduce hip dislocations have been described in the literature. The closed reduction was performed under general anesthesia by classical method of Boelher [3]

After reduction the legs were placed on traction-glued on the leg for 45 days with a weight (fig.3). This attitude allows to avoid acute painful and decrease the intra-articular pressure and reduce the risk of necrosis of the femoral head. For some authors the skeletal traction on proximal tibia is necessary for three weeks [9]. We recommend glued traction its keeps the integrity of the skin but the skeletal traction can damaged skin and bone. When the dislocation is not associeted with any fracture some autors advise the traction pasted during 8 to 10 days followed by walking with a support [10]. Before walking a doppler control of the member was made a day before to avoid thrombo-phlebitis. On follow-up six weeks after discharge from hospital the patient had no complaint.

The surgical treatment can be made in the case of association of fracture of the acetabulum, or irreducibility, and in neglected forms or when it is necessary to explore the sciatic nerve;

During the reduction Zehi *et al*. [11] reported 2 cases on 10 of femoral neck fractures in orthopedic reduction failures. In 70% of cases the cephalic necrosis are observed in the dislocations associated with fractures of the acetabulum or femoral head in the first or the second year following the trauma [12, 13].

Figure 1 Clinical appearance of traumatic bilateral posterior dislocation of hip associated with two pubic rams fractures with with two lower limbs in adduction and internal rotation with knees slightly bent.

Figure 2 The x-ray pelvic demonstrating a bilateral posterior dislocation of hip associated with bilateral two bones pubic fractures

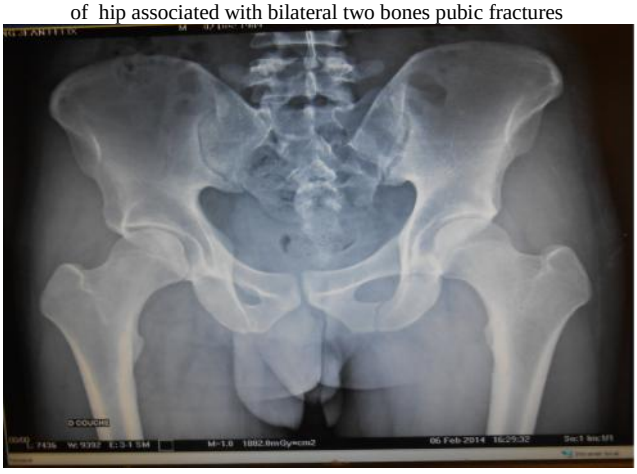

Figure 3A radiograph post reduction confirmed a concentric reduction and excluded any intra articular fragments

Figure 4 A traction system of the legs pasted on the bed has been applied bilaterally for 45 days with a weigth-bearing.

In our case Six months later, the hips remained stable, mobile and painless .the fractures consolidated normally; the perimeter of market was not limited. The mobility of knees and ankles were normal. The pubic rams had consolidated and any complications such as necrosis of the femoral head, recurrent dislcation or coxarthrosis had not observed.

CONCLUSION

The dislocation of the hip is most frequently seen in developed countries after a high speed traffic accident.

The traumatic dislocation of the hip is a veritable emergency that should be reduced quickly if possible within six hours of the injury for reducing the incidence of avascular necrosis of the femoral head. Traction of the legs pasted on the bed has been applied bilaterally for 45 days with a weigth-bearing.

Six months later, the hips remained stable, mobile and painless. the fractures consolidated normally, the perimeter of market was not limited. The mobility of knees and ankles were normal.

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