CASE REPORT

Bilateral anterior obturator hip dislocation without fracture: A rare case report with unusual etiology

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ABSTRACT

Bilateral obturator hip dislocations are quite rare injuries. This case report presents a 27-year-old male patient who experienced bilateral obturator hip dislocation due to a falling concrete electric pole. The unique features of this case include the unusual mechanism of injury and the absence of associated fractures, which differentiate it from other cases reported in the literature. Locked hip position and the presence of head trauma were discussed as factors that could delay treatment. Hip dislocations were reduced within the first two hours. During a follow-up period of two years, the patient showed no signs of avascular necrosis or osteoarthritis and reported no clinical complaints.

Keywords: Anterior obturator dislocation; bilateral; traumatic hip dislocation.

INTRODUCTION

Traumatic hip dislocations usually occur as a result of high-energy injuries.[1] The incidence rate among all dislocations is 2–5%.[2] The majority of cases occur in young male patients due to motor vehicle accidents and are accompanied by a high rate of associated fractures.[3] Among hip dislocations, anterior dislocations are less common than posterior dislocations, with a rate of 7–13%.[4] The incidence of bilateral anterior dislocations is much rarer, at 1.25%.[5] The vast majority of these cases are motor vehicle accident (MVA) injuries and have been reported in only a handful of instances. In this case report, we report a bilateral traumatic obturator hip dislocation caused by a rare pathophysiological mechanism and provide 2-year follow-up results.

CASE REPORT

A 27-year-old male construction worker was injured while in a squat position after a concrete electric pole fell over. The patient was brought to the emergency room within the first hour. Following the initial evaluation according to the advanced trauma life support protocol, the patient was conscious, oriented, and cooperative. Swelling due to contusion was detected in the frontal region of the head. Both hips were in a fixed position in flexion, abduction, and internal rotation. Dermabrasions were present in the anteromedial region of both knees. There was no neurovascular injury. Bilateral anterior obturator hip dislocation was detected on initial pelvic radiographs (Figure 1). Reduction under general anesthesia was planned for the agitated patient who did not respond to initial analgesic treatments. Transferring the patient to the computed tomography unit with a stretcher was problematic due to the hip position (Figure 2). Preoperative craniocervical CT was able to be performed with the aid of two auxiliary staff. Craniocervical CT revealed a subgaleal hematoma; there was no intracranial or cervical pathology. However, it was not possible to fit the patient into the CT gantry, as the legs blocked the position for the pelvic CT scan. Thus, pelvic CT was postponed to be performed after hip reduction to prevent further delay. Within 2 hours, the patient was taken to the operating room, and bilateral hip reduction was per-

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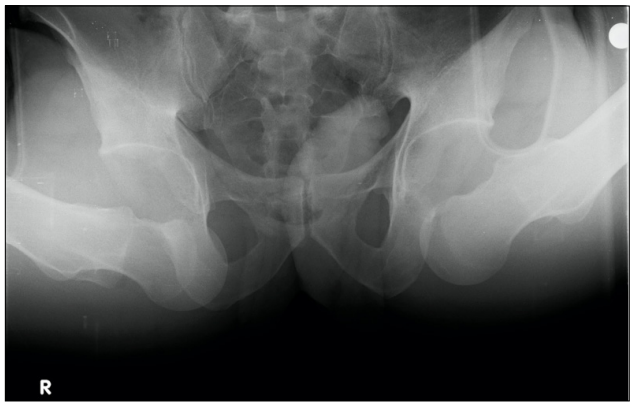

Figure 1. Pelvis AP radiograph demonstrating a bilateral anterior obturator hip dislocation.

Figure 2. Constant leg support was needed due to an aberrant, locked hip position.

Figure 3. Hip joints were stable after reduction. Note the bilateral dermabrasions on the anteromedial part of the knees (arrows), which indicate the initial dislocation mechanism of hyperabduction and external rotation of the femur.

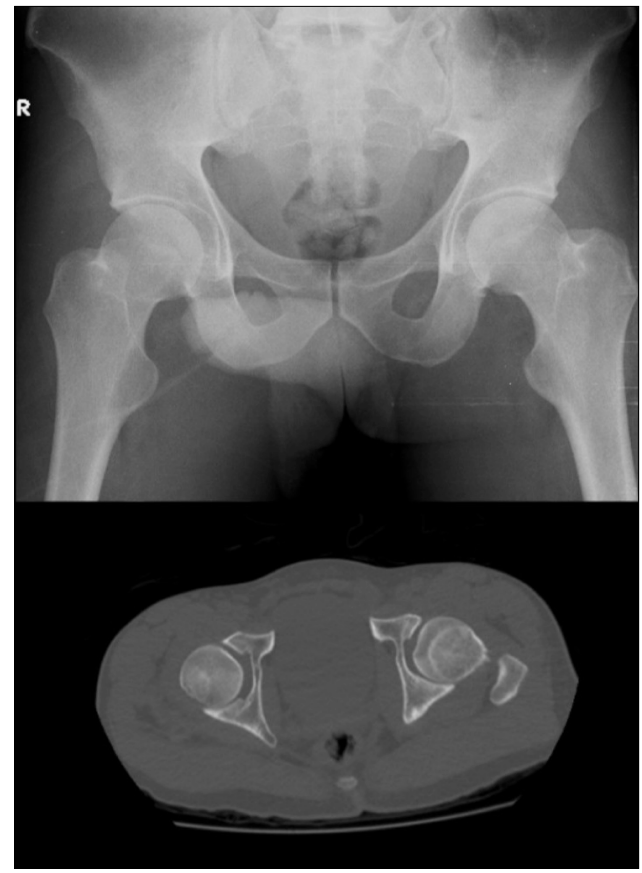

Figure 4. Post-reduction CT scan images and AP radiograph of the pelvis showing bilateral concentric reduction without associated fracture.

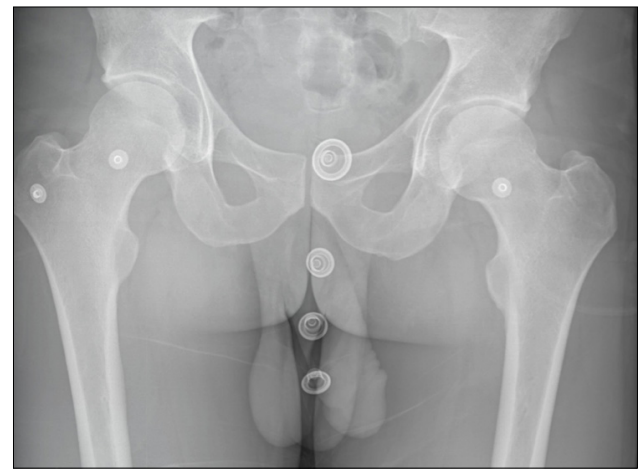

Figure 5. Pelvis AP radiograph of the patient after a 2-year follow-up.

formed under general anesthesia with the Captain Morgan maneuver.[6] After reduction, the joint range of motion was full and stable bilaterally (Figure 3). No neurovascular complications occurred. Concentric reduction was observed in both hips of the patient, who underwent control radiography and pelvis CT after the procedure (Figure 4). No associated fracture was detected. The patient was followed up with bilateral skin traction and was discharged after 1 week. After 6 weeks of wheelchair mobilization, weight bearing as tolerated was started. After 2 years of follow-up, the patient had no complaints and full ROM, and no signs of avascular necrosis (AVN) were detected in the control radiographs (Figure 5).

The patient provided informed consent for the publication of this case study and the accompanying images.

DISCUSSION

Traumatic hip dislocations are usually seen after MVAs. Even though rarely seen, these injuries are orthopedic emergencies. Due to the high-energy mechanism involved, associated injuries can often occur. Concomitant neurovascular injuries are also likely.[7] Therefore, it is important to perform a careful trauma examination to detect possible additional injuries and to perform a detailed neurovascular examination before and after reduction.

AVN and post-traumatic osteoarthritis (PTOA) are among the important complications of traumatic hip dislocations. Factors increasing the risk of PTOA include femoral head fractures, acetabular fractures, failure to achieve a concentric reduction, and delays in treatment.[8] In cases associated with acetabular fractures, the incidence can reach 88%.[9] By contrast, Upadhyay et al.[10] reported a 16% incidence of PTOA in a 14-year follow-up of 74 cases of posterior hip dislocation without associated fractures. In preventing AVN, early diagnosis and intervention to achieve concentric reduction are emphasized as crucial factors in the literature. The risk of AVN of the femoral head is directly linked to the duration before reduction; therefore, it is recommended to perform the reduction within the first six hours.[11]

In the literature, three cases of bilateral traumatic obturator hip dislocations resulting from axial loading of fallen poles and similar heavy objects have been reported. Aggarwal[12] and Sethi[13] reported bilateral anterior hip dislocations as a result of a heavy object falling on the back in the stooping position. Chung et al.[14] reported a similar case of bilateral obturator hip dislocation associated with acetabular and pelvic fractures, and L5 vertebral fractures, resulting from a fall of a steel H-beam on the lower back and buttock region of a patient who was in the squat position. Differently, in the case we present, no associated fracture was detected. The patient, who tried to hold the fallen pole, was subjected to vertical loading from the head region and was forced into a deep squat position. As the hips became hyperabducted, bilateral obturator dislocation occurred as a result of external rotation of the femurs by the pressure from the medial side of the knees.

In the 2-year follow-up results, no signs of AVN or PTOA were detected in the patient. This result supports that hip reduction in a timely manner is important for clinical outcomes. In a retrospective study of 127 patients, it was reported that the AVN rate was 4.8% in cases where hip reduction was performed within 6 hours, while the AVN rate was 58.8% in cases where reduction was performed later than 6 hours.[15] Atypical injury etiology and head trauma were the factors that could possibly delay the treatment in this case. With the support of additional auxiliary healthcare personnel, the patient's emergency studies were performed, and he was prepared promptly for reduction under general anesthesia after craniocervical clearance. Bilateral hip reduction could be achieved in two hours. In rare atypical cases, the basic principle and the main goal should still be hip reduction within the first 6 hours, if possible. Proper management of these dislocations with early reduction can yield satisfactory clinical results.

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OLGU SUNUMU - *ÖZ*

Çift taraflı kırıksız anterior obturator kalça çıkığı: Sıra dışı etiyolojiye sahip nadir bir olgu sunumu

Bilateral obturator kalça çıkıkları oldukça nadir yaralanmalardır. Bu vaka takdiminde beton elektrik direğinin düşmesi sonucu bilateral obturator kalça çıkığı olan 27 yaş erkek hasta, sıra dışı yaralanma mekanizması ve eşlik eden bir kırığın olmaması ile literatürde bildirilmiş vakalardan farklı özellikler göstermekteydi. Kilitli kalça pozisyonu ve mevcut kafa travması tedaviyi geciktirebilecek faktörler olarak tartışıldı. Kalça çıkıkları ilk 2 saat içinde redükte edilebildi. İki yıllık takip sonuçlarında klinik şikayeti olmayan hastada avasküler nekroz veya osteoartrit görülmedi.
Anahtar sözcükler: Anterior obturator çıkık; çift taraflı; travmatik kalça çıkığı.

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