Journal of Academic Emergency Medicine
Case Reports
Akademik Acil Tıp Olgu Sunumları Dergisi

JAEMCR 2015; 6: 75-7 | DOI: 10.5152/jaemcr.2015.966

A Rare Orthopedic Emergency: Both Fracture-Dislocation of the Shoulder and Hip in a Patient

Nadir Bir Ortopedik Acil: Aynı Hastada Omuz ve Kalçada Kırıklı Çıkık

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ABSTRACT

Introduction: Traumatic fracture-dislocations of the shoulder and hip are serious injuries caused by high-energy trauma and can lead to long-term morbidity.

Case Report: In this case report, we present a case of rare orthopedic emergency due to right hip dislocation, acetabular fracture, pertrochanteric femoral fracture, left inferior shoulder dislocation, and left proximal humerus fracture in a 72-year-old male patient suffering from a traffic accident that occurred while the patient was sitting inside the car.

Conclusion: The occurrence of both inferior shoulder dislocation with fracture (luxatio erecta) and fracture-dislocation of the hip are extremely rare and have not been described previously in a single patient. Rates of complications and additional injuries are high in both situations.

Keywords: Dislocation, fracture, shoulder, hip

Received: 12.02.2015 **Accepted:** 01.07.2015

ÖZET

Giriş: Travmatik omuz ve kalça kırıklı çıkıkları yüksek enerjili travmalar sonucu oluşan ve uzun süreli morbiditeye yol açabilen ciddi yaralanmalardır.

Olgu Sunumu: Bu olgu sunumunda, 72 yaşındaki erkek hastada, araç içi trafik kazası sonucu oluşan, sağ kalça çıkığı, asetabulum kırığı, pertrokanterik femur kırığı, sol inferior omuz çıkığı ve sol proksimal humerus kırığının birlikte olduğu nadir bir ortopedik acil olguyu sunduk.

Sonuç: Oldukça nadir görülen kırık ile birlikte inferior omuz çıkığı (luxatio erecta) ve kalçanın kırıklı çıkığı daha önce aynı hastada tariflenmemiştir. Her iki durumunda da komplikasyon ve ek yaralanma oranları yüksektir.

Anahtar Kelimeler: Çıkık, kırık, omuz, kalça

Geliş Tarihi: 12.02.2015 **Kabul Tarihi:** 01.07.2015

Introduction

Traumatic hip dislocation is a serious injury that is caused by high-energy trauma, and it can cause long-term morbidity. Motor vehicle accidents are the main cause of traumatic hip dislocations in developed and developing countries (1). Fracture-dislocations of the hip together with femoral neck fracture and acetabular fracture have been described, whereas fracture-dislocations of the hip together with pertrochanteric fracture and acetabular fracture are very rare (2).

Inferior shoulder dislocation (luxatio erecta) is a rare injury, and it is often accompanied with neurovascular injuries (3). Fractures of the proximal humerus together with shoulder dislocation are important injuries because of both neurovascular injury risk and long-term high rates of complications (4). In this study, we presented the case of our patient with inferior shoulder dislocation and proximal humerus fracture together with right hip dislocation as well as acetabular and pertrochanteric fractures.

Case Report

Physical examination of a 72-year-old male patient who had been brought to our emergency department following a motor vehicle accident revealed a deformed appearance of the right hip and the left shoulder. Brachial plexus injury was detected on left upper limb examination. Distal pulses were palpable. Radiological examinations revealed pertrochanteric fracture with posterior dislocation on the right hip and comminuted fracture of the proximal humerus, including anatomical neck, and greater and

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Figure 1. a, b. X-ray image of the left shoulder (a), 3D Computed tomographic image of the left shoulder (b). CT images were taken after adjusting the position of the upper extremity.

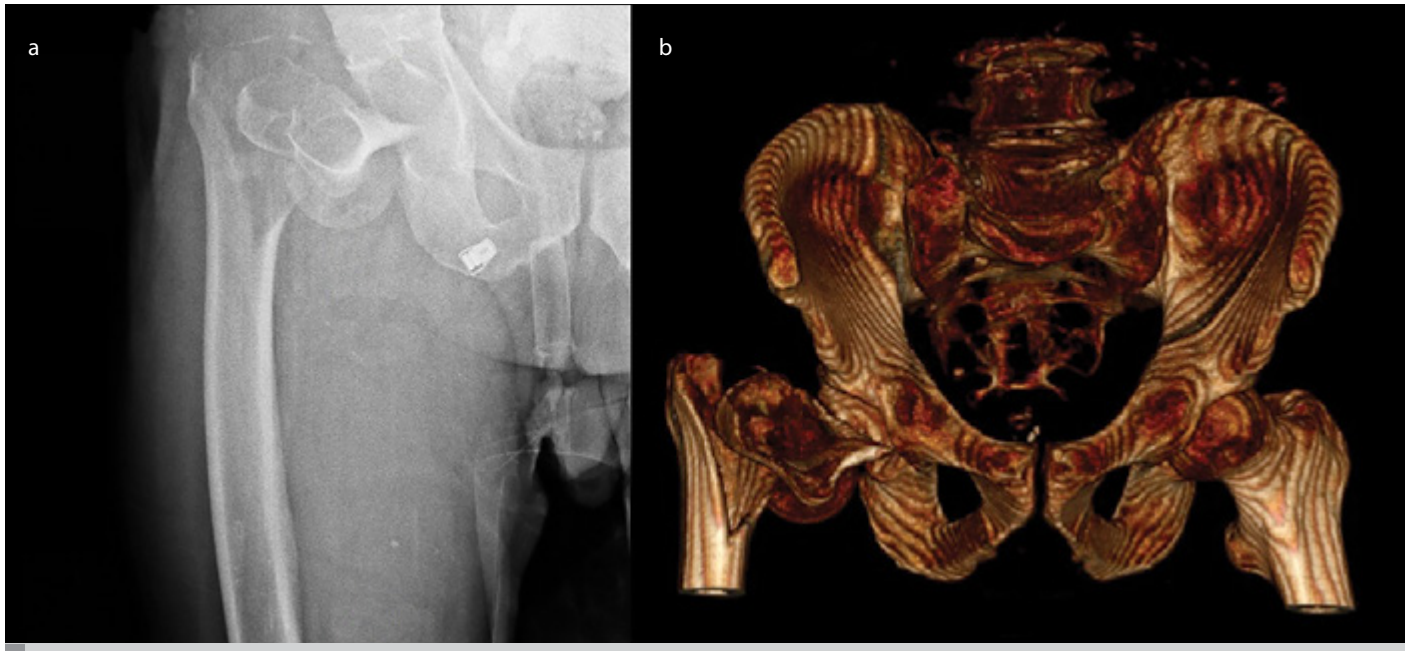

Figure 2. a, b. X-ray image of the right hip (a), 3D Computed tomographic image of the pelvis (b)

lesser tubercle with inferior shoulder dislocation (Figure 1 and 2). The patient underwent an emergency operation. Plate osteosynthesis following open reduction was performed in the left shoulder. The hip was reduced without opening the capsule through an incision made for detecting pertrochanteric fracture; pertrochanteric fracture was fixed with proximal femoral nail. No surgical treatment was considered for acetabular fractures. Distal pulses in the left upper extremity on the first postoperative day could not be palpated. Thrombus was detected by Doppler ultrasonography in the axillary artery, and embolectomy was performed. During the postoperative fifth month follow-up of the patient, right hip fracture healed and hip movements were complete and painless. There was no finding of avascular necrosis of the femoral head. However, the movements of the left shoulder were limited and painful. Fracture reduction was found to be distorted, and findings consistent with avascular necrosis were found in the humeral head. Written informed consent was obtained from the patient and his son for publishing this case report.

Discussion

Motor vehicle accidents are the main cause of traumatic hip dislocation in developed and developing countries (1). Hip fracture-dislocations with femoral neck and acetabular fractures have been described. Hip fracture-dislocations with pertrochanteric and acetabular fractures

are very rare (2). There are different classifications related to acetabular fractures, hip dislocation, and intertrochanteric fractures. However, none of the classifications completely characterize our patient. Hip dislocations with acetabular fractures have been reported, but in our case, acetabulum and pertrochanteric femoral fracture with hip dislocation have been reported for the first time (2).

Inferior shoulder dislocation (luxatio erecta) is an extremely rare injury, and neurological injuries are more common than vascular injuries (3). They constitute up to <1% of all shoulder dislocations. Proximal humeral fractures with shoulder dislocation are important injuries because of neurovascular injury risk and long-term high rates of complications (4). Mallon et al. (5) conducted a literature review of 80 inferior shoulder dislocation cases. In 46 of these patients, fracture with dislocation had also been identified. Avulsion fracture of the greater tubercle was stated to be the most frequent concomitant fracture (37%). In addition, glenoid, acromion, humeral head, and scapular body fractures have been reported. Among other musculoskeletal injuries, rotator cuff injuries were found to accompany inferior shoulder dislocation at the rate of 12%. In addition, open dislocations and acromioclavicular joint dislocations were determined to accompany inferior shoulder dislocations. In our case, there was a complex four-part proximal humeral fracture. This fracture was accompanied with a rotator cuff injury. Arthroplasty in the treatment of such fractures can be considered, but we performed plate fixation following open reduction due to the patient's existing brachial plexus injury. Neurological injury is most often seen in inferior shoulder dislocation. Mallon et al. (5) emphasized that the neurological deficit is usually similar to brachial plexus injury. The most frequently identified specific deficit has been reported as the axillary nerve injury.

Axillary artery obstruction with inferior shoulder dislocation is rare (6). Similar to that encountered in our case, neurovascular injury is a condition commonly seen after the compression of the humeral head in luxatio erecta cases but often improves after reduction. However, serious injury, such as arterial injury, can also be seen. Therefore, vascular assessment should be made with caution.

Conclusion

As a result, these injuries are orthopedic emergencies that have high complication rates. Postoperative complications may occur in spite of emergency surgery. In the literature search that we conducted, we found that these rare injuries are not seen in a single patient. Hence, we thought that it was worth publishing our case because of this feature.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - M.G.; Design - M.G., Ö.C.B.; Supervision - M.G., M.A.; Materials - Ö.C.B., S,Ç.; Data Collection and/or Processing - M.A.; Analysis and/or Interpretation - M.G.; Literature Review - Ö.C.B.; Writer - M.G.; Critical Review - M.G.

Conflict of Interest: The authors declared no conflict of interest.

Financial Disclosure: The authors declared that this study has r ceived no financial support.

Hasta Onamı: Yazılı hasta onamı bu olguya katılan hastadan alınmıştır.

Hakem değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir - M.G.; Tasarım - M.G., Ö.C.B.; Denetleme - M.G., M.A.; Malzemeler - Ö.C.B., S.Ç.; Veri toplanması ve/veya işlemesi - M.A.; Analiz ve/veya yorum - M.G.; Literatür taraması - Ö.C.B.; Yazıyı yazan - M.G.; Eleştirel İnceleme - M.G.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

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