CASE REPORT

Bilateral anterior shoulder dislocation: A case report

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ABSTRACT

Bilateral anterior shoulder dislocation (BASD) is a rare condition typically associated with a history of trauma. This case report presents a patient with BASD resulting from trauma and discusses treatment options. A 51-year-old male patient was admitted to the emergency department following a fall from a height. Radiographic examination revealed BASD and a comminuted intra-articular fracture of the distal end of the left radius. The patient did not have any other additional pathologies. After a preoperative evaluation, the patient was urgently taken to the operating room, where both shoulders underwent reduction using the Hippocratic maneuver under sedation anesthesia. Immediately after this procedure, the left wrist was reduced closed, and a penning-type external fixator was inserted under fluoroscopic guidance. Following the reductions, both shoulders were wrapped with a Velpeau bandage and immobilized. An elastic bandage was wrapped around the wrist. By the end of the third week, shoulder mobility exercises were initiated, with a gradual increase in the intensity of the exercises. The wrist fixator was removed in the fifth week after radiographic evaluations, followed by the initiation of passive and then active exercises. Given the rarity of BASD, it is crucial to obtain a detailed clinical history, conduct a comprehensive clinical examination, and perform detailed imaging studies-radiography, computed tomography, and magnetic resonance imaging-to avoid overlooking such pathologies in emergency situations. Bilateral anterior shoulder dislocation is a pathology that results from major trauma. It is important to remember that this particular type of pathology may be accompanied by various other pathologies, such as fractures (of the tuberculum majus), rotator cuff injuries, and neurovascular injuries.

Keywords: Complication; emergency therapy; shoulder dislocation; trauma; orthopedic surgery.

INTRODUCTION

The glenohumeral joint is one of the most frequently dislocated major joints in emergency departments due to its wide range of mobility, anatomical structure, and high exposure to trauma. Ninety-five percent of glenohumeral joint dislocations are unilateral and anterior.[1] Bilateral shoulder dislocation was first reported by Mynter in 1902, attributed to excessive muscle contractions secondary to a drug overdose.[2] The simultaneous occurrence of bilateral shoulder dislocation is rare and usually manifests posteriorly.[1,2] Posterior dislocation is generally caused by sports injuries, epileptic seizures, and electroconvulsive treatments. Bilateral anterior shoulder dislocation (BASD) is even rarer and typically has a history of trauma. In the literature, cases of BASD resulting from minor trauma, such as during Pilates, and from convulsive seizures have also been reported.[3,4] For bilateral dislocation to occur, the forces involved must similarly affect both joints at the same time. Older patients, in particular, are more likely to experience bilateral shoulder dislocations, primarily due to balance issues and the loss of equilibrium in the surrounding soft tissue. Most cases are observed to be posterior shoulder dislocations, with BASD being significantly less common. This case report aims to present an instance of BASD that developed as a result of trauma and discuss its treatment options.

CASE REPORT

A 51-year-old male patient was admitted to the emergency department after falling from a height. The physical examination revealed deformities due to dislocation in both shoulders (Epaulette sign) and a fragmented fracture at the distal

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end of the radius in the left wrist. The cardiovascular and pulmonary systems showed no pathologies. Intracranial bleeding was ruled out in the neurological examination, and there were no circulatory disorders or neurological deficits in the extremities. Additionally, the abdominal examination detected no abnormalities. Laboratory parameters did not indicate any pathologies related to bleeding or circulatory disorders. Upon the patient's arrival at the emergency department, anteroposterior and lateral radiographs of both shoulders and the left wrist were taken (Fig. 1). Computed tomography scans of both shoulders and the left wrist confirmed the anterior dislocation of the shoulders and an intra-articular fracture of the wrist (Fig. 2). Given the patient's fall from a height, cranial, thoracic, and abdominal Magnetic Resonance Imaging scans were performed to exclude potential bleeding risks and other pathologies.

The patient was urgently taken to the operating room. Following sedation with propofol, both shoulders were reduced using the Hippocrates maneuver. Immediately afterward the left wrist was reduced, and a closed penning-type wrist fixator was inserted under fluoroscopic guidance. Both shoulders were then wrapped with a Velpeau bandage and immobilized for three weeks. The wrist was secured with an elastic bandage. At the end of the third week, shoulder mobility exercises were initiated, and the intensity of the exercises was gradually increased. The wrist fixator was removed in the fifth week following radiographic evaluations, and exercises were progressed from passive to active. By the 10th week post-trauma, it was observed that the patient's shoulder mobility had returned to normal, and the fracture in the distal radius had completely healed.

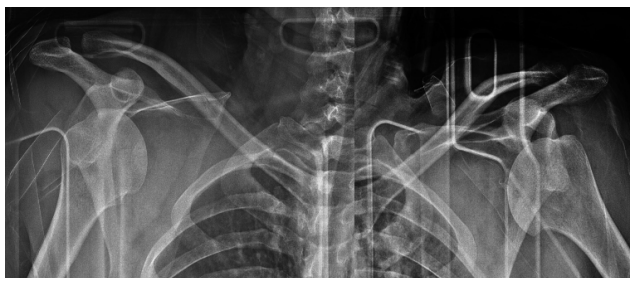

Figure 1. Radiographic images of the patient.

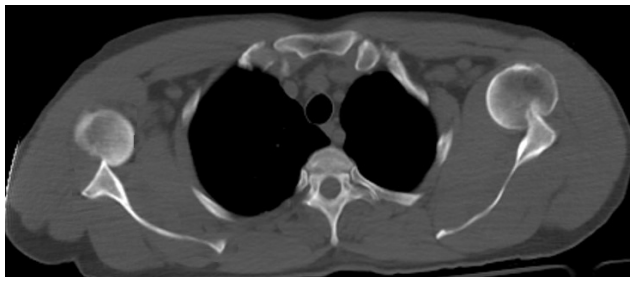

Figure 2. Computed tomography images of the patient.

DISCUSSION

The shoulder joint is the most frequently injured joint and is particularly susceptible to dislocations due to its exposure to trauma. Typically, dislocations of the shoulder joint are unilateral. Shoulder dislocations represent 45% of all dislocations, with 96% being anterior, 3% posterior, and 1% inferior.[3] Bilateral shoulder dislocation is very rare and predominantly occurs in the posterior aspect. Such posterior dislocations are usually triggered by severe muscle contractions during grand mal epilepsy seizures or electric shocks.[3,4] Parrish and Shaw reported a case of bilateral posterior shoulder dislocation following severe convulsive attacks, and Colak et al. documented a similar case resulting from an electric shock.[4-6] BASD is even more uncommon, and its etiology often involves trauma or sports activities. Particularly in older patients, BASD tends to occur due to balance issues and a deterioration in the equilibrium of the surrounding soft tissue. Esenkaya et al. reported a BASD case that emerged following a convulsive seizure.[7] According to the mechanism described in the literature, upon falling on the hand with the elbow extended, anterior shoulder dislocation occurs due to forced abduction and external rotation of the humerus, resulting in the greater tuberculum resting on the acromion and the lever-arm effect.

In the literature, Ozan et al. presented a patient with BASD caused by trauma, while Tripatisi et al., Bremmer et al., and Rudy et al. documented cases of BASD that developed after convulsion.[8-11] When our patient presented to the emergency department, both shoulders were typically in abduction, extension, and external rotation positions. A review of the literature concerning the etiological causes of BASD shows that 65% of these dislocations develop as a result of falls or strong extremity tractions, while 30% are caused by strong muscle contractions, including convulsive crises and electric shocks, a further 30% are associated with physical exercises, and only 5% are related to non-traumatic conditions, such as neuromuscular diseases, hyperlaxity, and voluntary dislocations. Shoulder dislocations may be accompanied by pathologies such as proximal humerus fractures, rotator cuff tears, and neurovascular injuries. Simank reported a 54% rate of rotator cuff tears after shoulder dislocations in older patients.[12] No rotator cuff tear, neurological deficit, or vascular pathology was detected in our case.

CONCLUSION

Bilateral Anterior Shoulder Dislocation is a pathology that usually has a history of major trauma in its etiology. These pathologies may be accompanied by fractures (tuberculum majus), rotator cuff injuries, or neurovascular injuries. An accurate clinical history, a comprehensive clinical examination, and adequate imaging are crucial in order to prevent overlooking bilateral shoulder dislocations.

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OLGU SUNUMU - *ÖZ*

Bilateral anterior omuz çıkığı: Olgu sunumu

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Bilateral anterior omuz çıkıkları (BAOÇ); nadir vakalar olup genellikle etiyolojisinde travma hikayesi bulunmaktadır. Çalışmamızın amacı; travma sonucu gelişen BAOÇ vakasını ve tedavi seçeneklerini olgu sunumu eşliğinde değerlendirmektir.51 yaş erkek hasta, yüksekten düşme hikayesi ile acil servise başvurdu. Hastanın çekilen grafilerinde, BAOÇ ve sol radius distal ucunda eklem içi parçalı fraktür görüldü. Hastanın başka ek bir patolojisi yoktu. Preop tetkiklerinin yapılmasının ardından hasta acil olarak ameliyathaneye alındı. Hastanın sedatif anestezi altında her iki omuzu Hipokrat manevrası ile redükte edildi. Hemen ardından sol el bileği kapalı olarak redükte edilerek skopi eşliğinde penning tipi eksternal fiksatör uygulandı. Redüksiyon sonrası iki omuz velpau bandajı ile sarılarak immobilize edildi. El bileğine elastik bandaj sarıldı. 3. hafta sonunda omuz hareketlerine başlanarak egzersizler progressif olarak arttırıldı. El bilek fiksatörü ise radyografi ile yapılan kontroller sonrası 5. haftada çıkarılarak önce pasif sonra aktif egzersizlere başlandı. Anterior omuz çıkıkları çok nadir görüldüğünden, acil şartlarda bu tip patolojilerin atlanmaması için detaylı klinik öykü, kapsamlı bir klinik muayene ve ayrıntılı görüntüleme (Radyografi, CT, MR) çok önemlidir. Bilateral Anterior omuz çıkıkları major travma sonucu meydana gelen patolojilerdir. Bu tip patolojilere; kırıklar (Tuberkulum majus), rotatuar manşet yaralanmaları ve nörovaskuler yaralanmalar gibi farklı patolojilerinde eşlik edebileceği unutulmamalıdır.

Anahtar sözcükler: Acil tedavi; komplikasyon; omuz çıkığı; ortopedik cerrahi; travma.

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