

Mclaughlin Procedure Treatment of Bilateral Sequential Posterior Dislocation Fracture of the Shoulder: A Case Report

'Bilateral Ardışık Omuz Kırıklı Çıkığının Mclaughlin

Prosedürü ile Tedavisi: Olgu Sunumu

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Abstract

Posterior dislocation of the shoulder is extremely rare condition. Common etiologic causes are extreme trauma, epilepsy and electroconvulsive therapy. Most cases are misdiagnosed due to inappropriate physical examination and/or inadequate radiologic evaluation. In the literature several operation technics are described. Here we present a case with posterior dislocation of left shoulder after successful treatment of right shoulder. (*Sakarya Med J*, 2018, 8(2):447-452)

Keywords: Glenohumeral dislocation; humeral fractures, proximal; Mclaughlin procedure

Öz

Objective: Omuzun posterior çıkığı son derece nadir bir durumdur. Sık görülen nedenler aşırı travma, epilepsi ve elektrokonvulsif terapidir. Çoğu vakada, yanlış fizik muayene ve/veya yetersiz radyolojik değerlendirme nedeniyle yanlış tanı konulmaktadır. Literatürde çeşitli operasyon teknikleri yer almaktadır. Bu çalışmada sağ omuzda başarılı bir tedaviden sonra sol omuzun posterior çıkığı olan bir olgu sunulmuştur. (*Sakarya Tıp Dergisi*, 2018, 8(2):447-452).

Anahtar kelimeler: Omuz eklemi çıkığı; humerus kırıkları; Mclaughlin tekniği

Introduction

PSD (posterior shoulder dislocation) is a rare injury. It accounts for a small percentage of dislocations occurring in the general population between 1,7 and 4,3%.¹ Most of the cases due to epileptic seizures.² Unfortunately most of the cases were misdiagnosed in initial evaluation. Because on anteroposterior X-Ray it could be easily misdiagnosed.

Management of the treatment can be surgical or non-surgical. According to several factors the treatment strategy is being determined. Several surgical technics have been described. Reconstruction of the humeral head with bone grafts, medial transfer of the subscapularis tendon into the bone defect, and anatomical shoulder replacement.³⁻⁸

Case

32-year-old male patient with known epilepsy history admitted to the hospital because of right shoulder pain on 2010. His shoulder pain was started after epileptic seizure and continued about 30 days. On his physical examination right shoulder external rotation was decreased. Anteroposterior X-Ray views were carried out which showed right posterior locked fracture dislocation of the humeral head. computed tomography (CT) evaluation of the shoulder showed %30 humeral head defect reverse Hill-Sachs lesion (Mclaughlin lesion) (Figure 1A).

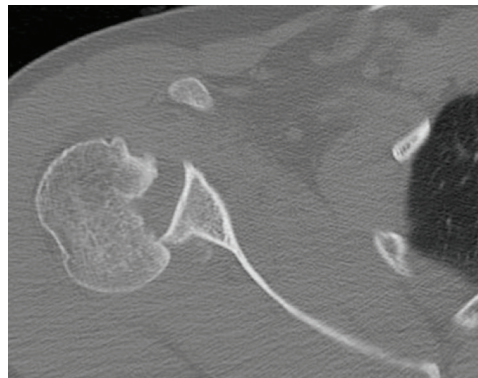


Figure 1A. Right shoulder pre-operation Computed Tomography view

The patient's right shoulder was treated according to Mclaughlin procedure. After operation Spica was used 3 weeks. Then active-assisted and active range of motion and rotator cuff strengthening exercises were started. In his routine follow-up at third month his shoulder range of motion was normal (Figure 1B).



Figure 1B. Right shoulder post-operation Anteroposterior X-Ray

7 years later the patient admitted to orthopedics department because of left shoulder pain and decreased left shoulder external rotation after epileptic seizure. X-ray of the shoulder AP view were conducted which showed left posterior locked fracture dislocation of the humeral head (Figure 2A).

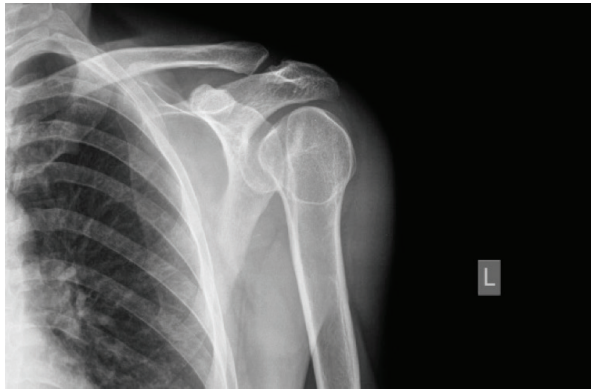


Figure 2A. Left shoulder pre-operation Anteroposterior X-Ray

MRI showed a 35% humeral head defect reverse Hill-Sachs lesions (Figure 2B). Left shoulder Mclaughlin procedure was done and shoulder Spica in external rotation followed by passive, then active-assisted, and active range of motion and rotator cuff strengthening exercises were started (Figure 2C). Prior to the commencement of the study, this research carried out on humans has been in compliance with the Helsinki Declaration, adopted by the 18th World Medical Assembly, Helsinki, Finland, June 1964 and all participants signed an informed consent form prior to participation.

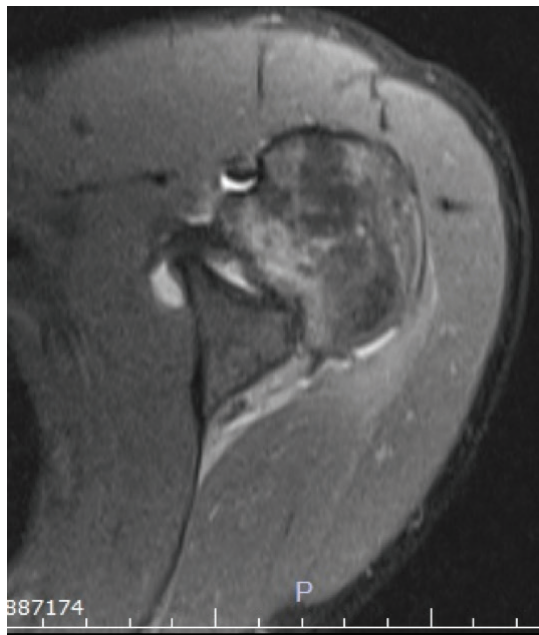


Figure 2B. Left shoulder pre-operation Magnetic Resonance Imaging view



Figure 2C. Left-shoulder post-operation Anteroposterior X-Ray

Discussion

Posterior shoulder dislocation (PSD) is a rare injury. It is accounting for only 2-5% of all shoulder dislocations.⁹ According to Neer and Foster PSD with shoulder fracture less frequent: 0,9% of 1500 shoulder fracture-dislocations.¹⁰ While bilateral PSD are rarer still: 0,6 cases among a population of 100.000 people per year.¹¹

Although most of the cases caused by epileptic seizures; electrocution and extreme trauma (known as triple E syndrome) are the other causes of fracture dislocation of shoulder.¹² During a seizure proposed mechanism of shoulder injury is well described.¹¹ PSDs usually occur following unbalanced forceful muscle contractions.

Unfortunately up to 50% of cases are misdiagnosed on initial evaluation.¹³ PSD can easily be misdiagnosed on the AP x-ray so lateral (axillary) view should be obtained. CT or magnetic resonance imaging (MRI) is performed before management to decide the surgical approach. Early detection could be the key for an appropriate treatment.

The common complications of PSD are avascular necrosis of the humeral head, secondary osteoarthritis and impaired range of movement.¹⁴

Management of PSD depends on several factors such as the type of the fracture, severity of injury, whether bilateral or unilateral, acute or chronic (3 weeks or more), patient's age.

Kokkalis ZT. et al. are reported a treatment algorithm on August 2016. According to this algorithm surgical and nonsurgical techniques are described. They proposed to decide the management according to factors as described above.¹⁵

In our patient after an epileptic seizure PSD was seen. In the right shoulder the diagnosis was delayed 4 weeks, and the patient was young. Then we performed Mclaughlin procedure. After 7 years patient attempted to the hospital because of left shoulder dislocation. In that time diagnosis was not delayed. We decide to perform Mclaughlin procedure, because MRI evaluation of the shoulder showed %35 humeral head defect reverse Hill-Sachs lesion.

Conflict of interest:

There is not any conflict of interest.

Conclusion

PSD can easily be misdiagnosed. Especially patients with history of extreme trauma, epileptic seizure or electrocution the diagnosis must be kept in mind. Appropriate radiologic evaluation must be done. Treatment options depends on several factors.

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