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Case Report

Fracture of the humeral surgical neck and shoulder dislocation following an epileptic seizure: Case report

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ABSTRACT

Epilepsy is a pathological condition characterized by seizures of muscle tension and convulsions in which the patient is unable to control himself, resulting in various complications and injuries. In this paper we talk about a rare case that combines a shoulder dislocation with a fracture of the surgical neck of the humerus after an epileptic seizure. The patient came to the hospital with clinical symptoms directed at dislocating the shoulder after an epileptic seizure, but careful examination and radiography revealed the presence of a fracture of the surgical neck of the humerus, so the management needed experience to repair two serious traumatic injuries. In the light of the foregoing, the need for clinical knowledge regarding such injuries in terms of diagnosis and methods of management and treatment is very necessary especially that neglect or wrong diagnosis will lead to very bad results, the most important of which are chronic pain, disability and stiffness.

1. Introduction

Epilepsy is a group of non-communicable neurological disorders characterized by recurrent epileptic seizures [1,2], where the seizure generally consists of uncontrolled spastic muscle contractions and these seizures may be focal or generalized. These seizures have many types in terms of duration and severity of the seizure, they may be short and unclear, and they may be severe and cause many injuries. The causes of this disease fall under many hypotheses, the most important of which are brain injury, stroke, brain infections, in addition to birth defects [3]. Diagnostic methods are many, but first we must exclude other diseases that may be similar to epilepsy. After that, many blood tests must be performed, but the final diagnosis remains for the electroencephalogram, In addition to the role of computed tomography in showing the structure of the brain [4]. Treatment of the disease consists of anticonvulsant drugs, including phenytoin and carbamazepine or surgery in refractory cases.

Generally, seizures can lead to many complications and damages, such as physical injury,bruises, bone fractures, ligament tears, or other serious accidents. In very rare cases, a severe epileptic seizure leads to a dislocated shoulder resulting from either a sudden fall or a strong collision, but the occurrence of a surgical neck fracture of the humerus in association with a dislocated shoulder is actually a very rare thing in the medical literature. In this case, we present a patient affected by epileptic seizure followed by anterior shoulder dislocation, in addition to a surgical neck fracture of the humerus, where we advise to take an accurate way to deal with this case in terms of diagnosis, treatment and follow-up.

This case report has been reported in line with the SCARE criteria 2020 [5].

2. Case presentation

A 40-year-old male patient with history of epilepsy came to the emergency department at Aleppo University Hospital complain of pain and swelling in the shoulder area with the inability to move the shoulder. He had an epileptic seizure that caused this injury to the shoulder On clinical examination there was no evidence of neurovascular deficit present. However, there was evidence of internal rotation of the forearm with flattening of the shoulder. The injured shoulder was supported by the contralateral hand. There was also noted to be bruising on the anterior aspect of the humerus.

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. All these signs, along with the symptoms presented by the patient, indicate a dislocated shoulder. The result of the radiographs (x-rays) confirmed the presence of a dislocated shoulder, but the findings also indicated the presence of a fracture in the surgical neck of the humerus. As a result of a surgical neck fracture of the humerus, we did not make any attempt to repair the dislocated shoulder [Fig. 1]. Firstly we did general lab tests and they were all normal. After preparing the patient, we admitted him to the operating room, where the surgical technique included the following: Deltopectoral approach with divide subscapular is 2cm from its insertion on lesser tuberosity, reduction dislocation then open anterolateral approach for greater tubericity reduction.

Then application philos pate with tention band sutures for rotated cuff [Fig. 2]. The patient was discharged after 4 days and he was followed up as follows: We Immobilized shoulder first 4–6 weeks after surgery with shoulder sling and did passive movement only at first.

After 3–4 weeks we began active exercised.

1. Elbow Flexion Extension
2. Wrist Flexion-Extension
3. Palm Up/Palm Down
4. Shoulder Pendular Swing Exercises

And after 3 month we had 120° abduction.

1. 15° extension
2. 110° flection
3. Full eternal external rotation

3. Discussion

Fractures and lacerations are one of the complications of convulsive seizures in epilepsy including dislocation of the shoulder joint and fractures of the humerus bone, but the association of a shoulder dislocation with a surgical humeral head fracture is a very rare case. First of all a dislocated shoulder is a condition in which the head of the humerus is detached from the shoulder joint [6]. Symptoms include shoulder pain and instability. Shoulder dislocations are classified into four types, anterior, posterior, inferior and superior, where the radiographs apparent important information showing an incongruence in the glenohumeral joint. The diagnosis is made, as in the dislocation of the shoulder, by X-ray imaging, where the fracture is clearly visible, but we can perform an Computed tomography in the proximal fractures to gather further details. Shoulder dislocation is managed using several ways, including shoulder reduction where may be accomplished with a number of techniques including traction-countertraction, external rotation, scapular manipulation, Stimson technique, Cunningham technique, or Milch technique [7]. Surgery may also be resorted to in other cases where Arthroscopic surgery techniques may be used to repair the glenoidal labrum, capsular ligaments, biceps long head anchor [8]. For humerus fractures, it is a fracture that occurs in the humerus bone in the upper arm. It has several types, including proximal humeral fractures, humeral shaft fractures, and distal humeral fractures [9]. Speaking of the symptoms of humerus fractures, they are often pain, swelling and bruising, and possible complications include injury to arteries and nerves, in addition to the formation of hematomas. Treatment options may include a sling, splint, brace, or surgery. In proximal fractures that remain well aligned, a sling is often sufficient. In this case, the patient came after an epileptic seizure to the emergency department complaining of symptoms indicating the occurrence of a shoulder dislocation with clinical suspicions of a fracture at the level of the

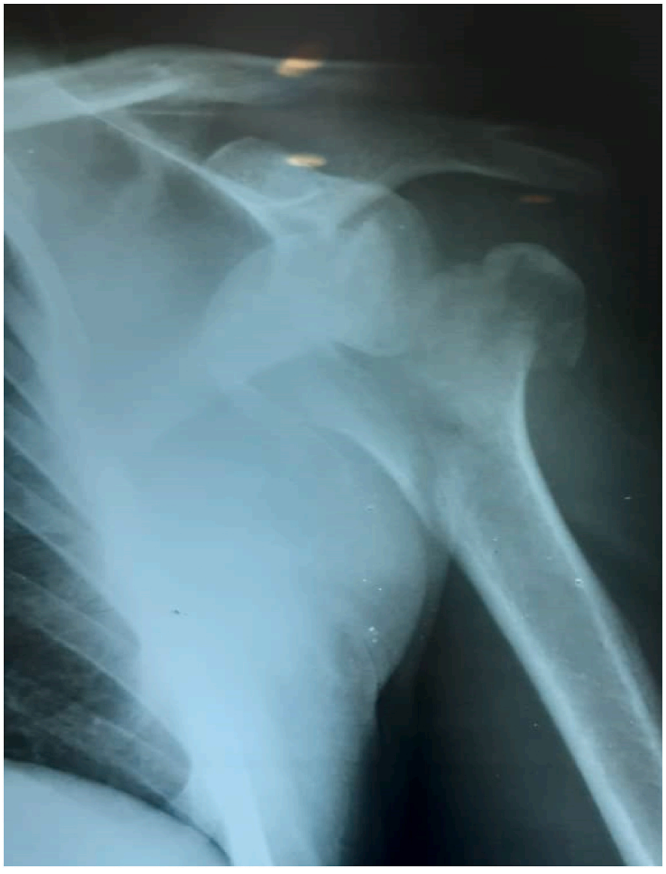

Fig. 1. The picture that shows Fracture of the humeral surgical neck and shoulder dislocation.

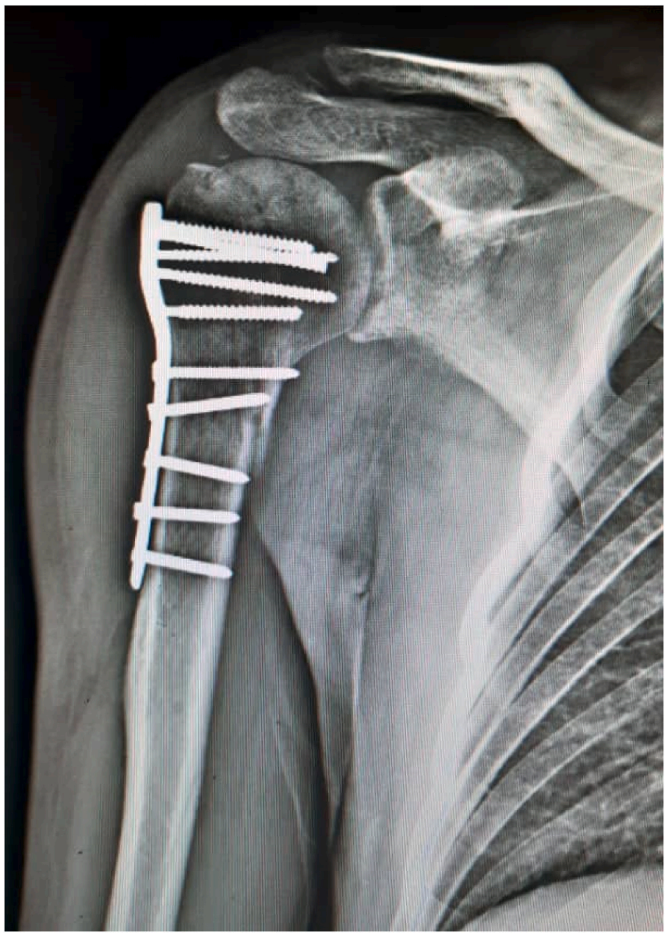

Fig. 2. The application philos pate with tention band sutures for rotated cuff.

humerus. After performing an x-ray, the diagnosis of a anterior shoulder dislocation was confirmed with a surgical fracture of the neck of the humerus Which makes it a rare case because this was an anterior shoulder dislocation rather than a posterior shoulder dislocation that is more commonly associated with seizure activity. Management required surgery to repair both injuries, where we did the surgery, which was successful and the patient came out in good health and was followed up for several months. As a summary, we can consider this case as a very rare association of two bone injuries after an epileptic seizure. Therefore, we need clarification everything related to dealing with such injuries in order to facilitate and clarify the management and treatment.

4. Conclusion

We believe that such a report will be a guiding guide for the investigation of injuries resulting after epileptic seizures, where the information we provided included an explanation of the symptoms and complications resulting from epileptic seizures in the beginning, and then we touched on a very rare case, which accompanies a shoulder dislocation with a fracture of the humeral head surgically, so we presented the diagnostic methods and down to the surgical technique used in the treatment of such a case, which we hope will be a new addition to the medical literature regarding the association of serious injuries with epileptic seizures.

Ethical approval

This case report didn't require review by Ethics committee, Aleppo university hospital, Aleppo university, Aleppo-Syria.

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Author contribution

Hidar Alibrahim: contributed in writing manuscript and data collecting, MOHAMED WAHEDI: contributed in writing manuscript, Mohammed Rajab AlMohammed: contributed in writing manuscript, Sarya Swed:contributed in reviewing the paper, Mohamad Morjan: contributed in reviewing the paper.

Registration of research studies

Not applicable.

Guarantor

Sarya Swed.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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Declaration of competing interest

All authors declared no conflict of interest.

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Appendix A. Supplementary data

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References

[1] B.S. Chang, D.H. Lowenstein, Epilepsy N Engl J Med 349 (13) (2003) 1257–1266.
[2] R.S. Fisher, C. Acevedo, A. Arzimanoglou, A. Bogacz, J.H. Cross, C.E. Elger, J. Engel Jr., L. Forsgren, J.A. French, M. Glynn, et al., ILAE official report: a practical clinical definition of epilepsy, Epilepsia 55 (4) (2014) 475–482.
[3] WHO, Organization Wh: Epilepsy WHO, 2021.
[4] G.R. Ghearing, F. Briggs, K. Cassidy, M. Privitera, C. Blixen, M. Sajatovic, A randomized controlled trial of self-management for people with epilepsy and a history of negative health events (SMART) targeting rural and underserved people with epilepsy: a methodologic report, Trials 22 (1) (2021) 821.
[5] R.A. Agha, T. Franchi, C. Sohrabi, G. Mathew, A. Kerwan, The SCARE 2020 Guideline: updating consensus surgical case report (SCARE) guidelines, Int. J. Surg. 84 (2020) 226–230.
[6] N.J. Cunningham, Techniques for reduction of anteroinferior shoulder dislocation, Emerg. Med. Australasia (EMA) 17 (5–6) (2005) 463–471.
[7] J. Bonz, B. Tinloy, Emergency department evaluation and treatment of the shoulder and humerus, Emerg. Med. Clin. 33 (2) (2015) 297–310.
[8] U.G. Longo, M. Loppini, G. Rizzello, M. Ciuffreda, N. Maffulli, V. Denaro, Management of primary acute anterior shoulder dislocation: systematic review and quantitative synthesis of the literature, Arthroscopy 30 (4) (2014) 506–522.
[9] B. Attum, J.H. Thompson, Humerus fractures overview, in: StatPearls edn (Ed.), Treasure Island (FL): StatPearls Publishing Copyright © 2021, StatPearls Publishing LLC., 2021.