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Case Report

Anterior Shoulder Dislocation and Ipsilateral Humeral Shaft Fracture

Mohammad Hossein Karimi-Nasab, Masoud Shayesteh-Azar, Majid Sajjadi–Saravi, Seyed Mohamad Mehdi Daneshpoor

Abstract

Simultaneous dislocation of shoulder and humeral shaft fracture is a rare injury, and there is no clear protocol for its treatment. Herein we present a case of a 15-year-old boy, who suffered from a job-related accident and sustained fracture of humeral shaft associated with ipsilateral anterior shoulder dislocation and fracture of greater tuberosity 15 years ago. He received closed reduction of both injuries and coaptation plaster splint for four weeks, followed by Sarmiento splint at that time. Fifteen years after the injury, he has no problem related to the previous injury, and does not experience any episode of shoulder instability.

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Keywords ● Shoulder ● humeral fracture ● glenohumeral dislocation

Introduction

Anterior shoulder dislocation is probably the most common dislocation referring to Emergency Departments. However, not every orthopaedic surgeon has had the opportunity to observe a case of simultaneous shoulder dislocation with ipsilateral humeral shaft fracture.[1] These injuries often occur as a result of high-velocity trauma. The literature related to this rare injury is limited to case reports often with inadequate follow ups. The reported cases have often received different treatment.[2] Herein we present a case of a 15-year-old boy with an anterior shoulder dislocation and ipsilateral fracture of humerus, and discuss his non-invasive treatment.

Case Description

The patient was a 15-year-old, boy who had been working at a bakery, and his right upper extremity had been caught in an electrical mixer used to mix wheat dough.

He had sustained a combined anterior dislocation of shoulder with ipsilateral fracture of humeral shaft and greater tuberosity (figure 1). The patient underwent an urgent attempt for closed reduction of both shoulder and humeral shaft under general anesthesia. The attempts included traction–counter traction method by grasping the proximal fragment and traction against the counter traction through a rolled sheet in the axilla of the patient (figure 2). The successful closed reduction, achieved at first attempt, was followed by coaptation plaster splint for four weeks followed by Sarmiento splint for an additional four weeks (figure 3).

The neurologic exam for axillary and radial nerve was normal before and after the procedure.

Department of Orthopaedic Surgery, Imam Khomeini Hospital, Mazandaran University of Medical Sciences, Sari, Iran.

Correspondence:
Masoud Shayesteh-Azar MD,
Department of Orthopaedic Surgery,
Imam Khomeini Hospital, Razi Street,
P.O.Box:48166-33131, Sari, Iran.
Tel: +98 151 2261701-4
Fax: +98151 2264044
Email: MShayestehAzar@yahoo.com
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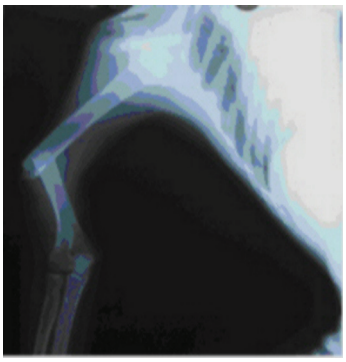

Figure 1: Anteroposterior radiograph showing an anterior dislocation of the right glenohumeral joint with ipsilateral fracture of humerus.

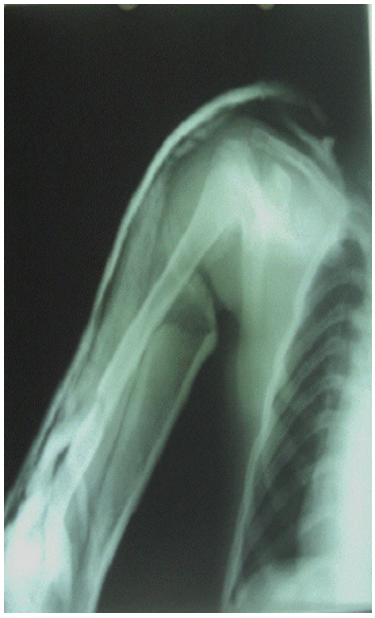

Figure 2: Anteroposterior radiograph after closed reduction of both shoulder and humeral shaft under general anesthesia.

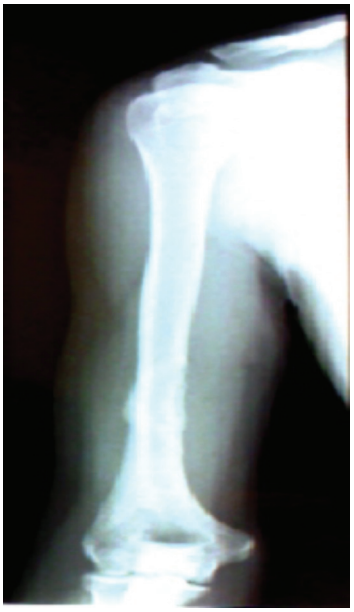

Figure 3: Radiograph taken 15 years after closed reduction of both shoulder and humeral shaft.

Discussion

Despite the somehow common occurrence of the shoulder dislocation and humeral shaft fracture, simultaneous occurrence of them is rare such that all the reports in the literature are restricted to case reports by various authors. In 1977 Chen et al.[3] reported two cases of this injury, and their attempt at reviewing the literature only revealed only 14 case reports. They first fixed the humeral fracture with a plate, and then closed the reduction of shoulder dislocation in both cases.

Calderone et al. [3] also reported one case treated by humeral shaft internal fixation with plating and closing the reduction of shoulder dislocation.

Review of various cases presented in the literature shows that the main problem for surgeons has been the lack of adequate lever arm to do the closed reduction of the joint. This forces surgeons to first fix the shaft by a plate or external fixator, and then to attempt closed reduction of the shoulder joint.[4-7] There is, however, a report, similar to our experience, of successful closed treatment of both problems.[8] The other problem with this rare combination is the possibility that shoulder dislocation is missed, especially if it is posterior, and the x–ray is of poor quality and does not clearly show the shoulder joint position.[8,9]

Conclusion

The present case indicates that closed reduction of both injuries under general anesthesia was accopanied by good clinical results 15 years later.

Conflict of interest Non declared.

References

1 Ahmad R, Ahmed S, Bould M. Iatrogenic fracture of humerus - complication of a diagnostic error in a shoulder dislocation: a case report. J Med Case Reports. 2007;1:41. doi:10.1186/1752-1947-1-41. PubMed PMID: 17605806; PubMed Central PMCID: PMC1950517.

2 Flint JH, Carlyle LM, Christiansen CC, Nepola JV. Case report and literature review anterior shoulder dislocation with three-part proximal humerus fracture and humeral shaft fracture. Iowa Orthop J. 2009;29:105-13. PubMed PMID: 19742096, PubMed Central PMCID: PMC2723703

3 Chen CH, Lai PL, Niu CC, Chen WJ, Shih CH. Simultaneous anterior dislocation of shoulder and fracture of the ipsilateral humeral

shaft. Int Orthop. 1998;22:65-7. doi:10.1007/s002640050211. PubMed PMID: 9549586.
4 Calderone RR, Ghobadi F, McInerney V. Treatment of shoulder dislocation with ipsilateral humeral shaft fracture. Am J Orthop. 1995;24:173-6. PubMed PMID: 7613982.
5 Sankaran-Kutty M, Sadat-Ali M. Dislocation of the shoulder with ipsilateral humeral shaft fracture. Arch Orthop Trauma Surg. 1989:108:60-2. doi:10.1007/BF00934162. PubMed PMID: 2913987.
6 Baker DM. Fracture of the humeral shaft associated with ipsilateral fracture dislocation of the shoulder: report of a case. J Trauma. 1971;11:532-4. PubMed PMID: 5581844.
7 Sasashige Y, Kurata T, Masuda Y, Shimono K, Nagata Y. Dislocation of the shoulder joint with ipsilateral humeral shaft fracture: two case reports. Arch Orthop Trauma Surg. 2006;126:562-7. doi:10.1007/s00402-005-0090-5. PubMed PMID: 16835780.
8 Bohler L. The technique of bone treatment. vol 2.Vienna: Maudrich; 1941. p. 235-43.
9 Kavanaugh JH. Posterior shoulder dislocation with ipsilateral humeral shaft fracture. Clin Orthop Relat Res. 1978;131:168-72. doi:10.1097/00003086-197803000-00023. PubMed PMID: 657615.