

Ipsilateral distal radius fracture with elbow dislocation-a rare entity: report of 3 cases

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Abstract

Introduction: Elbow joint is the second most common joint to dislocate after shoulder. 20 percent of elbow dislocations are associated with fractures. Elbow dislocations are commonly associated with coronoid process, radial head and olecranon fractures. Dislocations of the elbow commonly accompany proximal ulna or radial fracture. Elbow dislocation with a distal radius fracture is rare. In the literature, there are very few case reports highlighting such an injury.

We report three cases of ipsilateral closed dislocation at the elbow associated with a closed distal radius fracture presented to us over a period of three years. Elbow dislocation was managed by closed reduction in two cases, and k wiring was required in one case. For distal radius open reduction and internal fixation by a buttress plate was done for two cases, and one was managed conservatively. At 6 months of follow up patients had full range of movement of the elbow joint and complete union of the distal radius fracture.

Therefore, clinical and radiological assessment of one joint above and below should be done in every case so that these injuries, although rare, should not be missed. In a case of elbow dislocation, a possibility of a distal radius fracture should be kept in mind. A very high degree of suspicion is required for such cases.

Keywords: Combined Injury; Distal Radius Fracture; Elbow Dislocation.

1. Introduction

Elbow joint is the second most common joint to dislocate after shoulder (Royle SG 1991). 20 percent of elbow dislocations are associated with fractures (Jungbluth P et al. 2008). Elbow dislocations without an associated fracture are termed as simple dislocations (Hildebrand KA et al. 1999). If the fracture is associated with elbow dislocation, it is called complex dislocation (Broberg MA & Morrey BF 1987, McKee et al. 1998).

Dislocations of the elbow commonly accompany proximal ulna or radial fracture. Elbow dislocation with a distal radius fracture is rare (Ring D & Jupiter JB 1998). In the literature, there are very few case reports highlighting such an injury (Batra S & Andrew JG 2007, Ahmad R et al. 2007, Nanno M et al. 2007).

We report three cases of ipsilateral closed dislocation at the elbow associated with a closed distal radius fracture presented to us over a period of three years. Elbow dislocation was managed by closed reduction in two cases, and k wiring was required in one case. For distal radius open reduction and internal fixation by a buttress plate was done for two cases, and one was managed conservatively. At 6 months of follow up patients had the full range of movement of the elbow joint and complete union of the distal radius fracture.

2. Cases

We encountered three such cases of ipsilateral elbow dislocation with distal radius fracture over a period of 3 years.

Case 1: A 26 year old male who had this injury following a fall from height. X Rays showed a posterior elbow dislocation with a distal radius fracture Frykman (Frykman GK 1967) Type VIII (Figure 1). Patient was managed by closed reduction for elbow and volar buttress plating for the distal radius (Figure 2). At 6 months of follow up, he had complete painless range of motion (Figure 3)

Case 2: A 30 year old male with this injury due to a road traffic accident. He was managed by K wiring after reduction of elbow dislocation and conservatively for the distal radius fracture (Figure 4)

Case 3: A 51 year old female with this injury due to fall from stairs. She was managed by a volar buttress plating for radius and closed reduction of elbow dislocation (Figure 5)

All of these were closed injuries with no neurological deficits and they were associated with posterior elbow dislocations. Good clinical and radiological union was achieved in all of these patients with a functional painless range of movement. There were no wound complications.

3. Discussion

Elbow joint is a very stable hinge joint. Elbow dislocations are commonly associated with coronoid process, radial head and olecranon fractures (Ring D & Jupiter JB 1998). Terrible triad of elbow is a triad of posterior dislocation, radial head and coronoid process fracture (Hotchkiss RN 1966, p.980). Monteggia fracture dislocation is a fracture of the ulna with radial head dislocation (Bado JL 1967).

Case reports describing ipsilateral elbow dislocation with shafts of ulna and radius are found in the literature (Hung SC et al.2003). However, elbow dislocation associated with a distal radius fracture is a rare entity. Elbow dislocation without radiocapitellar involvement makes these cases unique.

Possible mechanism of such an injury is due to fall on an outstretched hand sustaining a distal radius fracture. Elbow dislocation occurs probably due to a posterolateral valgus load.

Elbow dislocation can usually be reduced easily by closed reduction under sedation. Distal radius fracture can be managed conservatively or by operative intervention depending on the patient and fracture patterns.

4. Conclusion

To conclude, clinical and radiological assessment of one joint above and below should be done in every case so that these injuries, although rare, should not be missed. In a case of elbow dislocation, a possibility of a distal radius should be kept in mind (Batra S & Andrew JG 2007). A very high degree of suspicion is required in such cases.



Fig. 1: X-Rays on Presentation of Case 1.



Fig. 2: Post Operative X Rays after Plating and Closed Reduction of Case 1.



Fig. 3: Clinical Outcome at 6 Months

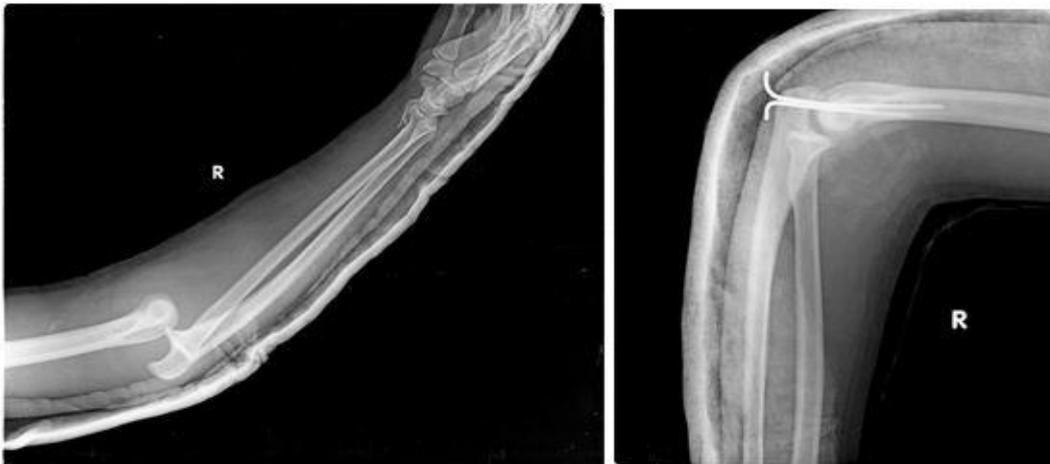


Fig. 4: Preoperative and Post Operative X Rays of Case 2.



Fig. 5: Preoperative and Post Operative X Rays of Case 3.

5. Conflict of Interests

The authors hereby declare that they have no conflict of interests to declare.

6. Ethical Approval

Ethical consent for the work has been given.

7. Consent

The authors confirm that the patients described in this paper have given their informed consent for the paper to be published.

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