Anterior Dislocation of Elbow Joint- Case Report of A Rare Injury

Rakesh Kumar[1], Vishal Sekhawat[2], SS Sankhala[1], Isha Bijarnia[3]

What to Learn from this Article?

Rare Occurence of Anterior Elbow Dislocation with Management.

Abstract

Introduction: In view of the comparative frequency of posterior dislocations of the elbow, it is rather remarkable that anterior dislocations of that joint should be among the rarest of injuries. Authors report a case of acute anterior dislocation with old fracture of medial epicondyle.

Case Report: 22 years old male presented with acute pain and tenderness with deformity of right elbow joint and inability to move the elbow joint after he fell down during an episode of seizure. There was no neurovascular deficit.Radiological examination confirmed anterior dislocation of elbow joint with an ununited medial epicondyle fracture. Elbow was reduced under general anesthesia in emergency operation theatre.

Conclusion: Anterior dislocation of elbow is very rare. Early diagnosis and proper reduction of dislocation is key of normal functioning of elbow joint.

Keywords: Elbow joint, anterior dislocation, medial epicondyle.

Introduction

Anterior type dislocation of elbow joint is very uncommon and mostly occurs with fracture of olecranon. The injury as mentioned by Hippocrates as the most painful of all dislocations and as fatal in a few days [1] Anterior and posterior type of dislocation of elbow joint are decided in relation of radius and ulna with humerus, if radius and ulna dislocate posterior to humerus it is known as posterior type and if anterior to humerus known as anterior type dislocation of elbow joint. [2]

We have reported a case of closed anterior dislocation of elbow joint with old medial epicondyle fracture without neurological deficit in a 22 year old male with history of epilepsy.

Case Report

22 years old male presented with acute pain and tenderness with deformity of right elbow joint with inability to move the elbow joint after he fell down due to episode of seizure, there was no neurovascular deficit. He was a known case of epilepsy on medical management. He had an history of injury to same elbow five years back following which immobilisation in a plaster cast was done for four weeks but any documentation regarding the injury was not available with the patient. Radiological examination (Fig.1) confirmed anterior dislocation of elbow joint with a ununited medial epicondyle fracture.

Management

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Author's Photo Gallery


Dr. Rakesh Kumar


Dr. SS Sankhala


Dr. Isha Bijarnia

[1]Department of Orthopaedics, SMS Medical college& hospital, Jaipur, Rajasthan. India./ [2]Department of Orthopaedics, MAMC. Delhi. India./ [3]Dept. of Anesthetic, SMS Medical college& hospital, Jaipur, Rajasthan. India.

Address of Correspondence

Dr. Rakesh Kumar, 10 Prem Nagar, Purani Chungi, Ajmer Road, Jaipur 302019, Rajasthan, India. Ph: +91 9828 41 97 62.
Email: silayachrakesh@gmail.com

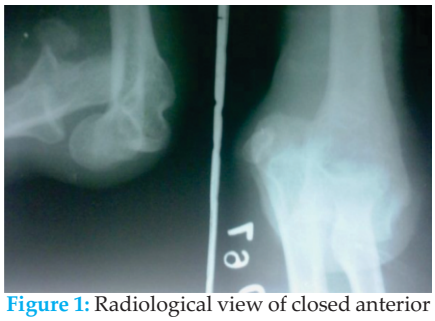

Figure 1: Radiological view of closed anterior dislocation of elbow joint with medial epicondyle fracture antero-posterior and lateral view.

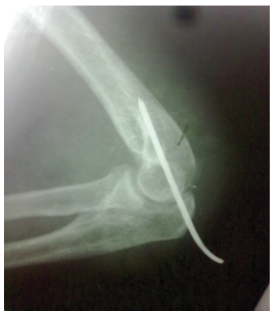

Figure 2: Postoperative radiological lateral view

One attempt of closed reduction was done in emergency but reduction could not be achieved. Another attempt of closed reduction was done in operating room under general anaesthesia and muscle relaxants was successful and elbow was stable during complete range of motion and no restrictions of motion was present. Reduction technique included distal traction on the wrist and backward pressure on the proximal forearm,a coupling was felt as the joint was reduced.care was taken not to hyperextend the elbow as it may lead to traction and potential injury to anterior neurovascular structures. A smooth K wire was used to transfix the ulno humeral joint (Fig.2) along with application of long forearm slab as the patient was having epilepsy and another similar episode may happen. No attempt to fix the medial epicondyle was done in view of soft tissue stripping may compromise joint stability,also under fluoroscopic examination medial epicondyle appeared to be stable suggestive of fibrous union. K wire was removed after 2 week time and active and active assisted elbow mobilisation exercises were started. Patient regained complete range of elbow motion after 15 days of physiotherapy and was pain free. He again had episode of seizure after 2 months of injury but his elbow was not affected this time.

Discussion

Postero-lateral elbow dislocation is commonest among elbow dislocations[3] . Anterior elbow dislocations is amongst the rarest of injuries . Anterior dislocation mostly occurs with fracture of olecranon [1, 4, 7]. Dislocation with lateral epicondyle fracture is very rare [10] dislocation with medial epicondyle fracture are more common than lateral epicondyle [11]. Anterior fracture dislocation of the elbow joint occurs when high energy direct blow is applied to the dorsal aspect of forearm with the elbow in mid flexedposition [4, 8]. The stabilizing structures of the elbow can be thought of as a ring [9]. The trochlear notch surrounds almost 180 degrees of the trochlea, accounting for a large part of the stability of the elbow joint. The ulno-humeral articulation has been shown to be the most important stabilizer of the elbow joint. The posterior column, the disruption of which would be a prerequisite for anterior dislocation, is formed by the olecranon, the triceps, and the posterior aspect of the capsule [9]. This would explain the rarity of this injury. Posterior dislocation is due to combined valgus and external rotatory stress to the semi flexed elbow with bilateral ligament injury [3].

This is a case of anterior dislocation of elbow joint with old fracture of medial epicondyle of humerus due to fall during seizure. Conservative treatment is traditionally practiced in medial epicondyle fractures and fibrous rather then bony union is relatively common. [13]Severe chronic medial stability although rare does occur after fibrous union of a displaced fracture of medial epicondyle [13].

Very few reports present anterior dislocation of elbow. Most author recommend accelerated functional treatment of elbow dislocation, as long period of immobilization have not been found to be of any benefit [5, 6].

Conclusion

Anterior dislocation of elbow joint isvery rare, occurs due to direct trauma to dorsum of forearm in semiflexed position .It is an orthopaedic emergency. Early proper diagnosis and concentric reduction ofthe joint is key for normal functional outcome of joint and prevention of any deformity.

Clinical Message

Dislocation of joint is an emergency .Should beproperly diagnosed and reduced on emergency basis for normal functional outcome of joint.Anterior dislocation of elbow joint although very rare may occur in an elbow with already compromised stability due to ununited medial epicondyle.

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