



## Rare Case of Simultaneous Bilateral Traumatic Elbow Dislocation in a Young Adult

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### ABSTRACT

We report an unusual case of simultaneous bilateral elbow dislocations in young adult having history of road traffic accident. Under general anesthesia both elbow were reduced and fixed with thick ulnohumeral k-wire on each side. After 6 months patient had no pain or swelling. Complete amplitude of elbow was restored. Flexion was 140° on both elbow and pronation-supination was 75° on both side. Patient has returned to previous work with good range of elbow function.

### KEYWORDS

bilateral dislocation; elbow; traumatic

### Introduction:

Simple dislocation account for 11-28% of all injuries to the elbow. The bilateral traumatic elbow dislocation is rarely seen. There are only a few such reported cases in the literature (1-6). One case only of bilateral elbow dislocation was reported<sup>1</sup>. We report an unusual case of bilateral traumatic elbow dislocation with unilateral radial head fracture. It should be discussed on its epidemiological, clinical, and therapeutic particularity.

### CASE REPORT:

#### History:

A 24-year-old man was admitted to emergency department after falling from two wheeler with his elbows in an extended position. He presented with pain, swelling, deformity and restricted movement over both elbow region.

#### On physical examination:

The patient was conscious, oriented, and cooperative and his general status was normal except for injury over jaw. Both elbows were deformed and appear winded with posterior protrusion of olecranon; the forearm seems shortened. The palpation of elbows, posterior region shows that the triceps tendon is stretched and that there is a retro humeral depression and in front of the olecranon. The radial head was palpated outside the olecranon; the radial head was palpated outside the olecranon. Distal Neurovascular examination was normal bilaterally.

#### X-rays

Radiographs showed bilateral poster lateral elbow dislocations with a unilateral radial head fracture.



Figure.1 pre op x ray

#### Reduction and follow up

Both elbows were reduced under general anesthesia on the day of the injury. The radial head fracture was undisplaced. Both elbows were secured in above elbow plaster casts. After 3 weeks patient presented with bilateral loosening of cast and bilateral redislocation. Under general anesthesia right side elbow reduced and with 2.5 mm ulno-humeral k wire and protected with cast.



figure.2- post op x ray

Left side elbow reduction failed in first attempt but was reduced in subsequent attempts and fixed with 2.5 mm ulno-humeral wire and protected with above elbow cast. Patient was discharged after confirming no post operative swelling and no distal neurovascular deficit. After 4 weeks k wires were removed and after conforming stability of elbow active assisted elbow range exercises were started. On next visit range of motion exercises for both elbow were started and encouraged as tolerated under close supervision. Full forearm rotation was allowed with elbow flexed 90°.

By the end of the 8th week the patient had regained full range of movement and at 3 months he was back to his previous performance level.

#### Discussion:

Simple dislocations account for 11–28% of all injuries to the elbow.<sup>4</sup> In a Swedish study over a period of 12 years involving 178 patients with elbow dislocations, most of the cases were young people involved in sporting activities.<sup>5</sup>

The mechanism of posterior elbow dislocation is unclear. The commonest presentation is a fall on the extended elbow. The body weight generates a downward force with a vertical and a horizontal component which unlocks the ulna out of the trochlea. As the joint continues to hyperextend, the anterior capsule and the collateral ligaments fail, resulting in a posterior dislocation.<sup>6</sup> The rarity of bilateral elbow dislocation stems from the fact that it may only occur under special circumstances with both the elbows extended and most of the body weight acting through the elbow joints. Such dislocations have only been reported in female gymnasts, and the explanation may lie in their ability to hyperextend joints because of ligament laxity. This puts them at a higher risk of serious injury than their male counterparts. Historically dislocations have been immobilized for longer period of time. This has led to complications like adhesions, fibrosis, and contractures.<sup>7</sup> Protzman<sup>8</sup> reported a flexion contracture of 3in 27 patients with less than five days of immobilization as compared with 21in seven patients who had more than three weeks of splinting. After closed manipulation, stability of the elbow joint should be tested, and in the presence of instability a protective brace may be worn to assist early mobilisation.<sup>6</sup> Demonstrable instability, however, is not an indication for operative repair.<sup>9</sup>

In this patient both elbows were mobilized only after 4 weeks as there was history of re-dislocation and operative fixation was needed. Mobilization was started as early as possible but only after confirming healing process and no further fear of redislocation. At the end of three months he had completely recovered full range of motion and resumed his activities. On final review at five months he had no residual symptoms from his injury. Complete amplitude elbow was restored.

#### Conclusion:

Bilateral elbow dislocations are career threatening injuries in young active adult male leading to limited economical and social aspects of life. Our report stresses the importance for the treating physicians in the accident and emergency and orthopedic departments to be aware of the importance of secure reduction and early mobilization in these patients, which could make the difference between an end to a promising career and returning to previous level of work.

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