

Case Reports

Ipsilateral dislocation of the shoulder and elbow

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ABSTRACT

Ipsilateral dislocation of shoulder and elbow joints is a rare injury. Only 2 such cases have been reported in the English literature. We report a case of a 35-year-old man involved in a road traffic accident under the influence of alcohol. He sustained posterior left elbow and anterior left shoulder dislocation with minimally displaced greater tuberosity fracture. He also had partial median nerve palsy. Under intramuscular pethidine and intravenous diazepam, close reduction of elbow followed by shoulder was carried out. At 2 months, median nerve function returned to normal. At 3 months, almost full elbow and shoulder joint movement returned. Although rare and complex, this ipsilateral injury can be treated conservatively.

Keywords: Ipsilateral, shoulder, elbow dislocation.

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Ipsilateral dislocation of the shoulder and elbow is a rare injury. Only 2 such cases have been reported in the English literature during the last 20 years.^{1,2} Because of the obvious visible deformity and predominance of pain from the elbow, ipsilateral shoulder dislocation could be initially missed.² The mechanism of such trauma is difficult to define. Conservative treatment by closed reduction and immobilization for a period to allow soft tissue healing produces uneventful recovery. We report a case of such injury and compare this with the 2 cases reported in the literature.

Case Report. A 35-year-old man was involved in a road traffic accident under the influence of alcohol during the early hours of the morning and was unable to remember the incident. At the emergency room he had abrasions over the face and obvious deformity of the left elbow with pain.

During secondary survey left shoulder dislocation was discovered. He had weakness of the grip of the left hand with clinical features of median nerve paresis. His left shoulder x-rays revealed anterior dislocation of the left shoulder with minimally displaced fracture of the greater tuberosity (Figure 1a).³ His left elbow x-ray showed posterior dislocation of the left elbow (Figure 2a). Except for the weakness and hypoesthesia of median nerve distribution in the forearm and the hand, his circulation, radial and ulnar nerve functions were intact. After exclusion of head, neck, spine, chest, abdominal, pelvic and lower limb injuries the patient was administered with 10mg of intravenous Diazepam and intramuscular Pethidine (75mg). The elbow joint was reduced first then followed by the reduction of the shoulder joint using Cocher's maneuver. The elbow joint's stability was tested after reduction and collateral ligaments were found to be intact. After recovery from diazepam and

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Figure 1 - X-ray of the left shoulder: **a)** with anterior dislocation and fracture of greater tuberosity; **b)** after concentric closed reduction, fracture of the greater tuberosity reduced.

pethidine, axillary nerve function was tested and was found intact but median nerve dysfunction remained the same. The shoulder reduction was stabilized by body bandage using elastoplast and the elbow was kept in 90° flexion using collar and cuff. Post reduction x-rays revealed concentric reduction of shoulder and elbow joints with greater tuberosity fracture returning to its position (Figure 1b & 2a). Immobilization of the shoulder and elbow was kept for a period of 4 weeks then active mobilization was started. At 2 weeks, the median nerve conduction

studies confirmed intact nerve and at 8 weeks it returned clinically to normal. At 3 months, joint movements returned almost to normal and the patient returned to deskwork.

Discussion. Suman from Glasgow Royal Infirmary in Scotland first reported a case of ipsilateral dislocation of the shoulder and elbow in 1981 from a 31-year-old man involved in a road traffic accident under the influence of alcohol.¹ The



Figure 2 - X-ray of the left elbow: **a)** showing posterior dislocation; **b)** after concentric reduction.

age and the circumstances of the accident were similar to our case. Neither was using seat belt, facial injury and dislocation patterns were also alike except in our case in addition to anterior dislocation there was a fracture of the greater tuberosity and median nerve neuropraxia. In 1998, Ali et al from Bassetlaw District General Hospital in Worksop, Nottinghamshire, United Kingdom, reported another case of ipsilateral left shoulder and elbow dislocation in a 33-year-old woman who fell down a flight of stairs.² She was complaining of severe elbow pain. The diagnosis of elbow dislocation was made in the accident and emergency room early on arrival but shoulder dislocation was initially missed until later when she was on her way to the operating room. Ali et al stressed the importance of careful examination and maintaining a high degree of suspicion following trauma to the humerus and elbow as an ipsilateral shoulder dislocation can be easily missed specially in the obese patient when changes of the shoulder contour can be minimal.

Similarities of these patients with our case is that the dislocation of the shoulder was initially missed but established during the secondary survey. Although fracture of the humerus and missed diagnosis of ipsilateral shoulder dislocation was emphasized in previous reports,⁴⁻⁷ the concomitant elbow and shoulder dislocation was not mentioned. Management of the reported cases were the same. We felt that reduction of the elbow first would ensure a stable distal part of the limb to help reduction of the shoulder joint and it worked well. Suman and Ali et al did not mention the sequence of reduction! Intravenous sedation along with analgesics are standard medications to reduce dislocation of the shoulder and elbow in our institute, however, the influence of alcohol might have helped for easy reduction. The cases from Glasgow and

Bassetlaw were however, reduced under general anesthesia. In our case post reduction and follow up x-rays of the shoulder did not show any further displacement of the greater tuberosity fracture, therefore operative fixation was not necessary. Gradual improvement of the median nerve function and intact nerve conduction studies indicated neuropraxia of the nerve due to dislocation, and exploration of the nerve was not indicated. It is difficult to explain the mechanism of the injury but force transmitted through the forearm with the elbow flexed and shoulder externally rotated could be the possible cause. During frontal impact protective positioning of the affected limb may produce such trauma. Although this interesting combination of ipsilateral shoulder and elbow dislocation is rare, they are easy to manage by closed reduction. Fracture dislocation of one joint following a complex injury should raise the suspicion of involvement of others.

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