



Case Study

## ANTERIOR DISLOCATION OF SHOULDER WITH IPSILATERAL FRACTURES OF THE PROXIMAL, MID-SHAFT AND DISTAL HUMERUS: RARE COMPLEX INJURY (CASE REPORT)

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### ABSTRACT

Dislocation of the shoulder joint with fractures of the humerus on the same side is rare; the literature related to this rare injury is limited to few case reports. We present a case of a 43-year-old, who suffered from a job-related accident and sustained fractures of midshaft and distal humerus associated to ipsilateral anterior shoulder dislocation and fracture of greater tuberosity; after reduction of the anterior shoulder dislocation. The treatment was surgical and demonstrated a successful outcome at one year follow-up.

**KEYWORDS:** Humerus-fractures; Ipsilateral; Shoulder dislocation

### INTRODUCTION

An anterior dislocation of shoulder combined a multiple fractures of the homolateral humerus is rare; only few cases have been reports in the literature [1] generally; it is the consequence of high energy mechanism. Different strategies have been devised and investigated on the treatment of this combined lesion; the post-operative complications can occur, such as non-union; limited range of elbow and shoulder motion, neuropraxia;

The aim of management is the restoration of anatomy and normal function of upper limb; The authors are presenting their own experience in treating this rare complex injury associated with good functional outcome after 10 months of decline.

### CASE REPORT

A 43- years' old man; victim of a work accident following a fall from a machine. The crash impact was predominantly on his left upper limb; he had pain and swelling of the left arm and shoulder, with inability to move the upper limb. He was admitted to the military hospital eight hours after the accident. On initial examination, he had clear consciousness with deformation of the left shoulder and arm in abduction and internal rotation. The movements of the left upper limb were restricted; he had a wound type I B over the lateral side of elbow; the neurovascular examination found a sensorimotor radial deficiency.

The x rays showed fracture of midshaft, distal complex articular fracture (AO. C1; Gustilo IB) associated to ipsilateral anterior dislocation of the shoulder and fracture of greater tuberosity (figure 1). After closed reduction of the anterior shoulder dislocation and fracture of greater tuberosity. The treatment was surgical, required surgical debridement of the wound with plug of humeral palet associated with open reduction of the humeral shaft fracture with compression plating (figure 2). Using the

lateral approach to the humerus that allowed us to evaluate the integrity of the radial nerve. The limb was splinted in slight adduction for four weeks followed by functional rehabilitation.

The evolution was marked by a nonunion of humeral shaft treated by cancellous bone graft associated with platelets rich plasma.(figure 3)

At 10 months follow-up, fractures of the humerus were consolidated with a stable shoulder. UCLA shoulder rating

scale and Mayo elbow performance scores (MEPS) were utilized for functional evaluation [2,3 ]. The patient had shoulder abduction of 120° and forward Flexion of 130°. The elbow flexion was as follows: active 110°, passive 130°, extension 20°. The functional recovery of the radial nerve was noted; MEPS and UCLA scores showed good results (figure 4).

**Figure 1:** Fracture of the shaft of the humerus and anterior dislocation of the ipsilateral shoulder



**Figure 2:** early post operative radiograph



**Figure 3:** postoperative radiographs at 4months follow showing nonunion recovery diaphyseal humeral



**Figure 4:** Clinical functional outcome ten months after surgery



## DISCUSSION

The association of fracture of the humerus shaft and anterior shoulder dislocation is an even rarer event, with only a few confirmed reports in the literature [1]; Winderman [4] and Baker [5] reported individual cases of this combined injury in which the dislocation of the shoulder was anterior. The most common mechanism of occurrence of such lesions appeared to be a fall on the member in extension. The transmission of force along humeral shaft causes a fracture of the humerus and dislocation of the shoulder [6]; in our case the receipt of a heavy object to the upper limb in extension, abduction and external rotation has caused the fracture of the humeral shaft in the proximal and distal third associated with dislocation of the favored shoulder by movements of abduction and external rotation that generate the lower zone of weakness of the capsule and glenohumeral ligament lower; Opinions concerning the treatment of this combined lesion have differed. Some authors have advised closed reduction of both the dislocation and the fracture Winderman [2]; Kavanaugh [7]. And Baker [3] advocated open reduction with internal fixation of the fracture.

Various techniques have been proposed; reducing the orthopedic shoulder is in the majority of cases, the fixing of the fracture of the humerus may be provided by an external fixator, intramedullary nailing or bone plate [3]. In our case; the order of the management of these lesions starts with the reduction of shoulder to prevent osteonecrosis of the humeral head and ensure satisfactory joint functional recovery. Followed by fixing the humeral shaft by bone plate osteosynthesis with a minima of the humeral pallet racking saw the skin opening facing the fracture;

The evolution is marked by the occurrence of nonunion of humeral shaft which according to the literature complicates less than 10% regardless of the technique used [8]; in our case the treatment of nonunion was solved by the establishment of a plate compressor with corticocancellous graft and adding platelet-rich plasma

## CONCLUSION

The association of shoulder dislocation with fractures of humerus in the same extremity; is an infrequent injury which are difficult to be treated and the prognosis depends on that of the shoulder. So adequate treatment followed by a specific rehabilitation is extremely important to recover the normal function and prevent the complications.

## REFERENCES

1. Chen CH, Lai PL, Chen WJ, Shih CH. Simultaneous anterior dislocation of the shoulder and fracture of the ipsilateral humerus shaft. *Int Orthop* 1998; 22:65–7.
2. Kundel K, Braun W, Wieberneit, Ruter A. Intra-articular distal humeral fractures. Factors affecting functional outcome. *Clin Orthop* 1996;332:200–8.
3. Ackerman G, Jupiter JB. Non-union of fractures of the distal end of the humerus. *J Bone Joint Surg Am* 1988;70:75–83
4. Gabel GT, Hanson G, Bennet JB, Noble PC, Tullos HC. Intraarticular fractures of the distal humerus in the adult. *Clin Orthop* 1987; 216:99–108
5. Nutton RW, McBirnie JM, Phillips C. Treatment of chronic rotator-cuff impingement by arthroscopic subacromial decompression. *J Bone*

- Joint Surg Br 1997; 79:73–6.
6. Winderman. Dislocation of the shoulder with fracture of the shaft of the humerus. Bull Hosp Joint Dis Ortho Inst 1940;1: 23–5
  7. Baker D. Fracture of the humeral shaft associated with ipsilateral fracture dislocation of the shoulder. Trauma 1971; 11:532
  8. Gagey O, Gagey N, Boisrenoult PH, Hue E, Mazas F. Étude expérimentale des luxations antéro-internes ou erecta de l'articulation scapulo-humérale. Rev Chir Orthop 1993; 79:13–21
  9. Kavanaugh J. (1978) Posterior shoulder dislocation with ipsilateral humeral shaft fracture. Clin. Orthop. 131, 168
  10. .Beguin. J.M; Pleneveux.P...Poilvache.G; considerations a propos de pseudarthrose de l humerus;acta orthopedia belgica;vol 57-2-1991

