

A Case Study Of Monteggia Fracture Dislocation treated with Open Reduction and Internal fixation With Dynamic Compression Plating.



Urology

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ABSTRACT

Monteggia fracture dislocation represent approximately 1%-2% of forearm fractures. It is defined as fracture of proximal ulnar shaft with radial head dislocation. The aim of treatment of a Monteggia fracture dislocation is stable rigid fixation of fractured ulna which reduces the dislocated radial head. Any residual angulation of the ulna fracture predisposes to subsequent redislocation or subluxation of the radial head. This stable rigid fixation can be done with open reduction and internal fixation with dynamic compression plating. We present a case study of Monteggia fracture dislocation treated with open reduction and internal fixation with 3.5mm dynamic compression plate. Once ulnar length and alignment was restored, radial head got reduced which was confirmed under fluoroscopy. It was followed by immobilization in hyperflexion for 3 weeks. The patient was followed up at the end of 6 weeks following injury and gradual elbow joint range of motion was begun. Further follow up at 3 months, 6 months and 1 year showed fully united fracture with complete return of elbow range of movements.

INTRODUCTION

Monteggia fracture dislocation represent approximately 1% to 2% of forearm fractures. It is defined as fracture of proximal ulnar shaft with radial head dislocation [1]. Bado in 1965 classified this injury into four types of which type I is most common. Type I Bado is proximal third ulna fracture with anterior angulation and anterior dislocation of the radial head [2]. Monteggia fracture-dislocation is a deceptive condition to treat often requires open reduction and internal fixation. The goal of treatment of a Monteggia injury is stable rigid fixation of fractured ulna which reduces the dislocated radial head. Any residual angulation of the ulna fracture predisposes to subsequent redislocation or subluxation of the radial head. This stable rigid fixation can be done with open reduction and internal fixation with dynamic compression plating [3].

CASE STUDY

22 year old male came to orthopaedic casualty with history of fall. He complained of pain and swelling of left elbow and forearm. On examination Bone crepitus and deformity was present. Distal neurovascular status was intact. Elbow range of movements were restricted. Plain radiograph of Elbow with upper forearm in AP & Lateral views were done immediately. The radiograph was suggestive of fracture proximal one third ulnar shaft with anterior angulation with anterior dislocation of radial head [Fig 1]. Diagnosis of Bado type I Monteggia fracture dislocation was made. Patient was posted for open reduction and internal fixation under brachial plexus block. The fractured ulna was rigidly fixed with 8 hole 3.5mm dynamic compression plating with three proximal and three distal cortical screws with bicortical purchases. With maintenance of ulnar length and alignment, the radial head reduced into its position which was confirmed under fluoroscopy [Fig 2]. Forearm was then immobilized in above elbow dorsal POP Slab in hyperflexion. Sutures were removed at day 14 post-operatively. Slab was continued. At 6 weeks slab was removed and elbow range of movement started. Serial radiographs taken at 6 weeks, 3 months, 6 months & 1 year [Fig 3&4]. At last followup fracture was seen fully united radiologically and full range of elbow movements was achieved clinically.



Fig-1. Pre-op Radiograph



Fig-2. After ORIF with plating



Fig-3&4. At 1 year follow-up fully united fracture

CONCLUSION

Anatomical reduction and stable rigid fixation of the ulnar shaft fractures with 3.5 mm DCP successfully treats radial head dislocation also. The anatomical reduction of the ulna determines the reduction of the radial head spontaneously in majority of the cases. Rarely open reduction typically needs to be performed, finding the interposed annular ligament. If a close reduction of radial head dislocation is not possible after correct anatomic reduction and fixation of ulna fracture, an open reduction to remove soft tissue interposition is required [4,5]. Open Reduction and internal fixation of ulnar shaft fracture with dynamic compression plating is the treatment of choice for Monteggia fracture dislocation [6,7].

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