

## Bilateral Radial Head Fracture: A Case Report

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**Abstract:** Isolated radial head fracture constitutes about 20% of all acute elbow injuries. Bilateral fracture of radial head is a rare entity. We report a case of bilateral symmetrical Mason type I radial head fracture. Patient was treated non-operatively, the MEPS being excellent on both sides at 12 weeks. The patient was followed up for one year.

**Keywords:** Bilateral, Elbow, Mason, Non-operative, Radial head fracture

### I. Introduction

The radial head fractures when it collides with the capitellum. Vast majority of these injuries are the result of a fall onto the outstretched hand. Radial head fractures are commonly encountered in orthopaedic practice. It accounts for about 20% of all acute elbow injuries. But bilateral radial head fractures are rare. The management of radial head fracture depends on the degree of comminution, displacement, free intra articular fragments, the proportion of articular surface involved and associated injuries. The scarcity of literature on bilateral fractures and their reviews have urged us to report this case.

### II. Case Report

A 30-year-old man presented to the emergency department with a history of motor vehicular accident. He was thrown out of a two-wheeler he was riding after it hit a bump in a rough patch of a road landing onto the ground with both arms outstretched. He complained of pain and slight swelling on both elbows. There was difficulty in movement of both the elbows, particularly supination and pronation. The examination of distal radioulnar joint, interosseous space and medial side of the elbow did not reveal any associated ligamentous injury. On palpation tenderness was elicited on both radial heads. There was no neurovascular deficit. X-rays revealed a Mason type I radial head fracture on both sides. The patient was put on collar and cuff sling bilaterally. Oral analgesics were prescribed. The patient was immobilized for a period of 7 days. Subsequently active elbow exercises were started within pain limits, progressing to resistive exercises by 8 weeks post fracture. By 12 weeks the Mayo Elbow Performance score (MEPS) was excellent for both sides. The patient was followed up for one year and at present he has no complaints.



Fig-1: X-ray showing fracture of radial head of both sides



Fig-2: range of motion on follow up

### **III. Discussion**

Bilateral radial head fracture is a very rare entity [1, 2]. The vast majority of these injuries are the result of a fall onto the outstretched hand. The force is transmitted along the long axis of forearm causing the radial head to collide against the capitellum. This results in the fracture of radial head along with concomitant damage to the capitellum. Anatomically the radial head is susceptible to fracture because of a 15° angle between the radial neck and shaft. Fracture can also occur from a direct blow or force to the elbow (eg. MVA).

Mason classified fracture of the radial head into three groups: type I, undisplaced segmental (marginal) fracture; type II, displaced segmental fracture; type III, comminuted fracture [3]. Conventional posteroanterior, lateral, and oblique x-rays of the elbow are sufficient for the detection of radial head fractures. Reconstruction CTs are required rarely and are useful in decision making of doubtful cases.

Usual management of type I fracture comprises of a brief period of immobilization followed by active exercises as pain permits. Mason and Shutkin[4] suggested that early mobilization allow fragments to find the best possible functional position with respect to other joint surfaces. Radin and Risborough [5] found displacement of fragments following early mobilization. However, Bakalim G. [6] showed that displacement of fragments was not associated with loss of function.

Aspiration of elbow joint as a part of treatment has been advocated by many authors (Pastlaithwaite [7], Quigley [8]). But Gatson et al [9] (1949) showed no difference of range of movements at 20 months between the aspirated and non aspirated groups. Holdsworth et al [10] conducted a prospective controlled trial of 80 cases but failed to show any long term benefit. Carley[11] stated that although aspiration brought about initial pain relief and early return of movement, it cannot be suggested as a routine procedure.

Our patient having a bilateral involvement was put on collar and cuff sling on both sides for a brief period of time during which the activities of daily living was managed mostly by the patient himself with some support from his family. In spite of the early use of the limbs, subsequent X-rays did not reveal any further displacement of fragments. A proper rehabilitation programme starting with early active exercises as soon as pain permitted, ultimately led to excellent functional results.

### **IV. Conclusion**

Bilateral radial head fracture, although very rare, should be suspected in patients with fall on both hands. Early recognition, proper management, and physical rehabilitation lead to complete recovery.

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