

Neglected 3 Week Old Volar Barton's Fracture Treated with Open Reduction Internal Fixation Using Volar LCP

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ABSTRACT

Barton fractures are fractures of the distal radius. It is also sometimes termed the dorsal type Barton fracture to distinguish it from the volar type or reverse Barton fracture. Barton fractures extend through the dorsal aspect to the articular surface but not to the volar aspect. Therefore, it is similar to a Colles fracture. There is usually associated dorsal subluxation/dislocation of the Radiocarpal joint.

Key words: Barton's fracture, Radiocarpal joint, Subluxation, Colles fracture

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INTRODUCTION

Barton's fracture describes all intra-articular fractures of the distal radius associated with Radiocarpal joint dislocation. Fernandez has classified these injuries as shearing type of simple intra-articular fractures. Although conservative techniques have been attempted to manage these injuries, it was found that only open reduction with internal fixation is the management of choice for a good prognosis [1-4].

CASE REPORT

A 26 year old male suffered a high velocity trauma (skid and fall from a motorcycle), and presented to a nearby hospital, where he was diagnosed to have sustained a volar Barton fracture of the right distal radius. He opted to decline surgery at this point and went to a traditional bone setter for native splinting. He presented to Sree Balaji Medical College three weeks later as he had continuous, severe pain following the application of a cast by the bone setter. He was admitted and planned for ORIF with a volar LCP (Modified Henry's approach) (Figure 1).



Figure 1: Before surgical procedure-volar Barton fractures.

Surgical procedure

The procedure involved distal radial metaphysis exposure as per Modified Henry's approach. The median nerve was retracted towards the ulnar aspect along with other long flexors, while the radial artery was retracted towards the radius in conjunction with the tendon of the brachioradialis. Transecting the flexor retinaculum and reflecting the pronator quadratus muscle exposed the volar rim of the distal radius. The fracture fragments were visualised and reduction was successfully achieved with the use of bone holding forceps and appropriate traction. The displaced volar rim was reduced and stabilised with a volar LCP and 3.5 mm screws (6 in total). The fixation was deemed to be satisfactory. The remnant of volar wrist capsule was closed. The wound was closed in layers and a sterile dressing was done (Figure 2).

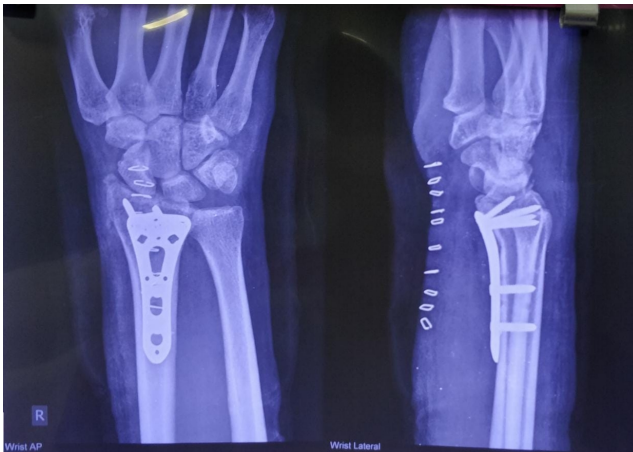


Figure 2: After surgical procedure.

CONCLUSION

The post-operative period was uneventful, and the patient was discharged on post-operative day 5. The wound was healthy and showed no signs of infection at the time of discharge, such as gaping or discharge. Sutures were removed on day 14. The patient was

subsequently started on physiotherapy and wrist exercises, and regained the functional range of movement required for day to day activities. More importantly, he was relieved of the chronic pain he would have otherwise endured if malunion had occurred. Thus it can be inferred that surgical intervention is the gold standard for the management of Barton's fracture, as its intra-articular nature does not respond well to conservative methods of treatment.

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