

# Delayed Onset Radial Nerve Palsy in Humerus shaft fracture – A complication from healing process.

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## INTRODUCTION:

Radial nerve palsy in humerus fracture can be classified into primary and secondary causes. Primary cause is due to immediate trauma itself whereas secondary cause is related to close/open reduction. Delayed onset palsy is frequently due to callus entrapment of the nerve over fracture site, some literatures do not classify them under secondary cause.

## REPORT:

39 years old gentleman, alleged slipped and fall, sustained Closed comminuted fracture distal 1/3 right humerus with no neurological deficit. He was treated conservatively with U-slab. However, he developed wrist drop and reduced sensation over dorsum aspect of first webspace at 1 month post trauma hence we decided for Right humerus plating and radial nerve exploration. Intraoperatively, radial nerve was found to be entrapped by callus over fracture site. Dynamic compression plating and neurolysis was done. Three months later, he regained full wrist dorsiflexion power and radial nerve cutaneous sensation. There were clinical and radiological evidence of fracture union.



Figure 3: Radiological union post-op 3 months  
Figure 4: Full recovery of radial nerve at 3 months post-op

## DISCUSSIONS:

Secondary radial nerve palsy happens in 10-20% of humerus fracture patient. Erin et al<sup>1</sup> described a similar case of delayed onset radial nerve palsy treated conservatively, full recovery required around 9 months. In our case, surgical exploration and external neurolysis was done to decompress radial nerve as we believe it provides better outcome for patient in term of earlier rehabilitation and prevent secondary insult to nerve due to unstable fracture.

## CONCLUSION:

Although treatment modalities (conservative vs surgery) is controversial and most of primary/secondary palsy spontaneously resolved over time, delayed onset radial nerve palsy should be an indication for surgical exploration because the time to full recovery is significantly reduced with proper neurolysis technique, fracture stabilization and post-operative rehabilitation.

## REFERENCES:

1. Kelly, Erin A et al., Delayed Radial Nerve Palsy After Non operative Treatment of Humeral Shaft Fractures. JBJS Case Connector.

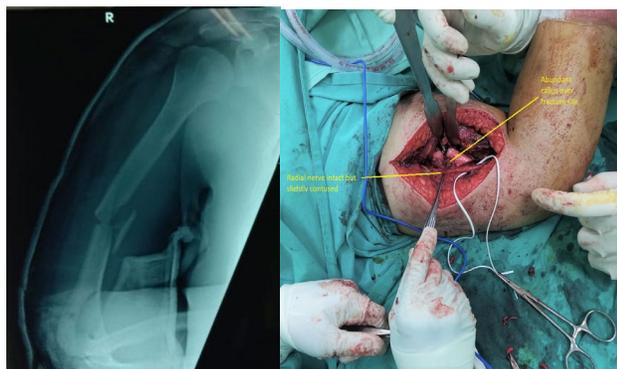


Figure 1: Pre-operative Xray

Figure 2: Intraoperative findings