

The Often-Misinterpreted Isolated Fracture Of The Humeral Trochlea: A Case Report

Naga BN; Yeoh KH; Inderjeet S; Shukur A; Sharifudin S
Department Of Orthopaedics, Hospital Teluk Intan, Perak

INTRODUCTION:

Isolated fracture of humeral trochlea is an extremely rare injury, as it's usually associated with elbow dislocation and capitellar fracture. It was first described by Laugier in 1853. We present a case of isolated humeral trochlea fracture that was treated surgically.

MATERIALS & METHODS:

A 43-years-old lady, alleged road traffic accident, fell with outstretched right hand with extended elbow. An anteroposterior radiograph showed irregularity over the medial epicondyle, and lateral radiograph revealed an intra-articular half-moon-shaped fragment that had displaced up and forward. Open reduction and internal fixation was performed to restore the anatomic integrity of the elbow with a good outcome.

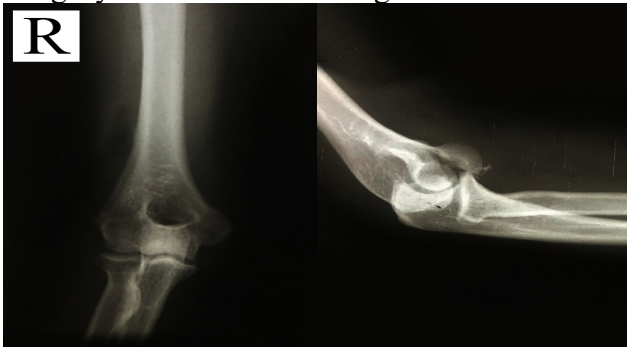


Figure 1: Initial radiograph.

RESULTS:

Fixation of the fracture fragments done with two 3.0mm headless compression screws. At 4months post-operative follow up, she had regained her normal elbow function.



Figure 2: Post-operative radiograph.

DISCUSSIONS:

The trochlea rarely fractures in isolation, explained by its position deep within the trochlear notch cavity without capsular, muscular or ligamentous attachments¹. The actual mechanism of injury remains speculative. Worrel attributed it to a force transmitted from the palm, through the ulna to the trochlea following a fall on the outstretched hand with the elbow extended².

Radiographically, the isolated humeral trochlea fracture shows a half moon-shape osteochondral fragment in the lateral view, which can be mistaken for capitellar fracture. Therefore, the anteroposterior radiograph which shows irregularity of the trochlea-olecranon articulation is crucial in differentiating these fractures. If in doubt, a Computerized Tomography scan can be helpful.

Non-operative treatment has been recommended for undisplaced humeral trochlea fracture. In displaced humeral trochlea fracture, an anatomical reduction is mandatory to maximize articular congruency and reduce the possibility of concomitant elbow instability.

CONCLUSION:

Isolated fracture of the trochlea is rare. The mechanisms generating this fracture are complex. We recommend a CT assessment for any potentially complex elbow injury. Surgical intervention is indicated in displaced fractures.

REFERENCES:

1. Wolfe, Hotchkiss, Pederson, Kozin. Green's Operative Hand Surgery. 6th ed. Elsevier 2011. p. 751-752.
2. Worrel RV. Isolated displaced fracture of the trochlea. NY State J Med 1971;71(19): 23145.