

Neglected Isolated Fracture Of The Trochlea- A Case Report.

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Citation

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Abstract

Isolated shear fractures of the trochlea are also called Laugier's fractures. Only a few cases have been reported so far. There is difference of opinion regarding mechanism of injury as well as in the treatment options. We report a case of a neglected fracture of the trochlea; we could not find a similar case reported so far in the literature. An Indian female belonging to the lower socioeconomic group presented 3 months after injury to her elbow with complaints of restricted painful movements of the elbow. Fracture of the trochlea was diagnosed on the radiograph. The patient was thoroughly counselled and surgery was done with excision of the trochlea as the cartilaginous portion was showing degeneration. The post-operative status was improved with increased range of motion and a stable painless elbow. We consider the excision of the degenerated fragment to be a better option for such neglected cases where socioeconomic restraints limit any reconstructive surgery.

INTRODUCTION

The trochlea humeri fracture is an osteochondral fracture and is usually associated with elbow dislocation or capitellar fracture.(1,2,5) Isolated fractures of the trochlea in adults are a surgical rarity as compared to their capitellar counterparts; only few cases have been reported so far.(2,5,6,8). There is still very little known regarding the mechanism of the injury and the treatment results of this injury. We report a case where a isolated shear fracture of the trochlea was recognized in a female patient presenting with painful restriction of movements at the elbow developing after a fall, three months prior to the consultation. On surgical exploration the cartilage of the fragment was degenerated. It was excised to relieve pain and as well as to achieve partial relief in the restriction of movements. We haven't found so far any documented case of neglected isolated shear fracture of the trochlea in the English literature.

CASE REPORT

A 50 year old Indian female, belonging to lower socioeconomic strata, presented to the out-patient department with history of a fall 3 months back and trauma to the right elbow which was followed by pain and swelling. For these symptoms she went to the local quack. The quack advised her some massages etc.

She has consulted the doctor 3 months post trauma when she had painful restriction of movements in her right

elbow.(fig.1&2.)

Figure 1

Figures 1 and 2: Photographs showing the range of motion.



On examination the elbow was minimally swollen as compared to her left elbow, with slight tenderness in the cubital fossa. The passive range of motion at elbow was 20-85 degrees. There was no associated neurovascular deficit. Temperature was not raised. All other joints were normal. There were no systemic complaints. Antero-posterior and lateral radiographs were advised and the lateral radiograph showed a half moon shaped fragment in front of the humerus. This was confirmed to be the trochlear fragment by the anteroposterior radiograph as the irregularity was found in front the medial aspect of the humerus.(fig.3)

Figure 2

Figure 3: A.P. and Lat. View radiograph of right elbow



Computed tomography of the elbow of the patient could not be done because of the financial implications. As the fracture was three months old there was no expectation for the trochlear cartilage to be normal so there was no role for open reduction and internal fixation with headless screws etc. Therefore we counselled the patient thoroughly with the available options and results. An excision of the fragment was planned. The joint was opened through medial approach and common flexors were detached from medial epicondyle. The trochlear fragment was identified with the fracture line extending in the coronal plane across the medial trochlear notch. The fragment was displaced and held by the fibrous tissue which was detached from it and the fragment excised (fig.4&5.)

Figure 3

Figures 4 and 5: Per-operative photograph of fracture fragment and after excision



The elbow was immobilized in an above-elbow splint and early active range of motion was started after three days. The patient had been counselled to attend regular physiotherapy

clinics on out-patient basis. The patient was followed-up for 14 months and at the last follow-up the patient was pain free with active range of motion 10- 125 degrees with no evidence of elbow instability.

DISCUSSION

Isolated fracture of the humeral trochlea is a rare fracture (5). The actual mechanism of injury is still uncertain but there are few theories. Worrel attributed the cause of an isolated trochlear fracture to a force transmitted from the palm of the hand through the ulna to the trochlea following a fall on the outstretched hand with the elbow extended (8). Shearing forces that may produce a trochlear fracture can be generated during an elbow dislocation (1,3).

Radiographically the isolated humeral trochlear fracture shows a half moon shaped osteochondral fracture fragment in lateral view which sometimes can be mistaken for the capitellar fracture (9). Therefore the A.P. view which shows an irregularity of olecranon-trochlear articulation is crucial in differentiating these fractures. Non-operative treatment has been advocated in case of undisplaced humeral trochlear fractures. Although excision of small fragments has been described as a treatment option, this may result in loss of articular surface and concomitant elbow instability (1,4,7.). The few cases which have been reported show the treatment option in fresh cases to be open reduction internal fixation with a k-wire or Hebert screw but it could not be a good option in case of an old fracture where the articular cartilage may have already been destroyed. So we went for the excision of the fragment and report no elbow instability. We achieved a good active range of 10 – 125 degree and passive range of 5-130 degree fourteen months postoperatively.

CONCLUSION

An excision can be a good option in neglected cases which are order of the day in less literate and economically under-privileged sections in the society, to achieve a pain free and relatively mobile joint.

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