



A RARE PRESENTATION OF IRREDUCIBLE POSTERIOR DISLOCATION OF ELBOW - RADIAL HEAD INTERPOSITION

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Abstract :

ABSTRACT A case of irreducible dislocation of elbow with fractured radial neck (Mason type-IV) is described for its unusual presentation. A 56 year old lady from a remote rural area in Tamil nadu, India came to the outpatient clinic two weeks after trauma with pain, swelling and restricted dynamic deformity of the right elbow without any neurological deficit. In the immediate aftermath of trauma she had native treatment. The Radial head was found displaced into olecranon fossa and was preventing closed reduction. This was managed surgically by removal of radial head, closed reduction and k wire stabilization through a small posterior incision. This case is presented due to its rarity -only two cases has been reported so far in the literature. The rarity may be ascribed to the usual mechanism - the postero-lateral rotatory mechanism, which forces the radial head onto the capitellum, causing a

fracture at the radial neck and the elbow dislocates posteriorly leaving the head anterior to or below the humerus. Thus radial head reaching the olecranon fossa cannot be explained this mechanism alone. The probable explanation in this case may be 1) The radial neck was fractured incompletely dragging the radial head along with it and the radial head may have got separated and stuck in the olecranon fossa on further manipulation. 2) Axial force on a flexed elbow could have caused the head fragment to displace posteriorly- but this is rare. 3) The radial neck could have got fractured entirely after the initial trauma due to the manipulation by traditional bone setters.

Keyword : elbow, irreducibility, dislocation, radial head interposition

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(The patient was informed that data concerning the case would be submitted for publication, and she agreed to this.)

INTRODUCTION A case of irreducible dislocation of elbow with fractured radial neck (Mason type-IV) is described for its unusual presentation. The Radial head was found displaced into olecranon fossa and was preventing closed reduction. This was managed surgically by removal of radial head, closed reduction and 'k' wire stabilisation. **PRESENTATION OF THE CASE** A 56 year old lady from a remote rural area in India came to the out patient clinic two weeks after trauma with pain, swelling and restricted dynamic deformity of the right elbow without any neurological deficit. In the immediate aftermath of trauma she had native treatment. Regional radiological evaluation showed a posteriorly dislocated elbow joint with the radial head in the olecranon fossa of humerus(fig -1).



figure-1: Initial x-ray showing radial head interposition

MRI was done for ruling out myositis(fig-2).

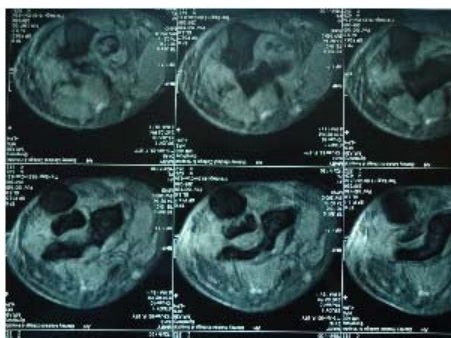


figure-2: MRI picture

Under C-arm control closed reduction failed and hence the elbow was opened through a small posterior midline incision ½ inch above olecranon and the triceps tendon was split and the radial head was removed without difficulty(fig-3,fig-4).



figure-3: Intra-op C-arm image



figure-4: Intra-op clinical photo

Closed reduction was done. As there were signs of instability, the elbow was stabilized with transarticular 'k' wire and immobilized with a long arm splint. After 3 weeks the 'k' wire was removed and active elbow mobilization was done.

At 1 year follow up(fig-5), she was painfree and had near normal range of motion (fig-6).



figure-5: x-ray at 1 year follow-up

figure-6: Full Elbow Flexion

DISCUSSION

The annual incidence of elbow dislocation is 6 to 8 cases per 100,000; these dislocations represent 11% to 28% of all elbow injuries. The frequency of elbow dislocation is second to that of shoulder dislocation. This case is presented due to its rarity - only two cases has been reported so far in the literature^{1,2}. The rarity may be ascribed to the usual mechanism- the postero-lateral rotatory mechanism³, which forces the radial head onto the capitellum, causing a fracture at the radial neck and the elbow dislocates posteriorly leaving the head anterior to or below the humerus. Thus radial head reaching the olecranon fossa cannot be explained this mechanism alone. The probable explanation in this case may be 1) The radial neck was fractured incompletely dragging the radial head along with it and the radial head may have got separated and stuck in the olecranon fossa on further manipulation.

2) Axial force on a flexed elbow could have caused the head fragment to displace posteriorly but this is rare.

3) The radial neck could have got fractured entirely after the initial trauma due to the manipulation by traditional bone setters.

Approximately 10% of patients with a radial head fracture have an associated elbow dislocation, and 10% of elbow dislocations have an associated fracture of the radial head⁴.

Common causes of irreducibility in elbow dislocation are, Buttonholing of Radial head through LCL⁵, Intraarticular Entrapment of the Lateral Epicondyle, Medial Epicondyle # Entrapment, Anterior capsule interposition, Osteochondral fragments etc.. Radial head interposition as in this case is a rare cause of irreducibility of the elbow.

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