

# Late neuropathy in chronic dislocation of the radial head

## Report of two cases

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Two patients developed ulnar and median neuropathy 15-20 years after anterior dislocation of the radial head had been diagnosed in childhood.

Anterior dislocation of the radial head should not be considered innocuous. Open reduction with reconstruction of the annular ligament may be indicated.

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### Case 1

A 21-year-old girl had recently lost muscle power for key pinch in her right hand. At the age of 3 she suffered a trauma of her right elbow, and at 5 an anterior dislocation of the radial head was found at radiographic examination. She was admitted for surgical treatment.

The range of elbow motion was 10° to 135° with 40° loss of supination as compared with the left side. The radial head was protruding, and a 40° instability was found. Mild intrinsic muscle weakness and first dorsal interosseous muscle atrophy with positive Froment's sign were noted. Radiography of the elbow showed an anteriorly dislocated radial head without proximal migration.

She was treated by open reduction of the radial head, annular ligament reconstruction with a palmaris longus tendon graft and anterior submuscular transposition of the ulnar nerve. At the 2-year follow-up, paresthesia had resolved but residual intrinsic muscle weakness remained. The elbow was painless with a range of motion from 30° to 110°.

### Case 2

A 35-year-old woman injured her left elbow at the age of 10, and a protuberance at the anterior cubital fossa was subsequently noted. During the last 5 years she had noticed progressive paresthesia and weakness of her left hand.

The range of elbow motion was 20° to 135° with a valgus instability of 15° and loss of supination of 40°. Palpation of the anteriorly and medially dislocated

radial head provoked Tinel's sign on the median nerve. The hand showed a combination of simian deformity and claw hand. Radiography of the elbow showed anterior dislocation of the radial head (Figure 1).



Figure 1. Case 2. Anterior and medial dislocation of the radial head.

Exploration of the median and ulnar nerves revealed that the anteriorly dislocated radial head tented and impinged on the median nerve. The ulnar nerve was transposed and the radial head was excised. Postoperatively, paresthesia improved remarkably but motor weakness persisted.

## Discussion

The classic late ulnar palsy resulting from chronic stretch, friction and interstitial fibrosis of the ulnar nerve in elbows with valgus deformity is a well-known entity (Sunderland 1978). In chronic dislocation of the radial head, the osseous articulation, which contributes about one third of the valgus stability (Morrey and An 1983), may be disturbed and fail to function well as a stabilizer; thus, valgus instability with subsequent chronic irritation on the ulnar nerve may develop. If

the radial head is displaced medially, the median nerve may also be stretched and irritated.

A case of anterior dislocation of the radial head was recently presented in this journal (Kadic 1991). The authors claimed that a chronically dislocated radial head may be left dislocated since it will not prevent good results. The outcome in our patients was unsatisfactory.

## References

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