

Acute Irreducible Distal Radioulnar Joint Dislocation (DRUJ) with Extensor Digiti Minimi Tendon (EDM) Interposition

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INTRODUCTION:

Acute DRUJ dislocations are uncommon, classified based on anatomic sites of injury or ease of reduction (simple or complex). Its diagnosis is imperative as inappropriate treatments alter kinematics of wrist and forearm, causing pain, weakness, and potentially degenerative osteoarthritis.

REPORT:

A 19-year-old, left-handed man presented with painful, swollen left wrist following an MVA. Initial radiographs demonstrated undisplaced left distal end radius fracture with DRUJ dislocation and ulna styloid fracture. Closed reduction of DRUJ and protective splint in supination attempted but repeated radiographs showed irreducible DRUJ. CT wrist was done as part of bony pre-operative evaluation.

Open reduction via a dorsal approach to fifth extensor compartment revealed dorsally dislocated ulnar head through torn extensor retinaculum with EDM tendon interposed in the DRUJ. EDM tendon relocated, ulna head reduced into the DRUJ. Primary repair of dorsal capsule with non-absorbable suture and EDM tendon exteriorize from the dorsal extensor compartment. DRUJ stability was confirmed and 1.6mm K-wire inserted to protect the repair. Post-operatively a sugar tong splint was applied with forearm in supination and K-wire was kept for six weeks.



Figure 1: Pre-operative radiographs and CT imaging.

DISCUSSION:

In simple dislocations, DRUJ are reducible following reduction and stabilisation of radius fracture. Bruckner et al. described the criteria for 'complex DRUJ dislocation': "obvious irreducibility, recurrent subluxation, or 'mushy' reduction caused by soft-tissue or bone interposition."¹ Blocks to reduction include interposition of ECU tendon, EDC to the ring and little finger, the FPL, fragments of a torn TFCC, or even the median nerve¹. Complex dislocation is an important indication for operative exploration and open reduction as demonstrated by EDM tendon interposition in this patient. Had CMR with percutaneous pinning was employed, DRUJ re-dislocation following K-wire removal can cause chronic dislocation with significant morbidity.



Figure 2: Intra-operative images.

CONCLUSION:

Identification of bony or soft tissue blocks is important in complex DRUJ dislocation. Unsuccessful close reduction prompts for necessary surgical exploration and open reduction as illustrated in this case report.

REFERENCES:

1. Garrigues et al. Acute Irreducible Distal Radioulnar Joint Dislocation. *J Bone Joint Surg Am.* 2007; 89:1594-7