



UNIVERSITY of
ROCHESTER
MEDICAL CENTER

UNIVERSITY OF ROCHESTER MEDICAL CENTER
DEPARTMENT OF IMAGING SCIENCES

Imaging Sciences Interesting Cases

CASE 249

Sam McCabe, MD

CLINICAL PRESENTATION: Patient is a 32-year-old female with arm pain and deformity status post-fall.

IMAGING FINDINGS: There is a displaced, angulated fracture of the proximal ulnar shaft. In addition, there is dislocation of the radial head.





Figures 1A&B: AP (A) and lateral (B) radiographs of the forearm shows a transverse proximal ulnar shaft fracture with apex lateral angulation and over-riding of fragments. There is also dislocation of the radial head anterolaterally.

DIAGNOSIS: Monteggia fracture-dislocation

DISCUSSION: The Monteggia fracture-dislocation involves an ulnar fracture and dislocation of the radial head. It typically is the result of a direct blow or a fall with forced pronation. Bado [1] described 4 types of Monteggia injury and classified them as follows:

Type 1: Fracture at the junction of the proximal and middle thirds of the ulna with apex anterior angulation; anterior dislocation of the radial head.

Type 2: Fracture of the proximal ulna with apex posterior angulation; posterior dislocation of the radial head.

Type 3: Fracture of the proximal ulna; lateral or anterolateral dislocation of the radial head

Type 4: Fractures of the proximal radial and ulnar shafts; anterior dislocation of the radial head.

Type 1 injuries are most common, comprising 60-70% of Monteggia injuries. Type 2 and 3 injuries together account for another 30-40% of Monteggia injuries. Type 4 injuries are rare. The example provided is a type 3 injury.

There are three well-described unstable forearm fracture dislocations. These are the Monteggia fracture dislocation, the Galeazzi fracture dislocation (distal radius fracture with dislocation of the ulna at the wrist), and the Essex Lopresti fracture dislocation (radial head fracture with interosseous membrane tear and dislocation of the distal radioulnar joint). All require surgical fixation. A useful mnemonic is GRUM, which stands for Galeazzi = radius (fracture); Ulna (fracture) = Monteggia.

REFERENCES:

1. Bado JL. The Monteggia lesion. Clin Orthop Relat Res. 1967 Jan-Feb;50:71-86. [PubMed]
2. Reckling FW. Unstable fracture-dislocations of the forearm (Monteggia and Galeazzi lesions). J Bone Joint Surg Am. 1982 Jul;64(6):857-63. [PubMed]
3. Greenspan A. Orthopedic Imaging: A Practical Approach. 4th ed., Lippincott, Williams & Wilkins, 2004:159-161.