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Monteggia Fracture in an Assault Patient

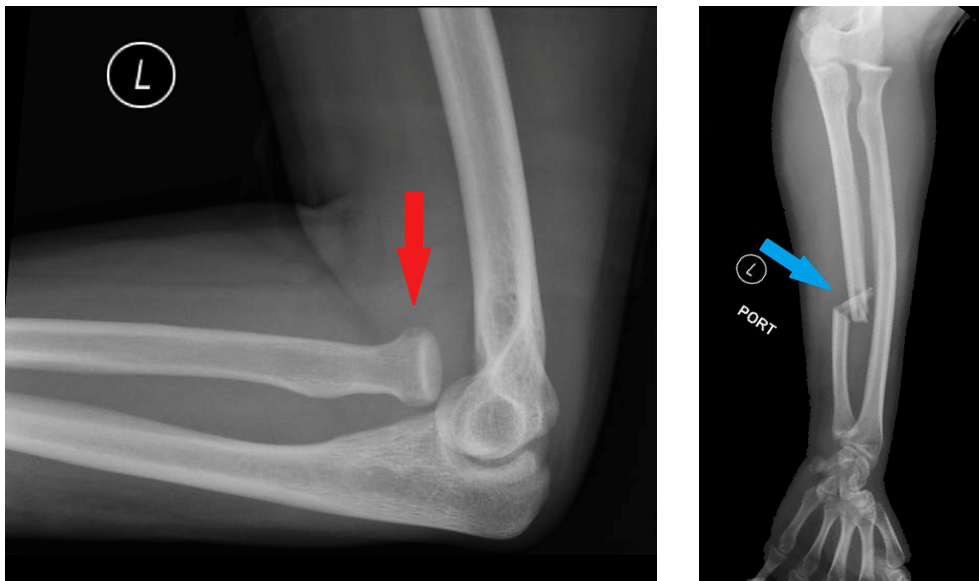
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History of present illness: A 20-year-old male presented to the emergency department with a closed left forearm deformity and 10/10 pain after being assaulted. The patient reported that two males struck his left arm with a skateboard and punched him in the jaw. The pain in his arm was sharp in nature, did not radiate, and was worse with movement or palpation. The patient was unable to move the hand and wrist secondary to pain. Sensation and circulation in the affected limb were intact. The patient also reported pain in his right arm, the back of his head, and to his jaw. Left upper limb radiographs (shown) indicated a fracture of the ulna shaft and dislocation of the radial head consistent with a Monteggia fracture. Subsequently, the patient was admitted by orthopedics for reduction of the radial head and open reduction internal fixation (ORIF) of the ulna.

Significant findings: On the axial elbow X-ray, the radial head (red arrow) is dislocated anteriorly from the humerus; the humeroulnar articulation is intact. On the anteroposterior forearm X-ray, there is a closed, displaced, comminuted fracture of the ulna (blue arrow).

Discussion: A Monteggia fracture is a traumatic ulnar fracture combined with a dislocation of the proximal radioulnar joint. The ulnar fracture is usually obvious; however, the radial head dislocation can be easily

overlooked; it is estimated that 33% of Monteggia fractures are missed during initial presentation.¹ Monteggia fractures are classified using the Bado radiographic classification system, which is based on the direction of the radial head dislocation and angular apex of the ulnar deformity.² The above patient's injury is a Type I Monteggia fracture, which comprise 14.5% to 30% of all Monteggia fractures and are often the result of high-energy mechanisms.³ Closed reduction can be sufficient for Monteggia fractures in which the involved ulnar fracture is plastic, greenstick, or transverse. Oblique or comminuted fractures should be treated with open reduction and plate-fixation.¹ If missed on initial workup, Monteggia fractures will significantly limit the elbow range of motion and require open reduction surgery including ulnar osteotomy, especially if more than four months have passed since the injury.⁴⁻⁵

Topics: Monteggia fracture, elbow injury, elbow dislocation, forearm fracture, subluxation, emergency medicine, orthopedics, surgery.

References:

1. Bae DS. Successful strategies for managing monteggia injuries. *J Pediatr Orthop*. 2016;36:S67-70. doi: 10.1097/BPO.0000000000000765
2. Bado JL. The Monteggia lesion. *Clin Orthop Relat Res*. 1967;50:71-86.
3. Wong JC, Getz CL, Abboud JA. Adult Monteggia and olecranon fracture dislocations of the elbow. *Hand Clin*. 2015;31(4):565-580. doi: 10.1016/j.hcl.2015.06.006
4. Fabricant PD, Baldwin KD. Missed pediatric Monteggia fracture: a 63-year follow-up. *J Pediatr*. 2015;167:495. doi: 10.1016/j.jpeds.2015.05.023
5. Di Gennaro GL, Martinelli A, Bettuzzi C, Antonioli D, Rotini R. Outcomes after surgical treatment of missed Monteggia fractures in children. *Musculoskelet Surg*. 2015;99 Suppl 1:S75-82. doi: 10.1007/s12306-015-0362-3