(*Refer to page 89*)

Answer: Radiocarpal joint fracture-dislocation

The radiographs show dorsal dislocation of the radiocarpal joint in addition to a styloid fracture. Radiocarpal dislocation with or without fracture of the distal radius is uncommon accounting for less than 0.2% of all dislocations.

Moneim *et al.* classified radiocarpal dislocations into types I and II. Type I dislocations include palmar or dorsal dislocation of the carpal bone with or without fracture of the radial styloid whereas type II dislocations involve intracarpal fractures and ligaments injuries. [1] The latter is usually due to severe injuries.

The mechanism of injury usually involves high energy trauma to the wrist in association with hyperextension, pronation and radial inclination. [2] Median nerve injuries occur as a result of the close anatomical relationship between the radio-carpal joint and the carpal tunnel. This injury may present with other associations such as compartment syndrome, neurovascular injury, tendon rupture, carpal dissociation, other bone fracture or dislocations. [2] Late complications include osteoarthritis, carpal instability and complex regional pain syndrome (CRPS). [2]

The diagnosis is based on an antero-posterior and lateral radiograph of the wrist. Stress views should be taken to look for any additional instability. However this may be difficult due to pain and swelling. A computered tomography scan can also be done to look for any evidence of avulsion or intra-articular extension. Magnetic resonance imaging can be used to assess the extent of the ligaments and soft tissue injuries. [2]

Management includes reduction of the radio-carpal dislocation without delay to avoid permanent soft tissue injury including the median nerve. Failure of a closed reduction warrants an open reduction of the dislocation. Both the volar and dorsal approach has been described to rectify the ligamentous injury. [2] Repair of the radio-lunate and radio-schapo-capitate ligament is important to treat the palmar instability. Use of K-wire (Kirchner) and spanning external fixator can be performed to keep the joint in place until healing occurs. [3] Carpal tunnel releases should also be performed if there is evidence of median nerve involvement. If the presentation is delayed with an established carpal instability, selective or wrist arthrodesis can be done to relieve the pain and maintain the hand function.

REFERENCES

1: Moneim MS, Bolger JT, Omer GE. Radiocarpal dislocation classification and rationale for management. Clin Orthop Relat Res. 1985; 192:199-209.

2: Dumontier C, Meyer zu Reckendorf G, Sautet A, Lenoble E, Saffar P, Allieu Y. Radiocarpal dislocations: classification and proposal for treatment. A review of twenty-seven cases. J Bone Joint Surg Am. 2001; 83:212-8.

3: Ayekoloye CI, Shah N, Kumar A, Kurdy N. Irreducible dorsal radiocarpal fracture with dissociation of the distal radioulnar joint: A case report. Acta Orthopædica Belgica. 2002; 68:171-4.