CASE REPORT

Lateral dislocation of the elbow joint accompanied by a supracondylar/intercondylar humerus fracture in an adult

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Elbow dislocations are frequently affiliated with a variety of fractures involving the ulna and radius.2,4,5 To our knowledge, the literature contains no record of adult elbow dislocation occurring in association with a fracture of the distal humerus. We report a case of a right elbow dislocation in an adult associated with an open fracture in the distal portion of the ipsilateral humerus.

Case report

A 43-year-old male arrived in the emergency department after falling from a height of 20 ft onto a concrete surface. Identified injuries included: a right elbow dislocation associated with an open supracondylar/intercondylar humerus fracture (Fig. 1), an acetabular fracture, and fractures of both right and left distal radii. No other injuries were diagnosed. The patient was taken to the operating room for irrigation, debridement, and fracture stabilization.

The patient was placed in the supine position and general endotracheal anesthesia was administered. A standard posterior incision was made through the skin, down to the level of the fascia, starting over the proximal one-half of the ulna and extending to the mid portion of the humerus. A standard olecranon chevron osteotomy was performed and the humerus exposed.

The distal humerus fragment was displaced medially. The ulnar nerve was maintained in the cubital tunnel, in a normal position with respect to the medial epicondyle. All elbow ligaments were clearly disrupted. Inspection of the joint revealed an intercondylar split in the humeral trochlea. The fracture hematoma was evacuated and debris was removed from the laceration. Devitalized tissue including ragged edges was sharply excised. The wound was irrigated with copious normal saline using a pulse lavage system. The fracture was repaired using interfragmentary screws and a buttress plate fixation. The ulnar nerve was transposed to avoid later irritation of the nerve by the plates. Following reattachment of the olecranon osteotomy the elbow joint was reassessed. As expected, it was unstable to valgus stress, but remained stable through an arc of flexion and extension. The surgical and traumatic wounds were reapproximated, sterile dressing applied, and the patient placed in a posterior splint.

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Discussion

Isolated lateral elbow dislocations have previously been reported.\textsuperscript{3} These dislocations are normally reduced by distal traction on the forearm with the elbow held in mild extension and then straight lateral pressure.\textsuperscript{3} Fractures of the distal humerus are usually managed by open reduction and stable internal fixation.\textsuperscript{6}

Cases of elbow dislocation coinciding with distal humeral fracture have been documented in children and adolescents.\textsuperscript{1} However, to our knowledge, such injuries have not been previously reported in adults. In this case, our strategy was
to manage the fracture with the traditional open reduction and internal fixation technique. The dislocation was treated with closed reduction and splint stabilization in a manner identical to the approach used if the dislocation had presented as an isolated injury. This strategy carried a risk of recurrent dislocation, but close follow-up showed no such complications. To the contrary, the joint became stable and revealed heterotopic ossification (Fig. 2).

References

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