Posterolateral elbow dislocation with ipsilateral radial and ulnar diaphyseal fractures: a case report

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ABSTRACT

Elbow dislocation associated with both ipsilateral radial and ulnar shaft fractures is a rare pattern of injury, although it is common for elbow dislocation and forearm fractures to occur separately. We report a case of an 80-year-old woman who had a posterolateral elbow dislocation and ipsilateral radial and ulnar shaft fractures and underwent closed reduction and plate fixation. She had an excellent outcome after 22 months of follow-up.

Key words: dislocations; elbow joint; forearm injuries; Monteggia's fracture; radius fractures; ulna fractures

INTRODUCTION

Posterolateral elbow dislocation associated with ipsilateral forearm fractures is rare. Fracture-dislocations around the elbow joint are common and usually involve the proximal radius or ulna. We present an unusual pattern of fracture-dislocation of the forearm and discuss the possible mechanisms of injury.

CASE REPORT

In November 2004, an 80-year-old woman presented to our emergency department after falling down a flight of stairs and landing on her outstretched right hand. On physical examination, both the right elbow and the forearm were grossly deformed. There was no neurovascular compromise. Plain radiographs showed posterolateral elbow dislocation with ipsilateral radial and ulnar distal third diaphyseal fractures (Fig. a). Closed reduction was immediately performed under sedation. Radial and ulnar fractures were fixed 10 days later using plates and screws under axillary block anaesthesia. A long arm cast was applied for immobilisation and was removed at day...
Active elbow and wrist movement was started as soon as tolerated by the patient. At 22 months, the patient had regained full flexion and extension of the elbow and wrist and full pronation and supination of the forearm. Plain radiographs showed complete solid union at the radius but hypertrophic nonunion at the ulna (Fig. b). As the patient was asymptomatic, no further surgical intervention was planned.

DISCUSSION

The elbow joint is one of the most inherently stable articulations of the skeleton. Fractures associated with elbow dislocation commonly occur around the elbow and involve the radial head, olecranon, and coronoid process. Ulnar diaphyseal fracture with radial head dislocation (Monteggia fracture dislocation) is also a common pattern of injury. The posterior Monteggia injury is a variant of posterior dislocation of the elbow. It occurs when the osseous elements are osteopenic and fail before the ligamentous elements. It most commonly occurs in elderly women or osteopenic patients after a fall from a standing height on an outstretched hand.

Initially, our patient most likely had a posterior elbow dislocation. Then, both bones of the forearm fractured indirectly while the elbow was in extension, the forearm in hyperpronation and the wrist in radial deviation. The reverse scenario of events (i.e. initial forearm fracture followed by posterior elbow dislocation) does not seem reasonable. If that were the case, the distal end of the proximal fragments of the radius and ulna would strike on the ground and transmit force to the elbow. Our case describes a unique Monteggia-equivalent injury. Only a few similar cases have been reported.

REFERENCES