Volarly extruded fractures of the index metacarpal base ulnar condyle: report of two cases

Dear Sir,

We report the cases of two men aged 35 and 33, who presented with similar injuries following a fall. They presented with pain isolated to the area of the index finger metacarpal base. Radiographs demonstrated an index metacarpal base fracture with a similar large ulnar-sided articular fragment extruded volarly. In the first patient the fragment was immediately adjacent to the remaining metacarpal base, with a minimally displaced extension of the fracture line to the radial cortex. In the second patient the fracture fragment had extruded into the subcutaneous tissues of the palm; he had also suffered radial subluxation of all four finger metacarpals at the carpometacarpal joints (Figures 1(a)–(b)).

In the first patient we performed an open reduction via a dorsal approach. The extruded ulnar fragment was completely devoid of soft tissue. We reduced the fragment and held it in place with a K-wire with additional K-wires from the index to the middle finger metacarpal for stability. We also harvested bone graft from the distal radius and put it into the metaphyseal defect.

The second patient presented 3 weeks after their injury. We performed open reduction of all four carpometacarpal joints via a dorsal approach using two longitudinal incisions. The joints were reduced and held with a K-wire across each carpometacarpal joint. The extruded ulnar fragment was retrieved via a volar incision (Figure 2). Again, this fragment had no attached soft tissue. It was also reduced and held with a K-wire (Figure 3).

Figure 1. Preoperative [a] anteroposterior (AP) and [b] lateral radiographs of the fracture as well as carpometacarpal subluxations. Arrow indicates the volarly displaced fracture fragment.
Both patients had their K-wires removed after 6 weeks. The fractures appeared united and with no evidence of osteonecrosis and with good clinical function. At 6 months the first patient was pain free and had resumed full work and recreational activities without difficulty. He had regained full strength measured using the Jamar dynamometer and had equal range of motion bilaterally. The second patient did not return for follow-up.

Partial articular fractures of the index metacarpal are rare, and the majority of those described are radial-sided avulsion fractures at the insertion of the extensor carpi radialis longus tendon (Crichlow and Hoskinson, 1988; DeLee, 1979; Thomas et al., 1994). To our knowledge, there is only one report of index metacarpal base fracture involving the ulnar condyle in isolation; this was treated via a volar approach (Takami et al., 1997).

This appears to be a rare injury. When it occurs the fragment can be retrieved and reduced via a dorsal approach. Although the fragment typically has no soft tissue attachments, it will unite with bone.

Conflict of interests
None declared.

References

A. M. Patel1, B. Gregory2 and R. W. Wysocki2
1Department of Plastic and Reconstructive Surgery, Rush University Medical Center, Chicago, IL, USA
2Department of Orthopaedic Surgery, Rush University Medical Center, Chicago, IL, USA
Corresponding author: ampatel1@gmail.com

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