Fracture of the index sesamoid—a case report

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A 46-year-old housewife was seen in our department because of pain at the base of her left index finger. She had tumbled down the stairs and fallen on her outstretched hand the day before. On physical examination, there was swelling and tenderness without ecchymosis around the volar side of the metacarpophalangeal joint of the index finger. The joint was stable. Active extension was limited to 30 degrees, because of pain.

Radiographs revealed a transverse fracture of the sesamoid bone at the metacarpophalangeal joint of the index finger. A short arm cast was applied after this joint was flexed 60 degrees. 4 weeks later, the cast was changed to a removable splint, and she started active motion. The splint was discarded after 2 weeks. Radiographs 10 weeks after the injury showed bony union of the fractured sesamoid (Figure). She resumed her preinjury activities with normal motion and no pain.

Discussion

A sesamoid bone is present at the radial side of the index finger in about half of the population. It is normally located on the radial half of the volar plate of the metacarpophalangeal joint of the index finger and is firmly attached to it with its volar side articulating with the metacarpal head of the index finger. Its average size is 3.5 mm in width, 4.7 mm in length, and 2.5 mm in thickness. The radial accessory collateral ligament is attached to the bone by fibrous strands on its radial side and the flexor tendon sheath on its ulnar side. It is bilateral in 84%. It differs from thumb sesamoids in that it is not attached to intrinsic muscles (Bizzaro 1921, Hubay 1949, Flatt 1958, Goldberg and Nathan 1987, Lang and Lourie 1999).

The commonest mechanism for a fracture of the sesamoid bone of the thumb metacarpophalangeal joint is a fall on the outstretched hand, which causes a forceful hyperextension (Lei et al. 1995). Direct trauma, as a cause of the injury, has also been reported (Gibeault et al. 1989). The forceful hyperextension of the index metacarpophalangeal joint was considered to be the mechanism of the injury in our case.

We found no reports on fractures of the index sesamoid bone, but only a one-paragraph description in an article in the scientific literature in Eng-

The oblique view showed a transverse fracture of the sesamoid bone of the index finger.

10 weeks after the injury, bony union of the fractured sesamoid was seen.

lish. Dong et al. (1995) mentioned this fracture in their article 'Fractures of the sesamoid bones of the thumb'. They observed one case of a stress fracture of the sesamoid bone of the index finger, but no other details were given. We think that the true incidence of this fracture may be higher than that reported. Radiographs should include oblique views because AP and lateral views may fail to reveal the fracture line.

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