Irreducible Dislocation of the Interphalangeal Joint of the Thumb Due to Sesamoid Bone Interposition: A Case Report

S. Raja Sabapathy, MD, Vijay C. Bose, MD, C. Rex, MD,
Coimbatore, Tamilnadu, India

Dislocation of the interphalangeal (IP) joint of the thumb is rare. The inherent stability of the IP joint of the thumb prevents dislocation in common patterns of hand injury. Only very few cases of irreducible dislocation have been reported at this joint.[1–3] We report a case of compound irreducible dislocation due to sesamoid bone interposition.

Case Report

A 32-year-old man came to us with deformity of his right thumb following a fall from his motorbike two days earlier. He had an open anterior wound at the IP joint crease that partially exposed the condyle of the proximal phalanx (Fig. 1). The condyle showed signs of abrasion injury. The wound also had seropurulent discharge, indicating infection. X-ray film showed dorsal dislocation of the IP joint of the thumb with a small speck of bone in the intervening space, the contour of which was suggestive of sesamoid bone (Fig. 2). Reduction by traction had been attempted by a native bone setter soon after the fall and subsequently by two doctors at different hospitals. All efforts were unsuccessful.

The wound was debrided under anesthesia, using an axillary block, and irreducibility was confirmed. The flexor pollicis longus tendon was found to be split longitudinally, with the major portion subluxed to the radial side of the condyle of the proximal phalanx. The palmar plate had been disrupted near its proximal attachment and was found interposed

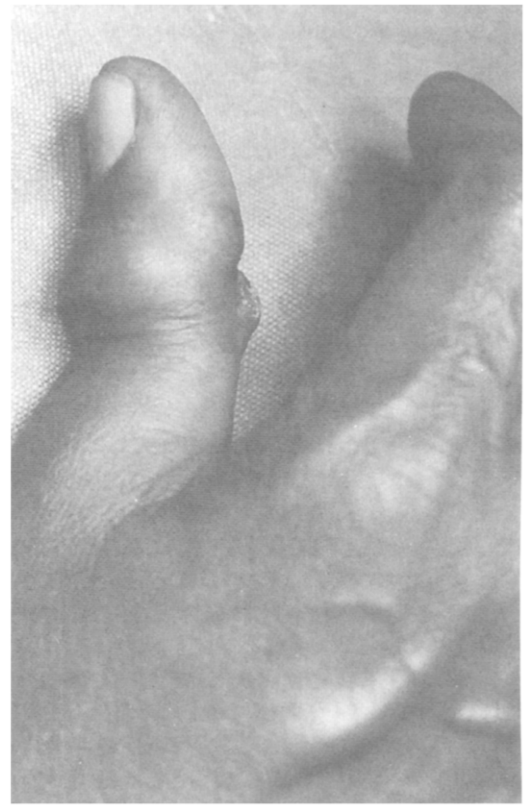

Figure 1. Clinical picture of the dislocated interphalangeal joint of the thumb with an anterior wound.

From the Hand and Microsurgery Unit, Ganga Hospital, Coimbatore, Tamilnadu, India.

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Reprint requests: S. Raja Sabapathy, MD, Hand and Microsurgery Unit, Ganga Hospital, Swarnambika Layout, Coimbatore - 641 009, Tamilnadu, India.

Figure 2. X-ray film showing sesamoid interposed in the dorsal aspect of the dislocated interphalangeal joint

between the articular surfaces. After debridement it was not possible to deliver the trapped sesamoid bone from the palmar side. Using a dorsal midline incision, the joint was opened by splitting the extensor mechanism. The joint was easily reducible once the offending sesamoid bone, which measured 2×3×4 mm, was identified and excised (Fig. 3). The palmar plate had maintained some flimsy soft tissue connections to the sesamoid bone. The infection in the joint precluded any definite repair of the joint structures. The dorsal incision was closed and the anterior wound was left open. In spite of early physiotherapy, the joint remained stiff at 10° of flexion. At 1-year follow-up examination, the thumb is pain-free on attempted pinch, has good power, and is stable. However, no active or passive movement is possible, in spite of the presence of a good joint space and restoration of articular congruity seen on x-ray films.

Discussion

We came across only one earlier report[3] of sesamoid bone causing irreducibility of the IP joint of the thumb in our literature survey. It described a case of locking of the IP joint due to subluxation following a sports injury. The authors of that report postulated that the sesamoid bone and collateral ligaments might have been avulsed at the time of injury and interposed in the joint on the palmar side. However when reduction was attempted with traction and flexion of the distal phalanx, the tight flexor pollicis longus tendon and pressure from the palmar side may have pushed the sesamoid further dorsally. We feel a similar mechanism could have operated in our case, since the patient had three unsuccessful attempts at closed reduction at three different hospitals.

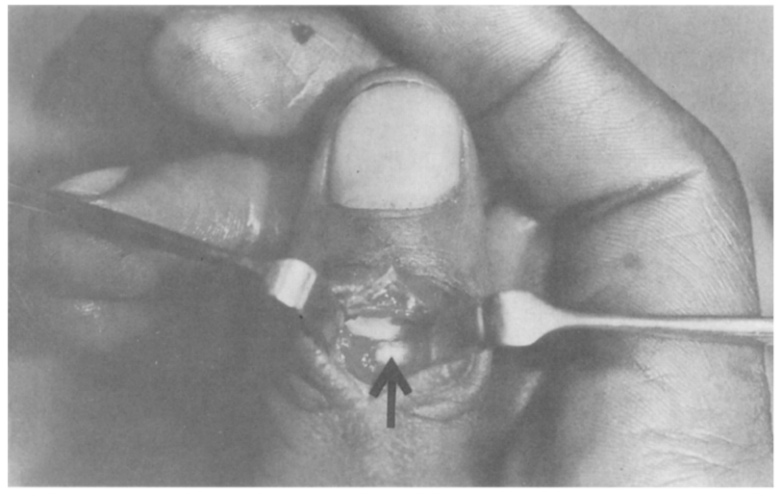

Figure 3. The sesamoid bone exposed by the dorsal incision. The arrow points to the sesamoid bone; articular cartilage of the distal phalanx is seen distally.

We were not able to deliver the sesamoid through the existing palmar wound to facilitate reduction. This is attributable to the tight flexor pollicis longus tendon, which was split and holding the distal phalanx tightly. We believe a dorsal approach, as done in our case, may be more appropriate even in the presence of a palmar wound. This allows easy and direct access to the sesamoid.

References

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