Editorial

Volar base fracture of the second phalanx: a small fracture a great challenge

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Proximal interphalangeal joint (PIP) injuries can be disabling and are among the most challenging areas of hand surgery.

The PIP joint is a complex, delicate and very stable hinge articulation that provides almost 100 degrees of flexion and thus serves as the cornerstone of the human hand movements.

Injuries of the volar base of second phalanx (P2) deserve a special attention due to the complexity of their nature and management process.

Volar plate and special cup shape geometry of the articular surface of the base of the P2 along with its volar lip prevent dorsal translation of this phalanx.

For decades, volar plate arthroplasty was the preferred technique in reconstruction of comminuted and approximately irreparable volar base fracture of the P2 but there was a great concern about the re-subluxation and higher failure rate of the traditional volar plate arthroplasty.

Hemi-hamate arthroplasty a novel technique introduced to the hand surgery world by Hastings in 1999 (1). In this technique the dorsal distal portion of hamate articular surface adjacent to the base of two ulnar carpometacarpal articulations bones is harvested. The bed of the volar base of the P2 is prepared by using mini oscillating saw and resection of the comminuted segments of its volar base. The harvested autograft transferred after 180 degrees rotation in two planes into the prepared bed at the volar base of the P2, and stabilized with two or three mini-fragment lag screws, the stability of pip can be restored by rebuilding the cup-shaped geometry of the P2 base and palmar plate attachment. The volar overhanging lip of P2 can be reconstructed in this technique.

Hemi-hamate has the capability of serving as salvage procedure after failed external fixation, open reduction and internal fixation or volar plate arthroplasty.

Recently published longer term follow up of hemi-hamate arthroplasty indicates a valuable surgical procedure to address severe PIP joint fracture–dislocations (2). As the main referral orthopedic center in the country we had the same experience with this reconstruction at the department of hand surgery of Shafa Orthopedic Hospital. We do believe that managing of pip fracture dislocation has ushered in a new era with Hemi-hamate arthroplasty.

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[*Cite this editorial as:* Najd Mazhar, F. Volar base fracture of the second phalanx: a small fracture a great challenge [Editorial]. Shafa Orthop J. 2014.1(2):1.