

Eaton-Littler Reconstruction

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INTRODUCTION:

Isolated thumb carpometacarpal (CMC) joint dislocations are rare, impacting pinch and grip strength.¹ Treatment is debatable, and can vary from closed reduction and immobilisation, to percutaneous pinning, to open reduction with direct repair, to ligament reconstruction. We present a case of chronic 1st CMC dislocation, in which we performed ligament reconstruction via Eaton-Littler technique.

REPORT:

A 22-year-old male presented with chronic 1st CMC dislocation, having been involved in a road traffic accident 6 months prior and failed conservative management. On examination, he had painful thumb opposition and weak key pinch. The 1st CMC joint was relocatable but had gross dorsal instability. Radiographs showed 1st CMC dislocation with no arthritic changes. Intra-operative findings revealed attenuated volar oblique (beak) ligament. A strip of flexor carpi radialis (FCR) was re-routed through a drillhole at base of 1st metacarpal, looped under abductor pollicis longus (APL) and remaining FCR and secured at APL insertion. Post-operatively, he was casted for 6 weeks, followed by physiotherapy. 6 months later, he demonstrated full thumb range of motion and comparable key pinch grip strength. CMC joint was stable, with no weakness of wrist flexion.

DISCUSSION:

1st CMC joint is a complex joint comprising 2 saddle-shaped surfaces.² 2 primary constraints are volar oblique and dorsoradial ligaments. Injuries to these, partial or total, causes dorsal and/or volar instability. In Eaton-Littler's technique, the re-routed FCR slip recreates the volar oblique and dorsoradial ligament by passing under APL tendon, providing volar and dorsal stability.

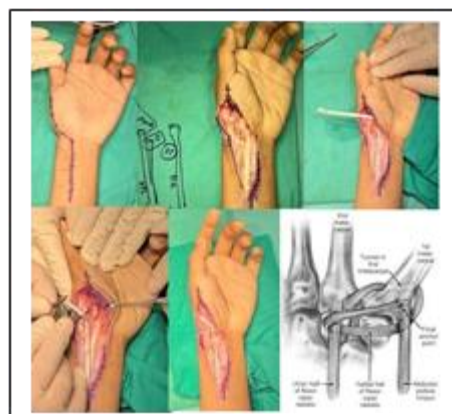


Figure 1: Intra- operative picture

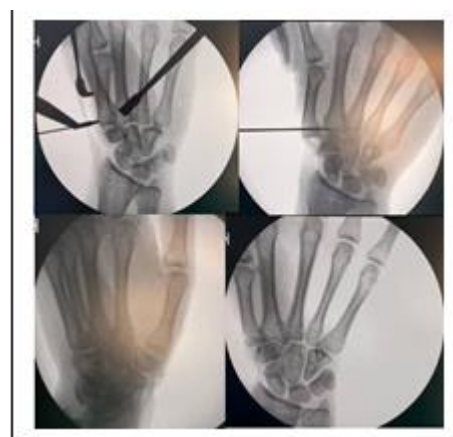


Figure 2: Intra- operative imaging

CONCLUSION:

Eaton-Littler reconstruction in chronic 1st CMC joint dislocation - even over 6-month duration - can produce good functional outcomes.

REFERENCES:

1. Mueller J.J. Carpometacarpal dislocations: report of five cases and review of the literature. *JHand Surg.* 1986;11:184-188.
2. Iyengar, Karthikeyan P., Hosam E. Matar, and William YC Loh. "Modified Eaton-Littler's reconstruction for traumatic thumb carpometacarpal joint instability: operative technique and clinical outcomes." *Journal of Wrist Surgery* 7.03 (2018): 191-198.