

OPEN REDUCTION OF A LOCKED FIFTH METACARPOPHALANGEAL JOINT - THE KAPLAN LESION

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55th Annual Conference of
Orthopedic Surgeon Society of Andhra Pradesh

OSSAP-150-ABS-88

Date 6 – 8 February,2026, Venue : Kurnool Medical College

Organized by : Department of Orthopaedics, Kurnool Medical College Kurnool

INTRODUCTION

- ❖ A **Kaplan lesion** represents an irreducible dorsal Metacarpophalangeal (MCP) dislocation caused by interposition of the volar plate, sesamoids, flexor tendons, or lumbricals, leading to a locked joint.
- ❖ These injuries most commonly affect the index finger, while involvement of the fifth MCP joint is rare. Closed reduction is usually unsuccessful due to soft-tissue entrapment, making **open reduction the treatment of choice**. Early recognition and appropriate surgical management are essential to restore joint congruity and prevent long-term stiffness and instability.

CASE REPORT

- ❖ A 47-year-old male presented with pain, deformity, and inability to move the little finger following a fall on an outstretched hand. Clinical examination revealed a fixed hyperextension deformity of the fifth MCP joint. Radiographs confirmed a **dorsal dislocation of the fifth MCP joint**, suggestive of a Kaplan lesion.



OPERATIVE FINDINGS

- ❖ Closed reduction attempts were unsuccessful. The patient underwent **open reduction through a volar approach**. Intraoperatively, the volar plate was found interposed within the joint, preventing reduction. The volar plate and associated soft tissues were carefully released, the joint was reduced, and the capsule was repaired. The finger was immobilised in a functional position for two weeks, followed by supervised active mobilisation.



- ❖ Outcome Assessments were performed at 6 weeks and 3 months postoperatively, included:
 - Pain assessment using the Visual Analog Scale (VAS)
 - MCP joint range of motion (ROM)
 - Grip strength comparison with the contralateral hand

RESULTS & DISCUSSION

- ❖ Postoperative recovery was uneventful. At 3-month follow-up: The patient achieved full, pain-free MCP joint range of motion. VAS score improved significantly. Grip strength was comparable to the opposite hand. No instability, stiffness, neurovascular deficit, or recurrence of dislocation was observed
- ❖ Radiographs confirmed maintained joint congruency.
- ❖ Kaplan lesions are mechanically irreducible due to soft-tissue interposition, making repeated closed reduction attempts ineffective and potentially harmful. While dorsal approaches have been described, the **volar approach provides direct visualisation of the entrapped volar plate** and allows anatomical repair, though careful handling is required to protect neurovascular structures.
- ❖ Early open reduction permits stable joint restoration and early mobilisation, which are critical in preventing stiffness. Although fifth MCP joint Kaplan lesions are rare, this case demonstrates that outcomes are comparable to more commonly reported index finger injuries when treated promptly. This reinforces the importance of maintaining a high index of suspicion in locked MCP dislocations.



CONCLUSION

- ❖ Irreducible dorsal dislocation of the fifth MCP joint due to a Kaplan lesion is rare but requires **early open reduction**. A volar surgical approach allows effective release of interposed structures, restoration of joint congruity, and excellent functional recovery. Open reduction remains a reliable and definitive treatment for these injuries.
- ❖ Reference : Kaplan EB. *JBJS Am.* 1957, Green's Operative Hand Surgery, 7th ed.