

## VOLAR PLATE ENTRAPMENT CAUSING IRREDUCIBLE THUMB METACARPOPHALANGEAL JOINT DISLOCATION

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### INTRODUCTION:

Metacarpophalangeal (MCP) joint dislocation of thumb in children is a rare injury and mostly due to hyperextension force to the MCP<sup>1</sup>. In this report, we are sharing our encounter of the irreducible MCP joint (MCPJ) dislocation and the treatment given.

### REPORT:

9-year-old boy had sustained complex MCPJ dislocation of thumb after had a fall while playing football. Xrays shows dorsal dislocation with proximal phalange 45 degree angulated and increased space between the metacarpal head and the proximal phalanx. Open reduction via dorsal approached is done after unsuccessful closed manipulation. Noted that volar plate is interposed in the MCPJ and was then relocated volarly with Mcdonald elevator. Reduction is stable and the joint immobilize with thumb spica splint for three weeks. Child gain full range of motion of thumb and had return to normal activities 6 weeks post operation.



Figure 1: Dislocation of thumb MCPJ



Figure 2: Post open reduction of thumb.



Figure 3: MCP joint line is obscured (a). Joint line visible after relocation of volar plate (b).

### CONCLUSION:

Closed reduction reported to be successful in 89% of simple complete dislocation<sup>1</sup>. Volar plate, joint capsule, and flexor pollicis longus tendon interposition in MCPJ are described to be the cause of irreducible joint<sup>2</sup>. In cases where open reduction is required, post operative immobilization is effective by using thumb spica splint and hardware is rarely needed to maintain reduction<sup>2</sup>. Good clinical outcome is reported for patient with MCPJ dislocation of thumb, both treated by close mean or open reduction<sup>2</sup>.

### REFERENCES:

1. Maheshwari R, Sharma H, Duncan R DD. Metacarpophalangeal joint dislocation of the thumb in children. *J Bone Joint Surg Br.* 2007;89:227–229.
2. Khursheed O, Haq A, Rashid S, Manzoor N, Shiekh S, Mushtaq M. Clinical Outcome of Metacarpophalangeal Joint Dislocation of the Thumb in Children: Case Series of 10 Patients. *J Hand Microsurg.* 2016 Apr;8(1):13-6.