

Case Report: Successful Digit Salvage Using Metacarpophalangeal Fusion and Masquelet Technique for Osteomyelitis of the Right Thumb

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INTRODUCTION:

Osteomyelitis of the thumb presents a significant challenge in hand surgery. Aggressive debridement and antibiotic therapy are crucial, and achieving infection eradication and maintaining good hand function can be difficult. This case report describes a successful approach utilizing 1st metacarpophalangeal (MCP) joint fusion with the Masquelet technique to treat chronic osteomyelitis of the left thumb, resulting in improved overall hand function.

REPORT:

A 40 years old male presented with chronic osteomyelitis of right thumb following previous trauma. He had persistent serous discharge over MCP joint of right thumb and pain upon mobilization of right thumb. Examination revealed tenderness over MCP joint of left thumb and the thumb was unstable. Plain radiograph showed features of chronic osteomyelitis with bone loss at base of proximal phalanx and head of 1st metacarpal bone.



Figure 1: Preoperative Plain Radiograph.

Patient underwent first stage surgical debridement of infected bone and soft tissue. then antibiotic-loaded cement spacer was inserted between viable bone margins and thumb was stabilized with K-wire. Intravenous antibiotic therapy was initiated based on culture sensitivity. Second stage surgery was performed

after 8 weeks once infection eradicated. The antibiotic spacer was removed, then MCP joint was then stabilized with miniplate. Cancellous bone graft from iliac crest was inserted reconstruct the bony defect and to achieve fusion of MCP joint. Postoperative splinting and hand therapy were implemented. Radiographs at 2 months confirmed bony union at the fusion site. Functional assessments revealed improvement in increased grip strength, improved dexterity for pinch and grasp, as well as cosmetic appearance.

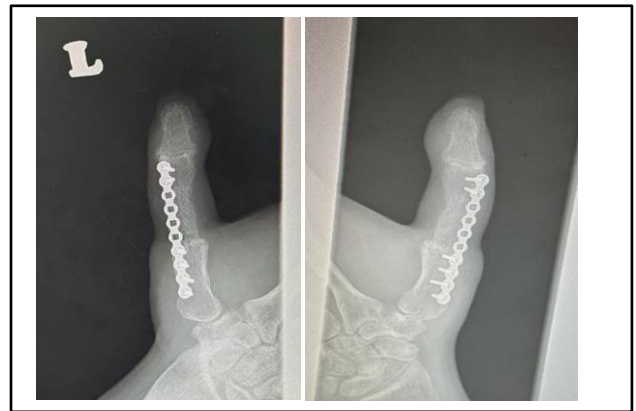


Figure 2: Radiograph at 2 months

CONCLUSION:

This case demonstrates the effectiveness of the Masquelet technique combined with MCP joint fusion in achieving digit salvage and good functional outcomes. The two-stage approach allows for definitive infection control before bone reconstruction, minimizing the risk of recurrence.

REFERENCES:

1. Careri S et al, Masquelet technique and osteomyelitis: innovations and literature review. Eur Rev Med Pharmacol Sci. 2019 Apr;23(2 Suppl):210-216.