

## Neglected Septic Arthritis With Osteomyelitis Of The First Metacarpophalangeal Joint Treated With Antibiotic-Loaded Spacer: A Case Report

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### INTRODUCTION:

Septic arthritis of the hand joints is rarely reported. If present, they are often caused by penetrating injuries. Early commencement of antibiotic and surgical debridement is required to prevent joint damage.

### CASE REPORT:

A 72 years old gentleman presented with pain over the right thumb with reduced range of movement of metacarpophalangeal joint for three months after history of penetrating injury. Examination revealed swelling and tenderness of the right first metacarpophalangeal joint with reduced range of motion. Radiograph of the right hand showed subluxation of the first metacarpophalangeal joint with juxtaarticular osteopenia (Figure 1). He was diagnosed with synovitis of the right first metacarpophalangeal joint and was planned for synovectomy and fusion of metacarpophalangeal joint. However, intraoperatively there was septic arthritis of the right first metacarpophalangeal joint with joint destruction and osteomyelitis. We proceeded with antibiotic spacer insertion and external fixation of the thumb (Figure 2) after debridement. Antibiotic spacer and external fixators were removed after six weeks, joint fusion with cerclage wire and bone grafting was done. Post operation showed fusion after two months with good functional outcome (Figure 3).

**Figure 1: X-ray of right hand showed subluxation of the first metacarpophalangeal joint with juxtaarticular osteopenia**



**Figure 2: Post debridement, antibiotic spacer insertion with external fixation of the joint**



**Figure 3: Post operation showed fusion**



### DISCUSSIONS:

Antibiotic loaded spacer is commonly practiced in infected knee replacement and is uncommon in infected tubular bones such as in hand<sup>1</sup>. In this case, due to the osteomyelitic involvement of the proximal phalanx and metacarpal bone, the removal of sequestrum has led to defect of 1.5cm which was treated with a temporary antibiotic loaded cement spacer. The antibiotic cement spacer was removed after all signs of infection has been cleared. In view of the significant bone loss, the volar plate was released to allow closer approximation of both bone ends during fusion. The remaining defect was filled with autogenous bone graft which gives revascularity and resistance to infection as well as promote healing<sup>1</sup>. Cerclage wiring was used to fuse the joint at 90 to 90 degree angle. This is to allow compression, fusion, fixation of bone graft and preventing rotation. Fixation with K-wires, external fixators and plate fixation are the other alternatives for fusion<sup>1</sup>.

### CONCLUSION:

Antibiotic loaded cement spacer can be used in septic arthritis of the small joints where there is bone loss due to osteomyelitis to allow infection to settle. The use of cerclage wire can be an alternative in securing bone graft and fusion of small joints.

### REFERENCE:

1. Freeland AE, Senter BS. Septic arthritis and osteomyelitis. *Hand Clin* 1989; 5: 533-552