

A Case Report: Knee Septic Arthritis Following Suprapatellar Nail Insertion in Open Fracture Tibia

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INTRODUCTION:

Medullary nailing is a gold standard for open fracture tibia including open fracture. Suprapatellar approach nailing of tibia is increasing trend. It is said to have facilitate improved alignment particularly in proximal or distal tibia fracture. This approach however requiring the surgeon to intra-articularly passing instruments, which theoretically places the knee at risk of postoperative sepsis.

We are reporting a case of septic arthritis of knee joint following suprapatellar nail insertion post operatively.

REPORT:

A 58 year old malay gentleman, pre morbidly ADL independent which otherwise healthy involved in a motorvehicle accident on 7/1/2024. Post trauma he sustained open segmental fracture right tibia and fibula (Gustillo 3A) complicated with soft tissue contusion and fracture blister. At post trauma day 2 he done wound debridement external fixation of right tibia. There is delayed in emergency debridement due to no OT time. However 1st line of treatment such as wound dressing and irrigation and antibiotic administration was not delayed and adequate. Post debridement he had skin defect over fracture site which ultimately closed with skin graft after 1 month post trauma.

Post operative and post trauma patient was well and allowed discharged home. In between op, he showed no sign and evidence of infection. Fast forward, we did a suprapatellar nail intramedullary nail of right tibia at post trauma 7 week. Intra and post operatively patient was well and allowed discharged home. It is at post op day 10 noted he develop discharged from suprapatellar skin incision site associated with knee joint effusion. An emergency wound debridement and knee joint arthrotomy washout was done and findings consistent with septic arthritis. Two intra-operative culture was sent and comeback with pseudomonas aeruginosa growth. The implant and bone however appear intact thus was not removed. He was treated with antibiotic accordingly.



Figure 1: An AP view right tibia immediate post trauma showed segmental fracture tibia and fibula which subsequently debrided and immobilized with ex fix.

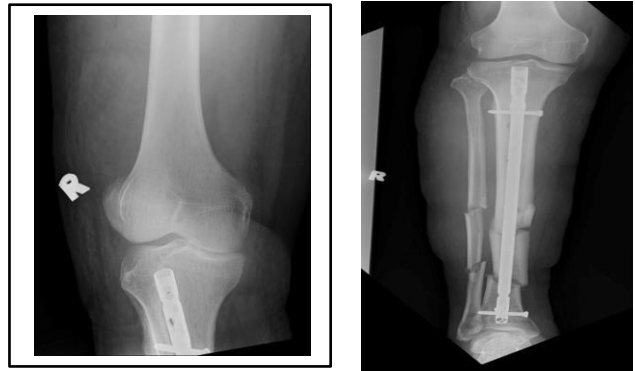


Figure 2: An AP view right knee and tibia during presentation septic arthritis right knee joint after suprapatellar medullary nail insertion showed normal bone and normal implant.

CONCLUSION:

An otherwise healthy middle age male with no significant risk factor had involved motorvehicle accident and sustained open segmental fracture right tibia. Post operatively he showed no sign of infection until suprapatellar intramedullary nail inserted where he develop septic arthritis knee joint where the instrument passed. This may suggest suprapatellar intramedullary nail following open fracture tibia had increased risk of knee joint septic arthritis.

REFERENCES:

1. Chelsea E. Minoughan., University of Cincinnati Department of Orthopaedics and Sports Medicine; Hindawi Case Reports in Orthopedics Volume 2019, Article ID 3185286