

Role of Antibiotic Cement Coated Kuntcher Nail In Treating Infected Tibia Fracture Post Orthosyn Nail Insertion.

¹Izzazrin Z, ²Teh KH, ¹Narinder, ²Gurmeet S

¹Department of Orthopaedics, Hospital Seberang Jaya, Pulau Pinang

INTRODUCTION:

Infected nonunion long bone fracture is invariably disheartening to all Orthopedists. Recently, OrthoSyn nail (sole antibiofilm coated implant in Malaysia) has been popularized in treating selected open fracture and implant related infection.¹ We hereby narrate a severely infected tibia fracture post OrthoSyn nail insertion, and our experience treating with one stage antibiotic coated Kuntcher nail.

REPORT:

A 66-year-old man, suffered close comminuted fracture midshaft right tibia after alleged motor vehicle accident, complicated with compartment syndrome. Fasciotomy and tibia external fixation done, followed by split skin grafting and OrthoSyn tibia nail insertion within one week time. Unfortunately, complicated with infected nonunion, and osteomyelitis changes after three-months. Original nail was removed, debridement and stabilized fracture with modified antibiotic cement coated Kuntcher nail. Immediate partial weight bearing started after surgery. Five-months later, patient ambulate well with well-heal wounds. Tibia fracture show complete union on radiograph.

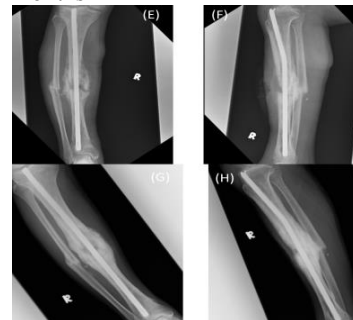
DISCUSSION:

Surgical site infection is still possible if strict prevention measures not followed and surgery sterility broken. Literatures illustrate well antibiotic impregnated cement coated nail in treating long bone infected non-union successfully. Antibiotic cement can elute antibiotic at local site until 36 weeks to prevent refractory infection and nail can provide immediate osseous stability, facilitate infection clearance, along with other advantages like early mobilization.

Figure 1:(A,B) Tibia radiograph after orthosyn nail insertion (C,D) Radiograph demonstrated infection non-union with osteomyelitis changes



Figure 2:(E,F) Tibia radiograph post debridement and antibiotic cement coated nail insertion (G,H) Radiograph demonstrated fracture union after 5 months



CONCLUSION:

Surgical sterility should be maintained at all means and first priority to prevent infection. Orthopedists should never overdependent solely on implants advancement. Antibiotic impregnated cement coated nail could be perfect solution for long bone infected non-union.

REFERENCES:

1. Karupiah T, Yong AP, Ong ZW, Tan HK, Tang WC, Salam HB. Use of a Novel Anti-Infective Noble Metal Alloy-Coated Titanium Orthopedic Nail in Patients with Open Fractures: A Case Series from Malaysia. *Antibiotics (Basel)*. 2022 Dec 7