Bone Transportation Over Upper Limb

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INTRODUCTION:

Infected non unions over forearm is rare cases and managing it is challenging. We report a case of succesfully managed infected non union of forearm.

CASE REPORT:

Mr M, a 50 years old, right hand dominant Malay gentleman presented to Emergency Department Hospital Kulim with alleged motor-vehicle accident on 27th June 2016. He sustained open fracture over right proximal radius and ulnar (Gustillo 2). Wound debridement and primary fixation over radius and ulnar was done within 6 hour after the accident. Post operatively, patient had fever and pus discharge from the surgical wound. This was treated with antibiotic and dressing. After 3 month follow up, no evidence of callus over fracture site and there was sinus tract over surgical wound. A staged treatment was planned for him. First, patient went for debridement, removal of implant and antibiotic was given per culture report. Second staged, patient underwent bone transport for both radius and ulna with transportation rate was 1mm/day. We able to achieve union over ulnar side, however bone transportation over radius was unsuccessful. Fibula bone graft was applied to fill the gap over the radius with intermedullary nail inserted to stabilize it. After a year follow up, noted fracture united and patient able to use his forearm with simple daily activities (ie button his shirt, ride motorcycle and hold a glass)

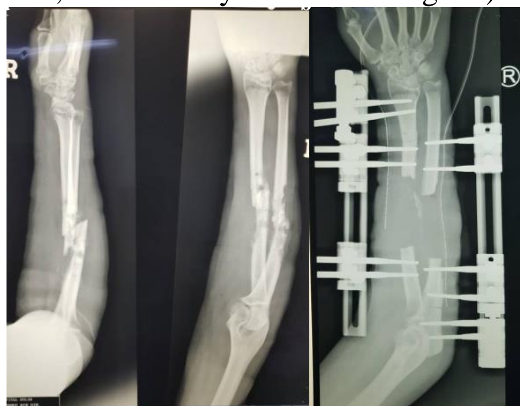

Figure 1. a. Initial radiograph revealed non union of radius and ulnar

b. Radiograph of Mr M post debridement, external fixator and corticotomy

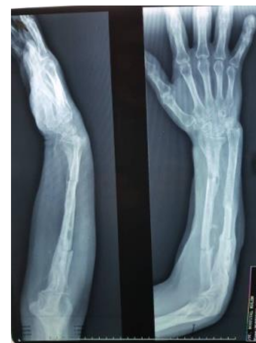

Figure 2. Radiograph of Mr M forearm at 1 year after his initial operation

DISCUSSIONS:

Open fracture are treated by adequate debridement and internal fixation sometimes can lead to non unions. We may have combine different modalities like bone transport and bone grafting (fibula) to achieve satisfactory result. Though rare, bone transportation can be done in upper limb non unions.

CONCLUSION:

Bone transportation can be done in upper limb bone if adhered to: (1) corticotomy at metaphyseal-diaphyseal junction, (2) close monitoring of patient, (3) cooperative patient, and (4) proper indication.

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