

The Role Of Vascularized Fibular Graft In Limb Salvaging Surgical Management Of A Mangled Foot

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INTRODUCTION:

Crush injury of the foot is a consequence of high energy trauma leading to combined bone and soft tissue loss or destruction. The treatment of crush injury of the foot remains a challenge as it is associated with high morbidity. A surgical dilemma for the treating surgeons includes whether to amputate or to attempt a reconstruction. We present a case of a mangled foot which was successfully treated with limb salvaging surgical management.

CASE REPORT:

Mr IZ, a 40-year-old gentleman was involved in a high impact motor-vehicle accident and sustained a crush injury of the left foot with a 10 cm x 10 cm degloving wound at the antero-medial aspect of his left foot, exposing all the tarsal and metatarsal bones with fractures of all five metatarsal bones with tarso-metatarsal joint dislocations of the first and second toes, associated with medial and intermediate cuneiform bone loss. He underwent wound debridement and antibiotic spacer insertion followed by free osteocutaneous fibular flap and plating later. He recovered well with good range of movement of the left ankle without any instability.

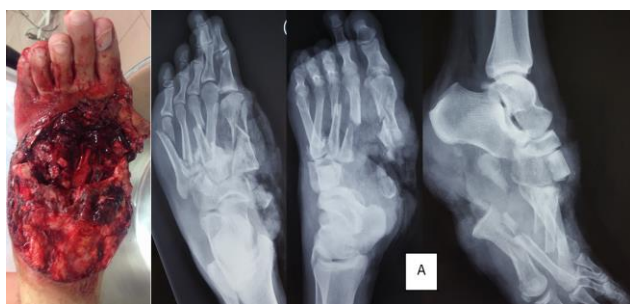


Figure A: Initial plain radiograph of the left foot.



Figure B&C: The patient undergoes wound debridement, K-wiring and antibiotic cement spacer insertion

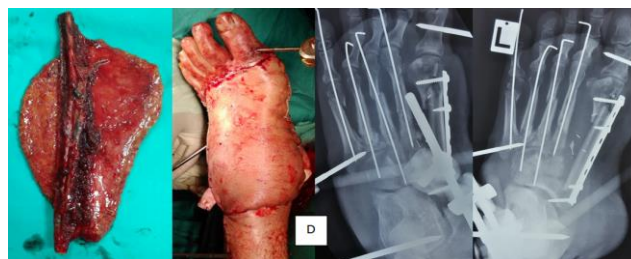


Figure D: post osteocutaneous fibular flap.

DISCUSSIONS:

In this patient, the bony gap caused by the loss of medial and intermediate cuneiform bones as well as the proximal part of the first metatarsal bone requires a bone strut to stabilize the tarso-metatarsal joint. Hence, the treatment of choice is free vascularized fibular graft. According to Rajacic et al, the structural similarity between the fibula and the metatarsal bone makes fibula an ideal choice for filling up the defect of the first metatarsus.

CONCLUSION:

Surgical management of a mangled foot is challenging. Skeletal stabilization and soft tissue coverage is imperative to provide a successful platform for reconstruction of the mangled foot. Free vascularized fibular graft is a viable option in reconstruction of a mangled foot.