

Combined Osseous and Soft Tissue Defect of Midfoot with Free Osteocutaneous Deep Circumflex Iliac Artery Flap

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INTRODUCTION:

Extensive osseous and soft tissue defect of foot is challenging to manage. There are various reconstructive options and advantages of limb preservation surgery over primary amputation. Bones of midfoot are largely cancellous. The risk of impaction, shortening, bone loss and rotational deformity is high and warrants bone grafting in such cases.

Osteocutaneous grafts have been used for various reconstructions but application in foot and ankle has been limited. Fibular osteocutaneous flap has been reported to manage multiple tarsometatarsal defects and have yield good functional and aesthetic outcome.

REPORT:

A 47-year-old male sustained open fracture dislocation of right midfoot with bone loss due to road traffic accident. He underwent debridement, K-wires, and cross ankle external fixation. He was referred to a hospital with foot and ankle unit subsequently. Serial debridement, readjustment of k-wires and external fixators due to infection was done.

All cuneiform bones were loss with partial navicular bone defect. The soft tissue defect measured 16x7cm over the medial part of foot. Reconstruction and fusion of midfoot with osteocutaneous circumflex iliac flap was performed with Plastic Unit.

Post-surgery day 3 the skin flap became necrotic with underlying fat & cutaneous pedicle thrombosed. However, the bone pedicle was viable. Musculocutaneous flap from anterolateral thigh subsequently was harvested to supplement remaining soft tissue defect. Post-surgery the flap healed, and fusion is evident radiographically. Post-surgery 3 months he is able to weight bear and walk.

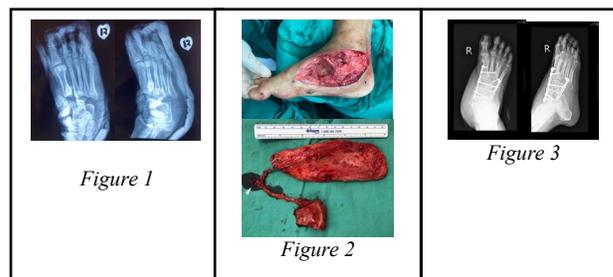


Figure 1: X-rays on Presentation, Figure 2: Deep circumflex iliac artery flap, Figure 3: Post surgery

He has been supplemented with splint for the loss of dorsiflexion due to loss of tibialis anterior function secondary to bone loss and hindfoot valgus. Tendon transfer has been offered to patient later.

CONCLUSION:

Midfoot injuries with osseous and soft tissue defect represents a great challenge in management. Multiple options of reconstructive surgery to manage osseous and soft tissue defect has advanced. Osteocutaneous flap shows a possible alternative.

REFERENCES:

1. Clement et al. (2012), The Journal of Foot & Ankle Surgery. Management of Combined Soft tissue and Osseous Defect of the Midfoot with a Free Osteocutaneous Radial Forearm Flap. doi:10.1053/j.jfas.2011.10.022