

Supracutaneous Locking Compression Plate: A Treatment Option For Non-Union Docking Site Post- Distraction Osteogenesis Of Tibia: A Case Report

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INTRODUCTION:

Massive segmental bone loss from trauma with extensive skin and soft-tissue damage is a considerable surgical challenge. Ilizarov bone transport is an effective salvage tool for bone reconstruction in these patients.^[1] However, non-union docking site is one of the common complications. Mechanical stability and grafting that poses osteoconductive, osteoinductive and osteogenic properties are the important factors to promote union.^[2] We report a case of non-union docking site of Tibia post Ilizarov bone transport which was successfully treated with supra-cutaneous locking plate with bone graft and Bone Morphogenic Protein augmentation.

REPORTS:

A 34-year-old man alleged involve in road traffic accident and sustained multiple injuries which include an open segmental fracture of tibia shaft with extensive soft tissue damage and bone loss. He was treated with multiple debridements and soft tissue reconstruction with skin graft and bony reconstruction with Ilizarov bone transport. However, it was complicated with non-union at the docking site. Dynamic compression plating and autologous bone graft was done, but failed due to early implant failure. Subsequently, supra-cutaneous locking plate with bone graft and BMP was done with the aim to achieve better stability and promoting union. Radiological union was achieved 5 months post supra-cutaneous plating. There was no screw tract infection noted throughout the follow up. However patient had knee and ankle stiffness.

DISCUSSIONS:

Supra-cutaneous plate can easily conceal under clothing making it less cumbersome and more acceptable for patient.^[3] The extensive scars and history of osteomyelitis makes internal fixation unfavorable. Hence, supra-cutaneous LCP with combination of bone grafting is

providing mechanical stability to achieve a high union rate.

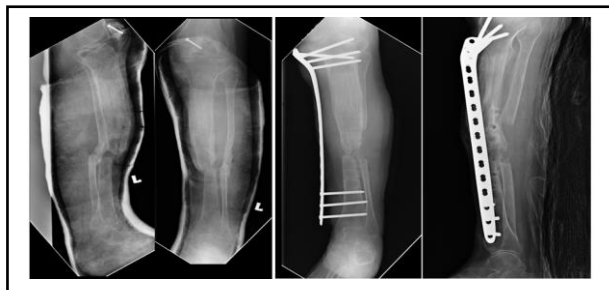


Figure 1a: X-ray show non-union of docking site; 1b: X-ray Post supra-cutaneous LCP



Figure 2a: The LCP as an external fixator; 2b: X-ray showed union of docking site

CONCLUSION:

Supra-cutaneous locking plate fixation with bone grafting is a good option to manage non-union docking site post bone transport especially in patient that not favourable for internal fixation.

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