

A REVIEW OF A CASE OF DIABETIC FOOT ULCER MANAGEMENT, FOLLOWING EXTERNAL FIXATION REMOVAL, UTILIZING BI-LAYERED CELL THERAPY

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ABSTRACT

Among several commercially available bio-engineered tissue grafts, there is only one bi-layered cell therapy* that is approved by the FDA for the use with standard therapeutic compression in the treatment of non-infected partial- and full-thickness venous stasis ulcers as well as full thickness neuropathic diabetic foot ulcers. The bi-layered cell therapy expresses multiple growth factors found in normal skin, and provides a biologically active matrix.

This presentation looks at the possibility of this bi-layered cell therapy* being beneficial in the management of a diabetic foot ulcer following external fixation removal.

This case involved a full thickness neuropathic diabetic foot ulcers in 52-year-old male. The neuropathic ulcers were the result of trans-osseous wires utilized in a tri-plane external fixation device. The bi-layered cell therapy* was an extremely useful in healing this difficult, neuropathic foot ulcerations.

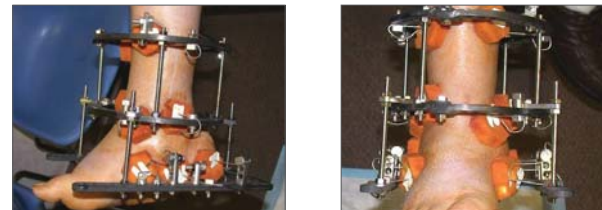
The results suggest that bi-layered cell therapy* is beneficial in lower extremity neuropathic ulcers following external fixation removal.

CASE REPORTS - EXTERNAL FIXATION

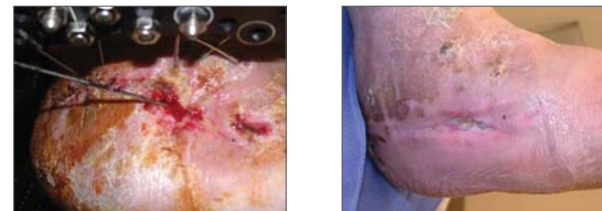
A 53-year-old male demonstrated diabetic neuropathic ulcerations at the medial and lateral right foot from trans-osseous wires. These trans-osseous wires were part of an tri-plane external fixation device utilized in a Charcot mid-foot reconstruction.

Five weeks post-operatively there was complete healing with the bi-layered cellular graft, there was no post-operative pain, and the patient had no restrictions.

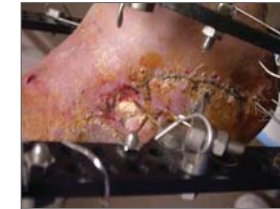
One year follow-up had no ulcer reoccurrence, no pain at the operative site, and patient satisfaction with the graft aesthetics.



(A) Initial fixation application



(B) Lateral foot initial ulcer presentation



(C) Medial foot initial ulcer presentation, note exposed Posterior Tibial Tendon



(D) Bi-layered cellular graft application, lateral mid-foot



(E) Bi-layered cellular graft application, medial mid-foot



(F) Results at post-operative week number five



(G) One year follow-up



CONCLUSION

The bi-layered cell therapy* was an extremely useful in healing diabetic foot ulcer following external fixation removal. The results suggest that bi-layered cell therapy* is beneficial in lower extremity atypical ulcers.

*Bi-layered cell therapy = Apligraf®
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