

CLINICAL EFFICACY OF DEHYDRATED AMNIOTIC MEMBRANE ALLOGRAFT AND OFF-LOADING ON DIABETIC FOOT ULCERS

William Peters, MD

Forrest General Wound Healing Center, Hattiesburg, MS

PURPOSE

This case series will demonstrate the clinical efficacy of managing four individuals' diabetic foot ulcers (DFUs) with a dehydrated human amniotic membrane allograft* (DAMA) in combination with off-loading. An amniotic membrane provides a non-immunogenic structural matrix that contains collagen and growth factors.¹ Neuropathic foot ulcerations, which can be a complication of diabetes, precede 85% of all non-traumatic lower extremity amputations.^{2,3} Treatment strategies using current modalities are essential to healing these complicated wounds. Wound care practitioners that remove pressure (off-load) while treating the DFUs with a current topical advanced therapies are experiencing positive outcomes that lead to healing.⁴

METHODS

Four patients with diabetes with wounds that range in chronicity from 6 weeks to 1 year were treated with treated with DAMA on a weekly basis. Wounds were cleansed with normal saline and debrided as necessary. Two patients were off-loaded with Roll on Total Contact Casting (TCC) System* and the other two were off-loaded by utilizing wheelchairs for mobility.

RESULTS

All 4 cases responded positively to DAMA. Patients were able to avoid additional surgery, and the wounds progressed to healing. Each of these patients had been treated with aggressive advanced wound care modalities to the extent their underlying condition allowed, but were trending toward failure and amputation. Patients healed in an average of 6 weeks.

CONCLUSIONS

This case series illustrates the need for advanced topical wound treatments such as DAMA to promote wound healing particularly in DFUs that have stalled where risk factors exist that make quick closure a top priority.

References: 1. Werber B, Martin E. A prospective study of 20 foot and ankle wounds treated with cryopreserved amniotic membrane and fluid allograft. The Journal of Foot and Ankle Surgery. 52 (2013) 615-621. 2. Margolis DJ, et al. Diabetic neuropathic foot ulcers and amputation. Wound Repair Regen. 2005; 13 (3): 250-6. 3. Armstrong DJ, et al. Guest editorial: are diabetes related wounds and amputations worse than cancer? Int. Wounds J. 2007; 4 (6): 286-7. 4. Fife CE et al. Diabetic Foot Ulcer Off-Loading: The Gap Between Evidence and Practice. Data from the US Wound Registry. Advances in Skin and Wound Care Volume 27, No. 7 2014.

CASE 1

This is a 63 year old female with a Left Plantar DFU that presented to wound care clinic (WCC) on 6/12/14 with a wound measuring 4.0 cm x 0.3 cm x 0.1 cm. She was off-loaded with TCC and DAMA was applied on 6/23/14. Healing was documented on 6/30/14.



6/23/14



6/30/14

CASE 2

This is a 57 year old female with a Left great toe ulcer of over 1 year duration. DAMA and TCC were implemented on 6/19/14. The wound measured 0.8 cm x 5.3 cm x 0.4 cm. The patient received 7 tissue applications in 7 weeks. Healing was documented on 8/7/14.



6/19/14



8/7/14

CASE 3

This is a 52 year old male with a DFU of the heel who presented to WCC on 6/12/14. The wound measured 1.0 cm x 1.9 cm x 0.1 cm. He was off-loaded in a wheelchair and DAMA was initiated on 6/19/14. Patient received 7 tissue applications in 7 weeks. Healing was documented on 8/7/14.



6/19/14



8/7/14

CASE 4

This is a 66 year old female who was S/P a TMA and presented to WCC on 3/14/14. She was previously treated with a collagenase ointment. She was off-loaded in a wheelchair. DAMA was initiated on 6/23/14, the wound measured 2.3 cm x 5.5 cm x 0.1 cm. Patient received 8 applications in 9 weeks. Wound healing was documented on 9/4/14.



6/23/14



8/18/14