Non-healing diabetic foot ulcers (DFUs) are often the first step towards limb amputation in patients with diabetes. Despite attempts at off-loading, establishing good arterial flow, and controlling infection, there is a subset of patients who do not show healing and amputation is eminent. Various types of advanced therapies have been developed with the goal of restoring the defective healing pathway seen in diabetic patients. Recently, dehydrated amniotic membrane allograft* (DAMA) has been shown to initiate the cascade of healing in recalcitrant DFUs. **

**BACKGROUND**

With the goal of restoring the defective healing pathway seen in diabetic patients. Recently, dehydrated amniotic membrane allograft* (DAMA) has been shown to initiate the cascade of healing in recalcitrant DFUs. ***

**METHODS**

When first presented with a novel technology such as DAMA we often choose only the most challenging patients on which to evaluate as we want the cases with the highest risk of non-healing wounds. Eight patients with diabetes were identified having non-healing foot ulceration where amputation was being considered as the next treatment option. The chronicity of the wounds ranged up to 3 years and these patients had undergone a variety of treatments without success. Patients were then selected for DAMA applications with the goal of demonstrating the wound size reduction and attempt at healing with total contact cast. Having failed healing even with the advanced treatment modalities described above, these patients were chosen to have DAMA applied to their wounds.

**RESULTS**

In total, these 8 patients’ wounds closed in an average of 6.2 weeks after an average of 2.75 DAMA applications. The average surface area of the wounds was 4.2 cm² with the target being 1.0 cm². The largest wound closed in only 26 days after being present for 3 years.

**SAMPLE CASES**

**CASE 1**

65 year old male with history of diabetes, neuropathy, osteomyelitis and Charcot foot. Long history of DFUs with Charcot deformity that have closed and reopened. Patient presented with right plantar midfoot ulcer. Patient has a long history of failed therapies which include: standard wound therapies, debridements, and calcium alginate dressings. Patient was a good candidate for DAMA due to long history of failed treatments. Patient received a total of 3 DAMA applications every two weeks with secondary treatments of petrolatum non-adherent gauze dressing, gauze and TCC. Wound size at initial application was 1.7 cm x 0.6 cm x 0.5 cm. By the second treatment, the wound decreased to 0.4 cm x 0.3 cm x 0.1 cm and by the third treatment, it had reduced even further to 0.4 cm x 0.3 cm x 0.1 cm. Complete healing occurred 54 days after the first application.

**CASE 2**

30 year old female with poorly controlled diabetes and neuropathy with chronic history of DFUs, and significant Charcot foot with left sole medullary aspect DFU. Patient has a long history of failed therapies which included NPWT, bi-layer skin graft, betadine, and variety of advanced wound care dressings including silver dressings. Patient was selected for DAMA treatment after more than a year of failed treatments. Patient received a total of 3 DAMA applications, each over two weeks with secondary treatments of petrolatum non-adherent gauze dressing, super absorbent dressings*** and TCC. Wound size at initial application was 5.4 cm x 4.3 cm x 0.6 cm. By the second application, wound size decreased to 3 cm x 3.0 cm x 0.5 cm and by the third application, the wound decreased to 0.8 cm x 0.5 cm x 0.1 cm. Complete closure occurred 28 days after first application.

**CASE 3**

54 year old male with history of diabetes, neuropathy and charcot foot. Patient received a total of 3 DAMA applications with secondary treatments of petrolatum non-adherent gauze dressing, super absorbent dressings*** and TCC. Wound size at initial application was 1.5 cm x 1.0 cm x 0.5 cm. By the second week wound size decreased to 0.9 cm x 0.4 cm x 0.2 cm and by week 3, the wound measured 0.6 cm x 0.3 cm x 0.1 cm. Complete closure occurred 73 days after first application.

**CONCLUSIONS**

This series describes patients who were at significant risk for amputation who had failed other advanced therapies. This data suggests that DAMA in selected patients with non-healing wounds can be beneficial in decreasing the risk of amputation and in facilitating the closure of wounds that have failed other advanced therapies.

**References:**


**Updated Figure:**

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**Notes:**

* Derma Sciences provided support for this research. The information may include a use that has not been approved or cleared by the Food and Drug Administration. This information is not being presented on behalf of Derma Sciences.

**XTRASORB® Dressings, Derma Sciences Inc., Princeton, NJ

**Apiligraf®, Organogenesis, Canton, MA

**Metaphase Pharmaceuticals, Santa Barbara, CA

**San Antonio Wound Care Symposium; poster content was updated from poster originally presented at SAWC Fall 2014, Las Vegas.

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