Retrospective Case Study of a Chronic Neuropathic Wound Healed with Dehydrated Human Amnion/Chorion Membrane Allografts in the VA Setting

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Background
- Chronic non-healing wounds contribute significantly to the morbidity and mortality of many patients.
- Treatment modalities are based on ulcer characteristics and patient factors.
- The Prevention of Amputations Everywhere (PAVE) program was developed to prevent and treat lower extremity complications that can lead to amputation. It provides for the identification of at-risk individuals and describes four levels of foot risk – normal, low, moderate, and high – and specifies actions to be taken for each level of risk.
- Promoting rapid and complete wound healing with advanced therapies reduces the risk for infection and amputation, improves quality of life, and reduces financial burden to patients and the health care system.
- PURION® Processed dehydrated human amnion/chorion membrane (dHACM) has been shown to contain growth factors that help in wound healing, including PDGF-AA, PDGF-BB, bFGF, TGF-β1, EGF, VEGF, and PI GF, as well as anti-inflammatory interleukins (IL-1α, IL-1β, IL-10), and TIMP-1, TIMP-2, TIMP-4, which help regulate the matrix metalloproteinase activity.
- Recent randomized controlled trials and clinical studies have shown dHACM allografts to be an effective treatment for chronic neuropathic wounds. 1

Purpose
- The purpose is to present our experience with a case study in healing a chronic neuropathic plantar surface wound with dHACM allografts in the VA setting.

Methods
- We retrospectively identified a patient with a chronic neuropathic plantar surface wound healed with dHACM in two months.
- The patient was a 39 year old male with history of back injury. While changing HUMVEE tires, developed degenerative disk disease and right leg neuropathy.
- The veteran's course was complicated by calluses and chronic wounds for five years.
- The decision to use dHACM was based on the VA algorithm for moving to advanced therapies as the patient was deemed high risk with the plantar surface neuropathic wound present for 1 year.
- After saline cleaning and debridement, bi-weekly 2cm3cm graft application was utilized twice with change to particulate formulation at week 4.

Results
- The patient demonstrated rapid closure of the chronic neuropathic wound involving the right 5th metatarsal.
- Total time to healing was measured at <8 weeks.
- The cost to healing was calculated at $4,020.00.

Conclusion
- We believe that this case illustrates dHACM to be both a clinically effective and cost effective wound treatment in patients with chronic neuropathic wounds.

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References

Table

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<th>Week</th>
<th>Wound Size</th>
<th>dHACM Applied</th>
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<tbody>
<tr>
<td>0</td>
<td>1.0 cm x 0.8 cm</td>
<td>2 cm x 3 cm</td>
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<tr>
<td>2</td>
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<td>2 cm x 3 cm</td>
</tr>
<tr>
<td>4</td>
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<tr>
<td>6</td>
<td>0.1 cm x 0.1 cm</td>
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</tr>
<tr>
<td>8</td>
<td>--</td>
<td>Healed</td>
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Week 0 Week 2 Week 4 Healed 10 months