Clinical Experience with Dehydrated Human Amnion/Chorion Membrane Allografts for the Treatment of Chronic Foot and Leg Ulcers

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Background
Rapid and complete wound healing reduces the risk for infection and amputation.1 For >100 years, human amniotic membrane has been used in many clinical applications.2 The development of a process to clean, sterilize, and dry human amniotic/chorionic membrane has resulted in a dehydrated human amnion/chorion membrane (dHACM) allograft available in various configurations and sizes which can be stored at ambient conditions for up to 5 years.3

Dehydrated Human Amnion/Chorion Membrane (dHACM)
PURION® Processed dHACM has been shown to contain many growth factors that help in wound healing, including PDGF-AA, PDGF-BB, bFGF, TGF-β1, EGF, VEGF, and PI GF.4 In addition to growth factors, cytokines, including anti-inflammatory interleukins (IL-1a, IL-4, IL-10), and TIMPs (TIMP-1, TIMP-2, TIMP-4) which help regulate the matrix metalloproteinase (MMP) activity, are also present.4

Purpose
To evaluate the clinical effectiveness of using dHACM allografts as a treatment for chronic leg and foot ulcers.

Methods
- We conducted a chart review of four patients [2 with diabetic foot ulcers (DFU) and 2 with venous leg ulcers (VLU)] treated with dHACM in our clinic.
- dHACM was applied after sharp debridement, followed by standard topical dressings.
- Weekly dressing change and wound assessment to determine rate of closure based on complete epithelialization of prior wound bed was performed.

Results

<table>
<thead>
<tr>
<th>Case</th>
<th>Type of Wound</th>
<th>Duration</th>
<th>Wound Size at 1st dHACM</th>
<th>Weeks to Heal</th>
<th>% if dHACM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DFU</td>
<td>3 months</td>
<td>0.8 x 0.5 x 0.2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>DFU</td>
<td>4 months</td>
<td>2.0 x 0.4 x 0.2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>VLU</td>
<td>2 months</td>
<td>3.5 x 3</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>VLU</td>
<td>2+ years</td>
<td>3 x 1.8</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Conclusions
- In our practice, dHACM has been clinically effective and well tolerated as a treatment for chronic leg and foot ulcers.
- The handling properties of dHACM allografts make the material easy to use in the outpatient setting.

References