Introduction

Split-thickness skin grafts (STSG), which were first described in the late 1860s, remain a widely utilized technique for wound reconstruction. Harvesting the STSG creates an iatrogenic wound at the donor site. The morbidity associated with STSG donor sites remains a challenge for patients and surgeons, frequently precluding skin grafting and expedient coverage of the recipient wound.

Morbidities associated with STSG donor sites include:
- Delayed epithelialization
- Persistent bleeding
- Prolonged drainage
- Pain

A recent study demonstrated favorable clinical outcomes when using an oxidized regenerated cellulose (ORC)/collagen/silver-ORC dressing to help manage medium-depth STSG donor sites in patients with numerous comorbidities.

Purpose

We describe our initial experiences using ORC/collagen/silver-ORC dressings on 8 donor site wounds in 6 male and 1 female patients, with 1 male patient undergoing 2 independent harvests.

Methods

- After harvesting the STSG from the thigh of each patient, ORC/collagen/silver-ORC dressings were placed onto the donor site wound and covered with a transparent film dressing.
- Additional ORC/collagen/silver-ORC dressings were applied to the donor site wound weekly, and the semi-occlusive dressing layer was changed weekly and/or as needed.

Results

- Patients ranged in age from 39 to 78 years, with an average age of 59.1 ± 14.9 years (Table 1).
- Patients had known risk factors for delayed wound healing, including obesity, venous insufficiency, peripheral artery disease, hypertension, and malnutrition (Table 1).
- In 7 of the 8 donor site wounds, complete epithelialization occurred within 2 weeks (Table 1).
- All patients expressed minimal pain at the donor site, which historically has been a source of concern.

Three representative cases of donor site wounds treated with ORC/collagen/silver-ORC dressings are shown in Figures 1-2.

Case 1: STSG donor sites for heel ulcer

Case 1A: Initial STSG donor site on anterolateral thigh

Case 1B: Second STSG donor site on anterior thigh

Case 2: STSG donor sites for venous leg ulcer

Case 2A: Wounds on Day 4 after re-applying the ORC/collagen/silver-ORC dressing and changing the transparent film dressing.

Case 2B: Wounds on Day 4.

Case 2C: Wounds at 6-week follow-up.

Case 2D: Wounds on Day 1 before applying dressings.

Case 2E: Wound on Day 1 before applying dressings.

Case 2F: Wound on Day 1 after applying ORC/collagen/silver-ORC dressing.

Case 2G: Wound on Day 1.

Case 2H: Wound on Day 1.

Results (Cont’d)

Table 1. Summary of cases using ORC/collagen/silver-ORC dressings on donor sites

<table>
<thead>
<tr>
<th>Case</th>
<th>Age (yrs)</th>
<th>Comorbidities</th>
<th>Recipient Site</th>
<th>STSG Donor Site</th>
<th>Donor Site Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>50</td>
<td>Vascular insufficiency, PAD, ESRD, Smoker</td>
<td>Heel ulcer</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
<tr>
<td>1B</td>
<td>50</td>
<td>Vascular insufficiency, PAD, ESRD, Smoker</td>
<td>Heel ulcer</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
<tr>
<td>2</td>
<td>78</td>
<td>PAD, Smoker</td>
<td>VLU</td>
<td>Anterolateral thigh</td>
<td>Healed in 4 weeks</td>
</tr>
<tr>
<td>3</td>
<td>39</td>
<td>CAD, PAD, ESRD</td>
<td>VLU</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>CAD, Hypertension</td>
<td>Surgical wound</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
<tr>
<td>5</td>
<td>71</td>
<td>Diabetes mellitus, PAD, ESRD</td>
<td>Pressure ulcer</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
<tr>
<td>6</td>
<td>71</td>
<td>ESRD, PAD, ESRD</td>
<td>Abdominal wound</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
<tr>
<td>7</td>
<td>60</td>
<td>Vascular insufficiency, Diabetes mellitus, Smokeless tobacco user</td>
<td>VLU</td>
<td>Anterolateral thigh</td>
<td>Healed in 2 weeks</td>
</tr>
</tbody>
</table>

Conclusions

- These data provide further support for the use of ORC/collagen/silver-ORC dressings to help manage STSG donor sites in patients with known risk factors for impaired wound healing.

References