The Use of Oxyzyme in Non-Healing Burn Wounds

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INTRODUCTION

Chronicity in burn wounds is one of the least recognised areas of wound care. Often chronic burns continue to be managed for many months as acute wounds. These wounds have similar problems in terms of quality of life, cost and nursing time as any other chronic wound, but often continue to be dressed with products considered to be “burn” products, e.g. Flamazine and Jelonet. This poster looks at the use of Oxyzyme on non healing burn wounds.

Oxyzyme wound dressing is a two layer external, occlusive, sterile, single use hydrogel system designed to support healing processes in dry to medium exudating, superficial wounds. Oxygen from the atmosphere diffuses into the dressing and is converted to hydrogen peroxide by the dressing’s enzymic action. The hydrogen peroxide reacts with iodide to produce a low level of iodine within the dressing and dissolved oxygen. Any unreacted hydrogen peroxide is instantly converted to hydrogen ion on contact with exudate. The low level of iodine provides a bacteriostatic effect and the oxygen may help support wound healing and suppress anaerobic bacteria. The hydrogel format of the dressing is designed to provide a nutrient rich environment conducive to healing and autolytic debridement.

METHOD

Three patients, with an average age of 25.5, with four non-healing burn wounds, of an average age of 10 months old, had Oxyzyme applied to their wounds. Patients with a known infection or an obvious indication of infection were not included. Also patients with a known or suspected allergy or sensitivity to iodine or iodide were not included, along with patients who have a thyroid disorder. At each dressing change records of wound size and condition of wound bed were made, along with assessments of pain, on application and during wear time. Both nurse and patient satisfaction were recorded and the wound was photographed.

RESULTS

All patients had an improvement in their wounds and went on to heal. Generally the patients experienced little or no pain and found the dressing conforming and comfortable to wear. There were a total of 27 dressing changes, and the scores for patient comfort, pain and satisfaction can be seen in the tables below.

PATIENT COMFORT

<table>
<thead>
<tr>
<th></th>
<th>Very comfortable</th>
<th>Comfortable</th>
<th>Mild discomfort</th>
<th>Painful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>100%</td>
<td>90%</td>
<td>10%</td>
<td>0%</td>
</tr>
</tbody>
</table>

PAIN SCORES

<table>
<thead>
<tr>
<th>Score</th>
<th>1, No pain</th>
<th>2, Mild pain</th>
<th>3, Moderate</th>
<th>4, Severe</th>
<th>5, Extremely severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>89%</td>
<td>4%</td>
<td>7%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

PATIENT SATISFACTION

<table>
<thead>
<tr>
<th>Score</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Not satisfied</th>
<th>Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>0%</td>
<td>89%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

PATIENT 1

Mr. B was an eighteen year old man who sustained a 48% TBSA burn to his neck, chest and arms. He underwent surgery with large areas being grafted. Remaining ungrafted areas were very slow to heal, and it was decided to use Oxyzyme to treat 2 areas (See Fig 1 & 2). The wounds were 10 months old when Oxyzyme was commenced and the time to healing for both of these areas was 6-8 weeks.

PATIENT 2

Miss F. is a seventy seven year old lady who was referred 8 weeks post injury with a 2% TBSA burn to her back which she sustained when she collapsed against a radiator. Ideally the first line management would have been to graft this area but Miss F. declined and was therefore treated conservatively. The wound was 15 months old when Oxyzyme was initiated. (See Fig 10) Although this patient was discontinued from the trial after 4 weeks, due to excessive bleeding (See Fig 12 & 13), the wound continued to progress and 5 weeks later this wound was almost healed (See Fig 14).

PATIENT 3

Miss P. is a twenty seven year old lady who had sustained deliberate self harm to her right shoulder. This was treated conservatively due to her mental health problems and at 12 weeks Oxyzyme was initiated (See Fig 15). Although this patient was discontinued after 5 weeks due to bleeding the wound went on to heal in a further 3 weeks (See Fig 19).

DISCUSSION

Although two of the case studies were discontinued due to excessive bleeding at the wound site, they did go on to improve dramatically, indicating that potentially the Oxyzyme had a beneficial effect. Retrospectively perhaps the patient should have been left on the trial; however, as this was our first experience with this dressing in this wound type, we elected to discontinue them. In the future, with growing confidence in the dressing, we would perhaps be less cautious.

CONCLUSION

These case studies demonstrate significant improvement and resolution in chronic burn wounds and could be an additional solution to the problems of burn wound chronicity. Additional evaluations are required to confirm our early findings and we are also keen to evaluate Iodozyme in this patient population.