ABLATIVE FRACTIONAL RESURFACING IN ACUTE CARE MANAGEMENT OF FACIAL BURNS: A NEW APPROACH TO MINIMISING THE NEED FOR ACUTE SURGICAL RECONSTRUCTION

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Background

Apart from acute indications for reconstructive procedures to prevent secondary damage, including eyelid ectropion, microstomia and acute contractures, current evidence suggests to await full scar maturation prior to surgical intervention. Particularly in facial burns, surgical reconstructions often need to be performed several times and outcomes are not always ideal.

Aim

To evaluate the efficacy of early intervention with the ablative fractional CO2 laser in acute management of panfacial burn injuries.

Methods

A 39 year old Asian male with a 60% TBSA flame burn injury with panfacial involvement was developing early upper and lower eyelid ectropions and microstomia following epithelialization. Treatment with the ablative fractional CO2 laser was initiated 6 weeks post injury whilst still in the ICU, and provided at regular subsequent intervals. Concurrent non-surgical scar contracture management was provided as per site specific standard protocols.

Results

Photographic data and measurements specific to deficits in eye and mouth closure were taken at rest, in addition to maximal opening at baseline and routinely until scar stabilisation was achieved.

<table>
<thead>
<tr>
<th>Date</th>
<th>EYE ROM (mm)</th>
<th>MOUTH ROM (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Deficit @ rest (L/R)</td>
<td>Active closure deficit (L/R)</td>
</tr>
<tr>
<td>20.Oct</td>
<td>9mm / 10mm</td>
<td>7mm / 8mm</td>
</tr>
<tr>
<td>27.Oct</td>
<td>2mm / 4mm</td>
<td>0mm / 0mm</td>
</tr>
<tr>
<td>15.Nov</td>
<td>4mm / 5mm</td>
<td>0mm / 0mm</td>
</tr>
<tr>
<td>24.Jan</td>
<td>3mm / 5mm</td>
<td>0mm / 0mm</td>
</tr>
<tr>
<td>22.Mar</td>
<td>1mm / 2mm</td>
<td>0mm / 0mm</td>
</tr>
</tbody>
</table>

Conclusion

This case report demonstrates that early intervention of ablative fractional CO2 resurfacing, combined with non-surgical scar management is a valuable treatment approach to minimize facial contractures, enhances and accelerates scar maturation and may prevent the need for surgical scar reconstructions. Further, it may provide more optimal functional and aesthetic results compared to traditional reconstructive methods.

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