INTRODUCTION
Thalassemia intermedia (TI), an inherited haemoglobinopathy is a milder form of β-thalassemia, lying in between the clinical spectrum of Thalassemia Major and Thalassemia Minor(1). TI patients do not usually require blood transfusions except when there are complications present. Leg ulcers are a rare but known complication. Low levels of haemoglobin(Hb) causing chronic tissue hypoxia leads to skin breakdown and poor wound healing. The skin in the extremities of these patients are thin and have trophic changes due to poor tissue oxygenation at these sites(2).

Here we present a rare case of a chronic refractory leg ulcer in a patient with TI who has been managed in our center for the past 8 years.

CASE REPORT

A 42 year old female has suffered from a chronic recalcitrant ulcer on the dorsum of her left foot for the past 13 years. Together with her three other siblings, she was diagnosed with TI at her initial presentation. Since 2012 she has been on regular bi-monthly transfusions to maintain her Hb levels at 8g/dL alongside desferrioxamine for iron chelation. The spleen is enlarged at 5cm below the costal margin but growth has stabilized and therefore a splenectomy has been put on hold for now.

Our patient has required inpatient care at least 3x/year for recurrent infected ulcers. This has led to significant morbidity and she has been unemployed for the past 3 years. While under our care (since 2008), management for her ulcers has included multiple courses of antibiotics, packed cell transfusions, specialized dressings and even hyperbaric oxygen therapy. Her ulcers have always improved during hospital stay but worsens once she is discharged back home. The improvement is most probably due to optimizing her Hb level, bedrest and treating concomitant infection. The best healing seen was when she was admitted in 2009 for 2 months and at that time we had used Capilpil, a specialized regenerative dressing for her ulcers (Figure 1a).

Unfortunately, after a few months following discharge her ulcers worsened (Figure 1b).

She required a recent admission for a MRSA infection of the ulcer. Initially the ulcer measured 6 x 4cm (Figures 2a & 2b). We optimized her Hb levels from 6g/dL to 9g/dL with 4 units of packed cells in a period of 1 week. Post treatment, the ulcer had improved with significant amount of healthy granulation tissue with minimal slough (Figures 2c & 2d).

DISCUSSION

In TI, ulcer healing can take a long time and these patients tend to have multiple admissions and recurrent operations with skin grafting. Even when healing does occur, it is often temporary.

In the literature there have been few reports of similar haemoglobinopathic ulcers. The hallmark of such ulcers are poor healing as seen in the table. The longest duration reported is 20 years in a non-transfusion dependent TI.

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Age / Sex</th>
<th>Ulcer duration (years)</th>
<th>Successful Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voskaridou et al, 1999(1)</td>
<td>37</td>
<td>20</td>
<td>Perilesional G-CSF</td>
</tr>
<tr>
<td>Josifova et al, 2001(2)</td>
<td>43</td>
<td>20</td>
<td>Platelet derived wound healing factor</td>
</tr>
<tr>
<td>Gilanz et al., 2001(3)</td>
<td>26</td>
<td>4</td>
<td>Platelet derived wound healing factor</td>
</tr>
<tr>
<td>Aessopos et al., 2006(4)</td>
<td>21</td>
<td>0.5</td>
<td>Exchange transfusion</td>
</tr>
<tr>
<td>Levin et al., 2011(5)</td>
<td>35</td>
<td>14</td>
<td>Hydroxyurea</td>
</tr>
</tbody>
</table>

In the above cases, none of the ulcers healed spontaneously. Gimmons et al. has described the use of an oxygen chamber to improve tissue hypoxia(6). We have attempted this form of treatment but there was no improvement seen. We found her leg ulcers did best when her Hb levels were closer to 10 g/dL in 2010.

Complete healing of this ulcer relies profoundly on any treatment modality which effectively recuperates the peripheral tissue oxygenation. Legs ulcers stemming from TI pose a challenge to the treating dermatologist and are often refractory to conventional ulcer management.

REFERENCES

**The authors declare that there is no conflict of interests.**

Figures 2a & 2b: Latest clinical presentation of the ulcer in July 2015. There is an irregular shaped sloughy ulcer with surrounding dyspigmentation (depigmentation & hyperpigmentation) measuring 6x4cm on the dorsum of the left foot.

Figures 2c & 2d: After completing a course of IV vancomycin and 4 units of packed cells transfusion, there was granulation tissue with minimal slough seen on the ulcer base. The ulcer is smaller in size.