Background

- Digital ulcers are a common manifestation of vascular abnormality in patients with systemic sclerosis (SSc) (Figures 1 and 2).
- There have been few studies of prevalence, functional impact and pathophysiology.
- The definition of active SSc digital ulcers is contentious and inter-rater agreement is poor.
- Current incidence and prevalence estimates of active SSc digital ulcers vary widely (17-40%).

Aim

- To investigate point prevalence of active digital ulcers in a cohort of SSc patients.
- To assess ulcer location.
- To correlate presence or absence of digital ulcers with associated findings on quantitative nailfold capillaroscopy and impact on hand function.

Patients

- 148 patients with SSc (median 60 (range 21-88) years of age; 84% female, 74% diffuse) were recruited.

Methods

- Patients recruited over a 12 month period when they attended SSc clinics for routine annual review.
- Each patient underwent the following: assessment for active digital ulcers and the Hand Mobility in Scleroderma (HAMIS) test performed by a specialist tissue viability nurse; the Cochin Hand Function Scale (CHFS) and Scleroderma Health Assessment Questionnaire (HAQ) self-assessments (including a pain Visual Analogue Scale or VAS); quantitative nailfold capillaroscopy.

Results

- Clinical and demographic features of the 148 patients (74% of those approached) are shown in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total study population N=148</th>
<th>No Digital Ulcers N=133</th>
<th>Digital Ulcers N=15</th>
</tr>
</thead>
<tbody>
<tr>
<td>LcSSc, n (%)</td>
<td>109 (74)</td>
<td>100 (75)</td>
<td>9 (60)</td>
</tr>
<tr>
<td>Age, median (range), yrs</td>
<td>11 (1-54)</td>
<td>11 (1-43)</td>
<td>13 (1-54)</td>
</tr>
<tr>
<td>Disease duration, median (range), yrs</td>
<td>11 (1-54)</td>
<td>11 (1-43)</td>
<td>13 (1-54)</td>
</tr>
<tr>
<td>Capillary density (inter-capillary distance), median (range)</td>
<td>27821 (574-149840)</td>
<td>26914 (574-149840)</td>
<td>49924 (26540-74242)</td>
</tr>
<tr>
<td>Pain VAS, median (inter-quartile range)</td>
<td>0.8 (0.1-1.5)</td>
<td>0.8 (0.2-4)</td>
<td>1.2 (0.8-2.1)*</td>
</tr>
<tr>
<td>CHFS, median (range)</td>
<td>17 (0-80)</td>
<td>13.5 (0-80)</td>
<td>24.5 (3-64)</td>
</tr>
<tr>
<td>HAQ, median (range)</td>
<td>1.4 (0-3)</td>
<td>1.3 (0-3)</td>
<td>1.75 (0-2.25)</td>
</tr>
</tbody>
</table>

*P=>0.05 vs. no digital ulcers.

Conclusions

1) In this prospective study, all active digital ulcers were documented in a standardised manner by a specialist nurse.

2) Digital ulcers were associated with reduced capillary density (reflecting severity of microvascular disease).

3) The association between burden of pain and functional impairment with active digital ulcers was confirmed.

4) The finding that fingertip ulcers of the right (dominant) hand may have a less detrimental impact than others is unexplained, but may reflect coping mechanisms in patients with chronic disabling disease.

Acknowledgements

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