We read with great interest the results of the double-blind phase 2 faScinate clinical trial, in which there was encouraging (although not statistically significant) numerical improvement in skin thickening and evidence of less decline in lung function in patients with systemic sclerosis (Sc) treated with tocilizumab (TCZ) compared with those receiving placebo. Initial investigations with TCZ in patients with Sc demonstrated improvements in skin sclerosis and polyarthritides.

Scleroderma-associated interstitial lung disease (Ssc-ILD) is a severely debilitating complication with high mortality in extensive disease. There is no approved disease-modifying treatment, and few effective treatment options are available. One of the most urgent needs is to determine which drugs can be useful as a rescue treatment in patients who do not respond to conventional immunosuppressants and rituximab (RTX). They were treated with a compassionate use of TCZ for at least 6 months. In all cases, written informed consent was obtained from the patients, and the off-label use of TCZ (and previously of RTX) was approved by our local health authorities.

The median durations of Sc and ILD were 8 years (range: 2–15 years) and 7 years (range: 2–12 years), respectively. All cases corresponded to fibrosing non-specific interstitial pneumonia. Progressive interstitial lung disease (ILD) was defined when there was a worsening of ≥10% in per cent predicted forced vital capacity (%pFVC) or ≥15% in per cent predicted diffusing capacity for carbon monoxide corrected for haemoglobin (%pDLCO) during the follow-up (over 1 year).

Previous or ongoing therapies for Ssc-ILD included MMF (100%), CYC (67%), azathioprine (11%) and RTX (100%). In all cases, the time elapsed since the last dose of CYC was greater than 2 years and 6 months in the case of RTX. The mean number of RTX cycles previously administered was 3±1.7 (range: 1–6); in four patients (44%) RTX was discontinued due to adverse events (mainly respiratory or urinary infections and/or transient neutropenia) and in the remaining (56%) due to inefficacy.

TCZ was administered intravenously in two patients (a dose of 8 mg/kg monthly) and subcutaneously in the remaining 7 (162 mg weekly). In all cases, it was administered with MMF (eight patients received 2 g/day and one patient received 1 g/day). Seven (78%) patients received concomitant treatment with prednison (≤5 mg/day). Ongoing therapy with MMF and oral prednison remained initially unchanged in all cases.

The baseline clinical features and outcome of these patients are summarised in table 1. At the end of the follow-up period (median 12 months; IQR 25th–75th: 6–33 months), only four patients (44%) were still in treatment. In the other five patients (56%) TCZ was discontinued, due to serious adverse events in one case and due to inefficacy in the other four cases. One of these, and the extent of lung fibrotic changes and/or ground glass opacities increased >20%.

HRCT was assessed by one chest radiologist blinded to clinical state or change in lung function. Categorisation of patients was done according to fibrotic changes and improvement >20% of the extent of ground glass opacities, (2) stabilisation or (3) worsening (if HRCT was assesed by one chest radiologist blinded to clinical state or change in lung function. Categorisation of patients was done according to fibrotic changes and improvement >20% of the extent of ground glass opacities), (2) stabilisation or (3) worsening (if

<table>
<thead>
<tr>
<th>Patient</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tbody>
<tr>
<td>Age (years)/sex</td>
<td>59/F</td>
<td>40/F</td>
<td>64/F</td>
<td>63/F</td>
<td>57/F</td>
<td>52/F</td>
<td>60/F</td>
<td>62/F</td>
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<tr>
<td>Ssc duration (years)</td>
<td>15</td>
<td>9</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>10</td>
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<tr>
<td>Ssc cutaneous subset</td>
<td>Diffuse</td>
<td>Limited</td>
<td>Diffuse</td>
<td>Limited</td>
<td>Diffuse</td>
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<td>Limited</td>
<td>Diffuse</td>
<td>Diffuse</td>
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<tr>
<td>Chest HRCT pattern of ILD</td>
<td>Fibrosing NSIP</td>
<td>Fibrosing NSIP</td>
<td>Fibrosing NSIP</td>
<td>Fibrosing NSIP</td>
<td>Fibrosing NSIP</td>
<td>Fibrosing NSIP</td>
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<tr>
<td>ILD duration (years)</td>
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<td>4</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>9</td>
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<tr>
<td>Autoantibodies</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
<td>Scl 70 (+) Ro52 (−) ACA (+)</td>
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<tr>
<td>No of ILD cycles</td>
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<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>6</td>
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<tr>
<td>Follow-up after first dose of TCZ (months)</td>
<td>23</td>
<td>8</td>
<td>34</td>
<td>33</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Lung responses to TCZ therapy</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 71.2/70.6 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 77.3/66.4 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 84.3/84.2 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 41.4/41.5 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 78.6/77.3 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 70.4/69.4 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 72.9/72.5 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 103/101 (STB).</td>
<td>Pre-TCZ/Post-TCZ %pFVC: 57/56 (STB).</td>
</tr>
<tr>
<td>Adverse events</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Discontinuation of the treatment at the endpoint of patient follow-up and reason</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
<td>Yes, due to adverse events.</td>
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</tbody>
</table>

Table 1: Baseline clinical features and outcome of our nine patients with refractory systemic sclerosis-associated interstitial lung disease treated with tocilizumab

**Correspondence**

November 2019 Vol 78 No 11

four patients died due to progression of ILD. The frequency of adverse events was low, occurring in only one patient (11%) who developed repeat infections including an osteomyelitis complicating a digital ulcer requiring hospitalisation.

Although it is difficult to draw any firm conclusions from these data, according with our experience in this small cohort, TCZ appears to be safe. Its effectiveness as a rescue treatment in patients with refractory SSc-ILD seems modest but not negligible, achieving an improvement or stabilisation of pulmonary function in 44% of patients.

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Patient consent Not required.
Ethics approval The present report has been approved by of our institutional ethics committee (Clinical Research Ethics Committee of Bellvitge University Hospital-IDIBELL). Written informed consent was obtained from the patients. Their clinical records and information were anonymised prior to analysis. This study was conducted in accordance with the principles of the Declaration of Helsinki and the International Conference for Harmonization.
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Data sharing statement The authors confirm that all data underlying the findings are fully available without restriction. All relevant data are within the paper.
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