EULAR Sjogren's Syndrome Disease Activity Index (ESSDAI) is sensitive to show efficacy of rituximab treatment in a randomised controlled trial
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Rituximab therapy is a promising treatment for primary Sjögren’s syndrome (pSS). So far, treatment studies performed in patients with pSS lacked the use of a uniform outcome measure to monitor disease activity.

Recently, the European League Against Rheumatism (EULAR) developed the EULAR Sjögren’s Syndrome Disease Activity Index (ESSDAI). ESSDAI was shown to be able to monitor disease activity in patient profile and open-label studies. To further study the utility of ESSDAI for clinical studies, we assessed the responsiveness of ESSDAI after rituximab treatment in a randomised controlled trial (RCT) of patients with pSS.

As the principal investigator (HB) was involved in the development of ESSDAI, the database of a single-centre, randomised, double-blind, placebo-controlled trial (see ref. 6 for details) was prospectively completed with regard to all ESSDAI domains, namely the cutaneous, respiratory, renal, articular, muscular, peripheral and central nervous system, haematological, glandular, constitutional, lymphadenopathy and biological domains. After completion of the RCT, an independent and blinded researcher...
gested previously. The high responsiveness of ESSDAI at week 5 is likely due to steroids (100 mg intravenous methylprednisolone, followed by an oral tapering of 2 days 60 mg, 2 days 30 mg and 1 day 15 mg prednisome) administered to minimise side effects of rituximab infusions.

The present analysis demonstrates that ESSDAI is able to show significant changes in disease activity in patients with pSS treated with rituximab compared with placebo. These findings confirm the usefulness of ESSDAI for clinical studies, as suggested previously. The high responsiveness of ESSDAI at weeks 5–24 matches the results of changes in clinical and laboratory values, as reported before. These parameters returned to baseline values within the same time frame as ESSDAI after rituximab treatment. The significant decrease in ESSDAI as well as the moderate SRM and ES in the placebo group at week 5 are likely due to steroids (100 mg intravenous methylprednisolone, followed by an oral tapering of 2 days 60 mg, 2 days 30 mg and 1 day 15 mg prednisone) administered to minimise side effects of rituximab infusions.

The large differences in responsiveness of ESSDAI between rituximab and placebo groups show that ESSDAI is a sensitive instrument to assess changes in disease activity over time. Based on the present data, ESSDAI at week 24 seems to be a good end point to assess treatment efficacy of rituximab. Overall, these results support the usefulness of ESSDAI in future clinical trials.

Table 1  Responsiveness of ESSDAI in pSS patients treated with rituximab (n=20) or placebo (n=10)

<table>
<thead>
<tr>
<th>Time point</th>
<th>SRM</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 5</td>
<td>-1.11</td>
<td>-1.09</td>
</tr>
<tr>
<td>Week 12</td>
<td>-0.97</td>
<td>-1.04</td>
</tr>
<tr>
<td>Week 24</td>
<td>-1.04</td>
<td>-1.15</td>
</tr>
<tr>
<td>Week 36</td>
<td>-0.44</td>
<td>-0.50</td>
</tr>
<tr>
<td>Week 48</td>
<td>-0.20</td>
<td>-0.26</td>
</tr>
</tbody>
</table>

SRM and ES values were interpreted as small, 0.5–0.8 as moderate and >0.8 as large.

Figure 1  Median European League Against Rheumatism Sjögren’s Syndrome Disease Activity Index (ESSDAI) scores of primary Sjögren’s syndrome patients treated with rituximab (n=20) or placebo (n=10).

*p<0.05 versus baseline. **p<0.05 rituximab versus placebo.

REFERENCES

