**Table S1.** Additional baseline characteristics of the cohorts. ANA: anti-nuclear antibodies, anti-RNP: anti-U1 ribonucleoprotein, anti-SSA: anti-Sjogren Syndrome A, ARA: anti-RNA polymerase III, DU: digital ulcers, GI: gastrointestinal tract.

| | **TCZ (27)** | **RTX (23)** | **p-values** |
|---|---|---|---|
| Disease onset age, mean (SD) | 41.26 (16.06) | 45.83 (8.69) | 0.110 |
| Smokers, n (%) | 2 (7.41) | 7 (30.43) | 0.062 |
| ANA, n (%) | 27 (100.00) | 23 (100.00) | 1.000 |
| ARA, n (%) | 1 (3.70) | 2 (8.69) | 0.588 |
| anti-RNP, n (%) | 1 (3.70) | 0 (0.00) | 1.000 |
| anti-SSA, n (%) | 5 (18.52) | 1 (4.35) | 0.199 |
| DU, n (%) | 17 (62.96) | 16 (69.56) | 0.459 |
| Myositis, n (%) | 2 (7.41) | 1 (4.35) | 1.000 |
| Upper GI, n (%) | 16 (59.26) | 17 (73.91) | 0.372 |
| Lower GI, n (%) | 2 (7.41) | 2 (8.69) | 0.470 |

**Table S2.** Comparison between overtime changes of clinical parameters in the two groups during the observational period. CRP: C reactive protein, mRSS: modified Rodnan Skin Score, RAI: revised EUSTAR activity index 2017. Analysis of RAI conducted on patients scoring ≥ 2.5 at T0 (TCZ n=21, RTX n=21). Mann-Whitney U test with respective p-value with Bonferroni correction.

| | **Timepoint** | **TCZ Δ median (IQR)** | **RTX Δ median (IQR)** | **p-value** |
|---|---|---|---|---|
| mRSS | T6 vs T0 | -1.00 (2.00) | -6.00 (6.00) | < 0.001 |
| mRSS | T12 vs T0 | -1.00 (2.00) | -8.00 (6.50) | < 0.001 |
| mRSS | T24 vs T0 | -1.00 (2.50) | -10.00 (7.50) | < 0.001 |
| CRP | T6 vs T0 | -0.50 (3.95) | -0.30 (0.80) | 0.944 |
| CRP | T12 vs T0 | -0.50 (6.5) | -0.30 (0.45) | 0.291 |
| CRP | T24 vs T0 | -0.50 (6.5) | -0.10 (0.77) | 0.009 |
| RAI | T6 vs T0 | -1.57 (1.12) | -3.62 (2.17) | < 0.001 |
| RAI | T12 vs T0 | -2.66 (2.25) | -3.75 (2.59) | 0.062 |
| RAI | T24 vs T0 | -2.83 (2.25) | -3.58 (2.93) | 0.992 |