Methods: 90 patients with SSC-ILD verified by multiparl computer tomography were enrolled to the study and received RTM therapy for 12-42 months at cumulative dose 2.9±1.1 grams (disease duration 5.9±4.8 years, diffused/limited SSC 1.3±1, average age 47 ±13.6 years, females 83%). All patients received low or medium dose glucocorticoids. 45 patients received RTM in addition to immuno- suppressive therapy (cyclophosphamide and mycophenolate mofetil) because of inadequate efficacy of immunosuppressants. After evaluation of FVC trends in the patients receiving RTM the overall study population was divided into two patient groups for the analysis: group A (n=35) comprised the patients with ≥10% FVC increase (disease duration 6.1±5.8 years, diffused/limited SSC 1.3±1, average age 50±13 years, females 86%, cumulative RTM dose 3.2±1.24 grams), and group B (n=11) comprised the patients with ≥25% FVC decrease (disease duration 5.2±4.4, diffused/limited SSC 0.8±1, average age 43±16, females 72%, cumulative RTM dose 2.5±0.99 grams). Subsequently correlation analysis was made to clarify the association between delta FVC and a number of clinical (age, gender, duration and form of SSC, modified skin count, presence of gastrointestinal reflux, mPAP, SSC activity (EsScG, points), cumulative RTM dose, immunosuppressive therapy) and laboratory parameters (ESR, ANA-HEP-2, a-Scl-70, CRP, B cell count).

Results: In the overall patient population RTM therapy was associated with significant FVC increase from 77.0±19.9 % to 84.7±20.9% (p=0.000000), with median FVC increment 6.6% [0;14.1].

In group A FVC increased from 75.3±19.9 to 94.3±20.4 (p=0.000000), with median FVC increment 16.3 [12.6;24.7].

In group B FVC decreased from 82.5 ±23.2 to 70.3±19.4 (p=0.0000176), with median FVC decrement 10.4% [-13.4; -6].

Correlation analysis in groups A and B showed significant association of between delta FVC and the patient age (R=0.36), cumulative RTM dose (R=0.34) and EsScG during the last examination (12.±0 and 3.1±1.4 in groups A and B, respectively; R=0.42).

No significant correlation between delta FVC and any other tested parameters was found.

Conclusion: Therefore, older patients who received the cumulative rituximab dose more than 3 grams with suppressed SSC activity achieved greater FVC increase at the background of therapy. These data allow to consider the above parameters as potential predictors of response to anti-B-cell therapy in the patients with SSC-ILD.

Disclosure of Interests: None declared

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Figure: (A and B) Molecular typing of patients with DM based on ferroptosis-related gene expression profiles. (C) Comparison of the sGSEA scores between the two subgroups of the training set (C) and the validation set(D). (E) Comparison of the sGSEA scores between different score groups. The scores of 22 immune cells are displayed in boxplots. *p<0.05; **p<0.01; ***p<0.001.

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