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Duration of the Disease in Systemic Sclerosis and Efficiency of Rituximab Therapy

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Abstract : Objectives: The duration of the disease could be one of the leading factors in the effectiveness of therapy in systemic sclerosis (SSc). The aim of the study was to assess how the duration of the disease affects the changes of lung function in patients(pts) with interstitial lung disease (ILD) associated with SSc during long-term RTX therapy. Methods: We prospectively included 113pts with SSc in this study. 85% of pts were female. Mean age was 48.1±13years. The diffuse cutaneous subset of the disease had 62pts, limited–40, overlap–11. The mean disease duration was 6.1±5.4years. Pts were divided into 2 groups depending on the disease duration - group 1 (less than 5 years-63pts) and group 2 (more than 5 years-50 pts). All pts received prednisolone at mean dose of 11.5±4.6 mg/day and 53 of them - immunosuppressants at inclusion. The parameters were evaluated over the periods: at baseline (point 0), 13±2.3mo (point 1), 42±14mo (point 2) and 79±6.5mo (point 3) after initiation of RTX therapy. Cumulative mean dose of RTX in group 1 at point 1 was 1.7±0.6 g, at point 2 = 3.3±1.5g, at point 3 = 3.9±2.3g; in group 2 at point 1 = 1.6±0.6g, at point 2 = 2.7±1.5 g, at point 3 = 3.7±2.6 g. The results are presented in the form of mean values, delta(Δ), median(me), upper and lower quartile. Results. There was a significant increase of forced vital capacity % predicted (FVC) in both groups, but at points 1 and 2 the improvement was more significant in group 1. In group 2, an improvement of FVC was noted with a longer follow-up. Diffusion capacity for carbon monoxide % predicted (DLCO) remained stable at point 1, and then significantly improved by the 3rd year of RTX therapy in both groups. In group 1 at point 1: ΔFVC was 4.7 (me=4; [-1.8;12.3])%, ΔDLCO = -1.2 (me=-0.3; [-5.3;3.6])%, at point 2: ΔFVC = 9.4 (me=7.1; [1;16])%, ΔDLCO =3.7 (me=4.6; [-4.8;10])%, at point 3: ΔFVC = 13 (me=13.4; [2.3;25.8])%, ΔDLCO = 2.3 (me=1.6; [-5.6;11.5])%. In group 2 at point 1: ΔFVC = 3.4 (me=2.3; [-0.8;7.9])%, ΔDLCO = 1.5 (me=1.5; [-1.9;4.9])%; at point 2: ΔFVC = 7.6 (me=8.2; [0;12.6])%, ΔDLCO = 3.5 (me=0.7; [-1.6;10.7]) %; at point 3: ΔFVC = 13.2 (me=10.4; [2.8;15.4])%, ΔDLCO = 3.6 (me=1.7; [-2.4;9.2])%. Conclusion: Patients with an early SSc have more quick response to RTX therapy already in 1 year of follow-up. Patients with a disease duration more than 5 years also have response to therapy, but with longer treatment. RTX is effective option for the treatment of ILD-SSc, regardless of the duration of the disease.

Keywords : interstitial lung disease, systemic sclerosis, rituximab, disease duration
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