Abstract SAT0485 – Figure 1. mRSS course of all patients during iv CYC

Conclusions: This study shows that only 43% of the treated DcSSc patients experienced clinical important improvement of skin involvement following iv CYC. Response at month 6 is the best predictor for response on month 12. This could imply that at this time point, counselling about other available treatment options, should be considered in those patients.

REFERENCES:

- [1] Kowal-Bielecka O, et al. EULAR recommendations for the treatment of systemic sclerosis: a report from the EULAR Scleroderma Trials and Research group (EUSTAR). *Annals of the rheumatic diseases* 2009;68 (5):620–8.
- [2] Namas R, et al. Efficacy of mycophenolate mofetil and oral cyclophosphamide on skin thickness: Post-hoc analyses from the Scleroderma Lung Study I and II. *Arthritis care & research* 2017.

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SAT0486 MYELOABLATION FOLLOWED BY AUTOLOGOUS STEM CELL RESCUE LEADS TO NORMALISATION OF SERUM IL-6 LEVELS IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: In the randomised Scleroderma: Cyclophosphamide or Transplantation (SCOT) trial, myeloablation followed by autologous hematopoietic stem cell transplantation (HSCT) led to improved clinical outcomes compared to monthly cyclophosphamide (CYC) treatment in systemic sclerosis (SSc).¹ Moreover, there is emerging evidence on the role of the Th2 cytokine, interleukin 6 (IL-6) in SSc pathogenesis, and clinical trials targeting the IL-6 pathway have been completed.²

Objectives: To investigate the association of IL-6 with baseline clinical features and to examine its longitudinal changes in the treatment arms of the SCOT trials.

Methods: The SCOT trial enrolled 75 subjects with diffuse SSc, 65 (HSCT=31, CYC=34) subjects with a mean disease duration of 2.2 years were analysed; 65 age and gender matched controls were also investigated. All available serum samples at the baseline (n=65), 8- (n=55) and 26- (n=45) month visits were included. IL-6 was determined using ultra-sensitive Simoa assay. For purposes of comparison, prominent, pro-inflammatory Th1 cytokines, Interleukin 1 β (IL-1 β), interleukin 12 (IL-12), and interferon gamma (IFN- γ) were determined by Rule

Based Medicine multiplex assays. The serum IFN- γ levels were in undetectable range in the majority of patient and control samples. Therefore, the comparative analysis focused on IL-1 β and IL-12.

Results: Serum IL-6 was higher in SSc patients than controls (fold change=1.62, $p<0.001$). At the baseline visit, IL-6 positively correlated with hsCRP ($r_s=0.56$, $p<0.001$) and modified Rodnan Skin Score ($r_s=0.26$, $p=0.037$) and showed an inverse relationship with disease duration ($r_s=-0.26$, $p=0.037$), while it did not have a significant correlation with forced vital capacity ($r_s=-0.19$, $p=0.126$). Moreover, no significant correlations were observed with IL-1 β and IL-12.

A comparison of regression lines revealed a significant decrease in serum IL-6 levels in the HSCT arm relative to CYC ($p=0.0004$). By 26 months, the HSCT arm no longer showed upregulation of serum IL-6 relative to controls while the CYC arm remained upregulated. In contrast, time trends for IL-1 β and IL-12 did not differ significantly between arms (p -values=0.161 and 0.456, respectively). (figure 1).

Conclusions: The Serum IL-6 levels decreased significantly 26 months after HSCT, while the two Th1, proinflammatory cytokines did not show similar

changes. This finding supports the notion that this treatment modality normalises specific serum protein imbalances implicated in SSc pathogenesis.

REFERENCES:

- [1] Sullivan KM, Goldmuntz EA, Keyes-Elstein L, McSweeney PA, Pinckney A, Welch B, et al. Myeloablative Autologous Stem-Cell Transplantation for Severe Scleroderma. *N Engl J Med* 2018.
- [2] Khanna D, Denton CP, Jähreis A, van Laar JM, Frech TM, Anderson ME, et al. Safety and efficacy of subcutaneous tocilizumab in adults with systemic sclerosis (faSScinate): a phase 2, randomised, controlled trial. *Lancet* 2016.

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SAT0487 A COHORT STUDY OF MACROVASCULAR INVOLVEMENT IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: It is well known that systemic sclerosis (SSc) affects microvessels, but data on macrovascular involvement are still lacking or debatable.

Objectives: Aim of this study was to estimate the prevalence of atherosclerotic plaques and their possible determinants in a large cohort of SSc patients.

Methods: One-hundred and four outpatients with SSc were enrolled. Data about disease characteristics and cardiovascular risk factors (diabetes, hypertension, dyslipidemia, smoke) were collected and patients underwent a full ecocolor Doppler ultrasonography of arteries of the neck and lower limbs (LL).

Results: Mean age of our cohort was 62±13 years and 17 (16.3%) patients were male. Seventy patients (67.3%) had a limited subset and the mean disease duration was 12.7±6.8 years. A previous history of digital ulcers was found in 27 cases (26.0%). Thirty-eight patients (36.5%) were on ongoing or previous treatment with immunosuppressive drugs.

Regarding cardiovascular risk factors, 22 (21.2%) had hypertension, 7 (6.7%) diabetes, 52 (50%) dyslipidemia and 45 (43.3%) were active or past smokers. Fifty-seven (54.2%) patients had plaques at carotids, 1 (1%) at LL and 37 (35.9%) at UL. Prevalences were higher in older patients, as expected.

Patients with carotid plaques were older ($p<0.001$), with hypertension ($p=0.057$), a limited disease subset ($p=0.005$), a more severe disease accordingly to Medsger severity score (0.048), worse renal function ($p=0.012$), higher glucose blood levels ($p<0.001$), homocysteinemia ($p=0.006$) and ESR ($p=0.004$) and less often on immunosuppressors ($p=0.048$) but more often on steroids ($p=0.050$). Patients with LL plaques were older ($p<0.001$), male ($p=0.003$), treated with statins ($p=0.056$), with a worse renal function ($p=0.001$), higher glucose blood levels ($p=0.038$) and homocysteinemia ($p=0.006$).

In multivariate analysis with all variables with a $p<0.010$ in univariate, patients with carotid plaques were found to be older ($p=0.003$) and with a limited disease subset ($p=0.012$; OR 5.6, CI95% 1.5 to 21.5). These data were confirmed even after correcting also for other well-known risk factors for atherosclerosis. No variables were found to be statistically different between patients with and without LL plaques.

Conclusions: in this study we performed one of the most complete evaluation of macrovascular involvement in one of the most numerous cohort of SSc patients present in literature. The prevalence of carotid and LL plaques did not seem to be higher in SSc patients as compared to what reported in healthy subjects. Intriguing is that patients with limited disease have an increased risk of having carotid plaques even after correcting for possible confounders.

Disclosure of Interest: None declared

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SAT0488 ORGAN INVOLVEMENT AND ILD PROGRESSION IN SCLERODERMA PATIENTS WITH ANTI-TOPOISOMERASE I SPECIFICITY AND LIMITED CUTANEOUS FORM

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Background: The great variability of clinical manifestations in systemic sclerosis (SSc) yields the need of defining prevalence and progression of organ

involvement in the different subsets of the disease. Despite the classical association between anti-topoisomerase-I (SCI70) positivity with diffuse cutaneous SSc (dSSc), and anti-centromere (ACA) with limited cutaneous SSc (lSSc), a population of patients with anti-SCI70 and lSSc has been described.¹ Interstitial lung disease (ILD) is nowadays the leading cause of mortality in SSc; its progression can range from a self-limiting form to a rapidly progressive lung involvement, despite immunosuppressive treatment.

Objectives: The aim of our study was to evaluate the prevalence of different organ involvement in three groups of patients: ACA-lSSc, SCI70-dSSc e SCI70-lSSc. Our second endpoint was to investigate possible differences in ILD onset and progression between SCI70-lSSc and SCI70-dSSc patients.

Methods: Consecutive 260 patients attending the Rheumatology Unit of Padova University of Padova were included and retrospectively evaluated. Clinical, biochemical and functional parameters concerning pulmonary, cardiac and articular involvement were collected in all patients, with an average follow-up time of 15 years. As for lung involvement, spirometric indices (FVC e DLCO) and HRCT at ILD onset and at last follow up were considered (median ILD duration 8 years^{4,12}). Time between SSc onset and ILD first evidence was defined as "scleroderma free ILD". ILD grading was determined according to Kazerooni score. ILD progression was defined as either an HRCT score worsening of at least 2 points, or as a significant progression of spirometric indices (10% and 15% for FVC and DLCO respectively).²

Results: 150 patients with ACA-lSSc, 58 with SCI70-dSSc and 52 with SCI70-lSSc were included in the study. SCI70-lSSc patients presented more often with pulmonary and articular involvement with respect to ACA-lSSc patients (50% vs 6.9% and 42.9% vs 23.6% respectively), and less often compared to SCI70-dSSc. In SCI70-lSSc, cardiac and gastrointestinal involvement, BEV and digital ulcers were less prevalent with respect to SCI70-dSSc ($p<0.05$). SCI70-lSSc patient had a longer "scleroderma free-ILD" compared to SCI70-dSSc. At ILD onset pulmonary function was worse in SCI70-dSSc group than in SCI70-lSSc group ($p=0.02$ e $p=0.009$ for FVC e DLCO respectively), even in the absence of a significant difference between HRCT scores (12.73 ± 5.25 vs 10.25 ± 4.93 , $p=0.284$). Total ILD progression was significantly higher in SCI70-dSSc ($p<0.0001$).

Conclusions: Our study shows that SCI70-lSSc patients appeared to have a different prevalence of targeted organ involvement and ILD progression with respect to both SCI70-dSSc and ACA-lSSc. Since the correct classification of SSc patients is extremely important in view of a tailored treatment, our data suggest that it could be worth to identify patients with SCI70 and limited cutaneous form as a different and specific subset.

REFERENCES:

- [1] Steen VD. Autoantibodies in systemic sclerosis. *Semin Arthritis Rheum* 2005;35:35–42.
- [2] Bosello S, et al. Long-term efficacy of B cell depletion therapy on lung and skin involvement in diffuse systemic sclerosis. *Semin Arthritis Rheum* 2015;44:428–436.

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SAT0489 ASSESSMENT OF PERSISTENT ORGAN DAMAGE ACCORDING TO IMACS (INTERNATIONAL MYOSITIS ASSESSMENT AND CLINICAL STUDIES) MYOSITIS DAMAGE INDEX IN 92 PATIENTS WITH IDIOPATHIC INFLAMMATORY MYOSITIS

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Background: Number of work regarding long term organ damage caused by idiopathic inflammatory myopathies (IIM) and risk factors associated with organ damage have been understudied and never reported from Turkey; recently a new tool as developed for that purpose.

Objectives: In this study we aimed to evaluate by long term organ damage and risk factors, associated with these prospectively in IIM patients.

Methods: IIM patients ($n=110$) who has been followed up for at least six month by our clinic and fulfilling Bohan and Peter criteria were recruited. Demographic data, clinical and serological features, treatment and final clinical status was recorded. IMACS Myositis Damage Index (MDI) was determined twice in 92 patients (71% female) at the time of diagnosis from the records and at the last clinical visit prospectively.

Results: Mean age of the 92 patients during the diagnosis was 46±14.7. Out of 92 patients 69% had dermatomyositis, 23% had polymyositis, 8% had necrotizing