months), continued the treatment for further 4 years (T4) (ILO group). Other 19 patients, although they continued the same cyclic intravenous iloprost treatment as the previous group, also received bosentan 125 mg twice a day for 4 years (ILO+BOS group), due to digital ulcers. DT was yearly evaluated by both US (18 MHz probe, MyLab 25, Esaote, Italy) and mRSS at the level of the usual seven-teen skin areas (zygoma, fingers, dorsum of hands, forearms, upper-arms, chest, abdomen, thighs, legs, and feet).¹⁻⁴ Non-parametric tests were used for the statistical analysis.

Results: A statistically significant decrease of DT, measured by US, was observed in the ILO+BOS group from T0 (median DT 1.135 mm) to T4 (median DT 1.088 mm) ($p=0.01$). No statistical significant variation of mRSS was observed during the follow-up in this group of patients (median mRSS at T0 12/51 and at T4 11/51, $p=0.70$). Conversely, in ILO group, a statistically significant increase of DT was observed after four years, as measured by US (median DT at T0 1.070 and at T4 1.258, $p<0.0001$), as assessed by mRSS (median mRSS at T0 4/51 and at T4 8/51, $p<0.0001$). Transient increase of transaminases was managed by temporary bosentan discontinuation.

Conclusions: In this open study, the long-term treatment with ET-1 receptor antagonist in combination with iloprost seems to be associated with a decrease of DT in SSc patients, in contrast to the treatment with iloprost alone. DT evaluated by US over long term seems to be more susceptible to change than by mRSS.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4170

AB0739

LONGITUDINAL ASSESSMENT OF NAILFOLD CAPILLARY NUMBER, PERIPHERAL BLOOD PERFUSION AND DERMAL THICKNESS IN SYSTEMIC SCLEROSIS PATIENTS OVER A PERIOD OF 5 YEARS

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Background: Several studies demonstrated the relationship between blood perfusion (BP), dermal thickness (DT) and nailfold microangiopathy ("Early", "Active" and "Late" videocapillaroscopic patterns) in patients with systemic sclerosis (SSc).¹⁻³

Objectives: The aim of this study was to evaluate the changes of BP and DT, during a follow-up of 5 years, in SSc patients with persistent "Late" NVC pattern at baseline, as well as to confirm the correlations among microvascular damage extent, absolute nailfold capillary number (CN), BP and DT, during the follow-up.

Methods: Twenty-three female patients affected by SSc according to the LeRoy criteria⁴ (mean age 63±4 SD years, mean disease duration 6±4 years), displaying the most advanced "Late" NVC pattern of microangiopathy at baseline (T0), were enrolled and followed for five years (T5), after informed consent. Laser speckled contrast analysis (LASCA), skin high frequency ultrasound (US), modified Rodnan skin score (mRSS), and nailfold videocapillaroscopy (NVC) were yearly performed. Blood perfusion (BP), assessed by LASCA at the level of fingertips, periungual areas, dorsum and palm of both hands, was calculated as perfusion units (PU).¹⁻³ Dermal thickness (DT) was assessed by both US and mRSS in the same above reported areas.⁵ The microangiopathy evolution score (MES) and the CN per linear millimetre at first distal row were evaluated by NVC.^{6,7} Patients were receiving a wide range of drugs, including vasodilators, immunosuppressive agents and endothelin receptor antagonists. Statistical analysis was performed by non parametric tests.

Results: A progressive statistically significant decrease of both BP ($p<0.0001$) and nailfold CN ($p<0.0001$) values was observed from T0 to T5 at the level of all areas, as well as a progressive statistically significant increase of DT ($p<0.0001$), mRSS ($p<0.0001$) and MES ($p=0.01$) values. The progressive decrease of BP positively correlated over time with the worsening of nailfold CN ($p=0.03$, $r=0.62$), MES ($p=0.05$, $r=0.62$), mRSS ($p=0.002$, $r=0.72$) and DT ($p=0.002$, $r=0.64$).

Conclusions: Microvascular damage with progressive reduction of nailfold capillary number was found, in a five-year follow-up, associated with progressive

functional microvascular damage and DT worsening in the present cohort of SSc patients showing a persistent "Late" NVC pattern.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4219

AB0740

EVALUATION OF HAND DERMAL THICKNESS AND PERIPHERAL BLOOD PERFUSION IN SYSTEMIC SCLEROSIS PATIENTS

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Background: Systemic sclerosis (SSc) is characterised by progressive skin involvement. The modified Rodnan Skin Score (mRSS) is the gold standard to assess skin damage, but it has significant limitations. Recently, several studies demonstrated the utility of skin high frequency ultrasound (US) as an alternative.

Objectives: The aim of this study was to identify possible correlations between peripheral blood perfusion (BP) and ultrasound dermal thickness (US-DT) at level of hand and finger in SSc patients.

Methods: Sixty-seven patients, satisfying the 2013 ACR/EULAR SSc criteria (mean age 64±9 SD years, mean disease duration 6±4 SD years) were enrolled. BP was measured as perfusion units (PU) by laser speckle contrast analysis (LASCA) at the level of dorsal region of hands. In a second time, different regions of interest (ROIs) were created at level of dorsum of the middle phalanx of 3rd finger and dorsum of hand bilaterally and the average BP was scored as perfusion units (PU), as previously reported.^{1,2} Both skin high frequency US and mRSS were used to evaluate DT at the above mentioned skin sites.² The same examinations were performed in 65 healthy subjects.

Results: BP was negatively correlated with both US-DT ($p=0.0005$) and mRSS ($p=0.007$) in SSc patients at the finger sites, but not at the level of dorsum of the hands. In healthy subjects, there was no statistically significant correlation between BP and DT as evaluated by both US and mRSS at either skin sites. SSc patients showed a statistically significant lower BP at the finger sites than healthy subjects ($p<0.0001$). No statistically significant difference in BP values was observed between SSc and healthy subjects at the dorsum of hand.

Conclusions: This study demonstrates a negative correlation between BP, as evaluated by LASCA and DT, as evaluated by both US and mRSS, in the 3rd finger of SSc patients. Additionally, the results confirm a reduced finger BP in SSc patients when compared to healthy subjects.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6434

AB0741

T-REG AND TH17 LEVELS IN PATIENTS WITH SYSTEMIC SCLERODERMA

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Background: Regulatory T-cells (T-reg) may play an inhibitory role in the development of autoimmune diseases (AID) by suppressing the immune response to autoantigens. Impaired or decreased T-reg and/or increased Th17 cells may be responsible for the development of AID. However, studies about the association of T-reg and systemic scleroderma (SSc) are limited and conflicting.

Objectives: Our aim is to determine whether there is a relationship between T-reg and Th-17 levels and disease activation in patients with SSc.

Methods: 17 patients with ^{SSc who met 2013} ACR/EULAR SSc criteria were included in the study. Clinical and laboratory parameters, Rodnan skin scores, Valentini disease activity index, were evaluated in detail. Concurrent peripheral blood T-regs (CD4 +CD25+, CD4 +FOXP3+T reg, CD4 +CD25+FOXP3+T reg) and Th17 (IL-17 producing T cells) were studied. Age and sex matched 11 subjects were included as healthy control (HC) in this study.

Results: Fifteen of seventeen patients were female, median age was 52.8±9.36 years, median disease duration was 5.41±4.51 years. While skin involvement and Raynaud's phenomenon were determined in all of the patients, esophageal involvement was determined in 13 of the patients (76.5%), digital ulcer in 2 patients (11.7%), and lung involvement in 14 (94.1%) patients. Median ESR level was 31.29±12.7 mm/hour, median CRP level was 0.573±0.474 mg/dl, median Valentini disease activity index was 3.23±1.53. The medications of the patients during the follow up period were as; nifedipine n=15 (88.2%), hydroxychloroquine n=14 (82.4%), corticosteroids n=14 (82.4%), azathioprine n=10 (58.6%), mycophenolate mofetil n=1 (5.9%), cyclophosphamide n=7 (41.2%). In comparison of SSc and HC, all the T-reg cell levels were significantly higher in SSc group than HC ($p \leq 0.0001$, $p \leq 0.0001$ and $p \leq 0.0001$, respectively). Although the levels of CD4 +IL-17 cells in SSc group were high compared to HC, it was not significant ($p=0.100$). A positive correlation between CD4 +IL-17+cell levels and CRP ($r=0.613$, $p=0.009$), a negative correlation between CD4 +CD25+T reg cell levels and dosage of corticosteroid ($r=-0.513$, $p=0.035$), a negative correlation between CD4 +CD25+T reg cell levels and platelet levels ($r=-0.560$, $p=0.019$) and a negative correlation between CD4 +CD25+FOXP3+T reg cell levels and platelet levels ($r=-0.500$, $p=0.041$) were determined.

Conclusions: In a cross-sectional study, it is rather difficult to explain the meaning of increased T-reg cell in SSc patients. These results may be due to modification of the cells by immunosuppressive treatment. It might be more meaningful to evaluate T-reg cell before and after the treatment.

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Acknowledgements: None

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5270

AB0742

HAND X-RAY LESIONS ARE FREQUENT IN ANTISYNTHEASE SYNDROME PATIENTS WITH ARTHRALGIA AND INCREASE WITH THE RADIOGRAPHIC FOLLOW-UP, WHATEVER THE EXTRA-ARTICULAR FEATURES AND THE SEROTYPE OF ANTISYNTHEASE SYNDROME

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Background: Arthritis is frequent in antisynthetase syndrome (ASS) but the prevalence, the characteristics and the risk factors of radiographic lesions have been poorly assessed.

Objectives: To report prevalence, characteristics and risk factors of radiographic abnormalities in ASS patients with arthralgia.

Methods: A mono-centric cohort of 101 patients with ASS and arthralgia was screened for hand X-ray availability. Patients with osteoarthritic lesions were excluded from the analysis. ASS patients with radiographic lesions were compared to ASS patients with normal X-ray.

Results: Thirty one patients were included. Thirteen patients (41.9%) had radiographic lesions on hand X-ray, including periarticular calcifications (53.8%), joint pinching (46.1%), erosions (23%), and subluxations (15.3%). Age (54.15±4.5 vs 49.17±3.3 years old, $p=0.17$) and sex ratio were similar in both groups.

Duration of ASS was two-fold longer at first hand X-ray with radiographic lesion compared to the ASS patient without radiographic lesion at last radiographic

follow-up (10,08±2.4 years vs. 4,83±1.6, $p=0.06$). However, the cumulative number of immunomodulatory drugs at first hand X-ray with radiographic lesion or last hand X-ray if normal tended to be lower in patients with radiographic lesions (0,818 vs 1,28, $p=0.55$).

History of extra-articular involvements (including myositis, interstitial lung disease, skin lesions and Raynaud phenomenon) were not different in both groups, although mechanic's hand tended to be less frequent in patients with radiographic lesions (23.1% vs 61.1%, $p=0.07$).

Patients with radiographic lesions had more frequently anti-EJ (31% vs. 0%, $p<0.05$). Other anti-tRNA synthetase antibodies were not significantly associated with abnormal hand x-ray which were found in 50% of anti-PL-7 positive patients (2/4), 33.3% of anti-PL-12 positive patients (1/3), 30% of anti-Jo1 positive patients (6/20), and 0/1 anti-OJ positive patient (one patient was positive for anti-Jo1 and anti-PL7). ACPA (27.3% vs 7.1%, $p=0.29$) and rheumatoid factor (50% vs 14.2%, $p=0.09$) were more frequently positive in case of radiological abnormality.

Conclusions: Hand X-ray lesions are frequent in ASS patients with arthralgia, whatever the extra-articular features and the ASS serotype and was associated is a longer duration of ASS.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4602

AB0743

THE CLINICAL MANIFESTATIONS IN ANTI-RO52 ANTIBODY- POSITIVE PATIENTS WITH SYSTEMIC SCLEROSIS; A RETROSPECTIVE CASE CONTROL STUDY

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Background: Autoantibodies (abs) directed against Ro52/TRIM21 are common in systemic sclerosis (SSc) but their clinical significance remains uncertain. Some reports suggested that anti-Ro52/TRIM21 abs-positive SSc patients present interstitial lung disorders (SSc-ILD). However, it is not clear whether positive for anti-Ro52/TRIM21 related to other clinical manifestations in patients with SSc.

Objectives: The aim of this study is to clarify the prevalence of anti-Ro52/TRIM21 abs in patients with SSc. Then, we investigated the clinical manifestations between anti-Ro52/TRIM21 abs-positive and negative patients with SSc.

Methods: This study is a retrospective case control study. The medical records of 42 patients who were diagnosed as having SSc admitted to our hospital were reviewed. We evaluated the clinical manifestations at the first-onset of SSc such as Rodnan skin score, digital ulcer, abnormal subcutaneous calcification, esophageal reflux, pulmonary hypertension, myositis and arthralgia. Co-existing rheumatic diseases were also reviewed such as Sjogren syndrome (SjS), rheumatoid arthritis (RA), and polymyositis. All subjects underwent SSc-associated abs testing using EUROLINE immunoblot assay. The autoantibodies include anti-Scl-70, anti-centromere A and B (CENP-A, CENP-B), anti-RNA polymerase III (RP-11, RP-155), anti-fibrillarin (U3RNP), anti-90-kd nucleolar protein (NOR-90), anti-Th/To, anti-PM/Scl-100, anti-PM/Scl-75, anti-Ku, anti-platelet-derived growth factor receptor (PDGFR), and tripartite motif-containing protein 21 (Ro-52). The association between clinical features and autoantibody profile was evaluated. Diagnosis of ILD was evaluated by chest high-resolution CT (HRCT).

Results: Thirty-five patients with SSc are female (87%). Twenty-one and nineteen patients with SSc are positive and negative for anti-Ro52/TRIM21 abs, respectively (47 v.s 52%). There is no difference in population of diffuse type of SSc between anti-Ro52/TRIM21 abs-positive and negative SSc patients. In addition, the prevalence of ILD is not different between two groups (57 v.s 52%, $p=0.76$). The prevalence of SjS is tended to be higher in anti-Ro52/TRIM21 abs-positive SSc patients than in negative SSc patients (68 v.s 33%, $p=0.05$). Unexpectedly, 57% of anti-Ro52/TRIM21 abs-negative SSc patients present polyarthralgia at the onset of SSc. In addition, there were not any complications such as osteoarthritis and RA in anti-Ro52/TRIM21 abs-negative SSc patients. The prevalence of arthralgia was higher in anti-Ro52/TRIM21 abs-negative SSc patients than in positive SSc patients ($p=0.02$).

Conclusions: The prevalence of anti-Ro52/TRIM21 abs in SSc patients of this study seems to be high compared to other reports. In addition, there seems to be no difference in the prevalence of ILD regardless of existence of anti-Ro52/TRIM21 abs in SSc patients. Anti-Ro52/TRIM21 abs-negative SSc patients were tended to present polyarthralgia. This musculoskeletal disorder of anti-Ro52/TRIM21 abs-negative SSc patients may be not associated with other rheumatic diseases such as SjS and RA in this study. It is necessary the large number study to clarify whether anti-Ro52/TRIM21 abs involve in the pathogenesis of musculoskeletal disorders in patients with SSc.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3743