were women (88%) with a mean age at diagnosis of 62 years (27-83 years), 16 Caucasians and 1 Asian. The clinical manifestations reported were: 5 myositis (29%), 11 ILD (6 BOOP and 5 NSIP) (65%), 6 arthritis (2 polyarthritis, 2 oligoarthritis, 1 palindromic, 1 shoulder girdle syndrome) (35%), 3 Raynaud's phenomenon (17.5%), 2 mechanic's hands (11%) and 6 fever (35%). Only one patient had the classic triad (myositis, arthritis, ILD, Jo1), 2 had myositis with ILD (Jo1), 1 myositis with arthritis (PL12), 1 ILD with arthritis (PL7), 7 ILD (Jo1, PL7, PL12), 3 arthritis (Jo1), 1 RP (Jo1) and 1 fever (EJ). Ten had a nailfold capillaroscopy performed, 7 of them had any alteration: 1 active systemic sclerosis pattern and 6 nonspecific (6 ramified capillaries and 3 microhemorrhages).

Conclusion: Our immunologically defined cohort has fewer clinical manifestations than described in clinically defined cohorts (AENAS group and EuroMyositis). Only 30% of patients had myositis and 70% had a single non-myositis clinical manifestation associated with anti-ARS antibody. Actually, it involved de-novo diagnosis of AS in half of them.

In patients with suspected AS with low or negative ANA, antibody blot determination is definitive.

Nailfold capillaroscopy in undefined cases is a fundamental tool for diagnosing AS.

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AB0685 ACROOSTEOLYSIS AND BONE METABOLISM PARAMETERS DISTINGUISH FEMALE PATIENTS WITH LIMITED SYSTEMIC SCLEROSIS WITH AND WITHOUT CALCINOSIS: A CASE CONTROL STUDY

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Background: Calcinosis represents a late manifestation of limited systemic sclerosis (ISSc), inducing tissue damage and chronic calcifications. Bone metabolism studies in ISSc patients are rare in literature and there are few studies that analyzed clinical, laboratory and bone mineral density (BMD) parameters together.

Objectives: The aim of this study was to compare and analyze clinical aspects and laboratory parameters, including bone metabolism variables in female ISSc patients with and without calcinosis, paired by age, disease duration and body mass index (BMI).

Methods: Thirty-six female ISSc patients with calcinosis were compared to 36 female ISSc patients without calcinosis, matched by age, disease duration and BMI. Organ involvement, autoantibodies, BMD by DXA and laboratory parameters were analyzed. The past and current treatment modalities were also questioned. Statistical significance was considered if $p \leq 0.05$.

Results: Esophageal hypomotility, digital ulcers, and interstitial lung disease were the most frequent clinical manifestations of ISSc patients, present in similar frequency in both groups. Calcinosis was significantly associated with acroosteolysis (69% vs. 22%, $p < 0.001$), higher modified Rodnan skin score (mRSS: 4.28 ± 4.66 vs. 1.17 ± 2.50 , $p < 0.001$), higher 25OHD (24.46 ± 8.15 vs. 20.80 ± 6.60 ng/ml, $p = 0.040$) and phosphorus (3.81 ± 0.41 vs. 3.43 ± 0.45 mg/dl; $p < 0.001$) serum levels. 25OHD levels > 30 ng/ml were also significantly more frequent in patients with calcinosis ($p = 0.041$). ANA was positive in 89% in both groups. Anticentromere antibody was frequent (44% and 31%), while positive anti-Scl70 was rare in both groups. Regarding treatment, current use of corticosteroids was lower in patients with calcinosis compared to patients without calcinosis (8% vs. 28%; $p = 0.032$). Osteoporosis was more frequent in the group with calcinosis (31% vs. 17%), although not statistically significant.

Conclusion: This study showed that ISSc patients with calcinosis can present a distinct clinic and biochemical profile when compared to a matched group without calcinosis. Presence of calcinosis in female patients with ISSc can be associated with acroosteolysis and higher serum levels of 25OHD and phosphorus when compared with patients without calcinosis paired by age, disease duration and BMI.

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AB0686 REDUCTION IN THE ABSOLUTE NUMBER OF PERIPHERAL REGULATORY T CELLS CORELATED TO CLINICAL FEATURES IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: The role of regulatory T cells (Tregs) in the development of SSc has started being studied during the last decade with new aspects being disclosed continuously. Although there is a general agreement in the medical literature regarding the decreased functional capacity of circulating Tregs in SSc, the alteration of absolute number of Treg and Th17 cells as well as their associations with clinical characteristics of SSc are still unclear.

Objectives: The present study was to investigate the relationship between multiple system impairments, disease activity and the absolute number of CD4+CD25+FOXP3+ regulatory T cells (Treg cells) and Interleukin 17 producing T help cells (Th17) in peripheral blood of patients with systemic sclerosis (SSc).

Methods: Clinical indicators were collected from total 54 patients with SSc (8 with localized SSc (lcSSc) and 46 with diffuse SSc (dcSSc)) who were divided into two groups, mainly with skin lesions ($n = 11$) and with multiple system and organ besides skin lesions ($n = 43$). Then According to the SSc EUSTAR index, we divided 54 SSc patients into the inactive (EUSTAR < 2.5 points, $n = 22$ cases) and the active group (EUSTAR score ≥ 2.5 points, $n = 32$ cases). The levels of peripheral T lymphocyte were detected with flow cytometry.

Results: We found that SSc, especially dcSSc patients, had significantly fewer peripheral CD4Treg cells (both absolute number and proportion, $p < 0.01$) than healthy controls (Figure 1). In addition, the absolute number of peripheral Treg cells was significantly reduced in SSc patients with multiple system impairments ($P < 0.001$), however, the number of Th17 cells were significantly increased in SSc patients with simple skin involvement ($P = 0.002$) (Figure 2). Also the absolute number of peripheral CD4Treg cells in active group with SSc decreased more significantly, thus causing an increase in the ratio of Th17 and Treg cells (Figure 2).

Conclusion: The reduced absolute number of peripheral Treg cells in SSc patients was contributed to the imbalance of Th17/Treg cells and involved in the pathogenesis of SSc, and may promote multiple system impairments and disease activity.

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Figure 1. Absolute number of peripheral Th17 and Treg cells of patients with SSc. (A1 and A2) Neither absolute number nor proportion of Th17 cells was increased. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. lcSSc: localized sclerosis, dcSSc: diffuse sclerosis.

Figure 2. Absolute number of peripheral Th17 and Treg cells in SSc patients with different performance and disease activity. (B1 and B2) The absolute number of Treg cells was significantly reduced in patients with SSc, particularly more pronouncedly in patients with dcSSc. (B3) The ratio of Th17/Treg cell was increased in SSc patients. (C1) The absolute number of Th17 cells was not significantly changed but (C2 and C3) that of CD4Treg cells in active group with SSc decreased significantly, thus causing an increase in the ratio of Th17 and Treg cells. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. lcSSc: localized sclerosis, dcSSc: diffuse sclerosis.

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AB0687

EFFECTIVENESS OF SPECIALIZED AND INTENSIVE ADL TRAINING IN PATIENTS WITH IDIOPATHIC INFLAMMATORY MYOPATHIES – PRELIMINARY RESULTS OF A ONE-YEAR CONTROLLED STUDY

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Background: Idiopathic inflammatory myopathy are characterized by muscle weakness, caused by inflammation and immune changes in the affected muscles, which lead to a limitation in the execution of day-to-day activities (ADL). The aim of our study was to investigate the impact of specialized and intensive ADL training on muscle strength and endurance, depression and QoL of IIM patients.

Objectives: The study included a total of 50 IIM patients who fulfilled the Bohan and Peter 1975 criteria and had skeletal muscle involvement. 27 patients were recruited into the intervention group (IG) and 23 patients into the control group (CG). Both groups received an educational material for home exercise, but only the IG underwent a 6-month intensive training with a subsequent 6-month follow-up period.

Methods: Patients were assessed by a physician and a physiotherapist blinded to intervention at months 0, 3, 6, and 12. Patients also filled out patient reported outcomes questionnaires and provided blood for routine laboratory analysis and bio-banking. Data analysis was performed between groups and within the group.

Results: Compared to the observed statistically significant deterioration in the CG over the intervention period, we found a statistically significant improvement in the IG in objectively assessed strength and endurance of muscles as well as in subjectively assessed functional abilities and depression (Table). During the follow-up period, there was a significant

deterioration or stagnation of the achieved positive results in the IG. Nevertheless, improved functional ability during the intervention period persisted in the IG in the follow-up period as well. Only numerical improvements in the IG during the intervention compared to the numerical deterioration in CG, that did not reach statistical significance, were observed in some subjectively assessed domains of QoL (SF-36) and fatigue (FIS – in physical dimension).

Parameter (unit)	Intervention group Mean ± SEM	Control group Mean ± SEM	Intra-group analysis (Friedman +Dunn)		Inter-group analysis (2WA)
			Intervention gr.	Control group	
MMT8	m0: 54.7 ± 2.6	m0: 63.6 ± 2.0	m0-3: $p < 0.01$	m0-3: $p < 0.05$	$p < 0.0001$
	m3: 60.7 ± 2.4	m3: 57.9 ± 1.9	$p < 0.0001$	m3-6: NS	
	m6: 69.1 ± 1.9	m6: 54.2 ± 1.9	$p < 0.0001$	m6-12: NS	
	m12: 64.0 ± 2.5	m12: 56.5 ± 2.2	m6-12: $p < 0.05$	m6-12: NS	
FI-2 (%)	m0: 30.0 ± 4.4	m0: 38.3 ± 5.3	m0-3: $p < 0.01$	m0-3: NS	$p < 0.0001$
	m3: 46.9 ± 4.7	m3: 29.6 ± 4.6	$p < 0.0001$	m3-6: NS	
	m6: 70.6 ± 4.9	m6: 58.4 ± 5.8	$p < 0.0001$	m6-12: NS	
	m12: 58.4 ± 5.8	m12: 25.7 ± 3.6	m6-12: $p < 0.05$	m6-12: NS	
HAQ	m0: 0.9 ± 0.2	m0: 1.3 ± 0.2	m0-3: NS	m0-3: NS	$p = 0.0002$
	m3: 0.7 ± 0.1	m3: 1.4 ± 0.2	m3-6: NS	m3-6: NS	
	m6: 0.6 ± 0.1	m6: 1.4 ± 0.2	m6-12: $p < 0.05$	m6-12: NS	
	m12: 0.8 ± 0.2	m12: 1.5 ± 0.2			
BDI-II	m0: 11.9 ± 2.1	m0: 13.0 ± 1.4	m0-3: NS	m0-3: NS	$p = 0.0025$
	m3: 10.7 ± 1.7	m3: 14.3 ± 1.7	m3-6: NS	m3-6: NS	
	m6: 8.9 ± 1.5	m6: 10.5 ± 2.0	m6-12: NS	m6-12: NS	
	m12: 10.5 ± 2.0	m12: 16.0 ± 2.0			

Conclusion: Our specialized and intensive ADL workout led to a significant improvement in the observed parameters that was clinically significant in a substantial proportion of patients, and prevention of the expected worsening of muscle weakness and QoL.

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