included. SSc patients fulfilled ACR/EULAR 2013 criteria. Anthropometric parameters and body composition were assessed (by densitometry: iDXA Lunar, and by bioelectric impedance: BIA-2000-M), and physical activity was evaluated using Human Activity Profile (HAP) questionnaire. Routine biochemistry analysis was performed after 8 hours of fasting. Pulmonary function and diffusing capacity of lung were examined, disease activity was evaluated by ESSG activity index. Data are presented as mean ±SD.
Results: Compared to HC, patients with SSc had significantly lower body-mass index (BMI:27.9±8.3 vs. 22.4±4.3 kg/m^2, p<0.0001) and body fat% assessed by both iDXA (BF%:38.0±7.6 vs. 32.6%±8.2%, p<0.0001) and BIA (BF%:31.3±7.6 vs. 24.3%±7.9%, p<0.0001), and decreased visceral fat weight (1.0±0.8 vs. 0.5 ±0.5 kg, p=0.001). Compared to HC, SSc patients also demonstrated significantly decreased lean body mass assessed by both iDXA (LBM:51.9±8.4 vs. 47.8 ±7.0 kg, p=0.005) and BIA (LBM:45.4±7.3 vs. 40.9±6.8 kg, p=0.005), significantly lower bone mineral density (BMD:1.2±0.1 vs. 1.0±0.1 g/cm^2, p<0.0001), and had increased extracellular mass/body cell mass (ECM/BCM) ratio (1.03±0.1 vs. 1.28 ±0.4, p<0.0001), which reflects deteriorated nutritional status and worse muscle predispositions for physical exercise, aerobic fitness/performance. Increased ECM/BCM in SSc patients positively correlated with disease activity (ESSG: r=0.273, p=0.0439), skin score (mRSS:r=0.371, p=0.0045) and inflammation (CRP:r=0.292, p=0.0278; ESR:r=0.302, p=0.0226). Increased ECM/BCM was also associated with worse quality of life (HAQ:r=0.438, p=0.0007; SHAQ: r=0.268, p=0.0436), fatigue (FSS:r=0.366, p=0.0040), and worse ability to perform physical activity (HAP:r=−0.644, p<0.0001). Disease activity (ESSG) negatively correlated with BF% by iDXA (r=−0.324, p=0.0138). Physical activity (HAP) positively correlated with BMD (r=0.280, p=0.032). There was no significant correlation of lung involvement with alterations of body composition.
Conclusions: Compared to healthy age-/sex-matched individuals we found significant negative changes in body composition of our SSc patients, which are associated with their disease activity and physical activity, and could reflect their nutritional status, and gastrointestinal and musculoskeletal involvement. We found no significant association between lung involvement and changes of body composition.
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AB0800 CHANGES OF BODY COMPOSITION IN MYOSITIS PATIENTS ARE ASSOCIATED WITH DISEASE DURATION, INFLAMMATORY STATUS, SKELETAL MUSCLE INVOLVEMENT AND PHYSICAL ACTIVITY

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Background: Idiopathic inflammatory myopathies (IIM) are characterised by inflammation and atrophy of skeletal muscles, pulmonary and articular involvement, which limit the mobility/self-sufficiency of patients, and can have a negative impact on body composition.
Objectives: To assess body composition and physical activity of IIM patients and healthy controls (HC).
Methods: 54 patients with IIM (45 females/9 males; mean age 57.7; disease duration 5.8 years; polymyositis (PM, 22)/dermatomyositis (DM, 25)/necrotizing myopathy (IMNM, 7)) and 54 age-/sex-matched HC (45 females/9 males, mean age 57.7) without rheumatic diseases were included. PM/DM patients fulfilled Bohan/Peter criteria for PM/DM. Anthropometric parameters and body composition were assessed (by densitometry: iDXA Lunar, and by bioelectric impedance: BIA2000-M), and physical activity was evaluated using Human Activity Profile (HAP) questionnaire. Routine biochemistry analysis was performed after 8 hours of fasting. Muscle involvement was evaluated by manual muscle test (MMT-8) and functional index 2 (FI2). Data are presented as mean ±SD.
Results: Compared to HC, patients with IIM had a trend towards significantly increased body fat% as assessed by iDXA (BF%: 39.9±7.1 vs. 42.4%±7.1%, p=0.077), but significantly decreased lean body mass as assessed both by iDXA (LBM: 45.6±8.1 vs. 40.6±7.2 kg, p=0.001) and BIA (LBM: 52.6±8.8 vs. 48.7 ±9.0 kg, p=0.023), and increased extracellular mass/body cell mass (ECM/BCM) ratio (1.06±0.15 vs. 1.44±0.42, p<0.0001), which reflects worse muscle predispositions for physical exercise, aerobic fitness/performance, and also deteriorating nutritional status. Compared to HC, IIM patients had significantly lower bone mineral density (BMD: 1.2±0.1 vs. 1.1±0.1 g/cm^2, p<0.001). Disease duration negatively correlated with BMD (r=−0.392, p=0.004) and LBM-BIA (r=−0.272, p=0.047). CRP was positively associated with BF% assessed both by DEXA (r=0.276, p=0.035) and BIA (r=0.306, p=0.025). Higher BF%>DEXA was associated with worse physical endurance (FI2: r=−0.311, p=0.026) and worse ability to perform physical activity (HAP: r=−0.292, p=0.032). MMT-8 score negatively correlated with ECM/BCM ratio (r=−0.385, p=0.006).
Conclusions: Compared to healthy age-/sex-matched individuals we found significant negative changes in body composition of our IIM patients, which are associated with their disease duration, inflammatory status, skeletal muscle involvement, and physical activity, and could reflect their impaired nutritional status and predispositions for physical exercise, aerobic fitness and performance.
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AB0801 SARCOPENIA AND MICROCIRCULATION IN SYSTEMIC SCLEROSIS PATIENTS: A PILOT ASSAY

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Background: Systemic sclerosis (SSc) patients may present muscle involvement in the form of myositis or non-inflammatory myopathy with different degree of weakness and muscle atrophy.[1] Sarcopenia is described as a multifactorial syndrome with muscle mass loss associated to functional impairment; according to the anthropometric equation by Baumgartner et al. sarcopenia was defined as relative skeletal muscle mass index (RSMI) <5.5 Kg/m^2 for women and <7.26 Kg/m^2 for men. The relationships between sarcopenia and other clinical aspects in SSc are poor investigated.
Objectives: The aim of the study was to evaluate the associations between sarcopenia and other clinical factors in SSc patients.
Methods: 20 female patients fulfilling the ACR 2013 criteria for SSc (mean age 61.7±13.6 years, disease duration 86.2±67.1 months) were enrolled. The RSMI (Kg/m^2) was evaluated by dual-energy X-ray absorptiometry scan (Lunar Prodigy). Nail fold videocapillaroscopic (NVC) patterns (*early*, *active*, *late*) were analysed. Serum 25(OH)$_2$D concentration was tested by immunofluorescence. Non parametric statistical tests were used.
Results: Patients showed a modified Rodnan skin score (mRSS) 12.2±7.7, RSMI 6.01±0.97 Kg/m^2, serum vitamin D (25(OH)$_2$D) 22.01±13.1 ng/dL and CPK 70.16±31.8 U/L. In this cohort 23% of SSc patients were found affected by sarcopenia, and almost 42% showed the most advanced level of microvascular damage, as characterised by the NVC *late* pattern. However, no statistically relevant correlations was observed between RSMI, BMI, age, disease duration, CPK, mRSS, 25(OH)$_2$D and *active* or *late* NVC patterns. Comparing age, disease duration, CPK and mRSS in both sarcopenic and non sarcopenic SSc patients there was no difference between the groups, however sarcopenic patients showed statistically significant lower BMI (p=0.02), lower RSMI (p=0.0008 and higher 25 (OH)$_2$D serum concentrations (p=0.01). Particularly, RSMI showed a strong negative correlation with age (p=0.01). No statistical differences were found when grouping the patients according to the positivity for serum anti-topoisomerase I Ab or according to cutaneous diffuse (dcSSc) or limited (lcSSc) systemic sclerosis.
Conclusions: This pilot study suggests that sarcopenia seems present in almost 25% of the SSc patients, particularly in a condition of advanced microcirculation failure (*late* NVC pattern), however does not seem to correlate with skin fibrosis or disease duration. The study had some limitations due to absence of control group and to the small patient sample analysed. Further larger studies would be necessary to better investigate the role of sarcopenia in SSc.

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AB0802 OSTEOPOROSIS IN SYSTEMIC SCLEROSIS: CASE-CONTROL STUDY WITH A FRENCH OFELY COHORT AND RISK FACTORS

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Background: Systemic sclerosis (SSc) is a rare autoimmune disorder characterised by a vascular and fibrosing involvement of the skin and internal organs. Data