IL-1β, IL-5, IL-6, IL-8, IL-17, TNF, Etodax) and markers of nutrition (specifically total protein, albumin, insulin and C-peptide) and lipid metabolism (specifically triglycerides, high-density lipoprotein, apolipoprotein A, atherogenic index of plasma) were significantly associated with alterations of body composition in patients with SSCs (p<0.05 for all correlations).

Conclusion: Compared to healthy age-sex-matched individuals we found significant negative changes in body composition of our SSc patients, which are associated with the disease activity and physical activity, and could reflect their nutritional status, and gastrointestinal and musculoskeletal involvement. Detected alterations of body composition in SSc patients were significantly associated with serum levels of several inflammatory cytokines/chemokines and markers of nutrition and lipid metabolism, which might further support the role of systemic inflammation and nutritional status on the negative changes in body composition of SSc patients.

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ADVANCED MICROCIRCULATORY DAMAGE IS ASSOCIATED WITH INCREASED PULSE WAVE REFLECTIONS IN PATIENTS WITH SSC

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Background: In systemic sclerosis (SSc), inflammation and microvascular damage are fundamental in the progressive fibrotic process. Although the presence of accelerated atherosclerosis in SSc is not as well-described as in other systemic disorders namely rheumatoid arthritis, it appears that individuals suffering from the disease are at higher risk for cardiovascular events. Nailfold Video Capillaroscopy (NVC) is a non-invasive and reproducible imaging technique of the capillary vascular bed, used in the evaluation of microvascular involvement in SSc. Previous data on the association between micro- and macrovascular damage are scarce.

Objectives: The aim of this study was to examine the association between micro- and macrovascular involvement in patients with SSc.

Methods: This is a cross-sectional study including consecutive SSc patients attending to a Scleroderma Outpatient Clinic between March and September 2018. All the study participants underwent NVC and the findings were classified in one of the following qualitative patterns: early, active, and late NVC pattern. Capillary’s density was evaluated in the distal row of each finger, based on the number of capillaries per 1 mm and the mean capillaroscopic skin ulcer risk index (CSUIR) was automatically calculated with software image analysis. Carotid intima-media thickness (cIMT) was measured in the common carotid artery bilaterally, according to the relevant guidelines. Aortic blood pressure (BP), heart rate adjusted augmentation index [AIx(75)] and carotid-femoral pulse wave velocity (PWV) were evaluated with applanation tonometry (SphygmoCor).

Results: Sixty-four (95.3% women) SSc individuals with mean age 57.54±12.99 years were included in this analysis. AIx(75) was significantly associated with CSUI (n=0.261; p=0.038) and inversely associated with the number of capillaries (∼r=-0.271; p=0.030) suggesting a link between the degree of microvascular disease and arterial stiffening. Regarding SSc-specific NVC patterns, AIx(75) were marginally lower in patients with early compared to active or late patterns (29.95±11.27 vs 32.50±11.17 vs 31.62±10.32%; p=0.081 and p=0.083) confirming a trend between progressive microvascularopathy and arterial stiffness. Mean cIMT was negatively correlated with enlarged capillary loops. Brachial or aortic systolic BP (SBP) and pulse pressure (PP) levels were not correlated with any of the studied NVC parameters.

Conclusion: Microvascular vasculopathy is associated with higher wave reflections, indicating an association between atherosclerotic disease and microvascular injury in SSc patients. Such observations may provide possible explanations for the excessive cardiovascular and mortality risk in this population.

References:

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of total number capillaries significantly could contribute to identify RP patients who will develop a SSC pattern after 4-5 years.

References:


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Background: Pulmonary hypertension (PH) is a life-threatening complication of systemic sclerosis (SSc), thought to be more commonly found in limited cutaneous (lcSSc) compared to diffuse (dcSSc) subset. Since lcSSc has a better prognosis, it is unclear whether a higher occurrence of PH in dcSSc reflects survival bias.

Methods: Cumulative incidence of PH were studied in 1431 Canadian Scleroderma Research Group (CSRG) members. To compare the cumulative PH incidence in disease subsets, and sex, age and SSc-related autoantibodies (SAS 9.4). Survival curves, predicted sub-distribution Hazard ratio of incident PH and PAH were calculated by Kaplan-Meier and Cox proportional hazards analyses (SPSS 25.0). Subgroup analysis was performed for PAH.

Results: 157 SSc patients had PH (including 117 PAH), either confirmed by RHC or postmortem. Compared to those without PH, lcSSc-PH patients had longer disease and older age at SSC diagnosis, while dcSSc-PH patients - more severe peripheral vascular and gastrointestinal involvement. The cumulative incidences of PH/PAH were similar in dcSSc and lcSSc after accounting for death in the adjusted competitive risk model (Table 1; Fig.1). 47% of PH- and 42% of PAH-patients died over a FU period. Male gender (p<0.001) and anti-Sc-70 (p<0.001) were associated with earlier PH development, while older age (p=0.006) - with PAH (Table 2). ACA-negativity and older age predicted worse PH prognosis.

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