Results: The prevalence of dyslipidemia (18.4% vs 30.1%, $p=0.001$) and diabetes mellitus (5.6% vs 11.8%, $p=0.007$) was lower in SSc than RA patients and there was no difference regarding arterial hypertension (31.8% vs 30.6%, respectively, $p=0.742$) between the two groups. Disease duration, smoking and alcohol consumption were comparable between SSc and RA groups. While there was a trend for lower prevalence of ischaemic strokes in SSc than RA (0.4% vs 2.2%, $p=0.085$), comparable rates of coronary artery disease were noted (2.7% vs 3.7%, $p=0.445$). No differences were found between SSc and RA patients regarding chronic obstructive pulmonary disease (5.2% vs 3.7%, respectively, $p=0.326$), osteoporosis (24% vs 22%, $p=0.668$) and neoplasms (1.1% vs 1.7%, $p=0.534$). Depression requiring treatment was more prevalent in SSc compared to RA patients (22% vs 12%, $p=0.001$).

Conclusions: Despite almost half prevalence of dyslipidemia and diabetes mellitus in SSc versus RA patients, the cardiovascular comorbidity burden appears to be similar between the two diseases. SSc has no higher prevalence of neoplasms than RA but a greater negative impact on quality of life, as clearly more SSc patients develop depression compared to RA patients. Acquisition of prospective data is currently underway.

Disclosure of Interest: None declared

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THU0428

SKIN SCORE CHANGES IN EARLY DIFFUSE CUTANEOUS SYSTEMIC SCLEROSIS (dcSSc) PATIENTS ARE ASSOCIATED WITH OVERALL DISEASE SEVERITY

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Objectives: To determine if skin changes over 2 years are associated with changes in organ involvement in early diffuse cutaneous systemic sclerosis (dcSSc).

Methods: dcSSc with ≤ 5 years disease duration followed for 2 years from the Canadian Scleroderma Research Group (CSRG) registry were studied for organ involvement using the Medsger Disease Severity Score (DSS) with ≥ 1 point changes (decrease or increase) considered improvement or progression, correspondingly. Other disease measures were assessed including pulmonary function, patient and physician globals, functional disability and quality of life. Modified Rodnan Skin Score (mRSS) improvement was defined as a decrease of ≥ 5 points and/or $\geq 25\%$ reduction. Adjusted regression analysis, ANOVA, chi-square, t-test and Pearson's tests were used.

Results: Of the 128 patients, mRSS improved for 50% from 22.6 to 18.1 ($p=0.0001$). More skin-improvers improved in severity of lung (39% vs 17%, $p=0.006$), joint/tendon (50% vs 21%, $p=0.017$), and any visceral organ involvement (renal, cardiac, pulmonary or gastrointestinal) (60% vs 27%, $p=0.031$) compared to mRSS non-improvers. Skin-improvers less often developed new skin ulcers (0% vs 11%, $p=0.015$) and GI disease (5% vs 18%, $p=0.023$), as well as progression of joint/tendon involvement (7% vs 29%, $p=0.02$). Improving mRSS correlated with changes in total Medsger's severity score (without skin domain), severity of lung, GI, and peripheral vascular disease (table 1). FVC% stabilised in skin-improvers vs. worsened by 6.5% in non-improvers, $p=0.026$. Physician global assessments (severity, activity, damage) HAQ-DI, and SF-36 PCS improved more with improved mRSS ($p<0.003$, $p=0.001$, $p=0.005$ respectively). Improvement in Forced Vital Capacity% predicted correlated with skin improvement ($r=0.33$, $p=0.004$).

Abstract THU0428 – Table 1. Relationship between change in disease measures and change in skin score

Outcome measure	Skin-improver (n=64)	Skin non-improver (n=64)	P-value Improvers vs. Non-improvers
Total Medsger's severity score without skin domain (negative is improvement)	-2.57 $\pm$ 3.11	0.42 $\pm$ 2.98	0.002
Patient global score	-0.70 $\pm$ 2.69	0.15 $\pm$ 2.61	0.088
Physician global score:	-1.97 $\pm$ 2.50	-0.61 $\pm$ 2.63	0.003
Activity	-1.33 $\pm$ 2.54	-0.03 $\pm$ 2.04	0.002
Severity	-0.72 $\pm$ 1.87	0.77 $\pm$ 1.98	0.000
Damage	-0.19 $\pm$ 0.64	0.18 $\pm$ 0.47	0.001
HAQ-DI	-0.19 $\pm$ 0.64	0.18 $\pm$ 0.47	0.001

SHAQ Numeric Rating Scales:	-0.29 $\pm$ 2.59	0.00 $\pm$ 2.55	0.552
Pain	0.29 $\pm$ 2.93	0.66 $\pm$ 2.30	0.445
RP	0.32 $\pm$ 1.96	0.16 $\pm$ 2.32	0.681
Finger ulcers	-0.21 $\pm$ 3.02	0.54 $\pm$ 2.97	0.178
Gastrointestinal	0.02 $\pm$ 2.32	0.05 $\pm$ 3.34	0.950
Breathing	-0.70 $\pm$ 2.70	-0.22 $\pm$ 2.62	0.340
Overall SF-36 PCS	3.08 $\pm$ 9.03	-1.55 $\pm$ 8.33	0.005

Conclusions: Over two years, improving skin scores in dcSSc were associated with an improvement in lung disease, joint/tendon, physician global assessments, HAQ-DI, SF-36 PCS, and overall visceral organ improvement. Improvement in mRSS as a primary outcome in drug trials is likely to be concordant with improvement in organ involvement and several other disease measurement domains in early dcSSc.

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THU0429

NAILFOLD VIDEO CAPILLAROSCOPY AND DETERIORATION OF SKIN INVOLVEMENT AND LUNG FUNCTION TESTS IN SYSTEMIC SCLEROSIS: A 3-YEAR PROSPECTIVE STUDY

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Background: Nailfold video-capillaroscopy(NVC) is a non-invasive method to assess peripheral microangiopathy. Abnormal capillaroscopic patterns are almost universally found in patients with Systemic Sclerosis (SSc) and assist the diagnosis of SSc. However, little is known about the prognostic value of NVC in skin and lung involvement progression in these patients.

Objectives: To test the hypothesis that baseline capillaroscopic indices, as well as possible changes in capillaroscopic indices over time, correlate with deterioration in skin thickening and lung function tests in a prospective SSc cohort.

Methods: Fifty-five consecutive SSc patients from a tertiary care university centre (49 women, 29 limited cutaneous SSc, mean age: 50.84 $\pm$ 14.88 years, mean disease duration 6.74 $\pm$ 6.25 years) were evaluated by NVC at baseline and after a median of 3.1 years. Qualitative assessment of NVC findings permitted categorization of patients to a predominantly normal, early, active or late capillaroscopic pattern. Capillary loss, capillary dilatation, giant or ramified capillaries and microhemorrhages were further assessed using a semi-quantitative rating scale (score 0–3), derived as the mean of three fields in each of the 2nd, 3rd, 4th and 5th finger of both hands. Scoring was performed by two different assessors. Skin thickening was measured using the modified Rodnan Skin Score (mRSS). FVC and DLCO were performed within 6 months from the NVC. Deterioration in FVC and DLCO was considered clinically significant when $>10\%$. Between baseline and follow-up evaluation 36% of patients had been receiving both major antiproliferative and vasodilator therapy, while 15% and 29% had been receiving only antiproliferative or vasodilator therapy, respectively.

Results: Intraclass correlation coefficient (ICC) for interrater reliability analyses was very good for all semi-quantitative capillaroscopy scores [ICC: 0.97 (0.74–0.99) for capillary loss score, 0.94 (0.85–0.98) for dilatation score, 0.98 (0.97–0.99) for giant score, 0.94 (0.84–0.97) for microhemorrhages score], except for the ramification score [ICC: 0.52 (-0.2–0.81)] which was excluded from all analyses. Linear regression, adjusted for age and gender, showed no association between either baseline capillaroscopy scores or of their changes and changes in mRSS over time. FVC and DLCO deteriorated in 13 and 11 patients, respectively. Binary logistic regression analysis adjusted for age and gender showed no association either baseline capillaroscopy scores or of their changes with deterioration in FVC or DLCO, with the exception of the change in microhemorrhages score, which correlated inversely with deterioration in FVC [$p=0.013$, Odds Ratio=0.051 (CI: 0.005–0.534)]. Regarding qualitative analysis of capillaroscopic findings, the baseline capillaroscopy pattern remained unchanged in 35, deteriorated in 15 and improved in 5 patients. No difference was found between these 3 groups regarding change in mRSS (ANOVA, $p=0.634$), deterioration in FVC (χ^2 test, $p=0.502$) or deterioration in DLCO (χ^2 test, $p=1.00$).

Conclusions: Although a possible confounding effect of treatment cannot be excluded, NVC seems to have poor prognostic value for the progression of skin thickening and interstitial lung disease in rigorously treated SSc patients.

Disclosure of Interest: None declared

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