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POS1258 RESULTS FROM A NOMINAL GROUP TECHNIQUE EXERCISE FOR THE CREATION OF A COMBINED RESPONSE INDEX FOR LIMITED CUTANEOUS SYSTEMIC SCLEROSIS: THE CRISTAL PROJECT

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IQR) vs. 0.83mm (0.65–0.89); $p=0.001$) and CCA-RI [0.76 (0.7–0.81, IQR) vs. 0.72 (0.68–0.76, IQR); $p=0.02$] were found to be significantly higher in the patient group. Interestingly, cFPWV was significantly higher in patients with PAH ($p=0.029$) and correlated moderately/poorly with erythrocyte sedimentation rate ($\rho=0.254$; $p=0.004$). Moreover, cFPWV and cIMT associated among SSc-Patients significantly with several traditional CV risk factors, such as arterial pressure ($p<0.001$); cIMT and cFPWV) and type II diabetes ($\rho=0.193$; $p=0.018$) (cFPWV).

Conclusion: This is one of the largest CV surrogate marker studies in the field of SSc and the first report of a potential diagnostic role of cFPWV in the PAH screening of SSc-patients. We were moreover able to show that patients with SSc had significantly higher aortic stiffness and more pronounced carotid atherosclerosis and resistance compared to healthy controls and thus could be under higher CV/CVB risk. In summary, cFPWV and carotid sonography may prove to be useful tools for the early identification of SSc patients under high risk for CV-events and PAH.

Table 1. Descriptive characteristics by groups (selection)

	SSc-patients (n=150)	Controls (n=80)	Significance (p)
Gender (f) %	84	86.3	0.652
Age (y)	56.5 (50-65.3, IQR)	50.5 (35.2-57.8, IQR)	<0.001*
Smoking %	15.3	17.5	0.801
Hypertension %	56.7	18.8	<0.001*
Cholesterol (mg/dl)	198 (170-221, IQR)	208.2 (178-239, IQR)	0.041**
BMI (kg/m ²)	25.5 (22.8-28.9, IQR)	23.9 (21.3-27.2, IQR)	0.018**
cFPWV (m/s)	8 (6.86-9.44, IQR)	6.85 (5.93-7.7, IQR)	<0.001*
cIMT (mm)	0.9 (0.65-1, IQR)	0.83 (0.65-0.89, IQR)	<0.001*
CCA-PI	1.7 (1.43-2.09, IQR)	1.56 (1.28-1.81, IQR)	0.080
CCA-RI	0.76 (0.7-0.81, IQR)	0.72 (0.68-0.76, IQR)	0.020**

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POS1257

CCL24 SERUM CONCENTRATION PREDICTS BOTH VASCULAR AND FIBROTIC COMPLICATIONS IN SYSTEMIC SCLEROSIS

Keywords: Systemic sclerosis, Clinical trials, Cytokines and chemokines

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Background: CCL24 is a novel target that was found to play a dual role in advancing pro-inflammatory and pro-fibrotic processes in systemic sclerosis (SSc). Previous studies reported that skin and serum CCL24 levels are elevated in SSc and that blocking of CCL24 was effective in preventing and attenuating experimental-induced fibrosis in murine models as well as interfering with endothelial cell activation.

Objectives: Here we tested the concentration of CCL24 in an observational cohort of patients with SSc and available clinical follow-up to determine its clinical value in predicting fibrotic and vascular complications of the disease.

Methods: Consecutive patients from a single-centre observational cohort were enrolled in this analysis. Clinical data were collected according to the EUSTAR minimal essential data set. Serum Concentration of CCL24 was measured by Lumindex assay (Myriad RBM) and defined as "High" for patients over the upper quartile of the Healthy control population (110 ng/ml). Interstitial Lung Disease (ILD) was defined by at least 10% parenchymal involvement at a High-Resolution CT scan of the chest while Digital Ulcer (DU) disease by the presence of current or history of DU in the previous 6 months. Progressive Fibrotic ILD was defined as previously described, according to Erice's criteria within 24 months. Clinical features were compared between CCL24 High vs Low by Chi-Square and T-student tests. R software was employed for statistical analysis.

Results: One-hundred-eighty-one SSc patients (13% males) fulfilling 2013 ACR/EULAR classification criteria were enrolled in this study. Median (IQR) disease duration was 4 (IQR 2-10) years. Thirty-seven (27%) had diffuse cutaneous SSc,

60 (32%) had ILD, and 90 (48%) had DU disease. Fifty-two patients (26%) were CCL24 High. These patients had a higher prevalence of DU (60%, $p=0.042$), a higher median (IQR) mRSS [4(2-7) vs 2(0-5), $p=0.036$] and showed a higher prevalence of ILD (42% vs 28%, $p=0.055$); this was more significant among patients with limited cutaneous SSc (7% vs 12%, $p=0.037$). Most importantly, among patients with PF-ILD (19/43 with available 24-month follow-up) 44% had significantly higher CCL24 serum concentration at baseline, compared to stable patients 1150 (817-1593) vs 725 (460-955); $p=0.017$. Consistent with these findings, in patients with ILD, having high CCL24 gave double the chances of progressing within 24 months (66% vs 32% of CCL24 Low; $p=0.03$).

Conclusion: We show here that within the context of an observational cohort of unselected patients, CCL24 serum concentration is associated with the presence of DU as well as worse skin and lung fibrotic involvement, suggesting that this molecule may be involved in both vascular and fibrotic manifestations of SSc. These results informed the rationale for a target-enriched basket randomized controlled trial to test the biological and clinical effect of CCL24 inhibition in SSc across cutaneous disease subsets.

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RESULTS FROM A NOMINAL GROUP TECHNIQUE EXERCISE FOR THE CREATION OF A COMBINED RESPONSE INDEX FOR LIMITED CUTANEOUS SYSTEMIC SCLEROSIS: THE CRISTAL PROJECT

Keywords: Systemic sclerosis, Randomized control trial, Outcome measures

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Background: The lack of RCTs in limited cutaneous systemic sclerosis (lcSSc) is due, in part, to a paucity of relevant outcome measures to effectively evaluate this subset. This international project, supported by the World Scleroderma Foundation (WSF), Scleroderma & Raynaud's UK (SRUK), the Scleroderma Clinical Trial Consortium (SCTC), and the US National Scleroderma Foundation, aims to create a combined response index for lcSSc for use in clinical trials; the CRISTAL index. The most bothersome symptoms from the patients' perspective were identified through lcSSc patient-centered focus groups [1] and already-identified domains and outcomes were identified through a scoping literature review [2].

Objectives: This phase of the overall CRISTAL project aimed to select candidate items for inclusion in a planned longitudinal prospective observational study assessing the psychometric properties of the selected items. We aimed to enrich the list of candidate outcomes from domains identified by the focus groups and scoping review: i) SSc-specific domains (gastro-intestinal involvement,

Raynaud's/microcirculation, musculoskeletal, digital ulcers, pulmonary involvement, cardiac involvement, hand functioning, calcinosis, skin involvement, Sicca syndrome; and ii) general domains (fatigue, pain, cognition, sleep disorder).

Methods: A two-round international online Delphi exercise was conducted to enrich the list of instruments. Experts in lcSSc were asked to suggest additional items/outcome measures for the domains. Candidate clinician-reported outcomes (ClinROs) and performance outcomes (PerfOs) were selected during a two-day meeting utilizing a nominal group technique (NGT) comprising 3 patient research partners and 8 international experts. Patient research partners received specific-training prior to the NGT meeting to become familiar with the domains, outcomes, and research processes.

Results: 100 experts were invited to the Delphi exercise and 71 provided answers for at least one round. Participants who provided answers in round 1 were invited to a second Delphi exercise, rating each item on scales (range: 1-9) for feasibility, face validity, content validity, and overall appropriateness for the CRISTAL Index. 59/71 participants provided answers to at least one survey. Items endorsed by more than 50% of the experts were included for discussion at the 2 day-NGT discussion. During the NGT meeting, for each lcSSc specific domain, the list of items selected during Delphi and their characteristics were presented and each voting member was asked to discuss the relevance of these items and to propose new items if important ones were considered missing. Voting members then ranked items from "most appropriate for the CRISTAL index" to "less appropriate". At the end of each ranking, voting members were asked if they agreed with the ranking; 80% agreement was required to move to the next domain. Across the 10 lcSSc specific domains discussed, a total of 19 items (17 ClinROs and 2 PerfOs) were identified and retained as draft items for testing in the planned observational longitudinal cohort study (Table 1).

Conclusion: These initial results from the CRISTAL initiative are essential first steps towards the development of a composite index for lcSSc. The next steps will include selection of patient-reported outcomes (PROs) from the PROMIS item bank, existing data in the reported literature, and cognitive debriefing with patients, followed by a prospective cohort study to assess and validate the draft CRISTAL index.

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SYSTEMIC SCLEROSIS AND COVID-19 VACCINE-ASSOCIATED DELAYED ADVERSE EVENTS: INSIGHTS FROM THE COVAD-2 STUDY

Keywords: Vaccination/Immunization, Systemic sclerosis, Safety

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Background: We have previously reported short term safety of the COVID-19 vaccination in patients with Systemic sclerosis (SSc) but delayed adverse events (ADEs) (occurring >7 days post-vaccination) are poorly characterized in this rare yet vulnerable disease group.

Objectives: We analyzed delayed COVID-19 vaccine-related ADEs among patients with SSc, other systemic autoimmune and inflammatory disorders (SAIDs) and healthy controls (HC) using data from the ongoing 2nd global COVID-19 Vaccination in Autoimmune Diseases (COVAD-2) study [1].

Methods: The COVAD-2 study was a cross-sectional, patient self-reporting e-survey utilizing an extensively validated, pilot tested questionnaire, translated into 19 languages, circulated by a group of 157 physicians across 106 countries from February to June 2022.

We captured data on demographics, SSc/SAID disease characteristics (including skin subset, treatment history and self-reported disease activity), autoimmune and non-autoimmune comorbidities, COVID-19 infection history and course, and vaccination details including delayed ADEs as defined by the CDC.

Delayed ADEs were categorized into local injection site pain/soreness; minor and major systemic ADEs, and hospitalizations. We descriptively analyzed the risk factors for overall and specific ADEs in SSc and SAIDs, and further triangulated clinically significant variables in binominal logistic regression analysis with adjustment for age, gender, ethnicity, comorbidity, and immunosuppressive therapy to analyze the survey responses.

Results: From among 17 612 respondents, 10 041 patients (median age 51 (18-58) years, 73.4% females, 44.9% Caucasians) vaccinated against COVID-19 at least once (excluding incomplete responses and trial participants) were included for analysis. Of these, 2.6% (n=258) had SSc, 63.7% other SAIDs, and 33.7% were HCs. BNT162b2 Pfizer (69.4%) was the most administered vaccine, followed by MRNA-1273 Moderna (32.25%) and ChadOx1 nCoV-19 Oxford/AstraZeneca (12.4%) vaccines. Among the patients with SSc, 18.9% reported minor