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Background: Scleroderma-associated interstitial lung disease (SSc-ILD) is often observed in patients with systemic sclerosis (SSc) and its diagnosis contributes to early treatment decisions^{1,2}.

Objectives: The present study aims to automatically quantify SSc-ILD from high-resolution chest-computed tomography (HRCT) and to evaluate the association between interstitial lung disease (ILD) extension and lung function impairment.

Methods: Ninety-four patients with SSc and 27 lung-healthy subjects matched for gender, weight, height, and age underwent HRCT, spirometry and carbon monoxide diffusion capacity (DL_{CO}). SSc-ILD was determined as the tissue mass present between -500 and +100 Hounsfield Units normalized by the total lung tissue mass (TLM). Cut off was the highest value obtained in the control group (25% of TLM). All data are presented as mean and standard deviations (Table I). An ANOVA test followed by Bonferroni post-hoc correction was used for comparisons among groups.

Results: From 94 patients with SSc, 64 were classified as having pulmonary involvement (SSc-ILD) and 30 as not having pulmonary involvement (SSc No-ILD). In SSc-ILD subjects, there was a significant reduction in forced vital capacity (FVC), carbon monoxide diffusion capacity (DL_{CO}) and carbon monoxide diffusion capacity normalized by alveolar ventilation (DL_{CO}/A) when compared with SSc No-ILD and control group.

Conclusion: The proposed method allows the automatic quantification of SSc-ILD from HRCT and ILD extent is associated with pulmonary function impairment.

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Table 1. Demographic variables, pulmonary function tests and densitometry considering scleroderma patients with less or greater pulmonary involvement.

	Control Group N = 27	SSc No-ILD N = 30	SSc-ILD N = 64	p-value
Demographic Data				
Females	16 (59.2)	28 (93.3)	58 (90.1)	-
Age (years)	37.9 ± 14.8	51.2 ± 12.2	56 ± 14	<0.011 ^{a,b}
BMI (kg/m ²)	26.7 ± 5.1	24.1 ± 5.0	25.9 ± 5.7	-
Lung Function				
FVC (% predicted)	100.2 ± 9.2	99.9 ± 19.8	69.8 ± 16.7	<0.001 ^{b,c}
DL _{CO} (% predicted)	103 ± 13.3	83.8 ± 14.2	63.4 ± 20.3	<0.002 ^{a,b,c}
DL _{CO} /A (% predicted)	112.7 ± 17.4	85.7 ± 12.9	79.2 ± 20.6	<0.001 ^{a,b}
Densitometry				
TLV mL	4675 ± 986	4471 ± 916	3492 ± 1120	<0.001 ^{b,c}
Lung Tissue Mass (g)	793 ± 125	756 ± 159	731 ± 155	-
ILD Extent (% LTM)	17 ± 2	22.9 ± 1.2	32.6 ± 8	<0.003 ^{a,b,c}

a: Statistically significant difference between No-ILD SSc and control group; b and c: Statistically significant difference between SSc-ILD vs control group and SSc No-ILD, respectively.

Disclosure of Interests: None declared

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AB0562

SLEEP HYGIENE: COULD IT BE A CONFOUNDING FACTOR FOR SLEEP QUALITY IN SYSTEMIC SCLEROSIS?

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Background: Sleep disturbances have been described in Systemic Sclerosis (SSc). Confounding factors related to sleep quality are also investigated. Although sleep hygiene plays an important role in sleep quality, as far as we know, there are not enough data to show the effect of sleep hygiene on sleep quality of SSc.

Objectives: To investigate sleep hygiene, its impact on sleep quality, and its association with demographic-clinical factors in patients with SSc, rheumatoid arthritis (RA), and healthy controls.

Methods: The study was designed as cross-sectional. Forty-nine patients with SSc who fulfilled the 2013 ACR/EULAR classification criteria for SSc, 66 patients

with RA who fulfilled 1987 revised classification criteria, and 30 healthy controls were included in the study. All participants were female. Demographic and clinical variables were documented. Disease activity index of both SSc and RA was calculated. SSc patients were assessed by questionnaires including Short Form 36 (SF-36), The Health Assessment Questionnaire Disability Index (HAQ-DI), Beck Anxiety and Beck Depression Inventory, Pittsburgh Sleep Quality Index (PSQI), Sleep Hygiene Index (SHI). Additionally, RA patients and healthy controls were estimated by HAQ-DI, Beck Anxiety and Beck Depression Inventory, PSQI, and SHI. Logistic regression analysis was used to determine the predictors of sleep quality.

Results: Preliminary results of the study were given. The baseline demographics were similar among groups. When comparing groups according to HAQ-DI, Beck Anxiety and Beck Depression Inventory, PSQI, and SHI, we found higher scores in SSc and RA rather than healthy controls (p<0.001, p=0.001, p=0.001, p<0.001, p=0.003; respectively). While depression and sleep hygiene were determined as the risk factors of sleep quality in SSc in univariate analysis, depression (OR=1.380, 95%CI: 1.065–1.784, p=0.015) and sleep hygiene (OR=1.201, 95%CI: 1.003–1.439, p=0.046) were also found in multivariate logistic model. In RA patients, while health status, depression, and anxiety were found as risk factors according to the univariate analysis, depression (OR=1.120, 95%CI: 1.006–1.245, p=0.038) was the only factor according to multivariate logistic model (Table).

Conclusion: Although depression is a well-known clinical variable impacting on sleep quality, sleep hygiene should also be kept in mind as a confounding factor.

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Table. Univariate logistic regression analysis of clinical variables to assess predictors of sleep quality

	Systemic sclerosis		Rheumatoid arthritis	
	OR (95% CI)	p	OR (95% CI)	p
HAQ-DI	1.019 (0.882–1.177)	0.801	1.089 (1.011–1.173)	0.025
BDI score	1.293 (1.082–1.547)	0.005	1.129 (1.036–1.230)	0.006
BAI score	1.080 (0.997–1.169)	0.059	1.122 (1.038–1.214)	0.004
SHI	1.200 (1.060–1.357)	0.004	1.048 (0.965–1.137)	0.264
Disease activity ^a	0.707 (0.439–1.138)	0.153	1.446 (0.839–2.492)	0.185

^aDisease activity was calculated by Valentini disease activity index for SSc and DAS28-CRP for RA.

Disclosure of Interests: None declared

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AB0563

AORTIC ROOT DILATION IS ASSOCIATED WITH THE REDUCTION OF CAPILLARY DENSITY OBSERVED AT NAILFOLD CAPILLAROSCOPY IN SSC PATIENTS

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Background: Systemic sclerosis (SSc) is a chronic autoimmune disease characterized by endothelial dysfunction and diffuse microangiopathy, leading to tissue ischemia and inducing fibrosis of skin and visceral organs. Furthermore, it was demonstrated the impairment of wall elasticity of large-medium vessels, such as aorta and its branches (1). SSc-related microangiopathy of vasa vasorum of the aortic wall could also be supposed. However no data on this hypothesis are available in literature.

SSc microangiopathy may be easily studied at the nailfold by means of videocapillaroscopy. Indeed, capillaroscopic findings are representative of the microvascular damage caused by SSc throughout the body.

Objectives: we aimed to investigate the presence of aortic root dilation, classical sign of aortic wall damage, in a cohort of SSc patients, and to correlate these