Supplementary files (Elevated sPAP in early EUSTAR database).

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Table I. Baseline characteristics of 656 SSc patients with less than 3 years from the first SSc symptom, including Raynaud's phenomenon.

Quantitative variables, mean (SD)	
Age at first SSc symptom, including RP (y)	49.1 (14.7)
Age at first EUSTAR entry (y)	51.1 (14.7)
Disease duration from the first SSc symptom, including RP (y)*	1.5 (0.8)
Time between onset of RP and non-RP event (y)	0.3 (0.7)
mRSS (n=654)	13.7 (10.5)
DLCO (% of predicted) (n=452)	70.5 (19.9)
Qualitative variables, n (percentage, %)	
Sex (women) (n=653)	504 (77.2%)
Anti-Scl-70 (n=640)	256 (40.0%)
ACA (n=616)	118 (19.2%)
Disease subset (n=603)	
Diffuse cutaneous systemic sclerosis	283 (46.9%)
Limited cutaneous systemic sclerosis	320 (53.1%)
Active disease (n=631)	303 (48.0%)
Elevated acute phase reactants (n=638)	249 (39.0%)
Digital ulcers (n=655)	181 (27.6%)
Synovitis (n=655)	129 (19.7%)
Joint contractures (n=654)	216 (33.0%)
Tendon friction rubs (n=650)	115 (17.7%)
CK elevation (n=642)	109 (17.0%)
Digestive tract involvement† (n=636)	427 (67.1%)
Elevated sPAP ‡ (n=638)	106 (16.6%)
Pulmonary fibrosis (n=640)	215 (33.6%)
Lung restrictive defect (n=640)	194 (30.3%)
Cardiac conduction blocks (n=638)	56 (8.8%)
Diastolic dysfunction (n=639)	102 (16.0%)
LVEF <55% (n=633)	27 (4.3%)
Renal crisis (n=655)	25 (3.8%)
Proteinuria (n=634)	55 (8.9%)

Abbreviations: y: year; SSc: systemic sclerosis; RP: Raynaud's Phenomenon; mRSS: modified Rodnan Skin Score; DLCO: diffusion capacity of the lung for carbon monoxide; ACA: anticentromere autoantibody; CK: creatin kinase; LVEF: left ventricular ejection fraction; SD: standard deviation

†Digestive tract involvement includes oesophagus, stomach and gut symptoms

‡Elevated sPAP defined as estimated systolic pulmonary artery pressure >40 mm Hg on Transthoracic Doppler-Echocardiography.

Table II. Differences in clinical characteristics according to the presence of elevated sPAP, defined as an estimated systolic pulmonary artery pressure > 40 mm Hg on Doppler-echocardiography, in 656 SSc patients with less than 3 years from the first SSc symptom, including Raynaud's phenomenon.

	Elevated sPAP		*p* value
	No (n=532)	Yes (n=106)	
Age at first SSc sumptom, including RP (y)	47.4 (14.3)	58.1 (13.3)	<0.0001
Age at first EUSTAR entry (y)	49.3 (14.3)	60.0 (13.3)	<0.0001
Disease duration (y)*	1.5 (0.8)	1.4 (0.8)	0.225
Time between RP and non-RP event (y)	0.3 (0.7)	0.2 (0.5)	0.264
mRSS	13.3 (10.3)	16.0 (11.5)	0.017
DLCO (% of predicted)	72.0 (19.1)	60.3 (22.1)	<0.0001
Sex (men)	122 (23.1%)	25 (23.6%)	0.907
Scl-70 positivity	203 (38.8%)	48 (46.6%)	0.140
ACA positivity	90 (17.8%)	23 (23.5%)	0.190
Active disease	230 (44.8%)	66 (64.7%)	<0.0001
Difusse cutaneous SSc	258 (49.0%)	56 (53.3%)	0.423
Limited cutaneous SSc	229 (43.5%)	46 (43.8%)	0.959
Elevated acute phase reactants	192 (36.8%)	50 (50%)	0.013
Digital ulcers	137 (25.8%)	41 (38.7%)	0.007
Synovitis	101 (19.0%)	26 (24.5%)	0.195
Joint contractures	161 (30.3%)	50 (47.6%)	0.001
Tendon friction rubs	92 (17.4%)	20 (19.2%)	0.647
CK elevation	88 (16.7%)	19 (18.6%)	0.641
Digestive tract involvement†	342 (64.5%)	85 (80.2%)	0.002
Pulmonary fibrosis	162 (30.7%)	49 (47.6%)	0.001
Lung restrictive defect	140 (26.7%)	50 (48.5%)	<0.0001
Cardiac conduction blocks	36 (6.8%)	20 (19.8%)	<0.0001
Left ventricular diastolic dysfunction	70 (13.2%)	32 (30.8%)	<0.0001
LVEF <55%	17 (3.2%)	10 (9.4%)	0.004
Scleroderma renal crisis	16 (3.0%)	9 (8.5%)	0.008
Proteinuria	35 (6.8%)	19 (18.6%)	<0.0001

Abbreviations: y: year; SSc: systemic sclerosis; RP: Raynaud's phenomenon; mRSS: modified Rodnan Skin Score; DLCO: diffusion capacity of the lung for carbon monoxide; ACA: anticentromere autoantibody; CK: creatin kinase; LVEF: left ventricular ejection fraction.

*Disease duration was calculated from the onset of the first SSc symptom, including RP.

†Digestive tract involvement includes oesophagus, stomach and gut symptoms.

Table III. Bivariate and multivariate analysis for elevated sPAP, defined as an estimated systolic pulmonary artery pressure > 40 mm Hg on Doppler echocardiography, in 656 SSc patients with less than 3 years from the first SSc symptom, including Raynaud's phenomenon.

	Bivariate		Multivariate	
	OR (CI 95%)	*p* value	OR (CI 95%)	*p* value
Age at first SSc symptom, including RP (y)	1.06 (1,04-1.08)	<0.0001	1.06 (1.03-1.09)	<0.0001
Age at first EUSTAR entry (y)	1.06 (1.04-1.07)	<0.0001	-	-
Disease duration (y)*	0.85 (0.66-1.10)	0.225	0.67 (0.45-0.99)	0.048
Time between RP and non-RP event (y)	0.86 (0.63-1.18)	0.356	-	-
mRSS	1.02 (1.00-1.04)	0.018	-	-
DLCO (% of predicted)	0.97 (0.96-0.98)	<0.0001	0.97 (0.95-0.99)	0.001
Sex (men)	1.03 (0.63-1.68)	0.907	-	-
Scl70 positivity	1.37 (0.90-2.10)	0.141	-	-
ACA positivity	1.41 (0.84-2.38)	0.191	-	-
Active disease	2.26 (1.45-3.51)	<0.0001	-	-
SSc subset (Diffuse vs Limited)	1.08 (0.70-1.66)	0.723	-	-
Elevated acute phase reactants	1.72 (1,12-2.64)	0.014	-	-
Digital ulcers	1.81 (1.17-2.81)	0.007	2.16 (1.08-4.34)	0.030
Synovitis	1.38 (0.84-2.26)	0.196	-	-
Joint contractures	2.09 (1.36-3.20)	0.001	-	-
Tendon friction rubs	1.13 (0.66-1.94)	0.647	-	-
CK elevation	1.14 (0.66-1.97)	0.641	-	-
Digestive tract involvement†	2.22 (1.34-3.70)	0.002	-	-
Pulmonary fibrosis	2.04 (1.33-3.14)	0.001	-	-
Lung restrictive defect	2.59 (1.68-4.00)	<0.0001	-	-
Cardiac conduction blocks	3.38 (1.86-6.13)	<0.0001	-	-
Diastolic dysfunction	2.93 (1.80-4.76)	<0.0001	-	-
LVEF <55%	3.11 (1.38-6.99)	0.006	-	-
Scleroderma renal crisis	2.99 (1.28-6.95)	0.011	-	-
Proteinuria	3.15 (1.72-5.77)	<0.0001	3.13 (1.16-8.43)	0.024
Constant			0.05 (0.01-0.39)	0.004

Abbreviations: y: year; SSc: systemic sclerosis; RP: Raynaud's phenomenon; mRSS: modified Rodnan Skin Score; DLCO: diffusion capacity of the lung for carbon monoxide; ACA: anticentromere autoantibody; CK: creatin kinase, LVEF: left ventricular ejection fraction; OR: odds ratio; CI: confidence interval.

*Disease duration was calculated from the onset of the first SSc symptom, including RP.

†Digestive tract involvement includes oesophagus, stomach and gut symptoms.

Table IV. Bivariate associations for elevated sPAP, defined as an estimated systolic pulmonary artery pressure >40 mm Hg on Doppler echocardiography, according to SSc subset, in 656 SSc patients with less than 3 years from the first SSc symptom, including Raynaud's phenomenon.

	Limited cutaneous SSc (n=283)		Diffuse cutaneous SSc (n=320)	
	OR (95% CI)	*p* value	OR (95% CI)	*p* value
Age at first SSc symptom, including RP (y)	1.06 (1.04-1.09)	<0.0001	1.06 (1.03-1.09)	<0.0001
Age at EUSTAR entry (y)	1.06 (1.04-1.09)	<0.0001	1.06 (1.03-1.08)	<0.0001
Disease duration (y)*	0.87 (0.59-1.28)	0.482	0.88 (0.62-1.25)	0.479
Time between RP and non-RP event (y)	0.64 (0.39-1.04)	0.073	1.13 (0.72-1.77)	0.583
mRSS	1.03 (0.97-1.08)	0.338	1.03 (1.00-1.06)	0.034
DLCO (% of predicted)	0.96 (0.93-0.98)	<0.0001	0.97 (0.96-0.99)	0.013
Sex (men)	0.92 (0.38-2.22)	0.856	1.09 (0.59-2.03)	0.779
Scl-70 positivity	1.16 (0.58-2.33)	0.667	1.33 (0.73-2.43)	0.354
ACA positivity	1.84 (0.96-3.51)	0.065	0.80 (0.09-6.84)	0.843
Active disease	3.14 (1.60-6.18)	0.001	1.80 (0.90-3.60)	0.095
Elevated acute phase reactants	1.36 (0.68-2.71)	0.382	2.25 (1.21-4.19)	0.011
Digital ulcers	1.03 (0.50-2.13)	0.927	2.74 (1.51-4.95)	0.001
Synovitis	1.22 (0.54-2.73)	0.635	1.48 (0.77-2.83)	0.241
Joint contractures	2.43 (1.21-4.87)	0.012	2.02 (1.11-3.65)	0.020
Tendon friction rubs	1.76 (0.54-5.71)	0.350	1.03 (0.54-1.96)	0.919
CK elevation	1.67 (0.67-4.18)	0.272	1.02 (0.49-2.11)	0.963
Digestive tract involvement†	2.75 (1.27-5.97)	0.011	2.22 (1.04-4.76)	0.040
Pulmonary fibrosis	1.90 (0.96-3.78)	0.066	2.28 (1.25-4.15)	0.007
Lung restrictive defect	3.38 (1.74-6.57)	<0.0001	2.37 (1.30-4.33)	0.005
Cardiac conduction blocks	1.81 (0.62-5.27)	0.275	4.79 (2.20-10.4)	<0.0001
Diastolic dysfunction	2.97 (1.36-6.47)	0.006	3.40 (1.77-6.51)	<0.0001
LVEF <55%	1.67 (0.32-8.53)	0.540	5.04 (1.69-15.02)	0.004
Scleroderma renal crisis	1	-	3.91 (1.56-9.80)	0.004
Proteinuria	2.02 (0.68-5.98)	0.204	4.82 (2.20-10.5)	<0.0001

Abbreviations: y: year; SSc: systemic sclerosis; RP: Raynaud's phenomenon; mRSS: modified Rodnan Skin Score; DLCO: diffusion capacity of the lung for carbon monoxide; ACA: anticentromere autoantibody; CK: creatin kinase; LVEF: left ventricular ejection fraction; OR: odds ratio; CI: confidence interval.
*Disease duration was calculated from the onset of the first SSc symptom, including RP.
†Digestive tract involvement includes oesophagus, stomach and gut symptoms

Table V. Multivariate logistic regression models for the clinical associations of elevated sPAP, defined as estimated systolic pulmonary artery pressure > 40 mm Hg on Doppler echocardiography, in limited cutaneous SSc patients with less than 3 years from the first SSc symptom, including Raynaud's phenomenon.

	Model 1 Complete (n=170)		Model 2 Backward stepwise regression (n=170)	
Variable	OR (95% CI)	*p* value	OR (95% CI)	*p* value
Age at first SSc symptom, including RP (y)	1.04 (0.99-1.08)	0.100	1.06 (1.01-1.10)	0.010
Time between RP and non-RP event (y)	0.39 (0.13-1.10)	0.076	-	-
DLCO (% of predicted)	0.95 (0.91-0.99)	0.008	0.96 (0.93-0.98)	0.003
ACA positivity	3.00 (0.73-12.4)	0.127	-	-
Active disease	4.45 (1.16-17.1)	0.029	3.97 (1.36-11.58)	0.011
Joint contractures	1.44 (0.38-5.37)	0.588	-	-
Digestive tract involvement†	2.00 (0.49-8.17)	0.330	-	-
Pulmonary fibrosis	0.32 (0.06-1.79)	0.194	-	-
Lung restrictive defect	1.52 (0.34-6.91)	0.584	-	-
Diastolic dysfunction	1.74 (0.37-8.15)	0.483	-	-
Proteinuria	4.49 (0.67-29.85)	0.120	-	-
Constant	0.12 (0.003-5.20)	0.270	0.08 (0.005-1.18)	0.066
AIC	107.13		102.07	
BIC	144.76		114.62	
BIC'	16.47		-13.67	

Abbreviations: y: year; SSc: systemic sclerosis; RP: Raynaud's phenomenon; DLCO: diffusion capacity of the lung for carbon monoxide; ACA: anticentromere autoantibody; OR: odds ratio; CI: confidence interval; AIC: Akaike information criteria; BIC: Bayesian information criteria.
†Digestive tract involvement includes oesophagus, stomach and gut symptoms.

Table VI. Multivariate logistic regression for the clinical associations of elevated sPAP, defined as estimated systolic pulmonary artery pressure > 40 mm on Doppler echocardiography in diffuse cutaneous SSc patients with less than 3 years from the first SSc symptom, including Raynaud's phenomenon.

	Model 1 Complete (n=198)		Model 2 Backward stepwise regression (n=198)	
Variable	OR (95% CI)	*p* value	OR (95% CI)	*p* value
Age at first SSc symptom, including RP (y)	1.07 (1.02-1.11)	0.002	1.07 (1.03-1.11)	<0.0001
mRSS	1.01 (0.95-1.07)	0.818		
DLCO (% of predicted)	0.99 (0.96-1.01)	0.313		
Active disease	0.89 (0.26-3.09)	0.861		
Acute phase reactants	1.07 (0.39-2.96)	0.892		
Digital ulcers	3.67 (1.26-10.68)	0.017	4.96 (1.93-12.75)	0.001
Synovitis	0.67 (0.18-2.49)	0.548		
Joint contractures	0.94 (0.34-2.59)	0.908		
Digestive tract involvement†	1.92 (0.47-7.85)	0.362		
Pulmonary fibrosis	0.76 (0.26-2.24)	0.616		
Lung restrictive defect	1.06 (0.37-2.96)	0.925		
Cardiac blocks	2.34 (0.52-10.8)	0.279		
Diastolic dysfunction	1.53 (0.48-4.83)	0.470		
LVEF <55%	1.97 (0.25-15.59)	0.521		
Renal crisis	2.31 (0.22-24.16)	0.486		
Proteinuria	5.89 (1.14-30.41)	0.034	9.20 (2.32-36.53)	0.002
Constant	0.003 (0.00-0.11)	0.001	0.002 (0.00-0.02)	<0.0001
AIC	154.39		135.65	
BIC	210.29		148.81	
BIC'	43.62		-17.86	

Abbreviations: y: year; SSc: systemic sclerosis; RP: Raynaud's phenomenon; mRSS: modified Rodnan Skin Score; DLCO: diffusion capacity of the lung for carbon monoxide; LVEF: left ventricular ejection fraction; OR: odds ratio; CI: confidence interval; AIC: Akaike information criteria; BIC: Bayesian information criteria.

†Digestive tract involvement includes oesophagus, stomach and gut symptoms.