Are there differences in limited Systemic Sclerosis according to extension of skin involvement?

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Background: There is consensus in classifying Systemic Sclerosis (SSc) according to extension of skin involvement as limited and diffuse, using the elbows and knees as "limits" to distinguish between them. Decades ago, Barnett classified SSc as Type 1(only sclerodactyly), Type 2 (acrosclerosis - distal but may reach up to elbows and/or knees plus face) and Type 3 (diffuse skin involvement). Patients with Type 2 had an intermediate degree of organ involvement compared to Type 1 (less) and Type 3 (more). This issue has not been recently addressed. We examined the characteristics of our patients with limited disease to see if we could find differences between Barnett Type 1 and Type 2 subsets.
Methods: electronic medical records of patients registered between years 2000-2011 with the problem: scleroderma, SSc or CREST and those with anti Scl-70, anticentromere or anti nucleolar antibodies in laboratory database were reviewed. Cases fulfilling ACR 1980 criteria were included and were classified as diffuse or limited according to LeRoy`s criteria with limited being separated into sclerodactyly (only fingers) and acrosclerosis (fingers and up to elbows and/or knees) (Barnett´s Types 1 and 2).
Results: 234 SSc patients (216 females) fulfilled criteria. Female/male ratio was 12:1; 24% had diffuse SSc and 76% limited (64% sclerodactyly and 12% acrosclerosis). Total follow up was 688 patients-years. Over half (55.1%) are still under our care and 17 died during this period. Ten year survival rate was 80% for limited and 70% for diffuse variants respectively (HR: 0.88 95% CI: 0.7-1.1). Table 1 shows clinical and serological profile of this cohort.
Anti Scl-70 was present in 16%, anticentromere in 53% and nucleolar ANA in 7% of overall patients. Within the limited group, several characteristics in the acrosclerosis (Type 2) group were more similar to the diffuse than the Type 1(sclerodactyly) patients. Duration of Raynaud was shorter, and they had significantly more anti Scl-70 and less anti centromere antibodies than those with Type 1. In particular, interstitial lung disease (ILD) was significantly more prevalent in Type 2 group, and similar to Type 3. Other characteristics did not reach statistical differences.
Conclusion: These results appear to confirm that extension of skin involvement within limited SSc may identify two different subsets with clinical and serologic characteristics. Indeed, Type 2 as defined by Barnett appears to have intermediate organ involvement, and serology may be more similar to the diffuse type.

Table 1 Clinical and serological profile of this cohort

Type of systemic sclerosis	Limited (n=178)			Diffuse (n=56)	
	Sclerodactyly (n=149)	Acrosclerosis (n=29)	p (sclero vs acro)		p (limited vs diffuse)
Females, n (%)	142 (95.3)	25 (86.2)	0.06	49 (87.5)	0.13
Age at diagnosis, years mean (SD)	59.8 (15.2)	54.9 (16.2)	0.14	53 (18.3)	0.038
Duration of raynaud before diagnosis, years median (SD)	9.2 (3.4)	5.5 (1)	0.018	1.9 (0.8)	0.008
Anti Scl-70, %	6.4	39.3	<0.001	43.9	<0.001
Anticentromere,%	82.3	17.9	<0.001	4.8	<0.001
Nucleolar ANA, %	5.7	3.6	0.54	20.9	0.001
Other autoantibodies, %	26.1	23.5	0.54	25.9	0.76
GI involvement, %	65.9	81.3	0.22	64.3	0.45
Interstitial lung disease, %	17.1	50	<0.001	65.3	<0.001
Pulmonary hypertension with ILD,%	5.5	0	0.34	15.4	0.03
Pulmonary hypertension (without ILD), %	9.1	4.8	0.45	2.6	0.39
Echocardiographic abnormalities (other than PH), %	5.7	4.5	0.65	10	0.26
Digital ulcers, %	26.9	34.5	0.44	32.1	0.86
Renal Crisis, n	0	0		1	
Pregnancy after diagnosis, n	3	1		3	
Patient-year, years (SD)	462 (3.1)	81.2 (3.1)		144.8 (3.6)	
Currently followed, n (%)	88 (59.5)	15 (51.7)		26 (46.4)	
Died under our care, n	11	2		4	

Scl-70: anti-topoisomerase I; ANA: antinuclear antibodies; GI: gastrointestinal; ILD: interstitial lung disease; PH: pulmonary arterial hypertension