

(資料 3) 小児期発症限局性強皮症 全国疫学調査調査

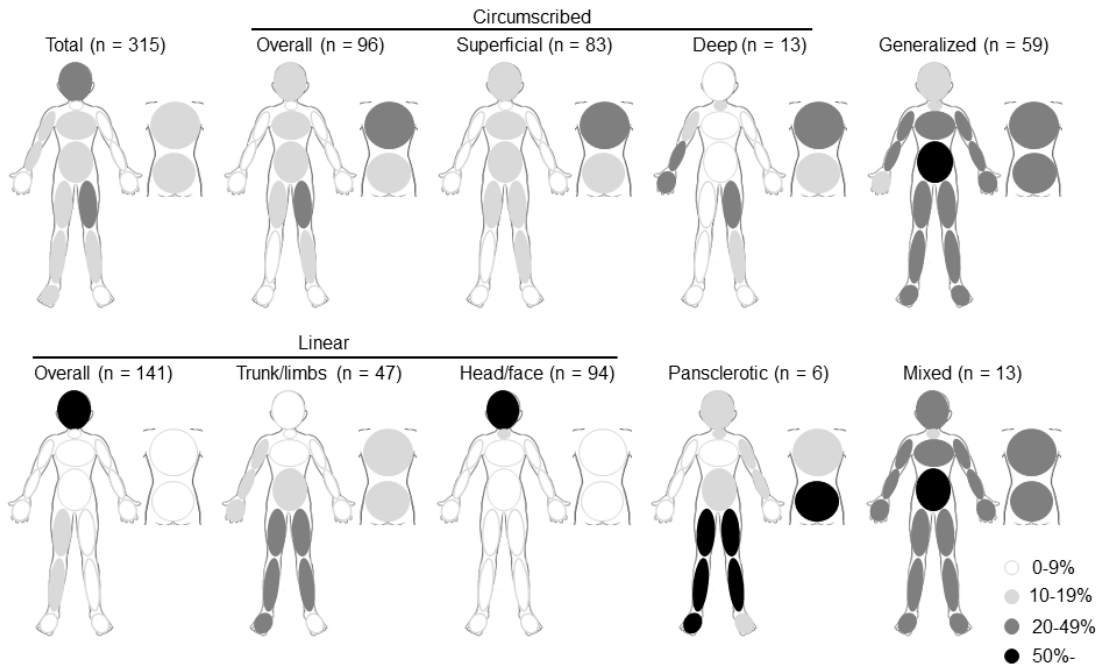


図1

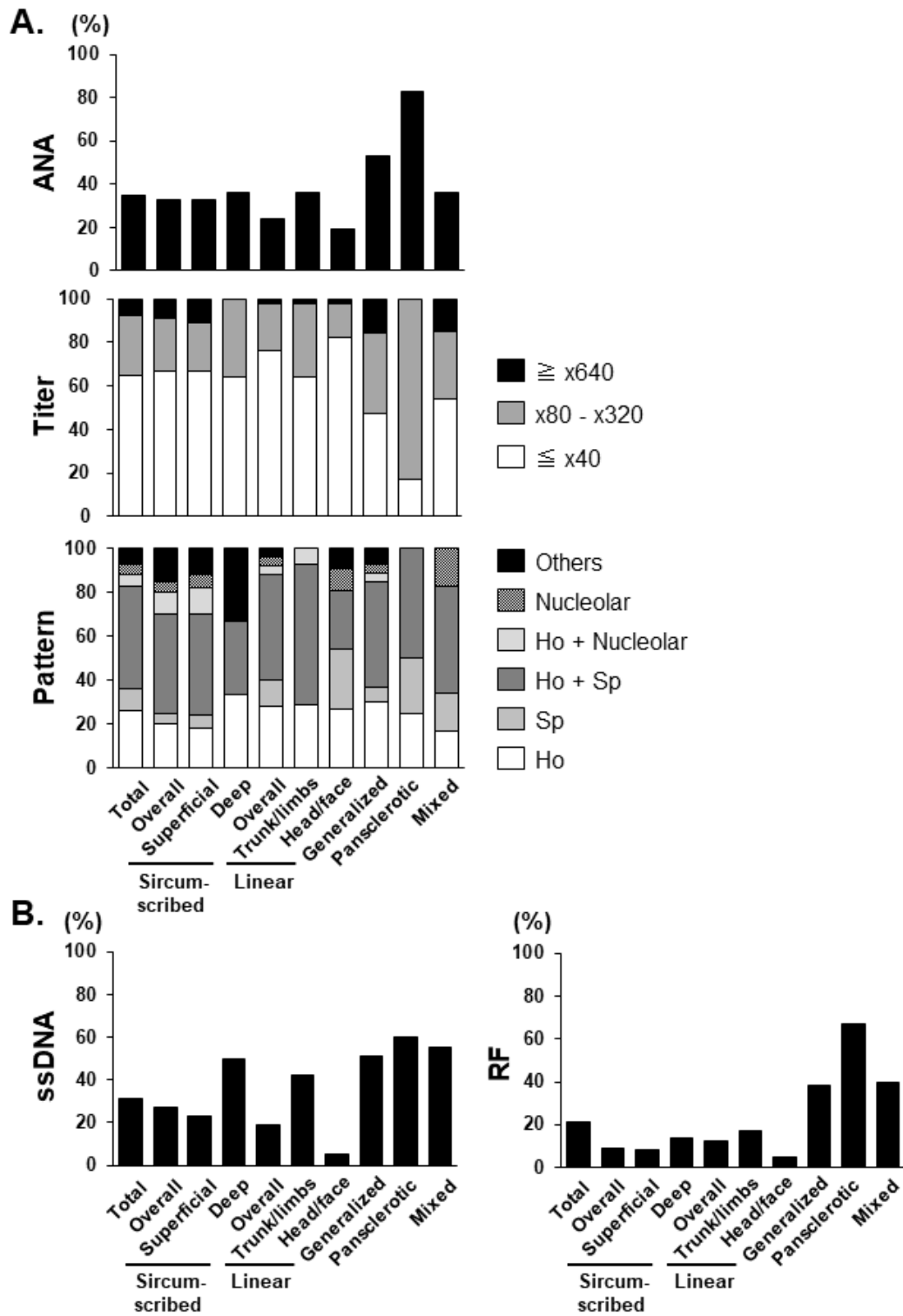


Figure 2

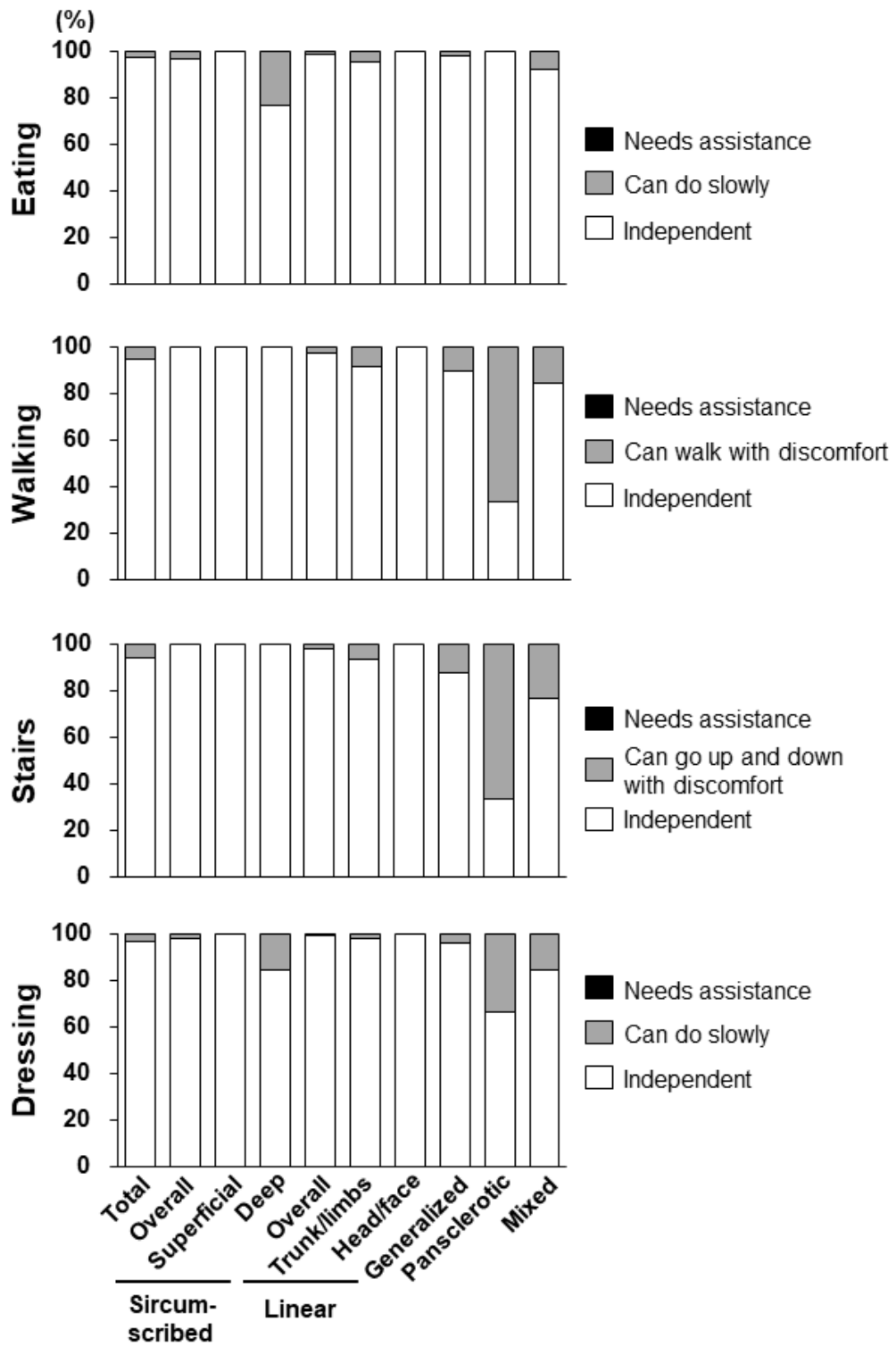


Figure 3

表 1. 小児期発症限局性強皮症に対する全国疫学調査：一次調査の施設数とアンケート返却率

	Strara	Department nominated	No. Surveyed department	Sampling rate, %	No. Responded department	Response rate, %	No. Reported cases
Internal medicine	University Hospital	147	147	100	81	55.5	8
	≥500 beds	296	296	100	156	52.7	0
	400-499 beds	341	273	80	136	50.2	2
	300-399 beds	632	253	40	120	47.6	1
	200-299 beds	892	178	20	85	47.8	3
	Sub total	2308	1147		578	50.6	14
Pediatrics	University Hospital	132	132	100	112	84.8	40
	≥500 beds	215	215	100	174	81.3	5
	400-499 beds	227	182	80	130	72.2	3
	300-399 beds	360	144	40	104	73.8	9
	200-299 beds	299	60	20	35	59.3	0
	Sub total	1233	733		555	76.4	57
Dermatology	University Hospital	141	141	100	103	73.0	235
	≥500 beds	247	247	100	165	67.1	33
	400-499 beds	248	198	80	122	62.9	20
	300-399 beds	391	156	40	80	51.9	3
	200-299 beds	359	72	20	39	54.2	1
	Sub total	1386	814		509	63.1	292
Rheumatology	University Hospital	65	65	100	54	83.1	6
	≥500 beds	100	100	100	65	65.0	2
	400-499 beds	81	65	80	35	53.8	0
	300-399 beds	134	54	40	33	61.1	0
	200-299 beds	137	27	20	16	59.3	0
	Sub total	517	311		203	65.3	8
Total		5444	3005		1845	61.8	371

表 2. 小児期発症限局性強皮症の推定患者数

	Estimated patients	Lower limits	Upper limits
Internal medicine	56	-4	116
Pediatrics	89	47	132
Dermatology	435	351	518
Rheumatology	10	7	14
Total	591	479	702

表 3. リウマチ性疾患あるいは自己免疫疾患の家族歴

Diseases	No. relatives	%
Rheumatic diseases		
Rheumatoid arthritis	12	38.7
Systemic sclerosis	4	12.9
Juvenile idiopathic arthritis	2	6.5
Systemic lupus erythematosus	2	6.5
Rheumatic disease with unknown details	5	16.1
Cutaneous		
Linear scleroderma	1	3.2
Vitiligo	1	3.2
Non-cutaneous		
Hashimoto's disease	2	6.5
Graves' disease	2	6.5
Overall	31	100

表 4. 小児限局性強皮症患者 315 例の疫学的特徴

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 47)	Head/face (n = 94)			
Gender (female:male)	2.5:1	3.4:1	3.4:1	3.3:1	1.9:1	1.8:1	2.0:1	2.9:1	5:1	2.3:1
Male	90	22	19	3	48	17	31	15	1	4
Female	225	74	64	10	93	30	63	44	5	9
Age at onset (year)										
Mean	7.7	8.2	8.4	7.9	7.6	7.8	7.5	7.4	2.7	7.9
Median	7.5	7.8	8.1	7.5	7.0	7.7	7.0	7.7	2.3	8.8
Range	0-17.9	0.3-17.9	0.3-17.9	0.9-16.9	0-17.6	0-17.6	0-17.3	0-16.5	0-6.6	0.9-16.4
Disease duration at diagnosis (year)										
Mean	2.9	2.2	2.2	2.2	3.1	2.6	3.4	3.9	2.2	1.0
Median	1.1	1.2	1.2	0.5	1.2	1	1.3	0.9	0.8	1
Range	0-50.1	0-14.8	0-14.8	0-6.8	0-50.1	0-25.5	0-50.1	0-35.1	0-7	0.1-2.5
Family history*	29 (9.2%)	6 (6.3%)	5 (6.0%)	1 (7.7%)	8 (5.7%)	2 (4.3%)	6 (6.3%)	11 (18.6%)	0 (0%)	4 (30.8%)

*Values are the number (%).

表 5. 皮膚病変の分布と頻度*

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 47)	Head/face (n = 94)			
Head/face	124 (39%)	17 (18%)	16 (19%)	1 (8%)	94 (67%)	0 (0%)	94 (100%)	8 (14%)	1 (17%)	4 (31%)
Neck	28 (9%)	9 (9%)	7 (8%)	2 (15%)	7 (5%)	3 (6%)	4 (4%)	9 (15%)	1 (17%)	2 (15%)
Chest	45 (14%)	12 (13%)	12 (14%)	0 (0%)	2 (1%)	2 (4%)	0 (0%)	26 (44%)	0 (0%)	5 (38%)
Abdomen	59 (19%)	15 (16%)	14 (17%)	1 (8%)	6 (4%)	6 (13%)	0 (0%)	30 (51%)	1 (17%)	7 (54%)
Upper back	61 (19%)	24 (25%)	20 (24%)	4 (31%)	5 (4%)	5 (11%)	0 (0%)	27 (46%)	1 (17%)	4 (31%)
Lower back	57 (18%)	12 (13%)	10 (12%)	2 (15%)	8 (6%)	8 (17%)	0 (0%)	27 (46%)	4 (67%)	6 (46%)
Rt. Upper arm	31 (10%)	7 (7%)	5 (6%)	2 (15%)	6 (4%)	6 (13%)	0 (0%)	14 (24%)	0 (0%)	4 (31%)
Rt. Forearm	36 (11%)	8 (8%)	4 (5%)	4 (31%)	8 (6%)	8 (17%)	0 (0%)	16 (27%)	0 (0%)	4 (31%)
Rt. Hand	24 (8%)	5 (5%)	2 (2%)	3 (23%)	6 (4%)	6 (13%)	0 (0%)	10 (17%)	0 (0%)	3 (23%)
Rt. Thigh	59 (19%)	10 (10%)	9 (11%)	1 (8%)	20 (14%)	20 (43%)	0 (0%)	20 (34%)	4 (67%)	5 (38%)
Rt. Lower leg	53 (17%)	5 (5%)	5 (6%)	0 (0%)	17 (12%)	17 (36%)	0 (0%)	21 (36%)	5 (83%)	5 (38%)
Rt. Foot	38 (12%)	3 (3%)	3 (4%)	0 (0%)	13 (9%)	13 (28%)	0 (0%)	15 (25%)	5 (83%)	3 (23%)
Lt. Upper arm	29 (9%)	4 (4%)	4 (5%)	0 (0%)	4 (3%)	4 (9%)	0 (0%)	17 (29%)	1 (17%)	3 (23%)
Lt. Forearm	27 (9%)	3 (3%)	2 (2%)	1 (8%)	5 (4%)	5 (11%)	0 (0%)	15 (25%)	1 (17%)	3 (23%)
Lt. Hand	28 (9%)	4 (4%)	3 (4%)	1 (8%)	7 (5%)	7 (15%)	0 (0%)	13 (22%)	0 (0%)	4 (31%)
Lt. Thigh	67 (21%)	20 (21%)	16 (19%)	4 (31%)	13 (9%)	13 (28%)	0 (0%)	27 (46%)	3 (50%)	4 (28%)
Lt. Lower leg	51 (16%)	10 (10%)	8 (10%)	2 (15%)	10 (7%)	10 (21%)	0 (0%)	24 (41%)	2 (33%)	5 (38%)
Lt. Foot	25 (8%)	3 (3%)	2 (2%)	1 (8%)	2 (1%)	2 (4%)	0 (0%)	18 (31%)	1 (17%)	1 (28%)

*Values are the number of patients with the skin lesion(s) (%).

表 6. 合併症の種類と頻度

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 47)	Head/face (n = 94)			
Any complications*	99 (31%)	14 (15%)	7 (8%)	7 (54%)	41 (29%)	14 (30%)	27 (29%)	29 (49%)	6 (100%)	9 (69%)
Joint and/or muscle involvement due to the fibrosis	57	9	2	7	18	13	5	18	6	6
Contracture of joint	43	7	1	6	8	8	0	17	4	6
Lesion										
Finger	11	2	0	2	0	0	0	5	0	4
Wrist	9	2	1	1	0	0	0	5	0	2
Elbow	6	1	0	1	0	0	0	4	0	1
Shoulder	1	1	0	1	0	0	0	0	0	0
Toe	2	0	0	0	0	0	0	1	1	0
Ankle	9	0	0	0	0	0	0	4	3	2
Knee	12	2	0	2	0	0	0	6	4	0
Hip joint	3	1	0	1	0	0	0	1	1	0
Lower/upper length difference	23	2	1	1	4	4	0	10	5	2
Symptoms due to intracapsular lesion	11	1	1	0	7	1	6	3	0	0
Eye symptoms	6	0	0	0	5	0	5	0	0	1
Alopecia	26	3	2	1	22	0	22	0	0	1
Arthralgia/ Arthritis	9	2	2	0	2	1	1	4	1	0
Other autoimmune disease	14	0	0	0	5	1	4	7	0	2
						Unknown details (1)	Sjogren (2) Vitiligo (1) Unknown details (1)	JIA (2) SLE (1) PM (1) Sjogren (1) Type 1 DM (1) Unknown details (1)		DLE (1) ITP (1)

*Date are number (%).

表 7. 臨床検査所見*

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 47)	Head/face (n = 94)			
CK (IU/L)	157 ± 282 (n = 219)	130 ± 109 (n = 59)	136 ± 113 (n = 49)	105 ± 93 (n = 10)	139 ± 89 (n = 91)	137 ± 79 (n = 32)	140 ± 95 (n = 59)	230 ± 546 (n = 53)	117 ± 52 (n = 6)	136 ± 65 (n = 10)
Aldolase (U/L)	9 ± 9 (n = 62)	7 ± 6 (n = 8)	8 ± 7 (n = 6)	6 ± 2 (n = 2)	6 ± 3 (n = 26)	6 ± 3 (n = 15)	7 ± 3 (n = 11)	12 ± 13 (n = 24)	10 ± 9 (n = 2)	9 ± 2 (n = 2)

*Values are the highest over time.

表 8. 治療薬のまとめ

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 46)	Head/face (n = 95)			
No treatment	43/297 (14%)	15/92 (16%)	13/79 (16%)	2/13 (15%)	20/132 (15%)	4/45 (9%)	16/87 (18%)	7/54 (13%)	0/6 (0%)	1/13 (8%)
Topical										
Steroid	207/292 (71%)	67/93 (72%)	60/81 (74%)	7/12 (58%)	89/127 (70%)	36/43 (84%)	53/84 (63%)	35/53 (66%)	6/6 (100%)	10/13 (77%)
Tacrolimus	88/295 (30%)	26/92 (28%)	24/80 (30%)	2/12 (17%)	43/132 (33%)	10/45 (22%)	33/87 (38%)	16/53 (30%)	0/5 (0%)	3/13 (23%)
Systemic										
Oral steroid	128/294 (44%)	21/92 (23%)	13/79 (16%)	8/13 (62%)	57/129 (44%)	23/43 (53%)	34/86 (40%)	36/54 (67%)	5/6 (83%)	9/13 (69%)
Steroid pulse therapy	44/293 (15%)	4/92 (4%)	3/79 (4%)	1/13 (8%)	16/129 (12%)	5/43 (12%)	11/86 (13%)	19/54 (35%)	1/4 (25%)	4/13 (31%)
Methotrexate	84/291 (29%)	9/91 (10%)	6/79 (8%)	3/13 (23%)	34/130 (26%)	12/43 (28%)	22/87 (25%)	30/54 (56%)	3/6 (50%)	8/13 (62%)
Hydroxychloroquine	3/291 (1%)	0/92 (0%)	0/79 (0%)	0/13 (0%)	1/128 (1%)	0/43 (0%)	1/85 (1%)	2/53 (4%)	0/5 (0%)	0/13 (0%)
Cyclosporine A	29/294 (10%)	5/92 (5%)	3/79 (4%)	2/13 (15%)	18/130 (14%)	5/43 (12%)	13/87 (15%)	4/54 (7%)	0/5 (0%)	2/13 (15%)
Mycophenolate mofetil	15/295 (5%)	2/92 (2%)	1/79 (1%)	1/13 (8%)	2/130 (2%)	0/43 (0%)	2/87 (2%)	6/54 (11%)	2/6 (33%)	3/13 (23%)
Tacrolimus	10/293 (3%)	2/92 (2%)	1/79 (1%)	1/13 (8%)	2/130 (2%)	0/43 (0%)	2/87 (2%)	4/53 (8%)	2/5 (40%)	0/13 (0%)
Tocilizumab	16/294 (5%)	1/92 (1%)	1/79 (1%)	0/13 (0%)	8/130 (6%)	0/43 (0%)	8/87 (9%)	5/54 (9%)	0/5 (0%)	2/13 (15%)
UV therapy	16/294 (5%)	5/92 (5%)	5/79 (6%)	0/13 (0%)	4/130 (3%)	2/43 (5%)	2/87 (2%)	5/54 (9%)	0/5 (0%)	2/13 (15%)
Rehabilitation	17/293 (6%)	1/92 (1%)	1/78 (1%)	0/13 (0%)	3/130 (2%)	3/43 (7%)	0/87 (0%)	7/54 (13%)	3/5 (60%)	3/13 (23%)
Surgery	25/296 (8%)	1/92 (1%)	1/78 (1%)	0/13 (0%)	18/131 (14%)	3/44 (7%)	15/87 (17%)	2/54 (4%)	3/6 (50%)	1/13 (8%)

表 9. 治療薬と奏効率

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 46)	Head/face (n = 95)			
Topical										
Steroid (R/NR)	139/51 (73%)	43/16 (73%)	42/12 (78%)	1/4 (20%)	62/23 (73%)	25/7 (78%)	37/16 (70%)	25/7 (78%)	2/3 (40%)	7/2 (78%)
Tacrolimus (R/NR)	57/17 (77%)	49/4 (83%)	18/4 (82%)	1/0 (100%)	34/9 (79%)	8/2 (80%)	26/7 (79%)	12/3 (80%)	NA	2/1 (67%)
Systemic										
Oral steroid (R/NR)	112/11 (91%)	17/3 (85%)	11/1 (92%)	6/2 (75%)	49/5 (91%)	20/2 (91%)	29/3 (91%)	34/1 (97%)	4/1 (80%)	8/1 (89%)
Steroid pulse therapy (R/NR)	43/1 (98%)	4/0 (100%)	3/0 (100%)	1/0 (100%)	16/0 (100%)	5/0 (100%)	11/0 (100%)	18/1 (95%)	1/0 (100%)	4/0 (100%)
Methotrexate (R/NR)	69/7 (91%)	6/1 (86%)	3/1 (75%)	3/0 (100%)	29/2 (94%)	12/0 (100%)	17/2 (89%)	25/2 (93%)	2/1 (67%)	7/1 (88%)
Hydroxychloroquine (R/NR)	2/1 (67%)	NA	NA	NA	0/1 (0%)	NA	0/1 (0%)	2/0 (100%)	NA	NA
Cyclosporine A (R/NR)	27/2 (93%)	5/0 (100%)	3/0 (100%)	2/0 (100%)	17/1 (94%)	5/0 (100%)	12/1 (92%)	3/1 (75%)	NA	2/0 (100%)
Mycophenolate mofetil (R/NR)	12/3 (80%)	1/1 (50%)	1/0 (100%)	0/1 (0%)	2/0 (100%)	NA	2/0 (100%)	4/2 (67%)	2/0 (100%)	3/0 (100%)
Tacrolimus (R/NR)	9/1 (90%)	2/0 (100%)	1/0 (100%)	1/0 (100%)	2/0 (100%)	NA	2/0 (100%)	3/1 (75%)	2/0 (100%)	NA
Tocilizumab (R/NR)	15/1 (94%)	1/0 (100%)	1/0 (100%)	NA	8/0 (100%)	NA	8/0 (100%)	4/1 (80%)	NA	2/0 (100%)
UV therapy (R/NR)	12/4 (75%)	3/2 (60%)	3/2 (%)	NA	1/1 (50%)	1/1 (50%)	1/1 (50%)	5/0 (100%)	NA	2/0 (100%)
Rehabilitation (R/NR)	13/2 (87%)	1/0 (100%)	1/0 (100%)	NA	3/0 (100%)	3/0 (100%)	NA	5/1 (83%)	1/1 (50%)	3/0 (100%)

R; response, NR; non-response (% of response rate). NA; not available.

表 10. 外科的治療のまとめ

Subtype	Detail of surgery
Circumscribed	Excision of the sclerotic area
Generalized	Release of contracture of right and little fingers, left Achilles tendon lengthening, and right toe deformity correction
Generalized	Surgical treatment for cerebral aneurysm
Linear (Head/face)	Fat grafting for the depressed lesion
Linear (Head/face)	Excision of the sclerotic area
Linear (Head/face)	Local flap
Linear (Head/face)	Excision of the bald area
Linear (Head/face)	Excision of the bald area
Linear (Head/face)	Cheliooplasty, Excision of the bald area, left blepharoplasty, Fat grafting for left cheek, bone grafting for left nosewing
Linear (Head/face)	Fat grafting
Linear (Head/face)	Tooth extraction of left maxillary canine
Linear (Head/face)	Excision of the scar area
Linear (Head/face)	Local flap
Linear (Head/face)	Reconstitution of the earlobe
Linear (Head/face)	Scar revision of the forehead with artificial bone graft
Linear (Head/face)	Cicatrichroplasty
Linear (Head/face)	Excision of the sclerotic area
Linear (Head/face)	Cicatrichroplasty, local flap
Linear (Trunk/limbs)	Excision of the sclerotic area
Pansclerotic	Reconstitution of the nasal deformity
Pansclerotic	Achilles tendon lengthening with musculocutaneous flap and artificial bone graft
Pansclerotic	Leg lengthtning for the lower leg
Mixed morphea	Fat grafting

表 11. 予後の検討

	Total (n = 315)	Circumscribed			Linear			Generalized (n = 59)	Pansclerotic (n = 6)	Mixed (n = 13)
		Overall (n = 96)	Superficial (n = 83)	Deep (n = 13)	Overall (n = 141)	Trunk/limbs (n = 47)	Head/face (n = 94)			
Relapse	15/110 (14%)	0/33	0/25 (0%)	0/8 (0%)	7/43 (16%)	2/21 (10%)	5/22 (23%)	3/21 (14%)	1/3 (33%)	4/6 (67%)
Death	1	0	0	0	0	0	0	1*	0	0

*cerebral aneurysm rupture.