



**Supplementary Table 1.** Frequency of celiac disease-specific manifestations in the three groups of AD patients.

CD features, <i>n</i> (%)	Total ( <i>n</i> = 42)	SLE ( <i>n</i> = 10)	pSS ( <i>n</i> = 25)	SSc ( <i>n</i> = 7)	<i>p</i> value
Abdominal distention	22 (52%)	6 (60%)	13 (52%)	3 (43%)	0.8
Iron deficiency anemia	19 (45%)	5 (50%)	10 (40%)	4 (57%)	0.7
Autoimmune thyroiditis	19 (45%)	4 (40%)	12 (48%)	3 (43%)	0.9
Chronic diarrhea	15 (36%)	4 (40%)	9 (36%)	2 (29%)	0.9
Osteopenia	12 (29%)	2 (20%)	8 (32%)	2 (29%)	0.8
Loss of appetite	11 (26%)	5 (50%)	4 (16%)	2 (29%)	0.1
Constipation	8 (19%)	1 (10%)	6 (24%)	1 (14%)	0.6
Osteoporosis	6 (14%)	1 (10%)	5 (20%)	0 (0%)	0.4
Steatorrhea	5 (12%)	0 (0%)	3 (12%)	2 (29%)	0.2
Muscle hypotrophy	5 (12%)	2 (20%)	2 (8%)	1 (14%)	0.6
Depression	5 (12%)	2 (20%)	1 (4%)	2 (29%)	0.1
First-degree family members	4 (9%)	1 (10%)	2 (8%)	1 (14%)	0.7
Dermatitis herpetiformis	3 (7%)	0 (0%)	1 (4%)	2 (29%)	<b>0.05</b>
Peripheral neuropathy	3 (7%)	0 (0%)	2 (8%)	1 (14%)	0.5
Infertility/recurrent miscarriages	3 (7%)	2 (20%)	0 (0%)	1 (14%)	0.08
Atrophic glossitis	3 (7%)	1 (10%)	2 (8%)	0 (0%)	0.7
Epilepsy	1 (2%)	1 (10%)	0 (0%)	0 (0%)	0.2
Ataxia	0 (0%)	0 (0%)	0 (0%)	0 (0%)	NA
Autoimmune hepatitis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	NA
Primary biliary cirrhosis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	NA

Statistically significant differences in bold.

NA, not applicable; CD, celiac disease; AD, autoimmune disease; SLE, systemic lupus erythematosus; pSS, primary Sjögren syndrome; SSc, systemic sclerosis.

**Supplementary Table 2.** Frequency of clinical and laboratory features in SLE patients with CD in comparison to those without evidence of CD.

SLE features	SLE-CD ( <i>n</i> = 10)	SLE-non-CD ( <i>n</i> = 570)	<i>p</i> value
Arthritis/arthralgia, <i>n</i> (%)	6 (60%)	438 (77%)	0.2
Malar rash, <i>n</i> (%)	3 (30%)	261 (46%)	0.3
Photosensitivity, <i>n</i> (%)	3 (30%)	280 (49%)	0.3
Discoid lupus erythematosus, <i>n</i> (%)	0 (0%)	30 (5%)	1.0
Oral ulcers, <i>n</i> (%)	0 (0%)	91 (16%)	0.4
Raynaud phenomenon, <i>n</i> (%)	2 (20%)	187 (33%)	0.5
Serositis, <i>n</i> (%)	4 (40%)	114 (20%)	0.1
Lung involvement, <i>n</i> (%)	0 (0%)	36 (6%)	1.0
Pulmonary arterial hypertension, <i>n</i> (%)	1 (10%)	8 (1%)	0.1
Lupus glomerulonephritis, <i>n</i> (%)	3 (30%)	217 (38%)	0.7
Myositis, <i>n</i> (%)	1 (10%)	14 (2%)	0.2
Peripheral nervous system involvement, <i>n</i> (%)	1 (10%)	39 (7%)	0.5
Psychosis, <i>n</i> (%)	0 (0%)	11 (2%)	1.0
Epilepsy, <i>n</i> (%)	1 (10%)	21 (4%)	0.3
Leukopenia, <i>n</i> (%)	5 (50%)	174 (30%)	0.3
Immune-hemolytic anemia, <i>n</i> (%)	3 (30%)	76 (13%)	0.1
Thrombocytopenia, <i>n</i> (%)	3 (30%)	97 (17%)	0.4
Low complement, <i>n</i> (%)	6 (60%)	320 (56%)	1.0
IgM/IgG anti-cardiolipin, <i>n</i> (%)	3 (30%)	129 (23%)	0.7
IgM/IgG anti-β2 glycoprotein I, <i>n</i> (%)	2 (20%)	94 (16%)	0.7
Lupus anticoagulant, <i>n</i> (%)	0 (0%)	90 (16%)	0.4
Anti-Sm, <i>n</i> (%)	3 (30%)	82 (14%)	0.2
Anti-RNP, <i>n</i> (%)	1 (10%)	95 (17%)	1.0
Anti-dsDNA, <i>n</i> (%)	0 (0%)	1 (0.2%)	0.6
Anti-Ro52/Ro60, <i>n</i> (%)	1 (10%)	190 (33%)	0.2
Other autoantibodies, <i>n</i> (%)	<b>4 (40%)</b>	<b>30 (5%)</b>	<b>0.002</b>

Statistically significant differences in bold.

CD, celiac disease; SLE, systemic lupus erythematosus.

**Supplementary Table 3.** Frequency of clinical and laboratory features in pSS patients with CD in comparison to those without evidence of CD.

pSS features	pSS-CD ( <i>n</i> = 25)	pSS-non-CD ( <i>n</i> = 329)	<i>p</i> value
Xerostomia, <i>n</i> (%)	21 (84%)	286 (87%)	0.5
Xerophthalmia, <i>n</i> (%)	24 (96%)	302 (92%)	0.7
Parotid swelling, <i>n</i> (%)	7 (28%)	132 (40%)	0.3
Vasculitic purpura, <i>n</i> (%)	1 (4%)	37 (11%)	0.5
Arthritis/arthritis, <i>n</i> (%)	16 (64%)	210 (64%)	1.0
Raynaud phenomenon, <i>n</i> (%)	9 (36%)	82 (25%)	0.2
Serositis, <i>n</i> (%)	0 (0%)	20 (6%)	0.4
Lung involvement, <i>n</i> (%)	1 (4%)	23 (7%)	1.0
Kidney involvement, <i>n</i> (%)	1 (4%)	12 (4%)	1.0
MGUS, <i>n</i> (%)	1 (4%)	16 (5%)	1.0
Lymphoma, <i>n</i> (%)	1 (4%)	11 (3%)	0.6
Myositis, <i>n</i> (%)	0 (0%)	1 (0.3%)	1.0
Central nervous system involvement, <i>n</i> (%)	0 (0%)	12 (4%)	1.0
Peripheral nervous system involvement, <i>n</i> (%)	2 (8%)	50 (15%)	0.5
Autoimmune thyroiditis, <i>n</i> (%)	<b>12 (48%)</b>	<b>81 (25%)</b>	<b>0.02</b>
Autoimmune hepatitis, <i>n</i> (%)	0 (0%)	9 (3%)	1.0
Low complement, <i>n</i> (%)	4 (16%)	55 (17%)	1.0
Leukopenia, <i>n</i> (%)	8 (32%)	78 (24%)	0.3
Hypergammaglobulinemia, <i>n</i> (%)	9 (37%)	133 (40%)	0.8
Cryoglobulins, <i>n</i> (%)	1 (4%)	9 (3%)	0.5
IgM/IgG anti-cardiolipin, <i>n</i> (%)	1 (4%)	12 (4%)	1.0
Anti-Ro52/Ro60, <i>n</i> (%)	21 (84%)	244 (74%)	0.3
Anti-La, <i>n</i> (%)	10 (40%)	141 (43%)	0.8

Statistically significant differences in bold.

MGUS, monoclonal gammopathy of undetermined significance; CD, celiac disease; pSS, primary Sjögren syndrome.

**Supplementary Table 4.** Frequency of clinical and laboratory features in SSc patients with CD in comparison to those without evidence of CD.

SSc features	SSc-CD ( <i>n</i> = 7)	SSc-non-CD ( <i>n</i> = 517)	<i>p</i> value
Raynaud phenomenon, <i>n</i> (%)	7 (100%)	467 (90%)	1.0
Arthritis/arthralgia, <i>n</i> (%)	2 (29%)	219 (42%)	0.7
Tendon friction, <i>n</i> (%)	2 (29%)	63 (12%)	0.2
Skin ulcers, <i>n</i> (%)	2 (29%)	185 (36%)	1.0
Serositis, <i>n</i> (%)	1 (14%)	29 (6%)	0.3
Pulmonary fibrosis, <i>n</i> (%)	2 (29%)	201 (39%)	0.7
Pulmonary arterial hypertension, <i>n</i> (%)	1 (14%)	106 (20%)	1.0
Scleroderma renal crisis, <i>n</i> (%)	1 (14%)	7 (1%)	0.1
Gastrointestinal involvement, <i>n</i> (%)	3 (43%)	255 (49%)	1.0
Myositis, <i>n</i> (%)	<b>2 (29%)</b>	<b>18 (3%)</b>	<b>0.03</b>

Statistically significant differences in bold.

CD, celiac disease; SSc, systemic sclerosis.