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**Table SI.** Basic characteristics of the study population at T<sub>0</sub>.

	Total (N=196) N (%)
Age, years, mean ± SD <i>Missing, n</i>	38.6 ± 14.4 0
Sex Male Female <i>Missing, n</i>	112 (57.1) 84 (42.9) 0
Age of onset Early onset (0-2 years) Childhood onset (3-11 years) Adolescent onset (12-17 years) Adult onset (18-50 years) Late onset (>50 years) <i>Missing, n</i>	122 (62.6) 40 (20.5) 12 (6.2) 18 (9.2) 3 (1.5) 1
ADCT (0-24), mean ± SD <i>Missing, n</i>	8.9 ± 6.7 0
EASI (0-72), mean ± SD Clear (0) Mild (0.1-5.9) Moderate (6.0-22.9) Severe (23.0-72.0) <i>Missing, n</i>	10.0 ± 9.9 4 (2.2) 80 (43.5) 78 (42.4) 22 (12.0) 12
vIGA Clear/almost clear Mild Moderate Severe <i>Missing, n</i>	40 (22.9) 41 (23.4) 54 (30.9) 40 (22.9) 21
PtGA of AD severity Clear Mild Moderate Severe Very severe <i>Missing, n</i>	8 (4.1) 72 (36.9) 50 (25.6) 52 (26.7) 13 (6.7) 1
PtGA of AD control Not at all controlled A little controlled Moderately controlled Mostly controlled Completely controlled <i>Missing, n</i>	43 (22.1) 38 (19.5) 46 (23.6) 51 (26.2) 17 (8.7) 1
POEM (0-28), mean ± SD <i>Missing, n</i>	14.0 ± 8.0 0
RECAP (0-28), mean ± SD Not at all controlled A little controlled Moderately controlled Mostly controlled Completely controlled	11.6 ± 8.0 42 (21.4) 46 (23.5) 47 (24.0) 41 (20.9) 20 (10.2)

<i>Missing, n</i>	<i>0</i>
DLQI (0-30), mean ± SD	7.8 ± 7.2
<i>Missing, n</i>	<i>0</i>
Skindex-29 (0-100), mean ± SD	41.4 ± 22.7
<i>Missing, n</i>	<i>1</i>
EQ-5D-5L, mean ± SD	
Value score (-0.59-1.0)	0.7 ± 0.2
VAS score (0-100)	65.5 ± 18.9
<i>Missing, n</i>	<i>2</i>
NRS peak itch (0-10), mean ± SD	4.9 ± 3.1
<i>Missing, n</i>	<i>8</i>
NRS sleep disturbance (0-10), mean ± SD	2.8 ± 3.2
<i>Missing, n</i>	<i>1</i>

SD, standard deviation; n. number; ADCT, Atopic Dermatitis control Tool; EASI, Eczema Area and Severity Index; vIGA, validated Investigator's Global Assessment; PtGA, Patient's Global Assessment; AD, atopic dermatitis; POEM, Patient-Oriented Eczema Measure; RECAP, Recap of atopic eczema; DLQI, Dermatology Life Quality Index; EQ-5D-5L, quality-of-life questionnaire of the EuroQol Group; VAS, visual analogue scale; NRS, numeric rating scale.

**Table SII.** Number of patients with each ADCT total score and corresponding patient-reported global assessment of atopic dermatitis control scores (0-4).

ADCT score	Patient N	PtGA of AD Control					Mean	Median	Mode
		0	1	2	3	4			
0	4	3	1	0	0	0	0.25	0	0
1	18	7	10	1	0	0	0.67	1	1
2	16	5	10	0	0	1	0.88	1	1
3	19	1	11	5	2	0	1.42	1	1
4	10	0	4	4	2	0	1.80	2	1/2
5	9	0	4	2	2	1	2.00	2	1
6	17	1	4	9	1	2	1.94	2	2
7	9	0	3	5	1	0	1.78	2	2
8	7	0	0	4	2	1	2.58	2	2
9	9	0	3	3	2	1	2.11	2	1/2
10	6	0	1	0	4	1	2.83	3	3
11	6	0	0	2	2	2	3.00	3	2/3/4
12	8	0	0	3	3	2	2.88	3	2/3
13	11	0	0	1	8	2	3.09	3	3
14	3	0	0	1	1	1	3.00	3	2/3/4
15	3	0	0	1	0	2	3.33	4	4
16	2	0	0	0	0	2	4.00	4	4
17	8	0	0	2	2	4	3.25	3.5	4
18	9	0	0	1	2	6	3.56	4	4
19	1	0	0	0	1	0	3.00	3	3
20	4	0	0	1	2	1	3.00	3	3
21	5	0	0	0	1	4	3.80	4	4
22	3	0	0	1	0	2	3.33	4	4
23	5	0	0	0	0	5	4	4	4
24	3	0	0	0	0	3	4	4	4

n, number, PtGA, Patient-reported Global Assessment; ADCT, Atopic Dermatitis Control Tool.

<sup>a</sup>PtGA of AD control (scored reversely): 0-completely controlled; 1-mostly controlled; 2-moderately controlled; 3-a little controlled; 4-not at all controlled.

**Table SIII.** Kappa coefficients of agreements for different proposed sets of the ADCT bands with PtGA of AD control. The final showing the highest agreement is highlighted in yellow, and the second and third highest in grey.

Band no.	Completely controlled	Mostly controlled	Moderately controlled	A little controlled	Not at all controlled	Coefficient of agreement (k) with PtGA of AD control
1	0	1-3	4-9	10-14	15-24	0.610
2	0	1-3	4-9	10-17	18-24	0.587
3	0	1-3	4-9	10-20	21-24	0.575
4	0	1-3	4-11	12-14	15-24	0.584
5	0	1-3	4-11	12-17	18-24	0.561
6	0	1-3	4-11	12-20	21-24	0.547
7	0	1-3	4-12	13-14	15-24	0.575
8	0	1-3	4-12	13-17	18-24	0.551
9	0	1-3	4-12	13-20	21-24	0.537
10	0	1-4	5-9	10-14	15-24	0.607
11	0	1-4	5-9	10-17	18-24	0.585
12	0	1-4	5-9	10-20	21-24	0.572
13	0	1-4	5-11	12-14	15-24	0.581
14	0	1-4	5-11	12-17	18-24	0.558
15	0	1-4	5-11	12-20	21-24	0.545
16	0	1-4	5-12	13-14	15-24	0.572
17	0	1-4	5-12	13-17	18-24	0.548
18	0	1-4	5-12	13-20	21-24	0.534
19	0	1-5	6-9	10-14	15-24	0.607
20	0	1-5	6-9	10-17	18-24	0.585
21	0	1-5	6-9	10-20	21-24	0.572
22	0	1-5	6-11	12-14	15-24	0.582
23	0	1-5	6-11	12-17	18-24	0.559
24	0	1-5	6-11	12-20	21-24	0.546
25	0	1-5	6-12	13-14	15-24	0.572
26	0	1-5	6-12	13-17	18-24	0.549
27	0	1-5	6-12	13-20	21-24	0.535
28	0-1	2-3	4-9	10-14	15-24	0.616
29	0-1	2-3	4-9	10-17	18-24	0.595
30	0-1	2-3	4-9	10-20	21-24	0.583
31	0-1	2-3	4-11	12-14	15-24	0.592
32	0-1	2-3	4-11	12-17	18-24	0.570
33	0-1	2-3	4-11	12-20	21-24	0.557
34	0-1	2-3	4-12	13-14	15-24	0.583
35	0-1	2-3	4-12	13-17	18-24	0.561
36	0-1	2-3	4-12	13-20	21-24	0.548
37	0-1	2-4	5-9	10-14	15-24	0.613
38	0-1	2-4	5-9	10-17	18-24	0.592
39	0-1	2-4	5-9	10-20	21-24	0.581
40	0-1	2-4	5-11	12-14	15-24	0.589
41	0-1	2-4	5-11	12-17	18-24	0.568
42	0-1	2-4	5-11	12-20	21-24	0.555
43	0-1	2-4	5-12	13-14	15-24	0.580
44	0-1	2-4	5-12	13-17	18-24	0.558
45	0-1	2-4	5-12	13-20	21-24	0.545
46	0-1	2-5	6-9	10-14	15-24	0.614
47	0-1	2-5	6-9	10-17	18-24	0.593
48	0-1	2-5	6-9	10-20	21-24	0.581
49	0-1	2-5	6-11	12-14	15-24	0.590

50	0-1	2-5	6-11	12-17	18-24	0.568
51	0-1	2-5	6-11	12-20	21-24	0.556
52	0-1	2-5	6-12	13-14	15-24	0.581
53	0-1	2-5	6-12	13-17	18-24	0.559
54	0-1	2-5	6-12	13-20	21-24	0.546

no, number, PtGA, Patient-reported Global Assessment; ADCT, Atopic Dermatitis Control Tool; AD, atopic dermatitis; k, kappa.

**Table SIV.** Overview of ADCT scores falling outside the proposed banding based on the anchor PtGA of AD control.

PtGA of AD control bandings	ADCT bandings				
	Completely controlled	Mostly controlled	Moderately controlled	A little controlled	Not at all controlled
Completely controlled	10	6	1	0	0
Mostly controlled	11	29	10	1	0
Moderately controlled	1	11	21	7	6
A little controlled	0	6	6	18	8
Not at all controlled	0	2	4	8	29

ADCT, atopic dermatitis control tool; PtGA, Patient-reported Global Assessment; AD, atopic dermatitis.

**Table SV.** Mean change score of ADCT between T<sub>1</sub> and T<sub>2</sub> stratified by categories of the GRC scale at T<sub>2</sub>.

GRC at T <sub>2</sub>	N (n=160)	Mean change scores
Much improvement	24	7.8
Moderate improvement	20	4.3
<b>Minor improvement</b>	<b>10</b>	<b>3.5</b>
No important change	90	0.5
Minor deterioration	8	-3.0
Moderate deterioration	7	-4.1
Much deterioration	1	-4.0

GRC, global rating of change; n, number.

**Table SVI.** Coordinates of the Curve (ROC).

Change ADCT $T_1 - T_2$	Sensitivity	1 - Specificity	1-sensitivity	(1-spec)+(1-sen)
-7	1	1	0	1
-5	0.981	0.989	0.019	1.008
-3.5	0.981	0.978	0.019	0.997
-2.5	0.981	0.889	0.019	0.908
-1.5	0.963	0.811	0.037	0.848
-0.5	0.926	0.622	0.074	0.696
0.5	0.833	0.4	0.167	0.567
1.5	0.704	0.233	0.296	0.529
2.5	0.667	0.156	0.333	0.489
3.5	0.63	0.122	0.37	0.492
4.5	0.556	0.089	0.444	0.533
5.5	0.463	0.078	0.537	0.615
6.5	0.426	0.067	0.574	0.641
7.5	0.333	0.067	0.667	0.734
8.5	0.315	0.033	0.685	0.718
9.5	0.259	0.011	0.741	0.752
10.5	0.167	0.011	0.833	0.844
11.5	0.111	0	0.889	0.889
12.5	0.093	0	0.907	0.907
14.5	0.074	0	0.926	0.926
16.5	0.037	0	0.963	0.963
18.5	0.019	0	0.981	0.981
21	0	0	1	1

Spec, specificity; sen, sensitivity.

**Table SVII.** Correlation between the ADCT and RECAP on single scores and change scores at all time points using Spearman's rho.

Time points	ADCT and RECAP total scores Spearman's rho			$\Delta$ ADCT and $\Delta$ RECAP scores between two time points Spearman's rho		
	$T_0$	$T_1$	$T_2$	$T_0 - T_1$	$T_0 - T_2$	$T_1 - T_2$
Spearman rho	0.96	0.94	0.91	0.50	0.80	0.84

ADCT, Atopic Dermatitis Control Tool; RECAP, Recap of atopic eczema questionnaire.

$\Delta$ : change scores on ADCT and RECAP between two time points.

**Table SVIII.** Correlation between Individual items from the ADCT and RECAP at all time points using Spearman’s rho.

		ADCT items																	
RECAP items		Item 1 – overall symptom			Item 2 – intense itch			Item 3 – bothering			Item 4 – sleep disturbance			Item 5 – daily activities			Item 6 – mood / emotions		
		T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>
	Item 1 – disease status	0.83	0.84	0.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Item 2 – itch	0.72	0.66	0.66	0.69	0.63	0.63	0.61	0.57	0.59	0.65	0.58	0.48	0.55	0.56	0.47	0.59	0.58	0.53
	Item 3 – intense itch	-	-	-	0.89	0.90	0.82	-	-	-	-	-	-	-	-	-	-	-	-
	Item 4 – sleep disturbance	-	-	-	-	-	-	-	-	-	0.92	0.93	0.87	-	-	-	-	-	-
	Item 5 – daily activities	-	-	-	-	-	-	-	-	-	-	-	-	0.88	0.89	0.76	-	-	-
	Item 6 – feeling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.86	0.87	0.80
	Item 7 - acceptability	-	-	-	-	-	-	0.80	0.78	0.74	-	-	-	-	-	-	-	-	-

ADCT, Atopic Dermatitis Control Tool; RECAP, Recap of atopic eczema questionnaire.

\*Considering that the item on the itch in general is only included in the RECAP but not ADCT, Spearman’s rho was calculated with all items from the ADCT.



**Table SIX.** Overview of ADCT scores falling outside the proposed banding based on the RECAP.

ADCT bandings		RECAP bandings				
		Completely controlled	Mostly controlled	Moderately controlled	A little controlled	Not at all controlled
	Completely controlled	<b>13</b>	9	0	0	0
	Mostly controlled	6	<b>31</b>	16	<b>1</b> <sup>#</sup>	0
	Moderately controlled	<b>1</b> <sup>*</sup>	1	<b>29</b>	12	0
	A little controlled	0	0	2	<b>28</b>	4
	Not at all controlled	0	0	0	5	<b>38</b>

ADCT, Atopic Dermatitis Control Tool; RECAP, Recap of atopic eczema questionnaire.

\*Comparison of corresponding individual items between ADCT and RECAP for this patient: ADCT–symptoms vs. RECAP–disease status: 4 vs. 0; ADCT–intense itch vs. RECAP–intense itch: 1 vs. 0; ADCT–bothering vs. RECAP–Acceptability: 1 vs. 0; other corresponding items were same; RECAP–itch=1.

#Comparison of corresponding individual items between ADCT and RECAP for this patient: ADCT–intense itch vs. RECAP–intense itch: 1 vs. 2; ADCT–bothering vs. RECAP–Acceptability: 1 vs. 3; other items were same; RECAP–itch =4.