Laboratory parameters in adolescent patients aged 12–17 with moderate-to-severe atopic dermatitis treated with tralokinumab up to week 52: results from the phase 3 ECZTRA 6 trial

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Objective

- To further characterize the safety profile of tralokinumab by evaluating laboratory parameters of adolescents in the ECZTRA 6 trial

Background

- Atopic dermatitis (AD) is more prevalent in children than in adults, and there is a need for more treatments for adolescent patients suffering with moderate-to-severe disease[1,2]
- Tralokinumab, a high-affinity, monoclonal antibody that targets IL-13, is approved in the EU and Canada for adolescents (aged ≥12 years) with inadequately controlled moderate-to-severe AD, and it does not require laboratory monitoring.[3–7] It is currently under review for adolescents with the FDA
- In the phase 3 ECZTRA 6 monotherapy trial, tralokinumab was effective and well tolerated in patients aged 12–17 years with AD[8]

Results

Hematology Parameters

- Mean and median changes of most hematology parameters showed minor fluctuations within the normal ranges through week 52, except for eosinophils (**Table 1**)
- *Eosinophils*
  - At baseline, elevated mean eosinophil counts (>0.5 10^9/L) were observed for 40.8% (tralokinumab 150 mg), 48.5% (tralokinumab 300 mg), and 43.6% (placebo) of subjects in each respective treatment group
  - Maximum mean change from baseline in eosinophils before week 16 was 0.2×10^9/L, with levels returning back to near baseline values by week 52
  - Continued treatment with tralokinumab or placebo did not correspond with further increase in eosinophil levels over time, and no adverse events of eosinophilia were reported

Biochemistry Parameters

- Mean levels of most biochemistry parameters (i.e., electrolytes, renal + liver function parameters, and lipid panel), were within normal range at baseline, and mean and median changes showed minor fluctuations within normal ranges in all treatment arms (**Table 2**)
- Mean lactate dehydrogenase levels were around or above the upper limit of normal (ULN) at baseline and decreased to within the normal ranges during the trial across all groups

Table 1. Hematology parameters of clinical interest.

	Initial Treatment Period (Wk 0-16)			Open-label Period (Wk 16-52)*
	Tralokinumab 150 mg (n=98) N (%)	Tralokinumab 300 mg (n=97) N (%)	Placebo (n=94) N (%)	Tralokinumab 300 mg + optional TCS (n=234) N (%)
Hemoglobin (g/L) > 190	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Platelets (10^9/L) < 100	0 (0.0)	0 (0.0)	1 (1.1)	0 (0.0)
Basophils (10^9/L) > 0.2	1 (1.0)	3 (3.1)	1 (1.1)	5 (2.1)
Lymphocytes (10^9/L) < 0.6	0 (0.0)	0 (0.0)	1 (1.1)	1 (0.4)
Monocytes (10^9/L)				
< 0.4	64 (65.3)	67 (69.1)	52 (55.3)	144 (61.5)
> 0.9 (F) / 1.3 (M)	1 (1.0)	2 (2.1)	2 (2.1)	2 (0.9)
Neutrophils (10^9/L) 1.0 ≤ x < 1.5	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Eosinophils (10^9/L)				
0.5 < x ≤ 1.5	46 (46.9)	54 (55.7)	42 (44.7)	122 (52.1)
1.5 < x ≤ 5.0	14 (14.3)	12 (12.4)	4 (4.3)	35 (15.0)
> 5.0	2 (2.0)	1 (1.0)	0 (0.0)	2 (0.9)
Leukocytes (10^9/L)				
< 4.0	3 (3.1)	2 (2.1)	4 (4.3)	8 (3.4)
> 13.5	0 (0.0)	0 (0.0)	1 (1.1)	3 (1.3)

Table 2. Biochemistry parameters of clinical interest.

	Initial Treatment Period (Wk 0-16)			Open-label Period (Wk 16-52)*
	Tralokinumab 150 mg (n=98) N (%)	Tralokinumab 300 mg (n=97) N (%)	Placebo (n=94) N (%)	Tralokinumab 300 mg + optional TCS (n=234) N (%)
Potassium (mmol/L) 6.5 < x ≤ 7.5	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)
Creatinine (µmol/L)				
1.5*ULN < x ≤ 3*ULN	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Bilirubin (µmol/L) > 2*ULN	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Alkaline Phosphatase (U/L)				
> 1.5*ULN	0 (0.0)	1 (1.0)	0 (0.0)	8 (3.4)
Alanine Aminotransferase (U/L)				
3*ULN < x ≤ 5*ULN	1 (1.0)	0 (0.0)	0 (0.0)	1 (0.4)
Aspartate Aminotransferase (U/L)				
10*ULN <x ≤ 20*ULN	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)
Cholesterol (mmol/L) > 6.2	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)
LDL Cholesterol (mmol/L)				
4.1 < x ≤ 4.9	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)

*Similar results were observed during the maintenance treatment period that included few patients.

Conclusions

- These data support similar findings in adult trials, where no clinically meaningful changes in laboratory parameters, including hematology, biochemistry, and urinalysis parameters, were observed in adolescents through week 52 with tralokinumab treatment or placebo
- No routine laboratory monitoring is needed for adult or adolescent AD patients treated with tralokinumab

References

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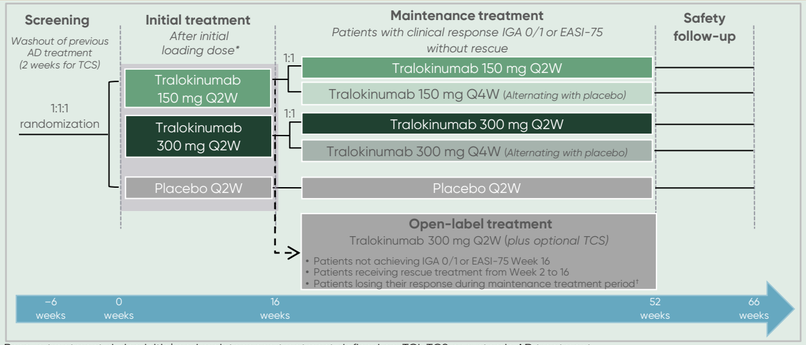
Methods

- Adolescent patients were randomized 1:1:1 to subcutaneous tralokinumab 150 mg or 300 mg, or placebo every 2 weeks (Q2W), for an initial treatment period of 16 weeks[8] (**Figure 1**)
- Laboratory parameters included hematology, serum biochemistry, and urinalysis throughout the trial (weeks 0, 8, 16, 28, and 52)

Baseline and Disease Characteristics

- Baseline demographics and clinical characteristics were similar across treatment groups (**Table 3**)

Figure 1. ECZTRA 6 trial design.



Rescue treatment during initial and maintenance treatment defined as: TCI, TCS or systemic AD treatment.
*Loading dose of 600 mg for patients receiving 300 mg Q2W; 300 mg for those receiving 150 mg Q2W.
†Patients not achieving EASI-75 over ≥4 weeks with IGA ≥2 after IGA=0 at Week 16, or with IGA ≥3 after IGA=1 at Week 16, or who had IGA >1 at Week 16; patients who receive rescue treatment after Week 16.

Table 3. Baseline characteristics.

Patients	Tralokinumab 150 mg (n=98)	Tralokinumab300 mg (n=97)	Placebo (n=94)
Mean age, years	14.8	14.6	14.3
Age group, n (%)			
12–14	37 (37.8)	45 (46.4)	49 (52.1)
15–17	61 (62.2)	52 (53.6)	45 (47.9)
Male sex, n (%)	51 (52.0)	47 (48.5)	51 (54.3)
Race, n (%)			
White	55 (56.1)	56 (57.7)	53 (56.4)
Black or African American	7 (7.1)	14 (14.4)	11 (11.7)
Asian	28 (28.6)	20 (20.6)	23 (24.5)
American Indian or Alaska Native	2 (2.0)	0 (0)	1 (1.1)
Native Hawaiian or other Pacific Islander	0 (0)	2 (2.1)	2 (2.1)
Other	6 (6.1)	5 (5.2)	4 (4.3)
Mean duration of AD, years (SD)	12.7 (3.7)	12.1 (3.7)	12.1 (3.5)
Severe disease (IGA=4), n (%)	44 (44.9)	48 (49.5)	43 (45.7)
Mean BSA (SD)	52.4 (22.6)	49.6 (23.3)	51.4 (23.9)
Mean EASI (SD)	32.1 (12.9)	31.8 (13.9)	31.2 (14.5)
Mean SCORAD (SD)	67.7 (14.4)	68.3 (13.7)	67.4 (14.9)
Mean CDLQI (SD)	12.9 (6.3)	13.4 (7.3)	13.3 (6.0)
Mean Weekly Average Peak Pruritus NRS (SD)	7.5 (1.6)	7.8 (1.5)	7.5 (1.7)
Comorbidities (Past + Current)			
Asthma	42 (42.9)	42 (43.3)	40 (42.6)
Food allergy	64 (65.3)	49 (50.5)	52 (55.3)
Rhinitis allergic	27 (27.6)	26 (26.8)	25 (26.6)

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