**Introduction**

Atopic dermatitis (AD) is a chronic skin disease associated with significant itch and sleep disturbances that profoundly affect patients’ lives.

Tralokinumab is a fully human, high-affinity, monoclonal antibody that specifically neutralizes the interleukin-13 cytokine, a key driver of AD signs and symptoms.

In two pivotal phase 3 trials (ECZTRA 1, NCT03153368; ECZTRA 2, NCT03150785) in adults with moderate-to-severe AD, tralokinumab monotherapy demonstrated superiority compared to placebo and a primary secondary endpoint at Week 16 and was well tolerated up to 52 weeks of treatment.

**Objective**

To evaluate the timing and effect of tralokinumab on itch and sleep in adults with moderate-to-severe AD pooled from two identical Phase 3 trials.

**Methods**

**Trial design**

ECZTRA 1 and 2 were two identically designed, multinational, double-blind, randomized, placebo-controlled, 52-week trials (Figure 1). Patients were randomized to subcutaneous tralokinumab 300 mg or placebo every 2 weeks for an initial 16 weeks. Prior to randomization, AD treatments were washed out: 4 weeks for systemic treatments and 2 weeks for TCS and other topical treatments. Rescue treatment could be used at the discretion of the investigator to control intolerable symptoms.

**Key eligibility criteria**

- **18 years of age**
- **Confirmed diagnosis of atopic dermatitis for ≥1 year**
- **EASI score ≥12 at screening and ≥16 at baseline**
- **IGA score ≥3**
- **AD involvement of ≤50% body surface area**

**Outcomes**

EASI and IGA were assessed at baseline and at scheduled biweekly visits throughout the trials.

**Results**

**Patients, demographics, and clinical characteristics**

- **IGA** and **EASI** were randomized in ECZTRA 1 and 2, respectively (tralokinumab, n=1196; placebo, n=1192).
- **Baseline demographic and clinical characteristics were well balanced between treatment groups (Table 1).**

**Table 1. Baseline demographics and clinical characteristics.**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment</th>
<th>Mean (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>Placebo</td>
<td>42.2 (14.9)</td>
<td>0.720</td>
</tr>
<tr>
<td>EASI</td>
<td>Placebo</td>
<td>31.4 (19.0)</td>
<td>0.001</td>
</tr>
<tr>
<td>IGA</td>
<td>Placebo</td>
<td>7.5 (1.4)</td>
<td>0.001</td>
</tr>
<tr>
<td>Sex (M:F)</td>
<td>Placebo</td>
<td>56:63</td>
<td>0.270</td>
</tr>
<tr>
<td>Disease duration (years)</td>
<td>Placebo</td>
<td>2.1 (3.0)</td>
<td>0.230</td>
</tr>
</tbody>
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**Analyses**

This post hoc analysis was conducted on pooled data from ECZTRA 1 and ECZTRA 2 trials through Week 16.

**Statistical analyses following pre-specified:**

- Difference in IGA 0/1 and EASI-75 response rates were assessed at Week 16 in a pre-specified pooled analysis of the primary endpoints using the Cochran-Mantel-Haenszel stratified by region, baseline Investigator’s Global Assessment (IGA) and trial. Missing data or data after rescue medication (including TCS) were imputed as non-response.
- Change from baseline in worst daily pruritus, eczema-related sleep interference were assessed both as weekly averages of worst daily measures (Baseline to Week 16) as well as the single worst daily measures (Baseline to Day 0 in post-hoc analyses using a mixed model for repeated measures with fixed effects of planned treatment, region, baseline IGA, trial and interactions between treatment and visit and baseline value and visit. Data collected after permanent discontinuation or interruption of rescue medication (including TCS) were set to missing.
- Change from worst daily pruritus, eczema-related sleep interference response rates (NRS 2 and NRS 4) were assessed using the single worst daily measures (Baseline to Day 0) in post-hoc analyses using the Cochran-Mantel-Haenszel stratified by region, baseline Investigator’s Global Assessment (IGA) and trial. Missing data or data after rescue medication (including TCS) were imputed as non-response.
- p-values are nominal without multiplicity adjustment.

**Baseline demographics and clinical characteristics.**

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**Conclusions**

Tralokinumab monotherapy showed rapid and sustained improvements from baseline in itch and sleep interference relative to placebo, starting from Day 2 after the first dose.

References

2. Online access printed.

**Disclosures**

Erik Stangl is a consultant and investigator for Regeneron/Sanofi, Genentech, Merz Pharmaceuticals, Lilly, Abbott, Genentech, Millennium/Genentech, GSK, Pfizer, and Pfizer. Andreas Wollenberg has received research grants and/or honorarium from AbbVie, Almirall, Regeneron, Sanofi, Galderma, and Sanofi Genzyme. Andreas Wollenberg has served on the advisory board and research grants from AbbVie, Amgen, Bausch & Lomb, DermResearch, Sclescope, and Teva; and has spoken for Argenx, Regeneron, Bausch & Lomb, and Shire. Jennifer L. Brandt is a consultant and investigator for multiple companies that manufacture dermatologic agents. Emmanuel F. Vinals is a consultant for multiple companies that manufacture dermatologic agents, and is a speaker for AbbVie, Argenx, Genentech, and Pfizer. Shoji Horiuchi has served on the advisory board and research grants from Jurox and Daiichi Sankyo.

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