Dupilumab Reduces Blood, Urine, and Nasal Biomarkers of Type 2 Inflammation in Patients With Chronic Rhinosinusitis With Nasal Polyps in the Phase 3 SINUS-52 Trial

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Table 1. Summary of dupilumab effect on type 2 biomarkers of inflammation, cytokine levels in blood

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<tr>
<th>Biomarker</th>
<th>Change from Baseline (95% CI)</th>
<th>Significance</th>
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<tr>
<td>Blood eosinophils, Cells x 10⁶/L</td>
<td>Decreased by 5.36 (1.96, 8.74)</td>
<td>P &lt; 0.001</td>
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<tr>
<td>Urinary LTE4, pmol/mmol creatinine</td>
<td>Decreased by 5.36 (1.96, 8.74)</td>
<td>P &lt; 0.001</td>
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Study assessments

- On-treatment biomarkers in blood, serum, and nasal secretion were evaluated in patients and placebo-duplicate q2w groups in the safety population
- Blood eosinophils, Cells x 10⁶/L
- Urinary LTE4, pmol/mmol creatinine
- Nasal secretion total IgE, IU/mL
- Nasal secretion periostin, ng/mL
- Nasal secretion TARC, pg/mL
- Nasal secretion eotaxin-3, pg/mL
- Nasal secretion IL-5, pg/mL

RESULTS

Figure 2. Dupilumab reduces biomarkers of type 2 inflammation in patients with CRSwNP. Blood: (A) total IgE; (B) periostin; (C) TARC; (D) eotaxin-3; (E) eosinophils. Nasal secretion: (F) total IgE; (G) periostin; (H) IL-5; (I) eotaxin-3.

CONCLUSIONS

- Consistent with its mechanism of action, dupilumab reduced systemic (blood, urine) and local (nasal secretion) biomarkers of type 2 inflammation in CRSwNP patients
- Though not a direct IL-5 antagonist, dupilumab markedly lowered IL-5 levels in nasal secretions
- Dupilumab reduced urinary LTE4, suggesting that dupilumab partially corrects the eosinophil dysregulation associated with CRSwNP