038 Dupilumab Consistently Reduces CCL-17 (TARC) in Patients with Atopic Dermatitis Across All Age Groups

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RATIONALE: Elevated serum C-C motif chemokine ligand 17 (CCL17)/thymus and activation-regulated chemokine (TARC) has been associated with atopic dermatitis (AD) severity. Reductions in type 2 inflammatory biomarkers such as CCL17/TARC have been reported in adult patients with moderate-to-severe AD treated with dupilumab.

METHODS: We report serum CCL17/TARC (human TARC Quantikine ELISA kit; R&D Systems) levels from patients with moderate-to-severe or severe AD enrolled in the following randomized, double-blind, placebo-controlled phase 3 studies, receiving approved dose regimens: LIBERTY AD PRESCHOOL (6 months to 5 years; NCT03346434 part B); LIBERTY AD PEDS (6 to11 years; NCT03345914); LIBERTY AD ADOL (12 to17 years; NCT03054428); LIBERTY AD SOLO1 (18 years or older; NCT02277743); LIBERTY AD SOLO2 (18 years or older; NCT02277769).

RESULTS: There was a significant reduction, compared to placebo, in median percentage change from baseline in serum CCL17/TARC (pg/mL) in all dupilumab-treated arms across all age groups ($P < 0.0001$ at Week 16). This reduction was seen as early as after the first dose in all age ranges ($P < 0.0001$ vs placebo).

CONCLUSIONS: Dupilumab treatment in adult and pediatric patients with moderate-to-severe AD induces rapid and sustained reduction of serum CCL17/TARC levels. The reduction in serum CCL17/TARC, likely reflects skin reductions as noted in earlier transcriptomics studies and is probably at least in part responsible for the reduced infiltration of leukocytes into lesional skin.

039 Probiotic Lactobacillus in the Treatment of Atopic Dermatitis in Premature Children from Kyiv, Ukraine

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RATIONALE: Atopic dermatitis (AD) in premature infants is a major health issue for which there is limited evidence for the use of probiotics as treatment. The efficacy of the probiotic Lactobacillus (LGG) was assessed in premature infants with AD from the Kyiv, Ukraine region.

METHODS: The efficacy, safety, and immunomodulatory effect of the Lactobacillus GG (LGG) was assessed in 56 preterm children with atopic dermatitis from the Kyiv, Ukraine region. A comparative analysis of the fecal levels of TNF-a, and IL-10 before and after taking the LGG was assessed as was the severity of AD by SCORAD scale (po-SCORAD Phone). Results were compared to an AD control group not using LGG.

RESULTS: After 4 weeks of LGG compared to before treatment, the level of fecal TNF-α was 1.85 times lower (187.16 pg/ml vs. 342.61 pgml) ($p<0.05$) and the levels of IL-10 showed an increase from 96.58 pg/ml to 125.09pg/ml. In the group of preterm infants who received the probiotic, the SCORAD scale was reduced more than in the control group (from 35 to 11 vs. from 33 to 28) with no significant difference between the groups was recorded before the start of LGG treatment.

CONCLUSIONS: Evaluation of cytokine levels in fecal samples may be useful as a non-invasive method of predicting the outcome of atopic dermatitis. The probiotic LGG improves both clinical and laboratory data in premature children from Kyiv, Ukraine with AD.

040 Higher Risk of Food Allergy Diagnosis and Increased Objective Testing for Asian Children with Atopic Dermatitis

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RATIONALE: Atopic dermatitis (AD) is a known risk factor for the development of food allergy. Prior work demonstrated racial/ethnic disparities in the diagnosis of food allergy. However, limited data has been reported regarding the diagnosis of food allergy among Asian Americans, particularly in the high-risk population of children with AD.

METHODS: This is a retrospective cohort study of pediatric patients with physician-diagnosed atopic dermatitis who received primary care at a single urban academic health system between 2009-2022. Detailed chart review was undertaken to document physician diagnosis of food allergy, as well as objective skin and blood food allergy testing results. Statistical analysis was performed in SPSS.

RESULTS: Of 3,365 children included in this study, 232 identified as Asian. Asian children with AD were significantly more likely to be diagnosed with food allergy (DFA) than non-Hispanic White, non-Hispanic Black, or Hispanic children with AD and DFA (32.8% vs. 23.1%, 24.4%, and 17.8% respectively, $p < 0.01$). Asian children with AD and DFA were significantly more likely to have undergone both skin and blood testing to evaluate their food allergy diagnosis than non-Hispanic Black (22.4% vs. 7.1%, $p<0.001$) or Hispanic children (22.4% vs. 7.9%, $p<0.001$) with AD and DFA.

CONCLUSIONS: Asian children in this study population were more likely to be diagnosed with food allergy than children with other racial/ethnic identities and underwent more extensive objective testing to confirm these diagnoses. This adds to prior characterization of disparities in food allergy diagnosis and further understanding can contribute to achieving equitable care for all children with atopy.