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CORRESPONDENCE

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Reply to Sujoy Khan

To the Editor,

We thank Dr. Khan for commenting on our study of the effect of dupilumab on asthma and aeroallergen sensitization in pediatric atopic dermatitis (AD).[1,2] Given the strong association between AD and the development of food allergy, we agree that it is important to understand the effects of dupilumab on food allergy in food-allergic pediatric AD patients. Although this research question was beyond the scope of the present study, we recently addressed it in a separate study (Van der Rijst et al.[3]). In this study, we evaluated the effect of dupilumab on food-specific IgE (sIgE) levels of 10 common food allergens in 36 pediatric food-allergic AD patients during 1 year of treatment.[3] A significant reduction in food sIgE levels was observed, ranging from 70.5% to 82.5% after 1 year of treatment.[3] This reduction was faster than that observed in food-allergic adult AD patients treated with dupilumab, where food sIgE levels decreased from 53.0% to 62.9% after 1 year, and from 85.3% to 86.9% after 3 years of treatment.[4] Despite the reduction in food sIgE levels in pediatric AD patients, the effect of dupilumab on food-allergic symptoms could not be objectively assessed due to the absence of oral food challenges (OFCs) before and during dupilumab treatment. As patients in this real-world study were primarily treated for moderate-to-severe AD, performing OFCs before starting dupilumab would have resulted in delayed treatment initiation. Prospective studies including OFCs before, during, and after treatment would however be valuable to evaluate the effect of dupilumab on food-allergic symptoms.

Although not shown, total IgE levels in the 36 food-allergic patients decreased by 86.7% and aeroallergen sIgE levels decreased by 79.3% to 96.7% after 1 year of treatment.[3] These results are comparable to those shown in the present asthma study, which showed a reduction in total IgE levels of 78.6% and a reduction in aeroallergen sIgE levels from 69.4% to 94.0% after 1 year of dupilumab treatment.[1] Notably, 28/36 patients included in the food allergy study were also included in the present asthma study.[1,3]

The clinically significant cutoff values for defining airway inflammation by fractional exhaled nitric oxide (FeNO) were based on the criteria described by Dweik et al., reporting cutoff values recommended by the American Thoracic Society (ATS).[5] These cutoff values for FeNO were classified as low (20 parts per billion (ppb) in children; 25 ppb in adults), intermediate (20–35 ppb in children; 25–50 ppb in adults), and high (≥35 ppb in children ppb, ≥50 ppb in adults).[5] However, to evaluate the effect of dupilumab on FeNO in patients diagnosed with asthma, we used absolute FeNO levels and did not stratify between the different cutoff values. In addition, FeNO was not measured during treatment in patients without asthma. Therefore, the effect of dupilumab on FeNO could not be evaluated in these patients. While the exact mechanism behind elevated FeNO levels in atopic patients remains unclear, FeNO may be an important biomarker of type 2 inflammation.[6] Future research is warranted to evaluate the effect of dupilumab on FeNO in patients with various type 2 inflammation, not only those with asthma.

Finally, we agree with the author that prospective, multicenter, real-world registries, such as our BioDay registry, provide valuable data on the effectiveness and safety of treatments for AD, as they reflect clinical practice in a heterogeneous population.[7] Real-world data are crucial for bridging the knowledge gap between randomized controlled trials and clinical practice. To effectively address this gap, it is crucial to inform and motivate patients to participate in real-world registries. In addition, raising patient awareness of the valuable insights that can be gained from participation can significantly improve the quality and completeness of data.

AUTHOR CONTRIBUTIONS

Lisa P. van der Rijst: Writing – original draft; writing – review and editing. **Karin M. de Winter-de Groot:** Writing – review and editing. **Marjolein S. de Bruin-Weller:** Writing – review and editing; supervision. **Marlies de Graaf:** Writing – review and editing; supervision.

CONFLICT OF INTEREST STATEMENT

L.P. van der Rijst has been a speaker for AbbVie and Novartis. K. M. de Winter-de Groot has nothing to disclose. M.S. de Bruin-Weller has been a consultant, advisory board member, and/or speaker for AbbVie, Almirall, Amgen, Aslan, Eli Lilly, Galderma, Janssen, Leo Pharma, Pfizer, Regeneron, and Sanofi-Genzyme. M. de Graaf has been a consultant, advisor and/or speaker for AbbVie, Almirall, Eli Lilly, Janssen, Leo Pharma, Novartis, Pfizer, Regeneron Pharmaceuticals, and Sanofi.

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