

Correspondence

Reply

To the Editor:

We thank Leung et al,¹ Ryczaj et al,² and Ruge et al³ for their interest in our article “Association of frequent moisturizer use in early infancy with the development of food allergy,” which appeared in the March 2021 issue of the *Journal of Allergy and Clinical Immunology*. In reference to Leung et al,¹ among infants with eczema in the Enquiring about Tolerance (EAT) study at 3 months of age, there was indeed an association between the frequency with which these infants were moisturized and the severity of their eczema, as we reported in our article.⁴ However, in our logistic models we adjusted for eczema severity (as well as for filaggrin mutation status and transepidermal water loss), and the association between moisturization frequency and subsequent food allergy development remained robust. Inaccurate recall was not likely in the EAT cohort because of the study’s prospective nature and close follow-up of the participating families through monthly questionnaires, in addition to the face-to-face visits. Furthermore, it needs to be considered that rather than confounding the association between increasing AD severity and increased risk of food allergy, moisturization frequency may actually be mediating the increase in food allergy in those with more severe eczema.

In addition to our gut microbiome analyses,⁵ we have data on the bacterial skin microbiota in EAT participants during their first year of life, and we are currently analyzing the associations between the bacterial skin flora and moisturization use.

We stated the concerns about the use of olive oil and other vegetable oils in our article⁴ and their potential to impede the development of the lamellar lipid structures. As Leung et al state,¹ this potentially facilitates allergen penetration. In our article,⁴ we reported the findings from 2 separate small pilot studies showing that compared with a paraffin/petrolatum-based cream (Aveeno), a tri lipid barrier cream (EpiCeram) was more effective in reducing transepidermal water loss and was associated with decreased total IgE and increased total IgG4 levels. However, it is possible that this increased efficacy might also be found to more effectively facilitate transcutaneous sensitization, a possibility that is supported by murine data indicating that more effective moisturizers increase the penetration of a model chemical.⁶ Furthermore, the BEEP pilot study, which found a statistically significant (50%) reduction in development of eczema through prophylactic moisturization application, is a salutary reminder of inferring too much from small pilot studies.⁷

The definitive trial, which was more than 10 times larger, found no effect at all.⁸

We note with interest the concern raised by both Ryczaj et al² and Ruge et al³ about other ingredients within moisturizers, specifically, haptens/contact allergens. Both teams of authors highlight just how prevalent the use of these chemicals within moisturizers is. We particularly appreciated the fascinating idea that moisturization frequency may have a part to play in accounting for the well-recognized association between latitude and the prevalence of eczema and food allergy.⁹ Furthermore, the temporal association between the increase in exposure of the skin to chemicals and the emergence of the allergy epidemic is rather intriguing and supports the surge in interest in this area.

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