

## Correspondence

## Reply

To the Editor:

We thank Gottlieb et al.<sup>1</sup> for their thoughtful comments. However, we question the use of skin testing (skin prick testing [SPT]/atopy patch testing [APT]) to identify causative foods and their ability to serve as a “roadmap for food elimination and reintroduction” as suggested by Gottlieb et al.<sup>1</sup> We agree that additional testing methods such as the identification of unrecognized food sensitivities by using serum IgE measurement in patients with low-titer IgE antibodies as well as the use of fresh food extract for skin testing may have a role in the detection of food allergy in eosinophilic esophagitis but require further evaluation. On the basis of our clinical observations and data,<sup>2</sup> which are consistent with those of others,<sup>3-6</sup> we recommend cautious use of skin testing to direct initial diet planning.

A paucity of data evaluates the diagnostic utility of skin testing<sup>2,7</sup> in children with eosinophilic esophagitis, and results vary considerably. Negative-predictive values (NPVs) using SPT for commonly avoided antigens (milk, egg, soy, and wheat) range from 40% to 67% in our center<sup>2</sup> compared with the NPVs that have been reported by another single center, which range from 29% to 90%.<sup>7</sup> A low NPV indicates that using skin testing to predict the absence of adverse food reactions is not diagnostically adequate and risks recurrent esophagitis despite a negative SPT response to a particular food. We agree that the interpretation of APT is inherently subjective.<sup>1</sup>

It is important to consider characteristics of an ideal diagnostic test, which include minimizing the number of true positives and false positives (high sensitivity and high specificity, respectively). Because of the potential financial and human costs associated with both true-positive and false-positive results, both NPVs and positive-predictive values have been combined to enhance diagnostic confidence. Receiver operating characteristic curves for both combined SPT and APT results would be useful for determining their utility for diet planning. To date, no receiver operating characteristic curves have been reported for single or combined SPT/APT results, thus requiring more subjective interpretation of individual skin test results.

Accurate interpretation of positive-predictive values for foods in a clinical setting may be inherently limited because food reintroductions are typically based on a mutual agreement made between patients and their physicians. In our center, very few patients elect to reintroduce foods that elicit positive skin test results, making it difficult to reliably calculate true-positive and false-positive rates for foods reintroduced, including foods deemed causative for eosinophilic esophagitis. This differs from

studies conducted that required reintroduction of foods eliciting positive skin results followed by histologic evaluation.<sup>7</sup>

Our findings that the diagnostic accuracy of skin testing is not sufficient to support the development of dietary advancement based solely on skin test results align with guidelines for managing food allergies.<sup>8</sup> We look forward to prospective multi-site studies that address the value of skin testing in the management of eosinophilic esophagitis.

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