

Correspondence

Translating tree nut cross-reactivity into clinical practice

To the Editor:

We read with interest the article by Brough et al¹ titled “Defining challenge-proven coexistent nut and sesame seed allergy: A prospective multicenter European study,” in which the authors describe the coexistent rate of peanut, tree nuts, or sesame allergy among patients diagnosed with at least 1 confirmed nut or sesame seed allergy. We would like to emphasize and extend several important conclusions that arise from this as well as from previous studies.

Concordant with our previously reported findings in the Nut CRACKER study,² the authors found that although most of walnut- and cashew-allergic patients (75% and 83.3%, respectively, in the current study) are also allergic to pecan and pistachio, respectively, almost all (97%) of pecan- and pistachio-allergic patients are also allergic to walnut and cashew, respectively. These findings have both diagnostic and therapeutic implications. Diagnostically, in patients eliminating walnut/pecan with a high probability for allergy (based on component testing or skin prick test or clinical history), we challenge to pecan first. If the pecan challenge is positive, there is almost 100% chance that the patient is walnut allergic, precluding the need for walnut challenge. In patients with a low probability for walnut allergy, we challenge to walnut first. If the challenge is negative, the chances the patient is pecan allergic are almost zero and pecan can be introduced at a full dose in the clinic. A similar algorithm follows for cashew and pistachio. This approach enables a significant reduction in the need for oral food challenges. In the current study,¹ as discussed in the study limitations, one of the centers did not perform oral food challenges to walnut and pecan due to safety concerns, further emphasizing the clinical utility of our suggested diagnostic approach.

The observed coallergies among the walnut/pecan/hazelnut and cashew/pistachio groups also have important therapeutic implications. The authors correctly emphasize in their discussion that the clustering of these nut groups could have important ramifications with regard to cross-tolerance, potentially because

of homologous proteins. These ramifications were validated on the molecular level in cross-inhibitory ELISA studies demonstrating that preincubation with walnut inhibited both walnut and pecan binding completely, while pecan blocking only partially inhibited walnut binding.³ More importantly, on the clinical level, it was demonstrated that all patients desensitized to walnut following a single-food walnut oral immunotherapy were also fully desensitized to pecan.⁴ Moreover, 90% of those with additional hazelnut allergy had a significant increase in their hazelnut reaction dose and 53.3% were fully desensitized to hazelnut following successful walnut oral immunotherapy.⁴

In summary, we maintain that the coallergenicity of particular tree nuts, as reported by us and by Brough et al, carries diagnostic and therapeutic ramifications, which can be readily adopted into clinical use.

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