to peanut (odds ratio = 2.5, 95% CI, 1.1–6.9). In univariate analysis, siblings born after the PNA diagnosis in the index child were more likely to have been diagnosed as peanut allergic without a supportive history or confirmatory tests (odds ratio 12.7; 95% CI, 1.31–20.7).

CONCLUSIONS. More than 10% of siblings of PNA patients will avoid peanut. Siblings born after the diagnosis of PNA in the index child are more likely to have never been exposed. Educational programs are needed to prevent unnecessary avoidance.

REVIEWER COMMENTS. Siblings of peanut-allergic children are reported to have an ~7% risk of having a peanut allergy compared with 1% of children in general. A diagnosis of peanut allergy has a significant impact on quality of life, so an accurate diagnosis is imperative. Current National Institute of Allergy and Infectious Diseases guidelines state that there is no evidence for delaying introduction of any food beyond 6 months of age to prevent the development of allergy. Although parents of 1 allergic child often choose to minimize risk and anxiety by avoiding peanut altogether in subsequent children, delayed introduction of peanut may cause the siblings to “miss” the optimal timing for introduction of the protein and increase the likelihood of peanut allergy.

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Predictive Values of Component-Specific IgE for the Outcome of Peanut and Hazelnut Food Challenges in Children

PURPOSE OF THE STUDY. To prospectively analyze the value of peanut and hazelnut component-specific immunoglobulin (Ig)E testing in the diagnosis of peanut and hazelnut allergies.

STUDY POPULATION. Infants and children who were clinically suspected to have allergy to peanut or hazelnut in various hospitals in Germany. Two hundred and ten patients underwent oral food challenge with peanut and 143 with hazelnut.

METHODS. Oral food challenges were done with roasted peanuts or raw hazelnuts with a cumulative dose of 4443 mg of protein. Specific IgE to peanut, hazelnut, and their components (Ara h 1, Ara h 2, Ara h 3, and Ara h 8; Cor a 1, Cor a 8, Cor a 9, and Cor a 14) were measured by ImmunoCAP. Results were analyzed using logistic regression, and the probability for a positive challenge outcome was calculated to estimate positive and negative predictive values, sensitivity, and specificity for each test.

RESULTS. Forty-three percent of the 210 peanut challenges and 31% of the 143 hazelnut challenges were considered positive. Peanut- and hazelnut-specific IgE levels were higher in allergic compared with tolerant children, although there was some overlap. The overlap was less for Ara h 2–specific IgE for peanut and Cor a 14–specific IgE for hazelnut. The logistic models demonstrated an area under the curve of 0.92 for Ara h 2 and 0.89 for Cor a 14, both of which were superior to total peanut- or hazelnut-specific IgE levels. The sensitivity and specificity of Ara h 2 was 86% at a level of 0.35 kU/L, and for Cor a 14, a level of 0.35 kU/L corresponded to a sensitivity of 85% and a specificity of 81%. A 90% probability for a positive challenge was predicted for Ara h 2 at 14.4 kU/L and for Cor a 14 at 47.8 kU/L.

CONCLUSIONS. Component testing for peanut and hazelnut allergy, specifically to Ara h 2– and Cor a 14–specific IgE, is superior in predicting clinical reactivity compared with peanut- or hazelnut-specific IgE alone.

REVIEWER COMMENTS. Diagnostic testing for food allergy is complicated by the fact that many children can safely eat a food to which they test positive. Oral food challenges remain the gold standard for diagnosis but do carry inherent risks. Therefore, better tests that would eliminate unnecessary food challenges are highly desirable. This study highlights the potential utility of component testing for both peanut and hazelnut allergy, specifically using Ara h 2 and Cor a 14. However, it is important to recognize that even component testing has significant limitations and must be used and interpreted in the context of each individual patient. Age, other allergic sensitivities, and many other factors should be considered. In addition, as this field evolves, it is apparent that there are significant regional differences, especially for peanut, so that the data from this German study may not be directly applicable to children in North America where considerably lower cutoff values for Ara h 2 have been proposed. For example, a 90% positive predictive value for Ara h 2 was 14.4 kU/L in this study, whereas in our clinic, we consider the same cutoff to be closer to a level of 2 kU/L. Additional studies are therefore needed to clarify this picture.

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Tolerance to Egg Proteins in Egg-Sensitized Infants Without Previous Consumption

PURPOSE OF THE STUDY. To determine the association between skin prick test (SPT) and specific immunoglobulin (Ig)E to egg proteins with oral food challenge outcomes.

STUDY POPULATION. One hundred fifty-four infants aged 1 to 18 months with cow’s milk allergy and/or atopic dermatitis
Predictive Values of Component-Specific IgE for the Outcome of Peanut and Hazelnut Food Challenges in Children
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