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Recurrent Peanut Allergy

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To the Editor: Allergy to peanuts is potentially fatal, affects 1 in 150 persons in the United States, and until recently was considered to be permanent. [1,2] However, recent reports document a 20 percent rate of resolution by school age. [3,4] We offer an institutionally approved research protocol for double-blind, placebo-controlled oral food challenges for use in children older than 3.5 years of age who have been allergic to peanuts and who have a clinical profile consistent with potential resolution of peanut allergy, as defined by the absence of recent reactions and a serum peanut-specific IgE antibody concentration of less than 10 kU per liter. [3]

We describe three of our patients who tolerated peanuts during such a challenge involving 8 g of peanut flour followed by a 32-g serving of peanut butter but who went on to have recurrence of peanut allergy. The three boys initially had convincing clinical reactions and laboratory evidence of peanut sensitization that diminished over time before the oral challenges (Table 1). In the year after having no allergic reaction on oral challenge, the boys ate peanuts infrequently and in small quantities. The recurrence of peanut allergy was documented in Patient 1 by a repeated challenge that elicited a generalized reaction, in Patient 2 by repeated mild reactions and a concentration of peanut-specific IgE antibody (15 kU per liter) that was highly (>95 percent) predictive of clinical reactions, [5] and in Patient 3 by a severe reaction and recurrence of sensitization.

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The clinical ramifications of our observations are profound and may apply to other foods as well as to peanuts. Recurrence of peanut allergy is possible even when it has been shown to have resolved. It seems prudent to maintain access to emergency medications, such as self-injectable epinephrine, for patients with resolved peanut allergy until peanuts are routinely tolerated in relevant quantities for at least one to two years.

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Table 1

PATIENT NO.	AGES AT THE TIMES OF REACTIONS	SENSITIZATION HISTORY	AGE AT THE TIME OF NO REACTION ON ORAL CHALLENGE	AGE AT THE TIME OF RECURRENCE OF SYMPTOMS	SYMPTOMS ON RECURRENCE	EVIDENCE OF SENSITIZATION AFTER RECURRENCE
	yr			yr		
1	1.5	Positive skin-prick test at 1.5 yr (wheal, 7 mm; erythema, 10 mm); positive skin-prick test at 2.5 yr (wheal, 12 mm; erythema, 19 mm); peanut-specific IgE concentration at 5 yr, 3 kU/liter; positive skin-prick test at 9 yr (wheal, 5 mm; erythema, 23 mm)	9	10	Oral pruritus from peanut-containing foods; repeated oral challenge with 1.8 g led to oral pruritus, abdominal pain, and urticaria	Positive skin-prick test (wheal, 12 mm; erythema, 35 mm); peanut-specific IgE concentration, 1.2 kU/liter
2	1.5, 1.7	Positive skin-prick test at 1.7 yr (not measured); negative skin-prick test at 5 yr (wheal, 0 mm; erythema, 0 mm)	5	6	Oral symptoms from peanut-containing foods; repeated oral challenge deferred because of diagnostic high peanut-specific IgE concentration	Positive skin-prick test (wheal, 7 mm; erythema, 29 mm); peanut-specific IgE concentration, 16.6 kU/liter
3	1, 4, 4.5	Positive skin-prick test at 4 yr; negative skin-prick test at	8.5	9.5	Oral pruritus, facial erythema, chest pressure treated in	Positive skin-prick test (wheal, 4 mm; erythema, 19 mm);

8.5 yr (wheal, 0 mm; erythema, 0 mm)

emergency room

peanut-specific IgE concentration, 0.41 kU/liter

*Results on skin-prick testing represent the mean diameter of wheals and the mean diameter of erythema. Peanut-specific IgE antibody concentrations were measured with the use of a fluorescence immunoassay (Pharmacia CAP System, Pharmacia Diagnostics), for which the lower limit of detection is 0.35 kU per liter.

Table 1. Immunologic Findings and Clinical Course in Three Boys with Recurrence of Peanut Allergy.
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