cases. Results of this study demonstrated significantly higher levels of Ara h 2 at decision points than previously published. These findings underscore the need for additional research among different patient groups before applying published cutoff points, given likely population-specific variations in interpretation of IgE results.

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Predicting Positive Food Challenges in Children Sensitized to Peanut/Tree Nuts


PURPOSE OF THE STUDY. To identify risk factors for reactions to peanuts (PN) and tree nuts (TN) on first known ingestion among sensitized children.

STUDY POPULATION. Children ages 3 to 16 years who were sensitized to PN and/or TN undergoing an oral food challenge to PN and/or TN.

METHODS. Investigators conducted a retrospective case study of sensitized children undergoing PN and/or TN challenge without a history of consumption of the challenge food. Factors relating to food challenge outcome were analyzed.

RESULTS. Ninety-eight food challenges (47 PN and 51 TN) were performed. The challenge outcomes were 29 positive, 67 negative, and 2 equivocal. A positive maternal history of atopy (odds ratio: 3.73 [95% confidence interval: 1.31–10.59]) and specific immunoglobulin E (IgE) >5 kU/L (odds ratio: 3.35 [95% confidence interval: 1.23–9.11]) were associated with increased risk of positive food challenge. Atopic history in other immediate family members was not predictive of challenge outcome. In addition, there was no association between type of TN, other food allergies, other atopic conditions, severity of previous food reactions to other foods, or history of positive food challenges to other foods.

CONCLUSIONS. The authors concluded that the presence of maternal atopic history and specific IgE >5 kU/L were significantly predictive of oral food challenge outcome among children with no history of consumption of the challenge food.

REviewer COMMENTS. This study addresses an important clinical scenario presenting to primary and subspecialty health care providers. Children with suspected or known food allergy to other foods often present with positive results on testing (skin or serum IgE) to PN and TN without a history of ingestion, and the clinician must advise patients regarding the risks of introducing these food allergens. Although further prospective studies in larger and more diverse patient populations are needed to better refine risk factors in this patient population, the current study identifies 2 important factors that may aid the clinician’s decision to conduct oral food challenges to PN and/or TN among sensitized children.

The Epidemiology of Milk Allergy in US Children


PURPOSE OF THE STUDY. This study sought to gain a more complete understanding of the current pediatric milk allergy distribution and diagnosis trends in the United States.

STUDY POPULATION. Data were collected on 38,480 children using a randomized cross-sectional survey of a representative sample of US households, which identified 657 children who were reported by parents to have a milk allergy.

METHODS. Primary outcome measures were prevalence and severity of milk allergy defined as a convincing or confirmed allergy to any form of milk. Data were also collected on age of onset, development of tolerance, severity of reaction, and coexistence of other food allergies.

RESULTS. Eight percent (n = 3218 children) of the analytic sample had food allergies. Milk allergy was present in 19.9% and was second only to peanut allergy at 24.8%. The highest percentage of milk-allergic children (23.8%) fell within the 6- to 10-year age group, and the lowest percentage (15.0%) was in the 11- to 15-year age group; however, it was significantly more prevalent in children <2 years of age. Of the reported milk allergies, 55.5% occurred in white children, 19.8% in Hispanic children, 16.6% in African American children, and 4.7% in Asian children. First reaction occurred at a mean age of 2 years. Severe reactions occurred in 31.3% compared with 47.2% with other food allergies. Vomiting and diarrhea were the most common symptoms, closely followed by hives and eczema. The most common severe symptoms were wheezing and shortness of breath. The mean age at which tolerance was reported to have occurred was 4 years; odds ratio compared with other food allergies was 2.1. The most common comorbid food allergen was shellfish. Seventy-five percent of milk allergies were physician-diagnosed, but only 43.5% of those had diagnostic testing.
CONCLUSIONS. Milk allergy is highly prevalent among the US pediatric population, accounting for one-fifth of all food allergies. Nearly one-third of these children present with severe symptoms. Diagnostic testing is being performed in less than half of the children. There is a significant ethnic variation in milk allergy.

REVIEWER COMMENTS. This study presents some interesting epidemiologic data on milk allergy in the United States. Confirmatory testing is not often performed, and many of these children may be incorrectly diagnosed, leading to unnecessary avoidance and dietary restrictions.

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The Natural History of Milk Allergy in an Observational Cohort

PURPOSE OF THE STUDY. Previous studies on the natural history of milk allergy have been limited in duration and in geographic area. Through this multisite, longitudinal study, the authors provide a natural history of milk allergy and identify means for early prediction of likelihood of resolution.

STUDY POPULATION. Children aged 3 to 15 months were recruited from 5 food allergy referral centers, using the following inclusion criteria: history of immediate allergic reaction to cow’s milk or egg with positive skin-prick test (SPT) to the inciting food; or moderate-to-severe atopic dermatitis (AD) with positive SPT to either milk or egg.

METHODS. The children in this cohort with milk allergy, diagnosed either at time of enrollment or during the study, were followed over time. At enrollment, investigators assessed baseline characteristics (more detail in the next section). Participants were again assessed at 6 months and yearly thereafter, with more frequent follow-up as needed. Resolution of milk allergy was established by ingestion of whole uncooked milk products at the start of and during the study period.

RESULTS. Of 293 children in the cohort diagnosed with milk allergy, 154 (53%) participants experienced resolution of milk allergy at a median age of ∼5.3 years and a median age at last follow-up of 5.5 years. Baseline characteristics most predictive of milk allergy resolution, all with P values < .001, were milk-specific immunoglobulin (IgE) (< 2 vs ≥10 kU/L with hazard ratio 5.7), SPT wheal size (< 5 vs > 10 mm with hazard ratio 3.7), and severity of AD (mild/none versus moderate/severe with hazard ratio 2.09). The authors use these 3 baseline characteristics to calculate a composite score for prediction of an individual patient’s likelihood of milk allergy resolution. Baseline characteristics that were not significant predictors of resolution included milk-specific IgG₄, milk-specific IgE/IgG₄ ratios, and casein-stimulated T-cell studies.

CONCLUSIONS. This longitudinal, multisite prospective cohort study provides a natural history of food allergy over a follow-up period of ∼5 years. Approximately 50% of children with milk allergy will experience resolution by 5 years of age. Milk-specific IgE, SPT wheal size, and AD severity at baseline are significant predictors of likelihood of resolution.

REVIEWER COMMENTS. The exceptional follow-up rate supports the validity of the findings, the large size of the cohort and use of multiple sites strengthen its generalizability, and the length of follow-up and identification of significant predictors of milk allergy resolution highlight the utility of the study. Additional investigation may more rigorously identify age at resolution through food challenges at regular intervals and may focus on identifying additional modifiers in resolution of milk allergy, particularly ingestion of baked milk products at the start of and during the study period.

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Natural Course and Risk Factors for Persistence of IgE-Mediated Cow’s Milk Allergy

PURPOSE OF THE STUDY. To describe the natural course of immunoglobulin (IgE)-mediated cow’s milk (IgE-CMA) and the risk factors for its persistence in a prospective population-based study.

STUDY POPULATION. There were 54 infants identified with IgE-CMA from a population of 13 019 who were recruited and completed the study from the Assaf-Harofeh Hospital in Israel. This occurred during a 2-year period between June 2004 and June 2006. The children were followed from birth until 4 to 6 years.

METHODS. Diagnosis of IgE-CMA was done based on history, skin-prick test, and an oral food challenge. These infants were followed for 48 to 60 months with families being contacted every 6 months to ask about exposures and reactions to milk. Children were invited to return annually for an oral food challenge for potential recovery unless an adverse reaction occurred within the preceding 3 months or they had already been exposed to milk without exposure.
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