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.


Paul V. Williams, MD
Seattle, WA

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 without reaction. Analyses were performed to assess the effect of various baseline characteristics on likelihood of resolution of milk allergy.

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.


Elizabeth J. Feuille, MD
Anna H. Nowak-Wegrzyn, MD
New York, NY

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
The Natural History of Milk Allergy in an Observational Cohort
Elizabeth J. Feuille and Anna H. Nowak-Wegrzyn
Pediatrics 2013;132;S18
DOI: 10.1542/peds.2013-2294AA

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/132/Supplement_1/S18.1.full.html