guided by history. Children with a positive SPT result to a food that they have eaten without difficulty and children who had previous adverse reactions to specific foods were asked to undergo food challenges. With the exception of peanut and sesame, food challenges were performed after 6 months of age. Food challenges to peanut and sesame were held until the children were 3 years of age. Children with large SPT diameters considered to be >95% predictive of allergy did not undergo challenge. Frequency tables were produced at each time point, and comparisons between prevalence rates in this study and a historical reference population (Bock SA. Prospective appraisal of complaints of adverse reactions to foods in children during the first 3 years of life. Pediatrics. 1987;79[5]:683–688) was made by using Fisher’s exact test.

RESULTS. Over the 3-year study period, 942 (97.2%) of the children were evaluated at 1, 2, or 3 years, whereas 83.3% were seen at 1, 2, and 3 years. Sensitization rates as determined by positive SPT results at 1, 2, and 3 years were 2.2%, 3.8%, and 4.5%, respectively. Of those who were evaluated at all visits, 33.7% reported food-related problems. FHS was reported in 8.3% of those who were evaluated at their 2-year visit and 8.3% at their 3-year visit. The cumulative incidence of FHS, according to open food challenges and a clinical history, was 6% (58 of 969; 95% confidence interval [CI]: 4.6–7.7), whereas the cumulative incidence according to double-blinded, placebo-controlled food challenges was 5% (48 of 969; 95% CI: 3.7–6.5). On the basis of those with a positive open food-challenge result and clear history, the prevalence of FHS at ages 2 and 3 years was determined to be 2.5% (21 of 858; 95% CI: 1.5–3.7) and 3.0% (27 of 891; 95% CI: 2.0–4.4), respectively. Nine children who were not invited to undergo food challenges were excluded because their SPT diameter was >95% of the positive predictive value. Also, 11 and 19 of the subject’s families that declined food challenges at ages 2 and 3, respectively, had histories and testing results that suggested FHS. In addition, the percentages of those diagnosed with FHS on the basis of positive food-challenge results and a clear history and were SPT-positive was 26% (age 1 year), 44% (age 2 years), and 71% (age 3 years).

CONCLUSIONS. The authors reported that the cumulative incidence of FHS, according to food challenges and a clinical history, by 3 years of age was 5% to 6%. They concluded that when comparing their findings with the 1987 US study performed by Bock, there were no significant differences in the cumulative incidence of FHS.

REVIEWER COMMENTS. A major strength of this study is that the authors used an unselected population that may be more representative of patients seen by pediatricians than those followed by subspecialists. Because the authors set the definition of FHS to depend on agreeing to participate and meeting criteria for participation in food challenges, the reported incidence and prevalence of true adverse reactions to food is likely to be underestimated. Additional bias could exist because many subjects did not participate in food challenges because they either had skin-testing results that suggested that they would have a clinical reaction or they had histories of recent reactions or clinical improvement with elimination of the offending food. The importance of this study is that using the authors’ very conservative definition of FHS, the reported incidence of FHS is conservatively 5% to 6%, which represents a significant pediatric health problem and underscores the need for appropriate evaluation and management of adverse reactions to food.

The Impact of Food Hypersensitivity Reported in 9-Year-Old Children by Their Parents on Health-Related Quality of Life


PURPOSE OF THE STUDY. To examine the impact of reported food hypersensitivity (FHS) in 9-year-old children on parental perception of health-related quality of life (HRQoL).

STUDY POPULATION. A population-based birth cohort of 4089 Swedish children was used for a nested case-control study based on age 4 questionnaires (689 subjects, 689 controls). Parents completed questions pertaining to HRQoL at 9 years of age (~75% completion).

METHODS. FHS was defined as parental report of wheezing/prolonged cough, runny/stuffy nose in the absence of a cold, itchy/watery eyes, eczema, urticaria, vomiting/diarrhea, or other symptoms after ingestion of a specific food in the last year. Those with previous FHS but avoiding the food were considered to have FHS. Pronounced FHS was defined by wheezing/prolonged cough, >1 symptom, or symptoms occurring >1 time per month. A validated 28-item form was used to explore parental perceptions of their children’s HRQoL and was supplemented by a disease-specific nonvalidated questionnaire. Children with FHS at age 9 (212) were compared with those without FHS but with asthma, allergic rhinitis, or eczema (221) and to those with no allergic disease (581).

RESULTS. Primary analysis showed that compared with children with asthma, allergic rhinitis, or eczema but no FHS, those with FHS had significantly worse scores on physical functioning, limitations in school or social activities resulting from physical problems, and decreased...
perception of overall health (there were significant differences in additional subscale scores between those with FHS and those without any allergic disease). Even greater differences were observed for those with pronounced FHS and for those with high specific immunoglobulin E to foods. On the basis of the disease-specific questionnaire, parents reported significantly more feelings of sadness/restriction in everyday life and family conflicts for those with pronounced FHS compared with those with more mild or infrequent symptoms.

CONCLUSIONS. FHS had a significant impact on parentally reported HRQoL of 9-year-old children and their families.

REVIEWER COMMENTS. This study supports that there is a negative impact of adverse food reactions on perceived HRQoL. This unselected population may more accurately represent patients seen by pediatricians than populations used in previous QoL studies (tertiary care centers). The authors’ definition of FHS included a heterogeneous group of adverse food reactions (~40% not doctor diagnosed), but there was a significant negative impact on perceived HRQoL regardless of the etiology. It is interesting to note that the subjects with “physician-diagnosed food allergy” had significantly better scores in limitations in school or social activities resulting from emotional or behavioral problems and scored no worse than those without a diagnosis of food allergy on any subscale, which emphasizes the importance of appropriate management. The pediatrician plays a critical role in initiating the appropriate evaluation (eg, determining by history if there is a likely food allergy) and management (eg, avoidance instructions, prescription of self-injectable epinephrine, referral to an allergist, etc) that may improve HRQoL.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2008-2139W

Michael Pistiner, MD, MMSc
West Nyack, NY

The Natural History of IgE-Mediated Cow’s Milk Allergy

PURPOSE OF THE STUDY. Cow’s milk allergy (CMA) is generally reported to resolve in 85% of children by the age of 3 to 5 years. This study evaluated the rate of resolution of CMA in a food-allergy referral population with emphasis on factors predicting resolution.

STUDY POPULATION. Final selection of charts for review and abstraction were obtained from clinical records of 4117 patients seen by 1 of the authors over 14 years; 1368 patients had food allergy, and 1073 patients had CMA. After excluding non-immunoglobulin E (IgE)-mediated disease and fewer than 2 visits, 807 patients’ charts were reviewed.

METHODS. A retrospective chart review was conducted, and 3 definitions were applied regarding tolerance of cow’s milk. The strictest definition (1) was tolerating home introduction or a supervised food challenge, the second definition (2) included those with a milk-specific IgE level of <3 kU/L and no history of clinical reactions in 1 year, and the least stringent criteria (3) included a milk-specific IgE level of <15 kU/L and no history of clinical reactions in the preceding year.

RESULTS. When tolerance was defined by using the most stringent criteria, only 5% outgrew their allergy by 4 years of age, 21% by 8 years of age, 37% by 12 years of age, and 55% by 16 years of age. With criteria 2, the rates of resolution were 19% at 4 years of age, 42% by 8 years of age, 64% by 12 years of age, and 79% by 16 years of age. For the least stringent criteria (3), 26% were tolerant by 4 years of age, 56% by 8 years of age, 77% by 12 years of age, and 88% by 16 years of age. The higher the milk-specific IgE level noted per patient, the less likely was prompt resolution (P < .001). Coexisting asthma (P < .001) and allergic rhinitis (P < .001) were also significant predictors of delayed tolerance.

CONCLUSIONS. The prognosis for CMA in this population was worse than previously reported. However, some patients developed tolerance during adolescence, indicating that follow-up and reevaluation of patients with CMA is important in their care. Cow’s milk–specific IgE levels are highly predictive of outcome.

REVIEWER COMMENTS. It is depressing to see recent studies supporting a slower resolution of common food allergies (see also the following review on a study about egg allergy). However, the good news is that hope is not lost when an allergy persists into school age; these studies confirm that children may continue to “outgrow” allergies into adolescence and that repeated evaluations are helpful. It must be appreciated that this study represents a referral population that likely is enriched for children with a more persistent phenotype of milk allergy.


Scott H. Sicherer, MD, FAAP
New York, NY

The Natural History of Egg Allergy

PURPOSE OF THE STUDY. To estimate the proportion of children with egg allergy who develop egg tolerance and to identify predictors of tolerance development.

STUDY POPULATION. Subjects were 881 egg-allergic children identified by chart review from an academic allergy
The Impact of Food Hypersensitivity Reported in 9-Year-Old Children by Their Parents on Health-Related Quality of Life

Michael Pistiner

*Pediatrics* 2008;122;S185
DOI: 10.1542/peds.2008-2139W

Updated Information & Services

including high resolution figures, can be found at:
/content/122/Supplement_4/S185

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):

*Allergy/Immunology*
/cgi/collection/allergy:immunology_sub

*Nutrition*
/cgi/collection/nutrition_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
/site/misc/Permissions.xhtml

Reprints

Information about ordering reprints can be found online:
/site/misc/reprints.xhtml
The Impact of Food Hypersensitivity Reported in 9-Year-Old Children by Their Parents on Health-Related Quality of Life

Michael Pistiner

*Pediatrics* 2008;122;S185
DOI: 10.1542/peds.2008-2139W

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/122/Supplement_4/S185