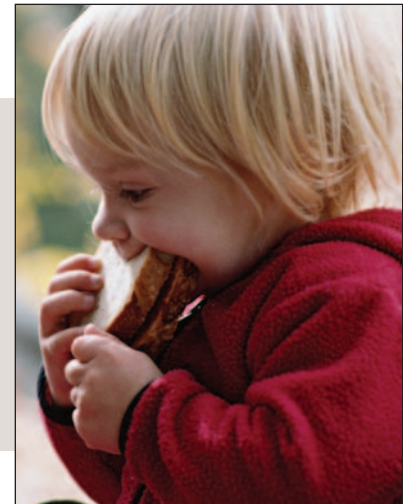


THIS ISSUE:

Food Allergy & Intolerance

Sami L. Bahna, MD, DrPH
Guest Editor



Food “allergy” is often used, at least by the public, in reference to undesirable symptoms that develop following eating. Children frequently are labeled as food allergic by parents or by health-care providers based on the medical history, allergy skin testing, or in vitro testing. While these diagnostic tools are very helpful for screening, they are rarely definitive.

Because food allergy has no pathognomonic or unique symptoms, a differential diagnosis is essential. In some patients, the food may not be involved at all. Even when the symptoms are definitely food related, the mechanism may not be immunologic. To avoid the task of sorting out the underlying mechanism, the general term “intolerance” is often used; this is nonspecific, although well accepted in the case of lactose intolerance.

Misdiagnosis of food allergy can result in negative consequences. Overdiagnosis leads not only to unnecessary dietary eliminations that might cause undernutrition or malnutrition but also to overlooking the real cause of the child’s symptoms. On the other hand, underdiagnosis

might lead to prescription of ineffective medications, subjecting the patient to unnecessary diagnostic procedures, perpetuation of symptoms, family frustrations, and financial burden.

At present, the most urgent need in the area of food allergy is the development of safe, effective immunotherapy methods. Unlike the case with aeroallergens, trials of

erances are commonly encountered in pediatric practice, I elected for this issue of *Pediatric Annals* to be a mini-book comprising six articles prepared by expert authors. It provides practical information on the diagnosis, manifestations, and management of these disorders.

The first article focuses on the diagnosis of food allergy. It emphasizes the importance of obtain-

Because food allergy has no pathognomonic or unique symptoms, a differential diagnosis is essential.

injection immunotherapy with food extracts were associated with a high risk.^{1,2} Some degrees of efficacy have been reported by a few studies using certain protocols for oral or sublingual immunotherapy.^{3,4} Several therapeutic modalities have been used in experimental animals and have shown interesting findings.⁵⁻⁷ Also, a few recent studies in humans showed results that promise of potential therapeutic modalities, such as humanized anti-IgE,⁸ probiotics,⁹ and certain anti-cytokines.¹⁰

Because food allergy and intoler-

ing specific clues from the medical history and of understanding the interpretation and limitations of the currently available diagnostic tests. It also underscores the fact that positive allergy skin tests and circulating specific IgE antibodies merely indicate IgE sensitization that may or may not be clinically relevant. Also “false” negative tests, assuming they are properly done, indicate that IgE antibodies are not detected in the tested tissue (epidermis or serum) while they may be abundant in the shock organ (eg, the gastrointestinal

or respiratory tracts). In the majority of patients, verification of the causative food requires appropriately conducted food challenge testing.

The second, third, and fourth articles deal with the common manifestations. Dr. Assa'ad presents the gastrointestinal manifestations, including the newly evolving group of eosinophilic disorders. She also provides information for differentiating cow milk protein allergy from the more common and benign lactose intolerance.

On the cutaneous manifestations, Dr. Fasano highlights the strong relationship between food allergy and atopic dermatitis, both of which have their peak of onset during infancy. In these patients, the identification and strict avoidance of the offending foods are very rewarding.

Food allergy frequently is overlooked as a cause of respiratory allergies in children. Dr. El-Gamal and Dr. Hossny provide a comprehensive review on the subject. Food-induced asthma should be suspected in children whose asthma is poorly controlled, particularly in those with atopic dermatitis. They also alert us to think of milk-induced chronic pulmonary disease (Heiner syndrome). They and other authors refer to exquisitely sensitive patients who react to the ingestion of minute quantities of hidden food or through exposure by inhalation or skin contact.

A separate article addresses the controversial area of food or food additives in causing behavior disorders. It provides balanced information in the form of summaries of the studies that suggest or contradict such a relationship. Appropriately controlled studies on this area are very difficult to design or carry out. Even the best published studies have some limitations. The information available so far suggests, at best, a possible weak link between hyperactivity in some children and foods or additives. Such a possible link seems to be much less than what is being sometimes portrayed by the media or believed by some parents.

The issue concludes with the dietary management of food allergy. Drs. Fiocchi and Martelli emphasize strict elimination of the offending foods for a faster attainment of tolerance. For highly allergic children, self-administered epinephrine should be

readily available. The majority of fatal cases occurred from accidental exposure to hidden foods.

In some patients, the intake of small quantities of food that do not cause symptoms may cause perpetuation of the hypersensitivity state.

REFERENCES

1. Nelson HS, Lahr J, Rule R, Bock A, Leung D. Treatment of anaphylactic sensitivity to peanuts by immunotherapy with injections of aqueous peanut extract. *J Allergy Clin Immunol*. 1997;99(6 Pt 1):744-751.
2. Teuber SS, Vogt PJ. An unproven technique with potentially fatal outcome: provocation/neutralization in a patient with systemic mastocytosis. *Ann Allergy Asthma Immunol*. 1999;82(1):61-65.
3. Meglio P, Bartone E, Plantamura M, Arabito E, Giampietro PG. A protocol for oral desensitization in children with IgE-mediated cow's milk allergy. *Allergy*. 2004;59(9):980-987.
4. Enrique E, Pineda F, Malek T, et al. Sublingual immunotherapy for hazelnut food allergy: a randomized, double blind, placebo-controlled study with a standardized hazelnut extract. *J Allergy Clin Immunol*. 2005;116(5):1073-1079.
5. Srivastava KD, Li XM, King N, et al. Immunotherapy with modified peanut allergens in a murine model of peanut allergy. *J Allergy Clin Immunol*. 2002;109(1 Suppl 1):S287.
6. Frick OL, Teuber SS, Buchanan BB, Morigasaki S, Umetsu DT. Allergen immunotherapy with heat-killed *Listeria monocytogenes* alleviates peanut and food-induced anaphylaxis in dogs. *Allergy*. 2005;60(2):243-250.
7. Srivastava KD, Kattan JD, Zou ZM, et al. The Chinese herbal medicine formula FAHF-2 completely blocks anaphylactic reactions in a murine model of peanut allergy. *J Allergy Clin Immunol*. 2005;115(1):171-178.
8. Leung DY, Sampson HA, Yunginger JW, et al.; Avon Longitudinal Study of Parents and Children Study Team. Effect of anti-IgE therapy in patients with peanut allergy. *N Engl J Med*. 2003;348(11):986-993.
9. Viljanen M, Savilahti E, Haahtela T, et al. Probiotics in the treatment of atopic eczema/dermatitis syndrome in infants: a double-blind placebo-controlled trial. *Allergy*. 2005;60(4):494-500.
10. Garrett JK, Jameson SC, Thomson B, et al. Anti-interleukin-5 (mepolizumab) therapy for hypereosinophilic syndromes. *J Allergy Clin Immunol*. 2004;113(1):115-119.

about the guest editor

Sami L. Bahna, MD, DrPH, is professor of pediatrics and medicine and chief, Allergy & Immunology Section, Louisiana State University



Health Sciences Center, Shreveport, LA. He received his MD with honors from Cairo University, Cairo, Egypt, and his doctorate in public health at Alexandria University, Alexandria, Egypt. He completed a research fellowship at the University of Bergen, Bergen, Norway, a pediatric residency at the University of Maryland Hospitals, Baltimore, MD, and a fellowship in allergy and immunology at Harbor-UCLA Medical Center, Torrance, CA.

Dr. Bahna is certified by the American Boards

of Pediatrics and Allergy & Immunology and is a fellow of the American Academy of Allergy, Asthma & Immunology, American College of Allergy, Asthma & Immunology, American Academy of Pediatrics, Society of Pediatric Research, and American Association of University Professors. He has served as chairman of the American Academy of Allergy, Asthma & Immunology International Food Allergy Symposium multiple times.

He has more than 250 publications and co-authored with Dr. Douglas Heiner the book *Allergies to Milk*, which was translated into Italian, Russian, and Japanese. He is a frequent invited visiting professor and speaker at major national and international meetings and received numerous honors and awards, including the the 2005 Humanism in Medicine Award from the Arnold Gold Foundation. His current research interests include food allergy, atopic dermatitis, and allergy prevention in infants.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.