

Gastrointestinal Manifestations of Food Allergies in Pediatric Patients

1. [Manuel Garcia-Careaga](#), MD

2. [John A. Kerner Jr](#), MD

1. *Department of Pediatrics, Division of Pediatric Gastroenterology, Hepatology, and Nutrition, Lucile Packard Children's Hospital, Stanford University Medical Center, Stanford, California*

1. Correspondence: John Alan Kerner, Jr, MD, Professor of Pediatrics, Director of Nutrition, Stanford University Medical Center, 750 Welch Road, Suite 116, Palo Alto, CA 94304. Electronic mail may be sent to jkerner@stanfordmed.org.

Abstract

Foods that account for 90% of allergic reactions in children are cow's milk protein, eggs, peanut, soy, tree nuts, fish, and wheat. Food allergy can manifest as urticaria/angioedema, anaphylaxis, atopic dermatitis, respiratory symptoms, or a gastrointestinal (GI) disorder. GI allergic manifestations can be classified as immunoglobulin E (IgE) mediated (immediate GI hypersensitivity and oral allergy syndrome); "mixed" GI allergy syndromes (involving some IgE components and some non-IgE or T-cell-mediated components) include eosinophilic esophagitis and eosinophilic gastroenteritis. Non-IgE-mediated or T-cell-mediated allergic GI disorders include dietary protein enteropathy, protein-induced enterocolitis, and proctitis. All these conditions share a common denominator: the response of the immune system to a specific protein leading to pathologic inflammatory changes in the GI tract. This immunological response can elicit symptoms such as diarrhea, vomiting, dysphagia, constipation, or GI blood loss, symptoms consistent with a GI disorder. The detection of food allergies can be accomplished by the use of radioallergosorbent (RAST) testing and skin prick tests in helping to assess the IgE-mediated disorders. Patch tests may help evaluate delayed hypersensitivity reactions. Treatment of GI allergic disorders ranges from strict dietary elimination of offending food(s), use of protein hydrolysates, and use of l-amino acid-based formula when protein hydrolysates fail. Treatment with topical (for eosinophilic esophagitis) or systemic steroids is used if all dietary measures are unsuccessful. Maternal breast feeding or the use from birth of hydrolysate formulas (extensive or partial hydrolysates) may be efficacious in the prevention of atopic disease in "high-risk" families (with at least 1 parent or sibling with a history of atopic disease).