

Food Allergy Point of Care Pearls

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KEYWORDS

- Food allergy • Testing for food allergy • Peanut allergy • Food allergy diagnosis

KEY POINTS

- IgE-mediated food allergies typically occur within minutes to 2 hours of ingestion and have characteristic symptoms.
- Diagnosis of IgE-mediated food allergy should rely on the clinical history, and limited testing may be considered to support clinical suspicion when necessary.
- Infants with severe atopic dermatitis and/or egg allergy should have introduction of age-appropriate peanut-containing food as early as 4 to 6 months of age to reduce the risk of developing peanut allergy.

TERMINOLOGY

Clinical Clarification

- Food allergy is an adverse immune response to a food protein

Classification

- Immunoglobulin E (IgE)-mediated reactions result from cross-linking of allergen-specific IgE on mast cells and basophils resulting in an immediate reaction (typically within 20 minutes to no more than 2 hours after ingestion)
 - IgE-mediated diseases include anaphylaxis, oral allergy syndrome, and acute urticaria
- Non-IgE-mediated reactions are delayed in onset (typically >1 hour to days after exposure) and are most commonly related to the action of T cells
 - Non-IgE-mediated diseases include food protein-induced enterocolitis syndrome, celiac disease, and contact dermatitis
- Both IgE-mediated and non-IgE-mediated reactions are responsible for disease manifestation in patients with diseases such as atopic dermatitis, eosinophilic esophagitis, and eosinophilic gastroenteritis

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DIAGNOSIS

Clinical Presentation

- History¹
 - Reactions are immediate in onset (typically within minutes to no more than 2 hours after ingestion)
 - Delayed anaphylactic reactions (ie, typically 3–6 hours after ingestion) following ingestion of mammalian meat occur as a result of sensitization to a carbohydrate, galactose-alpha-1,3-galactose (also known as alpha-gal). Individuals are typically sensitized following a tick bite²
 - Reactions involve respiratory, gastrointestinal, cutaneous, and/or cardiovascular systems
 - Symptoms typically resolve within 4 to 12 hours
 - Symptoms are reproducible with repeat ingestion
 - Food-dependent, exercise-induced anaphylaxis is an exception, in which anaphylaxis is triggered with food ingestion 2 hours before or after exercise, but the food is tolerated otherwise
 - 90% of reactions are caused by 8 major foods or food groups
 - Most common allergens are milk, egg, peanut, tree nuts, wheat, soy, fish, and shellfish
- Physical examination²
 - Patient may have other atopic diseases (eg, atopic dermatitis, allergic rhinitis, and/or asthma)
 - Examination findings during an acute reaction may include the following:
 - Pruritis, flushing, urticaria, contact urticaria, and angioedema of the skin
 - Ocular pruritis, tearing, conjunctival injection, periorbital edema
 - Nasal pruritis, sneezing, rhinorrhea, nasal congestion, hoarseness, stridor, sense of choking, laryngeal edema, dyspnea, tachypnea, wheezing, chest tightness, coughing, or cyanosis
 - Oral pruritis, oral angioedema, nausea, emesis, abdominal cramping, or diarrhea
 - Tachycardia, dizziness, hypotension, loss of consciousness/fainting
 - Sense of impending doom, uterine cramping/contractions

Causes and Risk Factors

- Causes
 - Defect in oral tolerance
- Risk factors and/or associations³
 - Age
 - More common in young children than adolescents and adults
 - Sex
 - Slight male predominance
 - Genetics
 - Family history of food allergy
- Peanut allergy is 7 times more likely to occur in a child with a sibling who is peanut allergic
- Monozygotic twins have a 64% concordance rate for food allergy compared with dizygotic twins
 - Ethnicity/race
 - Some studies suggest slightly higher rate of food allergen sensitization in non-Hispanic, African American, and Asian children

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