Pediatric Food Allergies: Physician and Parent

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Learning Objectives

• Identify risk factors for food allergies
• Identify clinical manifestations for food allergies in children
• Review diagnostic tools and referral timeline for suspected allergies
• Review treatment and prevention
• Provide resources to help patients and families
Epidemiology

- Food reaction reported by 1/3 of parents
- Documented sensitivity 5-10%
- Peak at 1 year (6-8%)
- Rates are lower for clinical reactivity
- Fruits, vegetables are common reports
- Many of the reactions reported by parents are non-allergic irritant reactions
Common pediatric food allergens

- Cow’s milk
- Egg
- Citrus fruits - reported
- Vegetables - reported
- Fish
- Nuts
What is Top 8?

- Milk
- Eggs
- Peanuts
- Tree Nuts
- Fish
- Shellfish
- Soy
- Wheat

- These are the most common food allergens overall
- In young children, fruit and vegetables are more common
- Celiac disease doesn’t often present at this age
Risk Factors

- Higher risk with parent or sibling history
- Slightly higher in non-Hispanic black
- Higher risk in males
- Conflicting data on C-section
- Theory of skin introduction

- Previous recommendations for avoidance at high risk
- Included mothers in pregnancy and breastfeeding
- Evidence inconclusive
- Now evidence shows tolerance with introduction
Allergist Notes

- Clinical suspicion based on likelihood with foods
- Milk, egg, peanut, tree nut, fish, shellfish, wheat, soy, and sesame are >95% of documented allergies
- Children rarely become allergic to foods they’re eating regularly
Clinical Manifestations

- Urticaria and angioedema
- Oropharyngeal symptoms
  - Oral allergy syndrome – usually raw produce
- Respiratory symptoms
- GI (nausea, vomiting, diarrhea)
- Anaphylaxis!
  - Multiple systems, life threatening
Hives and skin reactions
Angioedema
Non-IgE reactions

- Food protein induced enterocolitis syndrome (FPIES)
- Food protein enteropathy
- Food protein induced proctitis and proctocolitis
- Food-induced pulmonary hemosiderosis
- Celiac disease

- GI – FTT, blood in stool, N/V/D – severity varies
- Skin - Dermatitis herpetiformis (celiac)
- Pulmonary (rare)
Mixed reactions and co-morbidities

- Atopic dermatitis (eczema)
- Eosinophilic gastrointestinal disorders
- Atopic dermatitis very common
- 50-90% with food allergies develop asthma
- Egg allergy particularly high risk for asthma
Anaphylaxis

- 2 or more body systems of IgE mediated reactions
- Always treat with epinephrine
- Always transport to ER for evaluation
- Commonly difficulty breathing, vomiting, hives
Not allergies

- Peri-oral reaction with acidic foods
- Very common in children
- Tomatoes and strawberries are very common
- Most cases of hives are viral, so isolated urticaria doesn’t indicate allergy
- Pattern is key
Testing

- Sensitization can be found with skin testing and in vitro testing
- Sensitization does not confirm allergy
- Testing likely best by experts
- With index of suspicion, avoidance and referral recommended
- Levels generally don’t indicate severity
Skin tests
Natural history

• Most childhood food allergies will resolve
• Exception is celiac disease
• Varies by allergen, IgE status, and concomitant conditions
• True resolution: clinician monitored oral challenge
• In vitro or skin testing can help, but challenge is the gold standard
Monitoring

- Regular repeat testing (often annual)
- Review reactions, epi, and exposures
- Oral challenges
- In vitro testing or skin tests
- Oral challenge necessary because can persist and reactions can occur with negative
Oral food challenge reactions
Cow’s milk

• Peak prevalence 2.5% first 2 years
• Testing at least yearly
• Majority outgrow by age 10, over 50% by age 5. Higher in non-IgE mediated
• Fewer outgrow with other allergy symptoms (asthma, eczema)
• Studies show many can tolerate extensively heated milk products
• When safe, used to develop tolerance
Egg

- Hen’s egg 1-2% peak prevalence
- Most outgrow (over 2/3 in 5 years of follow-up or by age 12)
- Tolerance in baked goods common
- Helps with developing tolerance
- Median age for tolerance 5 for baked, 10 for cooked/raw
- IgE level drops strongly correlate with resolution
Otto egg reactions
Influenza vaccine

• ACIP recommends for all patients
• No monitoring for hives or other mild allergies
• Monitoring only for more severe allergies
• No longer recommend asking about egg allergy status
Peanut

- Co-exists with tree nut in 30-40%
- Incidence is slightly increasing
- Often thought to be persistent
- Up to 25% resolve
- Most resolve by age 8
- Repeat in vitro and skin testing
- Challenge
- Peanut oil-considered safe
Peanut skin test
Peanut introduction

• LEAP study demonstrates that introduction early, around 6 months, reduces allergy incidence.
• Guidelines suggest introduction early.
• Only exceptions are moderate to severe eczema and children with known food allergies.
LEAP and LEAP-ON

- LEAP randomized high risk children to consume or not consume peanuts before age 1
- Consumers had a very significantly reduced risk of allergy (1.9% vs. 13.7%) for primary prevention
- Also effective in children with positive initial skin tests (10.6% vs. 35.3%)
- LEAP-ON removed peanuts for 12 months
- 4.8% of original consumers were allergic, 18.6% of original avoiders
Tree nut

- Less specific data
- Frequently co-exists with peanut
- Most persistent
- Some can outgrow (but only about 10%)
- High levels to multiple different tree nuts reduces likelihood of resolution
- Children outgrowing peanut are more likely to outgrow tree nut
Wheat allergy

- Up to 1% in US and UK
- Separate from celiac disease
- Common in young children
- Up to 80% resolve
- IgE level isn’t as helpful
- Oral challenges every 2 years
Others

- Soy is common – usually resolves at a young age
- Sesame – more likely to persist
- Fruits, vegetables – usually very short-lived. Most are not true allergies, although they are possible
- Seafood allergies more common in adults but can occur in children
Clinical considerations

• Awareness
• Record as allergies
• Cross-reactivity
• Certain prescription drugs contain allergens (i.e. ondansetron)
• Co-morbidities (eczema, asthma)
• Mental health (parents, siblings, patients)
Asthma – co-morbidity
Special Thanks

- Allison Ramsey MD, Board Certified Allergist and Immunologist, Rochester Regional Health
Resources for parents

• **www.kidswithfoodallergies.org**
• FARE (Food Allergy Research and Education) **www.foodallergy.org**
• AllergyEats **www.allergyeats.com**
What Every Parent Needs:

1. Referral to board cert. allergist & Epi RX
2. FARE Action Plan (handout)
3. Parents are patients, too
4. Make your office allergy friendly
5. Information and Support

-included in your handouts is patient packet that can get them started
Social situations with modifications
New normal
References

- UpToDate
  - Wood RA “Food allergy in children: Prevalence, natural history, and monitoring for resolution”