Anaphylaxis, Food Allergy and Asthma: Answering Your Questions

Presented by
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Welcome!

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Today’s Expert

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The basics: Risk factors of anaphylactic reactions

- History of allergy
- History of asthma (especially when not properly controlled)
- Family history of anaphylaxis
- Prior history of allergic reactions

Note: Future reactions may be more severe than the first or initial reaction.
Fatal anaphylaxis risks

- Having a history of asthma
- Delays in epinephrine injection and it not being immediately available
- Young adult and/or adolescent
- Did not have a history of severe reactions
- Higher risk-taking behaviors
If you have suffered a severe allergic reaction in the past – whatever the cause – you are a much greater risk of a future reaction.

- **Initial more typical symptoms may include one or more of the following:**
  - Hives (reddish, swollen, itchy areas on the skin), redness of skin
  - Itchy mouth or ear canal
  - Nasal congestion or a runny nose, sneezing
  - Cough
  - Abdominal discomfort, vomiting, diarrhea

- **Severe symptoms may include one or more of the following:**
  - Obstructive swelling of the lips, tongue, and/or throat
  - Trouble swallowing
  - Shortness of breath or wheezing, chest tightness
  - Drop in blood pressure (feeling faint, confused, weak, passing out)

Severe symptoms, alone or in combination with milder symptoms, may be signs of anaphylaxis and require immediate treatment.
Severity of anaphylaxis is dependent on various patient and other factors

- The amount and type of allergen exposure
- The route of administration (oral vs. injection)
- Presence of asthma
- Exercise triggers
- State of wellbeing or illness
- The degree of allergic sensitivity of an individual

Note: Past history of severe allergic reactions, or anaphylaxis, does not imply the same reaction in the future; often unpredictable!
Some asthma self reported surveys identify a *doubling* in the number of affected children, with asthma.

NHIS data: as many as 1 out of 10 *children* may have asthma.

National Health Interview Survey, 2008
In **asthma**, there is a personal history of respiratory symptoms such as coughing, wheezing, or shortness of breath. Features of an asthma episode include:

- The lower respiratory passages or airways are more sensitive and affected by a variety of asthma triggers.
- Inflammation and swelling in the lining of the lungs occur.
- Bronchospasm occurs, as a result of tightening of muscles around breathing passages, or airways.
- Due to these changes, there is a restriction in the normal movement of air, thus the sensation of shortness of breath.
Reactive airway disease include conditions that feature reversible airway narrowing due to a variety of triggers.

- On physical examination the most likely finding is wheezing, often triggered by a respiratory infection.

- The same presentation may also be caused by asthma.

- It has been used in lieu of a diagnosis of asthma, particularly, in young children, when a diagnosis of asthma has not been confirmed.

The most common cause of fatalities in anaphylaxis is severe asthma – due to extreme compromise and severe obstruction of the respiratory passages [airways].

Additionally, we believe that underlying asthma makes the respiratory passages more “hyper-sensitive” to allergic triggers.
How can one tell the difference between asthma and anaphylaxis?

- **Anaphylaxis** is a potentially life-threatening allergic reaction. Symptoms may include cough, chest tightness and discomfort, wheezing or shortness of breath. Food allergic reactions may be responsible for respiratory symptoms that occur in up to 50 percent of patients.

**Bottom line:** There is great degree of overlap in common respiratory symptoms in both conditions!
Association between asthma and food allergy

- It is unknown whether the link between asthma and food allergy is due to an allergic predisposition (underlying allergies), or, is it that there is a true “cause and effect” relationship in these persons?


Does having asthma increase the risk of a severe anaphylactic reaction?

- Children with food allergies and asthma are at greater risk for near-fatal and fatal allergic reactions (anaphylaxis), especially, when their asthma is not well controlled.
Prevalence of food allergies and asthma

- There is an apparent rise in asthma and food allergies over the past several decades.
- However, true prevalence of food allergy not a simple measurement.
- Risk factors for food allergies [and also for asthma] in studies were: male gender, age of the child and ethnic differences.


Food allergy and asthma connections

- In young children, food allergy often occurs before asthma develops, and therefore, may be a risk factor in those children with persistent asthma.

- Egg sensitivity (common cause of food allergy in children) has been associated in some studies, as a risk factor for future indoor and seasonal pollen sensitivity, as well as later development of asthma [majority of children outgrow egg allergy].
Research: Food allergy and its relationship with asthma

Food allergies can vary in the way they present, including respiratory symptoms: wheezing, cough, chest tightness, etc.

Food allergies does not generally present with day-to-day respiratory symptoms.

A history of asthma does appear to worsen or complicate food allergic reactions.

Some researchers have estimated food allergic respiratory symptoms occur about one-third of the time.
Studies: Persistent cow’s milk allergy may be a future predictor of asthma.

HMO and other studies: Risk of anaphylaxis is greater in those with severe asthma, as compared to those without severe asthma.


Confirm the diagnosis of a food allergy.

Food allergen avoidance measures: label decoding and understanding names of food allergens, use of a chef card when ordering food away from home.

Food allergy education among the family, friends, school staff, coach, etc.

An emergency anaphylaxis action plan begins with having prescribed emergency medications immediately available. Notably, an epinephrine auto-injector is the first-line treatment for anaphylaxis.
When to use epinephrine

- What do you do if you are not sure if the symptoms are due to asthma or anaphylaxis?
- Most authorities agree that any food-allergic child who has experienced a life-threatening anaphylactic reaction (or who is experiencing severe symptoms) should be given intramuscular epinephrine and transported to a hospital immediately if a food allergen ingestion is suspected.
- Pivotal study: Sampson HA: Anaphylaxis and Emergency Treatment; Pediatrics; 2003 June; 111:3
Practice injection technique using an auto-injector trainer.

Review Food Allergy & Anaphylaxis Emergency Care Plan frequently.

You or the child should always carry epinephrine, if prescribed. If the child’s parents indicate that the child can carry the medication, double-check they have it with them when they leave the house.

It is strongly recommended to carry two auto-injectors in case a second epinephrine dose is needed.
How can families train relatives and caregivers to understand the nature of anaphylaxis?

Do you have any additional advice for families managing both food allergies and asthma?

- Optimal asthma control
- Utilize comprehensive patient, family and caregiver education, take avoidance measures, and be prepared with a written emergency anaphylaxis action plan
Role of caregivers:

- The child’s parents should feel that you are informed and can be trusted to provide care.
- While accidents can happen, it is imperative that you learn as much as you can about the child’s food allergies and are prepared in case of a reaction.
- Keep in mind that food allergies can also take an emotional toll on children. They will need your support if they are feeling anxious or isolated.
Prevent "cross contact."

Clean countertops thoroughly with hot, soapy water, using a clean, disposable cloth before preparing allergen-free foods.

When preparing food, always use separate utensils.

Consider applying brightly colored stickers on safe food items.

Beware of non-food items that may contain allergens.

Carry a "chef card" and/or call ahead to inform host and/or staff when dining out.
Thank you!

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