



of Allergy

FOOD ALLERGY

Di Hawarden & Shaunagh Emanuel

Dr Do-a-lot explores the topic of **food allergy** with her students. She gives them a broad overview of the subject:

Prevalence and Epidemiology

The prevalence of food allergy appears to be rising and it is a common problem encountered by the primary care physician.

Commonly implicated foods include: milk, egg, soy, wheat, peanut, tree nut, fish, shellfish and sesame.

Allergies to milk, egg, soy and wheat are often outgrown within the first 10 years of life, whereas allergies to peanut,



Foods commonly implicated in allergic reactions

tree nut, fish and shellfish may be lifelong. Patients with peanut, tree nut and shellfish allergy often have more severe food allergy. There is a higher prevalence of food allergy in children with atopic disorders like eczema, asthma or allergic rhinitis.

Definition

Food allergy is defined as an **adverse immunologic response to a dietary protein**.

The immunological response may be **immunoglobulin E (IgE) mediated**. This is the type of allergic reaction to food that we are most familiar with. There is usually a rapid onset of symptoms following ingestion of the allergen.

The immunological response may **not be IgE-mediated**. This is a less common form of food allergy and it involves other parts of the immune system like immunoglobulin A (IgA), T-cells and eosinophils. Clinical manifestations tend to be

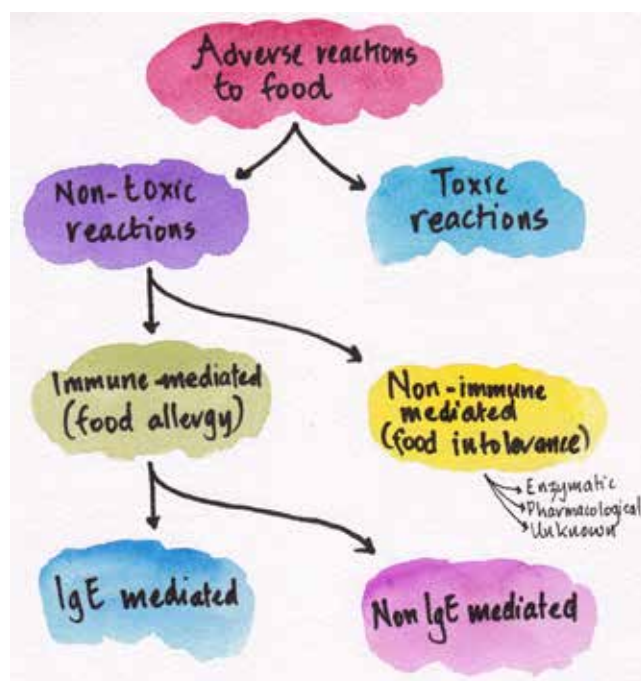


Degranulating mast cell

chronic and include conditions like coeliac disease and dietary protein-induced enterocolitis.

Some food allergies occur as a result of **mixed IgE and cell mediated reactions**, for example, in atopic dermatitis and eosinophilic oesophagitis.

Not all adverse reactions to food occur as a result of an immune reaction. These reactions are classified as



Dr Do-a-lot's food allergy algorithm

food intolerances and may be secondary to metabolic disorders, toxic contaminants or pharmacologically active food components.

Clinical Manifestations

Reactions to foods may involve several systems including skin, gastrointestinal, respiratory and cardiovascular. Skin reactions are the most common clinical manifestation with typical signs including flushing, urticaria and angioedema. Respiratory tract signs include laryngeal oedema, rhinorrhoea and bronchospasm. Gastrointestinal signs include nausea, vomiting abdominal pain and diarrhoea. Cardiovascular signs like tachycardia and circulatory collapse typically occur in anaphylaxis, which is the most severe manifestation of food allergy. Food allergy is an important cause of anaphylaxis.



A young patient with an itchy urticarial rash



Examination



Special investigations may include skin prick tests or serum specific IgE tests

The **skin prick test** and the **serum specific IgE tests** are helpful in diagnosis.

In some cases an **oral food challenge** may be indicated. This procedure involves feeding the suspected food to the patient in gradually increasing doses and gauging the response. The procedure may result in anaphylaxis so it must be carried out in a medical unit that has staff and facilities available to rapidly treat a severe reaction.

Elimination diets and food/symptom diaries may also be helpful diagnostic strategies.

Diagnosis and treatment

Referral for assessment and treatment by an allergy specialist is recommended. Diagnosis includes a detailed and comprehensive history, physical examination and diagnostic tests.

Timing, duration, severity and reproducibility of symptoms, method of food preparation and potentiating factors must be elucidated on **history** taking.

Atopy and other allergic diseases as well as conditions that may mimic allergy are assessed on **physical examination**.

Many unproven food allergy tests are falsely marketed to the public. Applied kinesiology, vega machine testing and serum immunoglobulin G testing do not have a role in food allergy testing.

There is no **treatment** for food allergy.

Management includes strict elimination of the allergen and dietary management.

An **adrenaline auto-injector** is the treatment of choice for patients with significant systemic symptoms.

In South Africa, the only adrenaline auto-injector available is the EpiPen. It is available in doses of 0,3 mg and 0,15 mg. The 0,3 mg dose should be used in patients over 30 kg.

Should a patient be accidentally exposed to a food to which they are allergic and suffer a severe reaction, the adrenaline auto-injector must be used **without delay**.



Discharge management of patients who have suffered from anaphylaxis

Following emergency treatment with adrenaline a patient must be transported to hospital for **evaluation and observation**.

Patients at risk of anaphylaxis must have a **written anaphylaxis action plan**, **adrenaline auto-injectors**, repeated, empowering **anaphylaxis education** and a **medical identification bracelet** containing clear information indicating their allergy, for example: 'Anaphylaxis to peanuts. Give adrenaline'.

Patients with food allergies must receive detailed education regarding **food labeling**.

The expertise of a **dietician** with experience in food allergies is invaluable in the management of patients with food allergies, especially where foods, particularly proteins, need to be eliminated from the diet.

Dr Do-a-lot requests that her students research the topic further and return to her next tutorial with prepared short notes on common food allergies.



Dr Do-a-lot asks her students to prepare for her next tutorial

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