Anaphylaxis is a severe, life threatening syndrome which can affect any age group.
Food allergy is the most common cause of anaphylaxis.

Sometimes the term anaphylaxis is used for mild skin symptoms. This leads to confusion and an accurate definition of anaphylaxis is therefore essential.
The term anaphylaxis should only be used for an immediate systemic allergic reaction which is potentially lethal. However, mild symptoms such as tingling in the mouth may be the precursor of an anaphylactic reaction.
Most anaphylactic reactions occur in the community (outside hospital environments). Recent research has highlighted that one third of fatal food allergic reactions will occur whilst eating out in restaurants and another third while eating at home. In both cases no professional emergency treatment is immediately available.
We therefore need to prepare each patient at risk for anaphylaxis in order to ensure that they become an expert in handling allergic reactions when and wherever they occur.
The basic mechanism of anaphylaxis is described as an acute systemic reaction caused by IgE-mediated immunological release in blood and tissues of a huge amount of histamine from mast cells and basophiles to allergenic triggers. As in other allergic diseases, real processes are more complex: numerous additional mediators are involved, and their release is sometimes triggered by immunological or physical factors.

Triggers

In the USA food allergy accounts for 33% of cases of anaphylaxis (resulting in an estimated 200 deaths per year), followed by reactions to insect stings (14%) and medication (13%). Generally, main triggers in hospital settings are medications (aspirin, non-steroidal anti-inflammatory drugs and β-lactam antibiotics), latex sensitization and subcutaneous immunotherapy with allergen extracts (pollen extracts in particular).

In the USA, 14% of cases of anaphylaxis are caused by insect stings and 13% by medication

However, in most cases the cause of anaphylaxis is undetermined. In addition, there is no explanation for the variability of clinical presentation among patients and in the same patients from one episode to another. Variability of symptoms severity and of the time lag between exposure to the trigger and the onset of symptoms is difficult to explain as well.

In general the knowledge and experience of general practitioners in diagnosing, treating and guiding food allergic patients is pure. Even specialists such as pediatricians appear to know only the basics of food allergy and anaphylaxis. Moreover, the psychological and social impact on the patient and their families is considerably under-rated. Patient who present with suspected food allergic symptoms after injection contact or inhalation of food allergens need urgent referral to a specialist experienced in food allergy and anaphylaxis for diagnoses and
management planning. They should initially be followed up by the specialist on a regular basis until they are stable and competent with a self-management of their condition.

**What should a specialist diagnostic workup include?**

The individual’s full medical history: Particularly exploring the kind of foods implicated, time to onset of symptoms, relapse of symptoms, preexisting medical conditions, associated exacerbating factors, history of asthma, atopic eczema and infant feeding problems.

Family history of first degree relatives of atopy is a significant risk factor for developing food allergies.

Environmental factors should be explored and notes taken of certain factors which amplify food allergic reactions such as simultaneous intake of alcohol, intake of specific medication, hot showers, exercise, stress and hormonal changes during the menstrual cycle. Suspected food allergy should be confirmed using appropriate diagnosing tests (skin prick test, specific serum IgE, double-blind, placebo-controlled food challenges).

The interval between eating the offending food and fatal collapse is usually about 25 - 50 minutes long and the dose required to trigger a reaction can vary form a trace of the food to over hundred gram. Asthma is a major component in fatal food anaphylaxis, especially when sub-optimally treated. Over 50 % of the documented USA anaphylaxis fatalities where due to peanut allergy and 96 % had associated asthma symptoms at the time of their reaction.

**When epinephrine be prescribed?**

Every food-allergic patient at risk for anaphylaxis should have injectable epinephrine readily available, particularly in the following cases:

- history of previous generalized severe reaction
- reactions getting progressively more severe
- allergy to peanuts, tree nuts and sesame seeds
- patients reacting to minute amounts of allergen
- patients with co-existent mastocytosis.
Underutilization of epinephrine is a major problem. An educational intervention is urgently needed to improve anaphylaxis practices by doctors, patients and their carers, and the few attempts done so far have been proven effective.

Extensive training with clear written instructions for emergence management is mandatory in these patients.

**Training and education**

Every patient with a history of anaphylaxis and severe food allergy should carry an action plan card. This must include essential details of the patient as well as contact detail for the physician, carer and local hospital.

A number of European hospitals, clinics and allergy support groups now offer courses to instruct patients with allergies. These courses have been extended to parents, schools, factories and other institutions. There is mounting evidence, that if patients are more aware and proactive in their own management, than there are less likely to have accidental adverse allergic events.
References:


