



Allergy is a hypersensitivity reaction that involves an exaggerated response of the immune system, often to common substances such as foods, pollen...etc.

Symptoms: It includes red eyes, itchiness, runny nose, eczema (inflamed or irritated skin), hives (pale red skin rash) or an asthmatic attack.

Allergies can range from minor to severe. **Anaphylaxis** is a severe reaction that can be life threatening that can impair your breathing, cause a dramatic drop in your blood pressure and affect your heart rate.



A food allergy reaction occur when your immune system overreacts to a food or a substance in a food, identifying it as a danger and triggering a protective response.

Food allergy is thought to develop more easily in people with atopic syndrome (genetic predisposition toward the development of immediate hypersensitivity reactions against common environmental antigens).

Mechanism:

The causes of food allergies are broadly classified into three groups according to the mechanism of allergic reaction.

1. **Ig E mediated:** Most common type that involves **Ig E** antibodies, occurs very shortly after eating and may cause anaphylaxis.
2. **Non Ig E mediated:** Characterized by immune response that may occur some hours after eating, diagnosis for this type may be complicated.
3. **Both Ig E and non Ig E mediated type:** It is a hybrid of the above two types.

Symptoms:

- Rash
- Hives
- Vomiting or stomach cramps
- Itching of mouth, lips, tongue, throat, eyes, and skin.
- Swelling of mouth, lips, tongue, throat, eyes, and skin.
- Difficulty swallowing
- Difficulty breathing
- Wheezing
- Repetitive cough
- Weak pulse
- Pale or blue coloring of skin
- Fainting
- Anaphylaxis.



Food allergens:

There are eight types of foods that account for about 90 percent of all food allergies. They are eggs, milk, pea nuts, tree nuts, fish, shell fish, wheat and soy. Certain seeds such as sesame and mustard may also common food allergens in some countries.

Treatment: It includes epinephrine, antihistamines and steroids.



A chemical allergy refers to an adverse reaction when your immune system overreacts to a chemical. In this the chemical residual may penetrate the skin, resulting in vesiculation, erythema, swelling, cracking and itching of the skin at the site of contact.

Symptoms:

Symptoms may appear 24 to 48 hours later, but can start as late as a week after exposure. Each person may have different chemical allergy symptoms. Some of the most common are:

- Red skin
- Swelling of the eyes, face and genital area
- Itching or burning that may be intense
- Blisters on skin that ooze
- Scaly patches on skin
- Hives
- Sun sensitivity
- Darkened, leathery and cracked skin

Chemical allergens:

The commonly used chemicals such as Triclosan, antibacterial used in tooth paste and Bisphenol A (BPA), used in plastics and linings of food cans could be interfering with our immune system.

The other chemicals that cause allergy include, acrylic acid, acetaldehyde, 2-amino phenol, picric acid, carbofuran, malathion, cobalt, arsenic, chloramines T, disulfiram etc.

Treatment: It includes moisturizers, antihistamines, topical steroids, oral steroids, and antibiotics.

DRUG ALLERGY



A drug allergy occurs when your immune system overreacts to a medication, which triggers an allergic reaction. Only about 5 to 10% of these reactions are due to an allergy to the medication.

Mechanism:

The drug hypersensitivities are broadly classified into three groups according to the mechanism of allergic reaction.

1. **Ig E mediated:** Most common type that involves **Ig E** antibodies, drug allergens bind to IgE antibodies, which are attached to mast cells and basophils, resulting in IgE cross-linking, cell activation and release of preformed and newly formed mediators.
2. **Non Ig E mediated:** Characterized by immune response that may occur some hours after taking the medication.

Symptoms:

- Rash
- Hives
- Fever
- Itching
- Swelling of mouth, lips, tongue, throat, eyes, and skin.
- Shortness of breath
- Anaphylaxis (life threatening drug allergy, lowers B.P.)

Drug allergens:

- Antibiotics: Pencillins, tetracyclins, Sulfadrugs
- Analgesics: codeine
- NSAIDS
- Antiseizure: Phnytoin, carbamazepine.
- Chemotherapy
- Monoclonal antibody therapy

Treatment: The primary goal of treating the allergic drug reactions is symptom relief. Then the symptoms are controlled by anti histamines, and occasionally corticosteroids. For the treatment of anaphylaxis epinephrine may be given.