

# Food Allergy and Food Intolerance

## Food allergy

- **Allergy** is the hypersensitivity or abnormal reaction of the body's immune system in response to exposure to a specific substance.
- These substances, called **allergens**, may include food, drugs, pollens, dust, micro-organisms, insect venoms, mites or some other sources.
- Exposure to such substances through consumption, inhalation or physical contact causes the body to undergo an altered reaction resulting in specific symptoms.
- In food allergy, the body immune system identifies a specific food or substance in food as harmful.
- Hence, the immune system triggers cells to release antibodies known as IgE (Immunoglobulin E) antibodies to fight the intruder or the allergen.
- The next time when even minute quantity of the same food is eaten, the IgE antibodies sense it and signal the immune system to release into the bloodstream histamine as well as other chemicals.
- These chemicals cause a range of allergic signs and symptoms.
- Histamine, found in all animal body cells, is an organic nitrogen compound involved in local immune response as well as regulating physiological function in the gut and acting as neurotransmitter.
- The initial symptoms of food allergy are often sneezing, runny nose, itching, burning and swelling around the mouth, dermatitis, rashes, and/or difficulty in breathing.
- Slightly severe allergic reaction include eczema, hives and hay fever.
- In severe cases allergic reaction may cause gastrointestinal and respiratory distresses that may require immediate emergency intervention.
- In some people severe allergies to environmental or dietary allergens or to medication result in life-threatening hypersensitivity reactions that may be fatal.
  
- **Egg allergy** is hypersensitivity to components from the yolk or whites of eggs that contain almost four types of proteins which are attacked by immune system. These are ovomucoid, ovalbumin, ovotransferrin and lysozyme.
  
- **Peanut allergy** usually occurs within minutes after eating. The common peanut allergens are 7-S globulin, 11-S globulin and 2-S albumin.
  
- In **milk**, there are two types of proteins that can cause an allergic reaction- casein and whey protein.

- **Bananas** have a protein chitinase that can initiate an allergic reaction.
- **Soy allergy** is common in the western countries and allergens are 7-S globulin, 11-S globulin and papain-related thiol protease.

### **Food intolerance**

- Food intolerance is a chemical reaction after eating or drinking of some food.
  - It is not an immune system response.
  - It is caused by various organic chemicals occurring naturally in foods, as well as by some food additives, preservatives, coloring and flavoring.
  - Intolerance often results from the absence of specific chemicals or enzymes needed to digest a food substance.
  - The symptoms of food intolerance include nervousness, sweating, palpitation, rapid breathing, headache, diarrhea, burning sensation on the skin etc.
  - A deficiency in digestive enzymes can also cause some types of food intolerance. Lactose intolerance and gluten intolerance are common.
- **Lactose intolerance** results from the body's inability to produce sufficient lactase to digest lactose in milk and milk products. Lactase is responsible for breakdown of lactose into glucose and galactose which can be absorbed into the bloodstream. Without lactase, the unaltered lactose move on to the colon, where the normal intestinal bacteria produce gas and cause bloating and diarrhea.
  - **Gluten intolerance** also known as celiac disease is an inherited condition that causes physical reaction when gluten is ingested from grains like wheat, barley and rice. The condition is not curable and can become severe, damaging the small intestine and causing poor absorption of vitamins and minerals. Gluten intolerance can be prevented by avoiding products which contain gluten.