

Allergic reactions are the result of the body being hypersensitized to a normally innocuous substance. Allergies are common, and genetically linked. A person has a 1/3 chance of developing allergies if one parent also has them, and a 4/5 chance if both do. An allergic reaction starts when a substance, or antigen /enters the body via inhalation (ex: pollen), ingestion (ex: peanuts), transdermal (ex: chemical), or injection(ex: bee sting). Upon entering the body, substance interacts with mast cells and basophil cells when their IgE antibodies attach to the antigen. This begins a cascade event with sequential enzyme activation leading to an influx of calcium into the cell, resulting in degranulation, which releases histamines and mediators into the extracellular fluids. The release of the histamines and mediators causes bronchodilation which leads to difficulty breathing, SOB, wheezing, bronchospasm, stridor, and asphyxiation. Also occurring is vasodilation, which decreases blood pressure, causes tachycardia, bradycardia, cardiac arrest, MI, decreased level of consciousness, lightheadedness, headache, shock and anaphylaxis. Other clinical s/s of an allergic reaction are hives, flushing, itching, abd pain, N/V/D, anxiety, confusion, panic, incontinence, and dysphagia. Signs and symptoms can range from mild, moderate, severe, protracted and biphasic. Anaphylactic shock is the most severe reaction to an allergen, and can be life threatening. The signs and symptoms of anaphylactic shock are rapid, weak pulse from a sudden drop in blood pressure, narrowing of airways that blocks breathing, skin rash, N/V.

In the case of anaphylactic shock, the nurse should remove the offending agent ASAP (IV fluid, ect), and work to reverse the effects. The patient airway may need to be vented, IV antibiotic therapy orders started with large bore IV catheter, epinephrine to dilate the airways and constrict the blood vessels, IV Benadryl to block the histamine response and corticosteroids. The patient should be positioned in a way to assist in breathing with slow deep breaths, the legs may be elevated in a modified Trendelenburg to aid in venous return. In some cases, a second dose of epinephrine may be required due to the continued flow of mediators producing a relapse. If s/s have not improved within five minutes of initial dose, a second should be given. Aside from a full assessment, a complete patient health and medication history should be acquired, along with any known allergies and reactions from the patient and/or patient's family. A prudent nurse will use preventative measures like monitoring the pt response to medications and blood products post administration, and identifying at risk patients.