



Drug Reactions

Most people have probably experienced an unwanted side effect to a medicine at some time in their lives. Many drugs commonly cause side effects, such as an upset stomach after taking aspirin or drowsiness after taking a cold medication. Adverse drug reactions also can be quite serious; they account for an estimated 106,000 deaths each year in the United States. As more medications are approved each year, the problem is expected to grow.

An adverse drug reaction is any effect not intended by proper administration of a medication. Reactions also can occur between medications, even nonprescription ones. Most adverse drug reactions - more than 90 percent - do not involve the immune system. When the immune system is involved, a person is said to have drug hypersensitivity. Allergy is one type of hypersensitivity reaction.

What is drug hypersensitivity?

Medications can cause unwanted reactions in many ways. Sometimes, it's a direct effect of the drug on the body. Drug hypersensitivity reactions occur when the immune system responds to a medication or to the biologic products that result when the body breaks down a medication. In some cases, the immune system tries to attack the substance, causing symptoms of the drug reaction. Drugs also can cause allergic reactions similar to those caused by bee stings or other allergenic substances.

People who have a family history of allergic diseases may be more likely to have drug allergy, but are not at greater risk to develop non-allergic types of reactions. Fortunately, a family history of allergy to a particular drug does not increase a person's chance of being allergic to that same drug.

A person must have a previous exposure to a drug in order to have a true allergic reaction to it. Such reactions most often occur when a drug is administered intravenously or by injection, delivery methods that send the drug directly to the bloodstream. Reactions occur less frequently when drugs are taken by mouth. The chance of an allergic reaction increases when a medication is administered frequently or in large doses.

Certain medications are more likely to cause allergic reactions than others due to their chemical structure. Penicillin and other antibiotics are some of the most common culprits of allergic drug reactions. Penicillin, however, can also cause other types of immune reactions, as well as reactions that do not involve the immune system.



Symptoms

The most common types of allergic reactions to a drug are:

- Skin rash or hives
- Itchy skin
- Wheezing or other breathing problems
- Swelling of body parts
- Anaphylaxis, a life-threatening allergic reaction

While these are the most common symptoms of drug allergy, adverse reactions can occur in any organ or system of the body.

Allergic reactions can occur within minutes or hours of exposure to a medication. Drug reactions can even occur some time after a medication has been stopped. For example, a person may develop a rash or hives a week after stopping a medication.

A "pseudoallergic," or anaphylactoid, reaction does not involve allergic antibodies and can occur without prior exposure. Symptoms are similar to a true allergic reaction: a person may develop a rash or hives, have difficulty breathing, and experience swelling of body parts. Common causes of pseudoallergic reactions include aspirin and X-ray dye.

Diagnosis

Adverse drug reactions can be difficult to diagnose, because they often can look like other conditions. Further, although many common reactions to certain drugs are known, others may not have been identified yet.

It is important to distinguish an allergic (hypersensitivity) reaction from a non-allergic reaction. If drug hypersensitivity is suspected, your doctor may send you to a specialist in allergy and immunology.

If you suspect you are having, or had, an adverse reaction to a medication, take note of the circumstances. Your doctor will want to know when the medication was taken, when the symptoms started, what the symptoms were and how long they lasted, and any other medications you were taking at the time, including nonprescription medications. Bring copies of any treatment records of the reaction with you to the doctor's office. This information is important for the diagnosis and treatment of your condition.

Be sure to have the name of the exact medications you took to help the doctor identify which drugs should be tested for hypersensitivity. It also will allow the allergist to determine if there are alternative medications that would be safe for you to take - and which additional medications you should avoid in the future. If possible, bring the suspected medications with you.



Next, an allergist will perform a physical examination. This is necessary to check for different problems that may occur as part of an allergic reaction and to determine if there are other, non-allergic causes of the symptoms. The allergist will pay special attention to any symptoms of a reaction that you still have, such as a skin rash.

Allergy skin testing is available to test for allergic reactions to only a few drugs. Many experts recommend that testing not be done until there is a future, compelling need to use the same medication again. In some cases, an allergist will perform blood tests to identify antibodies against a medication. Blood tests tend to be less sensitive than skin tests, so a skin test will be used whenever possible.

Treatment

If a drug reaction is mild, treatment may be limited to stopping the medication. In many cases, discontinuing the drug is all that is needed.

To relieve the symptoms of a more serious or persistent reaction, an allergist may administer antihistamines, corticosteroids and other medications. Antihistamines work by counteracting the chemical histamine, which is released during the body's allergic response. Corticosteroids work by reducing inflammation.

In most cases, a person with drug hypersensitivity can safely be given alternative drugs, and the drug that caused the reaction is simply avoided. When no alternative medication exists, an allergist can undertake desensitization or graded challenge. These are methods of gradually introducing a medication into the body in small doses until a therapeutic dose is reached.

Anaphylaxis

Anaphylaxis is a severe, potentially life-threatening reaction that can occur within seconds or minutes of administration of a drug. Symptoms of anaphylaxis include swelling of body parts; shortness of breath or wheezing; a sudden drop in blood pressure, which may cause dizziness or loss of consciousness; and shock

Anaphylaxis requires emergency treatment. Several drugs, including epinephrine, antihistamines and corticosteroids, are often administered. The patient may also receive oxygen and intravenous fluids.

If you take a medication and develop any of the symptoms of anaphylaxis, immediately call your local emergency phone number (911 in most locations in the United States and Canada). Although antihistamines are sometimes given to patients with anaphylaxis, antihistamines alone are not likely to be adequate treatment. If you are with someone who develops any symptoms of anaphylaxis, call your local emergency number. If he or she loses consciousness, lay the person down and elevate the feet.



If you have a known drug allergy:

If you have had a hypersensitivity reaction to a drug:

- Make sure all of your doctors know the medication you took and the reaction you had;
- Talk to your primary care doctor or allergist about other medications you should avoid and which alternative medications are safe for you to take; and
- If your allergy is severe, wear a medical alert tag or bracelet in case of emergency.