Food allergy

A food allergy is a reaction of the body's immune system to otherwise harmless substances in certain foods. This is different from a food intolerance, which does not necessarily involve the immune system. Although 25% of people believe they are allergic to certain foods, only 4 to 8% of children and 2% of adults have diagnosed food allergies. While most food allergies are mild, in some cases they can cause anaphylactic shock, a serious, sometimes life-threatening reaction. Food allergies affect mostly young children, and about 90% of these allergies are caused by 8 foods: cow's milk, eggs, soy, peanuts, tree nuts, wheat, fish, and shellfish. With the exception of peanut allergy, the majority of children outgrow their food allergies by early adolescence.

Signs and Symptoms

Many people who think they have food allergies actually have food intolerances. Symptoms of a true food allergy usually involve the skin and intestines and typically begin just after eating and not longer than 2 hours following ingestion of the particular food. Common symptoms include:

- Hives, swelling, itching, or eczema
- Nausea and vomiting, stomach cramps, indigestion, or diarrhea
- Swelling of the eyelids, face, lips, tongue, throat, or other parts of the body (called angioedema)
- A metallic taste in the mouth
- Wheezing, nasal congestion, or trouble breathing
- Lightheadedness, dizziness, or fainting

When the symptoms listed above are extreme, they can be life threatening. Call a medical emergency response unit if you see the following signs of extreme allergic reaction (anaphylactic shock):

- Swelling of the throat and difficulty swallowing
- Difficulty breathing
- Rapid pulse
- Dizziness, lightheadedness, or loss of consciousness
- Blue color to the skin and nails

Causes

In most cases, allergies occur when an individual who has a genetic sensitivity to certain allergens is exposed to the substance. Foods frequently responsible for food allergies include:

- Shellfish, such as shrimp, crab, and lobster
- Tree nuts, including walnuts, almonds, and pecans
- Peanuts
- Fruits, particularly strawberries, but also melons, pineapple, and other tropical fruits
- Tomatoes
- Fish
- Food additives such as dyes, thickeners, and preservatives, (monosodium glutamate (MSG) is a common food allergy in this category).

Foods that may cause intolerance include:

- Wheat and other gluten-containing grains
- Cow's milk and other dairy products

- Corn products

Risk Factors

Family history. If both parents have food allergies, you have a 75% chance of having one yourself. If one parent has food allergies, you have a 30 to 40% chance. If neither parent has allergies, you have a 10 to 15% chance.

Excessive exposure to a particular food. For example, in Japan where rice is a staple, rice is a common food allergen. In Scandinavia, the common allergen is codfish, and in India, chickpeas.

Living in an urban environment. Studies show that increasing population density is correlated with an increasing prevalence of food allergies.

Diagnosis

Your health care provider will take a comprehensive history to find out what symptoms you experience after eating and how soon after eating they occur. Your doctor will also want to know how often you have the reaction and what type of medical treatment you have received. Even if your symptoms seem clearly related to a specific food, your doctor may still want to do some tests to be sure that you have a true food allergy and to verify the food or foods responsible for your reaction.

The food causing the allergy can sometimes be identified by the following techniques:

- **Elimination and re-challenging diet (also called elimination and provocation diet).** This technique involves eliminating suspected foods from the diet one at a time until the symptoms disappear. If there is still a question about what may be causing the symptoms, then individual foods are reintroduced one at a time to see if an allergic reaction develops. (**Note:** this would not be done if the allergic reaction is dangerous or life threatening.) This method is not definitive, but may help narrow the list of suspected foods.
- **Skin testing.** A diluted amount of the food allergen is placed under the skin; if allergic, a raised, red skin lesion will appear, generally within 15 to 20 minutes.
- **Blood tests (RAST and ELISA).** These look for antibodies against the particular food allergens.

Preventive Care

Guidelines from reputable health agencies suggest some steps parents can take to reduce their child's chances of having food and other allergies, although there are no guarantees of success. If either or both parents have a personal or family history of allergy, for example, asthma, eczema, hay fever, perennial allergic rhinitis (allergy to animals, dust mites, or molds) the following is recommended:

- Avoid common allergenic foods, in particular peanuts and tree nuts, during pregnancy and while nursing -- peanut protein, as well as components of cow's milk, eggs, and wheat, are secreted into breast milk.
- Breastfeed exclusively -- give your baby only breast milk for the first 6 months of life using hypoallergenic formulas to supplement breastfeeding if necessary.

Note: Not all studies agree on exclusive breastfeeding. The latest and largest study investigating the relationship between breastfeeding and allergies, particularly asthma, suggests that breastfeeding in the early months of life can prevent allergies until your child is 2 years old.

Traditionally, many doctors advised waiting to introduce certain foods into a child's diet, once the child is old enough for solid food, in the hopes that as their digestive and immune systems' matured, they'd be better able to tolerate these foods. Emerging research is challenging the

traditional paradigm of avoiding introducing common food allergens into the diet as long as possible. In fact, some researchers believe that earlier introduction of so called allergenic foods may help the immune system become familiar with the food, and thus, not develop an allergy to the food. More research is needed. In the meantime, work with your child's pediatrician to determine the appropriate food introduction schedule for your child. If you have a family history of food allergies, it is particularly important to work with your pediatrician or allergist to develop a schedule of introducing potentially allergenic foods.

Treatment

The goals of treatment are to reduce symptoms and avoid future allergic reactions. Some allergists prescribe desensitization therapies such as allergy shots. Once you are aware of the allergy, the best way to avoid a reaction is by not eating trigger food. Treatment at the time of a reaction varies according to the severity and type of symptoms. Mild symptoms may go away without treatment. Doctors generally recommend over-the-counter or prescription antihistamines to relieve mild itching, swelling, rash, runny nose, or headache. Soothing skin creams may provide some relief of rashes. Severe allergic reactions (anaphylactic shock) can come on suddenly and accelerate quickly. In this case, emergency treatment is needed. In some instances, survival may depend on an injection of epinephrine (adrenaline). Food allergy sufferers routinely learn to self administer epinephrine, which may save their lives. Avoiding the offending food is the best way to prevent future allergic reactions.

Lifestyle

Avoid offending foods. Read all package ingredients carefully (many foods are processed with peanuts, eggs, or milk products, such as whey). Call ahead when eating out. Take your own food with you on trips.

If you have a history of anaphylactic shock, you should keep a preloaded syringe of epinephrine with you. Your doctor will teach you and a close family member how to use it should the need arise. You should wear a medical bracelet or necklace indicating your particular food allergies.

Medications

Antihistamines are recommended for mild itching, swelling, rash, runny nose, or headache. They are available both by prescription and over the counter in many cold, sinus, and allergy remedies. These include diphenhydramine (Benadryl), cetirizine (Zyrtec), clemastine (Tavist), chlorpheniramine (Chlor Trimeton), desloratadine, fexofenadine (Allegra), hydroxyzine (Atarax), and loratadine (Claritin). Possible side effects include drowsiness, irritability, dry mouth, and heart palpitations.

Skin creams can help soothe rashes.

Epinephrine injection is used to prevent anaphylactic shock. If you have a food allergy that causes a serious reaction, your doctor will have you carry an injectable epinepherine pen and teach you, and those with whom you spend a lot of time, how to use it in an emergency.

Nutrition and Dietary Supplements

Although you should avoid foods that provoke an allergic reaction, you do not need to restrict variety in your diet. Studies show that the vast majority of people are allergic to only one or two foods. However, you should be aware of the families of foods to which you are allergic. For example, if you are allergic to walnuts, you may also be allergic to pecans and almonds. An allergy to shrimp may also indicate an allergy to crab.

Following these nutritional tips may help reduce symptoms:

- Eliminate all suspected food allergens, including dairy, wheat (gluten), soy, chocolate, corn, preservatives and food additives. Your health care provider may want to test for food sensitivities.
- Eat more antioxidant-rich foods (such as green leafy vegetables) and fruits (such as blueberries, pomegranates, and cherries).
- Avoid refined foods, such as white breads, pastas, and sugar.
- Eat more lean meats and cold-water fish.
- Use healthy cooking oils, such as olive oil.
- Reduce or eliminate trans fatty acids, found in commercially-baked goods, such as cookies, crackers, cakes, French fries, onion rings, donuts, processed foods, and margarine.
- Avoid excessive use of coffee and avoid other stimulants, alcohol, and tobacco.
- Drink 6 to 8 glasses of filtered water daily.
- Exercise moderately at least 30 minutes daily, 5 days a week.

You may address nutritional deficiencies with the following supplements:

- **A multivitamin daily**, containing the antioxidant vitamins A, C, E, the B complex vitamins, and trace minerals such as magnesium, calcium, zinc, and selenium.
- **Omega-3 fatty acids**, such as fish oil, 1 to 2 capsules or 1 tablespoonfuls oil, 1 to 3 times daily, to help decrease inflammation and boost immunity. Cold-water fish, such as salmon or halibut, are good sources, but are not substitutes for supplementation. People on blood-thinning medications or with bleeding disorders should take fish oil only under the supervision of a doctor.
- **Vitamin C**, as an antioxidant and for immune support.
- **L-glutamine**, for support of gastrointestinal health and immunity. There is a chance that people who are sensitive to monosodium glutamate may also be sensitive to L-glutamine. L-glutamine may increase the risk of mania or seizures in susceptible patients.
- **Probiotic supplement** (containing *Lactobacillus acidophilus*), when needed for maintenance of gastrointestinal and immune health. Some products may require refrigeration -- check labels carefully. People who are severely immunocompromised or on immunosuppressive drugs should check with their doctor before starting a probiotic.

Herbs

Herbs are generally available as standardized, dried extracts (pills, capsules, or tablets), teas, or tinctures or liquid extracts (alcohol extraction, unless otherwise noted). Mix liquid extracts with favorite beverage. People who have a blood disorder, or who are taking blood-thinning medications, should only take herbs under the supervision of a doctor since some herbs may have blood-thinning effects. Herbs can have potentially interact with a number of medications and potentially have negative side effects in certain conditions. Work with a knowledgeable prescriber and keep all of your health care providers informed about the herbs and supplements you're considering using.

- **Green tea (*Camelia sinensis*)** standardized extract, for inflammation, and for antioxidant and immune effects. Use caffeine-free products. You may also prepare teas from the leaf of this herb. Green tea can potentially interact with a number of medications, including birth control pills and antibiotics. Speak with your physician.
- **Bromelain (*Ananus comosus*)** standardized, for inflammation. Bromelain has anticoagulant effects. It should not be combined with other blood-thinning medications or used in people who have bleeding disorders. It may interact with certain medications, including some antibiotics. People with allergies to pineapple, wheat, celery, carrot, papain, fennel, pollens, and cypress may have cross reactivity with bromelain.
- **Turmeric (*Curcuma longa*)** standardized extract, for inflammation. Turmeric has a powerful anticoagulant effect and should not be combined with other blood-thinning medications or used by people with bleeding disorders. People with a history of hormone-related cancers should talk to their doctor before taking turmeric. There's also concern that turmeric may lower sperm counts in men. Turmeric may interfere with the absorption of iron.

- **Cat's claw (*Uncaria tomentosa*)** standardized extract, for inflammation. Contraindicated in leukemia and autoimmune disorders. Can interact with many medications, including blood pressure medication.

Acupuncture

The American Academy of Medical Acupuncture endorses the use of acupuncture for allergies such as food allergies. Acupuncture can help restore normal immune function.

Homeopathy

Although few studies have examined the effectiveness of specific homeopathic therapies, professional homeopaths may consider individualized remedies for the treatment of food allergy based on their knowledge and experience. Before prescribing a remedy, homeopaths take into account a person's constitutional type, includes your physical, emotional, and intellectual makeup. An experienced homeopath assesses all of these factors when determining the most appropriate remedy for a particular individual.

Other Considerations

Pregnancy

Women who have a food allergy or a partner with a food allergy may be able to reduce the risk of allergy in their child by avoiding common allergenic foods during pregnancy and nursing.

Prognosis and Complications

Food allergies may cause symptoms ranging from mild abdominal discomfort to life-threatening anaphylaxis. Avoiding offending foods may be easy if the food is uncommon or easily identified. However, successful avoidance of offending foods requires strict reading of all ingredients in a package and detailed inquiries when eating away from home. Asthma may develop in about 5% of people who suffer from food allergy and current asthma may be triggered by foods among 6 to 8% of children and 2% of adults. Children may outgrow food allergies (particularly to milk or soy), but adults are unlikely to lose their allergies.

Supporting Research

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