

Food allergies

Food allergy is a condition in which eating a certain food causes the patient's body to activate the immune system. The allergic reaction is mediated by IgE antibodies. Allergic symptoms are caused by the production of histamine and other chemicals. Up to 4 % of the population worldwide suffers from food allergies, and up to 8 % in the under-3 age group. Allergic symptoms occur within one hour of ingestion. The most common symptoms include skin reactions (hives), tongue and oropharyngeal edema, shortness of breath, asthma, vomiting, diarrhea, abdominal pain and cramps. In severe cases, hypotension and loss of consciousness occur. Serious conditions can result in death.

Reactions to food are very varied and are caused by various agents. We generally divide them into:

1. Immunological reactions:
 - IgE-mediated immediate hypersensitivity reactions;
 - immunocomplex reactions;
 - T-cell mediated immunity.
2. Non-immunological mechanisms:
 - enzyme deficiencies;
 - reactions to additives;
 - dietary histamine or tyramine reactions (mackerel, bananas, cheese, citrus, strawberries, chocolate, spinach);
 - plant, bacterial and animal toxins.

The clinical picture of a food allergy

The symptoms can be very varied and can affect a number of systems:

- skin symptoms – local swelling, rash, urticaria, circumoral dermatitis, atopic eczema;
- GIT – nausea, vomiting, abdominal pain, diarrhea, burning sensation in the mouth, swelling of the lips, tongue;
- respiratory – cough, bronchospasm, acute asthma, sneezing, itchy nose, runny nose;
- joint – pain in joints, muscles;
- general symptoms – anaphylaxis, fatigue syndrome, headache, migraine;
- psychological manifestations – anxiety, depression, sleep disorders;
- they may occur shortly after a meal, but also 24 to 48 hours apart.

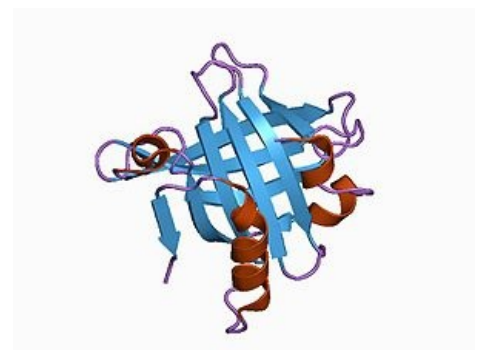


Cow's milk protein is the most common allergen in children under 3 years

Causes of a food allergy

A different type of allergy is typical for each age group:

1. Children under three years of age:
 - cow's milk protein:
 - β -lactoglobulin (60–80%);
 - casein;
 - α -lactalbumin.
 - egg whites;
 - main allergens – ovalbumin and ovomucoid;
 - obilní bílkoviny (gluten, mainly wheat).
2. Preschool, school and adolescence periods:
 - difficult to define the spectrum of allergens;;
 - allergies to dairy, egg and cereal proteins, nuts, legumes, fish, poppy seeds, yeast, mold, soy, cocoa, garlic, spices, herbs, etc.
 - cross-allergic reactions - mostly in children with pollen allergy (birch - apple, peach, apricot, pear, cherries, kiwi; wormwood - celery, spices; ragweed - watermelon, banana, cucumber);
 - hidden allergenic sources - there are many of them:
 - nuts (in ice cream, biscuits, marzipan);
 - soy (pastries, burgers);
 - yeast (mayonnaise, ketchup).



β -lactoglobulin molecule

Diagnosis

- anamnesis of all data on the course of difficulties, evaluation of the atopic terrain;
- dietary record - in two, preferably four weeks, with a record of clinical manifestations;

- elimination diet - elimination of reasonably suspicious foods, for at least two weeks;
- allergological examination - part of the differential-diagnostic process:
 - skin tests, specific IgE tests and challenge tests;
 - gold standard - double-blind placebo-controlled exposure test.

Therapy

- treatment of symptoms - antihistamines orally, or iv, corticoids;
- causal and preventive treatment - elimination diet from a month to a lifetime - eg allergy to cow's milk proteins goes out by the age of 3, allergy to nuts is lifelong;
- preventative antiallergics - cromoglycate per os.



Skin allergological tests

Food intolerance

Food intolerance is not (unlike food allergy) immune-related. It is caused by reduced activity or the absence of an enzyme, that breaks down a certain part of the food. Gastrointestinal symptoms are typically due to the body's inability to digest and absorb a substance (nausea, vomiting, diarrhea, flatulence, abdominal pain, convulsions). The most common type is lactose intolerance (milk sugar), caused by a lack of lactase (an enzyme that breaks down lactose).

References

Related articles

- Epidemiology of food allergies
- Food intolerance
- Cow's milk protein allergy

Source

- BENEŠ, Jiří. *Studijní materiály* [online]. ©2007. [cit. 08.03.2012]. <<http://www.stefajir.cz/index.php?q=pediatrie>>.

External links

- Food allergy NICE guidance (<https://www.nice.org.uk/guidance/cg116/chapter/1-Guidance>)