FAQ Food allergy

Clinical sign: Which are the main clinical signs of food allergy?

The most frequent in food allergy is the presentation of itching and skin lesions (dermatitis, otitis, pododermatitis) accompanied or not by gastrointestinal signs. But in the presence of gastrointestinal signs alone, adverse food reactions should also be included as a differential diagnosis.

Dermatological signs are generalised or localised pruritus, external otitis (mainly chronic), pododermatitis and skin rashes. The gastrointestinal clinical signs are not frequent, but when present they are usually similar to those of chronic inflammatory bowel disease, with vomiting, diarrhoea and commonly frequent bowel movements.

Not all clinical signs have to be presented to consider the possible existence of a food allergy.

Clinical signs: A cat has pruritus and ulcerative lesions on the head and neck, can it be a food allergy?

Yes, the principal differential diagnosis in cats with pruritus and lesions on the face and neck is a food allergy. Due to pruritus, excoriating and ulcerative lesions occur. The animal by scratching with its paws can produce deep scratch wounds.

Other lesional patterns may also be found, as alopecia due to constant licking, and lesions of the so-called eosinophilic granuloma complex. The latter includes indolent ulcers on the lips, raised plaque lesions (eosinophilic plaque) in the abdomen, or raised, linear lesions with alopecia on the posterior thighs (eosinophilic lineal granuloma). It can also present with miliary dermatitis, papular-crusted lesions that are detected by stroking or palpating the animal.

Diagnosis: How to diagnose a food allergy?

In the same way as environmental allergy or atopic dermatitis, the diagnosis of food allergy is clinical. The diagnosis must be made after performing an elimination diet and a provocation test in an animal with compatible clinical signs and a clinical history of allergy.

A hydrolysed diet or a novel protein diet (preferably homemade) can be used for the diet trial.

Food serological tests identify proteins and carbohydrates to which the animal has been exposed or has been sensitised. The foods with negative results can be selected to design the elimination diet (exclusion diet). A novel protein diet must include a single protein and carbohydrate with a negative result.

These tests also help the owner to comply with the diet and consequently to be able to interpret the results after the diet trial. It is important to note that these tests do not serve to diagnose the disease, but rather to identify foods to which the animal is not sensitised or has been exposed.

Diagnosis: What are the differences between IgE and IgG in food allergen tests? Are both clinically relevant? How should the results be interpreted when only one Ig is elevated?

IgEs react very quickly and represent the immediate reaction of the immune system. They are the most representative of allergy diseases. IgGs are associated with delayed response. Both are clinically relevant, as they signal an immune reactivity. The difference between IgE or IgG-mediated reactions is clinically indistinguishable.

Any positive result for IgE or IgG should be interpreted as positive, and the animal should undergo an elimination diet containing only components that have been negative for both: negative IgE and IgG reactions.

Diagnosis: A cat/dog undergoing treatment, with clinical signs of allergy is negative on food allergen tests. What can this mean?

If the animal is treated with corticosteroids, a new test should be performed after observing the periods of avoidance (in the case

of corticosteroids depot up to 3 months).

If the animal is currently fed an elimination diet, the results of the tests can be negative, as there is no contact at this time with the allergens that cause their allergy. Therefore, it is always recommended to carry out food allergen tests before starting a restriction diet.

Elimination diet: how many sources of protein and carbohydrates can be included?

A single source of protein and carbohydrates should be used. After confirming the existence of a food allergy and keeping the animal on the elimination diet for at least two months, one could try adding a new allergen every 14 days, evaluating the animal's response to its inclusion.

Elimination diet: Can vegetables and fruits be provided in case of food allergy?

During the elimination diet trial, no additional fruit or vegetables can be provided. There are vegetables rich in protein, such as beans or soybeans that contain pure protein and therefore must be considered like animal proteins (meat).

After the challenge test, vegetables can be introduced (always a single allergen every two weeks).

The significant risk is atopic animals which concomitantly present a food allergy. It is possible to find cross-reactions between pollens and fruits or vegetables (for example, between birch and apple and carrot), also known as the "oral allergy syndrome", "fresh fruit syndrome". The birch pollen has been described in humans related to a strong cross-reaction with fruits (especially apples) and other vegetables.

Warning: With food allergic animals, pay attention to vegetables that contain protein. With patients who concurrently suffer from atopic dermatitis, possible cross-reactions between pollens and vegetables or fruits should be considered.

Elimination diet: How long must the elimination diet be maintained to evaluate the results?

The diet must be maintained for at least eight weeks (a longer period could also be necessary). The diet response has to be evaluated once any possible secondary factors that cause pruritus (ex: secondary infections, otitis, chronic changes in the skin with acanthosis, xerosis) are controlled.

If the diet makes the animal free of clinical signs, a provocation test should be performed. It ensures that the improvement is due to the diet and not to other factors that could have disappeared by that time. A problem is that owners that are afraid to challenge the animal with the previous food. In those cases, a challenge with a new ingredient every 14 days can be done.

Diet: Are hydrolyzed diet safe for a diet trial?

Yes. Hydrolysed diets break down protein structures, allergens, into small peptides and amino acids not detected by the immune system. Carbohydrate sources (rice, soybeans, etc.) can also be hydrolysed. A tiny percentage of animals react to hydrolysed diets, and the rate is minimal with ultra-hydrolysed diets. Studies report that hydrolysed diets from a reliable company can be a gold standard for diet trials as novel protein homemade diets.

Diet: What alternative carbohydrate sources exist when an animal is allergic to the usual sources?

It is advisable to look for alternative sources of carbohydrates, such as quinoa, amaranth, millet, buckwheat (the four are glutenfree), tapioca, pumpkin and sweet potato.

Attention: spelt, farro, Kamut, Khorasan, einkorn, bulgur, they are all wheat subtypes with gluten. Gluten hypersensitivity is not a common problem in animals.

Diet: Can a patient feed exclusively on reindeer and potatoes for years become allergic to this food?

Of course, a patient can develop allergy to a diet that has been tolerated for years. It will be necessary to carry out a new elimination diet and adapt the diet again.

Diet: Despite feeding the animal a hypoallergenic diet, the clinical signs are no controlled. Can the patient be allergic to the hypoallergenic diet?

Yes, it is possible, and it depends on what diet is used. Many foods in the market called themself hypoallergenic, but this may be not true. What may be hypoallergenic for one animal may not be for another (e.g. animals can be allergic to salmon). Besides, several studies report that commercial novel protein diets may contain protein not included on their labelling, possibly the result of contamination during manufacturing.

This diet trial is recommended to be carried out with a homemade diet of a novel protein, selecting a single protein and carbohydrate source from the ones negative in food allergen tests, or with a hydrolysed commercial diet from a reliable company.

Food intolerance: Are food allergen tests helpful? How to act on suspicion?

Food intolerance is not antibody-mediated, so it cannot be detected with the conventional serological allergen test. If suspected, the animal should go through an elimination diet.

The mechanisms of food intolerance are various: food poisoning (toxins in food), pharmacological intolerance (for example, chocolate poisoning), pseudo-allergy mechanisms (histamine-mediated: high histamine content in food), metabolic reactions (intolerance to lactose), food idiosyncrasies (similar to food allergy but not immunological, e.g. associated with additives) and disaccharide intolerance may play a role.