

Cutaneous Adverse Food Reactions (food or dietary allergy or intolerance)

AETIOLOGY AND PATHOGENESIS

Food allergies (Cutaneous adverse food reaction) is an uncommon dermatosis caused by an abnormal response to an ingested food or additive. The aetiology of most cases of dietary intolerance is not determined, but may involve either food intolerance or food hypersensitivity. Food intolerance is any clinically abnormal response to the ingestion of a food that does not have an allergic component, such as food poisoning, food idiosyncrasy, metabolic reactions, and dietary indiscretions (like getting into the garbage). Food hypersensitivity or allergy is an abnormal response that is allergy mediated.

Most dogs tend to react to more than one ingredient - in one study of 25 dogs, the average was 2.4. Beef, chicken, dairy products, maize, wheat, soy and eggs all seem to be foods that animals become allergic to. The range of allergens seems similar in cats, although fewer cases have been studied.

The incidence of adverse reaction to food is controversial and difficult to determine as it may coexist with atopic dermatitis (allergies to things in the air). About 4-10% of all cases of allergic dermatosis are attributable to adverse reactions to food, although the incidence is higher in some reports. In cats the incidence is higher (about 40%)

Up to 52% of dogs present at less than one year of age, although there is no sex or breed predisposition.

CLINICAL FEATURES

The clinical signs are usually very similar to allergies due to air born substances. Itching is the most prominent feature in the majority of cases; it is usually non-seasonal, although dogs with a seasonal exacerbation may have concurrent allergies to pollens, or flea allergic dermatitis or there may only be seasonal exposure to certain foods. Primary lesions such as skin redness and bumps may be noted, but most lesions result from self-trauma and secondary infection. The location of any dermatologic lesions can be quite varied. Also ear infection is common, and may occur in the absence of other signs of skin disease.

Food allergies can also cause gastrointestinal tract signs, including soft stools, flatulence, intermittent diarrhoea and colitis. In one study, 60% of dogs also had

some form of gastrointestinal signs, usually manifested by increased numbers of bowel movements (greater than or equal to six per day). It has also been reported to trigger recurrent skin infections.

Itching, scabbing, and sores of the head and neck are the most common clinical findings of adverse reaction to food in cats. Other presentations include localised or generalised dandruff or scabs, symmetric or localised areas of hair loss, redness of the ears, feline acne and ear infections.

DIFFERENTIAL DIAGNOSES: DOGS

- Allergies to air born substances
- Fleas
- Skin mites
- Allergic reactions to drugs
- Bacterial infection
- Yeast dermatitis
- Dermatitis to things applied on the skin
- Defects in skin formation
- Skin cancer

DIFFERENTIAL DIAGNOSES: CATS

- Fleas
- Skin mites
- Ringworm
- Allergies to air born substances
- Psychogenic alopecia
- Bacterial skin infections
- Dermatitis due to things applied to the skin
- Feline acne

DIAGNOSTIC TESTS

Definitive diagnosis is based on feeding a restricted diet, composed of unique ingredients to which the animal has never, or only very rarely, exposed. It is therefore critically important to obtain a full dietary history including data on commercial diets, scraps or left-overs, biscuits or chews, flavoured medicines and any vitamin or mineral supplements.

Diet trials may be home-cooked diet or commercially prepared dried or canned foods. Limited studies have demonstrated that commercial diets are inferior to home cooked diets but the latter could be nutritionally imbalanced, labour inten-

sive, expensive, may cause gastrointestinal upsets and weight loss. **Single protein, single carbohydrate, dried and canned food diets are often marketed as ‘hypoallergenic’.** They are, however, **only hypoallergenic for animals that do not react to any of the ingredients.** These are, however, nutritionally balanced and usually palatable but the exact ingredients may be unknown (colourings, flavourings, preservatives and other fats) and it may not be possible to find a commercial diet that contains an ingredient the animal has not been exposed to. IgE binding studies with canine serum have shown that cattle and sheep extracts cross-react, and in humans there is extensive cross-reaction between proteins derived from related fish, birds and mammals. The only true hypoallergenic diets are those in which the proteins have been hydrolysed to reduce their molecular weight to less than 10Kda (very small pieces), theoretically rendering them non-allergic. Recent studies have demonstrated good efficacy, but they are more expensive and may be less palatable than single protein diets.

The length of a diet trial necessary to confirm an adverse reaction to food is controversial, but most authorities now recommend at least six to 12 weeks. It may also be necessary to keep cats indoors to prevent feeding on wild animals or in other homes, and to muzzle or leash dogs that scavenge.

Failure to recognise and treat bacterial infections and fleas or skin mites during a dietary trial is a common cause of problems. Another major reason for poor compliance during a dietary trial is continued itching. One possible solution is to allow the use of short courses of steroids.

- **Currently, there is no evidence that doing blood tests or skin tests for food allergies are reliable.**

Bearing these points in mind, there is still **no substitute for undertaking a properly conducted dietary trial using either a novel protein or hydrolysed diet to rule out food allergies in dogs or cats.**

MANAGEMENT

Feed a complete and balanced, highly digestible, limited antigen diet that does not contain the offending ingredients or a hydrolyzed diet.

KEY POINTS

- Dietary intolerance is uncommon.
- Recurrent ear infections and recurrent superficial skin infections may be associated with dietary intolerance.
- Diagnosis relies on a properly conducted food trial.