



Dr Anton C Beynen is affiliated with Vobra Special Petfoods. In the period of 1993-2007, he was professor of veterinary nutrition at the Faculty of Veterinary Medicine, Utrecht University, The Netherlands.



Hypoallergenic Pet Foods

The term hypoallergenic in pet food labels relates to management of food allergy. True food allergy probably is uncommon in the general population of dogs and cats. In the marketplace, on the other hand, hypoallergenic foods are ubiquitous. This in itself is fine as well-formulated, complete and balanced hypoallergenic dog or cat foods provide good nutrition.

Perceived rather than true food allergy is common. The abundance of hypoallergenic foods results from consumer demand and manufacturers going along. Food is often blamed for signs such as itching and diarrhoea, leading to the self-diagnosis of food allergy. This conclusion may be reinforced by disappearing of signs after switching the animal to a hypoallergenic food. Understandably, the owner repurchases the brand. It is noteworthy that skin or gut problems may improve after diet change because of spontaneous recovery, shift in season or associated interventions.

Hypoallergenic foods can be prescribed and sold by veterinarians. Food allergy can only be diagnosed by so-called elimination and provocation feeding tests. If the commercial, hypoallergenic, elimination food is associated with improvement, many owners choose to continue feeding the food without diagnosis. Blood testing for food allergy entails a high risk of a false-positive outcome. Prescribed hypoallergenic foods may be followed on by resembling products found in retail because of price and convenience. Thus, veterinary consultation tends to pave the way for hypoallergenic foods overall.

The dictionary defines hypoallergenic as having little likelihood of causing an allergenic response. The term hypoallergenic is ambiguous as it has no legal definition and no defined measure for efficacy. EU legislation allows therapeutic pet foods with the purpose of reduction of certain ingredient and nutrient intolerances. These foods, which are often labelled hypoallergenic, must contain selected protein and/or carbohydrate source(s).

Food Allergy

Food allergy is an individually-determined, immune-mediated reaction to a food component, which generally is a protein source. The major, non-specific clinical sign is itching (pruritus), which leads to scratching, licking and skin lesions. Diarrhoea and vomiting occur less frequently. Dietary components can also elicit the symptoms by non-immune mechanisms; this is called food intolerance. In popular speech, it is joined under food allergy. Food allergy and intolerance are non-seasonal diseases commonly referred to as adverse reactions to food or food sensitivity. Therapy consists of avoiding the offending food component(s).

Published case studies in dogs indicate that about 65 percent of adverse reactions relate to beef, dairy products or wheat and 25 percent to lamb, soy, chicken or chicken egg. In cats, beef, dairy products and fish are associated with almost 90 percent of the cases. These figures are inflated by the common use of the incriminating protein sources as pet food ingredients. In dogs with non-seasonal purities entering veterinary practice, adverse food reactions may account for about 20 percent of the cases.

Diagnosis

Diagnosis of adverse food reactions by the veterinarian is based on multiple assessments. Dietary investigation on individual dogs, in the form of elimination diets and test meals, is the decisive diagnostic tool. Classically, elimination diets are not nutritionally complete and contain one protein source that is novel to the patient and one starch-rich ingredient. If food sensitivity causes the pruritus and/or diarrhoea, the elimination diet induces amelioration, provided the animal is not sensitive to it. There is relapse after provocation with the original food. Results of challenge tests with individual dietary items can point to an appropriate, complete, commercial food. Alternatively, a tolerable food, either labelled as hypoallergenic or not, can be identified by trying out.



Principles and Practice

The formulation of hypoallergenic foods follows three principles. The number of (protein-containing) ingredients is limited, novel protein sources are used and/or substances known to cause allergic reactions are avoided. It is assumed that pets have not eaten novel proteins before and thus cannot have developed an immune response to them. Some pet food lines are all hypoallergenic, but most lines have one or more products so labelled. The word 'sensitive' may be used as synonym of hypoallergenic. Novel-protein diets or treats may contain remarkable ingredients. The phrase limited-ingredient diets is commonly used. It even is part of a brand name. The ingredient lists of commercial hypoallergenic diets typically document between 2 and 6 protein-containing ingredients. The degree of novelty of protein sources in many products is debatable. The manufacturing process of hypoallergenic foods should exclude contamination with undesired components. However, studies show that hypoallergenic dry foods, including therapeutic diets, may contain protein sources not declared on the label. Hydrolytic breakdown of proteins into sufficiently small fragments lowers the chance of immune recognition by patients that are allergic to the intact

protein. Dogs with clinical sensitivity to soy were less severe responsive to the protein sources in hydrolysate form. Hydrolysed proteins are expensive and only used in veterinary products recommended as both elimination and hypoallergenic diets. These foods may have label descriptors such as low allergen, ultra allergen-free and anallergenic.

Efficacy

The efficacy of a given hypoallergenic food cannot be predicted. Stricter implementation of principles will increase the beneficial effect in pets on a group-mean basis. In five studies, on average 48 percent of dogs with true food sensitivity showed a favourable response to a commercial, hypoallergenic food containing intact proteins. A hydrolysate-based, limited-ingredient food could produce a better group-mean effect. Trial-and-error is still required to identify an appropriate food for a dog with food sensitivity.

Dr Beynen will be writing this exclusive column on dog and cat nutrition and nutrition-related items every month.