

Allergic Dermatitis – Part 3

Food Allergy

Christine M. Scruggs, VMD

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In the last section on allergic dermatitis we discussed otitis and malessezia as a manifestation of allergies. Food allergy can also result in chronic recurrent yeast and bacterial infections, both in the ears and generalized over the body, including belly, feet, etc. One of the most common complaints of owners with allergic dogs in that they scratch at their ears and lick or chew at their feet constantly. Any patient that presents to my clinic with these symptoms would be recommended to be placed on a food allergy trial as one of the first tools in determining the cause of the symptoms. Food allergies are common in both canines and humans, and are known to be caused in people by an over stimulation of the IgE immunoglobulins in the immune system. The exact cause in canines has not been characterized, but is likely to be an over stimulation of IgE or a similar immunoglobulin.

Whatever the cause of the over stimulation of the immune response, the most common clinical sign is extreme pruritis, or itching. Occasionally, one can also see a breakout of hives or pustules on the skin, but usually lesions are secondary to self trauma such as licking, scratching, and biting at affected areas of the body. With food allergy cases, approximately 20% of affected animals will also have episodes of diarrhea, vomiting, inappetance, and loose stool. Symptoms are usually year round rather than seasonal, but a dog with multiple allergies (food as well as environmental) may show year round symptoms with a seasonal pattern of increased severity.

When taking a thorough history, symptoms can occur with either a gradual or sudden onset, but usually affecting only one animal on the premises. Food allergy symptoms most commonly manifest between 2-6 years of age, and can occur even with a dog that has been on the same food his/her entire life. The pruritis and subsequent self-trauma has variable responsiveness to steroid and antibiotic therapy, often quieting down during therapy only to return with a vengeance once medications are finished. Such cycling of symptoms often leads people to request continued renewals of prescription medications, rather than pursuing the diagnosis of the underlying cause.

Diagnosis of a food allergy can only be obtained through the use of the “elimination diet”, sometimes referred to as a “food allergy trial.” This involves switching the patient to a test diet which contains only one or two allergens (a protein and a carbohydrate source) and should contain foods which the patient has never had in his/her diet. For instance, most commercial dog foods contain beef, chicken, and lamb as protein sources, along with corn, wheat, rice and other carbohydrate sources. In a food allergy trial, the patient would be placed on a diet of rabbit, fish, or venison and potato, common “skin sensitive” diets. Alternatively, there are several prescription diets with hydrolyzed protein sources, resulting in a truly hypoallergenic trial diet. There are also recipes for home cooked diets, in the case of a client who prefers not to utilize the commercial prescription diets.

The way a food allergy trial works is that the patient is switched from his/her regular diet to the trial diet over the course of one week. The slow switch over is necessary to avoid gastrointestinal upset. After one week the dog should be completely on the trial diet. This means no other protein or food source other than the trial diet. No treats, rawhide, bones, etc. can be given during the food allergy trial. There are recipes for home cooked treats using ingredients on the diet or the owner can give kibble from the prescription diet as treats. It is extremely important that the dog be given only the trial diet for a minimum of 8-10 weeks. This is to give the diet time to replace the proteins in the dog's system to which he/she may be reacting. During the time the dog is on the trial diet, the owner should be noticing a decrease in symptoms. It is important to recognize that it may take the entire 8-10 weeks before a decline in symptoms is noticeable.

Once the dog is controlled on the trial diet, i.e. symptoms are abating, than the owner can begin to "challenge" the dog with different protein sources. A new food source can be added at two week intervals to determine if the dog has any reactions to that protein or carbohydrate. For example, after the 8 week trial, let us suppose that the allergic dog is now comfortable and exhibits minimal licking and scratching. Skin lesions have healed and hair is growing back from traumatized regions. On week 9, the owner decides to try a smoked pig ear as a treat to see if the dog can tolerate a pork protein source. After two weeks (we are now on week 11) the dog is still quite comfortable with no signs of an allergic response. The owner now decides to try a beef treat as a new protein source. Within a few days the dog begins scratching and licking itself. The owner immediately discontinues the beef treats and treats with antihistamines until the allergic reaction subsides. The owner now knows that the dog is allergic to beef protein, and most likely will react to all beef protein sources, including meat, bones, rawhide, etc. In this manner the owner can continue to try new and old protein and carbohydrate sources to determine the allergens to which the dog will react. It is also possible that the owner will be able to switch to a commercial diet at some point, once the allergen sources are identified.

The most common cause for failure of a food allergy trial is owner compliance. It is of utmost importance that the dog remains on only the trial diet for a minimum of 8-10 weeks. Often, owners or family members will give the dog a treat of a protein or carbohydrate source which is not within the parameters of the trial diet. Owner compliance is the single most difficult variable to contain. It can be even more difficult in multiple pet households, or homes with young children or the elderly; both of these age groups tend to gain great enjoyment out of giving treats to the family pet, without necessarily understanding the harm this may be causing to the pet and the trial diet. Even when all of these situations are taken into account, the dog may stubbornly refuse to eat the trial diet, or may act as if he/she is "starving" without the expected treat sessions, resulting in owners "giving in" and slipping that one treat before the 8 weeks is finished.

The food allergy trial or elimination diet is considered to be the only way to definitively diagnose a food source allergy. There are blood tests offered by various companies to measure immunoglobulin reactivity of a patient's blood to an introduced

protein source, however these laboratory tests are not considered sufficiently accurate at this time. There are both false negatives, i.e. the test shows no reactivity to a source to which the dog would react if ingested, and false positives, i.e. the test shows reactivity to a source to which the dog would not react if ingested. Therefore, because the *in vitro* tests are not considered accurate, the elimination diet is the best way of determining allergen sources for individual animals.

If there are no changes in the dog's symptoms while on the trial diet, and compliance is considered sufficient, than the veterinarian must look to other sources for the skin and/or ear problems in the dog. At this point, it would be recommended to conduct a thyroid panel blood test, looking for autoimmune thyroiditis, and an environmental allergen test, both of which have been described in previous installments of the allergic dermatitis series. If, on the other hand, allergens are discovered during the trial diet and challenge, than the owner can tailor the dog's diet accordingly. Keep in mind that the dog can develop more food allergies over his/her lifetime, so more than one trial diet and medication session may be necessary to control the problem.

Allergies are considered familial in many different species. The heritability factors and environmental influences have not been described in detail for the poodle at this time. However, it is likely that a dog with allergies resulting in dermatitis, otitis, and malessezia, will pass these tendencies on to at least some of his/her offspring. Allergic dermatitis stemming from food allergies can be one of the most difficult to diagnose. Even when diagnosed sufficiently, compliance for treatment on the part of the owner and sometimes the dog can be difficult to control. When compliance is not attainable, treating the animal with a series of medications over his/her lifetime can be expensive, frustrating, and less than successful. When compliance is present and allergy sources are identified, it is possible for the dog to live a good quality of life without the detrimental symptoms of allergic dermatitis.