Allergies in Dogs

What are allergies and how do they affect dogs?

One of the most common conditions affecting dogs is *allergy*. An allergy occurs when the dog's immune system "over reacts" to foreign substances called *allergens* or *antigens*. Allergens and antigens are simply foreign proteins that the body's immune system tries to remove. These over reactions are manifested in one of three ways:

1. The most common manifestation is itching of the skin, either localized in one area or a generalized reaction all over the dog's body.

2. Another manifestation involves the respiratory system and may result in coughing, sneezing, and wheezing. Sometimes, there may be an associated nasal or ocular (eye) discharge.

3. The third manifestation involves the digestive system, resulting in vomiting, flatulence or diarrhea.

How many types of allergies are there?

There are four common types of allergies in the dog: contact, flea, food, and environmental. Each has common clinical signs and unique characteristics.

What is Contact Allergy and how is it treated?

Contact allergies are the least common of the four types of allergies in dogs.They result in a local reaction on the skin from contact with an offensive (allergic) substance. Examples of contact allergy include reactions to shampoos, flea collars or to types of bedding, such as wool. If the dog is allergic to such substances, there will be skin irritation and itching at the points of contact. Removal of the contact irritant solves the problem. However, identifying the allergen can be challenging in many cases.

What is Flea Allergy and how is it treated?

Flea saliva is the most common insect allergen. Most dogs experience minor local irritation from flea bites. The allergic dog will react to a single bite with severe local itching. It will bite and scratch itself and may remove large amounts of hair, especially in the tail-base region. A secondary bacterial infection may develop in the broken skin. The area most commonly involved is over the rump in the tail-base region and extending down the hind limbs.

Because one flea can be a problem for the allergic dog, strict flea control is essential. Unfortunately, this may be challenging in warm and humid climates, where a new population of fleas can hatch out every fourteen to twenty-one days. Topically applied monthly flea products may kill fleas before they have a chance to bite your dog. When strict flea control is not possible, or in cases of severe itching, your veterinarian may prescribe anti-histamines or corticosteroids (steroids) to block the allergic reaction and give relief. If a secondary bacterial infection is present, an appropriate antibiotic will be prescribed.

What is Environmental Allergies or Atopy and how is it treated?

Environmental allergies or atopy is estimated to be the third most common type of allergy in dogs. It is sometimes referred to as "seasonal allergy" when related to pollens.

Dogs may be allergic to all of the same allergens that affect humans. These include tree pollens (cedar, ash, oak, etc.), grass pollens (especially Bermuda grass), weed pollens (ragweed, etc.), molds, mildew, and the common house dust mite. Many of these allergies occur seasonally, such as ragweed, cedar, and grass pollens. However, others are with us all the time, such as molds, mildew, and house dust mites. When humans inhale these allergens, we express the allergy as a respiratory problem. Atopy is also sometimes called "hay fever". The dogs's primary reaction to atopy is severe, generalized itching. The dog may rub its face, lick its feet and scratch the axillae (underarms).

Anti-inflammatory therapy. Treatment with anti-inflammatory drugs such as corticosteroids, or with antihistamines, will quickly block the allergic reaction in most cases. Fatty acid supplementation of the diet can improve the response to steroids and antihistamines in some cases. Immune modulating drugs (Atopica, Apoquel) hold promise for some severely atopic dogs.

Shampoo therapy. Frequent bathing with a hypoallergenic shampoo can be soothing. The bathing may also rinse out allergens in the coat that could be absorbed through the skin. Some therapeutic shampoos contain anti-inflammatory ingredients that may further benefit your pet.

***Hyposensitization therapy*.** Treatment via desensitization with antigen specific immunotherapy injections or "allergy shots" is another option. Once the specific sources of allergy are identified through allergy blood tests (most commonly IgE blood tests) or intradermal skin testing, very small amounts of the antigen are injected weekly. The aim is to "reprogram" the body's immune system response to the allergen. It is hoped that as time passes, the immune system will become less reactive to the problem-causing allergens. If desensitization appears to help the dog, injections will often continue for life. For most dogs, a realistic goal is for the itching to be significantly reduced in severity rather than be completely cured. In some dogs, the itching and associated clinical signs may completely resolve while others may experience minimal improvement. Steroids are not used with this treatment protocol, except on an intermittent basis. On average, approximately 75% of the dogs's receiving desensitization therapy will experience a significant decrease in their clinical signs.

Although desensitization is the ideal way to treat environmental allergies, it does have some drawbacks and may not be the best choice in certain circumstances.

- *Cost*: This is the most expensive form of treatment.
- *Age of Patient*: Because many dogs develop additional allergies as they get older, young dogs may need to be retested one to three years later.
- *Success Rate*: About 50% of dogs will have an excellent response. About 25% get partial to good response. About 25% get little or no response. The same statistics are true for people undergoing desensitization.
- *Time of Response*: The time until apparent response may be up to 12 months.
- *Interference of drugs*: Dogs must not receive anti-histamines for 2 weeks or steroids for 1 month prior to testing. These drugs will interfere with the test results.

What is Food Allergy and how is it treated?

Food allergy or *food hypersensitivity* can develop to almost any protein or carbohydrate component of food; it most commonly develops in response to protein of the food. Food allergy can develop at almost any age. Food allergy may produce any of the clinical signs previously discussed including itching, digestive disorders, and respiratory distress. A dog may have multiple types of allergy, such as both food allergy and atopy.

Food allergy does not respond well to corticosteroids or other medical treatments. Treatment requires identifying the offending component(s) of the diet and eliminating them. The most accurate way of testing for food allergies is with an elimination diet trial using a novel protein/carbohydrate or a hydrolyzed diet. Because it takes at least eight weeks for all other food products to be eliminated from the body, the dog must eat the special diet exclusively for twelve weeks. If a positive response and improvement of your pet's clinical signs occurs, your veterinarian will advise you on how to proceed.

It must be emphasized that *if the diet is not fed exclusively, it will not be a valid test*. All table food, treats or flavored vitamins must be discontinued during the testing period. There may be problems with certain types of chewable tablets such as heartworm preventative.

Caution:
The symptoms of allergies can be confused with other disorders, or occur concurrently with them. Therefore, do not attempt to diagnose your dog without veterinary professional assistance. Be prepared for your pet to receive a full diagnostic evaluation to rule out other causes. If an allergy is diagnosed, your whole family must follow your veterinarian's advice very closely in order to successfully relieve your pet's discomfort.

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