

## Veterinary Dermatology Center, P.A.

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# **Treatment Options for Environmental Allergies in Pets**

#### Introduction:

Allergies to pollens, house dust, house dust mites, and molds are called atopic dermatitis or atopy. People with allergies have symptoms such as runny eyes and sneezing, but pets with these allergies more commonly show symptoms such as itching, scratching, licking, and recurrent skin and ear infections. These symptoms may appear only during certain seasons, if the main offending allergens are seasonal pollens, but can occur throughout the year if the allergens persist in the environment year round (e.g. house dust and house dust mites). Atopic dermatitis typically starts in dogs between the ages of 1 and 5 years; in cats, atopy can occur at any age. In dogs, there is an increased incidence of allergies in certain breeds such as terriers, cocker spaniels, Labrador retrievers, golden retrievers, shar peis, and German shepherds; however, any dog breed can be affected. The diagnosis of atopy is made by considering the symptoms, seasonality, and response to medications. Additionally, measures must be taken to ensure no other similar itchy skin diseases such as food allergy, skin parasites, or skin infections are present. Once the clinical diagnosis of atopy has been made, the treatment options include treatment of symptoms with topical and oral medications, or allergy testing and hyposensitization injections to treat the underlying cause of the itching.

## **Symptomatic Allergy Treatment:**

Allergic pets with mild or very seasonal symptoms can often be managed by using medications to treat their symptoms. Symptomatic medications include topical products such as shampoos, conditioners, and sprays, as well as sytemic medications such as antihistamines, fatty acids, steroids, cyclosporine (Atopica®), oclacitinib (Apoquel®), or interleukin 31 antibody injections (CYTOPOINT®).

#### Topical therapy:

Shampoos, conditioners, and sprays used for allergies usually contain ingredients such as oatmeal, topical anesthetics, antihistamines, or steroids that help reduce itching. Allergic dogs benefit from frequent bathing not only because of the anti-itch ingredients, but because bathing helps to remove allergens on the skin and coat. Shampoos designed specifically for pets should be used due to the difference in pH between human skin and pet skin. At least once weekly bathing and daily rinses or wipe-downs with a wet washcloth are usually recommended. When bathing frequently it is important to use gentle shampoos that are not drying. Note that topical products containing steroids (hydrocortisone, betamethasone, and triamcinolone) should be used carefully, as excessive use of topical steroids can predispose a pet to skin infections, and can cause the skin to become excessively thin or create blackheads.

#### Antihistamines:

Oral antihistamines such as benadryl, clemastine, chlorpheniramine, and hydroxyzine help reduce itching in some allergic pets. They are not as potent as steroids, but also do not have the unwanted steroid side effects. No antihistamine is better or more potent than another; just as in humans, multiple antihistamines often must be tried to find the best one for each individual pet. Antihistamines also need to be consistently given one to three times daily for benefit, and the dose requirements for pets are usually higher than for people so it is important to ask your veterinarian about the right dose for your pet. In some pets, side effects such as sleepiness or excitation can occur. When buying over the counter antihistamines, it is very important to select products which do not contain pain killers or decongestants. Antihistamines may not be appropriate if pets have certain medical conditions such as seizures, glaucoma, hypertension, or urinary retention.

## Fatty acids:

Omega 3 and 6 essential fatty acids are derived from sources such as fish oil, flaxseed oil, and vegetable oils. They have mild anti-inflammatory effects on the skin, as well as help to decrease skin dryness. They have to be given for 1-3 months before a beneficial effect is seen. An oral mixture of omega 3 and 6 fatty acids appears to be ideal for treatment of allergic dermatitis in dogs, and there are multiple combination products manufactured for pets, available in capsule, powder, liquid, or chewable tablet form. Fatty acids also work synergistically with antihistamines to help reduce allergic skin inflammation and itching. They may not be appropriate for use in pets with other medical disorders such as high cholesterol or clotting problems.

#### Steroids:

Injectable or oral steroids have many pros and cons in the treatment of allergies in pets. They are inexpensive and work quickly and effectively to reduce itching, and for short term use they are relatively safe. However steroids have numerous side effects, such as increased thirst, urination, hunger, and weight gain. With prolonged use at high doses, steroids cause liver enlargement and increased liver enzymes, can cause high blood pressure and kidney disease, weakened muscles and ligaments, infections of the skin and bladder, and thinning of the skin and hair loss. Animals that are treated with long-term steroids should have physical examinations, bloodwork, and urine testing every 6-12 months to monitor for side effects. Additionally, other options to treat their allergies and to reduce their dependence on steroids should be tried.

## **Cyclosporine:**

Cyclosporine (Atopica®) can be used as a non-steroidal treatment to reduce allergic skin inflammation and itching. It is helpful in approximately 80% of allergic dogs and cats to control itch, but is more expensive than steroids. Cyclosporine is given orally daily for 4-6 weeks, then the dose and frequency are slowly decreased to the lowest possible amount needed for comfort. Some pets need it daily, but in some the dose can be reduced to every 2-3 days). Cyclosporine has fewer side effects than steroids, but because it is still an immunomodulatory drug, once to twice yearly physical examinations with bloodwork and urine testing should be performed in pets on long term treatment. Potential side effects include vomiting and diarrhea, and more rarely skin or internal infections and benign growths on the skin or gums.

#### Oclacitinib:

Oclacitinib (Apoquel®) is a newer medication for managing allergies in dogs. It is effective in about 90% of allergic dogs to control itching. Apoquel® typically needs to be given on a maintenance once daily basis in order to control allergy symptoms and works quickly. Apoquel® has fewer side effects than steroids, but because it still has immune modulatory effects, semi-annual bloodwork and exams are recommended if your pet is on this medication long term. Apoquel® is typically well-tolerated; however, rare side effects include behavior changes, decreases in white or red blood cell counts, and recurrent infections.

## Interleukin-31 antibody injections (CYTOPOINT®, CADI®):

**Dogs only.** CYTOPOINT® is an injectable medication that can be used to control itching in dogs with environmental allergies. It consists of antibodies to interleukin-31, the chemical messenger responsible for the itch sensation. The injection is administered under the skin in dogs and typically controls itching for 1-2 months. Side effects appear to be minimal; however, it is a relatively new medication and annual rechecks and bloodwork are recommended for monitoring. Rare side effects include lethargy, swelling at the injection site, and reports of allergic reactions.

## Allergy Testing and Hyposensitization:

This is the only therapy that specifically targets and treats the underlying cause of a pet's allergies by decreasing the immune system's allergic response. Allergy testing is performed NOT to make the diagnosis of allergies, but rather to indicate which allergens are to be included in a hyposensitization vaccine. Allergy testing and hyposensitization (immunotherapy) is appropriate for animals with allergic symptoms that last longer than 2-3 months per year, for animals in which symptomatic therapy for allergies is not helpful, or animals that need medications longer than 2-3 months out of the year. Intradermal allergy testing (skin testing), in which a series of 50 allergens (house dust, molds, pollens) are injected into the patient's skin is the best and most accurate way to do allergy testing. This procedure is usually performed with light sedation and requires an area on the patient's side be shaved. Skin testing is usually performed by a veterinary dermatologist. Blood allergy testing is also available but is less accurate. Hyposensitization (immunotherapy) is usually a lifelong treatment and helps 70-75% of pets with allergies. It can take 3-12 months to see good response to this therapy so medications are often continued during this time. The immunotherapy can be given at home as subcutaneous injections or as drops in the mouth. The degree of response to therapy varies with each individual animal. Some pets' allergies are completely controlled on the hyposensitization alone, some pets still have allergy flare ups a few times a year, and some pets still need anti-allergy medications but at lower doses or only during certain times of the year.

#### Summary:

Although allergies in pets are not "curable", they are very treatable and controllable in most pets. Every animal is an individual and often different medications need to be tried or combinations of medications may need to be used for maximal comfort. When the motivated pet owner, family veterinarian, and, in difficult cases, a veterinary dermatologist work together, our allergic pets can live long, comfortable lives.