

CANINE ALLERGIC SKIN DISEASE (ATOPIC DERMATITIS)

ATOPY

- Animals with atopy are allergic to substances in the environment that may be inhaled, absorbed through the skin or ingested.
- The main allergens involved are pollens (grasses, weeds, trees), moulds, house-dust mites/storage mites, flea saliva, food (proteins/carbohydrates that are being ingested)
- Atopy can occur in any breed or crossbreed of dog but West Highland White Terriers, Labradors and Golden Retrievers are particularly susceptible.
- There is a genetic (inherited) component to this condition.

Signs

- Signs often develop between 6 months and 3 years old (but can occur as late as 7 years old).
- It commonly begins as a seasonal issue that progresses to a year-round problem.
- Intense pruritis (itchiness) is seen:
 - Especially around the face, paws, groin, ears – some dogs have signs at one site only, others are affected all over.
 - May include scratching/chewing, excessive licking, rubbing or head shaking.
- Initially the skin will appear slightly red but over time other lesions develop due to scratching:
 - Hair loss
 - Secondary bacterial skin infection causing pustules/red spots
 - Secondary yeast infection causing an unpleasant smell
 - Thickened leathery feeling skin
 - Darkening of the skin (hyperpigmentation)
 - Ear infections
 - Itchy, sore feet with interdigital cysts

Diagnosis

- Diagnosing atopic dermatitis usually involves excluding other disorders.
- Your vet will consider the age and breed of the dog, pattern of the skin lesions and your description of their development when trying to reach a diagnosis as to the cause of your pet's skin disease.
- Skin scrapes and/or blood tests to check for parasites including fleas, mites and lice.
- Hair plucks may be taken to check for mites and evidence of fungal infections.
- Skin swabs may be taken to check for bacterial or yeast infection.
- Skin biopsies taken under deep sedation or general anaesthetic may be required to rule out more unusual causes of skin disease.
- Blood tests to determine which allergens your dog is allergic to may be performed. These can have limitations as it may highlight multiple different allergens that your dog is mildly reactive to or may highlight a couple of allergens your dog is strongly reactive to. This is useful for avoidance of the allergens and if immunotherapy is being considered.

Management

- Atopy can be extremely frustrating for dogs, their owners and your vet to deal with as lifelong management is often required and it can take time to find a good protocol that enables your dog to remain comfortable – we may need to trial multiple different things and see how your pet responds to them.
 - Flare-ups of the skin can occur during which more intense management may be required, for example if your pet gets a secondary skin infection.
 - Unfortunately, atopy can rarely be cured so we are aiming to satisfactorily control the signs and minimise flare-ups of skin irritation.
1. Clear any secondary skin infections and treat any concurrent eye or ear infections.
 - a. Many atopic animals will suffer with secondary skin infections that make their itchiness even more intense. They occur because of the trauma to the skin caused by scratching. These infections need to be cleared to aid with the diagnosis and management of atopy.
 - b. Treatment involves long courses of antibiotics and medicated shampoos or wipes.
 2. Stringent use of parasite control
 - a. Many atopic animals are allergic to flea saliva and mites so regular use of a prescription parasite product is essential (covering all animals in the household).
 3. Consider performing a diet trial to avoid food allergens
 - a. Approximately 15% of dogs with atopy are allergic to something they are eating.
 - b. An exclusion diet needs to be fed to rule this out, we usually recommend a hydrolysed diet which has been heat-treated so the proteins have been broken down into such small pieces the immune-system cannot recognise them.
 - c. This diet should be fed as a sole food (no other food or treats) for at least 6-8 weeks with just water to drink. Sometimes an anti-itch medication is used for the first few weeks of feeding the new diet to ensure your dog remains comfortable then is stopped to assess whether the diet works.
 - d. If your dog is not itchy at the end of this period then your dog has a food allergy, the diet can be continued for life and no further treatment should be required. Alternatively, you can challenge your dog with single ingredients added to their diet one at a time every few weeks, if the itchiness recurs you know your dog is allergic to that ingredient.
 - e. If your dog has improved but there is still some itchiness present your dog may have multiple allergies, including a food allergy, continuing the special diet is likely to reduce the need for anti-itch medications and other interventions.
 - f. If there has been no improvement and your dog is still itchy at the end of the diet trial then your dog is less likely to have a food allergy and there is no need to continue the special diet.
 - g. One of the following diets should be chosen:
 - i. Purina ProPlan HA (dry or tinned)
 - ii. Hills z/d (dry or tinned)
 - iii. Royal Canin Anallergenic (dry) or Royal Canin Hypoallergenic (dry)

4. Medications to switch off the abnormal itch reaction in the skin – these are generally required long-term as the itching will recur when the medication is stopped:
- a. Apoquel/Skylocalm
 - i. Tablet given once daily (following an initial twice daily loading dose for up to 2 weeks) that begins to work within hours of taking the first tablet.
 - ii. Few side effects are seen as it acts in a specific manner, blocking the itch pathway in the skin, but pets must be examined every 6 months for ongoing medications to be dispensed and a blood/urine test may be recommended every 12 months to monitor for any changes.
 - iii. Apoquel cannot be used in dogs less than 12 months old.
 - b. Zenrelia
 - i. Tablet given once daily
 - ii. Few side effects are seen as it acts in a specific manner, blocking the itch pathway in the skin, but pets must be examined every 6 months for ongoing medications to be dispensed and a blood/urine test may be recommended every 12 months to monitor for any changes.
 - iii. Zenrelia cannot be used in dogs less than 12 months old.
 - iv. Clinical data shows Zenrelia works in about 1/3 more dogs than Apoquel/skylocalm
 - c. Cytopoint
 - i. Monthly injection administered under the skin.
 - ii. This is a monoclonal antibody product so is a biological therapy rather than a chemical drug, the antibody blocks the itch receptors in the skin.
 - iii. It begins to work within 5-7 days of the first dose and at least 2 doses should be trialled before deciding if this medication has worked.
 - iv. Side effects are rare and this product does not require annual blood tests.
 - v. It can be used at any age but cannot be used in dogs weighing less than 3kg.
 - d. Atopica
 - i. This is an immunosuppressive medication.
 - ii. It comes as a syrup or soft capsules that are given daily for 8 weeks until the itch is well controlled, then the dose is gradually reduced to find the lowest dose that effectively controls the itchiness.
 - iii. This medication is not as specific in its action as Apoquel and Cytopoint, so it will act elsewhere in the body and can cause side effects such as reduced appetite, vomiting and diarrhoea.
 - iv. Your pet should be examined regularly (at least every 6 months) and regular blood tests are recommended to monitor for side effects.
 - v. Atopica may need to be temporarily stopped for your dog to be vaccinated.
 - e. Corticosteroids
 - i. This is an immunosuppressive medication.
 - ii. They come as tablets or a syrup that are given daily until the itch is well controlled then the dose is gradually reduced to the lowest effective dose.
 - iii. This medication also has more widespread effects than Apoquel and Cytopoint - side effects include increased appetite, increased thirst and urination, behaviour changes, skin thinning, and risk of diabetes, liver disease or Cushings syndrome.

- iv. There are several medications that cannot be given with corticosteroids including anti-inflammatory pain-relief as together these drugs can cause stomach ulcers.
- v. Your pet should be examined regularly (at least every 6 months) and regular blood tests are recommended to monitor for side effects.
- vi. Corticosteroids may need to be temporarily stopped for your dog to be vaccinated.

5. Shampoos to soothe the skin

- a. Medicated shampoos will often be prescribed to reduce itchiness and control secondary skin infections.
- b. Using these may reduce the dose of medication required to keep your dog itch-free.
- c. In some cases, once the initial symptoms are under control a dog with mild atopy can be maintained on parasite treatment, special diets and weekly shampooing only.

E.g. Douxo pyo shampoo and Malaseb both control secondary skin infections whereas Douxo calm shampoo and oatmeal shampoos are soothing.

6. Essential fatty acids (skin supplements)

- a. These improve the quality of the skin and the skin's ability to act as a barrier.
- b. They are rarely potent enough to control the signs if used alone but may help to reduce the frequency of flare-ups of itchiness.

7. Immunotherapy

- a. If your dog has an allergy blood panel performed and we can identify which allergens your pet is reacting to we may be able to avoid exposure to them (e.g. keeping your pet away from carpets and regularly cleaning carpeted areas if house dust mites are a problem or rinsing off your dog after a walk if pollens are an issue).
- b. Most allergens however are difficult to avoid, in this case an anti-allergy vaccine can be custom made for your pet and used to desensitise your dog to things that they are allergic to. The aim is that when your dog is exposed to these allergens, they will no longer react so this has the potential to cure your pet.
- c. Unfortunately there are disadvantages including high cost and the length of time required for these vaccines to work. Your pet usually needs to be on these vaccines for at least 1 year and if successful potentially for life at a maintenance dose.
- d. About 1 in 3 dogs will have a complete response and will no longer be itchy, about 1 in 3 dogs will have a partial response so they will be less itchy and about 1 in 3 dogs will not respond.
- e. It may be necessary to use an anti-itch medication like Apoquel or Cytopoint to keep your pet comfortable for the first 6 months (Atopica and corticosteroids will stop the vaccine from working).

