Atopic Dermatitis

Atopy or atopic dermatitis is one of the most common causes of itch in animals presenting to our clinic. It is a complex disease that has a strong allergic component with similarities to hay fever and atopic eczema in people. It may be triggered by things such as pollens (grass, weed or tree), moulds, dust mites and even insect body parts.

The cause of atopy is very complex and our knowledge about this is changing and expanding over time. It is now thought to involve a complex interaction between three different components. The first is a primary immune abnormality, where the animal becomes sensitised and allergic to a range of environmental allergens. The second is an abnormality in the normal barrier function of the skin. Atopic animals are lacking in certain key components that mean that the skin allows increased penetration of allergens and infections, stimulating the immune response. The final element is an increase in secondary infections. All components add together to create the total clinical picture. However, the relative importance of each factor varies with the individual and means that the treatment must be tailored to match the unique requirements of your pet.

Pathogenesis – What causes it?

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Some breeds (Staffordshire Bull Terriers, Labradors, German Shepherds, Beagles, Westies, French Bulldogs) are much more commonly affected, which suggests that at least part of the disease complex is genetically based. Atopy is suspected if your pet has any of the following:

- Disease started early (<4 years old)
- Your pet is itchy – this may be present (at least initially) without any lesions
- Itch responds to steroids
- The itch affects one or more of the following: feet, face, ears, around the eyes, abdomen, groin, bottom.
- There is some variation in the intensity of the itch over time
- If your pet gets recurrent skin or ear infections
- Your pet is a purebred/cross of one of the commonly affected breeds
- Your cat is a constant overgroomer

The most important and consistent clinical sign is itch. This may be manifested as any or all of the following: biting, rubbing, rolling, sucking, chewing, licking, gnawing or scratching. Each of these actions impacts on the skin to cause a variable degree of self-trauma and so the following lesions may be seen: hair loss, red inflamed skin, erosion, crust, scale, hyperpigmentation and thickening of affected areas. Some animals develop a marked greasiness with a strong, rancid odour. Others are prone to developing secondary bacterial and yeast infections. Others may just present with chronic ear problems. The most commonly affected areas include the face (lips, chin), ears, eyes, feet, distal legs, armpits, groin, abdomen and around the bottom.
The diagnosis of atopy is made on the basis of appropriate clinical signs, the animal’s age onset of disease, breed, possible seasonality, response to medication and elimination of all other diseases that can cause a similar pattern and distribution of symptoms. This is a complex and potentially multistep process to rule out other diseases such as food allergy, insect allergy, contact dermatitis, scabies, secondary bacterial and yeast infections, autoimmune diseases and tumours.

The plan for investigating and eliminating the other diseases whilst simultaneously determining the relative importance of the 3 main factors in the development of atopy (allergy, infection, barrier function) will be discussed in detail by our dermatologists during the consult and a written report will be given to you.

**Treatment**

This is a complex disease that has many different components contributing to the total clinical appearance and so the treatment must be individualised to your specific pet. The three key components that are responsible for the disease must be individually but simultaneously treated.

1. **Treating the Allergy.**

The best method is to use immunotherapy – this desensitises the immune system to the specific allergic triggers in your pet. We use intradermal allergy testing (similar to the human scratch test for allergies) as the primary method to identify specifically what your pet is allergic to. Once the allergens (things your pet is sensitive to) have been identified an allergy vaccine (immunotherapy) can be formulated. The vaccine is injected into your pet and works by making your pet less allergic through a process known as desensitisation, that can result in reduction to complete control of the previous symptoms. Immunotherapy is successful in up to 70% of cases and when effective must be continued for at least 2 years. We find that if animals stop sooner then this they will relapse with a return of the previous clinical signs. The best results using immunotherapy are achieved through a close interaction between our dermatology team and you, to fine tune the dose and frequency of administration to match your pets needs, as this can vary over time as the environmental allergen load changes.
In cases where the immunotherapy is ineffective or clients do not want to proceed with this treatment method, the allergic component needs to be controlled with some form of anti-inflammatory medication. Each drug has their own relative advantages and disadvantages and the alternative treatment programs need to be discussed in detail with our dermatologists.

2. Improving the barrier function of the skin

The abnormalities in atopic patient’s skin means that it does not form the normal tight, waxy, protective layer. This allows increased penetration of allergens and stimulation of the immune system. It is not possible to completely reverse these structural changes but the skin function can be improved via oral supplementation and topical (applied to the skin) medications. Oral supplements with essential fatty acids (Omega 3 & 6 oils) that are found in fish and plant oils may be given. There are a number of specialist skin support diets that have been shown to reduce the symptoms of atopy. In addition to this, oatmeal shampoo and conditioners, ceramide conditioners and various bath oils can all help the skins hydration and provide short-term relief of irritation.

3. Control the infections

It is very common for secondary bacterial and yeast infections to develop and cause a marked increase in both the itch and severity of clinical appearance of the skin. Collecting samples for cytology can identify the infections. If bacterial or yeast numbers are high or there is evidence of infections in the deeper layers of the skin, oral antimicrobials or antifungals may be prescribed. In addition to this, a range of antiseptics may be used to speed resolution of the infection and keep microbe numbers low so that an infection relapse does not occur. The products used include medicated shampoos, residual antiseptic conditioners, antifungal creams and lotions and medicated rinses. The specific combination of products used needs to be determined on an individual basis and tailored specifically for your pet by our dermatology team.