

ATOPIC DERMATITIS

(INFLAMMATION OF THE SKIN CAUSED BY ALLERGIES)

BASICS

OVERVIEW

- “Atopic” refers to “atopy;” atopy is another name for atopic dermatitis
- “Dermatitis” is inflammation of the skin
- “Allergy” is an altered state of immune response to a foreign substance; “allergen” is a substance to which the animal has developed an allergy
- Atopic dermatitis is a form of skin inflammation due to a susceptibility of the animal to become allergic to normally harmless or innocuous substances, such as pollens (grasses, weeds, and trees), molds, house-dust mites, skin (epithelial) allergens, and other environmental allergens

GENETICS

- Dogs—although an inherited susceptibility is likely, the mode of inheritance is unknown and other factors also may be important
- Cats—unclear

SIGNALMENT/DESCRIPTION OF ANIMAL

Species

- Dogs and cats

Breed Predilections

- Dogs—any breed, including mixed-breed dogs may be affected; because of probable genetic susceptibility, it may be recognized more frequently in certain breeds or families of dogs, which can vary geographically
- In the United States, commonly affected dog breeds include the Boston terrier, Cairn terrier, dalmatian, English bulldog, English setter, Irish setter, Lhasa apso, miniature schnauzer, pug, Sealyham terrier, Scottish terrier, West Highland white terrier, wire fox terrier, and golden retriever
- Cats—no breed appears to be more likely to develop allergic skin disease (atopic dermatitis)

Mean Age and Range

- Dogs—mean age at onset of signs is 1 to 3 years; range 3 months to 6 years of age; signs may be so mild the first year that they are not observed, but signs usually are progressive and clinically apparent before 3 years of age

Predominant Sex

- Both sexes are probably affected equally

SIGNS/OBSERVED CHANGES in the ANIMAL

- Hallmark sign—“itching” as demonstrated by scratching, rubbing, and/or licking (itchiness is known as “pruritus”)
- Most skin changes probably are produced by self-induced trauma (scratching, rubbing, licking, biting at skin)
- Areas of the face, feet, and under the front legs are affected commonly
- Signs may be seasonal
- Recurring skin and/or ear infections (may be bacterial and/or yeast infection)
- May have temporary response to steroids
- Signs progressively worsen with time
- Lesions—vary from none to broken hairs or saliva discoloration of the hairs (giving a rust-brown appearance to light colored hair) to reddened skin; small, raised skin lesions (known as “papular reactions”); dried discharge on the surface of a skin lesion (known as a “crust”); hair loss (known as “alopecia”); darkened skin (known as “hyperpigmentation”); thickening and hardening of the skin, usually associated with hyperpigmentation (known as “lichenification”); and excessively oily or dry scaling of the skin (known as “seborrhea”)
- Inflammation of the moist tissues around the eye (known as “conjunctivitis”) may occur

CAUSES

- Airborne pollens (grasses, weeds, and trees)
- Mold spores (indoor and outdoor)
- House-dust mites
- Animal danders
- Insects (controversial)

RISK FACTORS

- Temperate environments with long allergy seasons and high pollen and mold-spore levels

- Coexistent skin disorders characterized by itchiness (known as “pruritic dermatoses”), such as flea-bite hypersensitivity and adverse food reaction; these coexistent skin disorders increase the severity of the signs

TREATMENT

HEALTH CARE

- Outpatient
- Frequent bathing in cool water with shampoos designed to minimize itchiness can be beneficial

ACTIVITY

- Avoid substances (allergens) to which the animal is allergic, when possible

DIET

- Diets rich in essential fatty acids may be beneficial in some cases

MEDICATIONS

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

Immunotherapy (Hypersensitization or “Allergy Shots”)

- Administration (usually subcutaneous [SC] injections) of gradually increasing doses of the causative allergens to affected patients in an attempt to reduce their sensitivity to the particular substance(s)
- Allergen selection—based on allergy test results, patient history, and knowledge of local plants that contribute pollen into the air
- Indicated when it is desirable to avoid or reduce the amount of steroids required to control signs, when signs last longer than 4 to 6 months per year, or when nonsteroidal forms of therapy are ineffective
- Successfully reduces itchiness (pruritus) in 60% to 80% of dogs and cats
- The response to “allergy shots” is usually slow, often requiring 3 to 6 months and up to 1 year to see response

Steroids

- May be given for short-term relief and to break the “itch-scratch cycle”
- Should be tapered to the lowest dosage that adequately controls itchiness (pruritus), as directed by your pet’s veterinarian
- Best choices—prednisolone or methylprednisolone tablets
- Cats may need methylprednisolone acetate treatment, administered by injection

Antihistamines

- Less effective than are steroids
- Evidence of effectiveness is poor
- Dogs—antihistamines include hydroxyzine, chlorpheniramine, diphenhydramine, and clemastine
- Cats—chlorpheniramine; effectiveness estimated at 10% to 50%

Other Medications

- Tricyclic antidepressants (“TCAs,” such as doxepin or amitriptyline) have been given to dogs to control itchiness, but their overall effectiveness and mode of action is unclear; not extensively studied in the cat
- **Cyclosporine** (Atopica®) is effective in controlling itchiness (pruritus) associated with long-term (chronic) allergic skin disease (atopic dermatitis); the response is variable—many patients can be controlled adequately long-term with less frequent dosing (such as every 2 to 4 days), as directed by your pet’s veterinarian; frequent patient monitoring is recommended
- Topical triamcinolone spray 0.015% (Genesis®, Virbac) can be applied to the skin over large body surfaces to control itchiness (pruritus) with minimal side effects

FOLLOW-UP CARE

PATIENT MONITORING

- Examine patient every 2 to 8 weeks when a new course of treatment is started
- Monitor itchiness (pruritus); self-trauma, such as scratching or licking; skin infection characterized by the presence of pus (known as “pyoderma”); and possible adverse drug reactions
- Once an acceptable level of control is achieved, examine patient every 3 to 12 months
- A complete blood count (CBC), serum chemistry profile, and urinalysis—recommended every 3 to 12 months for patients on long-term (chronic) steroid or cyclosporine therapy

PREVENTIONS AND AVOIDANCE

- If the substances (allergens) to which the animal is allergic have been identified through allergy testing, the owner should undertake to reduce the animal’s exposure to these substances, as much as possible

- Minimizing other sources of itchiness ([pruritus], such as fleas, adverse food reactions, and secondary skin infections) may reduce the level of pruritus enough to be tolerated by the animal

POSSIBLE COMPLICATIONS

- Secondary skin infection characterized by the presence of pus (pyoderma) or inflammation of the skin due to yeast (*Malassezia* dermatitis)
- Coexistent flea-bite allergy (hypersensitivity) and/or adverse food reaction

EXPECTED COURSE AND PROGNOSIS

- Not life-threatening, unless itchiness (pruritus) is not responsive to medical treatment and it is so disruptive that the result is euthanasia
- If left untreated, the degree of itchiness (pruritus) worsens and the duration of signs last longer each year of the animal's life
- Some cases may resolve spontaneously

KEY POINTS

- Atopic dermatitis is a progressive skin condition
- It rarely goes into remission and cannot be cured
- Some form of therapy may be necessary for life to control the signs (itchiness, rubbing, scratching)

