Dermatology in association with NAVC

My five components for success are:

- Be positive and assure the client the problem can be determined
- Set up expectations and educate the client
- Determine the pattern of pruritus and lesions, as well as type of lesion(s)
- Identify and eliminate simple things first
- Set up the goals and the 'why' for the follow-up visit.

Determining the pattern of pruritus as well as the lesions present and how they compare and change with treatments is a critical part of learning how to best manage the IDog. Unless the dog has scabies, the most common reason IDogs occur is because they are allergic or have epidermal barrier disease. These two disease categories are not likely to be cured and therefore the goal is to determine the best long-term management plan that suits that patient and dog owner. This is the art of practice and what makes cases so variable in how they will be managed. The pruritus and symptoms displayed usually are a manifestation of the primary disease and any secondary microbial disease and skin changes from inflammation and trauma and even the psychological status of the dog and owner. The pruritus from the primary disease may be very mild compared to what occurs from other factors and the response to therapies is impacted by these factors as well. It is important to determine the main components for each individual IDog.

KEY LEARNING OBJECTIVES

- Appreciate that you cannot adequately deal with the chronic itchy dog in a 15-minute examination, so you need to establish what goals you should have; the first is to be positive

- Appreciate that recognizing simple aspects that are contributing to an itchy dog's pruritus is a primary goal at the initial examination
- Learn how you recognize what is manifested just by the dog's atopic disease and recognize when diet trials or atopic treatments are necessary

MULTIPLE CHOICE QUESTIONS

1. Which of the following best describes the time it takes to complete successful examination of a chronic itchy dog?
(A) 15 minutes
(B) 30 minutes
(C) 60 minutes
(D) Multiple examinations
2. Which of the following should be done at the initial examination of the chronic itchy dog?
(A) Allergy test
(B) Diet trial
(C) Identify simple problems
(D) Skin biopsy
3. Which of the following is the goal for treating the chronic itchy dog?
(A) Determine a long-term management plan
(B) Determine if the dog is atopic or has another primary disease
(C) Determine which drug is most effective for atopic dermatitis
(D) Determine which non-steroidal drugs are effective

Understanding allergies

Michael S. Canfield

Atopic dermatitis is a complex disorder that has been referred to as 'the itch that rashes'. The origin is multifactorial and includes many triggers. Atopic dermatitis is a chronic, relapsing and pruritic illness affecting 10–20% of children in developing countries. In veterinary medicine, the term canine atopic dermatitis is used to describe a pruritic and inflammatory dermatitis driven most commonly by IgE-antibody-associated reaction. Atopic-like dermatitis was coined to describe dogs with clinical signs of atopic dermatitis but no demonstrable allergen-specific IgE.

Longitudinal studies in human medicine have demonstrated the presence of atopic dermatitis increases the risk of developing food allergy, allergic rhinitis and asthma later in life. This progression is often referred to as the atopic march of childhood. The clinical signs of canine atopic dermatitis may be associated with sensitization to environmental, food allergens, or with atopic-like dermatitis.

The exact cause of atopic dermatitis is unknown. It is thought to be a result of a complex interaction of genetic and environmental factors that lead to impaired epidermal barrier function and immune dysregulation. Sensitization to environmental proteins often occurs due to the more porous skin barrier. It is a misconception that 'allergy is the root of the disease'. Atopic dermatitis may be the initial manifestation of the atopic march and this sensitization through the skin may likely be an important initial step in the development of other allergic diseases.

The stratum corneum is more permeable in infants younger than 1 year. Therapeutic strategies of barrier repair in human atopic dermatitis focus on primary prevention. Investigators found that daily, full body emollient use in neonates at high risk for atopic dermatitis in the USA and UK had a 50% relative risk reduction for atopic dermatitis at 6 months. An Australian population of neonates with prophylactic emollient use for the first 6 months of life was associated with a trend toward reduced incidence of atopic dermatitis and food sensitization at 6 and 12 months of age.

In secondary and tertiary prevention of atopic dermatitis in humans through barrier repair, cleansing and moisturization are the mainstay. Current recommendations for a daily short bath or shower followed by application of emollient moisturizers while the skin remains

slightly wet. For more intensive moisture replacement, wet-wrap therapy may be used.

Evidence supports that atopic dermatitis increases the risk of food sensitization and allergy. Early-onset persistent atopic dermatitis has been associated with sensitization to food allergens within the first 2 years of life. An Australian study demonstrated up to 50% of patients with early-onset and severe atopic dermatitis developed challenge-proven food allergy by 12 months. Infants with atopic dermatitis were approximately 5 times more likely to develop food allergy than those infants without atopic dermatitis. In those patients with established atopic dermatitis, treatments are aimed at barrier repair and protection and decreasing inflammation.

KEY LEARNING OBJECTIVES

- Develop a basic understanding of atopic dermatitis
- Discuss the atopic march
- Discuss therapeutic strategies of human barrier repair in atopic dermatitis

MULTIPLE CHOICE QUESTIONS

1. The clinical signs of canine atopic dermatitis may be associated with sensitization to which of the following?
 - (A) Environmental, food allergens, or with atopic-like dermatitis
 - (B) Environmental allergens only

- (C) Food allergens only
- (D) Food allergens and IgE-antibody-associated reactions only

2. The dogma that allergy results in canine and human atopic dermatitis is in fact a misconception. What is now the belief?
 - (A) Allergies develop resulting in epidermal barrier dysfunction and transepidermal water loss
 - (B) Genetic and environmental factors lead to impaired epidermal barrier function and immune dysregulation
 - (C) Inhalation of allergens causes the development of atopic dermatitis
 - (D) Raw food and grain-free diets cause alterations in the skin resulting in an abnormal skin barrier
3. It has been determined in human medicine that therapeutic strategies aimed at barrier repair may do which of the following?
 - (A) Lower the relative risk of atopic dermatitis development in neonates
 - (B) Afford no benefits for the skin and may sensitize patients to additional allergens
 - (C) Afford benefits for asymptomatic patients in the absence of atopic dermatitis but for those individuals with atopic dermatitis no benefits were afforded
 - (D) Increase the relative risk of atopic dermatitis development in neonates

Food allergies

Michael S. Canfield

Cutaneous adverse food reactions are divided into those that have a perceived immunological pathogenesis and those that do not. Much of what is taught regarding food allergies in veterinary medicine is dogma. The incidence of cutaneous adverse food reactions is reported to be 15–20% in patients with pruritus.

CUTANEOUS SIGNS OF FOOD ALLERGY

- Beyond pruritus, there is no consensus on the type and incidence of cutaneous manifestations of adverse food reactions
- Cutaneous adverse food reactions affect dogs and cats of any age, any breed, and both genders, with the proportion of juvenile dogs diagnosed about twice that of cats.

NON-CUTANEOUS SIGNS OF FOOD ALLERGY

- Gastrointestinal signs, symmetrical lupoid onychitis, conjunctivitis, sneezing and anaphylaxis are

reported as associated with adverse food reactions in dogs

- Gastrointestinal, respiratory signs, conjunctivitis and hyperactive behaviour are reported with adverse food reactions in cats.

DIAGNOSIS OF FOOD ALLERGY

- The gold standard to diagnose adverse food reactions in dogs and cats remains an elimination diet with subsequent provocation trials
- Serum food-specific IgE and IgG show low repeatability and high variability in accuracy for dogs. The accuracy of testing serum for food-specific IgE in cats is low
- Currently, all other tests cannot be recommended for clinical diagnosis of adverse food reactions in dogs and cats.

Duration of elimination trials

To diagnose cutaneous adverse food reactions in at least 80% of dogs and cats, an elimination diet trial should last a minimum of 5 weeks in dogs and 6 weeks in cats. Increasing the duration of the elimination trial to 8 weeks will increase the sensitivity to more than 90% in dogs and cats. The veterinary surgeon may elect to perform provocative challenges soon after remission.

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