

Food Allergy / Cutaneous Adverse Food Reactions

Etiology

- Etiology is not fully understood
- Least common cutaneous hypersensitivity but can occur concurrently with other skin allergies
- Components of Antibody-mediated IgE and Cell-mediated (non-IgE): type I and IV hypersensitivity

Frequency of allergic skin disease in pruritic dogs

- Purely food allergy 15-20%
- Canine atopic dermatitis 50-75%
- 10-33% have a combination of both

History

- Recent diet change is NOT common
- In adult dogs, most offending diets fed for >2 years
- Pruritus is non-seasonal if same diet is fed year round

Signalment

- Age at onset: 4 months to 12.5 years
- 33% of dogs are <1 year of age
- Predisposition: Labs, cocker spaniels, golden retriever, wheaten terrier, dalmatian, westie, sharpie, Lhasa apso, miniature schnauzer, dachshund, boxer, pug, German shepherd

Distribution

- Pruritus distribution
 - Face, paws, ears and ventrum
 - Generalized
 - Pododermatitis
 - Otitis externa
 - “ears and rears”
- Scaling, papules, erythema
- Similar distribution to atopic dermatitis

Most common food allergens

- Canine
 - Beef
 - Cow's milk

- Chicken
- Chicken eggs
- Corn
- Soy
- Wheat
- Most are allergic to <3 allergens
- Feline
 - Fish
 - Milk
 - Milk products
 - Beef

Diagnosis

- Limited-allergen diet
- Serologic testing ☺
 - Useless and a waste of money – no reliability
 - ELISA, VARL-EIA, RAST

Ruling out food allergy

- Convince owner and family
 - Educate how to complete a strict diet trial
- ID and avoid weaknesses of past diet trials
 - Treat, hidden meds in food, flavored meds, preventatives, supplements, toothpaste
- Strict elimination diet trial 6-10 weeks
 - If improvement, rechallenge with original diet to confirm

Nutritional Management of Cutaneous Adverse Food Response

Food Antigens: Glycoproteins with a molecular weight of 10-70 kDaltons typically attributed to protein source

Updated most common food allergen sources

- Canine: Beef, dairy products, chicken, and wheat
- Feline: Beef, fish, and chicken

Elimination Diet Selection

- Diet history is critical – every patient, every visit
- Ingredients need to be novel to this patient
- List all exposures

- Supplements/meds, diet/treats
- Meat or meat by-products: bovine, ovine, porcine, caprine
- Poultry, meat, fish, animal

Elimination Diet Selection Options

- Home-cooked *make sure if it is balanced if feeding long term
- Commercial hydrolyzed diets
 - Average molecular weight
 - <10-20 kDaltons
- Commercial limited/uncommon antigen diets
 - Rabbit, venison, duck, fish, kangaroo, alligator
 - All of these can be found OTC
 - Veterinary vs OTC diets
 - PCR have found undeclared sources of protein (species) in different dog foods
- Diets for elimination trials
 - Goal: Limited number of uncommon ingredients
 - Many OTC diets have extensive ingredient lists
 - OTC diets are not ideal for elimination diets or for management of patients with confirmed food allergies