



ATOPIC DERMATITIS IN CANINES

Dr D J Kalita and Dr Jyotika Sangale from Technical and Regulatory Affairs, Zenex Animal Health, give a low-down on the skin disease.

Canine Atopic dermatitis (CAD) is a common inflammatory and pruritic skin disease of dogs with a genetic predisposition. CAD is a complex, polygenic disorder resulting from diverse genetic mutations that vary among breeds and geographic regions. It is generally associated with IgE antibodies to environmental allergens to which susceptible animals are genetically predisposed to become sensitized.

Genetical Predisposition and Pathogenesis

Several pure breeds of dog are well-recognized to be at increased risk for developing CAD, including the Golden Retriever, Labrador Retriever, German Shepherd, Dalmatian,

West Highland White Terrier, Lhasa Apso, Shih Tzu, Shar Pei, Boxer and Pug.

Studies suggested that CAD is not a simple dominant or recessive trait, rather, it appears to be a complex, polygenic disorder arising from diverse genetic mutations that vary between breeds and geographic locations. The age of onset is generally between six months and three years. The pathogenesis of CAD is believed to involve complex interactions between genetic and environmental factors.

Diagnosis

Diagnosis of canine atopic dermatitis is challenging and is based on signalment, clinical signs, history and the



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exclusion of other pruritic skin diseases. At the beginning the characteristic sign of pruritus may be alesional or associated with primary skin lesions like erythema. In chronic stages secondary skin lesions will occur due to self-trauma, chronic inflammation and secondary infections. Typical secondary skin lesions are excoriations, alopecia, lichenification, hyperpigmentation, crusting, and seborrhea.

Prospective studies have revealed the set of criteria for CAD diagnosis, known as Favrot's criteria, has been implemented to help veterinarians interpret clinical findings when confronted with an itchy dog. These criteria were developed from a large case series of confirmed cases of CAD:

FAVROT'S Criteria:

CAD is considered to be very likely if at least five of the above criteria are present. The sensitivity and specificity of these set of diagnostic criteria are reported to be around 80%. However, these criteria do not apply to cases of food-induced atopic dermatitis.

Differential diagnosis - Ruling out other Diseases

Diagnosis of CAD is based on meeting out the clinical criteria and ruling out of other skin conditions with similar clinical signs. Such conditions include flea allergy dermatitis, other ectoparasitic infestations (sarcoptic mange, pediculosis, trombiculiasis, otoacariasis) and primary skin infections. The initial steps to rule out ectoparasites includes flea combing, skin scrapings, hair plucks and cytologic evaluation of skin samples. Flea allergy dermatitis typically causes pruritus and lesions over the lumbosacral region, tail base and caudomedial thighs—areas that are not usually involved in CAD. Dogs with CAD commonly experience frequent or recurrent staphylococcal or yeast infections.

Treatment & Management of CAD

CAD requires a multimodal approach for management. The process may involve trying different options to determine what works best for each patient.

🐾 Topical therapies like medicated shampoos, foaming mousses, sprays, wipes, spot-ons, creams and ointments—are recommended to treat affected skin.

🐾 There is good evidence for high efficacy of oral and topical glucocorticoids with minimum side effects for short-term therapy. However, long-term treatment with glucocorticoids must be weighed against the risk of adverse drug effects.

🐾 Application of antimicrobial agents is an integral part of treating secondary bacterial and yeast infections in dogs with CAD. Dogs with CAD are at increased risk for developing recurrent microbial skin infections with *S pseudintermedius* and/or *M pachydermatis*.

🐾 Oral cyclosporine is a thoroughly evaluated drug for the treatment of canine atopic dermatitis. At a dose of 5 mg/kg/



day, it was found to be equally effective as prednisolone and methylprednisolone.

🐾 Oclacitinib maleate is an immune-modulating drug that inhibits the Th2 (T helper cell 2) mediated inflammatory responses. Oclacitinib has been approved for treating pruritus related to allergic dermatitis, including CAD. Oclacitinib maleate is rapidly absorbed with high bioavailability and a half-life of 4 to 6 hours. The recommended dose of oclacitinib is 0.4 to 0.6 mg/kg given orally every 12 hours for 14 days, then once daily for long-term maintenance. Oclacitinib maleate is not recommended in dogs less than 12 months of age and in dogs with serious infections like pneumonia.

🐾 Few other flare factors need to be considered in the management of chronic canine atopic dermatitis include: 1) Comprehensive fleas control 2) Identification and management of food-induced dermatitis and 3) Once to twice-weekly medicated bathing with antimicrobial shampoos to prevent recurrent secondary microbial skin infections.

Dietary Considerations

Oral supplementation with essential fatty acids (EFAs) has long been recommended as an adjunctive therapy for canine atopic dermatitis (CAD) and has been shown to normalize lipid composition in the subcutaneous skin of dogs. They play a key role in maintaining the integrity of the stratum corneum by strengthening the epidermal barrier.

Conclusion

Atopic dermatitis can significantly compromise a dog's quality of life and is often frustrating. Given the complex pathophysiology of canine atopic dermatitis (CAD), therapy must be individualized, taking into account factors such as genetics, nutrition and environmental influences. Oclacitinib, an immune-modulating drug, has demonstrated its clinical efficacy for both acute flares and chronic management of CAD. It provides reduction in pruritus and inflammations and offers faster onset of action. 🌸

