Management of Atopic Dermatitis in Dog - A Case Study

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Abstract

A Dalmatian dog having severe itching and allergy was presented in the Veterinary hospital, New Delhi. The common causes of allergic condition viz. mange/mite, parasitic infestation etc. were screened through laboratory examination. As per the history and ruling out the other infective agents for causing the dermatitis, the case has been diagnosed as Atopic dermatitis and treated. Anti-allergic/antihistaminic drugs along with the administration of corticosteroids and nutritional supplement of omega fatty acid had showed marginal recovery. The management of atopic dermatitis in dog is put on record.

Key words: Dog, atopic dermatitis

Introduction

Dermatitis is a broad term used for skin affection. Dogs are the commonest animal to suffer from skin problem with multitude factors. Atopy is an allergic condition caused by due to inhalation of allergens, or by absorption through skin. Atopic dermatitis is an allergic skin disease of dogs which is caused by immunological hypersensitivity to common substances in the environment such as house dust mites. Canine atopic dermatitis (CAD) is estimated to affect 15% to 30% of the canine population (Scott and Miller 1999) and in most cases, a life-long disease. The exact pathogenesis of CAD is not yet completely established, but it is thought to involve immunoglobulin (Ig)E-mediated immediate and late-phase hypersensitivity reactions to environmental allergens (Scott et. al. 2001). The present paper deals with management of atopic dermatitis in dog.

Case History and Observation

A Dalmatian male dog was presented to hospital with history of severe itching. The dog had history of severe rubbing his nose, muzzle with paws. Owner reported that that the dog rubs his muzzle in the
carpets and bite the feet very frequently. He often had noticed that the dog grooms excessively, with licking or chewing of the paws and abdomen. The dog had tendency and do like licking abdomen and rubbing of ear on the ground. There was alopecia due to frequent rubbing and biting at the site. The age of dogs was reported to be 1.5 year. The owner informed that the dogs had developed the signs of licking and biting for about last six months. Initially the owner have neglected the itching as general but when he noticed about hair loss and sores with reddish brown spots since last two months he brought the dog to the clinic. Clinical examination of the dogs showed some moist alopecia in the abdomen, feet and muzzle. The ears of Dalmacian dog revealed redness and hot to touch, though there was no swelling at all. Scratch mark was observed over the itchy areas with mild thickening/roughness of the coat. In abdomen also there were reddening and alopecia without any lesion.

**Diagnosis**

The faecal sample and skin scrapping of the dog was taken for laboratory investigation. Skin scraping was processed as per protocol for investigation of mange infection. After examination no parasitic eggs and sarcoptic/demodectic mange could be detected. The dog was on practice of regular deworming schedule and proper vaccination reflected from record book maintained for the dog. Skin scraping was also cultured in SDA (Saburent Dextrose Agar) and direct smear was stained with Lacto Phenol cotton Blue for fungal examination, revealed negative mycotic affection. The dog showed the itching/pruritus as nonseasonal. Keeping in mind the signs and symptoms and ruling out the presence of ecto/endo parasitic infestation the case were diagnosed as atopic dermatitis. When enquired it is known that the mother of the dog also had similar types of itching.

**Treatment and Discussion**

The dog was treated with injection of antihistaminics (Inj. Cadistin- Chlorpheniramine maleate@10mg/ml, Cadila Zydus) for five days @ 1ml intramuscularly as antiallergic therapy. The specific therapy given as oral administration of prednisolone @1mg/kg/day for first five days followed by 0.5 mg/kg every other day for another two days. On supportive therapy, vitamin E and fish oil (dermotone liq, Vesper pharmaceuticals), nutritional supplement containing omega fatty acid (Glow pro, Vesper Pharmaceuticals)) was given orally for a week.

Owner was advised to keep the bed /towel, where the dog normally rest, dust free, and asked to give feedback of the treatment. After a week owner brought back the dog and showed slight improvement on itching. Though some improvement noticed, but the dog was not totally free of pruritus.
The Atopic dermatitis is a genetically predisposed inflammatory and pruritic allergic skin disease with characteristic clinical features. Alterations in epidermal barrier function, priming of cutaneous antigen-presenting cells with IgE, intrinsic keratinocyte defects, and development of autoimmunity are also factors that contribute to the primary disease. (Tarpataki 2006). In this case also the symptoms were exactly of Atopic Dermatitis of allergen nature. Moreover the pedigree of dog has the history of pruritus. So the substantive diagnosis had been made after ruling out the possible general cases of pruitus. Standard therapeutic protocols of canine atopic dermatitis include the use of glucocorticoids, antihistamines, omega-6/omega-3 fatty acid supplements, allergen-specific immunotherapy (“hyposensitization”), topical antipruritic agents, and combinations thereof (Scott et al. 2001). Specific skin test could not be performed in this case and the specific immunotherapy was not tried. Glucocorticoid was used traditionally and antihistaminics used also act as synergistic to reduce the doses of glucocorticoids. (Christopher et al. 2004). The responses to antihistamines in dogs with CAD are notoriously individualized and unpredictable (Scott et al. 2001, Scott and Miller 1999). Effective control of pruritus was achieved by using chlorpheniramine in a percentage of dogs with CAD (Scoot and Miller, 1999).

The responses of treatment though reflected well but not achieved successful. Tarpatki N (2006) also reported that no single treatment is universally effective in treating canine Atopic Dermatitis.

References


