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## Chronic atopic dermatitis in a Bully Kutta Dog with wheat pollen sensitivity: A case report

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### Abstract

A five-year-old male Bully Kutta dog was presented to Veterinary Clinical Complex, Tirunelveli with a history of recurrent, steroid responsive pruritus for the past three years. The patient's kennel is in close proximity to a wheat flour industry and the major food ingredient was wheat. Clinical examination revealed lusterless skin coat, patchy alopecia, erythematous pustules and hyperkeratinization distributed over specific areas of the body. The case was ruled out for other similar skin diseases by skin scraping and tape impression. ABST revealed sensitivity only to Cefotaxime. The present case agrees 7 of 8 'FAVROT'S CLINICAL CRITERIA' of Canine atopic dermatitis. The case has been managed for five years with antibiotics, steroids, anti-histamines, Inj. Ivermectin @200 µg/kg b.wt and was advised Spray. Tacrolimus, Tab. Atarax, Tab. Wysolone, Shampoo. Ketochlor, Tab. Cefpet. In addition to that, the case was advised to follow Syrup Nutricoat Advance and ROYAL CANIN® Hypoallergen diet for the rest of life with active pruritic management and controlled environment. The details of the case will be discussed.

**Keywords:** Atopic Dermatitis, favrot's clinical criteria, bully kutta, wheat allergen

### Introduction

Canine atopic dermatitis is a chronic dermatosis condition, genetically predisposed, inflammatory and pruritic allergic skin disease, characterized by production of IgE antibodies leading to hypersensitization to environmental allergens (Muller *et al.*)<sup>[1]</sup>. Young onset is a typical characteristic of Atopic dermatitis (Prelaud *et al.*, 2010)<sup>[2]</sup>. Till now, there is no specific lesions described for canine atopic dermatitis but their distributive pattern can be highly suggestive of the syndrome. There is no specific diagnostic tests for Canine Atopic dermatitis. It is a case of elimination which includes exclusion of other skin diseases which mimics CAD. A more accurate diagnosis can be made by use of Favrot's criteria which is a set of criteria developed from large case series of confirmed cases of Canine Atopic Dermatitis (Patrick Hensel *et al.*, 2015)<sup>[2]</sup>. Treatment should be aimed at analysing the pruritus inducing factors and ways to control or eliminate the flare factors along with use of topical antifungals, systemic antibiotics and a hypoallergen diet (Maite Verde, 2016)<sup>[4]</sup>.

### Case history and observations

A five-year-old male bully kutta dog was presented to Small Animal Medicine Unit of Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli with a history of recurrent, steroid responsive pruritus for the past three years. Clinical examination revealed patchy alopecia in paws (Fig.1), erythema around muzzle (Fig.6), lusterless skin and alopecia of ventral neck (Fig.2), erythematous pustules in medial thigh (Fig.5), moist dermatitis of hock (Fig.3), erythema and patchy alopecia in lateral surface of hindlimb (Fig.4), erythematous lesions in the axillae region (Fig.7) and erythematous pustules in inguinal region (Fig.8). Haematology revealed Eosinophilia. The case was negative for Skin scraping and Tape impression. The case also satisfies the Favrot's Clinical Criteria *viz.*, i. Age at onset was less than 3 years; ii. The animal was maintained indoor in its kennel; iii. Animal responds well to cortico-steroids; iv. The animal is prone to chronic and recurrent yeast infections; v. the animal has affected front feet (Fig.9); vii. Unaffected ear margins and ear pinnae; viii. The animal's dorso-lumbar area was unaffected (Fig.10) which also rules out flea allergic dermatitis. Based on history, clinical signs, exclusion of other possible pruritic dermatoses, and the case agrees to 7 of 8 Favrot's clinical criteria, the case was diagnosed as Canine Atopic Dermatitis.

**Treatment and Discussion**

ABST of present case revealed sensitivity to Cefotaxime. So, the case was treated with Inj. Cefotaxime @ 10 mg/kg b.wt I/M, Inj. Prednisolone @ 1 mg/kg b.wt I/M, Inj. Chlorpheniramine maleate @ 0.5 mg/kg b.wt, Inj. Ivermectin @ 200 µg/kg b.wt S/C. The case was advised Spray. Tacrolimus, Tab.Cefpet@10 mg/kg b.wt bid, Tab.Atarax@ 10 mg sid, Tab. Wysolone @10mg bid, Shampoo. Ketochlor, Syrup Nutricoat Advance and ROYAL CANIN® Hypoallergen diet for the rest of life with active pruritic management and controlled environment.

The present case' history itself gives a clue that the animal has been exposed to both environmental and food allergen i.e., wheat, which in is concordance with Maite Verde, 2016 [4] who stated that when pollen present year-round, there is increased risk of early onset and Griffin *et al*, 2001 [3] who observed that in some dogs, food allergens could lead to the development of atopic lesions. Maite Verde, 2016 [4] reported that the typical age of onset of clinical signs in Canine atopic dermatitis is between 1 to 3 years. Griffin *et al.*, 2001 [3] observed lesions over flexural aspect of the joints on extremities, abdomen, groin, medial thighs; and pruritus of face, ears, paws, extremities and ventrum while Maite Verde observed that the ventral hairless zones like axillae and inguinal region, interdigital areas and muzzle are the commonly affected sites; which agrees with the present case. Microbes, self-trauma and neuro-mediators might also contribute to persistent inflammation in chronic skin lesions (Thierry Olivry *et al.*,2010) [5]. Since there is no definitive diagnostic tests for diagnosis of canine atopic dermatitis, it's diagnosis mainly depends on the patient's signalment, anamnesis and clinical signs along with elimination of other dermatoses that resembles it. The diseases that mimics atopic signs include diseases of parasitic origin like scabies and demodicosis, infectious origin such as *Staphylococcus* superficial pyodermas, *Malassezia* dermatitis or of other allergic origin, which in the present case was ruled out by laboratory diagnosis (Thierry Olivry *et al.*,2010) [5]. The present case also satisfies 7 of 8 Favrot's criteria, hence, according to Griffin *et al*, 2001 [3], the case can be diagnosed as Canine atopic dermatitis to aero- allergens with 85.4% sensitivity and 79.1% specificity. Maite Verde, 2016 [4] says that there is no set formula for Canine Atopic Dermatitis treatment. Treatment should be aimed at minimizing allergen exposure, skin barrier repair by use of topical antifungals, systemic antibiotics and if dietary component is suggested, a hypoallergenic diet should be fed. He also reported that pruritus therapy with antihistamines and cortico-steroids should be opted for mid and long term therapy.



**Fig 3:** Moist Dermatitis in hock

**Fig 4:** Erythema + Patchy alopecia in lateral surface of hindlimb



**Fig 5:** Erythematous pustules in medial thigh



**Fig 6:** Erythema around muzzle



**Fig 1:** Patchy Alopecia in Paws



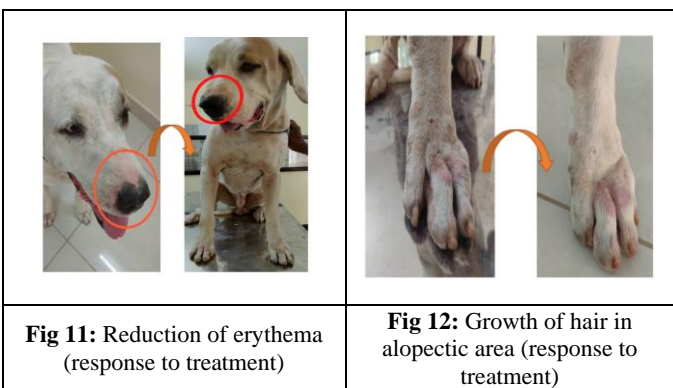
**Fig 2:** Lusterless skin+ Alopecia of Ventral neck



**Fig 7:** Erythema in axillae region



**Fig 8:** Erythematous pustules in inguinal region



**Conclusion**

Canine atopic dermatitis is a complex disease which can be associated with other pruritic diseases (Patrick Hensel *et al.*, 2015) [2]. Some patients may have had food allergy in addition to atopic dermatitis and could lead to the development of Atopic lesions (Griffin *et al.*, 2001) [3]. The present case was ruled to be an environmental allergen source of wheat pollen. As the case was weaned off from the diet, the animal had a control over pruritus (Fig.11, Fig.12).

“The animal’s condition progresses as the treatment weans. Therefore, the animal has recurring allergic condition with controlled pruritus because the atopy persist immunologically due to wheat pollens in the environment”.

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