

## Clinical Management of Sarcoptic Mange – A Zoonotic Ectoparasite in a Dog

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### Abstract

A three year old, non-descript, male dog was presented to TVCC, RIVER with the history of intense pruritus all over the body and scratching itself so badly all the time. The owner of the pet also reported that she was also having itching on her forearm and face. Clinical examination of the dog revealed generalized alopecia, crust formation and bleeding due to scratching at the face and neck region. Pinna-pedal reflex was positive and examination of the skin scrapings revealed *Sarcoptes spp* mite. The dog was treated with Inj. Ivermectin (Inj. Neomec, IntasNeovet) @ 0.2 mg/kg b.wt subcutaneously at weekly interval for four weeks. At the end of the fourth week, skin scrapings showed negative for the mite. The owner's itching also subsided spontaneously.

**Keywords:** Mange, *Sarcoptes spp*, dog, human

### Introduction

Animal skin is exposed to attack by many kinds of parasites. Each species has the particular effect on the skin; the effect can be mild or severe. Sarcoptic mange is a non-seasonal, intensely pruritic, highly contagious parasitic skin disease of dogs caused by infestation with the mite *Sarcoptes scabiei* var. *canis*. Mites burrow through the stratum corneum and cause intense pruritus by mechanical irritation, production of irritating byproducts, and secretion of allergenic substances that produce a hypersensitivity reaction in sensitized dogs. *Sarcoptes scabiei* mange mite are transmitted to humans on close contact with infected domestic animals

(Bandiet *al.*,2013), leading to intense pruritus and irritation due to the hypersensitivity reactions for the mites and their products.

A three year old, non-descript, male dog was presented to the Teaching Veterinary Clinical Campus, Puducherry with the history of intense pruritus all over the body and scratching itself so badly all the time. The owner of the pet also reported that she was also having itching on her forearm and face.



**Fig. 1: Itching on the owner face**



**Fig. 2: Itching and redness on the owner hand**

### Clinical Assessment

Clinical examination of the dog revealed generalized alopecia, crust formation and bleeding due to scratching at the face and neck region. Pinna-pedal reflex turned positive. All other vital parameters were normal.



**Fig. 3: Crust formation on the face**



**Fig. 4: Generalized alopecia**

### Laboratory Assessment

Skin scrapings was collected and examined under 10X magnification of a light microscope. The scrapings revealed *Sarcoptic spp* mite (Mueller,2000).



**Fig. 5: Sarcoptic spp mite under 10X magnification**

### Clinical Management and Outcome

The dog was treated with Inj. Ivermectin (Inj. Neomec, IntasNeovet) @ 0.2 mg/kg b.wt subcutaneously at weekly interval for four weeks. At the end of the fourth week, the mite under report could not be observed. Though the owner was not treated, her problem subsided spontaneously after the animal's recovery.

### Discussion

The life cycle of *S.scabiei* (egg-larva-nymph-adult) is completed within a period of 2 to 3 weeks. The fertilized females on the skin surface move rapidly towards the warmer areas of the skin and burrow into the epidermis to lay eggs. Life expectancy of adult mite is 4 to 5 weeks. In affected animals, the clinical signs may appear within one week after infection. They result from mechanical irritation and hypersensitivity (Anita *et al.*, 2008).

Clinical signs which include constant pruritus often lead to rapid appearance of extensive excoriations. Primary lesions are erythematous papules and crusted papules formation where the latter represent the exact points when the fertilized females entered the epidermis. The secondary lesions are the crusts, excoriation, hyperpigmentation and lichenification. Associated dermatological findings are scaling, seborrhoeic problems, alopecia, pyotraumatic dermatitis and otitis externa affecting the margins of the ear flaps.

Differential diagnosis include atopic dermatitis, food allergy, folliculitis, malassezia dermatitis, bacterial overgrowth and rarely, atypical dermatophytosis and pemphigus foliaceus.

Treatment of selamectin (6mg/kg) and moxidectin (2.5mg/kg) are effective when applied as spot-on preparations at monthly intervals. Treatment for 2 to 3 months is

advisable. Fipronil spray (0.25%) has been shown to be effective in 5 week old puppies when used on 3 occasions at 3 week intervals. Acaricidal dips can also be used and Inj. Ivermectin @ 0.2 to 0.4 mg/kg, 2 to 3 times at 10 or 15 day intervals by subcutaneous injection is usually advised.

#### References

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