



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2018; 6(3): 92-94

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Received: 15-03-2018

Accepted: 16-04-2018

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Atypical *Sarcoptes scabiei* infection in an adult Labrador retriever

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Abstract

An adult male dog aged 2 years of Labrador Retriever Breed was presented to the Veterinary University Peripheral Hospital, TANUVAS, Chennai, in the month of June, 2016, with the history of localized alopecia and crusty lesion at the ventral neck region. Microscopic examination of deep skin scraping of the lesion confirmed the presence of *Sarcoptes scabiei* var. *Canis*. An atypical presentation of *Sarcoptes scabiei* involving only ventral neck alopecia documented in an adult Labrador dog. As per standard veterinary recommendations, the animal was treated with topical application of acaricidal solution which consisted of Sulphur (22% w/w) and Polysulphide (22% w/w) with supportive therapy. Antibiotic Cefpodoxime proxetil at the dose of 5 mg/kg orally for 7 days helped faster recovery along with antibacterial and keratolytic Chlorhexidine shampooing. The animal was recovered gradually for the duration of 3 weeks of intensive therapy.

Keywords: Labrador retriever breed, mange, atypical, *Sarcoptes scabiei* var. *Canis*

Introduction

Sarcoptic mange is a skin disorder which affects warm blooded animals such as dogs, cats, rabbits and goats, including man [7, 13]. The type of mites varies with species of animals affected, which burrow into the skin of infected animals by making tunnel to suck blood and lymph. Then it causes sores, scabs and predisposes infected animal to secondary bacterial infections [1].

Sarcoptic mange is a highly contagious, intensely pruritic and potentially zoonotic skin condition of animals [8]. It is caused by infestation of the skin by a mite, *Sarcoptes scabiei* var. *Canis* which burrows into its hosts epidermis [1, 12].

Kemp stated that the disease usually begins on the head and areas of the body that have delicate skin such as ears, nose and elbow. An allergic reaction can develop, secondary to mite infestation, leading to intense itching [5, 11]. Small blisters may open and become covered with scab or by plaques that may often ooze fluid. Skin may become thickened and wrinkled, with cracks and fissures with heavy dandruff evident on hairy areas covering the neck and abdominal region [5].

There are two clinical forms of mange in dogs; localized and generalized forms. The localized form occurs in dogs < 2 years while generalized form affects older dogs [10].

2. Materials and Methods

2.1 History and Observation

An adult male dog aged 2 years of Labrador Retriever Breed was presented to the Veterinary University Peripheral Hospital, TANUVAS, Chennai, with the history of localized alopecia at the ventral neck region. It was observed to develop over a period of one week. The animal was active, healthy and having normal appetite. On clinical examination, the animal was showing not much pruritus. Only a localized alopecia with mild crusty lesion of skin at the ventral neck region was observed. No fever or other signs of pathological diseases were evident. There were no skin lesions in other body parts except the ventral neck. In this report, we document an atypical presentation in an adult dog.

Diagnosis of mange can be done by observing clinical signs and by microscopic examination of skin lesions [3].

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Fig 1: Alopecia at the ventral neck of adult Labrador dog.

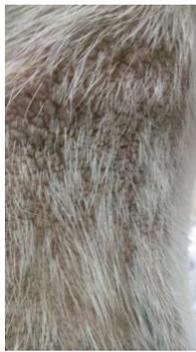


Fig 2: Crusty lesion at the ventral neck of adult Labrador dog.

2.2 Diagnosis and Treatment

With the available history and clinical signs it was tentatively diagnosed as “mange” infestation and the skin samples were collected by deep skin scraping for confirmation by microscopic examination. Microscopic examination confirmed the presence of *Sarcoptes scabiei* var. *Canis* and its egg (Fig 3 and Fig 4). As per standard veterinary recommendations, the animal was treated with topical application of acaricidal solution which consisted of Sulphur (22% w/w) and Polysulphide (22% w/w) with subcutaneous injections of Ivermectin at the dose of 0.4mg/kg at weekly intervals for 3 weeks. Oral antibiotic treatment was started with Cefpodoxime proxetil at the dose of 5mg/kg once daily for 7 days. Weekly bath of the dog using Chlorhexidine shampoo was recommended as topical antibacterial and keratolytic therapy.



Fig 3: *Sarcoptes scabiei* var. *Canis* mite.



Fig 4: Egg of sarcoptic mange.

3. Results and Discussion

On presentation, the animal was of 2 years of age, which was an adult age. Adults were generally less affected. However, on few occasion generalised disease, affecting majority of predilection sites was observed by Robert^[10]. The current dog had no signs of systemic or pathological diseases other than the skin lesion. The unique feature of this case was the absence of generalised lesions in adult dog and the presence of a localized lesion limited to only ventral neck. Such presentations were not reported so far.

Skin lesions such as thickened and wrinkled skin with scabs, crusts, cracks and fissures over the body of a dog prove to be reasonable for the tentative diagnosis of mange^[5, 10]. This was not so in the present dog and was little challenging for a clinical diagnosis. Diagnostic confirmation was done with examination of deep skin scrapings collected around the periphery of the lesions. *Sarcoptes scabiei* var *canis* was identified. Such organisms were always observed from deep scrapings done at the periphery of the alopecic areas as the mite burrows deep into skin, where it lays eggs, feed and suck the lymph. These findings were in agreement with observation of Chosidow^[3].

Since this disease had zoonotic potential, early treatment was essential. Many treatment protocols were in practice for many years. Topical treatment of such mange consisted of removal of hair by clipping, removal of crusts and dead tissues by using anti-seborrheic shampoos and use of acaricidal solutions. For the treatment of mange in young animals, Lime sulphur was observed to be highly effective and safe. Fipronil sprays at 0.25% solution at weekly intervals for 3 weeks were also used in puppies aiming at controlling rather than serving as a primary treatment^[4]. Milbemycin oxime at the dose of 2mg/kg orally twice a week for 4 weeks or subcutaneous injections of Ivermectin at the dose of 0.2mg/kg was observed to be effective according to Robert^[10]. Ivermectin has exceptionally got potency against endo and ectoparasites at low doses (200µg/kg) as well as having a large margin of safety^[2, 6]. Use of antibiotics was observed to eliminate secondary bacterial infections which may have resulted from pruritus. Reddy suggested the use of Cefpodoxime for the treatment of pyoderma in dogs^[9]. The good therapeutic response to Ivermectin and Cefpodoxime therapy observed in this case was in accordance with the reports of Reddy and Robert^[9, 10]. Sarcoptic mange is a zoonotic disease as it affects human by frequent contact of affected animals which may cause pruritus and rashes in the hands especially at wrists, elbows and between fingers, but self-limiting nature of the mange in human resolves without treating. Proper treatment of bedding, collars and harnesses and other accessories with insecticides controls the spread to other animals and humans. Hence, dog owners must take adequate care in limiting the spread of this mange.

4. Conclusion

An atypical presentation of *Sarcoptes scabiei* involving only ventral neck alopecia was documented in an adult Labrador dog. As incidence in adult dogs is less, when compared to younger dogs, the current observations in adult dog gains significance. In this backdrop dog owners must seek early veterinary attention, if such localised lesions are present in dogs, in order to diagnose and limit their zoonotic potential through appropriate therapy.

5. Acknowledgement

With heartfelt gratitude and pleasure, I acknowledge the exceptional guidance and help from Dr. P.Selvaraj, M.V.Sc., Ph.D., (Department of Veterinary Medicine) to complete this study.

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