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Successful management of *Sarcoptes scabiei* infestation in a beagle dog

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Abstract

A two year old female Beagle dog was presented to Medicine unit of Teaching Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu, Thanjavur, with a history of intense pruritus and hair fall for the past two month. Clinical examination revealed scales and crusty lesions along with redness of the skin were noticed all over the body especially on ears, axillary region and ventral abdomen. Dog was positive for pinnal-pedal reflex. Skin scraping and acetate tape impression were positive for *Sarcoptes scabiei* (4+). The dog was treated with Ivermectin, antihistamine, benzyl benzoate and supportive therapy. Dog showed uneventful recovery.

Keywords: Beagle, *Sarcoptes scabiei*, ivermectin, benzyl benzoate

1. Introduction

Sarcoptes mangle infestation in dogs is caused by *Sarcoptes scabiei* which burrows into its hosts epidermis^[1]. *Sarcoptes* mites are highly contagious, non host specific, easily transmitted through direct contact and also by fomites. Extremely irritating and pruritic papular eruption, skin thickening, erythema, alopecia, exudation with crust formation and secondary bacterial infection with pustules are common clinical findings. Chronic lesions are usually confined to the margins of the pinna, elbows and hocks that may present skin thickening, minimal crust formation and persistent pruritus^[2]. Scabies is a skin disease of all types of domestic's animals including dog and cat as well as it is zoonotic in nature^[3]. Diagnosis is usually based on the signs, pinnal-pedal reflex and deep skin scraping examination^[4]. The present paper deals about the successful management of *Sarcoptes scabiei* infestation in a Beagle dog.

2. Materials and Methods

2.1. Clinical history

A two year old female beagle dog weighing 16 kg was presented to Teaching Veterinary Clinical Complex (TVCC), Veterinary College and Research Institute, Orathanadu, Thanjavur, on May 2017-June 2017 with a history of intense pruritus, hair fall, crusty and scales on all over the body for the past two month.

2.2. Clinical examination

On physical examination animal is active, alert, pink and moist conjunctiva, temperature 38.5°C, heart rate 116/ min and respiratory rate 32/min were observed. On examination of skin and coat showed redness, alopecia, crusty lesions and scales were observed all over the body.

2.3. Parasitological examination

Samples were collected for Laboratory examination such as Deep skin scraping [1, 5], blood samples (2ml of blood was collected in EDTA (1.5mg/ml) tube for complete blood count and 2ml of blood for biochemical analysis) were collected. Skin scrapings samples were taken from three different areas of the lesion, by using a No. 10 blunt scalpel blade in 10% potassium hydroxide (KOH) solution. The collected skin samples were subjected to microscopic examination (40X).

2.4. Treatment

The dog was treated with Inj. Ivermectin @ 0.2 mg/ kg body weight subcutaneously, Inj.

Chlorpheniramine maleate @ 0.5 mg/kg intra muscular and benzyl benzoate topically. Multivitamin and immune stimulators were also given along with adequate nutrition during the treatment period. After one month treatment period skin scraping negative for mites and dog showed uneventful recovery.

3. Results

The collected skin scrapping samples were revealed *Sarcoptes scabiei* mite (4+) and its eggs. Hemato-biochemical changes of *Sarcoptes scabiei* infestation of Beagle dog is given in Table 1. After the treatment skin scrapings were found to be negative.

4. Discussion

All these burrowing mites are in the family Sarcoptidae. They dig into and through the skin, causing intense pruritus and redness of the skin. Hair loss and crusting mostly observed on elbows and ears and dogs were showing self mutilation due to the deep burring nature of the *Sarcoptes* [3]. Hematology of dog affected with *Sarcoptes scabiei* had low levels of Hb and PCV and this finding was correlated with Narang *et al.* [6] and the values were become normal after treatment. Canine scabies is of public health importance as 50% of human cases may result from handling of infected dogs. Human patients usually recover spontaneously after infected dog are cured [3]. Since the *Sarcoptes scabiei* is zoonotic nature care should be taken by the pet handlers.



Fig 1: Dog infected with *Sarcoptes scabiei*



Fig 2: Dog showing redness, Crusty lesions on both ear

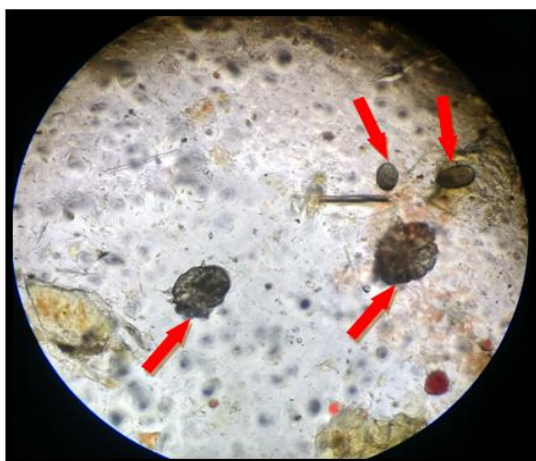


Fig 3: Direct skin scraping examination pointed arrow showing mite and egg

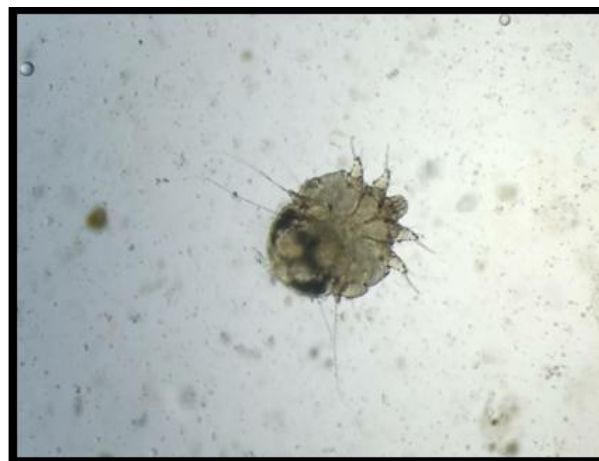


Fig 4: KOH method showing *Sarcoptes scabiei* mite

Table 1: Haemato-biochemical changes of *Sarcoptes scabiei*.

Parameters	Before treatment	After treatment
Hematology		
Hemoglobin (g/dl)	8.6	11.3
PCV (%)	26	35
RBC (10 ⁶ /µl)	4.29	4.78
WBC (10 ³ /µl)	7.33	10.75
Neutrophils (%)	72	68
Lymphocytes (%)	18	23
Monocytes (%)	5	7
Eosinophils (%)	5	2
Basophils (%)	0	0
Biochemistry		
BUN (mg/dl)	35	29
Creatinine (mg/dl)	0.92	0.87
Glucose (mg/dl)	63	72
Total protein (g/dl)	5.91	6.32
Albumin (g/dl)	2.54	2.85

5. Conclusion

Sarcoptes scabiei infestation in Beagle dog was successfully managed by Inj. Ivermectin @ 0.2 mg/ kg body weight subcutaneously with supportive.

6. Acknowledgement

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7. References

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