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## Therapeutic management of generalized demodicosis in a beagle dog

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### Abstract

A two-year-old beagle dog case was presented with the history of severe itching, alopecia, hair loss and erythematous crusts all over the body for the past one month. On clinical examination, lesions found all over the face, forelimbs, hindlimbs and over the spine region. Deep skin scraping revealed the presence of *Demodex canis* mites. The dog was treated with doramectin, external application of amitraz with supportive therapy. The dog recovered uneventfully without any side effects after 7 weeks.

**Keywords:** itching, scrapings, demodex, doramectin

### Introduction

Canine demodicosis is a common skin disease that occurs when the mites accumulate in the hair follicle, sebaceous glands of the skin [4]. Demodex is an ectoparasite present in three forms such as *Demodex canis*, *Demodex injai* (large body) and *Demodex cornei* (short body); with *Demodex canis* being the most common form [5]. Demodex is also known as 'Red mange' due to the presence of red coloured erythematous lesion. Demodicosis maybe localized, generalized or demodectic pododermatitis. Generalized demodicosis caused by *Demodex canis* is a severe skin disease that can be life threatening if not treated properly. Lesions were present in head, legs, trunks, alopecia, scales and erythematous crusts all over the body. Sometimes, secondary bacterial infection mainly due to Staphylococcus species complicates this disease [3]. Diagnosis is based upon the anamnesis, clinical examination and skin scrapings [2]. Treatment of the dog includes parenteral Doramectin, external application of amitraz with oral antibiotics and nutritional supplements.

### History and observation

A two-year-old Beagle dog was presented with the anamnesis of severe pruritis, generalized alopecia, scales and erythematous exudative crusts seen all over the body for the past one month. On clinical examination, lesions were noticed mainly on face, forelimbs, hindlimbs and over the spine region (Fig. 1 and Fig. 2). Secondary bacterial infection was also associated with serosanguinous discharge oozing out from the lesions. Skin scrapings was taken deeply and examined under microscope (40x) using mineral oil over the scrapings on slide. It revealed the presence of mite *Demodex canis* (Fig. 3).



**Fig 1:** (Day 1)

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**Fig 2:** (Day 1)



**Fig 3:** (*D. canis* under 40X)



**Fig 4:** (After treatment)

recommended orally during this period. The dog recovered uneventfully without complications after seven to eight weeks of period (Fig. 4).

Canine demodicosis is a common ectoparasitic infection due to demodex species, with *Demodex canis* being the most common cause. Generalized demodicosis is mainly due to immunosuppression. Early stage of the disease results in alopecia and scaling of the skin, but when there is a secondary bacterial infection it produces pustular discharge and crust formation over the lesions <sup>[1]</sup>. The most common drug used against demodicosis is Amitraz, which is applied at the concentration of 0.025 to 0.06% with weekly once interval <sup>[2]</sup>. Ivermectin or Doramectin is also used for the treatment of ectoparasitic infection.

### Conclusion

In the present study, the dog was treated with Ivermectin, Amitraz along with suitable antibiotics for the control of secondary bacterial infection. Benzyl peroxide shampoo may be benefit for its keratolytic effect and follicular flushing action. Nutritional supplement also given alongside for the betterment of the skin. The animal recovered uneventfully without any recurrence after seven weeks.

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### Treatment and Discussion

Therapeutical approach had been the challenging task, since demodicosis was complicated with the secondary bacterial infection. Dog was treated with Doramectin parenterally at 0.2 mg/kg every week along with oral ivermectin at 500 µg/kg for the period of seven weeks. Topically, Amitraz bath (2ml in 1 litre of water) was also advised weekly once followed by bath with benzyl peroxide shampoo, until recovery period. Adjunctive therapy of Cephalexin tablet at 20 mg/kg BID was given orally for the treatment of secondary bacterial infection. Nutriccoat advance syrup was