

Chemo-Therapeutic Management of Canine Demodicosis

Joyjit Mitra¹, P.K. Santra² and M. Mandal³

Institute of Animal Health and Veterinary Biologicals (Research and Training)

Belgachia

Kolkata - 700037 (West Bengal)

Abstract

The study evaluates chemotherapeutic management of canine demodicosis in 96 dogs of different ages and sex. The dogs were treated with Benzoyl peroxide shampoo, inj. Ivermectin, Amitraz, antibiotic Cephalexin-600 and Multi Vitamin syrup one tsf BID for 28 days. Skin scrapings examination was undertaken in every weeks for four weeks. On 21st and 28th days, no adult or developmental stages of mite was found in skin scrapping examination and all dogs completely recovered.

Keywords: Amitraz; benzoyl peroxide; canine demodicosis; ivermectin

Introduction

Canine demodicosis commonly called 'Red Mange' infestation is caused by *Demodex canis*. Generally all species of *Demodex* are named after their hosts except pig and man. Canine demodicosis is one of the most common skin disease in dogs characterized by inflammation with excessive proliferation of commensal mite, which lives in hair follicle and sebaceous glands of host. Though all domestic mammals and human beings are infected with this mange but it is best documented in canine. Canine demodicosis is found as localized and generalized form. Most of generalized cases are observed in dogs 2-4 years of age with history of chronic skin diseases but in puppies it goes undiagnosed (Nash, 2006).

The most common treatment recommended in field condition is combination of systemic antibiotics and/or Antiseptic shampoo, Ivermectin s/c and/or Amitraz bath (Kachhawa *et al.*, 2016, Santra, 2017 and Rajesh *et al.*, 2018) and as supportive therapy Omega-3 fatty acids, Vitamin E were considered (Arsenovic *et al.*, 2015). In our study, we also used to treat all the affected dogs with Ivermectin, Amitraz, Cephalexin, Omega-3 fatty acid containing Multi vitamin syrup for four weeks as these are safe, reliable, easy to administer and effective.

Materials and Methods

The study was performed in field condition at Hooghly district situated in a Gangetic plane of West Bengal during last one year (January, 2020 to December, 2020). A total of 96 dogs of different breeds, age and sex having clinical symptoms like pruritus, alopecia, erythema, papules, pustules, scabs, crusts, scales etc. were presented at State Animal Health Centre, Chinsurah, Hooghly for treatment purpose. Skin scrap of each animal was collected and treated with 10% KOH. After boiling, the solution was centrifuged and sediment was examined under light microscope for presence of any mites.

Therapeutic Regimens

The dogs which were positive for demodectic mange by laboratory test, were subjected for this therapeutic study. The dogs were treated with Benzoyl peroxide shampoo at weekly interval, inj. Ivermectin (Neomec^a) @ 400 mcg per kg b. wt. at weekly interval for four weeks and Amitraz (Ridd^b) applied weekly at the dose rate as a 250-750 ppm solution (0.025%-0.075% of water) for four weeks. Antibiotic therapy with Cephalexin 600 mg @ ½ tab BID for 20 days and orally used Velcote^c Syrup one tsf BID for 28 days were also provided to the dogs.

Every case was monitored by doing clinical examination and parasitological testing by skin scrapping on 0 day *i.e.* the day of presentation, 7th day, 14th day and 28th day post therapy.

Result and Discussions

Out of 96 dogs presented, 57 animals were positive for *Demodex canis* infestation on skin scrapping examination (Fig. 1 and 2). In the present study, it

1. Veterinary Officer, State Animal Health Centre, Chinsurah, Hooghly, West Bengal
 2. Assistant Director, ARD (VR & I)
 3. Assistant Director, ARD (VR & I) and Corresponding author. E-mail: drmandal834@gmail.com
- a - Brand of Intas Animal Health, Ahmedabad
 b - Brand of Provimi Animal Nutrition Pvt. Ltd., Bengaluru
 c - Brand of Bayer Animal Health, Mumbai

Canine demodicosis



Fig. 1: *Demodex canis* under light microscope

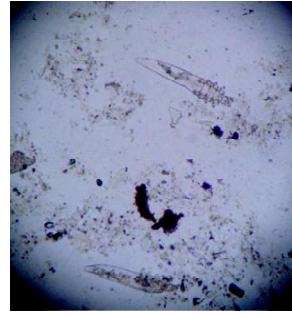


Fig. 2: *Demodex canis* with short stumpy legs

was observed that the dogs were partially cured after 14 days post therapy and after 21 days post therapy, dogs were negative to *Demodex canis* and all dogs were completely cured on 28 days post therapy. The similar observation was also found in a study where a combined therapy was used for controlling of canine demodicosis (Kachhawa *et al.*, 2016; Rajesh *et al.*, 2018). However Mueller (2020) reported not only Ivermectin and Amitraz is effective against canine demodicosis but also Milbemycin Oxime, Doramectin and Isoxazolines and include fluralaner, sarolaner, afoxolaner and lotilaner. Fluralaner can be used without additional risk for collie breeds and other sensitive herding breeds that have the MDR₁ mutation (Walther *et al.*, 2014).

Conclusion

Based on the current study, it was concluded that combined therapy of Ivermectin and Amitraz along with supportive therapy is most effective against canine demodicosis caused by *Demodex canis*.

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