

## Therapeutic evaluation of Ivermectin Pour on against tick infestation in dogs

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### Abstract

Study was conducted on 20 dogs of different breeds and age, of Bhilai area naturally infested with *Rhipicephalus Sanguineus* ticks. Dogs with moderate to severe tick infestations were treated with ivermectin pour on @ 1ml/10kg body weight. In the present study ivermectin pour on was found to be 100 percent effective against naturally occurring tick infestation in dogs.

**Keywords:** Therapeutic, Tick, Infestation, Dog, Pour on, Ectoparasite.

### Introduction

Tick infestation is one of the most common problems encountered in dog. The ticks found on domesticated animals are not host specific, though they do have host preferences and their distribution is subject to environmental conditions. *Rhipicephalus sanguineus*, the brown dog tick is an extremely common tick with a preference for feeding on dogs. This common tick is frequently involved in infestations and is also a common vector for canine babesiosis, canine haemobartonellosis, canine ehrlichiosis (Scott *et al.* 1995). Dogs may suffer from a toxin liberated by certain species of ticks characterized by ascending paralysis. Ticks particularly the larval forms may cause noticeable itching in some dogs. Several chemical compounds have been tried against tick infestation in dogs from time to time with varying results. Besides drug resistance is also becoming a great threat (Nolan 1987). In the present study an attempt has been made to evaluate the efficacy of ivermectin pour on (Hitek marketed by Virbac Animal Health India Pvt. Ltd.) against tick infestation in dogs and its side effects if any.

### Materials and Methods

Twenty dogs of different breeds (German Shephard 8, Spitz 8, Great Dane 2, Golden Retriever 1, Doberman 1) and ages of (above 3 months), Bhilai area naturally infested with *Rhipicephalus sanguineus* ticks were used for this study. Dogs were divided randomly in group I and II having 10 infested dogs. Ticks were found on all parts of the body and in more numbers on ears, paws and inguinal regions. To know the degree of

infestation number of ticks per unit area (3 inch x 3 inch) were counted before application of the drug as per method described by Maiti *et al* (1997). Dogs having one tick per unit area (average of 10 unit areas) was graded as light infestation, two ticks as moderate and three and more ticks per unit area as severe infestation. Six dogs with severe, six dogs with moderate and two dogs having light infestation were treated with ivermectin pour on (Hitek, M/s Virbac Animal Health Ltd., India) @ 1ml/10kg body weight. The drug was applied along with mid line from tail to shoulder. The remaining six dogs having light to moderate infestations were kept as control and treated only with tap water as placebo. The application of the drug was repeated at 7 days interval till complete elimination of different stages of ticks. The assessment of the acaricidal efficacy was done on the basis of absence of ticks on the body after treatment and freedom from reinfestation.

### Results and Discussion

The results revealed that single application of ivermectin (Hitek) pour on caused 100 percent elimination of both adult and immature stages of ticks, in light and moderately infested dogs after 24 hrs of treatment. Among the heavily infested dogs, two had a few adult ticks surviving in their body following the first application. Second application after 7 days resulted in these two dogs also becoming free from ticks. There was neither any reinfestation nor any untoward effect upto one month post treatment. Work on this aspect the problem is scarce in the literature. In the present study ivermectin pour on seems to be very effective against

tick infested dogs, safe for dog and easy for application. The nontoxic and non-irritant are additional favorable features. The tick infestations of the control dogs (group II) were found to persist during this period. At the end of the study, the dogs of infected, untreated control group were treated successfully with ivermectin (Hitek) pour on.

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