

## SHORT COMMUNICATION

# EFFECTS OF MOXIDECTIN ON *ANCYLOSTOMA* SPP EGGS COUNTS IN THE FECES OF NATURALLY INFECTED DOGS.

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**SUMMARY:** The effects of moxidectin (200 µg/kg) on *Ancylostoma* spp eggs counts (epg) were evaluated. Feces samples of 27 naturally infected dogs were examined. Quantitative fecal egg counts were performed before and after treatment (24, 48, 72, 96 and 120 hours) showing a reduction of 100% on epg at 72 hours after treatment.

**KEY WORDS:** moxidectin, anthelmintics, *Ancylostoma* spp, dogs.

A large variety of potent anthelmintic compounds is available for use in ruminants under different formulations, and new and ingenious delivery methods of application are constantly being developed. On the opposite, the choice of a therapeutic agent for the control of helminth infections in dogs and cats is rather limited, consisting predominantly of old, narrow-spectrum formulations (JACOBS, 1987). With broad-spectrum antiparasitic properties, the milbemycin are capable of controlling animal endo and ectoparasites. In the milbemycin chemical group are the milbemycin oxime and moxidectin, milbemycin oxime being recommended for the control of gastrointestinal nematodes of dogs (BOWMAN *et alii*, 1990; BOWMAN *et alii*, 1991; WADE *et alii*, 1991). Moxidectin, obtained by chemical modifications of nemadectin, fermentation product of the microorganism *Streptomyces cyanogryseus* ssp. *noncyanogenus*, is an efficacious compound for the control of ecto and endoparasites of cattle (CARTER *et alii*, 1987; WILLIAMS *et alii*, 1992). The investigation on the efficacy of moxidectin in the reduction of *Ancylostoma* spp eggs in the feces of naturally infected dogs is the objective of the present work.

Twenty-seven cross-bred dogs from the Biotério Central da Universidade Estadual de Londrina, of both sexes and at least six months-old, were used. They were selected by coproparasitological examination to assure previous infections

with nematodes of the genus *Ancylostoma*. The drug used consisted of moxidectin (Cydectin®, Cyanamid Company) 1% injectable solution, in the commercial formulation for cattle, at the dose of 200 µg per kilogram bodyweight, in a single subcutaneous dose. For the evaluation of treatment, the animals had their feces quantitatively analysed by the modified method of Gordon and Whitlock, that has a sensitivity for 50 eggs per gram feces (epg). The examinations were carried out pre-treatment (hour 0) and at 24 hour intervals after treatment (24, 48, 72, 96 and 120 hours). Based on the epg results obtained at the described times, the arithmetic mean and the percent reduction in egg counts (PR) were calculated by the following equation  $PR = (1 - tx / to) \times 100$ , where: to = arithmetic mean, pre-treatment, and tx = arithmetic mean, post-treatment. Results are shown in Table 1. Individual epg counts carried out pre-treatment revealed that 100% of the animals were parasitised with *Ancylostoma* sp, ranging from 100 to 29550 (mean = 2303) epg. In the first 24 hours post-treatment there was a 75.2% reduction in the number of eggs, when the observed mean was 570 epg. At 48 hours, this mean decreased by 94.3%, falling to 131 epg. In the following counts, performed at 72, 96 and 120 hours post-treatment, all animals were negative, with a 100% reduction in *Ancylostoma* spp eggs in their feces. Since it was a natural infection, eggs of other nematodes were also detected in the feces of the dogs, when *Toxocara canis* and

*Trichuris vulpis* were present in 3 animals. Such eggs were present in the examinations carried out in the pre and post-treatment (24 and 48 hours), ceasing to be eliminated 72 hours post-treatment. Similar results were observed by BOWMAN *et alii* (1990) and WADE *et alii* (1991) when using milbemycin oxime in dogs naturally infected with *Ancylostoma caninum*. These authors observed that this drug is capable not only of drastically reducing egg counts in feces, but also eliminating 98.7% of the adult worms from the intestine of those animals. In the present study, moxidectin, by decreasing *Ancylostoma* sp eggs in the feces of dogs by 100%, appears to be a drug with good prospects for use in this animal species. Therefore, the authors suggest that further research should be performed using this active ingredient, because although the egg counts in the feces may be closely related to the number of adult worms in the gastrointestinal tract, worm counts performed in necropsies evidence the efficacy of drugs in the elimination of parasites more accurately.

Table 1 - Mean *Ancylostoma* egg counts in the feces of 27 dogs treated with moxidectin (200 µg per kilogram body weight).

	Eggs per gram of feces					
	Before treatment	After-treatment( hours)				
		24	48	72	96	120
Mean	2303	570	131	0	0	0
Reduction(%)	0	75,2	94,3	100	100	100

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## SUMÁRIO

No presente estudo, avaliou-se os efeitos do moxidectin (200 µg/kg/pv) na contagem de ovos de *Ancylostoma* sp. nas fezes de 27 cães naturalmente infectados. As contagens de ovos por gramas de fezes realizadas no pré-tratamento (hora 0) e no pós-tratamento (24, 48, 72, 96, 120 horas), mostraram uma redução de 100% do opg a partir de 72 horas. PALAVRAS-CHAVES: moxidectin, anti-helmintico, *Ancylostoma* sp., cães.

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