

Technical trial to assess the efficacy of an antiparasitic paste formulation against gastrointestinal nematodes in canines

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TARGET

To evaluate the efficacy (in reducing the egg count) of an antiparasitic paste formulation: OVERMIX[®] from Over SRL (Pyrantel pamoate 7,2%, Febantel 7,5% and Praziquantel 2,5%) in canines naturally parasitized with Ancylostomatidae and Ascarididae gastrointestinal nematodes, and/or cestodes.

MATERIALS AND METHODS

Experimental animals

During the experiment, we worked with canines from both sexes, naturally infected with gastrointestinal nematodes of the genera *Ancylostoma spp.* and *Toxocara canis*, whose ages were between 2 and 6 months. In the case of cestodes, the canines (of all ages) were infected with the genus *Dipylidium caninum*.

Prior to and during the experiment, the animals' health condition was determined by clinical examination. Moreover, the farm owners were asked to ration the canine feed and keep the animals at home during the whole trial.

Faecal matter samples and study location: faecal matter samples were received between 18 March 2014 and 17 June 2014.

Experimental design

Participating animals were selected by the presence of eggs of at least one parasitic genus in the copro-parasitological analysis, using the sugar solution centrifugation-flotation technique.

Three groups were formed according to the parasite genus involved:

Group A: it comprised 6 animals parasitized with *Ancylostoma spp.*

Group T: it comprised 7 animals parasitized with *Toxocara canis*.

Group D: it comprised 6 animals parasitized with *Dipylidium caninum*.

The total number of animals that participated in the experiment was 15, since some of them had a coinfection of parasite genera.

Parasitological determinations and treatment

Day - 1	Day 0	Day 5	Day 10
Copro-parasitological analysis	Treatment	Copro-parasitological analysis	Copro-parasitological analysis

A single dose of 1 g per 5 kg of weight was administered orally.

Statistical analyses and efficacy determinations

The treatment efficacy (in %) was determined by the egg count reduction test (FECRT) for each of the days (day 5 and day 10) through the following formula (Mc Kenna, 2006):

$$\text{Efficacy (\%)} = 100 \times (1 - [T2/T1])$$

Where:

T2: average number of eggs observed after the treatment.

T1: average number of eggs observed before the treatment.

A drug is considered effective when the FECRT is equal to or greater than 95%. The differences in the distribution of the number of eggs in each of the experiments were analyzed statistically using the Wilcoxon test for independent samples through the Infostat software (version 2010, developed by the National University of Córdoba).

RESULTS

Table 1. EPG (eggs per gram) values for each group (average and range) and percentage of reduction (FECRT) observed for each group being treated.

Group/Genus	n	Average EPG, day 0 (range)	Average EPG, day 5 (range)	Average EPG, day 10 (range)	% reduction: FECRT (days 5; 10)
<i>A – Ancylostoma spp</i>	6	1370 (280 – 3720)	0 (0)	0 (0)	100%
<i>T – Toxocara canis</i>	7	924.2 (180 – 1780)	0 (0)	0 (0)	100%
<i>D – Dipylidium caninum</i>	6	20 capsules (10 – 40)	0 (0)	0 (0)	100%

CONCLUSIONS

OVERMIX PASTA for oral use employed in this work was effective in reducing the egg count corresponding to the parasites under evaluation and is a good alternative to control the most frequent parasitosis in canines.