

Efficacy of a Single Parenteral Treatment with Ivermectin against *Otodectes cynotis* Infestation of Cats

by Ann Detmer, Göteborgs universitet, Box 33031, 40033 Göteborg, Sweden, and Claes Rehbinder, Statens Veterinärmedicinska Anstalt, 750 07 Uppsala, Sweden.

To treat and control ear mite infestations in cats in large breeding colonies is usually time consuming. In addition the applied methods are generally insufficient considering the results and the well being of the animals.

Ivermectin MSD (Ivomec® 1%) is reported to be effective against a variety of ecto- and endoparasites in different species of domestic animals. (Barth *et al.* 1980, Lueker & Cheney 1980, Wilkins *et al.* 1980, Campbell *et al.* 1983, Nordkvist *et al.* 1983).

The objective of the present investigation was to study the efficacy of a single parenteral treatment of ivermectin against *Otodectes cynotis* infestations of cats in a breeding colony.

Material and methods

A total number of 19 cats obtained from a non barrier colony were used. They were all around 6 months of age and weighing 2–3.5 kg. The animals were kept under non barrier conditions in the same room with access to an indoor yard. Prior to the investigation the room was kept empty for 2 months after having been cleaned by means of high pressure (tapwater and PCV).

At day 0 the cats were anesthetized (Xylazine hydrochloride and ketamine hydrochloride) and samples were obtained from the ears by means of tops. Cleaning of the ears was not performed. Directly after the sampling each cat was injected subcutaneously with 0.1 ml (1 mg) of ivermectin MSD (Ivomec® 1%, Merk-Sharp & Dome: 22.23 – dihydroavermectin B1a + 22.23 – dihydroavermectin B1b). The dose

used exceeds the dose of 200 µg/kg bwt. recommended for most species as the cats received an average dose of about 400 µg/kg bwt. It was considered, however, to be the smallest dose that, under practical conditions, would be possible to inject.

Samples for parasitological investigation were then obtained by the same procedure on day 8, 15, 22 and 84. All samples were investigated at the National Veterinary Institute, Uppsala.

Results

No side effects, caused by the treatment, were observed. The results of the parasitological investigation are shown in Table 1.

Table 1. Results of parasitological investigations.

Cat no.	Day after subcutaneous treatment with Ivermectin				
	0	8	15	22	84
1	+	0	0	0	0
2	0	0	0	0	0
3	+	+	+	0	0
4	+	+	0	+	0
5	+	+	0	0	0
6	+	+	+	+	0
7	+	+	0	0	0
8	+	+	0	0	0
9	+	+	0	0	0
10	+	+	+	0	+
11	+	+	+	+	0
12	+	+	+	0	0
13	+	+	0	+	0
14	+	+	+	+	0
15	+	+	+	+	0
16	+	+	+	+	0
17	+	+	+	+	+
18	+	+	0	0	+
19	+	+	0	0	0

0 = no parasites or eggs found
+ = parasites and/or eggs found

Of the 19 cats, 18 were originally affected with ear mites. The one cat not infected at the start of the investigation remained non infected while 1 cat remained infected throughout the investigation.

Discussion

A single dose treatment is reported, by several authors to be efficient to eliminate arthropode ectoparasites in different domestic animals (Barth *et al.* 1980, Meleny 1980, Wilkins *et al.* 1980) including cat (Cahuvre & Reynard 1984).

The results of the present investigation, however, showed that a single, parenteral treatment with Ivermectin resulted in a marked reduction of the number of cats infested with earmites, but not a total elimination of the mites in all cats. These results correspond with those reported by Bigler *et al.* (1984). It is apparent that if subcutaneous injections are to be used in cat breeding colonies more than one treatment is necessary.

Summary

A single subcutaneous treatment with ivermectin, against *Otodectes cynotis* did markedly reduce the number of infested cats but did not eliminate the parasites in all animals. If subcutaneous injections are to be used in cat breeding colonies more than one treatment is recommended.

Yhteenveto / K. Pelkonen

Ihonalaisesti annettu kortainjektio ivermectiiniä *Otodectes cynotis*-loista vastaan vähensi merkittävästi niiden kissojen määrää, joista loisia

voitiin löytää, mutta ei hävittänyt loisia kaikista eläimistä. Mikäli kissatuotantokolonioissa aiotaan käyttää tätä ainetta ihonalaisesti annettuna, suosittelevat kirjoittajat useampia kuin yhtä käsittelykertaa.

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