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Therapeutic efficacy of selamectin for topical use against parasitoses of cats

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Endectocides play a crucial role in the control of parasitoses in domestic cats (*Felis catus* Linnaeus, 1758; Carnivora, Felidae), exerting a broad range of action against ecto- and endoparasites. In particular, widely popular drugs in modern veterinary medicine are those based on selamectin, applied locally to the skin of animals in recommended doses (no less than 6.0 mg/kg). Therefore, the objective of this study was to determine the therapeutic effectiveness of selamectin used in the dose recommended by manufacturer for the treatment of ecto- and endoparasites in cats. The parasitological studies revealed that the studied drug in the form of solution for spot-on application displayed strong insecticidal activity toward the wingless ectoparasitic insect *Ctenocephalides felis* Bouché, 1835 (Siphonaptera, Pulicidae), acaricidal activity toward a Sarcoptiformes mite *Otodectes cynotis* Hering, 1838 (Sarcoptiformes, Psoroptidae), and also nematodocidal activity toward the digestive-tract nematodes *Toxocara cati* Schrank, 1788 (Rhabditida, Toxocaridae) and *Ancylostoma tubaeforme* Zeder, 1800 (Rhabditida, Ancylostomatidae). According to the results of the study of treating the cats with the drug, its therapeutic effectiveness on days 1–2 equaled 74.9–98.5% against *Ctenocephalides* felis and 62.7–95.1% against *Otodectes cynotis*, reaching 100% efficacy against both the parasites on day 3. The tested drug produced 100.0% therapeutic effectiveness against toxocarosis and 98.9% against ancylostomiasis on day 7 after the cats had been dewormed, achieving 100% against both helminthiases on day 14. In general, the drug proved to be highly effective for the treatment of feline helminthiases according to the assessment criteria (E > 98.0 %). The drug Selfast Antiparasitic Drops for Cats and Dogs is available on the pharmaceutical market of Ukraine in the form of solution for spot-on use, applied to the skin in a dose of 6.0 mg of selamectin per 1 kg of body weight (for cats), providing a consistently high therapeutic effectiveness against ecto- and endoparasites of cats. The drug ensures the protection of cats from parasites for 30 days.

Keywords: fleas infestation; mite infestation; helminth infection; drug efficacy, parasitology; spot-on solution.

Introduction

As of now, domestic cat (*Felis catus* Linnaeus, 1758; Carnivora, Felidae) is one of the most popular domestic animals in the world. The relationship between human and cat continues to strengthen, despite the fact that cats maintain a significant level of independence, as evidenced by the existence of numerous populations of stray cats that are able to live without regular care of humans. Increase in the population of cats around the globe puts them at a heightened risk of parasitoses and the spread of transmissible feline pathogens (Ireland & Miller Neilan, 2016).

Cats can be carriers of both endo- and ectoparasites, and prevalence varies depending on country. According to the studies by Beugnet et al. (2014), 50.7% of cats harbored at least one species of internal or external parasites. Among ectoparasites, examinations most often revealed the ear mite *Otodectes cynotis* (17.4%) and fleas (15.5%), whereas the commonest endoparasite detected was the nematode *Toxocara cati* (19.7%). In total, endoparasites were found in 35.1% of cats, including 25.7% that were diagnosed with gastrointestinal helminthiases. It should be noted that co-infestations were common. In particular, 14.0% of the animals were found to have both endo- and ectoparasites at the same time, and 11.9% had combinations of ectoparasites with gastrointestinal helminths.

Cat flea (*Ctenocephalides felis* Bouché, 1835; Siphonaptera, Pulicidae) is the most common parasitic insect in the world, including in Ukraine, and plays a significant role in the transmission of pathogenic agents to animals and humans. Low specificity of hematophagous fleas to the hosts is the main factor of their broad distribution. The wingless insect *C. felis* parasitizes different birds and mammals, including cats, dogs, wild animals, and also humans. Direct consequences of cat infestation with *C. felis* include skin irritations and itching, emerging in response to flea bites, which may also cause allergic dermatitis (flea allergy dermatitis, FAD) (Thomas et al., 2016; Kaliuzhnyi & Zhivilo, 2024). Flea parasitism can result in transmission of pathogenic agents, in particular *Bartonella clarridgeiae*, *B. henselae*, *Rickettsia felis*, and also *Dipylidium caninum*, a cestodiasis-causing pathogen. Fleas cause mechanical damage to the tissues, facilitate the entry of pathogens of secondary infections, and promote inflammatory processes. Furthermore, they may affect the physiological processes in the host's body, particularly the status of immune defense and morphological and biochemical blood parameters. Cats infested with fleas contribute to the ongoing contamination of the environment with parasite eggs, from which adult individuals develop and easily infect other animals living in this environment (Bouhsira et al., 2015; Havryk & Melnychuk, 2025).

The ear mite *Otodectes cynotis* Hering, 1838 (Sarcoptiformes, Psoroptidae) is also common and highly contagious feline ectoparasite, which causes itching and most often parasitizes kittens. In severe cases, it may lead to secondary bacterial otitis and hematoma of the ear auricle. Clinical significance of *O. cynotis* in animals is very high, because this mite was found to be responsible for 85.0% of the cases of external otitis in cats. In general, ear mites are most frequently found in young, freely walking cats and dogs, and also in domestic animals that have outdoor access (Lefkaditis et al., 2009; Combarros et al., 2019). Ear mites feed on cells of superficial skin layer throughout the ear canal, as well as on blood and lymph. They damage the skin and irritate nerve endings with products of vital activity. They cause itching, hyperemia of the affected tissues and edema. Fluid (exudate) oozes from the affected areas and mixes with dead cells and products of parasite's vital activity.

Two commonest endoparasites of domestic cats in the world, including in Ukraine, are *Toxocara* and *Ancylostoma*. *Toxocara cati*

Schrank, 1788 (Rhabditida, Toxocaridae) often causes subclinical infections in adult animals, although in kittens or in cases of moderate or high intensity of parasitism, clinical signs can manifest, in particular increase in the volume of abdominal cavity and general deterioration of health. Feline *Ancylostoma tubaeforme* Zeder, 1800 (Rhabditida, Ancylostomatidae) occurs rarer than *T. cati*, but is also clinically significant. Although infection can be subclinical, in severe cases this parasite can cause anemia, decline of appetite, and loss of body mass, especially in young animals (Little et al., 2015; Perviy, 2025). Both nematodes are zoonotically important for humans, because they can cause syndromes of larval migration, accompanied by dermatological, respiratory, ophthalmological, and gastrointestinal disorders (Janecek et al., 2017; Daba et al., 2021).

The obtained data highlight the necessity of using effective broad-range antiparasitic drugs aimed at controlling both external and internal parasites, particularly during mixed parasitoses in cats. Endectocides play an important role in combating the spread of mixed parasitoses. Selamectin, a macrocyclic lactone endectocide, was developed by the Pfizer (Zoetis) pharmaceutical company and was approved for veterinary use in 1999 by the US Food and Drug Administration, FDA. After successful completion of the global program of trials of the active agent selamectin for local application, the drug was registered and is currently used in many countries. On the pharmaceutical market, it is known under various names, in particular Stronghold®, Revolution®, Selarid, or Senergy, depending on geographic region (Otranto & Little, 2017). These drugs are used locally in the form of drops for spot-on application and exert a broad spectrum of action against ecto- and endoparasites. The recommended dose of selamectin for cats is no less than 6.0 mg/kg of body mass. In November 2018, the FDA also approved the use of selamectin for cats in the form of solution for local spot-on application (Bishop et al., 2000; Krautmann et al., 2000).

Selamectin is licensed in Canada for local application in a minimal dose of 6.0 mg/kg of body mass (up to 12.0 mg/kg for dogs and up to 15.0 mg/kg for cats) once a month. The drug is used for prophylaxis of dirofilariasis, flea infestations, and infestations with mite *Otodectes cynotis* in dogs and cats, and also sarcoptic infestation caused by *Sarcoptes scabiei* in dogs. Furthermore, in cats, selamectin is effective against gastrointestinal nematodes, in particular hookworms and roundworms (Boy et al., 2000; Six et al., 2000a).

Aelurostrongylus abstrusus parasitizes the lungs of cats and is distributed worldwide. In particular, in endemic regions, the infection can affect 50.0% of animal population (Elsheikha et al., 2016). In the study by Reinhardt et al. (2004), the animals were treated with selamectin, locally applied in a dose of 18.0 mg/kg. As early as two days after treatment, clinical signs had disappeared, and five weeks after the start of treatment (one week after reapplication of the drug in the same dose), the respiratory function had significantly improved: radiographic signs of bronchial lesion were absent. The use of the same active ingredient in a dose of 6 mg/kg of body mass also demonstrated efficacy, which was confirmed by the absence of first-stage larvae (L_1) shed in feces 30 days after treatment (Grandi et al., 2005). Moreover, multiple applications of selamectin (four treatments during two months) led to clinical improvement in ten adult cats and eliminated larvae in nine of them (Iannino et al., 2013).

Locally applied selamectin was observed to be a highly effective agent for treating cheyletiellosis (Chailleux & Paradis, 2002) and Notoedric mange of cats (Fisher & Shanks, 2008).

According to recommendations of the European Scientific Council on Parasites of Domestic Animals, cats living in the streets should receive endoparasitic treatment at least four times a year, whereas cats living indoors require treatment once or twice a year. Since the risk of parasitism increases depending on the lifestyle of cats and local parasite populations, cats must receive all-year-round protection from mites, fleas, and dirofilariasis. Increase in the population of cats in urban districts around the globe (Hanmer et al., 2017) warrants regular innovations in the strategies of combating parasites.

The objective of this study was to conduct clinical trials on target animals so as to measure the effectiveness of the drug Selfast Antiparasitic Drops for Cats and Dogs (drops with selamectin as active agent) in the dose recommended by manufacturer against ecto- and endoparasites of cats of different breeds, sex, and body mass.

Materials and methods

In the study, we used cats of different breeds, age, sex, and body mass, spontaneously infested with ectoparasites, namely cat flea (*Ctenocephalides felis*) and ear mite (*Otodectes cynotis*), and endoparasites, *Toxocara cati* and *Ancylostoma tubaeforme*. The study was conducted in veterinary clinics of the city of Lviv with the involvement of the animals brought by both pet owners and volunteers. Cats included in the study, were vaccinated from infectious diseases according to the plan, and for the previous two months were not treated with antiparasitic drugs. The animals of all groups were monitored daily to determine any possible side-effects of the tested drug. All experimental procedures were carried out according to EU requirements of Directive 2010/63/EU on the protection of animals used for scientific purposes.

Based on the results of the clinical parasitological studies, using the principle of matched analogues, we formed experimental groups for each ecto- and endoparasite species, with 6–8 animals in each group. The experimental-group animals with parasitoses were treated with the tested drug Selfast Antiparasitic Drops for Cats and Dogs (solution for spot-on application). The drug was applied directly to the skin in the areas inaccessible for licking, in doses according to manufacturer's recommendations/in the dose recommended by manufacturer. To treat Otodectes cynotis, the pinnae and the external auditory canals of the animals were first cleaned of earwax, exudates, and crusts. The drug was applied once, introducing 2–3 drops into each ear (the delivery was made to both ears). For a uniform distribution of the drug, the pinna was folded in half and slightly massaged at the base. The residue of the drug from the used pipette (in the estimation for body mass of animal) was applied to the skin between the shoulder blades.

For trials against ectoparasites, in accordance with our goals, we collected biological material for parasitological study so as to identify invertebrates. The studies were performed according to recommendations of the World Association for the Advancement of Veterinary Parasitology (Marchiondo et al., 2007, 2013; Otranto et al., 2021) and the Guideline for the Testing and Evaluation of the Efficacy of Antiparasitic Substances for the Treatment and Prevention of Tick and Flea Infestation in Dogs and Cats (European Medicines Agency, Committee for Medicinal Products for Veterinary Use, 2000-Rev.4), in compliance with requirements of Good Clinical Practice – Scientific guideline (VICH GL9, 2000).

The intensity of parasitism by fleas of *Ctenocephalides felis* was determined by counting the number of ectoparasite insects on the coat of the animal while grooming with a comb in five anatomic regions: dorsal middle line (linea dorsalis medianum), ischial tuberosity (tuber ischiadicum), left lateral part (pars lateralis sinister "left"), right lateral side (pars lateralis dexter "right"), and inguinal region (regio inguinalis) (Dryden et al., 1994; Marchiondo et al., 2007). The otoscopic study of the animals revealed live individuals of the Sarcoptiformes mite *O. cynotis* on the internal surface of the pinna and in the external auditory canal. The mite parasitism intensity was determined by counting ectoparasites in the superficial scrapings from the affected areas of the ears during the microscopic examination using the vital method (Zajac et al., 2021). The pathogenic ectoparasites were identified microscopically according to the practical keys (Taylor et al., 2016; Zajac et al., 2021).

After treatment, the efficacy of the drug against *Ctenocephalides felis* and *Otodectes cynotis* was measured on days 1, 2, 3, 7, 14, 21, and 30. The measurement was conducted using the Abbot's formula:

$$\text{The percentage of efficacy (\%)} = [(C - E) : C] \times 100,$$

where: C = mean arithmetic of the number of live insects/ectoparasite mites in the control group; E = mean arithmetic of the number of live insects/ectoparasite mites in the treated group (Marchiondo et al., 2007, 2013).

Fecal samples from the cats for the studies were collected individually in an amount of 10.0–15.0 g into clean plastic containers with

densely closed lid. Coprological studies were conducted according to sedimentary and flotation methods to determine the intensity of helminth infections in the animals (Zajac et al., 2021). The intensity of parasitism was determined by counting the number of eggs of helminths in one gram of feces (EGF) using the quantitative floatation method of Cornell-Wisconsin with saturated solution of sucrose (SG 1.27) (Egwang & Slocombe, 1982). The helminths and their eggs were identified using the microscopic method according to the practical keys (Taylor et al., 2016; Zajac et al., 2021).

Prior to deworming (day 0) and on days 7 and 14 afterward, the cats were clinically examined and coprological analysis for helminths was performed. At the same time, we determined indices of parasitological infections of the cats with digestive-tract nematodes prior and after deworming, thus measuring the efficacy of the drug (Jacobs et al., 1994; Beugnet et al., 2022), quantifying it using the formula:

$$\text{The percentage of efficacy (\%)} = [(C - E) : C] \times 100,$$

where: C = mean number of helminth eggs in the control; E = mean number of helminth eggs in treated animals.

The statistical analysis of the yielded data was carried out using the Statistica 6.0 software (StatSoft Inc., USA). The results are presented as mean arithmetic value ± standard deviation ($\bar{x} \pm SD$). The statistical significance of the differences between the parameters of the experimental groups was assessed using the Tukey's test. The differences were considered statistically significant at $P < 0.05$.

Results

To analyze eight cats in our study for flea populations, we groomed the animals with a fine-tooth comb for a set period, examining five anatomic regions. Thus, we determined that the average intensity of infestation with the flea *C. felis* accounted for 85.3 ± 13.2 ectoparasite insects per animals (Table 1). The cats of the experimental group with spontaneous *C. felis* infestation were treated with the tested drug Selfast in the dose according to manufacturer's recommendations (taking into account the body mass of animals and corresponding pipette volume, mL). Two hours after applying the drug, the animals were not petted or bathed (until complete drying of the drug). As presented in Table 1, on the first day of the experiment, the efficacy of the drug in the experimental group accounted for 74.9%, with an average intensity of *C. felis* parasitism equaling 21.4 ± 5.1 ectoparasite insects. On the second day of the experiment, the efficacy of the tested drug increased to 98.5%, and the average intensity of infestation with the flea *C. felis* decreased to 1.3 ± 0.2 ectoparasite insects. On the third day of the experiment, the examination of the coat of the cats and entomological laboratory study revealed no ectoparasites of *C. felis* on the animals of the experimental group. The efficacy of the drug against *C. felis* infestation in the cats accounted for 100.0%. During further monitoring (days 7, 14, 21, 30) of the animals of the experimental group, no reinfestation with wingless insect *C. felis* was observed. Therefore, the results of the study indicate that the Selfast drug under the conditions of *in vivo* application exerted pronounced insecticidal activity against *C. felis* in the cats. The protective action of the drug against ectoparasite fleas in cats lasts for 30 days.

The acarological examination of six cats in our study prior to application of the studied drug revealed the parasitism by the ear mite Otodectes cynotis, with an average intensity of 10.2 ± 1.5 mites per animal (Table 1). Before the animals were treated, their pinnae and the external auditory canals were cleaned of earwax, exudates, and crusts. The cats of the experimental group with spontaneous *O. cynotis* infestation were treated with the drug once, instilling 2–3 drops to each ear (the treatment was necessarily conducted for both ears). The residue of the drug from the pipette, in the estimation for the body mass of the animal, was delivered to the skin, in the region between the shoulder blades. As demonstrated in Table 1, on the first day, the efficacy of the drug in the experimental group of cats accounted for 62.7%, and the average *O. cynotis* parasitism intensity was 3.8 ± 1.2 mites per animal. On the second day of the experiment, the drug efficacy in the experimental group increased to 95.1%, as the average intensity of *O. cynotis* parasitism declined to 0.5 ± 0.5 mites per animal. On the third day of the experiment, while examining the internal surface of the pinnae and conducting acarological laboratory studies (microscopy of scrapings from the pinnae), no *O. cynotis* individuals in the experimental group were found. According to the results of the laboratory acarological studies on days 7, 14, 21, and 30 after applying the drug, no reinfestation with *O. cynotis* was observed. The yielded results indicate that the studied drug applied *in vivo* against *O. cynotis* in the experiment displayed a notable acaricidal activity. The drug protects cats from *O. cynotis* for 30 days.

Table 1
Therapeutic efficacy of the Selfast drug against feline ecto- and endoparasites (mean ± SD)

Infestation (pathogen)	n	Study period	Mean intensity of parasitism	Efficacy, %
Ctenocephalides felis Bouché, 1835	8	prior to treatment	85.3 ± 13.2^{d}	–
		first day	21.4 ± 5.1^{c}	74.9
		second day	1.3 ± 0.2^{b}	98.5
		third day	0.0^{a}	100.0
Otodectes cynotis Hering, 1838	6	prior to treatment	10.2 ± 1.5^{d}	–
		first day	3.8 ± 1.2^{c}	62.7
		second day	0.5 ± 0.5^{b}	95.1
		third day	0.0^{a}	100.0
Toxocara cati Schrank, 1788	7	prior to treatment	193.4 ± 15.8^{b}	–
		seventh day	0.0^{a}	100.0
		fourteenth day	0.0^{a}	100.0
Ancylostoma tubaeforme Zeder, 1800)	6	prior to treatment	142.5 ± 13.3^{c}	–
		seventh day	1.5 ± 0.2^{b}	98.9
		fourteenth day	$0,0^{a}$	100,0

Note: different superscript letters within one parasite indicate statistically significant differences between periods of study at the level of $P < 0.05$.

During the clinical examination and helmithological study of feces from seven cats of the experimental groups prior to application of the studied drug (to the skin from a pipette), we determined that the average intensity of infection with the nematode Toxocara cati accounted for 193.4 ± 15.8 eggs/g of feces (EGF) (Table 1). Cats of the experimental group with spontaneous toxocarosis were treated with the tested drug in the dose recommended by manufacturer. No eggs of *T. cati* were found during the fecal study on day 7 after applying the drug. Therefore, the effectiveness of the studied drug against feline toxocarosis in the experimental group of animals on day 7 of the experiment was 100.0%. Thus, the studied drug applied in vivo to the cats exhibited a pronounced nematocidal activity against toxocarosis of the digestive tract (*Toxocara cati* / syn. *Toxocara mystax*).

During the clinical examination and helminthological studies of feces from six cats admitted to the veterinary clinics, we identified infection of the animals with the nematode Ancylostoma tubaeforme, with an average intensity of 142.5 ± 13.3 EGF (Table 1). After deworming of the cats of the experimental group using the tested drug, we observed a decrease in the intensity of *A. tubaeforme* infection. Thus, on day 7 after deworming, the average intensity of *A. tubaeforme* infection in the experimental group was 1.5 ± 0.2 EGF. On day 14 after deworming, the fecal analysis revealed no eggs of the ancylostomiasis-causing pathogen. The obtained results suggest that the efficacy of the Selfast drug against *A. tubaeforme* in the cats accounted for 98.9% on the seventh and 100% on the fourteenth day after deworming.

According to the results of the helmintological studies, the Selfast drug (selamectin, drops for topical application) exerted over 98.0% efficacy (E > 98.0%) against nematodiases of the cats' digestive tract (toxocarosis and ancylostomiasis), which puts it in the highly effective category according to the criteria of the World Association for the Advancement of Veterinary Parasitology.

The application of the drug to the skin from a pipette in regions inaccessible for licking was found to be safe, causing no changes in the physiological condition of the cats (appetite, behavior, and activity remained unaltered). During the period of study, the cats manifested no individual sensitivity to the active ingredient – selamectin; in particular, no signs of excessive salivation, tearing, or skin irritation were observed.

Discussion

Some reports have it that selamectin for local application is safe for cats starting from the age of six weeks, and also reproductive males and females (Krautmann et al., 2000). The new veterinary drug on the pharmaceutical market of Ukraine for spot-on application with selamectin as the active ingredient (Selfast Antiparasitic Drops for Cats and Dogs) was safe and effective against natural parasitoses by fleas, ear mites, and digestive-tract nematodes. At the same time, selamectin was observed to provide a fast decrease in the experimental *Ctenocephalides felis* flea infestation of cats, and its efficiency was not inferior to fipronil. Both active compounds, selamectin and fipronil, led to fast decrease in the number of fleas (Fishe & Shanks, 2008).

The results of this study suggest that the tested drug in the form of drops with selamectin as active agent, applied spot-on in therapeutic dose, is effective against the flea *C. felis* in cats. Thus, after applying the drug, its efficacy against the flea in the cats ranged from 74.9% to 98.5% on days 1–2, and accounted for 100% on day 3. The data of the observations confirm that selamectin is highly effective against adult fleas of *C. felis* and *C. canis* for at least 27 days post-treatment (Ritzhaupt et al., 2000; Becskei et al., 2017a). In the study conducted in France, single application of 6.0% selamectin to 29 cats infested with the *Otodectes cynotis* mite resulted in 100% efficacy already on day 3 (Blot et al., 2003).

The results of parasitological studies indicate that spot-on application of selamectin, which is present in the tested drug, is effective and safe for treating ear mites in cats. The data of parasitological studies show a fast acaricidal effect after single local application. In particular, the drug's effectiveness against *O. cynotis* in cats was 62.7% on day one, 95.1% on day two, and 100.0% on day three. Single applications of ear drugs based on ivermectin or selamectin against natural parasitoses of cats by ear mites demonstrated that both types of drugs exert acaricidal action as early as 10–12 hours after delivery, and their effectiveness increases with time (Nunn-Brooks et al., 2011).

High and stable effectiveness of selamectin against *O. cynotis* mite was also confirmed by otoscopic studies. Thus, the infestation started to decline as early as day 4, and no live mites were found in ear exudates on day 10 (Roy et al., 2012). Moreover, effectiveness in treating ear mites in cats was demonstrated by the new spot-on form of selamectin plus sarolaner. Single local application of minimal recommended dose decreased the number of mites by ≥ 99.2 % compared with placebo (Becskei et al., 2017b).

Selamectin (Revolution™/ Stronghold™, Pfizer), used locally on the skin in one place with a month-long interval, exhibits a high effectiveness against feline *Ascaris* and *Ancylostoma*. In particular, the drugs were observed to decrease the number of Ascaris eggs by 96.5–100.0% and the number of *Ancylostoma* eggs by 98.9–99.9%. The studies showed that monthly local application of selamectin is safe and highly effective in treating naturally acquired *Ascaris* and *Ancylostoma* infections in cats (Six et al., 2000b). Avermectins are characterized by a high therapeutic index and an excellent safety indicator (McKellar & Benchaoui, 1996; Krautmann et al., 2000).

Parasitological studies revealed that deworming of the cats with the studied selamectin-containing drug was 100.0% effective on day seven against feline toxocarosis, and 98.9% and 100% effective against ancylostomiasis on days seven and fourteen, respectively. The drug Revolution® (selamectin) and a combination of selamectin and sarolaner were observed to be effective for treatment and control of *Ancylostoma tubaeforme* when applied monthly (Vatta et al., 2019). These results are consistent with four recent laboratory studies by Geurden et al. (2017), in which decrease in the number of adult helminths of A. tubaeforme after treatment with selamectin and sarolaner ranged from 84.1% to 100.0%.

The effectiveness of selamectin alone and in a combination with sarolaner was similar in both studies, and the results of applying the combination were also consistent with the earlier published data for the separate form of selamectin (McTier et al., 2000), which additionally confirms: when combined, sarolaner does not affect the efficacy of selamectin against *Ancylostoma tubaeforme* and *Toxocara cati* (Geurden et al., 2017).

Cats are continually at risk of reinfestation with fleas and mites, as well as invasive embryos of helminths in the environment, which is an important factor for the assessment of the duration of therapeutic and preventive effectiveness of antiparasitic drugs. Therefore, the drug Selfast Antiparasitic Drops for Cats and Dogs on the pharmaceutical market with selamectin as active ingredient provides a high and consistent effectiveness throughout the period of treatment and protects the animals from recurrent parasitoses. This is important not only for directly reducing the clinical impacts of these ecto- and endoparasites in cats, but also for limiting the spread of transmissible pathogens by treating cat populations and interrupting the epidemiological cycle of these pests.

Conclusions

The parasitological studies revealed that the studied drug Selfast Antiparasitic Drops for Cats and Dogs (solution for topical spot-on application) exerts a pronounced insecticidal effect against wingless ectoparastite insects (*Ctenocephalides felis*), acaricidal effect against Sarcoptiformes mites (*Otodectes cynotis*), and nematodocidal effect against the digestive-tract nematodes (*Toxocara cati* and *Ancylostoma tubaeforme*).

The new drug Selfast Antiparasitic Drops for Cats and Dogs is available on the Ukrainian pharmaceutical market in the form of solution for topical spot-on application. Applied to the skin from a pipette in the area inaccessible for licking, in a dose of 6.0 mg of selamectin per 1 kg of body mass, it provides a consistently high therapeutic effectiveness against natural infestations with fleas, ear mites, and infections with nematodes of digestive tract. The duration of the protective effect of the drug against parasitoses of cats is up to 30 days.

The authors declare that there is no conflict of interest.

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