УДК 619:576.89:619:616.15:636.4

DISTRIBUTION OF DIROFILARIOSIS IN DOGS IN CONDITIONS OF POLTAVA REGION

V. YEVSTAFIEVA, *D. Vet. Sciences, Associate Professor*
S. SOROKOVA, *student*
V. SOROKOVA, *C. Vet. Sciences, Associate Professor*

Poltava State Agricultural Academy, Poltava
evstva@ukr.net

Conducted monitoring studies of infectious and parasitic diseases of dogs in the territory of Poltava region. According to the results of statistical data reporting documentation Main Directorate of Veterinary Medicine in the Poltava region for the period of 2009–2013. Found significant spread of dirofilariosis in dogs. Among infectious diseases in dogs infections were recorded in 4,83% of the animals, invasive – 24,38%.

Dogs, dirofilariosis, distribution, infectious and parasitic diseases, specific gravity.

Introduction. Dirofilariosis belongs to the group of invasive diseases caused by nematodes of the family *Filariidae*, and is characterized by transmissible transmission, slow development and long course. About 200 species of filaria parasites in animals and humans, of which 7 are parasitic only in humans (*Wuchereria bancrofti, Brugia malai, Onhocerca volvulus, Loa Loa, Mansonella streptocerca, M. perstans* and *M. ozzardi*). Some species of filaria genus *Dirofilaria*, parasitizing animals can infect the man [1, 2].

In recent years, according to different authors, in many parts of the world marked increase in infections and infestations transmitted to humans through mosquito transmissible through, including dirofilariosis. By the middle of last century, was diagnosed only a few dozen cases of dirofilariosis, and over the past 50 years, their number has increased dramatically [6]. From 1995 to 2000 identified 372 new cases in 25 countries, and by 2003 the number of cases of human infection *D. repens* reached 782 [5]. Today dirofilariosis carnivores and humans recorded in the 37 states [7].

In Ukraine, the disease was first recorded in 1911 in the Crimea. Later researchers found dirofilaries in dogs in different areas in Kyiv, Odessa, Sevastopol, Simferopol, Kharkov, as well as in Kyiv, Chernihiv, Sumy, Poltava, Kharkiv and other regions of Ukraine [4].

According to scientists in the central regions of Ukraine prevalence dog reaches 45,16%. And to dirofilariosis susceptible dogs of all ages. Dogs aged 2 to 13 years dirofilaries affected about equally, whereas animals older than 12 years are affected more frequently [3].

In connection with the above study is relevant features spread dirofilariosis in dogs in the Poltava region.

The purpose of research. Purpose was to study the spread of dirofilariosis in dogs under the Poltava region, and to identify the proportion of the total dirofilariosic invasion contagious pathology dogs.

Materials and methods research. The scientific work carried out during the 2013–2014 biennium. At the Scientific Laboratory of Parasitology Department of Parasitology and Veterinary Examination Faculty of Veterinary Medicine of Poltava State Agrarian Academy. Monitoring studies on the pathology of catching dogs in the Poltava region were performed using the statistical data of annual reports of the Main Directorate of Veterinary Medicine in the Poltava region for 2009–2013.

Results and discussion. The results of the research study statistical reporting documentation of the Main Directorate of Veterinary Medicine in the Poltava region for 2009–2013. Found wide spread of dirofilariosis dogs in Poltava region (Fig. 1).

Thus, the average extensiveness dirofilariosic invasion (EI) for the study period was 4,36% (from 4999 surveyed 218 heads of dogs were in-

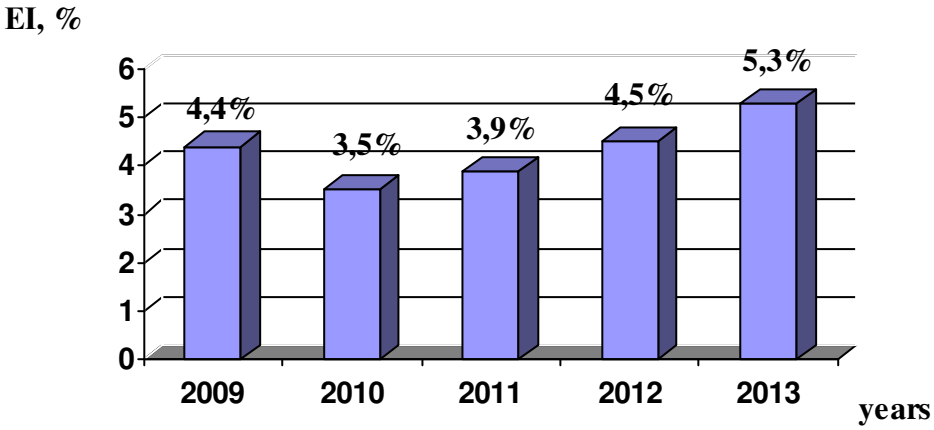

Fig. 1. Extensiveness of dirofilariosic infestation of dogs in the Poltava region (2009–2013)

fested with a dirofilaries). Moreover, fluctuations in infestation of dogs were small and were as follows: 2009 – 4,4% (from 249 examined dogs were infested 11 heads were infested with a dirofilaries), 2010 – 3,5% (from 1120 dogs surveyed – 39 infested), 2011 – 3 (9% of the 1115 surveyed – 44 infested), 2012 – 4,5% (from 1236 surveyed – 56 infested), 2013 – 5,3% (from 1279 surveyed – 68 infested). That is, starting from 2009 to 2010, in the Poltava region of EI of dirofilaries in dogs gradually decreased by 0,9%, and since 2011 EI began to increase in 2013 was 5,3%.

So dirofilariosis in dogs is a common infestation in dogs in the Poltava region, rates of infestation by over 2009–2013. Increased by 0,9%. In our opinion, this is due to the change of climatic conditions in the region that enhances the range of intermediate hosts – mosquitoes and insects extension active state.

It is established that in the Poltava region during 2009–2013. Among contagious disease in dogs infections were recorded in 4,83% of the animals (from 373 dogs examined 18 goals were suffering from infectious diseases), invasive – 24,38% (from 20,992 dogs examined were 5117 chairpersons infested with pathogens parasites) (Fig. 2).

As shown in Fig. 2, invasive disease is more common in dogs showed 5,05 times than infectious diseases, indicating a wide spread of parasitic diseases among dogs in the region.

In the study of the distribution of the degree of infestation of dogs pathogens of invasive disease found most frequently recorded protozooses such

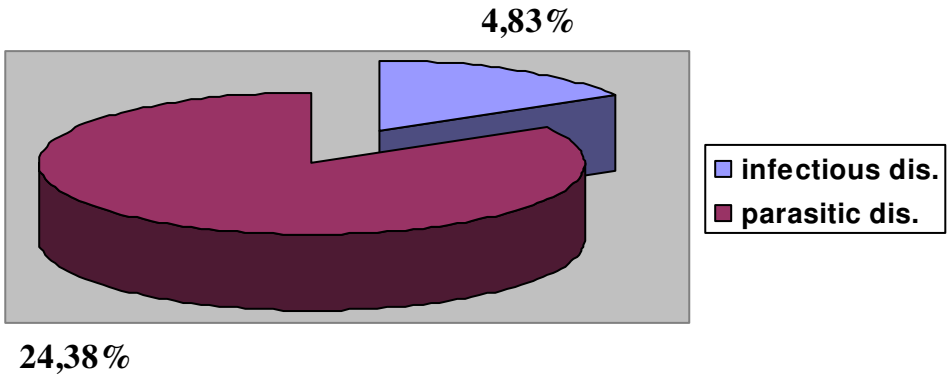

Fig. 2. Specific gravity of infectious and parasitic diseases in dogs contagious pathology in Poltava region (2009–2013)

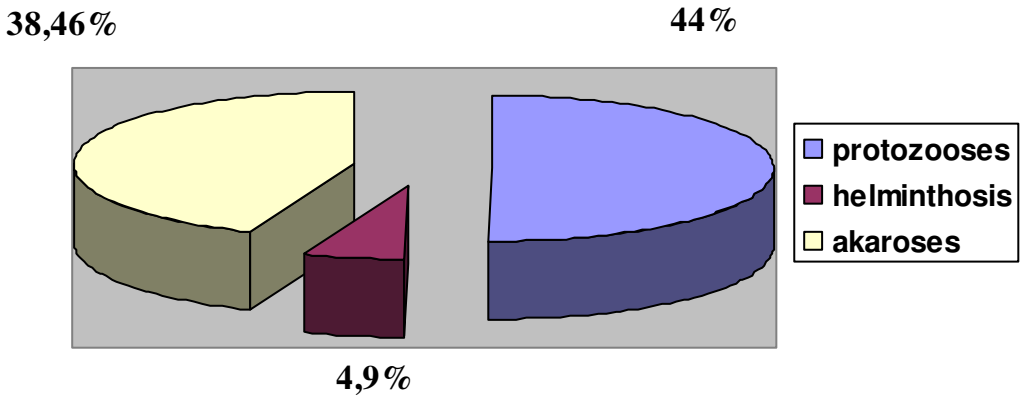

Fig. 3. Specific gravity of protozooses, helminthosis and akaroses in invasive pathology of dogs in Poltava region (2009–2013)

as babesiosis (EI = 44%) and akarosis: sarcoptic mange, demodecosis, otodektosis (EI = 24,38%). Rarely found helminthiasis: untsinariosis, toxocarosis, opisthorchosis, dirofilariosis dypilidiosis, tryhurosis (EI = 4,9%) (Fig. 3).

And the most common helminthosic diseases in dogs in Poltava region were untsinariosis (EI = 11,03% in 1840 examined 203 dogs – were infested), tryhurosis (5,59% of 143 examined dogs 8 – infested), toxocarosis (5,21% of 365 surveyed dogs 19 – infested) and dirofilariosis (4,36% of 4999 surveyed 218 dogs – infested). Rarely recorded dypilidiosis (EI = 1,27% of the 550 examined dogs 7 – infested) and opisthorchosis (0,07% of 1373 surveyed dogs 1 – infested) (Fig. 4).

So dirofilariosic infestation is one of the most common helminthoses of dogs in the Poltava region, the study of which every year are paying more attention.

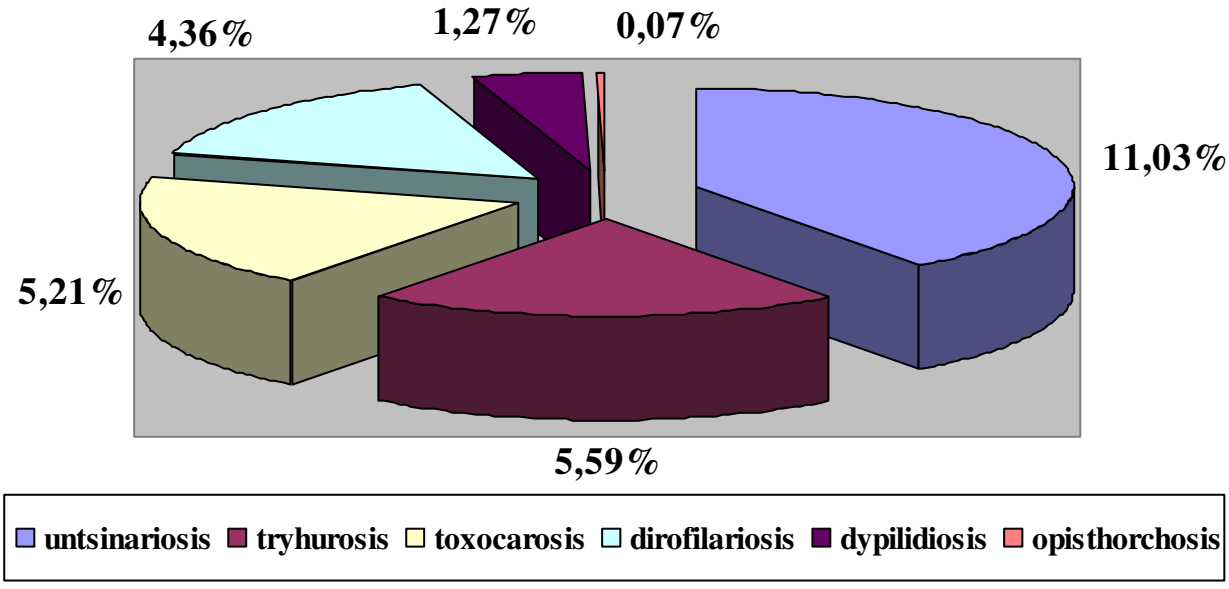

Fig. 4. Distribution of helminthosis of dogs in the Poltava region (2009–2013)

Conclusions and prospects for further development.

1. Dirofilariosis is one of the four most common helminthoses of dogs in the Poltava region, namely untsinariosis (EI = 11,03%), tryhurosis (5,59%) and toxocarosis (5,21%).

2. The average annual dirofilariosis trouble regarding dogs in the Poltava region for the period of study (2009–2013). Is 4,36%, the highest it has been in 2013 – 5,3%.

The prospect for further research is to study the seasonal and age dynamics dirofilariosis in dogs, as well as to clarify the pathological-anatomical and histomorphological changes in organs and tissues for dogs dirofilariosis caused by *D. immitis* parasites.

REFERENCES

1. Архипов И. А. Дирофиляриоз. / И. А. Архипов, Д. Р. Архипова. – Москва: Россельхозакадемия, 2004. – 194 с.
2. Бронштейн А. М. Дирофиляриоз человека в Московском регионе / А. М. Бронштейн, В. Г. Супряга, Б. И. Ставровский [и др.] // Мед. Паразитология, – 2003. – № 3. – С. 51–55.
3. Дахно І. С. Дирофиляриоз собак у Північно-Східній частит України / І. С. Дахно, Ю. П. Немешкало, Г. П. Дахно, К. П. Шкурка // Зб. матер. ІІІ Міжнар. наук.-практ. конф. «Проблеми ветеринарного обслуговування дрібних домашніх тварин», 8–9 жовтня 1998 р., м. Київ: тези доп. – К.,1998. – С. 97–99.
4. Карвовський О. Дірофіляріоз собак у Криму / О. Карвовський, О. Макаревич, Ю. Тростянецька, Т. Макаревич // Вет. медицина України. – 1997. – № 5. – С. 26.
5. Pampiglione S. Dirofilariasis due to Dirofilaria repens in Italy, an emergent zoonosis: report of 60 new cases / S. Pampiglione, F. Rivasi, G. Angeli et al. / Histopathology. 2001. – V. 38, № 4. – P. 344–354.
6. Raccurt C. P. Dirofilariasis, an underestimated emerging zoonosis in France / C. P. Raccurt / Med. Trop. 1999. – V. 59, № 4. – P. 389–400.
7. Simon F. Heartworm infection in humans and animals. / F. Simon, C. Genchi / Ediciones universidad de Salamanca. – 2001. – 210 p.