

DIAGNOSIS AND PREVENTION OF ZOOANTHROPONOSIS (COENUROSIS, ECHINOCOCCOSIS, CYSTICERCOSIS)

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Abstract.

In the article, Hall (1910) wrote about the development of *Multiceps multiceps* in the organism of dogs, which are the main spreaders of the disease of cenurosis, and the fact that dogs are the main cause of the spread of this disease, 100 years ago. According to him, *Multiceps multiceps* develops only in the dog's intestine. That's why it was noted that dogs play an important role in the origin and development of cenurosis. Among the regions, the *Multiceps multiceps* infection of dogs was more common in the mountain-foreland region, and in the desert region, the results of the infection of herd dogs, the infection of village dogs, and the results of the infection depending on the seasons were highlighted. The work of the authors clearly shows that the animals belonging to the dog family, that is, wolves, foxes, jackals and cats, play a secondary role in the spread of the disease, and that they do not have an important role in the spread of cenurosis in nature.

1 Introduction

Cenurosis is one of the most serious and fatal parasitic diseases of farm animals, especially sheep. The disease *Multiceps multiceps* develops in the small intestine of dogs. Its larval form (*Coenuris cerebralis*) develops bubbles of different sizes in the brains of sheep, goats and other animals, called *cenuris*. Cenurosis disease occurs in humans as well as animals.

These diseases, which are mainly spread by dogs, are increasing in recent times, especially among livestock. In particular, cenurosis disease is 8.0-10.0 percent among sheep, and echinococcosis disease is 60.0-80.0 percent among older sheep. Echinococcosis is not only a veterinary problem, but also one of the urgent problems in the field of medicine. Because people suffering from this disease are treated by surgery and often become unfit for work. Both coenurosis and echinococcosis are caused and spread by dogs and other carnivores.

2 Materials and methods

In the farms of Nurabad of Samarkand region and Khatirchi districts of Navoi region, domestic dogs were sterilized with an aqueous solution of the drug arecoline. As a result of this procedure, helminths were collected and examined in order to check whether the dogs were sick with cenurosis and echinococcosis. It was found that 207 of 1465 dogs were infected with *Multiceps multiceps*, 60 with skin and 8 with echinococcus. In

particular, 769 dogs were dewormed in Nurabad district. Of these, 96 (12.4 percent) were infected with multiceps, 30 (4 percent) with skin, and 2 with echinococcus.

Table 1.

№	Name of farms	Number of dewormed dogs	Of these, those infected with cestodes		
			<i>M.multiceps</i>	<i>T.hydatigih</i> <i>a</i>	<i>E.granulosu</i> <i>s</i>
1	Kattakurgan	188	17	3	-
2	Olga	100	15	7	-
3	Razzok Jahongirov	78	5	2	-
4	Sohoba	37	3	1	-
5	Ulus	74	7	2	-
6	Yangiobod	105	17	7	1
7	Uzku	47	8	1	-
8	Sozogon	140	24	7	1
	By district:	769	96	30	2

Out of 696 dewormed dogs in Khatirchi district, 111 (16 percent) were infected with multiceps, 30 with skin and 6 with echinococcal disease.

Table 2.

№	Name of farms	Number of dewormed dogs	Of these, those infected with cestodes		
			<i>M.multiceps</i>	<i>T.hydatigiha</i>	<i>E.granulosus</i>
1	Oltinsoy	303	50	15	3
2	Pulkan is a poet	78	13	2	-
3	Zarafshon	181	30	8	2
4	Uchkora	134	18	5	1
	By district:	696	111	30	6

Parasitic diseases of animals are a big obstacle to solving these problems effectively. Cenurosis of farm animals takes the main place among these diseases. The

disease is widespread in many countries, especially in farms specializing in sheep breeding, and has a significant impact on the development of livestock breeding.

3 Research results

Dogs are the main spreaders of cenurosis among farm animals. Animals belonging to the dog family, that is, wolves, foxes, jackals and cats, play a secondary role in the spread of the disease. E. Ergashev (1958) examined 6 wild cats in Samarkand region. In fact, he did not observe multiceps in any of them. P. Mominov (1965) also did not detect multiceps in 32 wild cats examined in different regions of our republic. Parasites were not observed in 26 wild cats examined by R. Bekirov (1968) in Bukhara region. When E. Ergashev and V. Sodikov (1965) examined 45 foxes in different regions of Uzbekistan, immature multiceps was found in 2 of them. According to the authors, foxes are of secondary importance in the spread of cenurosis in nature.

52 foxes observed by N. Matzhanov and R. Bekirov (1968) in different districts of Bukhara region were free of multiceps. When the authors artificially infected 4 foxes and 4 dogs with cenur protoscolexes in laboratory conditions, all of the dogs were infected, 4 multiceps were observed in the intestine of one of the 162 protoscolex foxes. R. Bekirov (1989) did not find multiceps in any of the 34 domestic cats, 46 foxes, 29 raccoons and 3 wolves examined in different cities and villages of our republic. Scientists from other countries have noted that their multiceps are not damaged. For example, A.M.Petrov and L.F.Potekhina (1953) examined 2 wolves in the territories of the Republic of Tajikistan and were free of parasites. Multiceps multiceps was not observed in 20 wolves examined by F. N. Morozov (1951) in the Republic of Moldova. Multiceps multiceps 122 heads examined by A.I. Agapova (1950), 37 examined by V.I. Bondareva (1963), 20 examined by N.T. Kadirov (1959) and S.D. Ulyanov and A.B. Baydalievlar (1961) did not observe in 28 wolves examined. In laboratory conditions, V.I. Bondareva et al. (1957) developed a parasite in 1 of 4 foxes artificially infected. The 2 main dogs under supervision were all damaged.

Researches conducted in other republics in order to determine the role of shogols in the spread of the disease, including L.F.Potekhina in Tajikistan (1953), V.I.Chernishev (1954), I.A.Sodikov in Azerbaijan (1953), S.D. in South Kazakhstan. Ulyanov (1957) showed that multiceps did not adapt in the organism of this animal, and it does not have an important epizootic value in the spread of cenurosis. Therefore, other animals belonging to the dog family, excluding dogs, cannot be of epizootic and epidemiological importance in the spread of cenurosis. Hall (1910) suggested 100 years ago that dogs are the main cause of the spread of this disease. According to him, multiceps develops only in the dog's intestine. Therefore, attention was paid to the fact that dogs play an important role in the origin and development of cenurosis. U.Usarov (1993) confirmed that 12.4 percent of them were infected with multiceps on average when examining dogs in different services in different regions of Almaty region.

Among the regions, multiceps infection of dogs occurred in the Kuprok mountain region, and the rate in this regard was 22.3-36.3 percent. In mountainous and desert regions, the incidence of dogs with this parasite did not exceed 10.5 percent. In

the villages located in the foothills, dogs were mostly infected (21.2 percent). According to the research conducted by I. Z. Mukhanov (1995) in the territory of Kazakhstan in the following years, the average infection of dogs with multiceps in the Republic is 5.6%. But this argument, according to the author, is not suitable for all regions. In particular, in the desert-desert region, the damage of herd dogs is equal to 9.8 percent. The prevalence of rural dogs does not exceed 5.3 percent. The researcher observed certain differences in the infection of dogs with multiceps depending on the seasons of the year. For example, in spring, 5.3% of herd dogs and 9.08% of rural dogs were affected, while in summer, the rate was 2.6% and 6.9%, respectively. In the northern part of the desert region, dogs were infected with multiceps at a rate of 1.3% in winter, 9.0% in spring, 5.2% in summer, and 6.2% in autumn. In the south of this region, the damage of dogs in the indicated seasons is 3.8, 5.2, respectively; It was 1.2 and 7.7 percent. A. Abdurasulov (1998) observed multiceps in 198 out of 441 dogs examined in the Sundukli massif of Turkmenistan, or 44.9 percent, including 13 out of 122 herd dogs, 185 of the dogs in the villages located in the Sundukli massif were infected. According to the author, village dogs are the main cause of the disease of sheep of cattle breeding farms located in the Sundukli massif. According to V.I. Bondareva (1963), herd dogs are more affected by multiceps. He witnessed that such dogs were infected with multiceps up to 23.0%, and the infection was more common in spring. According to the researcher, the reason for this is that dogs are infected in the spring, and the disease of cenurosis is more common among dogs during this period.

The Kuchyn region of Kazakhstan is still seriously affected by the disease of cenurosis. Research also supports this idea. For example, according to the data of A.I. Abdibekova (2001), average infestation of dogs with multiceps in Jambul region is 14.9%. Anicrogy parasite was observed in 23 out of 171 examined dogs (20.0 percent). R. Bekirov (1989) compared the infection of urban and rural dogs with multiceps. It was found that 3.54 percent of 311 urban dogs and 10.4 percent of 448 rural dogs were infected with parasites.

Investigations conducted by E. Ergashev and V. Sodikov (1966) on the study of the infestation of dogs with Multiceps multiceps according to the seasons showed that the highest infestation corresponds to the first and second seasons. The authors observed that 2-4-year-old dogs are more prone to multiseptosis. V. Barotov (1970) also proved in his experiments that the infection of dogs with multiceps depends on the seasons. For example, in the second season, 7 out of 21 head dogs, or 33.3 percent, were found to have multiceps. In the first season, 23% of 6 out of 26 dogs were affected. Multiceps infestation was 15.3 percent in the third season and 9.09 percent in the fourth season in other seasons. Sh. Azimov, R. Bekirov and 3. Jumaev (1975) in the Kashkadarya region observed multiceps in 66.6 percent or 24 of 36 head dogs. M. Musinov (1986) examined 24 out of 57 herd dogs (42.1 percent) and 22 out of 53 village dogs (41.5 percent) had multiceps. According to the author's data, dogs are highly infected with multiceps, regardless of the type of service. The author (1988) observed in his further studies that there were regional differences in the prevalence of multiceps in dogs. For example, such damage was 34.25% of dog damage in the vine-covered region, 32.18% in the desert-desert region, and 27.64% in the irrigated region.

B. Hakimov (1990), who examined 4090 dogs in villages bordering cattle-breeding farms of Bukhara region, where this field is developed, observed multiceps in 23.6% of them in 969 of them. According to the author (1999), the dogs of the villages bordering the livestock holdings were infected with multiceps at a high rate of 23.4%.

T.Gaznakulov (1998) examined 769 village dogs on the farms of Nurabad district of Samarkand province and observed multiceps in 96 of them (12.4 percent), and noted that 111 or 16.3 percent of 696 dogs in Khatirchi district were infected with parasites.

4 Conclusion.

Country dogs are almost never dewormed. Due to this, they are the cause of cenurosis and echinococcosis diseases. Because these dogs are not regularly dewormed compared to herd dogs, dogs do not bind when dewormed. As a result, they spread the eggs of multiceps in pastures and waters and serve as a constant source of damage to sheep.

References

1. Aminjonov, Sh., & Gaznakulov, T. (2023). Preparaty dlya prophylactici i lecheniya cenuroza karakulskikh ovets. in Library, 4(4), 336-340.
2. Aminjonov, Sh. M., & Gaznakulov, T. K. (2023). Veterinarian of Nauchno-issledovatel'skiy Institute, Taylyak, Uzbekistan. BBK 1 A28, 23.
3. Aminjonov, Sh. M., & Gaznakulov, T. K. (2023). Prophylaxis cenuroza karakulskikh ovets. In advances in science and technology (pp. 23-26).
4. Gaznakulov, T. K., & Aminjonov, sh. M. (2024). Cenurosis from zooanthropous invasive diseases, diagnosis and countermeasures. Obrazovanie nauka i innovatsionnye idei v mire, 44(3), 30-34.
5. Aminjonov, Sh. M. (2016). Measures against echinococcus and coenurosis of animals in Uzbekistan. Put science, 1(11), 58-62.
6. Abdirasulov A. Cenurosis disease in Sundukli massif of Turkmenistan. Nauchnoe obespechenie veterinarnogo biologopolucheniya jivotnovodstva Uzbekistana // Samarkand, 1998. P.11-12.
7. Abdybekova A.M. O zarajonnosti sobak helmintami Jambylskoy oblast // Mat. Doc. Nauchnoi conf. Theory and practice of parasitic diseases. VIGIS, VOG, M., 2001.S.3-4,
8. Bekirov R. Assotsiatsii larvalnyx teniidov selskohozyaystvennyx jivotnyx i ix vozbuditeley u plotoyadnyx // Profilaktsii Mery borby s boleznyami selskohozyaystvennyx jivotnyx usloviyax Uzbekistana. Sredneaziatskoe otdelenie VASHNIL. 1989. S. 3-8.
9. Gaznakulov T. Disease spreading dogs. // Veterinary medicine. Uzbekistan, No. 3-4, pp. 6-7, 1998.
10. Irgashev I.Kh. K voprosu izucheniya helmintofauny domashnikh i dikikh plotoyadnykh Samarkand region. // Length. biol. journal 1958. No. 5. P.39-45.
11. Musinov M. Izuchenie porajennosti sobak zavisimosti ot ix slujebnogo ispolzovaniya. // Quick. doc. conf., posvyashch. 60th anniversary. 1986. S. 78-79.

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