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EXTERMINATIONIST AND INTERENVIRONMENT ECHINOCOCCOSIS AND PAECILOMYCES IN ANIMALS

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ABSTRACT
In productive animals (sheep, cattle, pigs, goats) – carriers of larvocysts of echinococci, fungi of the genus Paecilomyces - the causative agent of the fungal disease pecilomycosis-were detected in the blood. In the Republic of Uzbekistan, the incidence of echinococcosis in sheep, cattle, pigs and goats continues to be high. We have established that domestic birds (chickens, turkeys, geese) are carriers in the blood of pecilomycetes fungi, which also applies to wild birds: Myna, quail, keklik, crow. The degree of fungal infestation has also been established for birds
KEYWORDS: ***exterminationist, interenvironment, paecilomyces, echinococcosis, wild animals.***

INTRODUCTION

Until now, echinococcosis has been studied as an independent disease. One of the researchers did not pay attention to, or to the fact that the impact of paecilomyces on for hydatid disease of the lungs. Therefore, in our research, we tried to determine the role of the pathogen of pecilomycosis in the course of echinococcosis of the lungs of animals and humans.

PA, PA, PA, PA paecylomyces are satellites of echinococcosis. Paecilomyces – a new fungal disease, the open scientists from Russia and Uzbekistan. Detection of intrauterine pecilomycosis pneumonia in newborns has shown the danger of this disease, both for the health of newborns and for the body of pregnant women. The defeat of echinococcal cysts by fungi leads to the aggravation of the course of echinococcosis, both in children and adults. All this clearly shows that the study of echinococcosis, complicated by pecilomycosis, is the most urgent problem of today's medicine, related to veterinary medicine and biology.

MATERIALS AND METHODS

To identify the spherules of the fungus was applied by different staining methods. For this purpose, a saline solution tinted with methylene blue was used at the rate of 10 mg of dye per 100 ml of saline solution. Such a test tube with the test blood was placed in a refrigerator at a temperature of 0 to + 4 degrees for 15 minutes to tinge the polysaccharide component that is part of the capsule of the mushroom sphericules. In order to study the presence of spheres of pecilomycetes in the blood, we developed a method for determining and counting these fungi, that is, the diagnosis of pecilomycosis. To do this, blood was taken from dogs from the ear vein, from sheep, cattle, pigs from the jugular vein, from chickens from the scallop. From each animal for the study, 0.02 ml of blood was used, which was placed in a test tube containing 4 ml of sterile 0.80% saline solution, mixed with a glass rod and applied to the Goryaev chamber. Without the use of coloring, Mature spherules had a greenish color with a fluorescent luster, and, unlike red blood cells, they resembled luminous balls, and when colored with methylene blue, they acquired a bluish – blue color. In cases where their recognition is difficult at an increase of 120 (about.8hok.15), we used an increase of 280 (about.40h7) or 300 (about.20hok15). According to our data, from 1000 to 5000 sphericules are contained in 2 µl of blood of practically healthy individuals.

RESULTS AND DISCUSSION

According to the materials provided by the center for sanitary and epidemiological surveillance

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of Samarkand, the incidence of this helminthiasis is registered annually among the population of the city of echinococcosis, i.e. its intensive indicator per 100 thousand population was 3.35 in 2014; in 2015 -6.42; in 2016-6.12; in 2017-5.97 and in 2018-4.85. The highest incidence was observed in 2015-2017.

We must assume that official medical statistics do not reflect the actual picture of the spread of echinococcosis among the population, since they are compiled only on the patients ' requests for help to surgical clinics. This is clearly evidenced by the actual data established by the results of a preventive examination for echinococcosis of residents of the Republic, carried out by a team of specialists-surgeons, therapists, radiologists using a mobile fluorographic unit and a portable device for ultrasound diagnostics (ultrasound). Thus, they were able to establish echinococcosis in 58 out of the examined 7842 people, i.e. 0.73% of the population. Of these, 43 had single echinococcal cysts, and 6 had two or more cysts. According to the authors, the intensive rate of echinococcosis infection per 10 thousand population is 73.

Now let's pay attention to the reporting data of the veterinary Department of the city of Samarkand on the incidence of slaughtered cattle with echinococcosis for 2014-2018. From them it can be seen that located in the territory of the city, several thousand heads of cattle are slaughtered for meat annually, brought by butchers from different regions of the region. The carcass and internal organs of animals are subjected to veterinary and sanitary examination, while the liver and lungs are examined for echinococcosis, dicroceliosis, fasciolosis. Amazed by the tapeworm and trematode called the authorities partially or wholly disposed of as unfit for consumption.

Based on the materials of the veterinary examination of slaughtered cattle in Samarkand for echinococcosis, we found the following: in 2014, the liver and lungs of 6320 cattle were examined, of which 96 had echinococcosis, which is 1.51%. For this helminthosis, only 143 kg of liver and lungs of animals were disposed of. In 2015, 6,940 head of cattle were examined in 115, i.e. 1.65%, and echinococcosis was detected. As a result, during 2014-2008, 33,337 heads of cattle were slaughtered for meat in various slaughterhouses of the city of Samarkand, in which echinococcosis was detected in 647 animals, which is, on average, 1.94%.

Thus, the incidence of echinococcosis among slaughtered cattle varied according to the veterinary reports of the city of Samarkand in 2014-2018 in the range of 1.34-2.42% and averaged 1.94%.

We are quite right to assume that these veterinary reports veterinary Department of the city of Samarkand, given the prevalence of slaughter cattle echinococcosis absolutely far from reality, and they in no way be taken to reflect the real picture of the epidemic status of this dangerous helminthotheca. This is clearly evidenced by the literature data of recent years (M. A. Aminjanova, 2004, etc.) [ ], as well as the results of our research, which are given below. Systematic examination of animals for echinococcosis is necessary as a control of the organization and conduct of preventive measures. For 5 years (2014-2018), we conducted surveys of slaughtered animals killed in and around the city of Samarkand. Cattle, sheep, pigs, and goats were examined for echinococcosis (table 1).

As expected, the highest extensinvazirovannost echinococcosis was found in pigs, then in sheep. We examined pigs that were kept at home and their slaughter was performed on the territory of private land plots. We had the opportunity to witness when the owners of pigs, killing animals and butchering the carcass, leaver with Echinococcus were thrown to dogs, arguing that they feed guard dogs liver and lungs containing Echinococcus bladders throughout their lives and the dogs feel good. We had to carry out sanitary and educational work, showing a film about the infection of animals and people with echinococcosis.

In all the animals examined by us, the liver is in the first place, and the lungs are in the second place.

From the examined sheep and cattle predominated females have very strong degree of prevalence of echinococcosis on the contrary, the blue a very strong degree of infestation by hydatid disease in females 7.2 % , males 16.7 per cent of the total number affected, it is possible to explain a large number of the surveyed pigs, and, secondly, not ordinary Pets, as the home is not the same contact pigs males and females with guard dogs. Only 10 heads of goats affected by echinococcosis were identified and they are divided into females and males incorrectly.

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Table 1
Results of examination of animals for echinococcosis

Type of animal	Examined	Affected		Degree of involvement							
		Qty	%	weak (+)		medium (++)		strong (+++)		very strong(++++)	
				Qty	%	Qty	%	Qty	%	Qty	%
Cattle (males)	156	34	21,7	8	23,5	15	44,1	9	26,4	2	5,8
Cattle (female)	161	52	32,0	13	25,0	27	51,1	8	15,3	4	7,7
Sheep (males)	75	27	36,0	12	44,4	9	33,4	5	18,5	1	3,7
Sheep (female)	112	39	34,8	16	41	11	28,2	8	20,5	4	10,2
Pigs (males)	51	18	35,2	6	34,4	5	27,7	4	22,3	3	16,7
Pigs (female)	180	111	61,6	32	28,8	38	34,2	33	29,7	8	7,2
Goats	59	10	16,9	6	60	2	20	1	10	1	10

We have found that in animals concomitant hydatid cyst disease is paecilomyces. Introduced the concepts of echinococcosis complicated by paecilomyces. Table 2 shows the results of the survey on paecilomyces Pets. For the first time, we have been able to deduce pet animals that have been intensed by pecilomycetes. Interenvironment was placed on the number of spherules of the fungus paecilomyces in thousand per 1 ml of blood. As can be seen from the table, the minimum intensinvasiveness was in the range of 6.5 to 12.0 thousand in 1 ml of blood, and the average indicator, depending on the type of animal, was from 8.0 +0.14 to 13.5 +0.17 thousand in 1 ml of animal blood.

Table 2
The results of the survey on Paecilomyces Pets

Animal species	For a smaller number of pecilomycetes (thousand in 1 ml of blood)	For a greater number of pecilomycetes (thousand in 1 ml of blood)	M±m
Stray dogs (n=11)	7,0	12,5	9,2±0,11
Pigs (n=19)	6,5	16,0	11,5±0,09
Cattle (males) (n=9)	6,5	14,0	9,2±0,17
Cattle (females) (n=16)	6,5	16,0	12,6±0,10
Donkeys (female) (n=7)	6,5	9,5	8,0±0,14
Donkeys (males) (n=8)	7,0	9,5	9,0±0,16
Goats (n=14)	6,0	13,5	9,6±0,10
Horses(n=9)	12,0	18,0	13,5±0,17

In the examined rabbits, Guinea pigs, white mice, white rats, cotton rats, ground squirrels, field mice, house mice, the minimum number of fungal sphericules is from 6.0 to 8.0 thousand per 1 MCL of blood. A maximum of 12.5 to 18.0 thousand in 1 ml of blood, with an average of 8.7+0.14 thousand to 12.8 +0.14 thousand in 1 ml of blood.

In tables 3 and 4 shows the results of our studies on paecilomyces domestic and wild birds. The largest was intensivist paecilomyces been found in chickens. The minimum is 16.5 thousand in 1 ml of blood, the maximum is 23.5 and the average is 19.5 +0.07 in 1 ml of blood.

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Table 3
The results of the survey on paecilomyces poultry

View	Fora smaller number of pecilomycetes (thousand in 1 ml of blood)	For a large number of pecilomycetes(thousand in 1 ml of blood)	M±m
Chickens (n=19)	16,5	23,5	19,5±0,07
Turkeys (n=11)	12,0	21,0	15,7±0,14
Geese (n=9)	12,0	16,5	14,5±0,13
Muscovy ducks (n=12)	10,0	18,5	13,75±0,14

Table 4
The results of the survey on paecilomyces wild birds.

View	Fora smaller number of pecilomycetes (thousand in 1 ml of blood)	For a greater number of pecilomycetes(thousand in 1 ml of blood)	M±m
Lane (n=13)	11,5	16,0	12,7±0,08
Quail (n=7)	10,0	18,0	14,8±0,25
Keklik (n=14)	12,0	14,5	13,3±0,06
Crow (n=9)	10,5	16,0	12,3±0,14

Intensinvasiveness of domestic and wild animals with pecilomycetes is shown in tables 5 and 6, which show that the examined animals had a strong (+ + +) and very strong (+ + + +) degree of infection with pecilomycetes.

Table 5
The content of spherules in the blood paecilomyces Pets

Weak	surveyed	Degree			
		(6.5-8 thousand)	Medium (8.5-10.0)	strong (10.5-14.5)	Very strong (15.0 and <)
Stray dogs	11	3	6	2	-
Pigs	19	6	2	5	6
Cattle (males)	9	5	1	3	-
Cattle (female)	16	2	1	8	5
Sheep (males)	14	9	5	3	-
Sheep (female)	21	7	4	4	6
Donkeys (female)	7	5	2	-	-
Donkeys (males)	8	4	1	3	-
Goats	14	6	3	5	-
Horses	9	-	-	3	6

Table 6
The content of the spherules paecilomyces in the blood of laboratory animals

Weak	surveyed	Degree			
		(6.5-8 thousand)	Medium (8.5-10.0)	strong (10.5-14.5)	Very strong (15.0 and higher)
Rabbits					
Guinea pigs					
White mice					
Rats					
Cotton rats					
Gophers					
Field mice					
House mice					

Thus, the carrier of pecilomycetes in domestic and wild animals is not a rare phenomenon and is a little-studied complication factor for the course of parasitic diseases.

CONCLUSIONS

1. Have productive animals (sheep, cattle, pigs, goats) – media darvocet Echinococcus identified in the blood of fungi of the genus Paecilomyces, the causative agent of the fungal disease paecilomyces.
2. in the Republic of Uzbekistan, the incidence of echinococcosis in sheep, cattle, pigs and goats continues to be high. In the period 2004-2008, the extensinvazirovannost (EN) echinococcosis of sheep females 34,8 %, males 36% , cattle respectively 23,5 and 32,0%, pigs 61,6 and 35,2 %. Intensinvazirovannost animals echinococcosis is advisable to distribute the degree of damage: weak (+), medium (++), strong (+ + +), and very strong (++++).
3. we first examined animals affected by pecilomycosis, divided into four degrees of infection by pathogenic fungi: weak (+) – the number of pecilomycetes in the blood 6.5 – 8 thousand in 1 ml of blood, average (++) – 8.5 -10.0 thousand in 1 ml of blood, strong (+++) - 10.5 - 14.5 thousand in 1 ml of blood, very strong (+ + + +) - more than 15.0 thousand in 1 ml of blood.
4. we have established that domestic birds (chickens, turkeys, geese) are carriers in the blood of pecilomycetes fungi, which also applies to wild birds: Myna, quail, keklik, crow. The degree of fungal infestation has also been established for birds

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