

**THE SIGNIFICANCE OF ECHINOCOCCOSIS IN VETERINARY MEDICINE AND HUMAN LIFE.****(According to literary data)****Kamalova A.I.,**

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*Received: March 22, 2024; Accepted: Apr 29, 2024; Published: May 20, 2024;***Abstract:** This article provides information on the history, prevalence, veterinary and human significance of echinococcosis, as well as preventive measures.**Keywords:** Echinococcus, echinococcosis, helminths, deworming, main host, intermediate host, worm, cestoses, sanitation, hygiene, prevention.This is an open-access article under the [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) license**Introduction**

Provide the domestic consumer market with meat, milk and other livestock products, expand the livestock feed supply, widely introduce science-based methods and intensive technologies to increase the production of competitive products in the domestic and foreign markets, as well as the President of the “Livestock Identification System” of the Republic of Uzbekistan and in In order to ensure the implementation of decision PP-285 of August 24, 2023 on additional measures to improve the breeding industry, echinococcosis disease in cattle causes great economic damage.

Echinococcosis (*Echinococcus granulosus*) is a parasitic disease caused by the echinococcal worm, found in some mammals and humans, transmitted through the mouth and affects mainly human parenchymal organs (liver, lungs, spleen and other organs).

Echinococcosis is one of the common helminthiases in most countries of the world. This disease is a widespread and dangerous disease, especially in areas where sheep farming is developed.

In different regions of our republic, it has been established that sheep are infected with echinococcosis from 30-35% to 60-70%, and in some regions and farms it is even higher.

Echinococcal cysts live in the body of animals and humans and usually live as parasites until the end of their lives.

Echinococcosis has been known to mankind since ancient times. About 1200 BC, Bukrat in his writings called echinococcosis of the liver “water-filled liver”. Hippocrates, considered one of the founders of medicine, Abu Ali ibn Sinolar also wrote about a disease similar to echinococcosis in

humans. In his writings, Aristotle mentioned information about infection of the lungs and liver with echinococcal cysts.

Echinococcosis has been known since ancient times, and the first information about liver echinococcosis is also found in the works of Bukrat (Hippocrates), but it is called “inflammation of the liver.” Later it was found that the causative agent of echinococcosis is parasitic in nature.

By the end of the 17th century, the Italian medical scientist Francesco Redi was the first to report the occurrence of echinococcosis in some animals, and at the beginning of the 18th century, Butch suggested that the “vesicles” found in farm animals and humans were various stages of development of tapeworms in the intestines of dogs.

Siebold injected vials of echinococcus, taken from the lungs of cattle and sheep, into 12 dogs and 1 fox, observed the appearance of a small “three-membered worm” in the small intestines of 5 dogs and experimentally proved that they were infected with echinococcus, and called it the echinococcus worm (*Taenia echinococcus*).

Relevance of the topic. Today, under the influence of environmental and anthropogenic factors, echinococcosis, considered one of the main cestodeses of animals, is widespread in more than 100 countries and is a dangerous disease of epizootological and epidemiological significance. Personal hygiene plays an important role in the prevention of echinococcosis. Unfortunately, most people, especially children, lack personal hygiene, sanitation and other hygienic skills. The following examples clearly show that the culture of keeping and caring for animals at home, including dogs, is very low. Every year in our republic, on average, 50-55 thousand people are injured from animal bites (mainly dogs) and seek medical help (only those who are registered), and the fact that more than 75% of these bites are caused by domestic dogs is associated also with the fact that dog owners do not know and do not comply with the rules for keeping dogs, which is indisputable proof of their low culture in this regard [4,9,10].

Therefore, it is very important for everyone to have complete information about this dangerous disease and follow the rules of sanitation and hygiene.

The purpose of the study is to provide information on the prevalence of echinococcosis, its social and veterinary significance, as well as an analysis of the literature

## Results and Discussion

The echinococcal worm develops in the body of an intermediate and primary host. Echinococcus larvae live in cattle, sheep, goats, pigs, camels, deer, donkeys and humans as intermediate hosts. For echinococcus, the main definitive hosts are dogs, wolves, jackals, foxes and other carnivores. Adult Echinococcus worms live in the anterior small intestine of the primary host for 6 months to 2 years.

Echinococcosis affects 9,8% of sheep, 11,3% of dogs in the USA, in the Central Caucasus region of Russia 35-50% of sheep, 25-100% of dogs, in Kazakhstan 33,1% of sheep, 68.7% of dogs, in Uzbekistan 15,8% sheep, 20% dogs [5,6,7].

Echinococcosis is especially common in rural sheep farming areas, where dogs eat the internal organs of slaughtered sheep. This disease is very common in regions of the world where dog meat is part of the human diet. For example, in some regions of Kenya, 20-50% of small and large horned animals are infected with parasitic diseases, causing great damage to agriculture [8,15].

Due to the fact that echinococcosis differs from other helminthiases in the absence of obvious clinical symptoms, exact data on the incidence of this disease are not provided. This disease is common in all regions of Uzbekistan, and therefore our republic is considered an endemic region for echinococcosis [1,2].

According to research by M. Aminjonov, the prevalence of echinococcosis among farm animals was 46,2% in cattle, 65,0% in sheep, 12,0% in goats, 35,0% in camels, 38,2% in donkeys, 24,3% in dogs [3].

There is another major problem that needs to be addressed. Dog excrement is not collected, burned or buried in the dog house. That is, it is not neutralized. If dogs are infected with echinococcus, they will leave their feces in courtyards, streets, squares, as a result, the external environment, especially soil, grass, vegetables, herbs, other crops, in a word, all places will be infected with echinococcus eggs [5].

According to estimates carried out in the city of Bukhara, where more than a quarter of a million residents of our republic live, 1500-2000 kg of dog excrement falls on the ground every day. According to a similar study conducted by Italian ecologists, in the city of Rome, the soil is polluted daily by an average of 19250 kg of feces and 82600 liters of dog urine. From these examples, it is self-evident to what extent the soil is contaminated with helminths, including echinococcus pathogens [9].

Echinococcosis is a dangerous zootropic disease of global social significance, caused by the larvae of the adult echinococcal parasite *Echinococcus granulosus*, which have a vesicular shape in all herbivorous mammals and humans. Echinococcosis is common in many countries of the world. According to some reports, more than 1 million people are currently infected with echinococcosis. In recent decades, there has been an increase in the incidence of echinococcosis and an expansion of the geographic range of the disease. For example, in Tunisia, operations for echinococcosis account for 10% of all surgical interventions.

In endemic regions, ideas about the routes of helminth infection show that women are more susceptible to this disease than men, due to the fact that women are more involved in cooking and housework. Other authors also put forward the opinion that there is no predominance of one sex or another in relation to echinococcal infection [15].

Diseases caused by vesicles of parasitic worms have been known for a long time. For example: Hippocrates (469-370), who lived approximately 5 centuries BC, found echinococcus bubbles in the bodies of cattle and pigs and believed that animals died as a result of their rupture. He pointed out that people can die from the dissolution of echinococcus bubbles in the abdominal cavity. He recommended treating people with echinococcosis blisters due to trauma [12,13].

Clinical symptoms depend on the location of echinococcus blisters in the internal organ, its quantity and degree of development. When the liver is damaged, the animal loses weight, the sheep lag behind the herd, visible mucous membranes turn yellow, thin fatty diarrhea is observed, the liver becomes enlarged, swelling (tympany) and slower chewing are noted. When an animal's lungs are infected with echinococcal blisters, in addition to general changes, weight loss, lag behind the herd, decreased appetite and chewing cud, shortness of breath, and a prolonged dry cough are observed.

People experience different symptoms depending on which organ is affected. With echinococcosis of the liver, after taking the medicine, the patient feels pain under the right rib, the liver becomes heavier and increases in size, and jaundice is observed; and with pulmonary echinococcosis, the chest hurts, the patient coughs, shortness of breath appears, and may vomit blood; with cerebral echinococcosis, headache, dizziness are observed, and motor and sensory activity is impaired.

**Prevention.** In order to prevent the disease, it is necessary to properly care for pets, undergo veterinary control on time, observe personal hygiene rules (wash hands after playing or caring for a dog, thoroughly wash vegetables before eating and then rinse with boiled water), and do not allow children to play with stray dogs. on the street.

Children constantly put their hands and various objects in their mouths that may be contaminated with worm eggs. It is important to develop hygiene skills in children.

To protect dogs from echinococcal infection, good veterinary and sanitary control must be established in slaughterhouses. In the fight against echinococcosis, special attention should be paid to the early identification of sick animals and their rehabilitation.

## Conclusion

In conclusion, we can say that comprehensive preventive measures play a key role in improving the epidemiological situation of echinococcosis. The complete ridding of all livestock farms from this disease on the basis of preventive measures is an urgent task of national economic importance, which, along with strengthening the livestock industry, is also a struggle to protect human health.

Periodic deworming of dogs, improvement of sanitary and hygienic conditions in enclosures, giving the necessary recommendations about the social risk of the disease among the population will lead to a reduction and prevention of the occurrence of echinococcosis.

## References

- [1] Abdiev T.A., Suvonkulov U.T., Kovalenko D.A., Abdiev F.T., Arziev Kh.Yu. Prevalence of helminthiasis in Uzbekistan // problems of biology and medicine. - Samarkand 2014, No. 3 (79). pp. 16-17.
- [2] Abdiev F.T. Parasitic diseases in Uzbekistan and the organization of combating them // Infection immunity and pharmacology. -2005.-No.3.-pp. 77-78.
- [3] Aminzhanov M. "Echinococcosis is a dangerous disease." Journal "Agriculture of Uzbekistan" 2003, No. 5, pp. 18-22.
- [4] 4.Arziev H.Yu. Dog deworming schemes//Fifth international scientific conference. The spread of especially dangerous diseases of animals and poultry and measures to combat them. Samarkand, 2016. – pp. 83-86.

- [5] Akhmedov S.M. Liver resection for echinococcosis //Annals of surgical hepatology. - 2017. - No. 2. - pp. 49-54.
- [6] Ibragimov A.V., Rakhmatullaev A.A. Diagnosis of pulmonary echinococcosis in children "Achievements of young scientists in the field of pediatrics" Republican Scientific and Practical Conference Tashkent 2017, p. 88.
- [7] Kovalenko F.P. and others. "Echinococcosis - biology of pathogens, epizootology, prevention". Journal "Veterinary Science" 2000. No. 4. pp. 46-48.
- [8] Musaev G.Kh., Sharipov R.Kh., Fatyanova A.S., Levkin V.V., Ishchenko A.I., Zuev V.M. Echinococcosis and pregnancy: approaches to treatment tactics // Surgery. - 2019.- No. 5. - pp. 38-41.
- [9] Nazirov F.G., Ilkhamov F.A., Atabekov A.S., 2002. Echinococcosis in Uzbekistan: the state of the problem and ways to improve treatment results. Medical Journal of Uzbekistan. 2002. No. 2-3, pp. 2-5.
- [10] Rasulov Sh.M. Epizootology and epidemiology of echinococcosis. // Bulletin of the Association of Doctors of Uzbekistan. - Tashkent. - 2020. No. 2. - pp. 62-66.
- [11] Rasulov Sh.M., Matnazarova G.S., Mirtazaev O.M. Modern epidemiological characteristics of echinococcosis and its prevention. // Problems of biology and medicine. - Samarkand. - 2018. No. 4.2 (106). - pp. 92-95.
- [12] Sergiev V.P., Cystic echinococcosis (unilocular): clinical picture, diagnosis, treatment, prevention / Sergiev V.P., Legonkov Yu.A., Poletaeva O.G. and others - M.: Vector Best, 2008. - 33 p.
- [13] Shevchenko Yu.L., Nazyrov F.G. Surgery for echinococcosis. Moscow. Publishing house "Dynasty", 2016. 287 p.
- [14] Ergashov E.Kh. and others. "Echinococcosis is a very dangerous disease, fight it." / magazine "Veterinary Medicine of Uzbekistan", 2000, No. 3, pp. 3-6.
- [15] Liu L et al. Current situation of endemic status, prevention and control of neglected zoonotic diseases in China. // ZhongguoXue Xi Chong Bing Fang Zhi Za Zhi. 2013 Jun;25 (3):307-11.
- [16] Ainura, Kamalova. "STUDY OF THE DISEASES IXODIDOSIS IN EXPERIMENTAL EXPERIMENTS." MODELS AND METHODS FOR INCREASING THE EFFICIENCY OF INNOVATIVE RESEARCH 3.28 (2023): 190-196.
- [17] Ainura, Kamalova. "DISTRIBUTION OF ECTOPARASITES IN LIVESTOCK FARMS OF THE REPUBLIC OF KARAKALPAKSTAN." Formation and Development of Pedagogical Creativity: International Scientific-Practical Conference (Belgium). Vol. 1. 2023.
- [18] Мавланов С., Камалова А. ҚОРАМОЛЛАРНИ ИКСОДИДОЗ КАСАЛЛИГИНИ ЭКСПЕРИМЕНТАЛ ТАЖРИБАЛАРДА ЎРГАНИШ //Science and innovation. – 2023. – Т. 2. – №. Special Issue 8. – С. 1755-1761.
- [19] Мавланов С., Камалова А., Маматкулов У. Экология энтомофагов //Перспективы развития ветеринарной науки и её роль в обеспечении пищевой безопасности. – 2022. – Т. 1. – №. 1. – С. 267-271.
- [20] Иргашев, У. К., Холов, Ш., Камалова, А. И., & Мавланов, С. И. (2021). Меры борьбы против эктопаразитов.
- [21] Исмоилов А. Фауна мух синдбовила и воздействие на них препарата альфа-шакти //Перспективы развития ветеринарной науки и её роль в обеспечении пищевой безопасности. – 2022. – Т. 1. – №. 1. – С. 126-131.
- [22] Исмоилов А., Рузимородов А. Борьба с зоофилами и мухами синбовил в домашнем скоте и их борьба с ними //in Library. – 2021. – Т. 21. – №. 1. – С. 60-63.
- [23] Pulatov, F. S., Rakhimov, M. Y., Ismoilov, A. S., Boltayev, D. M., & Djalolov, A. A. Prevalence of Ecto-and Endoparasites in Animals. MIDDLE EUROPEAN SCIENTIFIC BULLETIN.
- [24] Shuhratovich, Ismoilov Adham. "FAUNA OF SINDBOVIL FLIES AND THE EFFECT OF

## THE DRUG AGAINST THEM."

- [25] Рузимуродов А. Р., Исмоилов А. Ш., Рахимов М. Ю. Пестициды-видовое разнообразие //СОВРЕМЕННОЕ ЭКОЛОГИЧЕСКОЕ СОСТОЯНИЕ ПРИРОДНОЙ СРЕДЫ И НАУЧНО-ПРАКТИЧЕСКИЕ АСПЕКТЫ РАЦИОНАЛЬНОГО ПРИРОДОПОЛЬЗОВАНИЯ. – 2016. – С. 3408-3409.
- [26] Рўзимуродов, А., Раҳимов, М., Исмоилов, А., Абдуллаева, Д., & Пўлатов, Ф. С. Монография. Пиретроидлар. Табиий ўчоқли ва трансмиссив касалликлар муҳофазаси. “Zarafshon” нашрети ДК, Самарқанд-2018 й.
- [27] Pulatov, F. S., Rakhimov, M. Y., Ismoilov, A. S., Boltayev, D. M., Kamalova, A. I., & Djalolov, A. A. (2023). Ecogenesis of ECTO and Endoparasites in Animals. *Journal of Survey in Fisheries Sciences*, 10(3S), 2238-2245.
- [28] Pulatov, F. S., Rakhimov, M. Y., Ismoilov, A. S., Boltaev, D. M., Kamalova, A. I., & Djalolov, A. A. (2022). Fauna and phenoecology of zooparasites. *Annals of forest research Scopus journal*, 65(1), 854-863.
- [29] Pulatov, F. S., Rakhimov, M. Y., Sh, I. A., Boltaev, D. M., & Saifiddinov, B. F. (2022). Ecogenesis of ectoparasites of agricultural animals. *Eurasian Med Res Period*, 6, 165-167.