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DIAGNOSIS OF RABIES AND CONTROL OF VACCINE EFFECTIVENESS

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ABSTRACT: This article describes the general and special measures taken to prevent the spread of rabies in the Fergana region. The main special veterinary activities in 2015-2021 were the vaccination of animals (dogs and cats) with an anti-rabies vaccine to form active immunity against rabies. In the virological laboratory of the State Center for Diagnostics of Animal Diseases and Food Safety of the Ferghana region, the results of microscopic, serological and biological examination of rabies samples of pathological material from only 405 animals belonging to 12 animal species received over the years were analyzed.

Keywords: rabies, infection, prevention, neurotropic virus, brain, virus, dog, cat, vaccine, diagnosis, patmaterial, luminescent microscopy.

INTRODUCTION

One of the most important challenges facing veterinary science is the development, improvement, and implementation of measures to diagnose, prevent, and combat infectious diseases that cause significant economic damage to farm animals.Laboratory tests include early detection of infectious diseases in farm animals and poultry, differentiation of their forms, identifying the characteristics of the pathogen, providing great practical assistance to farms in their prevention and control.

The effectiveness of microbiological testing methods in the laboratory, the success of accurate diagnosis actually depends on the correct receipt of pathological material, timely delivery to the laboratory, compliance with storage regulations, etc. It is important to pay special attention to the specific pathogenesis of each disease and the tropism of the microbe.

The epizootic situation with rabies in agriculture and domestic animals remains complex in recent years. The disease is widespread among farm, domestic and wild animals and is becoming a complex economic, environmental and social problem. The spread of the disease in all countries of the world, the proliferation of warm-blooded animal species in the epizootic process, and the prevalence of rabies among humans are exacerbating the problem.

The disease is transmitted to humans through the bite of animals such as dogs, cats, foxes, wolves, and jackals, sometimes through contact with infected pets. So this is a social problem.

The rabies virus is difficult to control because all mammals are susceptible to the virus. In particular, all wild animals and rodents maintain the pathogenicity of the pathogen in nature.That's why it's so hard to get rid of rabies. Because it is impossible to vaccinate all rabies-prone animals in nature (mountain, desert, aquatic animals). However, it should be noted that the most dangerous animals for humans and farm animals are dogs, foxes and cats.

Therefore, today the analysis of the epizootic situation with rabies and the prevention and diagnosis of the disease are important.

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Relevance of the topic. Rabies remains one of the most important veterinary and health problems in many countries around the world.Despite the measures taken against epizootics, it is not possible to limit the spread of rabies.Epizootic measures against rabies include diagnosis of the disease and prophylactic immunization of domestic, wild and farm animals,includes monitoring the effectiveness of the vaccine.The diagnostic methods of rabies recommended by the WHO Committee of Experts require special equipment and are mainly intended for post-mortem research.

Rabies is an acute, highly dangerous viral disease of warm-blooded mammals, characterized by severe damage to the nervous system and fatal. The disease belongs to the family Rabdovirus, there are street (epizootic) and (fix-virus) types of the virus that cause the disease.The fix-virus strain of the street-type virus was transmitted to rabbits by passage and is widely used to produce vaccines.The street type of the virus in nature is distinguished by its pathogenicity and antigenic structure. The virus multiplies in the brain of a sick animal and is excreted through the saliva.

Rabies affects all types of wild and domestic animals and people, and cold-blooded people do not get the disease.

Of the wild animals, the predators are mainly carnivores (foxes, wolves, chihuahuas), but the disease is also common in rodents and bats. Pets, especially stray dogs and cats, get sick from pets.In birds, the disease can be artificially transmitted, and in very rare cases it can be transmitted naturally. Wild animals ensure the stability of the disease virus in nature. A sick animal is a source of disease.The virus appears in the saliva of a sick animal 8-10 days before the onset of clinical signs of the disease. The disease is mainly transmitted through direct contact.

Epizootological data of the diagnosis of danging,it is based on the results of clinical signs and pathological examination and laboratory tests.

Research results and their analysis. Preventive measures against rabies in Fergana region include identification and elimination of sources of rabies, elimination of stray dogs and cats (handing over to the appropriate organizations), regular veterinary control of domestic dogs and cats, their prophylactic vaccination, rabies vaccination of imported animals, counting the number of dogs in cities, strengthening control over their sale and exchange, and eradicating stray dogs and wolves found around populated areas.

The main results of special veterinary measures were the analysis of vaccination of animals (dogs and cats) with antirabic vaccine for the development of active immunity in 2015-2021, and we obtained the following results (Table 1).

Table 1

The rate of rabies vaccination of animals in Fergana region in 2015-2021

T /r	Year	Type of animals	2015	2016	2017	2018	2019	2020	2021
1	Plan	Dog	154000	154000	172000	148700	103000	128300	128300
2	Vaccinated	Dog	112056	146891	151831	150660	104733	132678	133558
		Cat	105	305	195	590	956	812	192
3	Total		112161	147196	152026	151250	105689	133490	133750

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In 2019, 2020, and 2021, respectively, prophylactic vaccination of dogs was 101.6 - 103.4-104.1%. Cats were not left out either.Our research shows that the number of rabies vaccinations in Fergana region is growing significantly, and it is becoming more important among the general measures to prevent the disease.The results obtained, and the prophylactic immunization of animals, can be closely linked with the diagnosis of the disease and the control of the effectiveness of vaccination.

The carcasses of small animals and the heads of large animals are sent to the virology laboratory of the State Center for Diagnosis of Animal Diseases and Food Safety in Fergana region in a special container with a referral letter.

Pathological material (animal's head) is cracked in the fracturing room of the laboratory, wearing special personal protective equipment, with special sterile instruments, and from each part of the brain (ammonium horn, brain, cortex of the large hemispheres, elongated brain) 0.5-1.0 cm pieces of tissue are obtained. The rest of the head, the body is cremated in the crematorium.

Several smears are prepared from the brain to be examined under a light and fluorescent microscope. A 10% suspension is prepared in a test tube with a tightly closed rubber cap for biosinov. The second test tube is also filled with tissue fragments from each part of the brain, preserved in 50% glycerin, and stored for one year.

Table 2

Dependence of the results of the examination of pathological samples for rabies and the level of vaccination in the virology laboratory of the regional diagnostic center in Fergana region in 2015-2021

T/r	Years	2015		2016		2017		2018		2019		2020		2021	
	Vaccination (%)	72,76		95,4		88,3		101,3		101,6		103,4		104,1	
1	A total of 405 pathological samples were examined	95		110		72		46		41		16		25	
	From:		+		+		+		+		+		+		+
	Horse	2		1											
	Large Horned Animal	20	1	14		14	1	2		6		2		4	
	Tiny Horned Animal	1		1				2		2					
	Rabbits			1				1		1					
	Dogs	68	1	76	3	48	4	30	2	24		13		18	
	Cats	4		14		8		3		7		1		2	
	Squirrel			1				1						1	
	Mice			1				1		1					
	American Norka					1									
	Fox					1									
	Wolf							1							

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	Hedgehogs			1											
2	A positive result obtained		2		3		5		2		-		-		-

Congratification of laboratory diagnostics The brain is to detect microsopic (detection of anti-black-deep bodies), detection of antigens and bioosinov in white mice.

The light microscope is confirmed by Babesh-Negri cells if the Babesh-Negri is identified in the drug in Muromsev.

The immunofluological testing reaction is unique to the formation of a homologous speech against a homologous caloscope, the formation of a set of antibohescence, the formation of the "Antigen-Antitelo", gives the bright yellowish green radiation with the characteristic microscope when seen in the microscope.

This gives such interaction and unless complex not formed into brain-light yellow radiation.

Relecting virus is determined in the form of a bright yellow gray granules of various forms and sizes in neurons and outside the cell. Sometimes you can see many small bright green pieces in a round and oval shape. The drug tested is the result if characteristy green granules are found in multiple viewing fields of a microscope.Microscopic examinations If the bodies of Babesh-Negri are not detected, Biosins are placed in at least 6 white mice if the characteristic bright green granules are not found. The experimental mice is placed in special cells or aquitiums and is observed 30 days. During this time, the symptoms of a calamity in mice are visited by the scarcity and death is microscopically inspected. The result is positive if they find their confirmation.

When we associate the results of the dogs examined in the above-mentioned methods of pathological materials of Fergana regions of the Fergana Regional Animal Disertivity, the above methods when we analyzed in 2015-2022 (Table 2) From the same years, a total of 405 heads of animals (at horse, Large Horned Animal, Tiny Horned Animal, rabbit, dog, cat, couser, mouse, the sample of pathological material is examined to microscopic, serological and biological ways to the sample of the American minor, fox, piety).

12 positive results have been obtained, including 2 heads of Large Horned Animal, 10 heads of dogs. In 2015, vaccination of dog vaccination was 72.76%, with 2 head of pathological samples and other 1 head-horned meals, 1 head-dog virus was identified.

In 2016, the dogs were vaccinated by 95.4%, 110 samples were diagnosed with 3 heads. In 2017, the dogs were vaccinated 88.3%, 1 sample was diagnosed in 2018, with a disease in 2 ITs, with a positive result.A total of a positive result was not taken from 82 pathological samples examined in 2019, 2020, 2021. Vaccination of dogs amounted to 101,6 % and above.In recent years, the number of positive results in recent years and does not occur, disagrees against the confrontation in the region require the need to strengthen the control of vaccination efficiency.

Conclusion

1.If the initial diagnosis of animals is based on the initial diagnosis data, clinical signs when the Babesh-Negri cells are identified in the final diagnosis, when the cells of the immunofluoressesce occur, the immunophular brilliant green granules were found in the reaction and in at least 6 white mice is placed on the basis of the results of Biosinov.

2. As a result of the data obtained, the specialization of dissolving, diagnostic methods and vaccination revealed the effectiveness of the vaccination.The fact that measures against the anti-epizootic measures will be carried out

consistently, ensures the effectiveness of preventive measures. With the increase in the level of vaccination of dogs and cats, the sharp decline in raging among the animals was determined.

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