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MEASURES FOR THE PREVENTION OF ANTHRAX AND THE FIGHT AGAINST EPIZOOTICS

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ABSTRACT: This article discusses the role of unhealthy foci in the prevention of anthrax, the role of soil in ensuring the transmission of the pathogen from a sick animal to a healthy one, and the continuity of the epizootic process in the foci. Detection, registration, epizootic control of infectious foci in unhealthy farms is the basis for preventive measures, in addition to general economic, zoohygienic, veterinary and sanitary measures for the prevention of anthrax. The role of these methods is also very important.

Keywords: Anthrax, infectious disease, animal, pathological material, B.anthraxis, spores, capsules, bacilli, unhealthy foci, prophylaxis.

INTRODUCTION

Entrepreneurship development, personal assistants, farmers and ranchers are important in improving the living conditions of the population. Prevention, timely detection and improvement of control measures against dangerous infectious diseases among animals will greatly contribute to the development of animal husbandry and increase the number of livestock. Protecting livestock farms and citizens' private animals from anthrax, one of the most dangerous infectious zoonotic diseases for humankind, remains a pressing issue. An average of 160,000 cases of anthrax and 2

million cases of anthrax are reported worldwide each year. the head animal dies, and 40,000 people are infected with anthrax through animal products, which makes the problem even more serious. Kidney disease is still not only a major threat to livestock, but also an important social issue.

Degree of study of the problem. Long-term persistence of the anthrax pathogen in the soil ensures the continuation of the epizootiological, epidemiological process at the site of the disease. It is therefore noted as one of the main sources of soil anthrax, as animals and humans are transmitted the disease directly through the soil. The epizootiological and

epidemiological danger of the soil is that the pathogen not only persists for a long time, but also does not lose its pathogenic properties [1,2,3]. The long-term persistence of spores of the anthrax pathogen in the soil makes the fight against this disease a long-term task. Due to this, despite the fact that scientists have studied the exact location of anthrax in humans and animals and the burial places of infected animals, their registration and regular bacteriological examination for anthrax are still the most pressing issues in some regions of the country. is [4,7,8]. Each year, new data are collected on the methods of detection and prevention of the causative agent of anthrax, the epizootiology of the disease, the activity of the causative agent in the body and the environment, its variability. This, in turn, requires the development of plans to identify and eliminate each stationary unhealthy point [5,6,7,8,9]. In order to carry out measures for the prevention and control of anthrax in farm animals, first of all, it is necessary to know the exact location of each unhealthy point, the geographical location of the anthrax, to constantly monitor the sanitary condition, to collect soil samples every month. bacteriological examination of the pathogen plays an extremely important role.

Materials and methods

Detection of anthrax outbreaks, their condition and disease prevention Samarkand Regional State Veterinary and Livestock Development Department, Samarkand Regional State Center for Diagnosis of Animal Diseases and Food Safety, Urgut District State Veterinary Department, District State Veterinary Diagnostic Center and District Livestock studied on farms. Based on the data obtained with the help of specialists of the district veterinary department for 2018-2021, the organization and control of the veterinary

system in the district, the district plan of preventive and anti-epizootic measures, the epizootic situation and epizootic maps in the district were studied. In the Urgut district, we analyzed outbreaks from 1934-1975 using an atlas showing previous anthrax outbreaks. The influence of geographical conditions on the epizootiological parameters of the disease, their aspects related to the emergence and spread of the disease were studied (A.A .Adilov, J.S. Sayfutdinov, P.I. Chichenin, 1979; V.V. Makarov et al., 2009). The carcasses of animals slaughtered in the district are examined microbiologically in the bacteriological department of the veterinary laboratory. Together with laboratory experts, we used microscopic, bacteriological, biosynthetic, serological tests - precipitation methods. Soil samples from anthrax were also examined. Laboratory tests are carried out in accordance with the instructions on "Laboratory diagnosis of anthrax", "Guidelines for the isolation of anthrax from animal raw materials (skin, wool, etc.) and external objects" went. According to the epizootic plan developed on the farms, the monitoring of vaccination of animals with anthrax strain 55 for prophylaxis was analyzed on the basis of documents. Research results and their analysis. The death of a sick animal is a major factor in the re-emergence of the anthrax. At the time of death, the amount of oxygen in the animal's body decreases, the anaerobic state quickly develops, and the bacilli are unable to turn into spores. In summer, the body develops mainly anaerobes (passing through the gastrointestinal tract) in the heat, many of which are antagonists of the anthrax pathogen. As a result of the decay of the body, the causative agent does not remain in it. However, blood and fluid are released from all the natural holes of the dead animal and fall to the ground. This distinction contains a large number of vegetative forms of the pathogen. In addition,

during the agonal period, the disease is excreted in the saliva, urine and feces of the animal. When a sick animal is unknowingly slaughtered, skinned, or its meat moistened, virulent, vegetative forms of the pathogen from the blood and internal organs fall to the ground and cause mass damage. Wild animals, birds, rodents, and the like carry the carcasses of dead animals everywhere and infect the soil with anthrax bacilli. Vegetative forms of the pathogen in the soil turn into spores under the influence of oxygen, are stored for a long time, develop and multiply under favorable conditions. The formation of spores of the pathogen plays an important role in the epizootiology of the disease. Spore formation of a vegetative cell is considered to be the final stage of *B.anthraxis* development. Spore-spore germination-vegetative cell-spore formation-spore. This is a continuous process, the spores are living organisms in equal conditions and are extremely resistant to external influences. The development and reproduction of spores in the soil in a vegetative form has been identified and proven in the scientific work of many of our scientists. Because of this, the soil is a natural reservoir for anthrax. In addition, the main and constant source of soil-animal pests is an important link in the circulation of pathogens in nature. The scheme of the epizootic process can be given as follows: soil animal conductive animal soil. As a result of our research, we found that in 1930-1970, there were 4,500 unhealthy anthrax outbreaks in Uzbekistan, of which 39.4% were in Samarkand region. We believe that the uneven distribution of the disease among animals in different places depends on the composition of the livestock by animal species and the ecology of different species of susceptible animals.

Anthrax was first reported in Uzbekistan in 1869. In the territory of the Republic of

Karakalpakstan, Bukhara, Navoi, Samarkand and Andijan regions, the disease has been registered among several people and animals. From 1934 to 1975, a total of 265 cases of anthrax were detected in Samarkand region (unhealthy foci), of which the highest number of cases was 41 in Samarkand district, 60 cases in Bulungur and Jambay districts, Urgut 91 cases in the district. In Urgut district, the incidence was highest in 1950-1953, with the last incidence in 1995. Today, there are a total of 10 known anthrax hotspots in Urgut district, each of which is concreted and fenced. At the Samarkand Regional State Center for Diagnosis of Animal Diseases and Food Safety, 54 soil samples from anthrax outbreaks in Urgut district were bacteriologically examined (March 22, 2020 № 30-57, December 5, 2020 №505-532). At the State Center for Diagnosis of Animal Diseases and Food Safety in Urgut district, 27 soil samples from anthrax outbreaks were examined (March 5, 2021 №85-112 expert opinion). The tests did not isolate the anthrax pathogen from soil samples taken from the anthrax outbreaks. There were 91 anthrax outbreaks in the Urgut district in 1934-1975 in the atlas showing the previous anthrax outbreaks. Currently, only 10 anthrax sites are known. The whereabouts of the remaining 81 fires are unknown. This poses a serious threat to the epizootic situation of anthrax in the district. Increases the risk of disease in animals and humans. In addition, violations of the rules of anthrax control can harm not only animals but also humans. Against anthrax in Urgut district in 2018-2021 type and number of animals vaccinated prophylactically. Against anthrax in Urgut district in 2018-2021 type and number of animals vaccinated prophylactically

samples, pathological materials obtained from

Year	Large horned cattles (head count)			Small horned cattles (head count)			Horses (head count)			Donkeys (head count)		
	Total	Vaccinated	%	Total	Vaccinated	%	Total	Vaccinated	%	Total	Vaccinated	%
2018	107525	100767	93,7	174626	53423	30,5	2617	1089	41,6	1983	917	46,2
2019	110850	103227	93,1	180026	65291	36,2	2696	1021	37,8	2045	756	36,9
2020	114243	113557	99,3	185594	94377	50,8	2742	624	22,7	2108	1067	50,6
2021	117776	109116	92,6	191333	48746	25,4	2826	498	17,6	2174	932	42,8
			94,7			36			29,9			44

It is known that people often get anthrax as a result of consuming the meat of animals that have been forcibly slaughtered. This often happens when the slaughter of animals and the sale of their products are not properly controlled. The increasing number of forced slaughters and the increased risk of anthrax require strong control over the prevention of the disease, strict movement of animals, strict accounting of trade. Because the plan of prophylactic vaccination of animals against anthrax is disrupted.

When analyzing the type and number of animals vaccinated against anthrax in Urgut district in 2018-2021, an average of 94.7% of cattle, 36% of small horned molars, 29.9% of horses and 44% of donkeys were vaccinated (Table 1). Anthrax vaccination is 58.7% less in cattle, 64.8% less in horses and 50.7% less in donkeys than in cattle. Therefore, in the special prevention of anthrax in the district was organized vaccination of animals with a live vaccine against anthrax strain 55, the development of active immunity in them according to the plan. One of the main measures to control the disease is to ensure that anthrax outbreaks are under the constant supervision of veterinary staff and that laboratory tests of soil

animals that have been forcibly slaughtered, dead or suspected anthrax are carried out in a timely manner.

Conclusions: 1. The results of our study show that in order to implement measures to prevent and control anthrax in animals, it is necessary to know the exact location of anthrax outbreaks.

2. In the territory of Urgut district in 1934-1975 there were 91 anthrax outbreaks in the atlas showing the previous anthrax outbreaks. Currently, only 10 anthrax sites are known. Failure to locate the remaining 81 foci poses a serious risk of anthrax epidemiology.

3. In 2018-2021, the average number of animals vaccinated against anthrax in Urgut district by type and number is 94.7%, small horned molars 36%, horses 29.9%, donkeys 44%.

4. Detection, accounting, epizootic control of infectious diseases in unhealthy farms, in-depth study of the regional epizootiology of the disease, the location of unhealthy old anthrax in the territory of Urgut district, prevention of anthrax in animals and requires the improvement of epizootic control measures in a planned manner.

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