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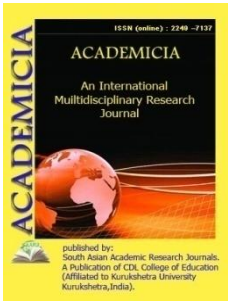

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THE CAUSATIVE AGENT OF BRADZOT'S DISEASE IS CL. RESULTS OF LABORATORY DETERMINATION OF 50% AND 100% LETHAL DOSES (LD50 AND LD100) OF OEDEMATIENS STRAIN

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ABSTRACT

The article describes the results of detection of 50% (ID_{50}) and 100% (ID_{100}) lethal doses of the pathogen in guinea pigs infected with one-day Cl.Oedematiens culture grown in Kitt-Tarottsi nutrient medium from pathological samples from sheep infected with bradzot. One of the main factors in the development of Bradzot's disease is the grazing and dewing of sheep in winter and early spring, their infection with various helminthiases, a decrease in the body's resistance due to lack of protein, vitamins and minerals. The causative agent of Bradzot's disease, Cl.Oedematiens, is a motile anaerobic bacterium that produces spores in the body of a dead animal. Pathogenic spores enter the animal's body through food, water, soil and manure.

KEYWORDS: *Bradyzot, Causative Agent, Cl.Oedematiens, Lethal Dose, Kitt-Tarozzi, Anaerobic, Experiment, Dispute, Pathological Sample.*

INTRODUCTION

Relevance of the topic. In recent years, one of the main challenges is the proper development of sheep breeding, which is one of the main branches of animal husbandry, the proper care of sheep and protection from various diseases in order to obtain healthy offspring and increase productivity. The prevalence of Bradzot's disease in the subjects of karakul farming in the country, in private farms is a serious obstacle to the development of the industry. Bradzot's disease is widespread in all developed countries of the world sheep breeding. With it, sheep of

low mobility and high obesity, regardless of breed and age, become ill. The disease is observed in all seasons (mostly autumn, winter and spring). One of the main factors in the development of Bradzot's disease is the grazing and dewing of sheep in winter and early spring, their infection with various helminthiases, a decrease in the body's resistance due to lack of protein, vitamins and minerals. The disease occurs mainly at lightning speed and in very acute forms, the pathogen releases a strong toxin from the body of infected sheep, and as a result of poisoning the animal dies in a very short time (20-30 minutes, sometimes 2-8 hours). The economic damage caused by Bradzot is enormous, with 30-35% of sheep becoming ill and 90-100% dying in herds. The cost of incineration, as well as the cost of preventive measures for the burning and mutilation of mutton slaughtered sheep, is the basis of economic damage.

The causative agent of Bradzot's disease, Cl.Oedematiens, is a motile anaerobic bacterium that produces spores in the body of a dead animal. Pathogenic spores enter the animal's body through food, water, soil and manure. Because pathogenic spores are highly resistant to external influences, disease foci in nature persist permanently and cannot be eradicated.

In order to develop effective measures to combat Bradzot's disease, it is first necessary to study its epizootology, improve methods of diagnosis and prevention. Therefore, it is important to separate the strains of pathogens from samples taken from unhealthy farms for bradzot disease, to study their cultural-morphological and biological characteristics.

RESEARCH MATERIALS AND METHODS.

Subjects of LLCs in Guzar, Mubarek, Chirakchi of Kashkadarya region, Narpay, Bulungur, Nurabad of Samarkand region and Gallaorol districts of Jizzakh region, pathological samples (liver, kidney, spleen, spleen, liver, kidney, spleen) bone marrow, 12-fingered intestine, spleen) were isolated from the culture of Cl.Oedematiens, the causative agent of bradzot disease, on the basis of complete microbiological tests under laboratory conditions at VITI. In order to identify the culture of pure Cl.Oedematiens, its cultural - morphological, tinctorial, biochemical, biological properties were carefully studied.

A biological test was performed on 16 guinea pigs to determine the lethal dose of Cl.Oedematiens culture at 50% and 100%. For the experiment, guinea pigs with a live weight of 300-350 g were selected. 16 head of guinea pigs were divided into 4 groups of 4 heads. Animals in groups 1, 2, and 3 formed the experimental and group 4 guinea pigs formed the control group. A one-day Cl.Oedematiens culture isolated from pathological specimens for breeding in experimental animals and grown in the Kitt-Tarottsi nutrient medium was administered to the abdominal cavity of guinea pigs in the amounts given in the table below. Group 4 was not contaminated with the pathogen as a control (Table).

For guinea pigs of Cl.Oedematiens strain (LD50) Dosage determination results.

TABLE

Name of groups	Animals Number (head)	Send dose (ml)	Biosinov results (head,%)		
			He is dead	He survived	Killing rate

Experiment 1	4	0,26	2	2	LD50
Experiment 2	4	0,28	3	1	LD75
Experiment 3	4	0,30	4	4	LD100
Controls 4	4	-	-	-	-

Research results. All guinea pigs in the experiment and control were clinically observed for 10 days. In guinea pigs infected with the bradzot pathogen in the experimental groups, clinical signs of the disease began to appear 12–14 h after delivery of the pathogen. They began to show symptoms such as a rise in body temperature to 41.50 C, depression, rapid heartbeat, loss of appetite, lack of mobility. In sick guinea pigs with clinical signs, death was observed after 48-52 hours in a severe comatose state. Rapid swelling of the body, rapid detachment of wool from the skin, filling of the abdominal cavity with water, accumulation of gas in the intestines, hemorrhage in the intestinal wall, darkening of the auricles, accumulation of water, easy separation of the renal capsule, punctate in the liver, lungs bleeding, an increase in the volume of the spleen, bleeding in the inner wall of the abdomen were observed.

The process of pathological dissection of dead guinea pigs in the experimental group

The process of pathological dissection of dead guinea pigs in the experimental group

Analysis of the table data shows that Cl at a dose of 0.26 ml. The first group of guinea pigs infected with oedimatiens died 2 heads over 10 days from guinea pigs. This means that 2 out of 4 head deaths are 50% (O'D50). The second group of guinea pigs infested with 0.28 ml of causative agent accounted for 75% (OD75) of 3 head deaths, i.e. 3 head out of 4 pigs, during the experiment. Cl. The third group of guinea pigs infected with oedimatiens were all dead, and the 100% lethal dose of the pathogen (O'D100) was found to be 0.30 ml.

Thus, in experimental experiments, it was found that the epizootic Cl.Oedimatiens strain isolated from sheep infected with Bradzot's disease had a lethal dose of 50% for guinea pigs (O'D50) of 0.26 ml and a 100% lethal dose (O'D100) of 0.30 ml.

The bodies of all dead guinea pigs were lost by burning with skin after pathological examinations. Cages and pathologically dissected areas where infected experimental animals were kept were disinfected with 10% sodium hydroxide solution and 3% lysol solution. In making a reliable diagnosis of guinea pigs that died from experimental bradzot, the main focus was on the results of bacteriological examination. At the same time, clinical, pathoanatomical signs, epizootiological data observed in guinea pigs (their introduction into the abdominal cavity of the pathogen Bradzot Cl. Oedimatiens) became the basis for the initial diagnosis of this disease. In our study, Cl was reconstituted from pathological samples to make a reliable diagnosis of experimental bradycardia. Separation of oedimatiens and its identification on the basis of all cultural - morphological, tinctorial, biochemical and pathogenic features became crucial.

The internal organs of recently deceased guinea pigs served as a pathological specimen for bacteriological examination: heart, lungs, kidneys, liver, spleen, and tubular bone.

CONCLUSION

1. In acute laboratory experiments in guinea pigs, the epizootic Cl.Oedimatiens strain isolated from sheep infected with bradzot disease was found to have a lethal dose (OD50) of 0.26 ml for 50% guinea pigs and 0.30 ml for a 100% lethal dose (OD100).

2. The main pathological changes in experimental bradzot disease in guinea pigs: gas accumulation in the small intestine, hemorrhage in the inner wall of the intestine, darkening of the auricles, accumulation of water, easy separation of the renal capsule, spotted blood in the liver, lungs infusions, an increase in the volume of the spleen, hemorrhages in the inner wall of the abdomen are detected.

The diagnosis of experimental bradzot disease in guinea pigs was made on the basis of bacteriological tests. On the basis of bacteriological examinations, anaerobic bacilli with cultural-morphological, tinctorial, biochemical, pathogenic properties specific to Cl.Oedimatiens were isolated from pathological samples (parenchymatous organs, tubular bone).

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7. ACADEMICIA AN International Multidisciplinart Research Journal Clinical signs and pathological changes in experimental bradzot R.M. Uraqova*; I.X. Salimov** [1,2]Veterinary Research Institute, Uzbekistan .