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EPIZOOTOLOGY OF PIROPLASMOSIS IN CATTLE

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ABOUT ARTICLE

| Key words: Epizootology, protozoan, enzootic, | Abstract: The article states that piroplasmidoses |
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| parasites, ticks, bolezin, clinical symptoms, | are a group of protozoan diseases whose |
| diagnosis, hemoglobin, lymphocyte, prevention, | causative agent is located in erythrocytes or other |
| treatment. | cells of the reticulo-endothelial system (RET), and |
| | that piroplasmosis is an invasive disease that |
| Received: 19.05.2023 | occurs in cattle, horses, pigs, and dogs. It is caused |
| Accepted: 24.05.2023 | by blood parasites, its reproduction in red blood |
| Published: 29.05.2023 | cells and internal parenchymatous organs in the |
| | presence of an intermediate host, as well as |
| | information on treatment. |

INTRODUCTION

Piroplasmidoses are a group of protozoan diseases, the causative agent of which resides in erythrocytes or other cells of the reticulo-endothelial system (RET). This disease is one of transmissible, natural foci invasions. The characteristic symptoms of this group of diseases are: an increase in body temperature, anemia, jaundice, cardiovascular and gastrointestinal system disorders.

Sporozoa class Apicomplexa phylum combines several genera, Piroplasmida and Soccidiida genera are of great importance in veterinary medicine. The order Piroplasmida consists of the families Babesiidae and Theileriidae. The family Babesiidae includes the genera Babesia, Piroplasma, and Francaiella, and the family Theileriidae includes the genera Theileria and Nuttalia. The Eimeriidae family within the order Coccidiida is important for veterinary practice. This family unites two subfamilies: Eimeriinae contains one genus Eimeria and Isosporinae contains genera Cystoisospora, Taxoplasma, Sarcocystis, Besnoitia.

Piroplasmosis is an invasive disease of cattle, horses, pigs and dogs. It is caused by blood parasites belonging to the genus Piroplasma. In the presence of an intermediate host, the causative agent multiplies in its red blood cells and internal parenchymatous organs. Piroplasmosis is spread by pasture

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mites. Seasonal disease. An infected animal shows symptoms such as fever, jaundice, anemia and blood in urine. It occurs simultaneously with babesiosis in goats and sheep. Diagnosis of blood on the lips. according to inspections.

Treatment: treated with flavacridin, pyro-plasmin, hemosporidin, berenil, azi-din and other drugs. It is an acute transmissible disease of cattle, which is observed with high temperature, anemia and yellowing of mucous membranes, hemoglobinuria, dysfunction of most organs and systems. Instigator. Piroplasma bigemina (Babesia bigemina), a member of the Babesiidae family, is located in erythrocytes and has a round, oval, pear-shaped and amoeba-like shape. The length of the trigger is greater than the radius of the erythrocyte.

One erythrocyte can contain 1-4 or more parasites. Parasites are initially found in erythrocytes in a single form, then many adjacent forms appear. Development of the stimulus. In cattle erythrocytes, piroplasms multiply by simple division or budding. The further development of the parasite takes place in the organism of ticks Boophilus calcaratus, Haemophysalis punctata and Rhipicephalus bursa. Transmission of piroplasms takes place in the transovarial type.

Epizootological data. Diseased animals or parasite carriers and infected ticks are the causative source. Piroplasmosis can be noted in April, June, August-October. Disease symptoms. When the disease is transmitted by ticks, the latent period lasts 8-14 days. In the first days of the disease, the body temperature rises to 41-42°C and remains so during the entire period of the disease.

Hemoglobinuria is observed on the 2nd-3rd day of the disease. In this case, the color of urine ranges from light red to dark cherry. Urine is frequent and contains protein. Visible mucous membranes are reddened at first, then bleed and turn yellow. Dotted and variegated bleeding can be seen in them. Heart rate and breathing speed up. The activity of the gastrointestinal system is disturbed. Regurgitation stops, diarrhea can be observed. A lot of mucus is found in the stool.

The amount of erythrocytes is up to 2.5 million, the amount of hemoglobin decreases by 25-32%, the amount of lymphocytes increases up to 71%, and the number of neutrophils decreases. Pathologoanatomical changes. Mucous and serous membranes become pale yellow, and small dots of blood are shed. Enlarged lymph nodes. The spleen is dark red in color, slightly enlarged, bleeding is visible on the surface, the consistency of the pulp is pale. The liver is enlarged and dark red in color, sometimes yellow in color.

The kidney was enlarged, and the boundary between the core and bark layers was not clear. The bladder is filled with dark red urine. The pulp is hard and the food inside is dry. Diagnosis. Piroplasmosis is diagnosed based on clinical signs, pathologoanatomical changes, taking into account epizootological data. Finding the parasite from a blood smear confirms the diagnosis. Piroplasmosis should be distinguished from Frenchiellosis, babesiosis, theileriosis, anthrax, leptospirosis, anaplasmosis and poisoning.

Treatment. Special symptomatic and pathogenetic treatment is carried out. Azidine (berinil), diami-din, trypansin (trypanblau), trypaflavin (flavocridin), hemosporidin, piroplasmin (acarin) are used as special treatment agents. Preventive measures. Animals should be fed on pastures that are free of ticks.

It is necessary to create cultural pastures where there are no conditions for the development of ants. Animals are sprayed with acaricides when ticks are attached to them.

Azidine (berenil), diamidine or hemosporidin is used to prevent the disease in unhealthy farms. Monovalent polyvalent vaccines against this invasion are being used in several foreign countries.

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