



CLINICAL SYMPTOMS, PATHOMORPHOLOGY AND TREATMENT OF THEILERIOSIS IN CATTLE

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Abstract: In this article, the origin of cattle theileriosis disease, course of the disease, clinical signs of the disease, pathomorphology of organs, diagnosis, treatment and preventive measures were studied.

Key words: theileriosis, RES, erythrocyte, anemia, intoxication, emphysema, clinical, morphological, laboratory, pathomorphology, epizootological, pathologoanatomical, injection, vitamin, antiparasitic, prevention, disinfection, disinsection.

Relevance of the topic: Theileriosis of cattle is an acute disease, which is caused by the parasites belonging to the genus *Theileria* first in RES (reticuloendothelial system) cells of animals, and then in erythrocytes. The disease is caused by an increase in body temperature, characterized by one-sided enlargement of lymph nodes, pallor of visible mucous membranes, failure of the cardiovascular, respiratory and digestive systems, severe emaciation and death of the animal. Among cattle from foreign countries, the disease is severe and causes many deaths. Sick cows reduce milk to 4-6 liters per day. The mortality rate of theileriosis is 60-80%. In addition, the treatment and prevention of the disease requires a lot of money, and a sharp decrease in body weight and productivity causes a large economic loss.[1,3]

The pathogen: The morphological structure of the pathogen depends on the stage of its development. When *theileria* enter the animal body through the saliva of mites, they first develop and multiply in RES cells and form macro-microschizonts (pomegranate grains), which in turn divide again to form micromerazoites, i.e. *theileria*, which enter erythrocytes. It only starts to parasitize. Pomegranate grains have different shapes, and their size can be 9-30 μm or even larger. The shape of *theileria* in erythrocytes is ring-shaped, comma-shaped, rod-shaped, oval-shaped, of which more oval-shaped ones are found, their size is 0.5-2 μm . In one erythrocyte, up to 7 *Theilerias* settle and parasitize. The degree of damage to erythrocytes is 80-95 percent.

Clinical signs: The incubation period of the disease lasts 12-21 days, sometimes even more, when animals are fed on canalized pastures. Bovine theileriosis occurs in acute and semi-acute forms. Among animals brought from other farms, theileriosis is mostly acute, and it is primarily a change in the external lymph nodes: especially in front of the breast, above the udder and other lymph nodes (in the place where the infested ticks are attached to the body of the animal) is characterized by abnormal enlargement. After 1-3 days of such changes in the lymph nodes, the body temperature of sick animals rises to 41 degrees, sometimes even higher, at the same time, their appetite decreases and milk production decreases. In most cases, there is a 3-4 times enlargement of lymph nodes, anemia, intoxication and high body temperature.

With the development of the disease, in 3-4 days, the animal's appetite completely disappears, rumination stops. But when the disease subsides, the appetite can be preserved. In animals, after the intake of food is stopped, the functioning of the intestine also decreases, its peristalsis (contraction) becomes poorly audible. The stool contains a lot of mucus, sometimes blood, and is very hard. It is difficult for

animals to urinate, the urine comes out in a very thin stream, little by little, but of a normal color. In the first days of the rise in body temperature, the mucous membranes of the eyes and nose of sick animals are hyperemic and spot blood is shed. In some animals, depending on the development of the disease, there is bleeding in certain parts of the body on the inner ear, udder, tail root skin. When the animal's body temperature rises, its breathing speeds up to 40-80 movements in 1 minute, and its pulse beats 80-120 times. Jugular vein pulsation is often felt. Sick animals have a dry cough, watery eyes, they lie down a lot and get up with great difficulty, and cow's milking occurs. Visible mucous membranes are slightly hyperemic, then pale and have numerous punctate hemorrhages. Blood is poured into non-pigmented parts of the skin. If the pulse and breathing are accelerated, the animal loses its appetite, the peristalsis of the intestines increases during the beginning of the disease, and if diarrhea occurs, it will quickly change to constipation, because atony of the intestines appears. Sick animals lie down a lot, are indifferent to the effects of the external environment, the weakening of the heart can develop and the disease can end in death. [1,2,3]

Pathoanatomical changes: the body of the dead animal is emaciated, the thin and non-pigmented parts of the skin are weakly yellow, and the mucous membranes are pale yellow and bloody. The subcutaneous tissues are yellowish, and blood has squeezed out from some places. The external lymph nodes are enlarged, moist, and bloody, and the muscles are relaxed and pale. There is a little clear fluid in the chest, the pleura is yellow, and it is known that there are many punctate hemorrhages. In case of emphysematous lungs, there is a lot of bleeding in the mucous membranes of the bronchi. The heart is dilated, relaxed, and a lot of blood is poured into the epicardium and endocardium.

Abdominal walls are slightly yellow and hemorrhages are observed. The liver is enlarged, loose, yellowish or brownish-red in color, blood is poured under the capsule. The gallbladder is enlarged and filled with thick bile. The spleen is enlarged, softened, blood is poured under its capsule. The presence of yellow urine in the bladder is detected. [1,3]



Fig A

Pathoanatomical changes of internal organs of animals that died from the disease.



Fig B

Fig. 1(A and B).

Diagnosis: The disease is diagnosed based on anamnesis data, clinical signs, epizootiological data, pathoanatomical changes and laboratory tests [1].**Comparative diagnosis:** It is necessary to distinguish this disease from piroplasmosis, babesiosis, anaplasmosis and plague.

Treatment. Sick animals are isolated and the causes of the disease are eliminated, and easily digestible feed should be provided with green grass, crushed tubers, bran or silage, and clean water should be available at all times.

From the first day of the disease, symptomatic treatment should be carried out together with comprehensive antiparasitic measures. In order to improve heart function, the required amount of caffeine is injected under the skin, from stimulant drugs, surgi oils are used, they should be sprayed in the amount of 400-800 ml, from ruminant drugs, 0.5 ml of a

10% solution of sodium chloride per kg of body weight is administered intravenously. In addition, for the purpose of complex treatment, it is good to inject a large amount of isotonic solutions together with vitamins of group B and C into a vein, and to use preparations containing amino acids and vitamins (hemobalance, Gamovit) and macro and microelements (mineral-multivitamin). it works. Currently, modern antiparasitic drugs such as Butachem, buparvalek and buparvaquone are widely used for quick and effective treatment of the disease. [1,4]



Fig 2. Medicines used in treatment.

Prevention and prevention of diseases: separation of sick animals from the herd, vaccination of healthy animals against diseases, introduction of veterinary sanitary measures (disinfection, disinsection) in the farm, feeding on the basis of a full-value ration to increase the resistance of animals, and feeding animals to the farm restricting entry and exit is effective in preventing disease. [2,3,4]

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