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The Value of Using the Reaction of Indirect Hemagglutination in Coenurosis

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Summary The paper presents a laboratory method for diagnosing coenurosis, known in the world.

Keywords: coenurosis, gynecology, estrus, listeriosis, RA, RP, CFR, IHA.

Cenurosis (turn-sickness) is a chronic worm disease that mainly affects young animals (lambs, goats, piglets, calves, etc.). Cenurosis also occurs in humans.

Multiceps multiceps, which is considered the causative agent of the disease, is transmitted from dogs. They are parasites in the small intestines of dogs and are spread in the external environment with their feces. One of the main features of the disease is characterized by disruption of the nervous system of animals as a result of Coenurus cerebralis blister-shaped larvae settling in the head and, in some cases, the spinal cord of animals and growing in size.

In this, among other things, the animal's tremors, movement disorders, circling in one place and other signs are noticeable. Such signs are also observed in other infectious and non-infectious diseases of animals. For example, it can occur in ovine estrus, cerebral echinococcosis, monieziosis, listeriosis, rabies, and auesky diseases that destroy the activity of the nervous system.

Due to non-infectious diseases, damage from poisonous herbs and chemicals, avitaminosis and lack of mineral substances, central nervous system dysfunction, and strong mechanical effects on the skull, symptoms characteristic of the symptoms of cenurosis appear. Therefore, several different reactions are used to distinguish cenurosis from other diseases. Precipitation (RP), agglutination (RA), complement fixation (CFR), indirect hemagglutination (IHA) and others are such reactions.

R.G. Ismoilova and S.G. Stepanyan (1968) infected lambs with M.multiceps and observed them for 150 days. Among other things, ring precipitation and hemagglutination reactions were used. Reactions become positive from the 38th day of infection and begin to give high titers on days 58-93, and their titer decreases by the fifth month.

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The best extract of M. multiceps is obtained at a dilution of 1:240 (maximum titer 1:5120). However, the maximum dilution of the reaction reached 1:10240 when using the extract from the membrane of the scolex and cenur bladder.

When IHA reaction is made with antigens prepared from blood serum of infected lambs and M. multiceps extract, the reaction starts to be positive from the 15th day of infection. Antibody titer increases until day 120 and decreases to 1:10 by day 180.

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In the case of tsenurosis, fluid from the tsenur bladder is used as an antigen for the indirect hemagglutination reaction.

Its protein content Lowru et al. (1951) method was determined. Our method differs from the method of other authors R. G. Yaraev (1972) in this respect.

Preparation of recognized erythrocytes

A 2.5% suspension was prepared by washing formalin-fixed ram erythrocytes with buffered saline by centrifugation. A 1:20000 ratio solution of tannic acid in an equal volume is placed on it and mixed. The mixture was incubated in a thermostat at +37C for 30 minutes, then removed from the thermostat and washed several times by centrifugation. A 2-2.5 percent suspension was prepared from the obtained erythrocyte precipitate.

Antigen preparation

For this, 32 ml. The total volume of fluid in the bladder is 100 ml. buffered saline is added until After that, the mixture formed by adding an equal volume of erythrocyte suspension was incubated in a thermostat for 30 minutes. Then it was removed from the thermostat and washed by centrifugation 2-3 times. The resulting erythrocyte sedimentation is equal to the previous volume, i.e. 100 ml. brought up to They are used as diagnostics.

Reaction injection technique

Serum tested in tablet wells was diluted 1:20 with phosphate buffered saline. A separate apparatus is used for each serum. Tokachi's special pipettes are used.

0.2 ml of 1:100 ratio PBS solution of healthy rabbit serum was placed in wells of tablets. For each test or control sera, two rows of wells were obtained (12 in the first row, 6 in the second row). 0.2 ml of the test serum diluted in a ratio of 1:20 to the first well of each row. was released in volume. Serum in each row was mixed with 0.2 ml from the first well to the second well, to the second well and to the last well of the same row and titrated (diluted) by transfer, removing 0.2 ml from the last twelfth or 6th well. Two series of test sera from each experiment or control are obtained in the following ratios: 1:40 to 1:81920 for the first series and 1:1280 for the second series.

After that, one drop of 0.025 ml of antigen diagnostics is added to each well of the first row through a Pasteur pipette. A drop of selected ram's erythrocytes was placed in each well of the second row, and the results are determined after 16-24 hours at room temperature.

Calculate the result of the reaction

Let's take a look at the results:

1. A very positive reaction - all erythrocytes are spread in the cavity in the form of a wide umbrella (+++).

2. Positive reaction - almost all erythrocytes are umbrella-shaped in the pit, and non-agglutinated erythrocytes formed a barely noticeable ring (+++).

3. Suspected reaction - a wide ring-shaped lump (+) was formed from non-adherent erythrocytes at the bottom of the cavity.

4. Negative reaction - there are small agglutinations (closures) at the bottom of the well, most of the erythrocytes did not join together and settled in the middle of the tablet well in the form of a small ring, or all the erythrocytes did not join together and formed a button in the middle of the well (-).

The serum of lambs infected with cenurosis and vaccinated with a vaccine against this disease started to react from the 10th day of infection, and the titer of the antibody to the antigen increased. The highest titer (1:5120) was

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shown on days 21-30 of infection, and until the end of the experiments, it was found that the titer was higher than that of control lambs at 345 days. 70 out of 76 lamb sera (92.1%) were positive.

Conclusion Therefore, the IHA reaction is the most sensitive and specific, it is very convenient in the differential diagnosis of censorious diseases, and it allows correct identification in the early stage of the disease, that is, in an acute state. This reaction is relative to diseases with symptoms similar to those of cenurosis.

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