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DETERMINATION OF CULTURAL PROPERTIES OF LEPTOSPIRA

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Abstract:

Everyone isolated in the laboratory - a microbial culture is definitely identified that is, its species are determined. The following features for this will be studied. In morphology, the shape of the cell, its location, size, spores, and capsule formation and action. In addition, tinctorial, cultural, biochemical, toxigenic, pathogenic, antigenic properties are also studied.
Cultures grown mainly for 24 to 48 hours in the identification of microorganisms used. Because old microorganisms can change their properties.Leptospira grow in dense colonies to form specific colonies.

Keywords: Laboratory, Tinctorial, Cultural, Biochemical, Toxigenic, Pathogenic, Antigenic Properties, Leptospira

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A colony is a collection of microorganisms that grow on the same species. Everyone the presence of one hundred thousand to two billion microbial cells in the colonies possible. Growth is moderate in dense nutrient media. Size up to 2 mm these are called small colonies. The shape is round, amoebic. Surface smooth bulge, relief texture, rough edges - clear, clear, shiny. Grows as a color pigment. In the liquid nutrient medium, the ring on the surface of the medium, forms a curtain. Blurring is moderate. In a liquid nutrient medium leptospira have a high degree of turbidity. the color changes slightly.

Leptospira do not grow in normal nutrient media. Special food from the sample planted in environments. Pasteur pipette into semi-liquid or liquid food media with 3 to 5 drops in 5 to 6 test tubes. Mostly Lyuboshenko and The media recommended by Ulengut will be used.

LYUBOSHENKO'S ENVIRONMENT:

River or well water is filtered through a paper filter. 1 atm in an autoclave. Sterilized and heated rabbit for 30 minutes or 5% of ram's blood serum is added and stored at 56^0C for 1 hour. Then The olives are filtered and placed in test tubes in a box. Sterility of the environment the solutions are determined by keeping the thermostat at 37^0C for 48 hours.

ULENGUT MEDIUM:

Tap water is sterilized in a steam stream. Of water 10 1 part of horse or rabbit blood serum is added to the solution and to the test tubes Add 3 ml and 1 ml of liquid paraffin. Leptospira develop facultative anaerobes at 29-30^0C for 3 months. 3. 5. "Crushed drop" from test tubes every 5 days after 7.10 days drugs are prepared and tested. Growth usually begins in 3 to 5 days. Take 0.5 ml of the grown solution in 4 to 7 days when transplanted into new nutrient media there is a sharp increase. Planted in nutrient media from pathological material leptospira are not always separable. So often in practice biological testing is used.

BIOLOGICAL TEST:

` In a 10 - 20-day old rabbit or in a 3 - 5-week-old sea urchin in pigs and in 20–30-day-old golden pigeons. Blood, suspension prepared from urine, parenchymatous organs 0.5 - 1.0 ml, 2-3 ml for rabbits and 1-2 ml for guinea pigs. Experience two animals are taken. One of the infected animals on the 4th - 5th day will be killed 2 will be killed on days 14-16 if they do not die and their blood.

CHECKED IN MAR:

Blood serum is diluted starting at 1:10 and 13 reactions with antigens prepared from leptospira belonging to the serogroup will be placed. A positive result of MAR is leptospheres in the pathological material indicates the presence of If pure culture is isolated, its pathogenicity with a 5- to 7-day culture (under a microscope, 70 -100 leptospira are detected) in the abdominal cavity of the alma mater. If 0.1 ml of culture kills almonds in 5 to 12 days, it is considered highly virulent.

In different groups to identify serogroups of isolated pure culture the agglutination serum is diluted 1: 50 - 1: 3000 times and MAR is applied.

From 0.1 ml of diluted whey to a special chronic plate or test tube 0.1 ml is mixed with the culture grown for 5 - 10 days. Then in the thermostat It is stored at 37^0C for 1 hour and is a "crushed drop" of the drug from each test tube the prepared result is determined and evaluated with crosses. ++++ - 100% agglutination, +++ - 75% agglutination, ++ - 50% agglutination, + - 25 % agglutination, - no agglutination.

Agglutination is the adhesion of leptospira to each other and to the "spider"determined by the formation of shapes. MAR rated with 4, 3 and 2 crosses which is positive and which culture is on the label of the serum being tested gives a positive result of 50 - 100% of the indicated titer, to the same serogroup enters.

BACTERIOLOGICAL EXAMINATION OF MILK.

This is done in several ways. Mostly the following method is used: 500 ml of milk sample 10 - 15 thousand revolutions per minute centrifuged. 2-3 ml of the sediment is injected under the skin of a rabbit damaged. (Rabbit blood is first tested for leptospirosis with MAR). 7, 14 and after 20 days, the rabbit's blood is tested at MAR. MAR - 1:10 and a higher positive reaction indicates the presence of pathogenic leptospira in milk will give.

SEROLOGICAL DIAGNOSIS IS MADE IN MAR AND AR.

Blood to check serum 5 - 7 days after the animal became ill and the second time on days 7 – 10 is obtained. Live leptospira are used as antigens. Basically, veterinary in laboratories, MAR is administered with leptospira of 6 serogroups.

(Romana, Gruppotyphosa, Tarassovi, Icterohaemorrhagiae, Hebdomadis, Canicola). The test serum is diluted 1:10 to 1: 2500 as follows. First, the serum is diluted 1: 50, 1: 250 and 1: 1250 with saline and 0.1 ml is poured into the holes or solutions of a special plate. Har to 0.1 ml of 3 whey dilute solutions from a leptospira culture will be added. As a result, the whey is diluted 1: 100, 1: 500 and 1: 2500 times. The plates are shaken gently and stored in a thermostat at 30^0C for 1 hour. At the same time the control reaction is poured 0.1 ml of culture into 0.1 ml of saline. Experience the result is a "crushed drop" of the drug under the microscope checked. Crosses 4, 3, and 2 are positive when all of the serum is diluted is calculated.

AR is poured into a vial (drop method) 0.4 ml of whey + drop antigen (mixture of all serogroups) result 1 - 10 seconds minutes. Depending on the color, 4, 3 and 2 crosses are positive and 1 cross is negative is a reaction. To date, about 90 pathogens in the animal kingdom and humans leptospira have been isolated and belong to the 13th serological group. Leptospira are half morphologically indistinguishable from each other rotation, in a spiral state, occurs in shapes S, X, 8. Different moves to this group some are filterable. Leptospira grown in a thermostat at 28 - 30^0C for 5 - 20 days, in which mainly Lyubashenko, Terskix, Fervort - Wolf, VGNKI, Kortgof, Fletcher environments are used.

CONCLUSION.

1. Currently, leptospirosis is a disease of domestic animals, wild animals, rodents. Therefore, in order to protect all animals from the disease, we also protect the health of animals and people by timely detection and correct diagnosis of the disease as a result of laboratory tests on farm animals every three months for preventive purposes. .

2. Maintaining a special epizootic journal in the district, analyzing each case
and remedial action should be taken immediately
purposeful. When the animals go to the summer pastures, the repair, disinfection, disinsection, deratization of the barns must be carried out at the required level, the manure must be cleaned and biothermally damaged, there must be Becker wells,
the mouth should be hermetically sealed.

3. All the factors that cause leptospirosis are ignored
local conditions are studied and prophylactically for the area
An action plan is developed, a copy of which is submitted to the head of the district veterinarian,
it is advisable to have an epizootologist and a farm manager.

4. By maintaining early detection of leptospirosis, correct diagnosis, and segregation of animals, we maintain economic efficiency.

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