

RABBITS ARE INFECTED WITH MIXED SALMONELLOSIS AND COLIBACILLOSIS COURSE, PATHOANATOMICAL AND BACTERIOLOGICAL DIAGNOSTIC METHODS

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Abstract: The article presents the co-prevalence of salmonellosis and colibacillosis in rabbits reared on rabbit farms, clinical signs, pathogens, bacteriological and pathological examinations.

Annotation: V state rassmatrivayutsya rasprostranenie v krolikovodcheskix fermerskix xozyaystvax salmonellosis i kolibakterioza v smeshannom vide, klinicheskie priznaki, vzbuditeli, a takje pokazateli bakteriologicheskix i patologoanatomicheskix issled.

Keywords: colibacillosis, salmonellosis, patmaterial, GPA, GPB, Levin, fibrinous nodules, hemorrhagic hemorrhage, dystrophy, necrosis, desquamation, induration.

Relevance of the topic: The spread of mixed infectious salmonellosis and colibacillosis in rabbits is one of the most pressing issues today, causing enormous economic damage to farms.

Level of study of the subject: When salmonellosis in rabbits is isolated, the presence of pathogens such as *Salmonella cholerae suis*, *S. typhimurium*, *S. enteritidis* has been identified (S.V.Leontyuk, 1974, S.V.Yurashchik, 2005). Colibacillosis was first diagnosed in 1885 by T. Escherichia isolated young children from intestinal feces and named the pathogen *Escherichia coli* enteropathogenic bacterium. According to the modern classification, the group of *Escherichia coli* consists of 3 independent bacterial genera, *Escherichia coli*, *Cytobacter* and *Enterobacter*, which are not the next two generations of colibacillosis pathogens other than *Escherichia coli* (H.S. Salimov 2016). In the earliest studies, science was of the opinion that *Escherichia coli* was always present in the body of healthy animals and did not cause disease. However, the pathogen was identified when the causative agent of colibacillosis entered the body (Veteshi, 1970) and a pure culture of the *E.coli* pathogen was isolated.

Ikalla pathogen also grows well in normal nutrient media at a temperature of 37-38 ° C in a thermostat (MPA, MPB, MPJ, elective media, blood agar, Endo, Levin, bismuth-sulfite, *Salmonella-Shigella*). *Escherichia coli* is a thick, short, 1-3 µm long, 0.5-0.7 µm wide, twisted, gram-negative (pinkish-red) rod-shaped bacteria that do not form spores or capsules and are located one by one. Only strains 08, 09, 0101 form capsules. There are both mobile and inactive species (S.V. Leontyuk, 1974).

The causative agent of *S. enteritidis* is a rod-shaped bacterium that is gram-negative, rod-shaped, motile, toxin-producing, does not form spores and capsules, the ends are short, bent, 1-2 µm long, 0.5 µm wide. grows well. In GPB, the stimulus produces a uniform turbidity. GPA forms smooth, colorless, clear or gray-blue colonies, bismuth-sulfite agar - black colonies (Z.J.Shapulatoeva, 2013).

So far, the prevalence of salmonellosis and colibacillosis among large and small horned animals, fur and humans has been studied as a separate disease, and vaccines have been developed to prevent it. The co-occurrence of these diseases (pasteurellosis, colibacillosis and salmonellosis) in cattle, sheep and poultry has been studied and a “polyvalent vaccine against

infectious pasteurellosis, colibacillosis and salmonellosis of farm animals” has been developed (B.A. Elmuradov, 2018).

Research Objective: Rabbits were originally used as experimental animals to infect other strains. But to date, the care of rabbits and the study of their diseases is of great importance. Due to the growing attention paid to rabbits in the country in recent years, it is expedient to study the infectious diseases of rabbits, to cover the differential diagnosis of Enterobacteriaceae, *Escherichia coli* and *Salmonella* in the same family.

Object and methods of research: In the laboratories of microbiology and pathomorphology, experimental work was carried out on 16 head of rabbits to study the mixed transmission of *Escherichia coli* and *Salmonella* species in rabbits. In this case, 1.5 billion LD50 microbial bodies in the amount of 0.5 ml of suspension in the abdomen of 4 heads of group 1 rabbits *E.coli* in the amount of 0.5 ml of suspension, 1.5 billion LD50 microbial bodies in the amount of 0.5 ml of suspension in the abdomen of 4 heads of group 2 rabbits *S. enteritidis*, 4 heads 3-group two pathogens (*S. enteritidis* + *E. coli*) together in the abdominal cavity 1.5 (0.75 + 0.75) billion LD50 microbial body 0.5 ml (0.25 + 0.25) infected in the amount of suspension. In rabbits in 4 main control groups, 0.5 ml of saline was injected into the abdominal cavity.

Results of the study: According to current epizootiological data, the co-occurrence of salmonellosis and colibacillosis is common in rabbit children aged 15-20 days to 2.5 months, and the main changes are accompanied by inflammation of the gastrointestinal tract (septicemia). Yellowish-blue diarrhea in rabbits, bloating of the abdomen due to gas filling of the intestines, fatigue, refusal to eat, weakness, drowsiness and fever up to 42 ° C, if not prevented, the disease is fatal in 3-7 days.

In the experiment, the main changes were observed in the digestive tract and respiratory system during pathological examination of dead rabbits. Undigested in the stomach, white mucus-covered food with a fibrinous mass, catarrhal inflammation of the gastric mucosa when emptied, punctate hemorrhage in the gastric sphincters, strong filling of the intestines with gas, feces surrounded by a mucous mass. Foamy, yellowish-blue stools in the small intestine, the presence of a mucous fibrinous mass in the stool, unpleasant odor of feces, spots on the intestinal mucosa, hemorrhagic hemorrhage, enlarged lymph nodes, hemorrhage, at the junction of the colon and appendix, various sizes (*Phaseolus aureus*) were found to have fibrin nodules. Hemorrhagic hemorrhage in the lungs, foamy exudate in the trachea, and punctate hemorrhage were detected. Changes in other parenchymatous organs Accumulation of yellowish exudate in the heart jacket, pericarditis and left ventricular infarction, enlargement of the liver, dystrophic changes, loosening of consistency, punctate hemorrhage in the kidneys, development of foci of splenic dystrophy and capillary necrosis, anal fissure with urinary bladder expressed (Figure 1).

Samples from these rabbit parenchymatous organs were inoculated into GPB and placed in a thermostat at 37 ° C. The nature of the obtained tumors was studied. The culture medium in the GPB, the presence of a 1mm white precipitate at the bottom of the test tube, and uniform turbidity were observed. When mixed, the sediment at the bottom of the solution easily mixes with the medium. *Salmonella* of two different sizes, short, circular at the ends, 0.5-2 μm in size, and 1-3 in length, 0.5-0.7 μm in width, short, thick rods. bacterium - *E. coli* was detected (Fig. 2). Growing colonies were replanted into elective nutrient media. In the Endo medium, two types of pink and metallic glow colonies are formed, in the Levin environment, two types of glowing and light purple colonies, in the Bismuth-sulfite agar two types of colonies (dark green glowing black and light brown), and in the blood agar environment the flowing colonies with hemolysis.



Figure 1. bilateral bronchopneumonia and heart attack nodules at the entrance to the appendix in the lungs of rabbits who died from a mixed infection.



Figure 2. formation of fibrinous nodules at the entrance to the appendix



Figure 3. Swelling of the outer surface of the stomach and hemorrhagic hemorrhage in the inner sphincter.

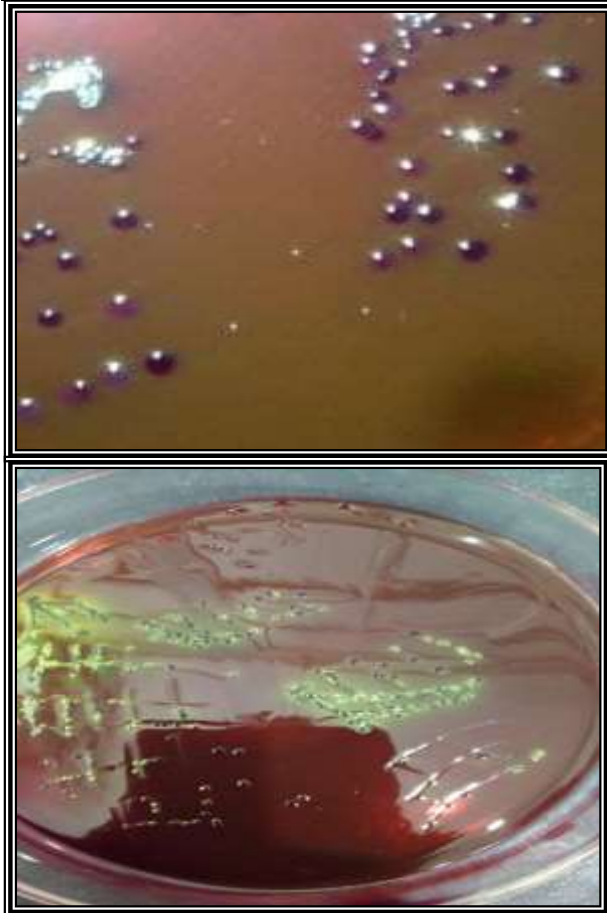


Figure 4. Levin is a combination of *S. enteritidis* and *E. coli* pathogens in the nutrient medium green

C glowing, dark and light purple C-shaped colonies when mixed growth

Conclusions: 1. When *S. enteritidis* and *E. coli* are co-infected, complex pathoanatomical changes are observed in rabbits, the formation of fibrin nodules of different sizes at the junction of the colon and appendix, catarrhal inflammation of the gastric mucosa, spotted hemorrhage in the sphincters, intestinal changes such as total gas filling were detected.

2. Bacteriological examination of parenchymal group of mixed infection and exudate isolated from internal organs in GPB with the presence of 1 mm of white sediment at the bottom of the test tube and homogeneous turbidity, elective media - two different colonies in Endo medium, light pink and dark metal two different colonies of dark-gloss and light purple, bismuth-sulfite agar, dark green glowing black and light brown, bloody agar were distinguished from the flowing colonies that formed hemolysis at their edges.

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