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Course, Pathophysiology, Bacteriological Examination And Treatment Of Salmonellosis In Rabbits And Poultry.

[1] I.Yu.Sultanova, [2] **S.M. Urazaliev**

[1] Scientific Research Institute of Veterinary Medicine, basic doctoral student., [2] Scientific Research Institute of Veterinary Medicine, Master.

Annotation: *The article provides clinical signs, spread, pathomorphology pathogens and treatment of the conversion in rabbit and bird farms to infection with the same type of salmonellosis.*

Key words: *MPB, MPA, Endo, Levin, bismuth-sulfite agar, exudate, antibiotic sensitivity.*

Relevance of the topic. In recent years, our government has taken a number of decisions to develop animal husbandry, ensure food security and meet the demand for livestock products (meat, milk, eggs).

Therefore, meeting the needs of the population in meat and eggs and ensuring the health of all animals is one of the main tasks of veterinary workers.

Currently, the annual development of rabbit and poultry farms, along with providing the population with environmentally friendly products from year to year, leads to some shortcomings in feeding and caring for these animals. This is due to non-compliance with zoohygienic rules, improper care.

About 224 species of Salmonella have been identified, including *S.enteritidis* in rabbits and poultry, as well as a high level of human infection due to the consumption of half-baked meat or eggs, as a result of a strong release of the toxin, a person has symptoms of vomiting, purulent diarrhea, an increase in body temperature up to 39.5-40 °C.

Purpose of the study. At the same time, the joint keeping of poultry and rabbits in some settlement and private rabbit and poultry farms leads to the initiation and transmission of the same type of infectious diseases and a decrease in economic efficiency. Based on this, the study of the causes of salmonellosis in rabbits and poultry, prevention, bacteriological studies, the study of the course is one of the most pressing problems.

Methods and object of research: The studies were carried out in the laboratory for the study of diseases of young cattle of the Scientific Research Institute of Veterinary Medicine.

In the study of the pathological material delivered to the laboratory, bacteriological studies of poultry and rabbits imported from the Jizzakh region, the presence of salmonella disease was revealed and the species *Salmonella enteritidis* was found in both animal species.

According to the anamnesis, the disease in rabbits manifests itself mainly at the age of 3-4 months, without clinical signs, in some abortions, as well as decreased appetite, yellow-green diarrhea, lacrimation, fever with clinical signs and, if left untreated, leads to an increase in mortality by 65% within 3-5 days. It is more common in broiler chickens at 5-10 days of age, manifested by plumage of feathers, wheezing, runny nose, persistent diarrhea and death within 2-3 days, while mortality is 80%.

The causative agent *S. enteritidis* is a small, round, short, 1-2 μm long, 0.5 μm wide rod-shaped bacterium that produces gram-negative mobile toxins that do not form spores and capsules.

Research results: Pathological and anatomical autopsy of rabbits showed complex changes. Increased lung volume, accumulation of 15 ml of water in the chest, development of bronchopneumonia, heart attack, hemorrhagic inflammation of the intestine, accumulation of gases, swelling in some places and thickening of the intestine, liver enlargement, dystrophic changes, elastic consistency of the spleen, induration of the gastric mucosa, renal enlargement and petechial hemorrhages were manifested by an increase in lymph nodes twice.

In chickens, pathological changes were sharp, the main changes were in the respiratory organs, bilateral pulmonary bronchopneumonia, significant accumulation of water in the chest, exudative inflammation of the intestinal mucosa, accumulation of gases in the intestines, hemorrhages in the lymph nodes, thinning of the layers of the cornea, hemorrhagic hemorrhage in the stomach was manifested by changes in the form of punctate hemorrhages in the sphincter.

After a pathoanatomical study, the internal parenchymal organs were transplanted onto nutrient media MPB (meat peptone broth) under boxing conditions and placed in a thermostat at 37°C for 18 hours. The resulting cultures were prepared under a microscope with the preparation of an ointment on glass and, after preliminary diagnosis, they were re-inoculated with SB (serum broth) MPA (meat peptone agar) and planted in one of the elective media of Bismuth-sulfite agar, Salmonella-Shigella, Endo, in Ploskirov agar and isolated causative agent Salmonella enteritidis.

Microscopically, Salmonella enteritidis is a Gram-negative, round-ended, rod-shaped bacterium 0.2-0.5 μm in size (Figure 1). Homogeneous turbidity was observed in MPB, and smooth rounded S-shaped gray-white

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colonies were isolated in MPA (Figure 2). Light pink colonies were observed on Endo's medium, on bismuth-sulfite agar - separate, single black colonies, on Ploskirov's agar - colorless glossy round smooth colonies. (Figures 3-6).

The isolated pathogen was re-inoculated with MPB and cultured on blood-based agar and was found to be susceptible to some antibiotics.

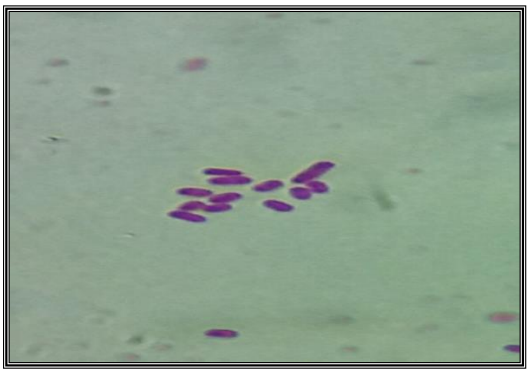

Figure 1. Microscopic view of Salmonella enteritidis

Figure 2. Colony appearance of Salmonella enteritidis in MPA

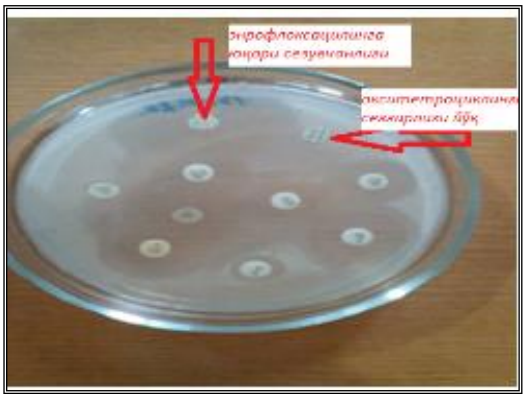

Figure 3. Determination of the sensitivity of Salmonella enteritidis to antibiotics

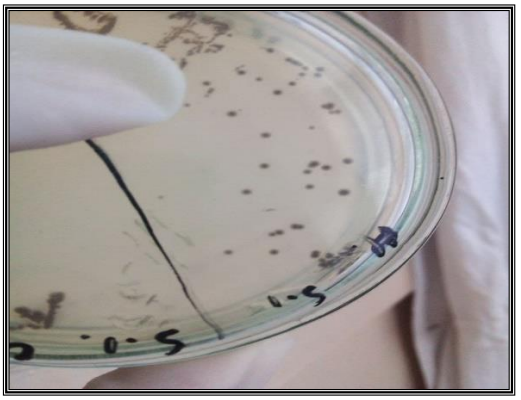

Figure 4 Salmonella enteritidis black colony formation.

Figure 5 Growth of clear pink Salmonella enteritidis bacteria on Endo agar.

Figure 6. Growth of colorless transparent colonies of Salmonella enteritidis on Ploskirov's agar.

The blood-based agar culture was transplanted into a Petri dish by diffusion. The culture was taken from a Petri dish, kept in a thermostat at 37°C for 40 minutes, antibiotics were placed at intervals of 2 cm on the basis of a device in which special disks with antibiotics were placed, and kept in a thermostat for 18 hours. These antibiotics (gentamicin 4%, cotrimazole 25, vetillosin 50 mg, oxytetrocycline-100, brovaseptol, oxyprol, ceftioclin, enrofloxacillin-50, ciprofloxacin 30) have a wider range of diameters, the wider limit is 25 mm in diameter from enrofloxacillin, ciprofloxacin 30 antibiotics, cotrimazole and oxytetracycline 23 mm in diameter, gentamicin 20, brovaseptol, oxyprol, vetilosin 16 mm in diameter, ceftioclin 14 mm in diameter, given the increased sensitivity among antibiotics such as enrofloxacillin-50 and ciprofloxacillin-30, treatment with these

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drugs was recommended.

Conclusion: 1. This type of Salmonella S. enteritidis is also commonly found in rabbits and chickens, causing 65% mortality in rabbits and 80% in chickens, with a significant economic impact on farms.

2. The causative agent *S.enteritidis* is smaller than other types of Salmonella, and is 1-2 microns in length and 0.5 microns in width.

3. Rabbits and birds infected with salmonellosis are recommended to be treated with ciprofloxacillin and enrofloxacillin.

References.

1. B.A.Elmurodov., A.K.Turdiev., N.Nabieva “Quyonchilik” Samarqand - 2018 y.
2. G.A.Merkulov “Patologogistologicheskiy texniki” Izdatelstvo “Medittsina” Leningradskogo otdelenie . Leningard, D-104
3. K.A.Zufarov i drugie. “ Prakticheskoe rukovodstva po gistologii” 1976 g.
4. S.VLeontyuk i drugie. “Bolezni krolikov” Moskva “Kolos”1974 g.
5. Salimov H.S.,.Qambarov A.A. “Epizootologiya” Toshkent- 2016 y. 445-458 b
6. F.Ibodullaev “Qishloq xo’jalik hayvonlarining patologik anatomiyasi”
7. Shapulatova Z.J. “Mikrobiologiya” Toshkent -2013
8. E.H.Eshboev., Y.M.Fayziev “Mikrobiologiyadan amaliy mashg’ulotlar” Toshkent. “ILM ZIYo” -2011y.
9. Information from the Internet.

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