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Treatment of Pullorosis in Chickens of Biological Control of an Incubation Egg

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A B S T R A C T

Pullorosis of poultry leads to damage to the intestines and parenchymal organs, causes pathological changes in egg follicles. Due to an increase in the number of endotoxins, chickens die.

In birds with a strong immune system, the spread of the pathogen is limited to the intestinal cavity and is not accompanied by clinical symptoms with reduced penetration into the bloodstream. So, in bird droppings, pullorosis persists for 100 days, in conditions of non—flowing water — up to 200, in the soil layer - up to 400. At the same time, in conditions of permanent bird litter for 10 days, the causative agent of pullorosis of birds dies. Chickens catch the disease when they come into contact with feeders, drinkers, litter, soil and household equipment. It is enough to approach a bowl of grain once to get an infection.

Also, the pathology is transmitted embryonally from an infected laying hen to eggs. Usually, most embryos stop developing and die. About 50% of chickens survive, but they are born sick.
But if the hen was cured, the virus will settle in the reproductive system and will be able to manifest itself in eggs. Bacterial carrier lasts up to two years.

It is necessary to monitor your well-being and, if signs of illness appear, immediately seek medical help.

Salmonella in humans is characterized by symptoms of intoxication: vomiting, diarrhea, nausea, abdominal pain.

A R T I C L E I N F O

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Pullorosis of chickens is a disease that leads to a high percentage of mortality of poultry under the age of 2 weeks. In the absence of timely treatment measures, up to 8% of young animals die. Pullorosis appears under the influence of intestinal infection, which causes malfunctions in the parenchymal organs of young animals. In adult chickens, inflammation begins in the ovaries. In the absence of treatment, salpingoperitonitis develops. This disease is also called bacillary white diarrhea. It first appeared at the end of the 19th century and struck a large number of chickens. At that time, veterinarians gave it the name salmonellosis. In 1990, an American scientist identified the causative agent of this pathology and called it septicemia. In 1913, pullorosis began to massively infect birds on farms in England, France, Hungary. Then I got to Japanese and Australian chickens. Under the influence of infection, egg productivity decreases in laying hens, there are problems with breeding young. The embryo develops incorrectly, so it does not survive by the time of hatching [1,2,3].

Infected young animals develop slowly and gain weight poorly. As a result, the breeding

characteristics of chickens deteriorate on the farm.

The causative agent of pullorosis or typhus of chickens penetrates into the bloodstream by respiratory or alimentary means, reaches the internal organs and provokes the septic process. Pullorosis of poultry leads to damage to the intestines and parenchymal organs causes pathological changes in egg follicles. Due to an increase in the number of endotoxins, chickens die [4, 5].

In birds with a strong immune system, the spread of the pathogen is limited to the intestinal cavity and is not accompanied by clinical symptoms with reduced penetration into the bloodstream [8,9].

The mass death of young animals falls on the 5th and 7th days from the moment of birth. The probability of infection decreases when the young reach the age of 2 weeks, when the disease becomes permanent. The causative agent of infection remains active for 1.5 years. The main carriers of avian typhus are rodents and maintenance personnel [6,7,10].

Chickens infected with pullorosis hatch no more than 50% of eggs.

In the acute form of the course with a lightning-fast spread of infection, the death of chickens from pullorosis occurs after several hours from the moment of birth. Infected chickens are detected by the first symptoms:

- weakness;
- impaired coordination of movements;
- drooping eyelids;
- paws spread apart;
- breathing through an open beak;
- lack of appetite;
- Diarrhea.

Pullorosis of chickens is accompanied by a drop in egg-laying indicators, paleness and subsequently blueness of the crests.

Pullorosis of birds is caused by a pathogen belonging to the order of salmonella, which is a stationary gram-negative rod that does not form either spores or capsules. Microbiology refers the causative agent of avian typhus to aerobes [11,12,13].

For the activity of an infectious bacillus, the most optimal temperature is 38 ° C with an alkaline medium pH 7.5.

In the usual nutrient medium, aerobic develops quite quickly, easily forming round translucent colonies with clear outlines and a slightly protruding moist surface. pullorosis can reproduce in a rough form, then it grows in dry colonies [14,5,16].

The causative agent of bird typhus is significantly resistant to external factors. So, in bird droppings, pullorosis persists for 100 days, in conditions of non—flowing water — up to 200, in the soil layer - up to 400. At the same time, in conditions of permanent bird litter for 10 days, the causative agent of pullorosis of birds dies [17].

A long period of activity of pullorous infection is observed in freezing conditions up to 180-190 days. It is possible to inactivate the pullorosis virus when heated to 60 ° C for at least half an hour [18]. At boiling point, the aerobe dies after a minute, when an infected chicken egg is cooked — after 7-8 minutes.

Various drugs and solutions can lead to the death of the infection:

- 1% formalin is able to destroy Pullorosis in 5 minutes,
- inactivation with carbolic acid will require a concentration of 5% and half a minute of time,

- They will cope with the pullorous virus in 15-20 minutes with potassium permanganate, naphthazole, bleach with active chlorine.

Scientists note the sensitivity of pullorous bacteria to drugs from a number of antibiotics, however, there is an addiction of infection when treatment is carried out with prolonged use of the same medication [19,20,21].

Conditionally healthy chickens that fall into the risk group when diagnosed within the farm are amenable to drug treatment of pullorosis. Sick chickens are to be destroyed. In case of forced slaughter of diseased birds, the use of meat products is prohibited, but incubation eggs are used in breeding [22,23].

In the fight against pullorosis, complex treatment is practiced, involving a combination of biomycin and furazolidone. At the same time, the use of one antibiotic is limited to a course of 5 days, and subsequently it is replaced with another, similar in duration, course [25].

The duration of the course of treatment is 5-7 days. The dosage of the drugs is 1-5 mg per 1 kg of poultry weight. Method of application – addition to feed [24,26].

The analogue of biomycin is biovit, the dosage of which is 0.6 mg of the active substance per 1 kg of poultry weight.

Most often, pullorosis affects young animals up to three weeks of life. Chickens usually suffer from 3 to 7 days after hatching, with still weak immunity.

Basically, babies who are fed homemade food – porridge, cottage cheese, eggs - get sick. Chickens that feed on purchased feed catch the infection less often.

With the appointment of adequate therapy, chickens survive. However, the farmer still incurs economic losses.



Pullorosis in chickens and chickens is an infectious disease. It is common in young animals, the lethal outcome reaches 80%. In an adult bird, the disease often proceeds without symptoms. In the treatment of pullorosis in chickens, antimicrobial drugs are used, more often from the group of antibiotics.

Pullorosis is carried by rats and mice, infected birds — pigeons, sparrows. In this case, the infection is transmitted to chickens while walking in an open area.

Pullorosis spreads rapidly throughout the room. Most often, the source of infection is chickens and adult

chickens, which remove pathogenic bacteria into the environment through feces.

Chickens catch the disease when they come into contact with feeders, drinkers, litter, soil and household equipment. It is enough to approach a bowl of grain once to get an infection.

Also, the pathology is transmitted embryonally from an infected laying hen to the eggs. Usually, most embryos stop developing and die. About 50% of chickens survive, but they are born sick.

But if the hen was cured, the virus will settle in the reproductive system and will be able to manifest itself in eggs. Bacterial carrier lasts up to two years.

The permanent form of pullorosis appears in young individuals older than two weeks and occurs only after the acute form. The disease becomes chronic, adult chickens become carriers of infection, which is transmitted to chickens through an incubation egg. After diagnosis, antibiotics are prescribed for therapeutic and prophylactic purposes: tetracycline, polymyxin-M, Biomycin (chlortetracycline hydrochloride). The combined administration of sulfonamide and nitrofuran group drugs is effective [27,28].

One of the most effective means for the prevention of pullorosis is a bacteriophage used orally in a dosage of 2 ml. It is administered twice with an interval of 2 days. On the third day, this drug is used as an injection subcutaneously in a volume of 0.5 ml.

Treatment of diseased individuals is carried out using drugs of the group of antibiotics, among which:

- furazolidone, mixed with feed by 0.04-0.06% for 15 days with repeated treatment after 3-5 days break,
- less toxic furidin with a dosage of 200 mg per 1 kilogram of weight, added to the feed for 10 days,
- sulfadimesin, widely used as an additive to feed and drinking water, in a volume of up to 1% for 2 weeks with a repeat after an interval of 2-3 days,
- Complex avidox and colimycin.

When cases of pullorosis-typhus are detected and the final diagnosis is made by the veterinary service, a decision is made by the executive authority of the region to declare an unfavorable situation and begin restrictive measures for breeding chickens and turkeys; comprehensive treatment and slaughter cleaning are carried out.

For young animals 2-3 weeks of age, there is a subacute form of the disease. Babies grow slowly, lag behind in development and look exhausted. They practically do not move and constantly squeak. With timely treatment with antibiotics, most chickens can be saved [29].

For people, chicken diseases that occur under the influence of salmonella are dangerous. Therefore, the owner and all farm workers should take precautions during an outbreak of infection.

You need to enter the room with chickens in overalls, gloves and a medical mask. After work, the clothes are disinfected with formaldehyde aerosol.

It is necessary to monitor your well-being and, if signs of illness appear, immediately seek medical help.

Salmonella in humans is characterized by symptoms of intoxication: vomiting, diarrhea, nausea, abdominal pain.

What is pullorosis in chickens and how to treat it?

Pullorosis of chickens is a disease that leads to a high percentage of mortality of poultry under the age of 2 weeks. In the absence of timely treatment measures, up to 8% of young animals die.

A brief overview of the disease

Pullorosis appears under the influence of intestinal infection, which causes malfunctions in the parenchymal organs of young animals. In adult chickens, inflammation begins in the ovaries. In the absence of treatment, salpingoperitonitis develops [30].

This disease is also called bacillary white diarrhea. It first appeared at the end of the 19th century and

struck a large number of chickens. At that time, veterinarians gave it the name salmonellosis. In 1990, an American scientist identified the causative agent of this pathology and called it septicemia.

In 1913, pullorosis began to massively infect birds on farms in England, France, Hungary. Then I got to Japanese and Australian chickens.

Under the influence of infection, egg productivity decreases in laying hens, there are problems with breeding young. The embryo develops incorrectly, so it does not survive by the time of hatching.

Infected young animals develop slowly and gain weight poorly. As a result, the breeding characteristics of chickens deteriorate on the farm.

Etiology

The causative agent of pullorosis or typhus of chickens penetrates into the bloodstream by respiratory or alimentary means, reaches the internal organs and provokes the septic process. Pullorosis of poultry leads to damage to the intestines and parenchymal organs, causes pathological changes in egg follicles. Due to an increase in the number of endotoxins, chickens die [31].

In birds with a strong immune system, the spread of the pathogen is limited to the intestinal cavity and is not accompanied by clinical symptoms with reduced penetration into the bloodstream.

Poultry typhus often affects broilers of the meat direction, contained in the classical feeding scheme.

The mass death of young animals falls on the 5th and 7th days from the moment of birth. The probability of infection decreases when the young reach the age of 2 weeks, when the disease becomes permanent. The causative agent of infection remains active for 1.5 years.

The main carriers of avian typhus are rodents and maintenance personnel.

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Etiological picture of pullorosis

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For the activity of an infectious bacillus, the most optimal temperature is 38 ° C with an alkaline medium pH 7.5.

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pullorosis persists for 100 days, in conditions of non—flowing water — up to 200, in the soil layer - up to 400. At the same time, in conditions of permanent bird litter for 10 days, the causative agent of pullorosis of birds dies [32, 33].

Scientists have noticed that an aerobic chlorosis caught in a horticultural culture, while maintaining a temperature within 18-20 ° C in a dried state, is able to live up to 7 years.

A long period of activity of pullorous infection is observed in freezing conditions up to 180-190 days. It is possible to inactivate the pullorosis virus when heated to 60 ° C for at least half an hour. At boiling point, the aerobe dies after a minute, when an infected chicken egg is cooked — after 7-8 minutes.

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