

EFFECTIVENESS OF VETERINARY PREPARATIONS IN OVARIAN DISEASE OF QUAIL

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Abstract: In the research work, the diseases occurring in the ovarian organs of pullets from the period of transfer to the female quail flock until 60 days of recovery were studied, and the effectiveness of antibiotics used in veterinary medicine for treatment and prevention was investigated. From the gained results, it was clear that the breeding pullets were not selected properly, after being transferred to the female quail flock, diseases manifest themselves more prominently, and eggs cannot be obtained from the quails that entered the female quail flock with a masked disease, even they are quickly removed from the flock so that it makes it difficult to fully use the female quail flock for a long time. Among the antibiotics used during the study, Chiplover and Avidox were more effective in the treatment of ovarian diseases.

Keywords: Quail, ovary, ovarian tract, disease, treatment, blood test, antibiotics

Introduction

A large part of the quail's body is made up of ovarian organs. As a result of this, among the non-communicable diseases occurring in the internal organs, diseases of the reproductive organs of female quails are the most common. [Bessarabov B.F., 2009; Tağıyev A.Ə., 2017; 2019; Fedotov D.N., Muradov 2017; Subbotin A.M., Fedotov D.N., 2014; Kuşkina Y.A., 2007,]. Researchers dealing with many diseases of birds [Bessarabov B.F., 2009; Morozova O.P 2000] show that among the non-communicable diseases of birds, diseases of the ovarian organs are observed the most (5.6-6.5%). Other scientists [Bakulin V.A, 2006; Moisenko L.S., 2016; Tağıyev A.Ə., 2017] show that this indicator reaches 22.5-30% in many cases in female quails.

When determining the causes of diseases in the reproductive organs of quails, it was found that diseases in the reproductive organs are caused by a lack of calcium, vitamins A, B2, B6, E, and D in the body, an excess of phosphorus and protein in the blood, and a violation of the ratio of amino acids. [Tağıyev A.Ə., 2017; Drozdova Z.İ., 2016].

Scientists dealing with the maintenance and diseases of birds [Danilova A.K., 2001; Morozova O.P., 2000; Sadomov N.A., 2009; Hüseynova A.A., 2018] show that when birds are kept in conditions where appropriate zoohygienic norms are not specified, especially when they are kept in microclimate conditions that do not meet zoohygienic norms, when the storage, feed and water area per bird is violated during keeping in floor or cage system, when the cages are not adjusted properly, quails can contract diseases of the reproductive organs.

At the same time, when the temperature in the air of the building is lower than the zoohygienic norm, and when the relative humidity is high, the occurrence of diseases in the ovarian organs is observed. The conducted studies show that the high levels of harmful gases (NH₃, H₂S) and coli-titer and coli-index in the air of the building have an undeniable role in the occurrence of diseases in the ovarian organs. It is clear from scientists' [Krotov E.A., 2016, Moisenko L.S., 2016; Baydevlyatov A.B., 1983] research that when female quails are kept in abnormal cages, when the cells in the cage are large and broken, improper selection of the height for the egg to fall into the egg nest, and the fact that the quails fall to the floor from the area, especially from the third and fourth floor, or tram apples while flying in the cage, also play a very important role in getting diseases of the ovarian organs.

As a result of violations of zoohygienic rules, the diseases that occur in the ovary and ovarian tract in many cases cause the development of salpingoperitonitis or yellow peritonitis in female quails. Conducted monitoring shows that salpingitis and ovariosalpingitis are the most common diseases among ovarian organs. It is clear from the conducted monitoring and literature data that these diseases were often observed among birds in the distant past [Baydevlyatov A.B., 1983].

Many of the diseases that occur among birds are masked, and in most cases, the disease can be fully diagnosed with its clinical indicators during the peak period of laying. One of such diseases can be shown the disease of the ovarian organs that are masked in pullets. After the pullets under recovery are transferred to the female quail flock, the sick pullets either do not lay eggs or the eggs they lay are observed in an abnormal form. [Электронный ресурс] Режим доступа: [HHP:/onfermer.ru](http://onfermer.ru)].

Taking into account the above, most scientists working in this field consider the way to prevent the disease by examining morphological and biochemical indicators of blood below and above physiological norms for the timely detection of ovarian diseases. [Rzayev R. Fərzəliyev V.İ., 2014; Allahverdiyev R.N. 2009; Qudin V.N. 2010; Orlov F.M., 2010.].

it is clear from the research work of some scientists [Orlov F.M., Drozdova Z.İ., 2016; Bessarabov B.F., 2009] that bacteriological, serological, and biochemical diagnostic methods should be widely used in the diagnosis of salpingitis.

Many specialists [Beloghrov A.N., 2011; Taghiyev A.A., Huseynova A.A., 2017] while investigating the diseases that often occur among quails, determined that the most changes in the body are manifested in the liver and thyroid gland. The disease is mainly observed as a result of trauma in quails during the period of increased activity of ovarian organs. It is characterized by the formation of different colors, especially green and bluish colors, in the shell of the eggs taken in this period. If the female quail lays green eggs, this indicates the presence of diseases of the ovarian organs.

As a result of complications of diseases of the ovarian organs among birds and late treatment and preventive measures, salpingitis and salpingoperitonitis spread widely

during the peak period of laying eggs The reason for this is the spread of intestinal bacteria in the internal organs. At this time, it is safe to use the meat of female quails with salpingoperitonitis (Cheregin, 2010).

Many scientists [W.J. Landwan, R.A. Cornelissen, 2016, Bessarabov B.F. 2009] show that the development of the disease occurs under the influence of pathogenic microbes from the cloaca to the internal organs, especially the ovarian tract.

Kushkina Y.A. (2007), who researches the diseases of the ovarian organs of chickens, especially the ovarian tract, shows that in order to prevent diseases of reproductive organs in chickens, he considers it important to constantly monitor the structure and functional indicators of the ovarian tract in chickens.

The literature data we researched and the monitoring carried out in quail farms in Azerbaijan showed that diseases of the reproductive organs that often occur among quails are caused by a lack of Ca, vitamins A, E, C, D in the feed ration, and an excess of proteins and phosphorus, traumas that occur as a result of falling, flying and other injuries. In many cases, a fall of the fallopian tube or frequent contact of the cloaca with the mat material, or even contamination with infectious microbes, leads to more acute diseases of the ovarian organs.

Non-infectious ovarian diseases in quail farms in Azerbaijan make up 10.5-27.6% of total non-infectious diseases.

Taking into account the above, diseases of the reproductive organs should be prevented in time, and the efficiency of the veterinary drugs to be used at this time should be investigated.

Research material and methodology

The research work was carried out in the Vivarium of the Azerbaijan State Agricultural University and in the teaching-experimental farm on quail breeding with a turnover of 109 thousand years. The experiment was carried out on 35-60-day-old White English bred quails and female quails. The research work was carried out according to the following scheme.

Table 1. Research scheme

Groups	Medicines used in veterinary medicine
Control	1 gram of tromexin is dissolved in 1 liter of water and applied for 5 days
Experiment I	Colifox is dissolved in 0.5 ml-1 liter of water and applied for 5 days
Experiment II	Chiprovet is added to 1 gram of mixed fodder and applied for 5 days
Experiment III	Avidox 0.1 mg is added to 1 kg of mixed fodder

	and applied for 5 days
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In the control group, the treatment method used in the farm was applied. Antibiotics used in veterinary medicine were used in other experimental groups. 50 animals per group were treated by adding antibiotics to drinking water and mixed feed. During the treatment period, along with antibiotics, 3% Aydag zeolite, 30% germinated wheat irradiated with ultraviolet rays and 3 grams of mincemeat made from the head of kilka fish were added to the main feed ration in both control and experimental groups.

Clinical and physiological indicators of quails at the beginning and end of the experiment were studied based on generally accepted methods. During the experimental period, the egg productivity and quality indicators of the eggs were clarified from the first day. During the course of the experiment, the reasons for the hatching of brood quails were evaluated, and the anomalies formed in the egg shell were determined. The ratio of the egg white to the yolk, which is one of the quality indicators of the egg, was clarified.

Results of the study.

During the study, the clinical indicators of the pullets in the breeding stock of the White English breed suspected of the disease were determined 15 days after the administration of antibiotics. The results obtained during the examinations are shown in Table 2.

As can be seen from the Table 2, when determining the internal temperature of the female quails suspected of the disease, it was found that the internal temperature of the female quails kept in the control group was $41.8 \pm 0.790C$, while the internal temperature of the treated brood quails in the experimental group II was $41.10C$. It was clarified that in other experimental groups, as well as in the control group, it is at the upper limit of the physiological norm.

Table 2. Clinical indicators of mother quails at 60 days

Groups	Göstericilər		
	İnternal temperature, °C	The number of heart beats in 1 minute	The number of respiratory movements in 1 minute
Control	$41,8 \pm 0,79$	$284,6 \pm 2,33$	$28,1 \pm 0,39$
Experiment I	$41,87 \pm 1,04$	$297,6 \pm 2,19$	$29,8 \pm 1,03$
Experiment II	$41,1 \pm 0,77$	$262,6 \pm 1,84$	$22,14 \pm 0,32$
Experiment III	$41,59 \pm 1,14$	$276,7 \pm 2,06$	$27,7 \pm 0,54$

It was determined that the amount of cardiac stresses and respiratory movements was higher in control, I and III experimental groups. So, while the number of heartbeats was 284.6 in the control group, and the number of breathing movements was 28.1, in the

second experimental group - the number of quails in the group treated with Chiplovet drug was 262.6 and 22.14, respectively.

Both the heart rates and the amount of respiratory movements were high (297.6 and 29.8). It is clear from the obtained results that chiplovet drug was more effective in the treatment of the disease than the antibiotics used in all groups treated for 5 days.

The clinical indicators of quails in both the control group and experimental groups were manifested in different forms, depending on the efficiency of the treatment in the mother quails that received treatment. In the control group, 5 heads showed general weakness, cyanosis in the hairless areas, and even smearing of the hairs around the cloaca with a smelly liquid.

The above-mentioned symptoms were observed in four quails in the I group from the experimental group, in one quail in the second experimental group, and in three quails in the III experimental group.

During this period, when the morphological and biological indicators of the blood of the female quails were determined (Table 3), it was found that the amount of erythrocytes in the control, I and III experimental groups at 60 days was 0.38, respectively, compared to the erythrocytes in the blood of the female quails in the II experimental group; 0.39 and 0.51.10⁹/l were less, and the amount of leukocytes, on the contrary, increased in all groups, but the lowest indicator was 16.22.10⁹/l in experimental group II, while the highest indicator was 20.82.10⁹/l in group III. It differed by being lower than 4.6.10⁹/l.

When determining the amount of hemoglobin in the blood, it was found that the amount of hemoglobin was 94.4 g/l in the control group, 94.2 in the experimental group I, and 95.8 g/l in the experimental group III, while the amount of hemoglobin in the treated quails in the experimental group II was 14, respectively, compared to the other groups. 4, 14.2 and 12.2 g/l were found to be high.

Table 3. Morphological and biochemical indicators of the blood of female quails at 60 days

Groups	Göstericiler						
	Erythrocyte, 10 ¹² /l	Leukocyte, 10 ⁹ /l	Hemoglobin, gr/l	Erythrocyte sedimentation rate mm/min. 60 minutes	PH	Calcium, mmol/l	Phosphorus mmol/l
Control	2,91±0,04	19,78±0,22	94,4±2,06	3,54	7,48	3,08±0,01	1,97±0,01
Experiment I	2,90±0,02	19,81±0,13	94,2±3,01	3,58	7,88	3,09±0,01	1,86±0,02

Experiment II	3,29±0,02	16,22±0,19	108,8±2,29	3,29	7,24	3,09±0,01	1,47±0,02
Experiment III	2,78±0,02	20,8±1,04	95,6±2,27	3,48	7,55	3,06±0,01	1,89±0,02

We found that the changes in hemoglobin varied in accordance with the results obtained from erythrocytes. The obtained result showed that the decrease of erythrocytes and hemoglobin in the blood, and the increase of leukocytes in the quails transferred to the flock of female quails under recovery indicate the presence of anemia and inflammatory processes in the body.

It was determined in all groups at 15`, 30` and 1 hour in the study period. It was determined that the Sed rate was the upper limit of the physiological norm at 1 hour, which raised doubts about the complete recovery of ovarian organs in brood quails (when taken into account by clinical indicators).

When determining the pH of the blood in the experiment, it became clear that this indicator is at a high level of physiological norms in quails suspected of having the disease and treated until the 60th day. It was found to be higher in control, experimental groups I and III. In the second experimental group, PH was found to be at the lower limit of the physiological norm.

At the end of treatment with antibiotics applied to quails, the amount of calcium and phosphorus and the ratio of calcium to phosphorus were clarified. From the obtained results, it was clear that the ratio of calcium to phosphorus in the control, I and III experimental groups was 1.56:1, 1.69:1 and 1.61:1, which indicates the excess amount of phosphorus in the body. the indicator is also one of the distinguishing indicators in the diagnosis of ovarian organs.

By the 60th day of the study, 8 quails from the control group, 4 quails from the I experimental group, 2 quails from the II experimental group, and 4 quails from the III experimental group were discharged.

Out of the control group, 2 female quails had a disease of the digestive organs, 1 had mechanical crushing, and 5 had a disease of the ovarian organs. In the 1st experimental group, 1 had a disease of the digestive organ, 1 had reduced ovaries, 1 had a disease of clostritis, 1 had and as a result of inflammatory processes in the ovary and ovarian tract, it caused output. In the II experimental group, 1 quail was aborted due to leg fatigue, and in 1 quail due to the inability of the egg to be removed from the ovarian tract, and in the III experimental group, 2 quails were aborted due to the disease of the ovaries and 2 quails due to the fallopian tube disease.

Ovarian productivity of pullets kept under recovery with veterinary antibiotics was clarified during the study after they were transferred to the quail stock. The obtained results are shown in Table 4.

Table 4 Ovary productivity and abnormalities in eggs from the day of admission to the flock of female quail under recovery suspected of disease up to 60 days

Indicators	Qruplar			
	Control	ExperimentI	ExperimentII	ExperimentIII
Eggs gained,number	139	167	229	207
Mass of eggs,gr	10,49 ±0,36	10,38±0,27	10,86±0,43	10,61±0,56
Mass of egg shell,gr	1,41±0,04	1,40±0,04	1,45±0,02	1,43±0,03
Mass of egg white, gr	4,61±0,36	4,58±0,14	4,73±0,21	4,69±0,11
Mass of egg yolk, gr	4,47±0,59	4,40±0,22	4,68±0,37	4,49±0,20
Abnormalities in the eggshell: The color of the egg shell is completely green, number	12	14	2	6
Marble color, number	4	2	0	1
Bar-shaped, number	2	-	-	-
Erb-shaped,bulge, number	2	1	1	1
First type eggs, %	72	82	94	85
Second type eggs,%	28	18	6	15
Unsalable, number	20	17	3	8

It is clear from the researches that the effectiveness of the antibiotics used in the treatment in the treatment and prevention is different in the ovarian organs.

Quails in the new breeding stock did not lay eggs, due to various reasons, diseases of the ovarian organs were observed in them. The examination of 200 selected pullets showed that, despite being newly transferred to the female flock, a total of 139 eggs were obtained in the ovarian organs, especially from the female quails in the control group, of which 20 were unmarketable, and 21% were eggs of the second type (Usually, in other countries, eggs I and is not divided into type II)

Of the 167 eggs obtained in the first experimental group, 17 were completely unusable, and 20% of the eggs were put on sale as type II. However, these indicators, out of 229 eggs produced in experimental group II, only 3 eggs were unusable, 6% as the second type, and 94% as the first type.

Conclusion

Quails in recovery, selected for transfer to female quail flock, should be selected correctly: they should have a clinical examination in advance, and quails suspected of disease must be euthanized. If in the first days of egg-laying, there is a suspicion of diseases of the ovarian organs, or if the diagnosis is confirmed, then for the purpose of treatment or prevention, 1 g of Chiplovat should be added to 1 kg of mixed feed given to quails and applied for 5 days.

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