

INTESTINAL MORPHOGENESIS IN POSTNATAL ONTOGENESIS OF BROILER CHICKS

S. X. Yakhshieva

N.B. Dilmurodov

Samarkand State Veterinary Medicine, University of Livestock and Biotechnology

Abstract. The characteristics of changes in the morphometric parameters of the digestive tract of broiler chicks during postnatal ontogeny were studied. It was found that the absolute indicators of the length and weight of the small intestine increased slightly from the first day to 14 days of postnatal development, and this process continued without significant deviations at the next studied stages.

Abstract. Izucheny osobennosti izmenenia morphometricheskikh pokazateley toshchey kishki cypliat-broilerov v postnatalnom ontogeneze. Ustanovleno, chto absolutnye pokazeteli dliny i massy toshchey kishki znachitelno uvelichivalis s pervyx do 14-ti sutok postnatalnogo ontogeneza, i etot protsess prodoljalsya bez sushchestvennyx olkoneniy na posleduyushchix izuchaemyx etapax.

Summary. The characteristics of changes in the morphometric parameters of the jejunum of broiler chickens in postnatal ontogenesis were studied. It was established that the absolute indicators of the length and weight of the jejunum increased significantly from the first to the 14th day of postnatal ontogenesis, and this process continued without significant deviations at subsequent stages studied. **Key words:** poultry, small intestine, broiler, morphology, bile, length, weight, growth factor, linear size, absolute index, mineral salts, cecum,

Key words: bird, stone intestine, broiler, morphology, jelch, length, mass, tempy rosta, linear size, absolute indicator, mineral salt, worm growth, dysbiosis, diarrhea.

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Enter. In order to successfully solve the problem of food security in our country, great importance is attached to poultry farming, which is the fastest growing branch of animal husbandry. In order to increase the volume of poultry meat production and reduce the price, intensive technologies are widely used in breeding broiler chickens. The study of the morphology of the digestive system of poultry mainly determines the prospects for increasing the productivity of poultry farming. First of all, this applies to age morphology, which reveals morphogenetic patterns and mechanisms, allowing to identify important periods in the development of organism systems.

The success of modern poultry farming, the guarantee of its acceleration, is always based on knowledge of the biology of poultry, its morphological and functional characteristics, in particular, the organs of the digestive system, which participate in the metabolic and energetic processes of the body. In this regard, studying the laws of development of the structural structure of the digestive organs of birds and their flexible reorganization in different conditions of their nutrition and living environment is one of the main problems of modern biological science and agricultural practice [1,2,7].

According to the authors, these studies are of theoretical and practical interest for individual developmental biology, veterinary medicine and morphology [3].

Glycerin dissolves in water and is easily absorbed. Fatty acids are not soluble in the intestine, but under the influence of bile they turn into soluble compounds (soaps) and pass through the intestinal epithelium into the lymphatic channel or blood capillaries. Glycerin and fatty acids then combine again to form fat. Water is absorbed in the small and large intestine. Mineral salts dissolve well in digestive juice and are absorbed into the blood through the epithelium of the mucous membrane of the small and large intestine [4].

In the intestines of birds, the main part of the food is digested under the influence of the pancreas and intestinal juice. Bacterial decomposition of food also takes place here. Fiber is broken down in the cecum [6].

The health status of the poultry organism depends on the ratio of different groups of microorganisms in the intestine. Their rapid increase begins from the first days of the chick's life, but they can be both useful and harmful for the body. Disturbance of a certain ratio between these groups often leads to dysbiosis and diarrhea in young animals [5].

Materials and methods. Scientific examination was carried out on the small intestines of broiler chickens belonging to the 1-day cross "ROSS 308" imported from "Dargom Parranda Fayz" LLC, Samarkand region. Divided into 4 groups with 40 chicks in each. All group chicks were fed with the same ration. Chicks of the first group were given only food and water; the chicks of the second group were given food, water and vaccinations, preventive medicines carried out under farm conditions; the chicks of the third experimental group were given food, water and probiotics containing 100 million microbial cells; the chicks of the fourth experimental group were given probiotics containing 200 million microbial cells. Morphometric measurements were taken on days 1, 7, 14, 21, 28, and 35 of the experiment.

It was used by N.P. Chirvinsky and scientists of the Samarkand Institute of Veterinary Medicine (D.Kh. Narziev, M.Kh. Allamurodov, A.S. Daminov, R.M. Tashtemirov, N.B. Dilmurodov) to determine the linear dimensions and weight of the organ. general morphological methods improved and introduced by

All numerical data obtained as a result of scientific investigations were subjected to mathematical processing according to the method of E.K. Merkureva.

Mathematical-statistical analysis was performed using the Student's and Fisher's criteria in Microsoft Excel spreadsheet.

Results and their analysis. The experiment was carried out from the first day of broiler chicks. First, the total weight of the chicks was measured, and after slaughter, the length and weight of the bitter (hunger) thin was taken. Accordingly, the following results were obtained:

The absolute indicator of the length of the bitter (hungry) intestine of chicks in the first group was 39 ± 0.93 cm on the first day of postnatal ontogeny, with a rapid increase until the 7th day (46 ± 1.22 cm, $r < 0.03$; $K = 1.22$) and to continue this process step by step until the next studied 35 days, that is, at 14 days - by 55 ± 1.27 cm ($K = 1.19$), at 21 days - by 66.8 ± 1.34 cm ($p < 0.03$; $K = 1.21$), at 28

days - 83.2 ± 2.10 cm ($r < 0.03$), at 35 days - 104.2 ± 2.43 cm ($r < 0.03$; $K=1$, 25) was observed. It was found that the coefficient of growth of this index of the small intestine is 2.67 times during the period from 1 day to 35 days of chicks.

The absolute indicator of the weight of the small intestine was 2.92 ± 0.08 g in the first 1 day of postnatal development of chicks of the 1st group, and it increased to 3.54 ± 0.10 g ($K=1.2$) by the 7th day. that the process lasts up to 14 days (5.28 ± 0.20 g; $K=1.49$) and continues periodically until the next 35 days, that is, in 21 days – by 8.72 ± 0.21 g ($K=1.65$), It was noted that it reached 14.73 ± 0.37 g ($K=1.68$) in 28 days, and 25.05 ± 0.81 g ($K=1.70$) in 35 days. It was found that the coefficient of growth of the absolute index of the small intestine is 8.55 times during the studied stages of postnatal ontogeny of chicks.

The absolute indicator of the length of the small intestine of chicks in group 2 increased slightly from 1 to 7 days of postnatal development, from 39.2 ± 0.96 cm to 46.31 ± 1.23 cm ($K=1.18$; $r < 0.03$) and periodically in later youth, up to 55.6 ± 1.35 cm ($K=1.2$) at 14 days, up to 68.6 ± 1.68 cm ($K=1.23$) at 21 days, 28 it was noted that it increased to 86.64 ± 2.15 cm ($r < 0.03$; $K=1.26$) in 35 days and to 110.2 ± 2.63 cm ($K=1.27$) in 35 days. It was found that the coefficient of growth of this indicator of the small intestine is 2.81 times during the period from 1 day to 35 days of chicks.

The absolute indicator of the weight of the small intestine of chicks of the 2nd group was 2.93 ± 0.08 g in the first 1 day of postnatal development, and increased to 3.74 ± 0.12 g ($K=1.27$) by the 7th day. the acceleration of this process until the 14th day (5.70 ± 0.21 g; $K=1.52$) and periodic continuation until the next 35 days, i.e. 9.45 ± 0.24 g at the 21st day ($K=1.65$), at 28 days - 15.99 ± 0.61 g ($K=1.69$), at 35 days - 27.36 ± 0.89 g ($K=1.71$). It was found that the coefficient of growth of the absolute indicator of the bitter (hungry) intestine is 9.31 times during the studied stages of postnatal ontogenesis of chicks.

The absolute indicator of the length of the small intestine of the chicks of the 3rd group from the first day to the 7th day of postnatal ontogeny increased rapidly, like those of the 1st and 2nd groups, from 40.2 ± 0.96 cm to 48.2 ± 1.26 cm ($K=1$, 19) and 58.8 ± 1.39 cm ($K=1.21$) in 14 days, 73.6 ± 1.69 cm ($K=1.25$) in 21 days, 93.6 in 28 days It was found that it reaches ± 2.84 cm and reaches 123.9 ± 2.64 cm ($r < 0.03$; $K=1.32$) in 35 days. It was found that the coefficient of growth of this index of small intestine increases up to 3.08 times during the period from 1 day to 35 days of chicks.

The absolute index of bitter (fasting) intestinal weight of chicks in group 3 increased rapidly from the 1st to the 7th day of postnatal ontogeny, from 2.95 ± 0.08 g to 3.8 ± 0.12 g on the 7th day ($p < 0.04$; $K=1$, 28) and 6.02 ± 0.16 g ($r < 0.03$; $K=1.62$) in 14 days, 9.58 ± 0.24 g ($K=1.65$) in 21 days ha, 28 days to 16.35 ± 0.62 g ($K=1.7$), and 35 days to 28.17 ± 0.86 g. It was found that the coefficient of growth of this index of the small intestine is 9.54 times from the age of 1 day to 35 days of chicks.

The length of the small intestine increased from 40.7 ± 0.97 cm to 79.3 ± 1.29 cm ($K=1.21$) from 1 day to 7 days of chicks in group 4, and it remained the same until the next studied 35 days of postnatal ontogeny. it was observed that the condition continues in stages. That is, it was determined that this indicator reaches 98 ± 2.89 cm ($K=1.28$) in 28 days and 133.2 ± 3.92 cm in 35 days. Its growth factor was found to increase up to 3.27 times during the period from the first day to the 35th day of postnatal development.

The absolute indicator of the weight of the bitter (fasting) intestine of chicks of the 4th group was equal to 2.98 ± 0.08 g in the first 1 day of postnatal development, and increased to 3.84 ± 0.14 g by the 7th day, ($K=1.29$) increased to 5.9 ± 0.22 g ($K=1.53$) in 14 days, 9.82 ± 0.26 g ($K=1.66$) in 21 days, 16.94 ± 0 in 28 days It was found that it reaches .66 cm ($K=1.72$) and reaches 29.69 ± 0.87 g in 35 days. It was found that the coefficient of growth of this indicator of the small intestine is 9.96 times during the period from 1 day to 35 days of chicks.

Summary:

- it was noted that the absolute indicators of the length and weight of the small intestines of broiler chicks increase slightly from the first day of postnatal ontogenesis to 14 days, and this process continues without major deviations in the next studied stages;

- during the studied stages of postnatal ontogeny of broiler chicks, it was observed that the morphometric dimensions of the small intestines were higher than the length in terms of growth coefficient weights;

- it was found that the absolute parameters of the linear sizes and weights of the small intestine were higher in broiler chicks of the 3rd and 4th groups, which were additionally given probiotics at the stages of postnatal ontogenesis, especially after 14 days of age.

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