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POSTNATAL MORPHOGENESIS OF ROSS-308 CROSS BROILER CHICKEN MUSCLE STOMACH

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Abstract:

It has been established that the absolute indicators of the length and mass of the muscular part of the stomach of broiler chickens of the ROSS-308 cross significantly increase in the period from the first day of postnatal ontogenesis to 14 days of age, and at the subsequent stages studied, this process proceeds without significant deviations. Morphometric indicators of the muscular part of the stomach were especially high in chicks of the 3rd and 4th groups of broilers, which were additionally given probiotics at the late stages of postnatal ontogenesis, starting from the 14th day.

Keywords: *poultry, chickens, broilers, ROSS-308, cross, muscular part of the stomach, postnatal ontogeny, length, weight, growth rate, linear size, absolute index, heredity, diabetes, atherosclerosis, therapeutic, prophylactic, diet.*

INTRODUCTION.

Poultry farming is one of the most promising areas in our country today, so the development of methods to improve the productivity of poultry is of great practical importance. Feeding of the most pedigree breeds and crosses of chickens is well established on farmers, ranchers, and personal subsidiary farms. ROSS-308 (UK) and Cobb-500 (USA) breeds are popular in our country. Extensive comparative anatomical studies are required to fully understand the effects of various external factors on the organism of birds. Using only complex anatomical and morphometric methods allows for in-depth study and substantiation of comparative morphology, specific species of each bird, identified differences in body structure, and even age and generation differences.

The key to the success of modern poultry, its intensification is always based on knowledge of the morphological and functional characteristics of birds, in particular, the digestive organs involved in the metabolic and energy processes of the organism. In this regard, the study of the laws of development of the structural structure of the digestive organs of birds, and their adaptation to different conditions of nutrition and habitat is one of the main problems of agricultural practice [1, 2, 3, 5].

The digestive system, which ensures the uninterrupted flow of substances and energy in the body, is one of the most labile systems that react with significant and long-term structural and functional changes under the influence of endo- and exogenous factors [4].

The study of the morphology of the digestive tract of poultry mainly determines the prospects for increasing the productivity of poultry. First of all, this applies to age morphology, which reveals morphogenetic mechanisms and allows to identify of important periods in the development of individual body systems.

Data on the morphology of the stomach of birds available in the local and foreign literature are scattered and do not allow to obtain of a holistic idea of organ growth and development in post-incubation ontogeny.

The study of the morphology of the muscular stomach of poultry as the most important organ of the digestive system is of theoretical and practical interest for veterinary, biology, and poultry.

MATERIALS AND METHODS.

The research was carried out on the muscular stomach of broiler chickens belonging to the cross "ROSS-308" imported from "Dargom parranda fays" LLC of the Samarkand region. Divided into 4 groups with 40 chicks in each. All groups of chicks were fed a ration of the same composition. The first group of chicks was given only food and water; the second group of chicks was given food water, and farm vaccines, prophylactic drugs; the third experimental group fed the chicks food, water, and probiotic water containing 100 million microbial bodies; a fourth experimental group of chicks was added to the water with probiotics that stored 200 million microbial bodies. Morphometric measurements were obtained on days 1, 7, 14, 21, 28, and 35 of the experiment.

General morphological methods were used to determine the linear dimensions and weights of the organ.

All numerical data obtained as a result of scientific research were mathematically processed by the method of EK Merkureva.

Mathematical-statistical analysis was performed on a computer's Microsoft excel spreadsheet using Student and Fisher criteria.

RESULTS AND THEIR ANALYSIS.

As a result of scientific studies, morphometric parameters of the muscular stomach of broiler chickens showed certain dynamics of change at different physiological stages of postnatal ontogeny.

The absolute weight of the muscular stomach of broiler chickens in the first group was 3.69 ± 0.14 g in the first 1 day of postnatal development, and 4.09 ± 0.04 g by the 7th day (K = 1.10; r <0.02). to accelerate this process up to 14 days, ie to 9.57 ± 0.26 g (K = 2.33) and to continue it periodically until the next 35 days, ie at 21 days - 23.29 ± 0.71 g (K = 2.43; r <0.04), at 28 days - 22.52 ± 0.80 g (K = 0.96; r <0.04), at 35 days - 22.40 ± 0 , 86 g (K =, 07; r <0.04). It was found that the growth rate of the absolute value of the muscular stomach was 6.54 times during the studied stages of postnatal ontogeny of broiler chickens.

The absolute value of muscle stomach weight in group 2 broiler chickens was 3.66 ± 0.14 cm on the first day of postnatal development and 4.53 ± 0.15 g by day 7 (K = 1.23; r <0.04). and significantly accelerated this process up to 14 days (9.75 ± 0.24 g; K = 2.14) and continued almost continuously until the next 35 days, ie 21 days - 15.79 ± 0, 42 g (K = 1.88; r <0.03), at 28 days - 29.91 ± 0.39 g (K = 1.89; r <0.09), at 35 days - 32.65 ± 0.84 g (K =, 09; r <0.03). The absolute growth rate of the muscular stomach was 8.84 times during the period from day 1 to day 35 of postnatal ontogeny in chickens.

The absolute value of muscle stomach weight in group 3 broiler chickens was 4.12 ± 0.10 g in the first 1 day of postnatal development, with a slight increase in it up to 14 days, ie 5.20 ± 0.13 g at 7 days (K = 1.26 ; r <0.03), on day 14 - up to 12.30 ± 0.20 g (K = 1.20), on day 21 - up to 14.8 ± 0.25 g (K = 1.20), 28 daily - to 21.7 ± 0.71 g (K = 1.47), at 35 days - to 27.9 ± 0.99 g (r <0.04). It was found that the growth rate of this indicator of the muscular stomach increased by 6.79 times during the period from 1 day to 35 days of broiler chickens.

The absolute value of muscle stomach weight in group 4 chickens in the first 1 day of postnatal development was 3.69 ± 0.12 g, and by 7 days it was 4.56 ± 0.12 g (K = 1.23; r <0, 03), on the 14th day - up to 8.39 ± 0.28 g (K = 1.83), on the 21st day - up to 15.79 ± 0.42 g (K = 1.89), on the 28th day - up to 29.91 Increased to ± 0.39 g (K = 1.89) and at 35 days to 32.65 ± 0.84 g (r <0.03). It was observed that the growth rate of this indicator of the muscular stomach was 8.84 times in the period from 1 day to 35 days of broiler chickens.

An analysis of the results of the study showed that probiotics have a significant positive effect on the growth rates of broiler chicks. Muscle stomach weight was observed in proportion to the increase in chicken weight, but muscle stomach weight was observed in probiotic-fed chickens slightly higher than in control group chickens of the appropriate age.

CONCLUSION:

- Absolute values of the weight of the muscular stomach of broiler chickens increased slightly during the period from the first day of postnatal ontogeny to 14 days, and in the latter stages of this process continued without significant deviations;
- Absolute rates of muscular stomach weights were found to be higher in group 3 and 4 broiler chickens given additional probiotics, especially in the later stages of postnatal ontogeny.

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