DYNAMICS OF CHANGE OF THE SHOULDER BONE COMPACT IN THE POSTNATAL ONTOGENESIS OF RABBITS OF THE WHITE VELIKAN, GRAY VELIKAN AND FLANDERS BREEDS

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Summary. *The features of changes in the morphometric indicators of the dorsal and palmar compact substance of the humeral bone in rabbits of the Grey Giant, White Giant, and Flanders breeds in postnatal ontogenesis have been studied. It has been established that the indicators of the thickness of the dorsal and palmar compact substance of the humeral bone have a specific growth dynamics at various physiological stages of postnatal development in rabbits. It was especially noted that the absolute values of the thickness of the dorsal and palmar compact substance of the humeral bone in rabbits of the 1st and 3rd groups were higher from the first day to 21 days of age compared to the 2nd group.*

Key vords: *rabbit, gray giant, white giant and flander, shoulder, postpartum ontogenesis, dorsal compact substance, volyar compact substance, growth coefficient, linear size.*

Rabbit farming is currently the most dynamically developing branch of animal husbandry, supplying the population with the largest percentage of products that are a source of animal protein of full value. Thanks to this, modern gray velikan rabbits ' rapid growth and high productivity from their biological characteristics are characterized by low resource consumption compared to other types of meat production and low cost of rabbit meat. The study of their biological characteristics, the laws of development in postnatal ontogenesis and their rational use are of significant scientific and practical importance in order to obtain quality and more products from agriculture and domestic animals. Including, taking into account the Morpho-physiological changes that occur in the rabbit's body at various physiological stages of postnatal development in the production of high-quality products from the rabbit network makes it possible to correctly establish this area on a scientific basis. In addition, rabbits are also important in experimental research and development experiments as laboratory animals. Rabbits occupy one of the main places in the world economy and consumption. For example, despite the low consumption of rabbit meat in China, this country is the world leader in its cultivation. In Chinese rabbits, special

attention is paid to the care of fur and tivite breeds. The runner-up is Italy. The rate of consumption of rabbit meat per capita (5.5-6 kg per year.Rabbits occupy one of the main places in the world economy and consumption. For example, despite the low consumption of rabbit meat in China, this country is the world leader in its cultivation. In Chinese rabbits, special attention is paid to the care of fur and tivite breeds. The runner-up is Italy. The rate of consumption of rabbit meat per capita (5.5-6 kg per year.) also belongs to the Italians. This figure is 2.5-3 kilograms in France, Germany and Hungary, and in these countries 65 percent of products are produced in a cluster method [4, 9]. ” According to the modern trend of healthy eating and the recommendation of the World Health Organization on the norm of dietary meat consumption, 5 percent of meat products that a person consumes throughout the year, that is, 4.5 kilograms, should be rabbit meat, " the statement said. From this we can say that at present, the market of our country theoretically has a demand for 150 thousand tons of rabbit meat per year [3, 7, 8]. According to data, in terms of satiety, 1 kilogram of rabbit meat is equal to 1.45 kilograms of the best beef. Also, its meat differs from that of sheep, beef and other animals in its low cholesterol content. 90% of the protein it contains is completely absorbed by the human body. It is also rich in mineral salts, calcium and phosphorus, with good taste.ccording to data, in terms of satiety, 1 kilogram of rabbit meat is equal to 1.45 kilograms of the best beef. Also, its meat differs from that of sheep, beef and other animals in its low cholesterol content. 90% of the protein it contains is completely absorbed by the human body. It is also rich in mineral salts, calcium and phosphorus, with good taste. Due to such positive properties, rabbit meat is recommended for people with diseases of the liver, stomach, cardiovascular system, diabetes mellitus, allergies [2, 5, 6]. The fact that rabbits at the age of sexual maturity maintain the physiological homeostasis of their organism occurs with a change in the activity of enzymes of the antioxidant system of the blood has proven itself in Scientific Research [1].The fact that rabbits at the age of sexual maturity maintain the physiological homeostasis of their organism occurs with a change in the activity of enzymes of the antioxidant system of the blood has proven itself in Scientific Research [1]. The peculiarities of micromorphometric indicators of the shoulder bone of rabbits have been studied by researchers, according to the authors, according to the written data of domestic rabbits on the foot skeleton, a visual discrepancy in terms of the anatomical structure of the shoulder bone in the right and left legs has not been determined Several factors have been found to influence the structure of the shoulder bone in rabbits through research. One of the factors affecting bone structure is body weight, curving and writing movements of the shoulder joint [9].

Purpose of the study - Determination of micromorphometric changes in the shoulder bone during postnatal ontogenesis in rabbits of the Grey Giant, White Giant, and Flanders breeds.

Research tasks:

- Study of the dynamics of growth of the dorsal and volyar compact bone thickness of the shoulder bone in postnatal ontogenesis of rabbits of the Grey Giant, White Giant and Flanders breeds.

- Analysis of micromorphometric dynamics, calculating the growth factor of the dorsal and palmar compact substance thickness of the shoulder bone of rabbits.

- Statistical analysis and scientific justification of the obtained micromorphometric parameters.

Materials and methods. Scientific verification work was carried out on the shoulder bone of gray velikan, white velikan, rabbit children of the Flanders Breed, who were parved in the vevary, which was established in the framework of the "Mega project" at SamDVMCHBU. Each was separated into 3 groups with 10 head of rabbit children. All groups of rabbit children were fed on the same diet.ification work was carried out on the shoulder bone of gray velikan, whithe experiment.

To determine the linear dimensions of bones, general morphological methods were used, which were used by N.P. Chirvinsky and improved and introduced by scientists of the Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology (D.Kh. Narziyev, M.Kh. Allamurodov, A.S. Daminov, R.M. Tashtemirov, N.B. Dilmurodov).

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

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

Results and their analysis. The absolute value of the dorsal compact substance thickness of the shoulder bone of the gray giant rabbits in the first group was 0.042±0.001 cm on the 1st day of postnatal ontogenesis, with a rapid increase until the 21st day (0.074±0.002 cm, $p<0.03$; K=1.76) and a gradual continuation of this process until the next 120 days of study, i.e. at 51 days of age - 0.11±0.004 cm ($p<0.04$; K=1.48), at 81 days of age - 0.13±0.03 cm ($p<0.03$; K=1.22), and at 120 days of age - 0.15±0.002 cm ($p<0.02$; K=1.09). It was found that the growth coefficient of this indicator of the humerus is 3.5 times in rabbits from 1 day to 120 days of age.

It was noted that the absolute index of the palmar compact substance thickness of the humerus increased from 0.032±0.0004 cm to 0.06±0.0013 cm (K=1.92) from the first day of postnatal development to the 21st day of the first group of rabbits, it was somewhat more intense from the 21st to the 51st day (0.099±0.003 cm, $p<0.03$; K=1.58) and continued periodically until the next 120 days, that is, at 81 days it reached 0.118±0.004 cm ($p<0.04$; K=1.19), and at 120 days it reached 0.129±0.002 cm (K=1.1). It was found that the growth coefficient of the palmar compact substance of the bone was 4.03 times during the studied stages of postnatal ontogenesis.

The second group - the thickness of the dorsal compact substance of the shoulder bone of the white giant rabbit was 0.041±0.0007 cm on the 1st day of postnatal ontogenesis, and it was observed that it increased rapidly until the 21st day (0.072±0.001 cm, p<0.02; K=1.75) and continued this process gradually until the next 120 days of study, that is, at 51 days - 0.108±0.003 cm (p<0.04; K=1.5), at 81 days - 0.13±0.007 cm (p<0.03; K=1.21), and at 120 days - 0.139±0.002 cm (p<0.02; K=1.06). It was found that the growth coefficient of this indicator of the humerus is 3.39 times in rabbits from 1 day to 120 days of age.

The absolute index of the palmar compact substance thickness of the humerus was recorded to increase from 0.032±0.004 cm to 0.058±0.0013 cm (p<0.03; K=1.81) from the first 1 to 21 days of postnatal development of the second group of rabbits, this process continued from 21 to 51 days (0.092±0.001 cm, p<0.02; K=1.59) and continued periodically until the next 120 days, i.e. at 81 days - 0.106±0.004 cm (p<0.03; K=1.14), at 120 days - 0.129±0.002 g; K=1.07). It was found that the absolute growth coefficient of the palmar compact substance thickness of the bone was 3.53 times during the studied stages of postnatal ontogenesis of rabbits.

The absolute value of the thickness of the dorsal compact substance of the humerus in the third group - Flemish breed rabbits - was 0.043±0.0006 cm on the 1st day of postnatal ontogenesis, increasing until the 21st day (0.076±0.002 cm, p<0.03; K=1.79) and continuing this process in a stepwise manner until the next 120 days of study, i.e. at 51 days - 0.116±0.003 cm (p<0.04; K=1.53), at 81 days - 0.144±0.003 cm (p<0.02; K=1.24), and at 120 days - 0.16±0.002 cm (K=1.1). It was found that the growth coefficient of this indicator of the humerus is 3.76 times in rabbits from 1 day to 120 days of age.

The absolute index of the palmar compact substance thickness of the humerus bone was recorded to increase rapidly from 0.032±0.0001 cm to 0.062±0.002 cm (p<0.04; K=1.96) from the first 1 to 21 days of postnatal development of rabbits of the third group, continuing periodically from 21 to 51 days (0.1±0.003 cm; K=1.6) and up to the next 120 days, i.e. at 81 days - to 0.121±0.002 cm (K=1.22), at 120 days - to 0.133±0.002 cm (p<0.02; K=1.1). It was found that the growth coefficient of the palmar compact substance thickness of the bone was 4.2 times during the studied stages of postnatal ontogenesis of rabbits.

Thus, the absolute value of the linear thickness of the dorsal and palmar compact substance of the shoulder bone of rabbits exhibits a specific dynamics of change at different physiological stages of postnatal ontogenesis, and these indicators have certain differences across rabbit breeds.

Conclusion:

- it was noted that the linear dimensions of the shoulder bone increased somewhat rapidly during the period from the first day of postnatal ontogenesis to the

21st day, and this process continued without significant deviations in the subsequent studied stages;

- it was found that the thickness of the dorsal and palmar compact substance of the humerus was higher in rabbits of groups 1 and 3 during the stages of postnatal ontogenesis, especially up to 21 days of age.

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