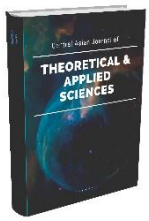

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Characteristics of Change of Morphometric Performance of Kidneys During Postnatal Development of Karakol Sheep

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Annotation: *The linear dimensions and weights of the left and right kidneys at different physiological stages of postnatal ontogeny of Karakol sheep were studied, and the dynamics of specific changes in these parameters during development were determined.*

Keywords: *karakul sheep, postnatal ontogeny, morphometric, kidneys, growth rate, relative index.*

Introduction. The anabolic and catabolic processes that take place in the body as a result of incomplete absorption of nutrients, as well as the regular breakdown of tissues and cells. is carried out through. Like other organs in the body, the kidneys exhibit specific morphofunctional features at different physiological stages of postnatal ontogeny.

F.X. Madjidov (1961) studied the linear dimensions and weights of goat kidneys at different stages of postnatal development, and identified specific dynamic changes in these parameters. T.S. Vodyanitskaya (2004; 2006) studied the developmental characteristics of the kidneys of birds at different stages of postnatal ontogenesis and determined the rapid growth of the kidneys at the 1st, 2nd, 9th day stage in relation to the growth of the bird organism. According to the author, the kidneys of one-day-old chicks differ from those of adult birds in terms of functional and structural structure. During the 15-day period, the kidney structures continue to form, and the area of the renal corpuscles, curved tubules, their pathway, and the ratio of the epitheliocytes of the tubules to the cytoplasm decreases.

I.I. Nekrasova (2012) studied the morphometric characteristics of some urinary organs in cats and found that bladder and urinary tract values were higher in males than in females. An increase in the length of the right and left urinary tract was observed in all studied ages, with the highest growth rate detected during the early postnatal ontogenesis of animal postnatal development.

E. Skladnena et al (2011) studied the specific features of the urinary tract of carnivorous domestic animals, in particular, identified the functional-structural unit of the lymphatic vessels of the bladder. The authors found that the urinary bladder lymphatic vessels, regional lymph nodes differ according to the type and age of the animal.

The authors found that there were single-layered endothelial cells in the bladder lymph capillary wall without a basal membrane. The lymphatic postcapillary wall of the bladder is morphologically similar to the lymphatic capillary wall. However, it is noted that the difference of lymphatic capillaries in the presence of lymphatic postcapillaries in the right direction large path valves occurs within a month, the right urinary tract is slightly longer than the left urinary tract.

Inspection methods and materials. The research was carried out on the kidneys of karakul sheep raised on farms of Nurabad district of Samarkand region, belonging to the 1, 3-day, 6, 12, 18, 24, 36-month stages of postnatal ontogeny. Animals of clinically healthy and moderately obese age belonging to the studied subjects were selected for sampling. The kidneys of karakul sheep belonging to the appropriate age group were taken for the object of inspection. General morphological methods were used to determine the morphometric parameters of the kidneys. The research was carried out in the scientific laboratory of Samarkand Agricultural Vocational College. Scientific researches All numerical data were mathematically processed according to EK Merkureva's method.

The results obtained and its discussion. The absolute value of left kidney length was 3.5 cm in 1-day-old lambs, and in the first 3 days of postnatal development it increased to 3.9 cm, or a growth rate of 1.11 times. In the next 6 months of postnatal ontogeny, this indicator of the kidney increases rapidly, ie it reaches 5.7 cm, the growth rate reaches 1.46 times, the ratio of animal length to body is 7.5%. The absolute length of the kidney of a 12-month-old animal is 6.3 cm, and its growth rate is 1.11 times that of a 6-month-old animal. At the 18-month stage of postnatal development, the absolute length of the kidney is 7.1 cm, the growth rate is 1.12 times, and in the next 24 months it remains almost unchanged, ie it is 7.15 cm, the growth rate is 1.01 times. In 36-month-old sheep, this renal index is the highest of all ages studied, i.e., 7.5 cm, obtained as a result of growth compared to 24 months, in the 3-day stage of postnatal ontogeny, this figure is 3.9 cm, the growth rate during this period is 2 , 05 times. This renal index is significantly reduced in 6-month-old animals to 3.0 cm, and the growth rate is 0.77 times from 12 months of development. equal to 12 cm, the growth rate is 1.17 times, the growth rate at 18 months is 1.2 times. In the next 24 and 36 months of postnatal ontogeny, this figure is 4.1 cm at 24 months, the growth rate is 0.97 times, the growth rate is 4.3 cm at 36 months, and the growth rate is 1.05 times. It was noted that the absolute rate of growth during all stages of renal postnatal ontogeny studied was 2.26 times. The ratio of absolute renal width to animal body length increased from 4.36% to 8.0% from day 1 to day 3 of postnatal ontogenesis, followed by a significant decrease in oscillations during subsequent stages and decreased to 4.17% at 36 months, coefficient 1, 05 times, the ratio of the absolute length of the left kidney to body length gradually decreases over the period from birth to the 36th month of study, from 8.04% to 7.27%, with a growth rate of 2.14 times. The absolute value of left kidney width was 1.9 cm in 1-day-old lambs, and the thickness of the left kidney in karakul sheep was 1.7 cm on the first day of postnatal ontogenesis. At the stage of 05 times, the absolute value of kidney thickness increases sharply and reaches 2.9 cm, and the coefficient of growth is 1.6 times. In 12-month-old animals, this indicator of the kidney does not change significantly (3.1 cm, K = 1, 07), at 18 months it occurs rapidly increasing and is 3.8 cm, the growth rate is 1.22 times. The absolute measurement of kidney thickness is almost unchanged in 24- and 36-month-old animals compared to 18-month-olds, i.e., it is 3.9 cm at 24 months, a growth rate of 1.02 times, and a growth rate of 3.8 cm at 36 months at 0.97 times. The growth rate of this indicator of the kidney reaches 2.23 times in the period from 1 day to 36 months of postnatal ontogeny in sheep. The ratio of kidney thickness to animal body length decreased periodically from 3.91% to 3.68% during the studied stages of postnatal ontogeny, from 1 day to 36 months. The absolute weight of the left kidney of 6-month-old postnatal development karakul sheep increased from 9.0 g to 10.75 g from the first 1 to 3 days of postnatal ontogeny, the growth rate increased to 1.19 times, and in the later stages of development this process is accelerated. This indicator of the kidneys increases by 38.0 g at 6 months of age, the growth rate by 3.53 times, at 12 months by 46.0 g, the growth rate by 1.21 times. At the 18-month stage of

postnatal development, the absolute weight of the kidneys increased sharply to 74.0 g, and the growth rate compared to 12 months was 1.61 times. In the next 24 months of postnatal development, this indicator of the kidney is almost unchanged, it is 75.0 g, the growth rate is 1.01 times. At 36 months, it shows the highest figure, reaching 77.0 g. The age coefficient of absolute weight of the left kidney is 8.55 times during the studied stages of postnatal development. The ratio of kidney weight to animal body weight was high in 3-day-old eyes, declining at no later stage without significant deviations, and was 0.14% at 36 months. The absolute length of the right kidney of Karakol sheep is 3.8 cm in 1-day eyes, in the 3-day stage of postnatal ontogeny it is almost unchanged, 3.9 cm, and the growth rate is 1.02 times. At the 6-month stage of postnatal development, this indicator of the kidney increases sharply, reaching 6.1 cm, and the growth rate is 1.56 times. The absolute length of the kidney is almost unchanged at 12 months of development compared to 6 months, ie it is 6.3 cm, the growth rate is 1.03 times. Postnatal ontogeny increases gradually from 18 months of age, i.e. 7.4 cm at 18 months, growth rate 1.17 times, 7.45 cm at 24 months, growth rate 1.01 times at 36 months, 7.7 cm at 36 months, growth the coefficient is 1.03 times. The growth rate of the absolute length of the kidneys was 2.02 times during the studied stages of postnatal development of the animals, and the ratio of body length to the animal gradually decreased without significant change, ie from 8.73% to 7.47%.

The absolute value of the right kidney width of Karakol sheep was 2.0 cm in the 1-day stage of postnatal ontogeny. At 3 days it is almost unchanged. At the 6-month stage of postnatal development, this indicator of the kidney increases rapidly, reaching 3.1 cm, and the growth rate is 1.63 times higher than in the lower stage. From 12 months of age, the absolute value of kidney width in animals gradually increases. At 12 months - by 3.6 cm, the growth rate is 1.16 times. At 18 months, the growth rate was 4.3 cm, the growth rate was 1.19 times, at 24 months it was 4.35 cm, and the growth rate was 1.01 times, which remained unchanged for the next 36 months (4.35 cm K = 1.00). The growth rate of this kidney is 2.17 times from the birth of the animal to 36 months, and the relative rate decreases from 4.59% to 4.22% during the studied period, ie the absolute value of kidney thickness is 1.5 cm on the first day of postnatal development of karakul sheep. over the next 3 days, the figure increased to 1.9 cm, with an average daily growth rate of 1.26 times. At the 6-month stage of postnatal development, the absolute rate of renal thickness was 2.9 cm, the coefficient of growth was 1.52 times during the increase in the thickness of the external duct, 1.52 times at 12 months, the growth rate was 1.10 times, 18 a growth rate of 4.0 cm per month makes 1.25 at 18 months of age in the next 24 and 30 months of development. The absolute thickness of the kidney does not change significantly compared to postnatal, ie it is 3.8 cm at 24 months, growth rate 0.95 times, growth factor 3.9 cm at 36 months, growth rate 1.02 times, all studied stages of postnatal ontogeny are absolute 2.6 of the kidney. while from 1 day to 36 months it rises from 3.44% to 3.78% without significant deviations. In stage 6 of postnatal ontogeny, this renal rate rose sharply to 41.0, with a growth rate of 3.79 during this period.

The absolute rate of renal weight in 12-month-old animals is slightly higher than in 6-month-olds, it is 46.5 g, the growth rate is 1.13 times, and in the next 18 months of postnatal development there is a sharp increase, ie 75.0 g, growth the coefficient is 1.61 times. At the 24th and 36th months of development, this indicator of the kidneys increases significantly compared to 18 months, ie it is 77.0 g at 24 months, growth rate is 1.03 times, at 36 months it is 79 g, growth rate is 1.03 times. The rate of increase in the absolute weight of the kidney was 8.58 times from day 1 to 36 months of postnatal ontogeny, and its relative rate decreased from 0.34% to 0.14% during this period.

Conclusion: - Although the absolute rate of renal length of karakul sheep increased rapidly from 1 day to 6 months of postnatal ontogeny, it was noted that this figure peaked at 36 months and gradually decreased from 1 day to 36 months relative to body length. - The absolute weights of the kidneys of karakul sheep increased rapidly during the period from 1 day to 6 months of postnatal ontogeny, showing a high growth

rate at 18 months compared to sheep stages, the highest absolute value was observed at 36 months, and a decrease in body weight from 1 day to 36 months. - the absolute thickness and width of the kidneys of karakul sheep increases almost steadily from the first days of postnatal development to 36 months, ie the thickness of the left kidney from 1.7 cm to 3.8 cm, its width from 1.9 cm to 4.3 cm, the right kidney thickness from 1.5 cm to 3.9 cm and width from 2.0 cm to 4.3 cm.

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