

Morphometric Anatomy of the Large Intestine in Various Non-Infectious Pathologies

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Relevance: A healthy state of the gastrointestinal tract is indisputably the key to normal growth, development, strong immunity and strengthening of the body's heredity является здоровое состояние желудочно-кишечного тракта. At the same time, 62.5% of the morphometric parameters of the colon taken into account by us differed from those in the norm. In the large intestine, the final stages of the digestive process take place. Assimilation is carried out thanks to the digestive juices that come together with the food lump from the stomach, and digestive juices also come from the small intestine, where the absorption of nutrients continues. Most of the water is absorbed by the small intestine, and the undigested remains of the food lump are formed into fecal masses.

Key words: large intestine, cecum, lymphoid nodules.

The number of single lymphoid nodules (LLU) throughout the large intestine varies from 18 to 24, with an average of $22.5 \pm 0.37,37$ (Figure 3.1.22.). The number of single lymphoid nodules in the colon varies from 18 to 24. In the middle part of the cecum of 3-month-old white rats in the control group, ranging from 3 to 8 per 1 cm² of the intestinal area, on average $5.6 \pm 0.31,31$, their sizes vary from 0.4x0.55 mm to 0.66x0.88 mm. On average $0.45 \times 0.7 \pm 0.032$. The distance between single lymphoid nodules is calculated from 5 to 9 mm on average, $7.3,3 \pm 0.25,25$. In the middle part of the colon, the number of single lymphoid nodules varies from 13 to 19, on average $16.0 \pm 0.37,37$ with dimensions from 0.4x0.52 mm to 0.46x0.6868 mm. On average, $0.4545 \times 0.60 \pm 0.09$. The distance between single lymphoid nodules is calculated from 3.2 to 10.5,5 mm with an average of $7.25,25 \pm 0.4,45$. In the rectum, the number of single lymphoid nodules is from 1 to 2, on average 1.66 ± 0.062 . The dimensions of the OLU in this department range from 0.3x0.5 mm to 0.4x0.5555 mm. On average, $0.4 \times 0.48 \pm 0.03$. The distance between single lymphoid nodules is calculated from 2 to 4 mm on average, $2.4,4 \pm 0.12$. OLU are located along the entire wall of the colon and are mainly oval and rounded in shape.

In the course of research, it was found that the diameter of the large intestine decreases from the proximal to distal part. The diameter of the cecum varies from 14.2 to 22.8 mm, on average $8.68,6 \pm 0.53,53$ mm, the diameter of the colon - from 8.9 to 16.3,3 mm, on average $12,1.26 \pm 0.4646$ mm, the diameter of the rectum - from 8.1,1 mm to 11.7,7 mm, on average $10,220,22 \pm 0.13$ mm. The growth rate of colon diameter is 5.3% in the blind, 13.4% in the colon, and 11.7% in the rectum. The growth rate of diameter of the mesenteric part of the colon is on average 8.8%, which is 1.09 times higher than in 3-month-old white outbred rats.

The total size of the colon ranged from 1223.1,1 mm² to 4400.4,4 mm², on average $4027.2,2 \pm 19.6$ mm², the growth rate was 26.0%

The final results are described in age category E. The time of development of chronic radiation exposure was also taken into account. In this regard, we can consider it necessary to present the results of studying morphometric parameters described above, starting from the newborn age and ending with the one-year-old age of animals.

The study found that the length of the colon of rats of the intact group increases unevenly throughout life. The most pronounced rate of increase in the length of the colon is observed at

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174.4% and 24.5% at 3 months of age, a decrease in the growth rate occurs by 2.5% and 5.3% at 9 and 12 months of age, respectively.

The results obtained by us correspond to the data given in the work of S. A. Kashchenko and ТкачевойЕ. N. Tkacheva (2009) that the length and diameter of the colon increases with age.

Comparison of the length толстоf the colon of rats of the intact and irradiated groups showed that there was a decrease in its length, which is most pronounced at 3 months of age (1.1 times), in the subsequent months of observation, these indicators were at almost the same level (1.01-1.04 times). The group that took ASD-2 fractions at a dose of 0.1 ml on the background of radiation showed an increase in the length of the colon compared to the irradiated group толстыby 1.0 times in all age categories.

It was found that the largest decrease диаметра in the colonic diameter of rats with chronic radiation exposure was observed at 9 months of age (1.2 times), and the smallest in other ages (1.03-1.05 times) compared to the control group. In the group of rats treated with ASD – 2 fractions at a dose of 0.1 ml, compared with the irradiated group, there диаметрwas a 1.05-fold increase in type a in all age categories. And in the group of rats treated with ASD-fraction 2 after irradiation, an increase in diametera (1.01 times) was noted only at 9 months of age.

A decrease in the length and diameter of the colon is probably a response of the body to chronic radiation exposure. And the tendency to restore and approach the control parameters, the positive effect of using the ASD-2 fraction at a dose of 0.1 ml against the background of chronic radiation. This was not observed in the group of rats treated with ASD – 2 fractions after irradiation.

When comparing the wall thickness of the large intestine of rats with chronic exposure to the cecum, colon and прямойrectum in all age categories, it lags behind in comparison with the control by 1.16-1.2 times. Apparently, chronic radiation exposure has a detrimental effect on all parts толстоf the colon.

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