

Morphofunctional Characteristics of the Intestine in Laboratory Animals

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Relevance: The study of the regularities and features of the intestinal structure in animals is still one of the most pressing problems of veterinary morphology and gastroenterology. Despite the numerous data available in this area, many aspects of this important problem remain unexplored in rats. At the same time, about 65% of representatives of this superorder die due to gastrointestinal pathologies.

In addition to the general features of various representatives of the studied superorder, we have identified species-specific features of the structure of the intestinal canal. In rabbits, the duodenum is divided into descending and ascending parts. When it passes into the jejunum, a bend of both intestines is formed, which is consistent with the data presented in foreign literature

Key words: morphology, intestines, gray rat.

The gray rat has a pyloric constrictor, which performs a similar function, instead of a button-shaped thickening. The button-shaped thickening of the guinea pig is similar in its anatomical organization to that of the chinchilla and is located at the bottom of the cranial bend. The jejunum of the superorder Euarchontoglires is represented by numerous loop-like bends, which are well supplied with blood by the vessels of the trachea, and is macromorphologically similar to that of animals of other taxonomic groups [2]. At the same time, the ileum of the studied representatives is characterized by species-specific structural features. A guinea pig has an ileal-blind valve at the transition of the intestine to the large intestine, which prevents the retrograde movement of food. In rabbits, the ileum forms a sac of the ileum (the amygdala of the cecum) on the border with the cecum, the wall of which consists of serous, muscular and mucous membranes, and accumulations of lymphoid tissue are visualized in its submucosal base. On the basis of histological examination, it was established that the mucous membrane of the cecum tonsil contains a huge number of goblet cells and a well-developed edged epithelium. Therefore, along with the immune function, it can also perform a suction function.

В области подвздошно-слепого соединения обнаружен A smooth muscle sphincter was found in the area of the ileocolic junction, which serves to pass intestinal contents from the small intestine to the large intestine. When studying the colon, it was found that the cecum has a significant volume, being the second (after the stomach) reservoir for storing intestinal contents. Fermentation processes aimed at the breakdown of fiber also take place here. It reaches its greatest development in rabbits and exceeds the volume of the stomach. It has three gyri and a vermiform process. The cecum contains one longitudinal tenia and transverse folds that divide it into pockets. Their number ranges from 21 to 24 pieces. We have identified blood vessels in them. The cecal wall contains a serous membrane, a thick layer of muscle cells with numerous blood vessels passing through it, and a mucous membrane with a fringed epithelium with a small number of goblet cells.

The cecum of the gray rat, unlike other species studied, has a more simplified structural organization. The colon has a number of specific features. The mucous membrane of the gray rat forms semilunar folds. In guinea pigs, the colon on the border with the cecum forms a blind-colon mouth, equipped with a kind of valve that controls the evacuation of contents from the cecum to the colon. The mouth is characterized by the presence of an ampoule-like expansion like a sac of the colon, the mucosa of

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which is collected in numerous folds with solitary lymphatic follicles visible on its surface фолликулами. In the mucosa of the proximal part of the colon, there are two shadows with a thickness of 1670 ± 38.7 microns. It is impossible to exclude their purpose in the promotion of intestinal contents through the intestinal canal. In the rabbit, the colon is endowed with a more complex structural organization than in other members of the superorder Euarchontoglires. The colon can be divided into several parts: ascending, transverse and descending. The ascending part of the intestine originates from the ceco-colonic junction, where it forms the ceco-colonic flap, which controls the evacuation of intestinal contents from the cecum to the colon, which has a diameter 2-3 times smaller than in the blind. The proximal part of the ascending colon bears three tenia (longitudinal muscle bands), between which are located deep pockets (gaustra), which increase the volume of the colon several times. In the mucosa of the ascending part of the colon, the mucosa forms rounded protrusions that give it a velvety appearance.

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