TOPOGRAPHIC AND MACROSCOPIC INDICATORS OF LYMPHOID FORMATIONS OF THE MUCOSA IN THE INTESTINE OF RABBITS

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Introduction. The development of rabbit farming requires the breeding of new breeds of rabbits with accelerated growth intensity and increased productivity. Together with the acceleration of growth and development of somatic systems, the rates of morphogenesis and formation of organs that provide immune protection, in particular, lymphoid formations of the intestine, also change [1, 2]. Lymphoid formations associated with the intestinal mucosa in mammals are represented by the diffuse form of lymphoid tissue, lymphoid nodules, as well as clusters of diffuse lymphoid tissue and lymphoid nodules in the form of Peyer’s patches [3].

Lagomorphs in the process of phylogenesis and in the struggle for survival in difficult natural conditions acquire a new physiological feature from the side of the functioning of the large intestine, such as the formation of cecotrophs, which, in addition to feed fiber, include microbial protein, vitamins of groups B, C, PP, K, trace elements and enzymes. Cecotrophs are consumed by rabbits, providing the body with 30% of energy and at the same time reducing the need for these nutrients from the external environment. The special control system has been created in the intestines of rabbits, which provides an opportunity to actively respond to antigens entering the intestinal lumen, and to regulate the balance of microorganisms involved in digestion processes. In this regard, in lagomorphs, in comparison with other mammals, additional lymphoid organs were formed in the intestine in the form of lymphoid diverticulum of the ileum and a finger-shaped hollow appendage of the cecum - the vermiform appendix of the cecum [1, 3, 4, 5, 6].

Intention. The aim of our work was to investigate the topographic and macroscopic indicators of lymphoid formations associated with the mucous membrane of the intestine of rabbits.

Material and methods. The material for these studies was the intestines of clinically healthy 6-month-old male and female California rabbits. The topography,
shape and measurements of the Peyer’s patches, a lymphoid diverticulum of the ileum, and the vermiform appendix of the cecum were determined using dissection and morphometry methods [7].

**Research results.** The conducted studies confirmed that lymphoid formations in the intestine of rabbits are represented by Peyer’s patches, the lymphoid diverticulum of the ileum and the vermiform appendix of the cecum.

Analysis of literature data shows that Peyer’s patches are located in the duodenum, jejunum, ileum, and cecum [1, 3]. According to our research, Peyer’s patches were found in the mucous membrane of the jejunum, ileum, and cecum. From the mucosal side, they are located on the antimesenteric surface. They look like domed, bumpy, gray-colored protrusions. Their number is 4-5 in females and 5-8 in males. They are located at a distance of 33-85 cm from each other and 10-12 cm from the end of the duodenum. The shape of Peyer’s patches is spherical, oval or elongated-oval. Its length reaches 1.5±0.10 cm, and its width is 1.3±0.08 cm.

On the mucosal membrane of the first pocket of the cecum, near the opening of the ileum, there is an elongated oval-shaped Peyer’s patch. Its length reaches 2.9±0.11 cm, and its width is 1.8±0.26 cm. This patch protrudes above the surface of the mucous membrane. It is also gray in color, its edges are slightly thickened, and the surface is loose. Sometimes this lymphoid patch appears on the mucous membrane of the bottom of the first pocket of the cecum. In one case, discontinuous gray fields protruding above the surface of the mucous membrane were found at the site of the lymphoid patch. Peyer’s patches are constantly observed in the jejunum and cecum, and rarely in the ileum.

Lymphoid diverticulum of the ileum is an elongated oval formation of its antimesenteric wall, protruding into the abdominal cavity at the point where the ileum meets the cecum. Its length reaches 3.8±0.12 cm, and its width is 3.0±0.10 cm. The cavity of the lymphoid diverticulum is filled with intestinal contents in a volume of 5-8 ml. Its mucous membrane has the appearance of a continuous lymphoid patch, the protruding surface of which is loose, uniformly gray-white in color and has thickened edges. In this place, the mesenteric surface of the wall of the ileum is narrowed to 0.8 cm and does not contain lymphoid tissue.

In rabbits, the cecum is quite voluminous. Its narrowed edge ends with a hollow vermiform appendix, 13.5±0.33 cm long. Its mucous membrane is uniformly gray-white, slightly loose, slimy. The appendage of the cecum topographically connects with the terminal part of the jejunum and ileum. The short mesentery between the jejunum, ileum and the vermiform appendix of the cecum contains well-developed blood vessels, through which lymphocytes migrate and transmit antigenic information to the lymphoid structures of the appendix of the cecum relative to the contents of the intestine [8].

**Conclusions.** Topographic and macroscopic indicators of lymphoid formations of the intestinal mucosa of California rabbits were determined. Lymphoid formations of the intestine are represented by Peyer’s patches, the lymphoid diverticulum of the ileum and the vermiform appendix of the cecum. Peyer’s patches are constantly observed in the jejunum and cecum, and rarely in the ileum. The mucous membrane of the lymphoid diverticulum of the ileum has the appearance of a lymphoid patch.
References:


