

DEVELOPMENTAL CHANGES IN RECTAL TISSUE ORGANIZATION IN NON-EXPOSED RABBITS**Aburakhmanova Khusnora Rustamovna**

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The objective of this study was to evaluate the histomorphology of the rectal lining and its connective tissue framework in clinically normal rabbits at different developmental stages (3 and 6 months) with the goal of establishing standard morphological criteria.

Materials and Methods. The study was performed on intact rabbits divided into two age groups: 3-month-old ($n = 5$) and 6-month-old ($n = 5$). Rectal tissue samples were fixed in 10% neutral formalin and processed according to standard histological protocols. Paraffin sections 4–5 μm thick were stained with hematoxylin–eosin and Van Gieson. Morphological evaluation was carried out using light microscopy (ocular $\times 10$, objective $\times 4$). The mucosal layer, glandular apparatus, submucosa, and connective tissue elements were assessed.

Results. In intact 3-month-old rabbits, the rectal mucosa was characterized by a relatively lower epithelial height, moderate development of rectal glands, and weak expression of connective tissue components. Collagen fibers were thin and evenly distributed, with no signs of structural remodeling. At 6 months of age, thickening of the mucosal layer, increased density and depth of rectal glands, and a higher number of goblet cells were observed, indicating enhanced secretory activity. Connective tissue elements of the submucosa and intermuscular layers were more distinctly developed. Van Gieson staining revealed increased visualization of collagen fibers without evidence of fibrotic transformation.

Conclusion. The age-related transition from 3 to 6 months in intact rabbits is accompanied by a physiological morphological remodeling of the rectal mucosa and connective tissue structures, reflecting morphofunctional maturation of the intestinal wall. The obtained data may serve as reference values in experimental studies of the gastrointestinal tract.