

TISSUE COMPOSITION AND MORPHOMETRIC EVALUATION OF THE SPLEEN IN RABBITS AT THE THREE-MONTH DEVELOPMENTAL STAGE**Tursunova Gulrukh Sadykovna**

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The objective of this study was to obtain normative information on splenic histoarchitecture and metric indicators in healthy rabbits aged three months, serving as a benchmark for future comparative studies involving experimental models.

Materials and Methods. The study included 10 intact 3-month-old rabbits. Spleen sampling was performed in compliance with bioethical standards. Histological examination was carried out on paraffin sections 4–5 μm thick stained with hematoxylin–eosin and alcian blue. The structure of the white and red pulp, the condition of lymphoid nodules, reactive (germinal) centers, mantle and marginal zones, as well as elements of the microcirculatory bed were evaluated. In addition, morphometric analysis was performed to determine the relative area of the pulp and the size of lymphoid structures.

Results. It was established that the spleen of intact 3-month-old rabbits is characterized by a well-organized histoarchitecture with a clear differentiation of white and red pulp, indicating a high degree of structural maturity of the organ at this age. The white pulp was represented by well-developed lymphoid nodules with distinct reactive (germinal) centers, preserved mantle and marginal zones, and an orderly spatial distribution within the splenic parenchyma. The relative area of the white pulp was $24.7 \pm 2.9\%$, while the red pulp accounted for $75.3 \pm 2.9\%$, reflecting a physiologically balanced proportion of immune and hemocirculatory compartments. Morphometric analysis demonstrated that the mean diameter of lymphoid nodules reached $286.4 \pm 18.7 \mu\text{m}$, and the proportion of reactive centers constituted $41.2 \pm 3.6\%$ of the total nodule area, which is indicative of functional activity of the lymphoid tissue. The red pulp was composed of regularly arranged splenic cords and sinusoids with preserved lumen and endothelial integrity, without signs of congestion or microcirculatory disturbances. Histochemical analysis revealed a predominant accumulation of acidic mucopolysaccharides in the elements of the red pulp and the walls of sinusoids, whereas their content in lymphoid nodules and reactive centers was minimal. This pattern reflects the physiological organization of the extracellular matrix and the normal functional state of the microcirculatory bed in the spleen of intact rabbits.

Conclusion. The spleen of intact 3-month-old rabbits demonstrates a well-formed morphofunctional organization, indicating the maturity of immunocompetent structures and proper organ functioning. The obtained morphological and morphometric parameters may be used as reference values for assessing structural changes in the spleen in various experimental models.