

experiment's 1st, 5th, 10th, 14th, 21st, and 30th days. Semi-thin sections were made from paraffin blocks and studied using a light microscope with a digital photomicroscope.

**Results:** on the first day, dystrophic changes in epitheliocytes of the integumentary pit epithelium, the cytoplasm of individual cells containing vacuoles of different sizes, a decrease in the number of secretory granules, and a characteristic polymorphism of the nuclei were revealed. The walls of the arterioles are spasmodic. On the 5th day, an increase in dystrophic and destructive changes was established in the epithelium of the fundal part of the stomach. The number of secretory granules progressively decreases, and areas of "desolation" are found in the apical part of the cytoplasm. The lumens of arterioles are widened, and there are signs of hyperhydration of the surrounding connective tissue. On the 10th day, karyopyknosis of epitheliocytes is detected. Irregularly shaped nuclei and decondensed chromatin are in the center of the cell. There are no secretory granules. By the 21st day, the integrity of the integumentary pit epithelium is restored. Oval-shaped nuclei, located in the basal parts of cells, contain decondensed chromatin and one nucleolus. Postcapillaries and venules are densely filled with uniform blood elements. On the 30th day of the experiment, there is a complete structural and functional recovery of the layer of superficial pit epitheliocytes with the recovery of the morpho-functional state of exchange hemomicrovessels.

**Conclusions:** it was established that intraperitoneal administration of  $\lambda$ -carrageenan leads to morpho-functional changes in the structural components of the mucous membrane of the fundal part of a rat's stomach, which have a staged course (alteration, exudation, proliferation). On the 30th day, the structural components of the stomach wall were thoroughly restored.

**Keywords:**  $\lambda$ -carrageenan, inflammation, dystrophic changes, structural components.

### CHANGES IN VENULES OF GUM

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**Relevance:** It is widely known that food and nutrient industries utilize food additives extensively to enhance the sensory qualities of their products. While food additives can improve the taste, texture, and appearance of food, they can also have negative effects on our health. Unfortunately, there is limited knowledge about the impact of food additives on the morphology of living tissues.

**Aim:** To address this gap in knowledge, a study was conducted to investigate the effects of a complex of food additives on the morphology and morphometry of the venules and their walls in the gingival epithelium of rats.

**Materials and methods:** The study was carried out on common white rats, which were subjected to a complex of food additives in an experimental setting. The study utilized relevant morphometric and histological techniques and included statistical analysis to obtain accurate and reliable results.

**Results:** The results of the experiment revealed that the food additives had significant effects on the venules in the gums, leading to various changes in the general diameter, average diameter of lumen, and wall thickness of the venules. These changes can be attributed to the impact of the food additives on the living tissues. Based on these findings, it can be concluded that food additives have a significant impact on the morphology of living tissues. The study provides important insights into the effects of food additives on the mucous membrane of the gums in rats, highlighting the need for further research to fully understand their impact on human health.

**Conclusions:** In conclusion, while food additives can enhance the sensory qualities of food, their impact on the morphology of living tissues is a cause for concern. Further research is needed to better understand the effects of food additives on human health and to develop strategies to minimize their negative impact.

**Keywords:** oral cavity, exogenous factors, sodium nitrite, monosodium glutamate, Ponceau 4R.

### НАУКОВИЙ ВНЕСОК С.М.ДЕЛІЦИНА У РОЗВИТОК КЛІНІЧНОЇ АНАТОМІЇ ТА ОПЕРАТИВНОЇ ХІРУРГІЇ

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**Актуальність:** із 2017-2018 навчального року у освітньо-професійних програмах студентів вітчизняних вишів з'явилася нова дисципліна – клінічна анатомія і оперативна хірургія. Передбачалося, що її введення до навчальних планів оптимізує вивчення матеріалу, який раніше розглядався у курсі оперативної хірургії і топографічної анатомії. Однак недосконалість навчальних планів, різке зменшення кількості годин, відведених для аудиторної роботи, невизначеність та дискусії щодо місця нової дисципліни серед освітніх компонент, призвели до того, що важлива практично