

**MORPHOLOGICAL CHANGES IN LUNG TISSUE IN
ACETIC ACID-INDUCED GASTRIC BURNS**

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Abstract. *Chemical burns of the digestive tract are currently a common disease, especially among children and adolescents, the incidence rate is relatively high, and the complications and disability that arise are increasing. One of the pressing areas of this topic remains the lack of information on morphological changes in lung tissue in burns of different levels of the digestive tract in foreign and local sources.*

Keywords: *lungs, morphology, morphometry, digestive tract, burns.*

**HAZM TRAKTINING SIRKA KISLOTASI TA'SIRIDA
KUYISHIDAGI O'PKA TO'QIMASI MORFOLOGIK
O'ZGARISHLARI**

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Annotatsiya. *Hazm traktining kimyoviy kuyishlari hozirgi kunda ham ko'p uchraydigan kassallik hisoblanadi ayniqsa bolalar orasida ham yoki*

o'smir yoshida uchrash darajasi nisbatan yuqoriligi va buning oqibatida yuzaga keladigan asoratlar, buning natijasida yuzaga keladigan nogironliklarning oshishi kuzatilmoqda. Hazm traktining turli darajalarida kuyishlarida o'pka to'qimasida yuzaga keladigan morfologik o'zgarishlar haqidagi ma'lumotlarning xorijiy va mahaliy manbalarda yetarli emasligi bu mavzuning dolzarb yo'nalishlaridan biri bo'lib qolmoqda.

Kalit so'zlar: *o'pka, morfologiya, morfometriya, hazm trakti, kuyish.*

**МОРФОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ В ТКАНИ
ЛЕГКИХ ПРИ ОЖОГОВ УКСУСНОЙ КИСЛОТЫ
ПИЩЕВАРИТЕЛЬНОГО ТРАКТА**

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Аннотация. Тяжелые ожоги верхних отделов желудочно-кишечного тракта поражают 10-33% взрослых пациентов, летальность достигает 10%. Химические ожоги пищеварительного тракта и в настоящее время являются распространенным заболеванием, особенно среди детей и подростков, частота встречаемости сравнительно высока, а возникающие при этом осложнения и инвалидность увеличиваются. Одним из актуальных направлений данной темы остается недостаточная информация о морфологических изменениях легочной ткани при ожогах разных уровней пищеварительного тракта в зарубежных и местных источниках.

Ключевые слова: легкие, морфология, морфометрия, пищеварительный тракт, ожог.

Relevance of the study. Currently, chemical burns of the digestive system of various degrees are a very urgent medical, social and economic problem. Severe burns of the upper gastrointestinal tract affect 10-33% of adult patients, the mortality rate reaches 10%.

Purpose of the study: to study and analyze morphological and morphometric changes in the lung tissue of 6-month-old white crossbred rats after burns of the digestive tract under the influence of a low (6%) concentration of acetic acid.

Materials and methods of the study: The study used 30 rats, which were divided into control and experimental groups by age and, accordingly, by month. The first group of rats (intact) was the control group, and in order to compare the results with another group, the white crossbred rats fed on a simple standard diet were included in the experiment, and the second group of our experiment was white crossbred rats, in which experimental burns of the digestive tract were caused by the influence of a low (6%) concentration of acetic acid.

After the animals were decapitated on an empty stomach, the chest was opened, the lung tissue was removed, the organ was divided into two parts, fixed in a 10% neutral solution of formalin, fixed for 72 hours, then washed in running water for 2 hours, dehydrated in alcohols of increasing concentration, and paraffin was poured and prepared into slices. Sections 5-8 μm thick were prepared from them, and the general histological structure was studied with hematoxylin-eosin. The sections were studied under a light microscope from the company "Leica", and pictures were taken of the necessary areas. Micropreparations were photographed under a microscope at a size of 4x10, 10x10, 40x10, 100x10.

Research results

In the study of morphological and morphometric changes in the lung tissue of 6-month-old white outbred rats after burns of the alveoli of the digestive tract under the influence of a low concentration of acetic acid (6%), the volume fraction of alveoli, interalveolar septa and intraalveolar, changes in the number of alveoli, exudate, blood vessels, collagen and reticular fibers, as well as the intensity of leukocyte infiltration were examined. To study the connective tissue stroma of the organ, micropreparations were stained according to Van Gieson. To identify changes in the alveoli, i.e., the parenchyma of the organ, they were stained with hematoxylin and eosin.

After burns of the alveoli of the digestive tract of white outbred rats under the influence of a 6% concentration of acetic acid, the lung volume increased and was moderately filled with air. The parenchymal areas were dark red with blue areas. The pleura of the lungs is tense, smooth, shiny, on palpation, hand prints are sunken. Red-yellow foamy fluid flows from the cut surface. Lung fragments (edema and acute persistent hyperemia). Parenchymal areas are white-gray, the pleura of the lungs is tense. During the cut, the sound of air bubbles bursting (crepitation) is heard. Air bubbles are released from the cut surface. Focal emphysema process was observed in the lung fragments.

After the effect of 6% acetic acid on the alveoli of a white-breasted rat, significant changes were observed in the lung tissue: thickening of the bronchial wall, loss of inter-alveolar barriers, formation of emphysematous alveolar sacs, and vascular engorgement as a result of the inflammatory process were observed.

Conclusion When we studied the morphological and morphometric changes in the lung tissue of 6-month-old white outbred rats after the digestive tract was burned with a low concentration of acetic acid (6%), we found that the infiltrative process in the lungs increased in percentage: infiltration around the bronchi of 6-month-old rats was 326600.0 μm^2 . Secondly, when we

examined how the number of alveoli in the lung tissue changed after the digestive tract of white outbred rats was burned with a 6% concentration of acetic acid, we found that the alveoli located in the center of the lung decreased from 8.37 to 6.44 in 6-month-old rats. We found that the alveoli located on the periphery of the lung decreased from 9.02 to 7.07 in 6-month-old rats. The thickness of the alveolar barrier was also examined with age, and we found that its thickness increased significantly in 6-month-old rats.

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