# COMPARATIVE CHARACTERISTICS OF MORPHOMETRIC PARAMETERS OF KIDNEYS IN POLYPRAGMASIA WITH ANTI-INFLAMMATORY DRUGS

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**Relevance:** As the central organ of the excretory system, the kidney performs an essential function of maintaining the constancy of the body's internal environment and takes part in its regulatory mechanisms. The complexity and variety of functions of the permanent human kidney are provided by the interconnected and interdependent function of the generations of nephrons and collecting ducts, which have features of the structure of the renal tubules, their length, depth in the cortex and medulla, relative position, and blood supply (Strum J.M., 2010).

It is the integrative relationships of the nephrons in conjunction with the collecting ducts that provide the overall excretory function of the kidney.

## Purpose of the study

To study macroscopic, functional, biochemical parameters and morphometric changes in the parameters of the renal nephron when modeling renal pathology.

## Materials and methods

An experimental simulation study with polyphragmasy has been studied in laboratory rats. For this purpose, the rats with the simultaneous use of up to 5 types of anti-inflammatory drugs in the kidney tissue revealed morphological changes. The rats were divided into two groups: first control group 15 cases were not exposed to NSAIDs (non-steroidal anti-inflammatory drugs); second study group - 15 cases, within 10 days was prescribed NSPP. Then the animals were dissected; for morphology, one piece of tissue was taken from the kidneys, then fixed in 10% formalin, standard paraffin wiring was carried out and embedded in paraffin. 5-7 mm thick sections were prepared from the paraffin blocks. The preparations were stained with hematoxylin-eosin, picrofuchsin according to Van Gieson.

## Results

In both groups, at the macroscopic examination, the kidneys were bean-shaped, the capsule was smooth, with the help of a magnifying glass, it was smooth, shiny, without visible differences. Microscopically, in the kidney tissue in the study group, some structural differences were revealed, the nature and severity of which depended on the type of active drug. In the glomerular apparatus of the kidneys of rats, focal infiltration of mesangial cells was noted. In the tubular apparatus of the kidneys, alternative changes were noted, represented by dystrophy and necrosis. The lumens of the tubules and the cytoplasm of the tubular epithelial cells were swollen and granular, the contours were not clear, in some of them, there was a served epithelium, their nuclei were stained differently. When stained with picrofuchsin, according to Van Gieson, a thickening of the basal membrane of tubules and glomeruli was revealed. From the duration of the preparations where polypharmacy was simulated, these changes began

to increase, and lymphoma-macrophage infiltration was noted, indicating the development of necrotic changes.

**Conclusion**

Thus, the choice of the object of the study was justified by the fact that the morphology of the kidney and its fibrous capsule, despite the reasonably extensive data in the literature, under conditions of polypharmacy with anti-inflammatory drugs in the kidney tissue, alterative changes were noted; with prolonged use, necrotic and sclerotic changes began to progress.

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