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MORPHOLOGIC CHARACTERISTIC OF THE RAT KIDNEY AFTER ACETAMINOPHEN-INDUCED NEPHROTOXICITY ON THE BACKGROUND OF ALIMENTARY DEPRIVATION OF PROTEIN

The study was performed as the part of scientific research work "Biochemical aspects of responsive integration of essential nutrients metabolism" (state registration number 0115U003231).

ABSTRACT. Background. Acetaminophen is known as inducer of acute hepatotoxicity. Extrahepatic manifestations of acetaminophen toxicity are poorly understood in particular its nephrotoxicity. **Objective.** The purpose of this study was the morphological characteristic of rat kidneys under the conditions of acetaminophen-induced nephrotoxicity on the background of alimentary deprivation of protein. **Methods.** After administration of the toxic dose of acetaminophen and maintenance of rats on a different regimen of protein nutrition their kidneys were sectioned and stained with hematoxylin and eosin according to a standard technique. **Results.** It was estimated, that in rats maintained during long period of time under the conditions of alimentary deprivation of protein, and in rats injected with toxic dose of acetaminophen morphological changes of kidney were not observed. Administration of acetaminophen on the background of previous protein deficiency causes the pathological changes of kidney morphology with papillary necrosis as a key sign. **Conclusion.** Alimentary deprivation of protein in case of acetaminophen injection is the critical factor for the impairment of structural integrity of kidney tissue with its subsequent dysfunction.

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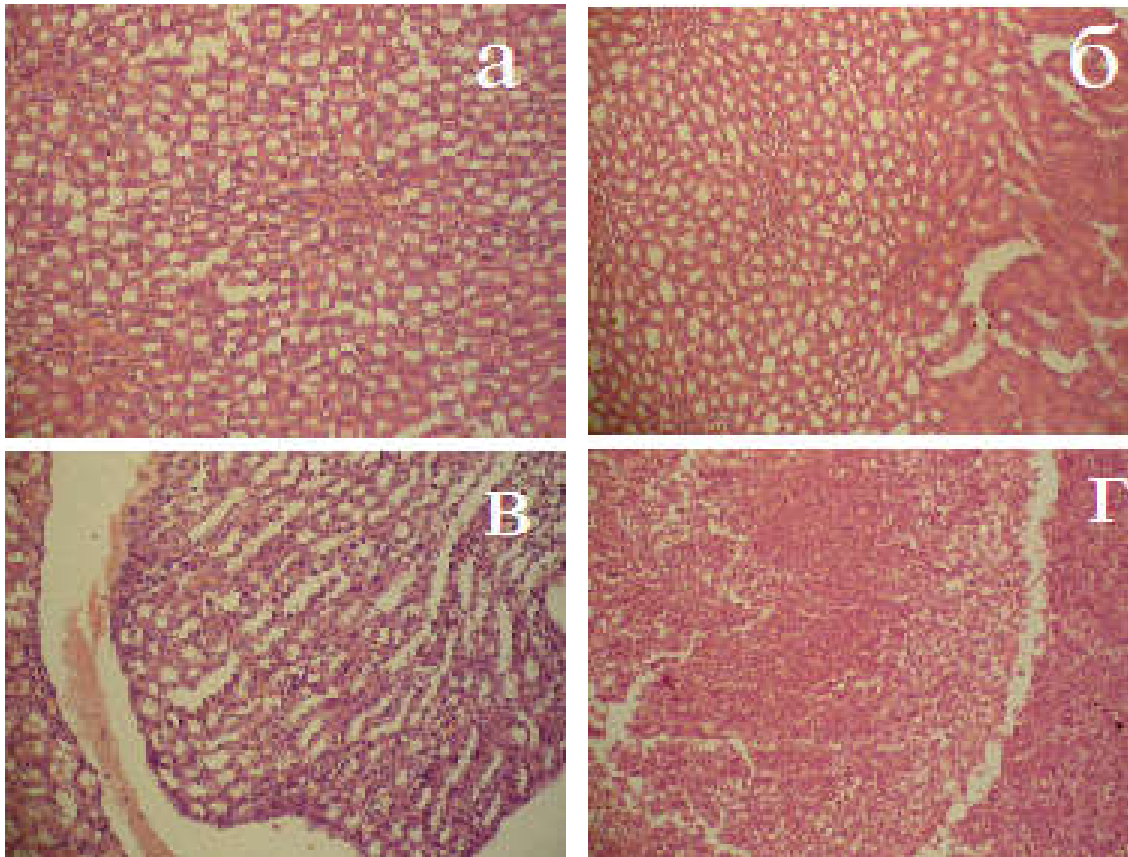


Fig. 1. Microphotograph of kidney section: a – control, б – kidney of rat receiving toxic dose of acetaminophen; в – kidney of rat kept in conditions of alimentary deprivation of protein; г – kidney of rat receiving toxic dose of acetaminophen after 4-weeks of alimentary deprivation of protein. Hematoxylin&Eosin staining. ×200

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