ESTIMATION OF CHANGES OF OSMO- AND VOLUMOREGULATORY FUNCTIONS OF KIDNEYS UNDER INFLUENCE OF QUINOCARB ON A MODEL OF RATS' SUBLIMATE NEPHROPATHY

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In modern medicine it is impossible to present treatment of many diseases without diuretic therapy. Any pathology that requires reduction of the liquid volume of organism needs to be corrected pharmacologically by diuretics. At the same time, some open problems stay existed until now in the field of diuretic agents' application. The clinical practice showed that one of the shortcomings of the long-term diuretic therapy, along with the loss of potassium, is the substantial falling of efficiency of the preparations with that kind of action during the repeated introductions. All stated above and sufficiently limited nomenclature of diuretic preparations, both on the world market and Ukrainian, allow scientists to conduct research work in the field of search and development of effective, untoxic, simple preparations in technology with sufficient raw materials base. During the prior research, have being conducted at NUPh Department of Biological chemistry, an apparent diuretic activity and low toxicity of quinocarb were shown (quinocarb is an agent of new class of diuretics and is derivate of quinolone-carboxylic acids). Results of study of quinocarb ' influence on the estimation of changes of the osmo- and volumoregulatory functions of kidneys in the circumstances of sublimate nephropathy are presented in this report.

Materials and methods. For the estimation of changes of the osmo- and volumoregulatory functions of kidneys under influence of quinocarb, calculations of glomerular seepage velocity, tubular reabsorption and other characteristics were conducted according to the standard formulae. While this, the method was used that has been developed on basis of study of clearance (purification) of substances excreted from the organism during the glomerulus filtration only and

not being subject to reabsorption and glomerular secretions. Naturally, creatinine is that kind of substance (indicator). Therefore its secretion is a sign of changes in glomerurar filtration. The tubular reabsorption of carborane was studied by calculation method, by using indexes of glomerurar filtration and diuresis. The quinocarb was injected in the dose of 10 mg/kg.

Results. The prophylactic introduction of quinocarb in the optimal effective dose prevents violation of processes of the glomerurar filtration and tubular reabsorption in the circumstances of sublimate nephropathy. The glomerular seepage velocity is increased in 1,4 times ($p<0,05$), excretion of albumen with urine is decreased (in 2,5 times, $p<0,05$), normalization of processes of sodium ions' reabsorption diminishes creatinine concentration in blood plasma in 1,5 times ($p<0,05$)/ Thus, quinocarb limits proteinuria and prevents the losses of sodium ions with urine.

Conclusions. Quinokarb in a dose of 10 mg/kg actively takes part in the osmo- and volumoregulatory functions of kidneys.