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PECULIARITIES OF RAT KIDNEY FUNCTIONAL STATE UNDER CONDITIONS OF EXPERIMENTAL NEPHROPATHY AGAINST SALT LOADING BACKGROUND.

A.Ya. Velyka
Higher State Educational Establishment of Ukraine
" Bukovinian State Medical University ", Chernivtsi

Human and animal kidneys are the efferent organs which provide support of the organism with water electrolytic balance, acid-base and osmotic homeostasis. It has been studied from literary sources that the development of early stage of poliuria acute renal failure 72 hours after administration of mercury chloride is characterized by activation of lipid peroxide oxidation with increasing content of diene conjugates and malonic aldehyde in the cortical substance of the kidneys. This stage of the pathological process is accompanied by increased glomerular filtration rate and urine output compared with the period of oliguria, but as compared with the control of these parameters it was noted decrease in glomerular filtration and urine output. Water and salt loading were carried out 2 hours before euthanasia, intragastrically through a metal tube. 2 hours after loading the animals were decapitated under the light ether anesthesia. Mercury chloride intoxication of animals was conducted subcutaneously by aqueous solution of mercury chloride (II) at a dose of 5 mg per kg body weight.

The results of our research are indicative of the fact that kidney damage after mercury chloride intoxication is accompanied by marked changes in their functional state, namely by the ability to decrease water loading output. Thus, in the group of rats undergoing water loading, urine output decreased by 46 %, glomerular filtration rate increased by 11% as compared with control. Also it was noted that creatinine concentration in plasma increased by 69 %, and in the urine – 3,48 times as compared with control. It has been also revealed the increase of concentration index of endogenous creatinine by 105 % as compared with the control carried under the same conditions of research.

Thus, the received data indicate the typical course of renal pathology in animals after modeling mercury chloride nephropathy with marked oliguria appearing in loading test, characterized by a decrease of urine output and insignificant increase in GFR, increase creatinine concentration and protein in urine. Such changes characterize the ability of the kidneys to the water loading output. Therefore , water loading leads to increased urine output growth as a result of GFR. Increased concentrations and excretion of sodium was primarily the result of a decrease in its tubular reabsorption. While at the same time, following the creatinine excretion and changes in the calculation of glomerular filtration in animals injected by NaCl, glomerular filtration increased simultaneously with increasing sodium filtration charge.

Water loading after modeled mercury dichloride nephropathy leads to abnormality of excretory (decrease in urine output by 46%, increasing the concentration of creatinine and protein in the urine three times) renal function as compared with control.

Changes in kidney function implemented at tubular reabsorption and secretion of activation do not depend on kidney damage.

THE USE OF ASTRAGALUS DASYANTHUS FOR PREVENTION AND TREATMENT OF TOXIC HEPATOPATHY

[1]Vysotsky I.Yu., [2]Vysotsky V.I., [1]Kachanova A.A., [1]Azhar A.V.
[1]Sumy State University, Medical Institute, Department of Biophysics, Biochemistry, Pharmacology, and Biomolecular Engineering;
[2]Bogomolets National Medical University, Ukrainian Center of Family Medicine

Astragalus dasyanthus (Astragalus dasyanthus Pall.) belongs to the family of leguminous (Fabaceae). The plant is growing in the Crimea, Moldova, the Black Sea coast and elsewhere. Experimental studies have found that preparations of Astragalus dasyanthus exhibit the sedative, hypotensive, and diuretic properties and also expanding the coronary vessels.