



directly correlated with its proximal reabsorption ($r = 0.999$, $p > 0.001$). The presence of positive correlation relationships indicates the functional capacity of nephrocytes in the first stage of fever to ensure the mechanisms of the glomerular tubular balance. At the same time, there was a loss of correlation relationship between diuresis and glomerular filtration ($r = 0,621$, $p < 0.05$), absolute and distal reabsorption of sodium ions ($r = 0,604$, $p < 0,05$), proximal and distal reabsorption of the investigated $r = 0.711$, $p < 0.05$) and between glomerular filtration and distal reabsorption of sodium ions ($r = 0.642$, $p < 0.05$). Disruption of the relationship in the first stage of fever under the conditions of hyponatremic diet is explained by the fact that hypoxia with energy deficiency of the renal tubules was caused by the ischemic effect of angiotensin II on the cortical area of the kidneys. At the same time, damage to the proximal nephron had to compensate for the activation of sodium ions in the distal tubule via the tubular-feedback mechanism. However, in pathology conditions, inhibition of processes as proximal and, to a greater extent, distal transport of sodium ions was observed, probably because the reabsorption in the distal nephron is more energy dependent, which is due to the high activity of succinate dehydrogenase and $\text{Na}^+\text{-K}^+\text{-ATPase}$. As a result, disorders of the tubular-tubular balance are due to the dominant dysfunction of the distal nephron. A positive correlation between distal reabsorption of sodium ions and diuresis was also established ($r = 0.981$, $p > 0.001$), since a significant decrease in distal reabsorption of sodium ions resulted in the fact that part of the primary urine was not reabsorbed in the pathological conditions and was, in fact, the volume of secondary urine with adequate loss of sodium ions.

These pathological mechanisms contribute to the establishment of negative correlation between the relative water reabsorption and diuresis, and distal reabsorption of sodium ions, as well as positive correlation between the relative water reabsorption and glomerular filtration rate, absolute, and proximal reabsorption.

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THE EFFECT OF THIO CETAM ON RENAL FUNCTION IN ACUTE RENAL FAILURE

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The clinical usage of new medicines must take into consideration possible renal effects. Tioacetam is a newly created Ukrainian drug which consists of piracetam (not proven nephrotic influence) and tiotriazolol (statistically significant renal effects).

Tioacetam influences not only on nervous, cardiovascular system or metabolism as its components but on the kidneys and water-salts metabolism. Therefore, the objective of our study was the assessment of tioacetam influence on renal functions during acute renal insufficiency after mercury chloride induced nephropathy. 12 male rats were examined and divided into 2 groups: with 250 mg/kg tioacetam and without (control group). The experimental and case-control design was used. Biochemical methods were used with blood and urine examination. Renal sodium transport was calculated into 2 hours and body mass. The kidney functions were estimated in 5% body mass water loading. According to our results, a positive tioacetam impact on sodium renal transport was determined. Sodium excretion was not significantly changed but potassium excretion 1,4 times decreased ($p < 0,05$). The blood/urine sodium ratio 1,7 times decreased. The distal and proximal sodium transport 2,1 and 3,3 times increased accordingly ($p < 0,001$). Sodium clearance was not significantly changed but water sodium clearance 2,1 times increased ($p < 0,001$).

Thus, based on our results, we can suggest that tioacetam statistically significant influences on sodium renal transport in acute renal insufficiency. Therefore, in the clinical use of new drugs possible renal effects must be considered.