USE OF MUCOFALK IN COMPLEX THERAPY OF PATIENTS WITH CHRONIC KIDNEY DISEASE ON PERITONEAL DIALYSIS

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Today, chronic kidney disease (CKD) has been recognized as a pandemic of 21th century because of the high frequency of occurrence, the steady progressing course and the development of a large number of complications. Therapy of the terminal stage of CKD consists of renal replacement therapy (RRT) — dialysis and/or kidney transplantation — and treatment of medicines such as antihypertensive drugs, statins, calcium preparations, phosphate binding agents, ketoanalogs of essential amino acids. Nowadays, one of the promising areas of CKD therapy is considered drugs that normalize gut microbiota, such as pre-, pro-, sim-, syn-, metabiotics.

Aim of the study was to assess the effectiveness of the use of prebiotics Mucofalk for 1 month to nitrogen metabolism and gut microbiota of patients with CKD on peritoneal dialysis (PD).

Materials and methods. The study involved 60 patients who received PD, without severe concomitant somatic pathology, divided into 2 groups: the first group received Mucofalk in therapy, the second group received standard treatment comparable by sex and age (43.2±11,5 years). There were biochemical analysis of blood (urea, creatinine) and analysis of feces for gut microbiota by real-time polymerase chain reaction (PCR-RV) with fluorescent detection.

Results. Before the start of therapy, the mean creatinine of patients of the 1st group was 618±196 μmol/l, urea — 19,1±4,5 mmol / l, of the second group — 648±188 μmol/l and 18,8±4,7mM/L with p (DA) <0.001, after a month of treatment, the patients of the 1st group had a decrease in creatinine — 591±192 μmol/l, and urea — 18.0±4.0 mmol/l, and The 2nd tendency was observed to increase the creatinine — 665±186 μmol/l and urea — 21.3±4.8 mmol/l with p (DA) <0.001. When analyzing the gut microbiota as total bacterial mass (12.3 [11.9, 12.5] log CFU/L), *Lactobacillus spp.* (6.5 [5.6, 7.3] log CFU/l), *Bifidobacterium spp.* (8.5 [8.0, 9.8] log CFU/L), *E. coli* (7.0 [6.3, 7.6] log CFU/L), *E. coli enteropathogenic* (8.5 [8.3, 9.5] log CFU/L), *Enterobacter/ Citrobacter* (9.2 [8.6, 9.5] log CFU/L), *Cl. perfringens* (detection in 30% of patients), the initial values of which before the course of treatment were approximately the same in both groups. After a month of therapy, the patients of the 1st group had an improvement in the form of a decrease in the total bacterial mass (12.0 [11,6; 12,3] log CFU/L), *E. coli enteropathogenic* (5.5 [5.0, 6.0] log CFU/L), *Enterobacter/ Citrobacter* (5.2 [5.0, 5.9] log CFU/L), increase of *Lactobacillus spp.* (7.8 [7.6, 8.6] log CFU/L), *Bifidobacterium spp.* (9.7 [9.3, 10.3] log CFU/L) and *E. coli* (8.3 [7.8, 8.5] log CFU/L), the absence of *Cl. perfringens*, whereas the patients of the 2nd group for p (DA) <0.001. Thus, Mucofalk beneficially affects not only the state of gut microbiota but also the nitrogen metabolism.

Conclusions. Prebiotic Mukofalk is effective in the complex treatment of patients with CKD on PD and requires inclusion in the management of such patients.

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