

MULTIPROBIOTICS AS AN ALTERNATIVE MEANS CORRECTION OF PATHOLOGICAL CHANGES IN THE SALIVARY GLANDS AT LONG-TERM HYPOACIDITY

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Objective: It is known, that long decrease in gastric secretion leads to the development of hypergastrinemia and to pathological changes in digestion organs. Very important there is a search of ways to correction of these undesirable consequences. Application of probiotics is one of such ways. In complex treatment of acid diseases of digestion organs are used probiotics. Uses of probiotics not only correct infringements of microecology of a digestive path, but also positively influence on activity of immune and endocrine systems. Multiprobiotic of the last generation «Symbiter Acidofilic» shows by itself the mutualistic symbiosis of 14 cultures of probiotic bacteria (bifidobacterium, lactobacillus, lactococcus and propionibacteria) with the high concentration of viable cells (10^{11-12} CFU/dos.), has a wide spectrum of physiological valuable properties with synergism of the most essential probiotics properties. Concentrated biomass of living cells of microorganisms symbiosis, CFU/sm³, not less than: lactobacillus and lactococcus – $6,0 \times 10^{10}$, propioniacidic bacteria – $3,0 \times 10^{10}$, bifidobacteria – $1,0 \times 10^{10}$, acetoacidic bacteria – $1,0 \times 10^6$ is a content of 1 dose of «Symbiter Acidofilic» (10 ml). It does not need additional activating, but begins to show the action from the oral cavity, because it is a living biomass of cells, but not liofilisate, in which microorganisms are in anabiosis. By modern presentations, the mechanism of positive action of probiotic is based on variability properties of indigenic microflora.

Methods: The substantiation of experimental efficiency of multiprobiotic «Symbiter Acidofilic» for the correction of pathological changes in tissues of salivary glands under conditions of hypergastrinemia was a research objective. Experiments

are executed on 71 rats-males of line Vistar, weight 180-250g. Animals within 28 days entered omeprazole (14 mg/kg of weight) and multiprobiotic «Symbiter Acidofilic» together and separately. Development of the hypergastrinemia verified by the maintenance gastrin in blood plasma of rats ($59,0 \pm 35,5$ pg/ml, in comparison with investigated animals – $170,7 \pm 90,7$ pg/ml).

Results: In the homogenate of salivary glands defined activity of ornithinedecarboxylase, α -amylase, general proteinases, NO-ergic system and the maintenance of nitrites, molecules of average weight, oxidative modified proteins and inhibitors of the general proteinases. Under conditions of long omeprazole introduction pathological changes in salivary glands tissues appear: intensification of free-radical oxidation, disbalance of proteolysis by decompensated type, increased activity of α -amilase, disbalance of polyamines and NO-ergic systems. We determined that the activity of NO-ergic system under conditions of correction was 1.18 ($p < 0.05$) times greater, than without correction, and the maintenance of nitrites – 1.02 times ($p < 0.05$). Also correction of the hypergastrinemia by multiprobiotic «Symbiter Acidofilic» led to the increase of the ornithinedecarboxylase activity 1.2 times more ($p < 0.05$), α -amylase 1.08 times more ($p < 0.05$) and to the decrease of the maintenance of molecules of average weight 1.11 times ($p < 0.05$), oxidative modified proteins 1.08 times ($p < 0.05$) and to the increase of the inhibitors of the general proteinases maintenance 1.06 times more ($p < 0.05$).

Conclusions: Under conditions of long hypergastrinemia pathological changes in salivary glands tissues appear: intensification of free-radical oxidation, disbalance of proteolysis by decompensated type, increased activity of α -amilase, disbalance of polyamines and NO-ergic systems. Correction of omeprazole-induced hypergastrinemia using multiprobiotic «Symbiter Acidofilic» normalises synthesis of regulatory polyamines, NO, α -amylase, proteolysis and reduces of the free-radical processes.