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**THE EFFECTIVENESS OF THE INFLUENCE OF A
BIOFLAVONOID AND ENTEROSORBENT
COMBINATION ON CHANGES IN THE CONTENT OF
LEUKOTRIENES AND OXIDATIVE STRESS
PRODUCTS IN THE EARLY TERMS OF TREATMENT
OF COMORBID PEPTIC ULCER IN PATIENTS WITH
ESSENTIAL HYPERTENSION**

The presence of local and systemic modulating effects in leukotrienes (Ltt) [4, 7], their influence on the initiation of the production of platelet activating factors and neutrophil binding, the release of lysosomal enzymes, the formation of superoxide anions [1, 2, 3, 6], as well as their direct participation during inflammation suggest that the dynamics of changes in the content of Ltt and lipid peroxidation products are one of the possible indicators of the effectiveness of the treatment of the disease. Taking into account the possibility of qualitative and quantitative changes in the content of biologically active substances and changes in metabolic parameters in patients under conditions of syntropy, we undertook the present study, the purpose of which was to study and analyze the dynamics of changes in the content of lipooxygenase metabolites of arachidonic acid and products (intermediate and final) of lipid peroxidation in early terms of treatment of peptic ulcer of the duodenum (DPU) and in patients with essential hypertension (EH). In the treatment of comorbid pathology, our attention was drawn to two drugs: the enterosorbent silicon dioxide (atoxyl), which effectively adsorbs products of incomplete metabolism from the intestine and blood, and the representative of bioflavonoids, the antioxidant and antihypoxant quercetin [5, 8].

The study group included 98 patients with EH and comorbid DPU aged 38 to 49 years; treatment was carried out in full accordance with the protocol. Patients of the main group (n=46), in contrast to patients of the comparison group (n=52), in the complex of treatment received a

combination of silicon dioxide enterosorbent (the first week of treatment) and quercetin bioflavonoid (for four weeks) in regulated doses and frequency of administration. The determination of LTB₄ and LTC₄ content in the blood serum was carried out by the radioimmune method (an assay kit «LTB₄», «LTC₄/B₄/D₄», Amersham, Great Britain), the level of malondialdehyde (MDA) and diene conjugates (DC) in the blood serum was studied by means of spectrophotometry. The reference indices were obtained in 21 practically healthy individuals (the control group). They and the examined patients were of the same sex and age. Mathematical processing was carried out using licensed programs Microsoft Office 2003, Microsoft Excel Stadia 6.1/prof. For all indicators, the significance of differences was defined as: * - $p < 0.05$, ** - $p < 0.01$, *** - $p < 0.001$.

All the studied patients ($n=54$) showed a significant increase in the content of Ltt in the blood plasma. At the same time, in patients of both studied groups, the content of LtB₄ in the blood plasma exceeded the reference values (53.2 ± 11.4 pg/ml) by more than 4*** times, and the content of LtC₄ (in the control $39.7 \pm 10, 8$ pg/ml) - 5.4*** times. The above was accompanied by unidirectional changes in the content of lipoperoxide products - DC and MDA, which initially exceeded ($p < 0.001$) similar indicators of practically healthy individuals (3.31 ± 0.17 μ mol/l and 4.88 ± 0.18 μ mol/l) in 2.7 and 2.4 times, respectively, and indicated a significant activation of lipid peroxidation processes.

In the repeated (after treatment) study, in patients of both groups, in comparison with the initial data, a significant decrease in Ltt was determined. Thus, the content of LtB₄ and LtC₄ in patients of the main group corresponded to 82.3 ± 18.7 pg/ml (a decrease of 2.6 times***) and 61.3 ± 16.9 pg/ml (a decrease of 3.5*** times) respectively; patients in the comparison group had a significant but lesser dynamics of decrease - LtB₄ by 1.7 times (121.9 ± 19.8 pg/ml ($p < 0.01$) and LtC₄ by 1.9 times (109.1 ± 18.6 pg/ml ($p < 0.01$). In patients of the main group, there was a decrease in the content of MDA from 11.7 ± 0.62 μ mol/l to 6.23 ± 0.48 μ mol/l (by 1.9*** times) and DC by 2.2*** times; in patients of the comparison group the dynamics of the decrease in DC and MDA was also significant ($p < 0.01$), but significantly less (by 1.43 and 1.24 times, respectively).

Thus, the study allows us to conclude that combination therapy with the inclusion of a combination of enterosorbent (silicon dioxide) and bioflavonoid (quercetin) into the complex of therapeutic measures of comorbide PDU in patients with EH is accompanied by a more significant decrease in the blood levels of lipoxigenase metabolites of arachidonic acid and indicators of oxidative stress, which reflects its effectiveness in treatment of this category of patients.

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