compared to appropriate rates before treatment in patients of the main group. Significant decrease of AP plasma activity (by 30,9% (p = 0,03) was observed only in patients who received quercetin in addition to the standart treatment. Similar dynamics was characteristic for GGT activity in both groups of patients, however, in patients of the main group, this decrease was 55,0% (p = 0,009), in the comparison group– 33,1% (p = 0,03). Patients of the main group showed a significant decrease in TNF-α content in the blood by 61,9% (p = 0,02), while patients of the comparison group demonstrated only the tendency to reduce this proinflammatory cytokine. IL-10 before the initiation of treatment was elevated in the blood of the observed patients as ompared to practically healthy people. Additional quercetin administration to the standard treatment promoted significant decrease of proANP level in patients of the main group by 53,8% (p = 0,04).

During two weeks of treatment clinical symptoms, functional liver parameters accompanied by a decrease in tumor necrosis factor-α and atrial natriuretic propeptide blood levels were more effectively corrected in CH patients who in addition to the standard treatment received quercetin. For a complete correction of clinical manifestations of the disease, biochemical changes and the cytokine profile two-week complex treatment with quercetin inclusion is not enough, which requires longer administration of the chosen treatment course before the onset of persistent remission at the out-patient stage.

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THE ASSOCIATION OF HORMONAL AND METABOLIC PARAMETERS AND THE *AGT* GENE POLYMORPHISM (RS699) IN PATIENTS WITH ESSENTIAL HYPERTENSION

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The aim of the study is to analyze the association of the angiotensinogen gene polymorphism (*AGT*, rs699) with hormonal and metabolic parameters in patients with essential arterial hypertension (EAH). 72 subjects with EAH and target-organ damaging (2nd stage), moderate, high or very high cardiovascular risk were involved in the case-control study. Among them there were 70.84% (51) females and 29.16% (21) males of average age 59.87±7.98. Control group consisted of forty-eight practically healthy individuals with relevant age (49.13±6.28) and sex distribution (62% females, 38% males). *AGT* (rs699) gene polymorphism was examined by Real-time polymerase chain reaction. Intact parathyroid hormone (intact PTH) and vitamin 25 (OH) D levels in blood serum were determined by chemiluminescence immunoassay (MAGLUMI).

As a result, the concentration of ionized $Ca2^{+}$ in blood in patients with TT-genotype of the *AGT* gene (rs699) was extremely likely to be lower than in CC-genotype carriers (p=0.051). In addition, we found out that in men with EAH who were T-allele carriers (TT- and TC-genotypes) the level of ionized $Ca2^{+}$ in blood is probably lower than in women of the corresponding genotypes: 1.14 ± 0.01 vs. 1.17 ± 0.015 mmol/l (p <0,05) and 1,14 ± 0,01 vs. 1,19 ± 0,02 mmol/l (p<0,05), respectively. Whereas in the CC-genotype carriers, on the contrary, the level of ionized $Ca2^{+}$ was higher in men than in women: 1.18 ± 0.01 vs. 1.14 ± 0.015 mmol/l (p = 0.014). Against this background, the level of vitamin 25 (OH) D in the blood of the *AGT* gene (rs699) TT-genotype carriers in patients with EAH became lower than in those with the CC-genotype by 16.24% (p=0.049), and the concentration of intact PTH on the contrary, higher, but abnormal and unexpected – by 7.30%. That is, in our opinion, a manifestation of compensatory-adaptive reactions of the body aimed at maintaining hormonal-metabolic homeostasis and calcium-phosphorus ion balance. In the control group, the difference in intact PTH was statistically significant, being higher in TT-carriers – by 28.89% and 21.26% (P_{TT} <0.05).

Thus, one-way ANOVA analysis of variance did not confirm the association of the *AGT* gene (rs699) with the studied hormonal and metabolic parameters.