type 2. Value of the index of psychological and emotional welfare in the patients of the control group was 57 % more than in the patients with HF, its lowest value was determined in the patients of II group — 2.10 ± 0.25 points, which differs significantly from the patients of the control group ($P < 0.05$) and the patients of the I group ($P < 0.05$). The lowest level of self-service and independence of activity was detected in the patients with chronic HF and DM type 2 (4.10 ± 0.14 points), being significantly different from the corresponding value in the group of patients with HF of ischemic origin (6.30 ± 1.11 points, $P < 0.05$), and the control group (9.40 ± 0.62 points, $P < 0.05$). Work ability index was higher in patients of both experimental groups, than in the patients of the control group. Thus, in the patients with isolated HF as well as in the patients with combined course of chronic HF and DM type 2 the difference between the corresponding values was statistically significant, same as comparing to the patients with control group (2.5 ± 0.6 points and 3.80 ± 0.09 points to 5.40 ± 1.08 points correspondingly, $P < 0.05$). The level of interpersonal interaction and socio-emotional support was statistically significantly lower in comparison with the control group only in the patients of II experimental group. The lower value of this figure in the patients with chronic HF was statistically improbable comparing with patients of control group. The level of public support in the patients of I experimental group was statistically improbably lower, than in the control group (6.40 ± 1.03 against 8.60 ± 0.65 points, $P > 0.05$). In the patients with chronic HF and DM type 2 the following figure was 4.60 ± 0.32 points, being statistically significantly different from the patients of the control group ($P < 0.05$). Figure of the personal implementation was the highest in the patients of control group (7.40 ± 0.64 points). Due to the chronic HF of ischemic origin its decreasing to 5.67 ± 0.52 points was determined, though we found no statistically significant difference comparing to the control group ($p > 0.05$). The lowest level of personal implementation was detected in the experimental II group of patients with HF and DM type 2 (2.8 ± 0.4 points, $P < 0.05$ comparing with both control and I group). Index of religious implementation was almost equal in all investigated groups. Comparing with the control group overall perception of quality of life in patients with chronic HF was lower by 23 %, and in patients with HF and DM type 2 — by 42 % respectively ($P < 0.05$ in both cases).

In the IIA experimental group during treatment we managed to achieve significant increasing of the figure of physical welfare by 59 % comparing with one before treatment ($P < 0.001$), psychological and emotional welfare — by 130 % ($P < 0.001$), workability — by 27 % ($P < 0.02$), overall perception of quality of life — by 13 % respectively ($P < 0.02$). At the same time, the inclusion of telmisartan to the scheme of the complex treatment resulted in the statistically significant improvement of the overall perception of the quality of life by 1.74 times ($P < 0.001$), particularly accompanied by improvement of physical welfare by 2.78 times against corresponding value before treatment ($P < 0.001$), psychological and emotional welfare — by 3.09 times ($P < 0.001$) and workability — by 1.56 times ($P < 0.001$), interpersonal interaction — by 1.33 times respectively ($P < 0.02$). In addition, in the patients of IIB group we have noted the improvement of the values of socio-emotional support by 67 % ($P < 0.001$), public support — by 24 % ($P < 0.02$) and personal realization — by 103 % ($P < 0.001$).

Conclusions. Inclusion of telmisartan to the scheme of complex treatment of the patients with chronic heart failure and diabetes mellitus type 2 results in the improvement of the patients' quality of life as well as its main components.

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COMPARATIVE ANALYSES OF THE CARDIAC AUTONOMIC NEUROPATHY IN PATIENTS WITH DIABETES MELLITUS TYPE 1 AND 2

Cardiac autonomic neuropathy (CAN) is a very common diabetes-related complication that has a major effect on mortality and morbidity in patients with diabetes mellitus (DM). Based on the CAN Subcommittee of the Toronto Consensus Panel on Diabetic Neuropathy, CAN is defined as the impairment of cardiovascular autonomic control in patients with established DM following the exclusion of other causes. The prevalence of CAN varies between 1–90 % in patients with type 1 DM (DM 1) and 20–73 % in patients with type 2 DM (DM 2). Careful and timely testing of CAN with easy standard bedside tests in patients with DM 1 and 2 is critically important for early diagnoses and prophylaxes of further cardio-vascular complications.

The aim of the study was to establish and compare the clinical and diagnostic characteristic of CAN among the DM 1 and DM 2 patients.

Material and methods. 75 patients with DM (DM 1 — 30 patients, DM 2 — 45 patients) were examined in the endocrinology department while they had been hospitalized for treatment. All patients were investigated routinely — complains, anamnestic data, objective examination, additional examination (blood test, sugar test, GTT, HbA1, urine test, ECG, other standard tests). For defining of CAN following five classical tests were done (cardiac autonomic reflex testing (CART)): Evaluating of the Resting tachycardia; Heart rate response to deep breathing; Valsalva maneuver; Systolic blood pressure response to standing; Diastolic blood pressure response to sustained handgrip with calculation of the score.

Results. Clinically 20 % of DM 1 and 17.8 % of DM 2 patients had palpitation, resting tachycardia, 10 % of DM 1 and 11.1 % of DM 2 patients felt dyspnea in physical exertions, 10 % of DM 1 and 15 % of DM 2 patients had weakness, dizziness, visual impairment from a lying to a standing posture (orthostatic hypotension). Clinical signs of CVD were defined in all firstly diagnosed DM 2 patients and in half of DM 1 patients. After providing 5 examination tests for diagnosis of CAN we received next results: Resting tachycardia — 20 % DM 1 and 2, Standing tests for orthostatic hypotension — 30 % DM 1 and 33 % DM 2, Valsalva maneuver — 30 % DM 1 and 35.5 % DM 2, Heart rate response to deep breathing — 20 % DM 1 and 17.8 % DM 2, Diastolic blood pressure response to sustained handgrip — 37 % DM 1 and 44.4 % DM 2.

Absence of CAN, according to proposed score, was defined in those patients without clinical features of cardiovascular problems — 43.3 % of patients with DM 1 and 40 % of patients with DM 2. Near half of all patients were diagnosed with early and definite CAN (23.3 % and 23.3 % relatively in patients with DM 1), at that higher prevalence of definite CAN was shown in DM 2 patients (17.8 % — early CAN, 28.9 % — definite CAN). Severe CAN was confirmed more often in DM 2 patients as well (13.3 %).

It was seen, that history of DM 1 and DM 2 more than 10 years strongly correlated with high prevalence of CAN. But in cases of DM 1, 76.5 % of patients suffering from disease longer than 10 years had clinically diagnosed CAN and only 11.8 % of those had the disease shorter than 10 years. Besides, 55.6 % of patients with DM 2, who had CAN, suffered from DM longer than 10 years, and 25.9 % had this disease less than 10 years. All firstly diagnosed DM 2 patients were characterized with CAN presence, while half of the same DM 1 patients had not CAN in period of observation. Nobody of DM 2 patients with duration of the disease longer than 10 years was free of CAN sings.

Conclusions:

1. Near 60 % of investigated patients with diabetes mellitus type 1 and 2 were suffering from cardiovascular autonomic neuropathy, affirming, that CAN becomes a very common diabetic complication. Definite and severe CAN was closer associated with diabetes mellitus type 2 and could be explained by long undiagnosed period of the disease in those patients.

2. Development and progression of CAN is strongly correlated with prolongation of diabetes mellitus. However, presence of diabetes mellitus type 1 longer than 10 years is associated with CAN more often, than in cases of shorter disease. In patients with history of diabetes mellitus type 2 for less than 10 years, CAN was diagnosed more often than in the same category of patients with diabetes mellitus type 1. All newly diagnosed patients with diabetes mellitus type 2 showed presence of CAN.

3. Careful and easy revealing of CAN with usage of proposed standard tests could help in proper diagnosis of diabetic complications for the effective treatment and prevention of the adverse cardiovascular and cerebrovascular events in patients with diabetes mellitus type 1 and 2.

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SERT-GENE POLYMORPHISM IN THE PATIENTS WITH THYROTOXICOSIS AND IRRITABLE BOWEL SYNDROME

Many studies have explored the role of genetic factors in the onset and progression of irritable bowel syndrome. In the study of familial inheritance irritable bowel syndrome, in 33 % of patients identified genetic predisposition to the disease, whereas in the general population, it was only 2 %. In recent years, increasingly studied polymorphisms of candidate genes associated with irritable bowel syndrome. It is known that in the regulation of intestinal motility and secretion are involved various neural and humoral mediators plays a particularly important neurotransmitter serotonin. Gene SERT, encodes a protein-synaptic serotonin transporter with a gap in the presynaptic membrane localized on chromosome 17 in the region of 17q11.2-q1. Depending on the type of gene polymorphism, L (long allele) and S (short allele) form 3 types of genotype: LL (long, long), LS (long-short) and SS (short-short).

The aim of the study was to investigate SERT-gene polymorphism in patients with thyrotoxicosis and irritable bowel syndrome.

Material and methods. We investigated 38 women with diffuse toxic goiter and symptoms of irritable bowel syndrome. All of patients were examined for gene SERT, encoding the serotonin transporter protein. By the nature of violations of the digestive organs of patients divided into 3 groups. The first group included 12 patients with diffuse toxic goiter and with irritable bowel syndrome with diarrhea-type, the second group — 12 patients with constipation. The third group consisted of 14 people with thyrotoxicosis without violations of the digestive system.

Results. In the first group of patients, we found all types of polymorphism: 67 % had a homozygous carrier LL alleles SERT, 25 % — SS-genotype, and only 1 patient (8 %) were heterozygous carriers of LS. Individuals of the second group tended to be short-allele carriers, in particular, 75 % of patients were heterozygous of LS, whereas 25 % had SS-genotype. In the analysis of a group of individuals without violating the intestinal function number of patients with SS-genotype (79 %) was significantly dominated by the number of LS-heterozygotes (21 %).

Conclusion. It was found that the type of intestinal dysfunction in diffuse toxic goiter is associated with gene polymorphism SERT, which raises the need for correction of medical tactics in these patients.