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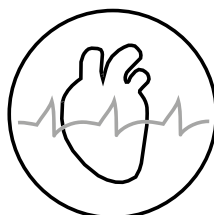
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Том
33

Додаток
1

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at night (13 mmHg) was almost twice that in women without PMCS (7 mmHg; $p<0.001$). The women in the study underwent a neuropsychological examination with voluntary informed consent, testing to study cognitive functions (MoCA test, «10-word memorization» according to the Luria method, attention and speed of sensori-motor reactions assessment on Schulte tables). The status of the autonomic nervous system was determined by testing according to Wein.

Results. According to the MoCA test, 18 women (38.29%) had mild CD, 29 (61.71%) had moderate CD in the PMCS group with LAH, and only 2 (5.00%) women had mild CD in the PMCS group without LAH, according to the MoCA test. Probable correlations were established between the variability of systolic BP and CD (according to the subscales of the MoCA test): executive skills ($rs=-0.19$; $p<0.05$), naming ($rs=-0.22$; $p<0.05$), abstraction ($rs=-0.24$; $p<0.05$), delayed playback ($rs=-0.24$; $p<0.05$), more significant in patients with LAH (24.37 ± 0.06 points). However, the greatest deviations (more than 20% of the maximum score) were noted in the ability to perform serial subtraction (by 35.0%), delayed playback (by 27.0%), abstraction (by 24.0%), and visual-constructive/executive skills (by 21.0%). There were also low verbal memory scores according to the Luria test, from $rs=-0.25$; $p<0.05$ for the second attempt to reproduce words, $rs=-0.43$; $p<0.001$ for delayed playback.

A high vegetative index (54.16 ± 2.30) directly correlated with increased time to complete tasks on Schulte tables №1 and №2 ($rs=+0.27$; $p<0.01$ and $rs=+0.23$; $p<0.05$), as well as with the work efficiency indicator ($rs=+0.17$; $p<0.05$).

Conclusions. Perimenopausal women with climacteric syndrome and labile arterial hypertension are at risk of developing and progressing cognitive dysfunction, which requires timely diagnosis and individual correction.

Cardiohemodynamical and cerebral circulation peculiarities in old age male patients with essential hypertension stage II

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Goal of the study: to investigate peculiarities in initial state and dynamical reactions of cardiohemodynamics and cerebral circulation during mental task performance test in old age patients with essential hypertension stage II.

Materials and methods. We examined 85 old-aged male patients (men age 65.2 ± 2.3 years) with essential

hypertension (EH) stage II who did not receive antihypertensive therapy for 3 months prior to enrollment, or whose antihypertensive therapy was irregular. Examination included blood pressure measurement (BP), thoracic rheogram (ThGR) and rheocephalogram (RhEG) simultaneous registration, which were performed at the baseline, immediately after the mental task performance test (MTPT) for conditional differentiation inhibition state testing and 3 minutes after the end of MTPT. The computer apparatus "RHEOREST" (2013, Ukraine) was used for rheographical and rheocephalographical research. The following rheographic parameters were investigated both for thoracic rheogram (ThRG) and RhEG: rheographic systolic index (RSI), diastolic index (DKI), diastolic index (DSI), amplitude-frequency index (AFI), anacrotic relative duration of (ARD), venous outflow index (VOI). Conditional differentiation inhibition in the cerebral cortex (CDICC) was studied by means of the well known tests for evaluation of mental task performance during operative activity – Anfimov proofreading test (APT). Statistical analysis of the obtained data was performed by methods of parametric and non-parametric statistics on a personal electronic computer using Microsoft Excel software and "STATISTICA Version 6.0".

Results. Conduction of MTP according to Anfimov proofreading test allowed us to determine three types of MTP: high capacity MTP type ($n=10$; 11.8 % of subjects); medium MTP type ($n=13$; 15.3 % of subjects) and low MTP type ($n=62$; 72.9 % of subjects).

As a result of conditional differentiation inhibition in the cerebral cortex test there were conducted research of the influence of internal inhibition during APT on parameters of BP, ThGR and RhEG evaluated 2 basic types of BP, ThGR and RhEG changes – normotonic and hypertensive ones. Normotonic reaction type ($n=12$; 14.1 % of the total number of subjects) was characterized by the absence of significant changes in blood pressure and heart rate and of quantitative integrative ThRG- and RhEG-parameters (RSI, DKI, DSI, AFI, ARD and VOI) after MTPT immediately and 3 minutes after its completion, which characterizes a certain stability of the BP regulation system in subjects with this type of response. In subjects with hypertensive response type of the cardiovascular system, ($n=73$ patients (85.9 %), there were a significant ($p<0.01$) increasing in blood pressure and heart rates compared with those ones in the initial state. Three minutes after the MTPT, blood pressure and heart rate were significantly ($p<0.05$) higher than the basic ones. In this group analysis of the ThGR and RhEG revealed hypertensive type of the rheographic curve both of ThGR and RhEG; there were also significantly increased quantitative ThGR and RhEG parameters – DKI, DSI, AFI, ARD and VOI. Such results suggests about increased tonus of medium caliber arteries, arterioles and venous vessels and an increased

total blood flow in general and in cerebral circulation system, in particular. 3 minutes after the MPTP, the parameters of TRG and RhEG were also significantly higher than those of the baseline. Normotonic type of blood pressure, ThGR and RhEG state was revealed in the group of high task performance at 40 % of subjects (n=4), in the group of medium task performance at 38,5 % (n=5) and group of low task performance at 22,6 % (n=14). At the same time, there were significantly higher number of subjects with low and medium task performers test results and hypertonic type of cardiohemodynamics and cerebral circulation system reaction (in the group of high task performance at 60 % of subjects (n=6), in the group of medium task performance 61,5 % (n=8) and group of low task performance at 77,4 % (n=48).

Conclusions. As a result of the present study we determined initial state and dynamical reactions peculiarities of cardiohemodynamics and cerebral circulation during mental task performance test in old age patients with essential hypertension stage II. peculiarities. There were two basic types of ThGR, RhEG and BP changes revealed – normotonic and hypertensive. The obtained data reflects a decrease in overall mental task performance performance levels in patients with stage II of EH (significantly more expressed in subjects with hypertensive type reaction), the presence of imbalance between the processes of excitation and inhibition in brain cortex, in particular conditional differentiation inhibition and processes by inertia type in the regulation of blood pressure and cerebral circulation with a shift towards responsiveness excitation in brain cortex and blood pressure control centers.

Daily blood pressure profile and cognitive functions in patients with arterial hypertension

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The daily blood pressure (BP) profile, determined by 24-hour monitoring of BP, critically affects cognitive function in hypertensive patients. Circadian rhythm disturbances (insufficient or excessive nocturnal BP reduction) and high BP variability lead to hypertrophic remodeling of cerebral vessels, impaired cerebral blood flow, and, as a result, vascular cognitive impairment.

Purpose of the study – to evaluate the relationship between the degree of nocturnal blood pressure (BP) reduction and cognitive function in patients with arterial hypertension (AH).

Materials and methods. The work was performed in the cardiology clinic of the Military Medical Clinical Centre of the Western Region (Lviv). The study included 117 patients with AH, who were divided into three groups based on nocturnal BP dipping: dipper (n=44), non-dipper (n=53) and night-picker (n=20). BP readings were assessed using 24-hour BP monitoring. Cognitive functions were assessed using the Mini Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA) tests, which include functions such as visual-constructive skills, naming, attention, speech, abstraction, delayed recall and orientation. Additional tasks were also performed, such as word repetition and clock drawing. The results are presented as $M \pm SD$. The results were considered statistically significant at $p < 0.05$.

Results. The “memoring” function was significantly worse in the group of patients with persistent elevation of BP at night (night-pickers) than in the group with normal night dipping (dippers) and insufficient degree of night-time decrease in BP (non-dippers). In particular, the average score for the “memoring” function in the night-pickers group was 2.18 ± 0.26 points vs 2.92 ± 0.17 points in the dippers group ($p = 0.025$) and 2.84 ± 0.19 points in the non-dippers group ($p = 0.049$). The average score on the MMSE and MoCA tests in the groups, taking into account night-time BP dipping, did not differ. It should be noted that the highest average score on the MoCA was recorded in the dippers group, at 23.71 ± 2.64 points, and the lowest in the night-pickers group – 21.38 ± 3.27 points ($p = 0.58$), although these differences were not statistically significant.

Conclusions. The 24-hour blood pressure profile may have a partial effect on cognitive function in patients with arterial hypertension. The average score for the “memoring” function in the night-pickers group was significantly lower than in the dippers and non-dippers groups.

Parameters of daily blood pressure monitoring in military personnel with arterial hypertension and abdominal obesity

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The combination of arterial hypertension (AH) and abdominal obesity (AO) is the focus of modern medicine due to the high prevalence of this phenomenon in modern society, the increased risk of developing