

SEVERITY OF DEPRESSIVE DISORDERS AND THEIR RELATIONSHIP WITH CEREBRAL, VEGETATIVE DISORDERS AND QUALITY OF LIFE IN PATIENTS WITH ARTERIAL HYPERTENSION

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ABSTRACT — 150 patients with arterial hypertension, who were registered at the dispensary of a general practitioner, were assessed for the severity of depressive disorders, the severity of cerebral, vegetative disorders, and the quality of life. It turned out that in patients with hypertension, depressive disorders are combined with cerebral and autonomic disorders and a decrease in the quality of life. All these factors must be taken into account by the primary care physician in the course of dispensary observation and the conduct of therapeutic and prophylactic measures.

KEYWORDS — Arterial hypertension, cerebral disorders, psychoemotional disorders, quality of life.



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INTRODUCTION

Epidemiological studies of recent decades indicate a widespread prevalence of emotional disorders among patients with cardiovascular disease [1].

Depressive disorders are considered as an independent risk factor for coronary heart disease and arterial hypertension [2]. However, the functional relationships of depressive disorders and vegetative changes, as well as the quality of life in patients of arterial hypertension with cerebral disorders, have been studied insufficiently. In this work, an attempt has been made to analyze the severity of depressive disorders and their relationship with cerebral, vegetative disorders and quality of life in patients with arterial hypertension.

MATERIALS AND METHODS

150 patients (men — 50, women — 100, age 54.7 ± 0.9 years) with Arterial Hypertension stage II who were on dispensary supervision with a general practitioner and received combined antihypertensive therapy with the achieved normal arterial blood pressure. Depending on the severity of depressive disorders on the scale of HADS, the patients were divided into 3 groups: the first group consisted of 113 patients with

no depressive disorders (age 52.8 ± 1.5 years), second — 27 patients (age 57.1 ± 1.5 years) with subclinical depression, the third — 10 patients (age — 60.6 ± 1.5 years) with clinical signs of depression.

All patients underwent general clinical examination. The neurological status was assessed, and the testing was carried out using the questionnaire of the HADS scale [3]. The HADS anxiety and depression scale includes 7 questions on anxiety and 7 questions on depression. Each answer corresponds to a certain number of points. The score was based on the result: 0–7 points — absence of authentically expressed symptoms of depression, 8–10 points — subclinical depression, 11 points and higher — clinically severe depression. To assess the quality of life, the SF-36 questionnaire was used, the items of which were grouped into eight scales: physical functioning (PF), role activity (RP), body pain (BP), general health (GH), vitality (VT), social functioning (SF), emotional state (RE) and mental health (MH). The scores of each scale range between 0 and 100, where 100 represents total health. The scales are grouped into two indicators: the "physical component of health" (1 to 4 scales) and the "psychological component of health" (5 to 8 scales) [4]. Evaluation of the autonomic nervous system was carried out according to the Kerdo index and a questionnaire to identify vegetative changes (Wayne AM, 1998) [5]. So, if the Kerdo index is zero, then it

characterizes the vegetative equilibrium. The Kerdo index is less than zero indicating the predominance of parasympathetic influences (vagotonia), and with a significant deviation - hypervagotony. The Kerdo index is greater than zero, indicating a predominance of sympathetic influences (sympathicotony), with a significant positive value — hypersympathicotony. According to the questionnaire of A.M. Wayne, with a score above 15, was diagnosed with autonomic dystonia. The collected data were accumulated in the Excel 2003 table and processed using the statistical functions of this application. The results of measuring the values of individual variables are presented in the form of an average of the arithmetic and standard deviations ($M \pm s$); the confidence in the difference in mean values was estimated using the nonparametric Kruskal-Wallis criterion. To determine the dependencies between the parameters studied, a correlation analysis was performed using the Spearman coefficient of linear correlation [6, 7].

RESULTS

Among patients in Group 1 (men — 46, women — 67), blood pressure was $134.6 \pm 16.9 / 81.8 \pm 11.8$ mm Hg. The level of depression on the HADS scale was 3.5 ± 2.1 points. There were no cerebral disorders in 19 (16.8%) patients, initial manifestations of cerebral blood flow insufficiency (CBFI) were recorded in 27 (23.9%), Discirculatory Encephalopathy (DE) of stage I and stage II in 67 (59.3%). In assessing the clinical signs of cerebral disorders, dizziness was detected in 40 (35.4%), headache in 72 (63.7%), noise and ringing in the ears — in 38 (33.6%), decreased memory and attention — in 72 (63.7%), sleep disturbance — in 50 (44.2%), fatigue — in 54 (47.8%) patients. At a neurological examination, 78 (69.0%) patients had irregularities in carrying out coordination tests (Romberg, palcoccus). In the evaluation of autonomic disorders, cardiovascular syndrome was detected in 44 (38.9%), respiratory distress syndrome in 39 (34.5%), abdominal syndrome in 51 (45.1%), sweating dysfunction in 67 (59.2%), thermoregulatory in 54 (47.8%), asthenic — in 39 (34.5%). The Kerdo index was minus 13.7 ± 35.4 points. On the Wein scale, there were signs of vegetative dystonia (23.6 ± 14.5 points) in 70 (61.9%) of the examined. In assessing the quality of life, the physical functioning (PF) was 81.0 ± 18.9 , the role function (RP) was 69.5 ± 36.4 points, pain (BP) — 22.9 ± 23.2 points, overall health (GH) — 58.7 ± 16.7 points, viability (VT) — 62.0 ± 19.1 points, social functioning (SF) — 68.6 ± 20.1 points, emotional functioning (RE) — 72.1 ± 35.8 points, psychological health (MH) — 68.9 ± 16.7 points, physical component of health (PH) — 50.0 ± 6.2 points, mental component of health (MH) — 46.7 ± 9.0 points.

When carrying out the correlation analysis, there was a statistically significant inverse correlation of very weak force between the vegetative index according to the Wein's questionnaire and MH $r = -0.27$ ($p < 0.01$) and RE $r = -0.3$ ($p < 0.05$), the inverse of the weak force between the value of the Wein's questionnaire RP = -0.37 ($p < 0.01$), the mean force line between the value of the Wayne questionnaire is BP $r = 0.52$ ($p < 0.01$).

Thus, in patients with AH without clinical symptoms of depression, cerebral disorders were registered in 59.3%, which were combined with a vegetative regulation disorder and a decline in the quality of life, mainly due to overall health and vitality (VT).

In patients of the 2nd group (men — 3, women — 24), the blood pressure level was $137.4 \pm 20.1 / 84.4 \pm 12.8$ mm Hg. The level of depression on the HADS scale was 9.0 ± 0.9 points. There were no cerebral disorders in 2 (7.4%) patients, cerebral blood flow insufficiency were registered in 2 (7.4%), DE of stages I and II — in 23 (85.2%). Compared with group 1, there was an increase in the frequency of cerebral complaints. Thus, dizziness was detected in 16 (59.3%), noise and ringing in the ears — in 20 (74.1%), decreased memory and attention — in 15 (55.6%), sleep disturbance — in 1 (3.7%), increased fatigue — in 19 (70.4%); headache — in 15 (55.6%) patients. Violations in the implementation of coordination samples (Romberg, palcoccus) were present in 25 (92.6%) patients. The vegetative disorders of this group were more common than among the patients of group 1, so cardiovascular syndrome was detected in 16 (59.2%), respiratory syndrome disorders in 14 (51.8%), abdominal — in 17 (62.9%), sweating dysfunction in 18 (66.7%), thermoregulatory — in 17 (62.9%), asthenic in 21 (77.8%). The Kerdo index was minus 20.9 ± 22.3 points. According to the questionnaire of A.M. Wein 27 (100%) examined showed signs of vegetative dystonia (34.0 ± 14.1 points, $p = 0.0111$). In assessing the quality of life, the physical functioning (PF) was 64.4 ± 22.9 points (1, 2 times less compared to group 1, $p = 0.0015$), role function (RP), respectively — 24.0 ± 29.6 points (2.9 times less than in group 1, $p < 0.0001$), pain (BP) — 40.0 ± 21.0 points (1.7 times greater than group 1, $p = 0.006$), overall health (GH) — 46.3 ± 12.8 points (1.3 times less than in 1 group, $p = 0.0023$), viability (VT) — 44.6 ± 15.3 points (1.4 times less than in compared with 1 group, $p = 0.0003$), social functioning (SF) — 52.9 ± 21.6 points (1.3 times less than in group 1, $p = 0.0054$), emotional functioning (RE) — 30.8 ± 39.9 points (2.3 times less than in the 1st group, $p < 0.0001$), psychological health (MH) — 53.8 ± 15.4 points (1.3 times less than in group 1, $p = 0.0003$), physical health component

(PH) — 45.9 ± 5.4 points (1.1 times less than group 1, $p=0.0093$), mental component of health (MH) — 37.5 ± 8.9 points (1.2 times less than in group 1, $p < 0.0001$).

When carrying out the correlation analysis, there was a statistically significant inverse correlation of the mean force between the vegetative index according to the Wein questionnaire and MH = -0.62 ($p < 0.01$).

Thus, in patients of hypertension with pronounced subclinical depression, with an increase in cerebral disorders and non-vegetative disorders, a significant decrease in the quality of life was mainly due to emotional functioning (RE) and role functioning (RP).

In patients of the 3rd group (men — 1, women — 9), the blood pressure level was $138.8 \pm 11.8 / 81.0 \pm 9.9$ mm Hg. The level of depression on the HADS scale was 12.5 ± 1.3 points. Cerebral blood flow insufficiency was recorded in 1 (10.0%), DE of the first and second stages in 9 (90.0%). In assessing the clinical signs of cerebral disorders, dizziness was recorded in 9 (90.0%, $p = 0.0007$, test χ^2), noise and ringing in the ears — in 9 (90.0%, $p < 0.0001$, test χ^2) of patients, headache — in 10 (100%, $p = 0.0390$, test χ^2), sleep disturbance 9 (90.0%, $p = 0.0165$, test χ^2), increased fatigue — in 7 (70.0%, $p = 0.0590$, test χ^2), decreased memory and attention — in 10 (100%; $p = 0.0186$, test χ^2) of patients. Deviations in the performance of coordination samples (Romberg, palcoscus) were recorded in 10 (100%, $p = 0.0067$, test χ^2) patients. Among the vegetative disorders, cardiovascular syndrome was detected in 7 (70.0%, $p = 0.0257$, χ^2 test), respiratory distress syndrome - in 10 (100%, $p = 0.0006$, test χ^2), abdominal — in 7 (70, 0%), sweating disorders — in 8 (80,0%), thermoregulation — in 8 (80,0%, $p = 0,0431$, test χ^2), asthenic — in 10 (100%, $p < 0,0001$, test χ^2). The Kerdo index was minus 59.1 ± 13.7 points. On the Wein scale there were signs of vegetative dystonia (49.0 ± 10.8 points, $p < 0.0001$ in relation to patients of group 1, $p = 0.0111$ in relation to patients of group 2) in 10 (100%, $p = 0.010$, test χ^2). In the assessment of the quality of life, physical functioning (PF) was 52.0 ± 22.5 points (1.5 times less than in group 1, $p = 0.0005$), role function (RP), respectively, 15.0 ± 33.7 points (in 4.6 times less than in group 1, $p = 0.0010$), pain (BP) 54.0 ± 15.8 points (2.3 times greater than group 1, $p = 0.0007$), overall health (GH) — 44.0 ± 9.9 points (1.3 times less, n compared with 1 group, $p = 0.0159$), viability (VT) — 39.0 ± 13.9 points (1.6 times less than in group 1, $p = 0.0024$), social functioning (SF) — 50.0 ± 18.6 points (1.4 times less than in group 1, $p = 0.0266$), emotional functioning (RE) - 30.0 ± 33.1 points (in 2.4 ($p = 0,0137$), psychological health (MH) — 48.0 ± 18.6 points (1.4 times less than in the

1st group, $p = 0.0050$), the physical component of health (PH) — 42.0 ± 6.3 points (1.2 times less than in group 1; $p = 0.0020$), the mental health component (MH) is 37.0 ± 8.2 points (1.3 times less than in group 1, $p < 0.0096$).

When carrying out the correlation analysis, there was a statistically significant inverse correlation of high strength between the vegetative index according to the questionnaire of A.M. Wayne and PF $r = -0.76$ ($p < 0.01$), RP $r = -0.87$ ($p < 0.01$), the high-force line between the vegetative index according to the A.M. Wayne questionnaire and BP $r = 0,9$ ($p < 0.01$).

Thus, in patients with AH, clinically pronounced depression is combined with severe cerebral, autonomic disorders and a significant decrease in the quality of life.

CONCLUSIONS

In patients with hypertension, despite the achieved target figures for blood pressure, with increasing depressive disorders, vegetative disorders are characterized by a predominance of parasympathetic tone, marked cerebral symptoms and a significant decrease in the quality of life, which must be taken into account when constructing individual rehabilitation programs.

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