

ARTERIAL HYPERTENSION AND DEPRESSION: PERSONALIZE THE TREATMENT

*PhD, associate professor Potaskalova V. S.,
PhD Med, professor Khaitovych N. V.*

Ukraine, Kiev, National O.O. Bohomolets Medical University

Abstract. *More than half of patients with metabolic syndrome have signs of mild to moderate depression and increased anxiety. In patients with 3 degrees of obesity, manifestations of depression are most commonly manifested, which is probably due to social inadequate adaptation and may affect compliance. The main factors of the unfavorable course of arterial hypertension are the female sex with the elderly and the male gender of the young with the presence of depression and PT. It is necessary to consider the presence of anxiety and depressive disorders in the process of lifestyle correction and patient commitment to therapy.*

Keywords: *arterial hypertension, metabolic syndrome, depression, anxiety*

According to the WHO, every third adult has high blood pressure and every year the number person with cardiovascular diseases is increasing. In particular, arterial hypertension (AH) is of great social and economic importance, since this disease leads to complications associated with the illusion and mortality of both the elderly and people of working age [1].

A large number of people of all age groups are overweight, which is a risk factor for hypertension and dyslipidemia. Along with genetic factors, one should take into account the role of psychoemotional factors and patient's lifestyle [2].

Many scientists pay attention to the emotional state of patients with various pathologies. A large number of works are devoted to the study of the psychological status of patients with arterial hypertension. We know that high blood pressure is associated with increased symptoms of anxiety and depression.

The metabolic syndrome manifests itself most often in people of working age, this will affect the social activity, and physical activity will also decrease [3]. Progression of changes in the patient's psychological status will lead to worsening of the somatic component of the disease.

Modern approaches to treatment are directed not only to etiopathogenetic factors of the disease, but also improve the quality of life of patients [4].

Taking into account the urgency of this problem, we conducted an examination of patients with metabolic syndrome, which conducted general clinical trials, determined the daily profile of blood pressure, assessed the psychological status of the questionnaire for determining the level of depression on the Beck scale and assessment of personal (PA) and reactive anxiety (RA), using the Spielberger-Khanin questionnaire [5-8].

We examined 63 patients with AH and obesity. Age of patients from 30 to 60 years.

The level of arterial pressure in men is higher than that of women by 11 mm Hg (89.9 ± 12.7 mm Hg vs. 100.6 ± 10.9 mm Hg, $P < 0.005$).

Duration of the disease on AH was 8.1 ± 5.9 years. The main complaints of patients are headache, dizziness, dyspnea and cardialgia (table 1).

Table 1. The main complaints of patients

Complaints	Women		Men		p
	n	%	n	%	
Headache	39	81.3	29	80.5	>0.05
Dizziness	25	52.1	15	41.7	<0.05
Dyspnea	17	35.4	13	36.1	>0.05
Cardialgia	18	37.5	9	25.0	<0.05

Women often complained of dizziness (52.1 % vs. 41.7 %; $p < 0.05$) and cardialgia (37.5 % vs. 25.0 %; $p < 0.05$) compared with men. Headache (81.3 % and 80.5 %; $p > 0.054$) and dyspnea (35.4 % and 36.1 %; $p > 0.05$) disturbed both sexes equally.

All patients (n=84) were divided into groups for BMI. In group 1 included patients with BMI 25-29.9 kg/m², in group 2 - patients with BMI 30-34.9 kg/m², in group 3 - patients with BMI 35-39.9 kg/m², in 4 group - patients with BMI > 40 kg/m².

In women (n=48, mean age 54.5±8.5 years), the depression level of the Beck scale was 13.9±9.0 points, while the majority of men (n=36, mean age 50.8±9.5 years) did not have depression (7.6±5.7 points, P<0.001) (Figure 1).

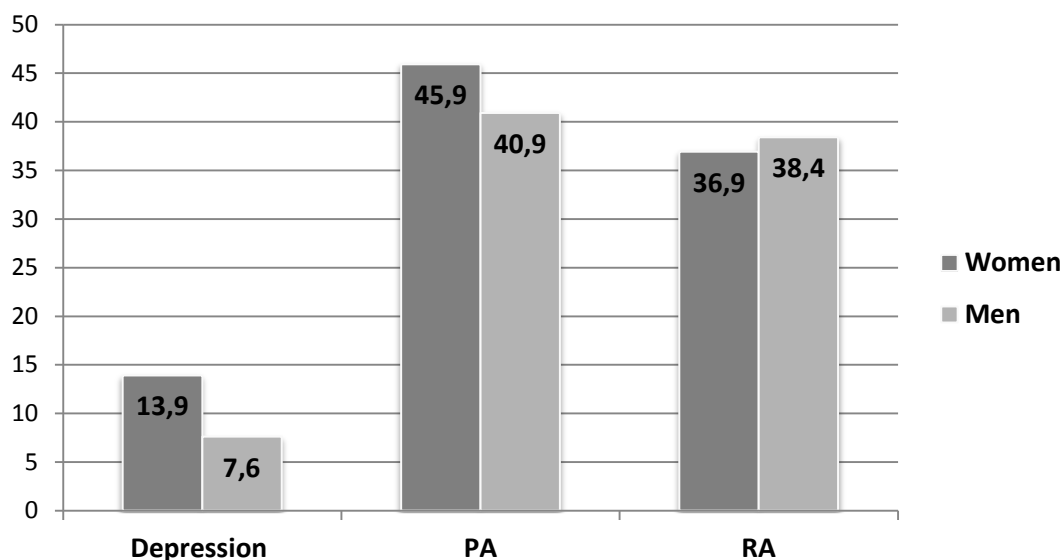


Fig. 1. The levels of depression and anxiety by women and men with arterial hypertension

We think that different levels of anxiety explain this. PA and RA (respectively 45.9±10.2 points vs. 40.9±6.7 points and 36.9±6.1 points vs. 38.4±7.0 points, P<0.05). We found a high RA among women, whereas the PA level was moderate. RT on average among all respondents is moderate.

In the analysis of the degree of depression among patients with different BMI, there were no likely differences, and in all patients, the level of depression corresponded to a mild degree. Thus, in patients of Group 1, the level of depression averaged 12.1±7.7 points, in patients of the 2 group – 10.8±6.5 points, patients of the 3 group had an average of 10.1±7.2 points and in patients with BMI>40 kg/m² – 13.3±6.4 points (P>0.05). Though the total number of patients with non-depressed metabolic syndrome was only 41.3 % (n = 26).

The strongest correlation between the level of depression and the studied parameters was found among patients in group 4. Direct dependence of the level of depression was found in the following parameters: age of patients (r=0.46), BMI (r=0.21), PA (r=0.61), average daily systolic blood pressure (SBP) (r=0.57), mean daily heart rate (r = 0,57); the feedback is from the daily diastolic blood pressure (DBP) (r=-0.37), mean AP (r = -0.44) and pulse BP (PBP) (r =-0.64).

Direct dependence on the level of depression was found in patients from group 2 (r = 0.23), whereas in patients in group 3 the dependence was reversible (r = -0.32). Among the study groups in the third group there is a direct correlation between the level of depression and mean arterial pressure (r=0.48), heart rate (r=0.71); reverse with BMI (r=-0.71), RT (r=-0.21), PAT (r=-0.96).

In patients of the 2nd group reliably correlate depression with PA (r=0.41) and heart rate (r=0.28). Among the surveyed in 1 group the level of depression reveals a negative relationship between the following indicators: RA (r = -0.31), SBP (r = -0.61), DBP (r = -0.46), mean BP (r = -0.53), PBP (r=-0.54), heart rate (r = -0.37).

The highest percentage patients with BMI > 40 kg/m² has depression (66.7 %). In patients with obesity 1 stage depression was detected in 29,3 % of cases. Among patients with obesity 2 stage and overweight signs of depression were found in about half of those surveyed (respectively 57.3 % and 53.3 %).

We conducted a factor analysis of these indicators in patients for hypertension (Figure 2).

Plot of Eigenvalues showed the co-occurrence of the factors that influence the course of hypertensive disease.

The first factor included PA, depression and younger age.

Variable	Factor Loadings (Unrotated) (Spreadsheet3_(Recovered)) Extraction: Principal components (Marked loadings are >.700000)					
	Factor 1	Factor 2	Factor 3			
sex	-0,297525	-0,545760	-0,347861			
PA	0,776555	0,234384	0,227449			
RA	0,350878	-0,091481	0,316727			
Depression	0,600600	0,366387	0,012034			
headache	-0,559246	0,069389	0,476545			
dizziness	-0,087525	0,125105	0,661540			
dyspnea	-0,207081	0,651239	-0,389741			
cardialgia	-0,085848	0,680953	-0,283168			
duration of invasion	-0,143631	0,039447	0,560787			
age	-0,556969	0,509192	0,176936			
Expl.Var	1,876908	1,664506	1,515802			
Prp.Totl	0,187691	0,166451	0,151580			

Fig. 2. Factor Loadings

The second factor is the female sex and the older age. In this case, the presence of complaints about cardialgia and shortness of breath will worsen.

Conclusions. So, the conducted studies confirm the presence of dependencies of blood pressure levels and individual indicators of the cardiovascular system with the psycho-emotional state of patients.

More than half of patients with metabolic syndrome have signs of mild to moderate depression and an increased level of anxiety.

In patients with obesity grade 3, manifestations of depression are most commonly manifested, which is probably due to social maladaptation and may affect compliance.

Consideration should be given to the presence of anxiety and depressive disorders in the course of lifestyle correction and patient adherence to therapy.

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