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Cardiovascular Risk Factors In Hypertension In Middle-Aged Patients

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Annotation: Hypertension (HTN) is one of the most common cardiovascular diseases. The importance of hypertension is determined by its negative impact on health status, long-term prognosis, quality and length of life [1]. Long-term hypertension causes damage to the body's major organs and systems, such as the vascular system, heart, kidneys, and brain. The presence of hypertension is a proven factor in the development of a number of serious diseases associated with increased disability and death, such as ischemic and hemorrhagic stroke, transient ischemic attacks, myocardial infarction, heart failure and chronic kidney disease.

Keywords: arterial hypertension , risk factors , age

INTRODUCTION

A characteristic feature of middle-aged patients with hypertension is the likelihood of cardiovascular disease and a lower severity of the consequences of risk factors. In such patients, end organs are less damaged and the risk of cardiovascular

complications is lower. At the same time, high blood pressure (BP) affects their health, which is related to the disruption of regulatory and compensatory physiological mechanisms in the cardiovascular system. Absence of clinically evident associated diseases does not exclude the possibility of negative effects of hypertension on the body and its individual systems, which is manifested by functional or laboratory signs of target organ damage [2].

Patients with hypertension without additional diseases , as a rule, are people of average working age. The cause of high blood pressure is often essential hypertension, but symptomatic hypertension is also possible. The degree of increase in blood pressure and the clinical course of hypertension are largely determined by the individual characteristics of the patient, the presence of bad habits and lifestyle [3, 4]. Treatment of patients in this group can be carried out both in the form of monotherapy and through a combination of drugs. The absence of associated diseases determines a lower level of cardiovascular risk and, consequently, a lower amount of necessary drug therapy [5].

relatively favorable clinical course, middle-aged patients require regular and thorough medical monitoring, which allows timely identification of emerging mechanisms of the pathogenesis of related diseases and damage to target organs [6]. Joint non-pathological evaluation of middle-aged hypertensive patients allows to more accurately characterize the characteristics of cardiovascular diseases associated with high blood pressure and to optimize the management of such patients.

The purpose of this study is cardiovascular diseases was to determine the characteristics of risk factors in middle-aged patients with arterial hypertension unrelated to .

Materials and methods. The study included 60 patients aged 28 to 60 years, who were treated and examined in the cardiology department with a diagnosis of hypertension during the last two years. According to the characteristics of the population, men are 93%, women - 7% of cases. Diagnostic examination during inpatient treatment is sufficient to identify or exclude symptomatic hypertension and concomitant cardiovascular pathology in hypertensive patients. Examination and continuous monitoring allow to identify and evaluate the signs of target organ damage, as well as the presence of modifiable risk factors for cardiovascular complications associated with individual characteristics and lifestyle. All patients included in the study were examined, including examination and anamnesis, general and biochemical blood tests, general urinalysis, determination of glomerular filtration rate, specialized functional diagnostic methods, monitoring of clinical condition during hospital stay. Patients with cardiovascular diseases, including cardiovascular diseases, atherosclerotic lesions of central and peripheral arteries, acute and chronic kidney diseases, cerebrovascular pathologies, severe acute and chronic diseases of internal organs were not included in the study. Treatment of hypertension in the studied patients was carried out in

accordance with the current national recommendations for the treatment of patients with arterial hypertension and included one to three antihypertensive drugs, depending on the indications.

Results and its discussion. The average age of the examined patients was (46.80±7.37) years. The age structure can characterize this category of patients as a whole, which included individuals admitted to the hospital for treatment and examination in this study.

One of the main factors in the development of cardiovascular diseases is age. A very large number of people under 40 years of age (20%) were found among patients with hypertension. The presence of hypertension can be associated with non-modifiable risk factors, long-term psychological stress, facial color and individual predisposition. About half of the patients (47%) were between 41 and 50 years of age. This ratio may be related to long-term factors of development and maintenance of hypertension in a large group of patients, causing a constant increase in blood pressure, which is characteristic of the disease. At the same time, in the group of people over 50 years of age, long-term hypertension leads not only to the symptoms of target organ damage, but also to the development of cardiovascular diseases, for which hypertension is a risk factor. Age and progressive damage of target organs against the background of existing arterial hypertension are the reasons for the development of associated diseases in patients over 50 years of age, reducing their share in the study group. In such patients, hypertension becomes the initial link in the cardiovascular continuum.

Excess weight gain is also a relevant factor in the development of hypertension. The average body mass index (BMI) in the examined group was significantly increased and was (30.92±5.14) kg/m ^{2}, which indicates the tendency of patients in this category to be overweight and obese. Only 8% of patients had a normal body weight (TVI < 25 kg/m2) and their average age was 49.4 years. In middle-aged patients with hypertension, the characteristics of body weight show a predominance of two body types, which are approximately the same: overweight (TVI from 25 to 30 kg / m 2), which accounts for 40% of cases, and I degree of obesity (TVI) from 30 to 35 kg / m 2), which is noted in 35% of cases. In the youngest group of patients (28-40 years old), there were no cases with normal body weight, and the average TVI in it was (30.26 ± 3.34) kg / m ^{2}. TVI in the 41-50-year-old group (31.55±6.12) kg/m ^{2}, At the age of 51-60 - (30.45±4.63) kg/m ^{2}, which corresponds to the average obesity of the first degree. All age groups have approximately equal proportions of overweight people (28-40 years - 42%, 41-50 years - 43%, 51-60 years - 35%), although this tends to decrease with age. Grade I obesity significantly prevails in the youngest and oldest patients (28-40 years old - 58%, 51-60 years old - 45%). On the contrary, the 41-50-year-old group had a large number of people who were overweight (25% of obesity) **.** In some groups, the percentage of people with normal body weight did not exceed 10% (41-50 years) and 11% (51-60 years).

Among the reasons determining its development, the leading role is played by the disorder of lipid metabolism, manifested by an increase in atherogenic fractions of serum lipids. More than half (53%) of all cases had serum total cholesterol levels greater than 5.5 mmol/L. Cholesterol level in the examined individuals increased significantly depending on age and was (4.79±0.90) mmol/l at the age of 28-40, and (5.70±1.23) mmol/l at the age of 41-50. old, 1-60 years old in group 5 - (6.09±1.20) mmol/l ($p<0.05$). At the same time, the level of triglycerides in the groups did not differ significantly, 28-40 years old (1.73±0.89) mmol/l, 41-50 years old (1.59±0.75) mmol/l, 51-60 years old - (1.95±0.85) mmol/l. In the youngest hypertensive patients (28-40 years), first-degree overweight and obesity combined with normal cholesterol levels, cholesterol levels were significantly higher in older age groups with similar TVI values. not directly related to weight. Both factors can independently affect the development of cardiovascular pathology, but the leading role in this age group belongs to overweight. In patients over 40 years of age, both factors act together, which determines the increase in the stage of hypertension and the risk of cardiovascular complications in older age groups. Assessment of smoking status showed that no regular smokers were identified among the respondents. This may be one of the favorable factors determining the absence of symptoms of concomitant cardiovascular diseases such as coronary heart disease and cerebrovascular disease. The stage and level of hypertension is also related to the age of the examined persons with hypertension as a characteristic feature of the clinical course of the disease. The stages of hypertension in all three age groups are significantly different. In the group of people aged 28-40, 75% of hypertension is stage I, and stage II is 25%.

In the 41-50 age group, most of the patients had stage I hypertension (57%), but the proportion of stage II increased to 43%. In the age group of 51-60 years, stage II hypertension prevailed, stage I in 50% of cases, stage I in 40% of cases, stage III in 10% of cases ($p < 0.05$). The nature of the course of hypertension in the examined patients showed that the development of the disease is usually proportional to the increase in age. This is confirmed by a significant correlation between the increase in the stage of hypertension and age ($r=0.4$; $p<0.05$). It can be assumed that the main reason for the development of the disease in this case is the duration of the increase in blood pressure. However, the relationship between the stage of hypertension and the duration of hypertension, although statistically significant ($r=0.25$; $p<0.05$), was significantly weaker. There was a significant correlation with increase in hypertension stage as well as weight gain and TVI ($r = 0.3$; $p<0.05$). Thus, age and overweight are one of the leading factors in both the development and progression of arterial hypertension in middle-aged patients. In this case, hypertension can become part of the cardiovascular continuum, with increased damage to target organs and the development of related diseases. At the same time, in the examined group, the level of elevated blood pressure indicated at diagnosis as a whole did not show a significant relationship with risk factors, probably because the level

of hypertension was not so much detected. effectiveness of antihypertensive therapy, as well as the nature and dynamics of the disease.

Among the examined middle-aged, mostly male, hypertensive patients, a large number of patients aged 41-50 years was found, which may be related to the long-term effect of factors in the development of hypertension, which leads to a constant increase in blood pressure. will bring. pressure. In patients over 50 years of age, the long-term presence of hypertension leads not only to damage to target organs, but also to the development of related diseases in which hypertension is a risk factor [7]. In this case, it becomes the initial link in the cardiovascular continuum. One of the leading factors in the development of hypertension in this group of patients is overweight. It plays a role in all age groups and is equally expressed on average, although certain variants of overweight appear differently in different groups [8]. In young patients (28-40 years old), 1st degree obesity is mainly detected, and in people aged 41-50 years, the percentage of high degrees of obesity (2nd and 3rd degrees) increases. In the group of people aged 51-60 years, the absence of related diseases is associated with the maintenance of normal or moderate overweight (no more than obesity of the 1st degree) [9]. The nature of the course of hypertension in the examined patients showed that the youngest patients (28-40 years old) had hypertension stage I. In older age (41-50 years), the predominance of stage I remained, but the proportion of patients with stage II almost doubled. In the oldest age (51-60 years), stage II AG predominated and stage III AG was also observed. Triglyceride levels in the examined patients were in the average range and did not directly affect the development of cardiovascular diseases. In the whole study group, the rate of blood pressure elevation did not show a significant association with risk factors, which mainly reflects the effectiveness of blood pressure control with drugs [11]. In addition, no regular smokers were identified among the examined people, which can be considered as a favorable factor for cardiovascular diseases, such as coronary heart disease and the absence of cardiovascular disease [12].

Summary. The examined middle-aged, mostly male, hypertensive patients were mainly people aged 41-50 years, which may be the result of long-term exposure to hypertensive factors that lead to a constant increase in blood pressure, which is characteristic of hypertension. In the older age group, prolonged elevation of blood pressure often leads to associated diseases that activate the cardiovascular continuum mechanism, in which hypertension is a risk factor.

One of the leading factors in the development of hypertension in middle age is excess weight. It is expressed approximately equally in all age groups, but affects the course of hypertension differently . People under the age of 40 often have I-degree obesity, 41-50-year-olds are more likely to have II and III-degree obesity , 51-60-year-old patients die in the form of overweight and obesity, without joint diseases, not higher than 1 degree. there are average forms.

Hypercholesterolemia is a common form of lipid metabolism disorder in middle-aged people with hypertension , and it is an important factor of cardiovascular pathology in people over 40 years old, along with overweight. People under the age of 40 did not have elevated cholesterol despite being obese. Serum triglyceride levels were within normal limits in all age groups and did not appear to have a direct effect on the development of cardiovascular disease.

that the nature of the course of hypertension in stages is related to age. In people under the age of 40, hypertension was stage I, and in the age group of 41-50 years, stage I prevailed, but the percentage of patients with stage II almost doubled. In people aged 51-60 years, stage II predominates, with isolated cases of stage III. The important factors for increasing the stage of hypertension are overweight and the duration of hypertension. In all study groups, the level of blood pressure elevation did not have significant relationships with risk factors, which mainly reflects the effectiveness of blood pressure control. Absence of regular smokers among those examined can be considered a favorable factor for the absence of cardiovascular diseases

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