CLINICAL AND FUNCTIONAL ASPECTS OF EARLY DETECTION OF ARTERIAL HYPERTENSION

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Abstract. The basis of socially significant cardiovascular diseases is the progression of atherosclerosis with the development of its complications and in the last 15 years it has been considered from the perspective of the "cardiovascular continuum". These studies are aimed at identifying masked arterial hypertension, high normal pressure in middle-aged people, as well as identifying the frequency of cardiovascular complications in patients with uncontrolled arterial hypertension. Identification of patients with high normal blood pressure, as well as masked arterial hypertension, allows for control of risk factors and asymptomatic target organ damage.

Keywords: hypertension, Sistemic Coronary Risk Estimation (SCORE), cardiovascular diseases.

"The height of blood pressure is, first of all, a functional factor... associated with the influence of a number of hormones, metabolic products, nutrition and the state of the environment, i.e. it is determined by the functional state not only of the innervating system or the hormonal system, but is an expression of the biotonus of the entire complex of the autonomic system." This maintains the complexity of the pathogenesis of arterial hypertension. Early detection of arterial hypertension in young people, and especially its uncontrolled course, helps prevent the risk of developing cardiovascular complications in the future. To prevent the development of complications, doctors face the important task of improving drug therapy in order to achieve target blood pressure (BP) values. Despite the use of a wide range of combined antihypertensive drugs in clinical practice, patients continue to have an uncontrolled course [1,3,5]. An analysis of published WHO data on a global assessment of health status revealed 7 leading causes of mortality. The first position on the list is occupied by cardiovascular diseases. "The data analysis serves as a reminder of the need to improve prevention, early diagnosis and treatment of non-communicable diseases," World Health Organization Director-General Dr Tedros Adhanom Ghebreyesus. A well-developed primary health care system is the foundation on which the fight against non-communicable diseases is built" [2,4,6]. It is a sad fact that a large number of cardiovascular life-threatening events occur in young and middle age. When conducting a sample analysis of surveys conducted among the population, as well as an analysis of behavioral factors (smoking, physical inactivity, dietary errors, alcohol abuse), conclusions can be drawn in favor of insufficient physical activity, especially in young and middle age. Analysis of surveys allows us to judge the lack of awareness of the population about risk factors for the development of cardiovascular pathology (increased levels of cholesterol, lipid fractions, blood pressure as a factor in the development of cardiovascular diseases) [2,4,7,8]. Consequently, the high incidence of risk factors and the development of unfavorable associations of CV risk are alarming and require immediate action, especially in young and middle-aged people.

The purpose of the study is to identify masked arterial hypertension, high normal pressure in middle-aged people, as well as to identify the frequency of cardiovascular complications in patients with uncontrolled arterial hypertension. Identification of patients with high normal blood

pressure, as well as masked arterial hypertension, allows for control of risk factors and asymptomatic target organ damage. Materials and methods.

The medical histories of 178 people, age group from 18 to 44 years old, with newly diagnosed arterial hypertension, as well as a history of hypertension, were analyzed, who were on an outpatient basis and were hospitalized in a day hospital at a polyclinic in the Mirzo-Ulugbek district from July 2023 to March 2024 of the year. Among the patients, 98 were men (55%), 80 were women (45%). The studies did not include secondary forms of hypertension, grade 3 hypertension; exclusion criteria were pregnancy and breastfeeding. Patients were informed via telegram messengers, as well as telephone calls. When analyzing behavioral data, 19% led a sedentary lifestyle, smoking was registered in 17%. Systolic and diastolic blood pressure 130±20.7 mmHg, 80±10 mmHg, heart rate 60±20 beats.min. BMI 25 (26-29) kg/m2.

Laboratory indicators.

Indicators Total cholesterol (mmol/l	Norm	Patients
Triglycerides	3,6- 5,2	6,5±7,3
LDL (mmol/l)	0-2, 25 ммоль/л	1,5±1,2
HDL (mmol/l)	2,2- 3,5	3,4±0,9
Glucose (mmol/l)	0,7- 1,9	1,7±0,7
Glycated hemoglobin	3,3- 5,5	6,0±2,2
HbA1 (%)	4,8- 5,9 %	5,9±1,6
Daily microalbuminuria (mg/day)	0-30 мг/сут	28±60
Vit D 25 (OH)	30- 60 нг/мл	20±10

Absolute cardiac risk was assessed using the SCORE scale, the average percentage was 3±4. High CVR was assessed in 1 male patient. Moderate CV risk was identified in 30 (16.8): 18 men (60%) and 12 women (40). Low SSR was detected in 7 patients (3.9%).

The main group consisted of 118 hospital patients and the comparison group - 60 outpatients. All patients had their complaints collected, their medical history, bad habits, risk factors, hereditary conditions assessed, and their level of physical fitness assessed. All patients underwent a physical examination, body mass index was determined, and blood pressure was measured using the Korotkoff method. CV risk factors were assessed according to clinical guidelines 2020. Glucose levels were determined from fasting venous blood, and elevated levels were calculated as 6.1 mmol/L. The level of glycated hemoglobin HbA1 (%) was calculated to be greater than or equal to 6%. Body mass index was calculated using the Quetelet index. The diagnosis of newly diagnosed hypertension was established on the basis of double measurements over several consultations, according to generally accepted recommendations for the diagnosis and treatment of hypertension. Systematic blood pressure monitoring was carried out for 7 days from the moment of inclusion in the study. High normal pressure was regarded as 130-139/80-89 mmHg. Analysis of the obtained data: total cholesterol, age, gender, SBP, and bad habits made it possible to determine CVR using the Sistemic Coronary Risk Estimation (SCORE) scale. Absolute cardiac risk on the SCORE scale is less than 1% low, 1-5% moderate, 5-10% high, more than 10% very high. Glomerular filtration rate was calculated using the CKD-EPI (Chronic kidney disease

Epidemiology collaboration) formula. Daily micro albuminuria was diagnosed at values of 30-300 mg/l.

Research results:

The purpose of our study was early diagnosis and prevention of complications from target organs. During the study, we noted that high normal blood pressure was recorded in 9.5%, grade 1 hypertension in 37.3%, masked arterial hypertension in 19.4%, abdominal obesity in 22.4%, dyslipidemia in 47.2%, normal 33.8% had blood pressure. Characteristics of the main clinical indicators in patients with hypertension (inpatients) and hypertension (outpatients).

Indicators	AH (hospital patients) n-118	AH (outpatients) n- 60
Male	40,8±5,2	38±7
Age	35±9	33,4±8
BMI	25±4	25±4
Physical inactivity	30±2	5±1
Abdominal obesity	22±2	14±2
Dyslipidemia	46±3	33±2
Vitamin D level	18±2ng/ml	20±2
Heart rate	80	77
SBP mmHg	140±19,1	120±10.2 mmHg
DBP mmHg	90±3,5	89±4,2
Heart rate	76,6±2,2	80±5,2

According to the data presented in the table, the patients were divided into two groups and were comparable by gender, age, body mass index, and dyslipidemia. Among these population groups, individuals with abdominal obesity, dyslipidemia, physical inactivity and a history of arterial hypertension were identified.

Also, patients in the two groups were comparable in cholesterol, glucose, lipoprotein and uric acid levels.

Indicators	AH (hospital patients) n - 118	AH (outpatients) n - 60
Glucose (mmol/l)	5,8±1,2	5,3±1,1
Total cholesterol (mmol/l)	6,4±1,8	5,02±1,2
Triglycerides(mmol/l)	1,9±1,6	2,4±1,2
LDL (mmol/l)	4,1±0,8	3,9±1,3
Uric acid (µmol/l)	354,1±5,2	350±2,2

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