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Current Trends in Etiological Risk Factors of Arterial Hypertension

Ochilova Dilorom Abdukarimovna
Bukhara State Medical Institute

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ABSTRACT

The review presents current data on the prevalence, early diagnosis and risk factors for the development of arterial hypertension.

Relevance. To date, the prevalence of arterial hypertension (AH) in the world has reached 26%. Despite all the efforts of the medical community, there is a tendency for its further growth, according to experts, up to 29.2% by 2025 (from 972 million to 1.56 billion people) [1]. A significant increase in the disease is observed among male patients. Thus, among men aged 25 to 65 years, the prevalence of hypertension in some regions reaches 47% [3]. The epidemiological situation in Russia, as well as throughout the world, is also characterized by the “rejuvenation” of this pathology among the population [4–6]. Currently, the incidence of hypertension has increased significantly in the age group from 20 to 29 years [7]. Under these conditions, the state of health of men of military age (18–27 years), which determines the military potential and security of the country, is of particular concern. According to the definition of R. Fletcher et al., “risk is the probability of some unfavorable event occurring”. The concept of "risk factor" (RF) is considered as the characteristics of the body or external influences that lead to an increase in the degree of development of a particular disease [9]. This definition is also supported by experts from the World Health Organization, who consider risk factors as any property or feature of a person, any effect on him that increases the likelihood of developing a disease [10]. For a long time, the medical community was dominated by the point of view that risk factors have a significant impact on morbidity and mortality from cardiac pathology among elderly patients [11]. Young people have traditionally been classified as low absolute cardiovascular risk. However, the results of a number of studies around the world over the past decades have revealed a different picture. The observed "rejuvenation" of diseases of the circulatory system

requires close attention at the stage of early primary prevention of cardiovascular diseases. The identification of risk factors for the development of hypertension in young patients and the identification of the groups with the highest risk of developing cardiovascular events in their future adult life are aimed at preventing their occurrence, early treatment and, as a result, increasing life expectancy and reducing mortality. Knowledge of risk factors, many of which are manageable, their assessment and prognosis of the development of cardiovascular diseases in young people open up wide opportunities and prospects in the search and formation of a strategic approach to organizing the provision of preventive and medical care to this population group [12]. Finding a starting point and not missing the time to start preventive measures among young people is the most important task facing the health system in different countries. In connection with the above, the study of the features of the course of hypertension in men of military age is due to the requirement to study the clinical and pathophysiological manifestations of this pathology in its early stages, the need to improve diagnostic methods, and optimize preventive measures. In young men, regardless of the level of blood pressure, risk factors are widespread. More than 60% of men of military age without hypertension have at least one risk factor. Among all controlled risk factors, the highest incidence is associated with increased body weight and smoking. Overweight or obesity always occurs in patients with two or more risk factors. Among men with hypertension, compared with men without hypertension, there are more people with obesity, low physical activity, and impaired lipid metabolism. The revealed high prevalence of risk factors will cause particular interest and expansion of the research trajectory with additional analysis. Subsequently, the results of studying the prevalence of risk factors in combination with the obtained BP indicators according to the data of 24-hour BP monitoring required separation into two subgroups: individuals with optimal, normal BP (<120-130/80-85 mmHg) and patients with high normal BP (130–139/85–89 mmHg). Emphasis on the health of young men with BP 130/80 mm Hg. Art. and above seems appropriate and relevant for the further study of the development of hypertension, the features of its course, the assessment of cardiovascular risk in young patients. It is not possible to assess the degree of negative impact of each risk factor on the health status of young men and its direct contribution to the development of hypertension in this study. Of greater importance is the cumulative effect of several risk factors on blood pressure levels, which is observed in the subgroups of the study. The role of a single FD, even with its initial secondary importance and insignificance, increases significantly with the joint simultaneous interconnected impact of the FD. In the list of signs associated with the likelihood of developing a cardiovascular disease, AH itself is an independent, highly significant, leading risk factor for the development of fatal and non-fatal cardiovascular events. The majority of EU member states in the European Parliament in June 2017 supported the program of the European Charter on Heart Health, which defines health indicators: complete smoking cessation, adequate physical activity for at least 30 minutes 5 times a week, lowering blood pressure, healthy nutrition, lack of excess body weight, blood cholesterol below 5 mmol/l, normal glucose metabolism [13]. At present, the main world strategies of preventive medicine are being implemented: population strategy - modification of a healthy lifestyle, constituting 30–40% of the contribution to this fight; high-risk strategy – risk factor screening (20-30%); treatment is secondary prevention (40%) [11]. In order to reduce the likelihood of an adverse event occurring, it is necessary to manage the risk and influence the risk factors. The first step in this direction is risk assessment. According to the recommendations of the World Health Organization, hazard identification is important for risk assessment, i.e. identification of a factor

leading to an adverse event, disease; risk profile, i.e. a description of the effects potentially harmful to the human body; exposure assessment, i.e. quantitative expression of the dose of a trait in a particular population, measured in various ways, methods [9]. All attempts to assess qualitatively and quantitatively the degree of probability of a harmful effect, the development of an adverse event, a certain disease led to the creation of so-called risk meters - different models, scales, risk assessment systems: Framingham scale, PROCAM, SCORE, QRISK, ORISCON, various online calculators (ASCVD Risk Estimator Plus, New Zealand Data, etc.). All of the listed scales have limitations in people aged 18–27 years, and therefore were not used in the study in any group. Risk assessment in young patients has always been a challenge. In patients with a low absolute risk, such as those included in the study, it is generally accepted to evaluate only the relative risk, which is the ratio of individual risk to its average value in the population.

In the course of the study, such risk factors as smoking were identified and studied, distinguished by a high level and a clear prevalence in their prevalence. The total number of patients who indicated smoking at least 1 cigarette a day systematically is 37.3% of all 150 examined persons, having been distributed in general by 34.3 and 38.3%, respectively. The smoking score is determined by determining the smoking person index and the pack-year index. The values of the index of a smoking person as a whole did not exceed 120, while the pack-year index did not exceed 2.5. These data do not allow us to classify the studied patients as "malicious smokers", but at the same time testify to the social significance of such a widespread addiction to smoking among them. Tobacco smoking, which is widespread among young men, is perceived as an attribute of self-identification and belonging to an adult community, which in fact is a manifestation of obedience to a stereotype of behavior in a given age environment. According to the results of the survey regarding the consumption of alcoholic beverages, the regularity of their consumption in an amount equivalent to 10 g of ethanol, it was revealed that 138 people (92% of all participants in the study) did not deny the fact of drinking alcohol at least once in their lives. However, regular intake of 21 standard drinks or more of alcohol per week, regarded as a responsible risk, according to the recommendations of the World Health Organization, and the corresponding 2100 ml (3 bottles of 0.7 l) of dry wine or 5250 ml (10-11 bottles of 0.5 k) light beer, recognized by several people in the subgroups of the study with hypertension. It should be noted that such a recognition of the fact of one's addiction to alcohol and the willingness to report it entirely depend on the individual, conditions, circumstances and do not have sufficient diagnostic and prognostic value in young men. When assessing the level of physical activity, a survey was conducted on the nature of professional activity, mobile types of activity during leisure time, and the volume of daily walking. The proportion of individuals with physical inactivity in the form of walking less than 30 minutes daily at an average pace in the subgroups of the study with hypertension ranges from 10.0 to 14.3%. This indicator is determined by the way of life, the lack of active physical labor, the workload of studies, which is irrational for people in the most active period of life.

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