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METHODS FOR EXAMINING THE DIAGNOSIS AND PATHOGENESIS OF HYPERTENSION

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Resume: There has been an initiative to "tighten" the standards for diagnosing hypertension in recent years. Therefore, specialists from the Unifying National Committee (ONC) for the Identification, Assessment, and Treatment of High Blood Pressure (USA, 1993) advised that a high blood pressure measurement of more than 140/90 mm Hg be used to diagnose hypertension, outlining four distinct stages in the process. A new classification of hypertension was provided by recommendations for treating hypertension issued in 1999 by the International Society of Hypertension (SAG) and the World Health Organisation (WHO). In order to evaluate the prognosis, this classification states that the degree of arterial hypertension must be ascertained, and the risk of developing cardiovascular problems must be stratified.

Key words:classification of arterial hypertension, risk factors, diagnostic, and arterial hypertension.

In economically developed countries of the world, the proportion of the incidence of hypertension is on average 20-30%, and in the age group over 50 years old - 60-65% [M.Sh. Nasyrova et al., 2008]. If in 2000 the prevalence of hypertension worldwide among people over 20 years old was 26.4% or occurred in 972 million people, then according to the forecast of WHO experts, by 2025 it will reach 29%, which is 1 billion 56 million people [1,5,10,15,16].

According to B.A. Sidorenko et al. (1999), in persons with hypertension, IHD develops 3-4 times more often and acute cerebrovascular accident 7 times more often. Within 7 years, 25% of patients with hypertension develop acute myocardial infarction [VN Ardashev et al., 2004]. At the same time, the share of these diseases among the causes of death in the group of patients with hypertension is 83.5% [L.A. Alekseeva et al., 2002]. Arterial hypertension is diagnosed in one in four of the adult population, is one of the leading causes of disability and mortality in many countries of the world, and patients with high blood pressure (BP) are at a significantly higher risk of stroke, coronary heart disease (CHD), other CVD and renal failure [F.A.Zakirov et al., 2007].

According to the Specialized Center of Cardiology of the Republic of Uzbekistan, the prevalence of hypertension among the urban population of Uzbekistan is 26.6%, among the rural population - 14.4%, including 12.6% of men and 15.7% of women [A.G. Gadaev, Sh S. Gulyamova, 2007].

It was found that the average age of the onset of high blood pressure is 30-40 years of patients [VB Simonenko et al., 2007]. At the same time, it is known that the clinical signs of hypertension, as a rule, "lag behind" the increase in blood pressure, and 30-40% of patients with hypertension do not know about their disease [Yu.Ya. Varakin et al., 1996]. Therefore, the average age of newly diagnosed hypertension shifts to 40-50 years. This requires attributing patients with even a slight increase in blood pressure to groups at high risk of cardiovascular complications.

95% of patients suffering from increased blood pressure refer to patients with primary (essential) hypertension and only 5% suffer from secondary (symptomatic) hypertension [M.Sh. Nosyrova et al., 2008].

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According to T.A. Syavineseka et al. (2008), almost all currently existing concepts consider hypertension as a disease of violation of regulatory mechanisms (E.E. Gogin, 1997 and M.S. Kushanovsky, 2002). All of them, to one degree or another, accurately describe the development of hypertension, but none of them provides an answer to the most important question why does hypertension arise? In this regard, since the beginning of the 90s, great hopes have been pinned on the achievements of the rapidly developing molecular genetic technology. A gene whose expression product can directly or indirectly participate in the development of pathology is called a candidate gene. These genes include genes for angiotensin II receptors type 1 angiotensin II, angiotensin-converting enzyme (ACE), β-adrenergic receptor subunits, nitric oxide synthase, proteins involved in the transport of sodium ions across the membranes of the renal tubules, etc. The nature of gene defects and their combinations is obviously not the same in different patients. The most studied ACE is a zinc containing protease that catalyzes the conversion of angiotensin I to angiotensin II. The ACE gene is mapped to chromosome 17q 23. The presence or absence (division / insertion; D / I) of the 287 bp fragment in the 16th side of the gene is used as a marker of ACE gene polymorphism. Structural polymorphism at this locus is called insertion-deletion (I / D), which is characterized by the Mendeleev type of study. The presence of the D allele is associated with a higher amount of circulating ACE (from 14% to 50%) and a higher activity of the tissue enzyme. Carriers of the I / I genotype have the lowest level of the enzyme, the I / D genotype is characterized by intermediate levels of ACE (G.A. Savinskaya et al. 2008). No specific genetic dominants responsible for the development and formation of hypertension have been established (Sirozhiddinova N.Z. et al., 2007). Genes involved in the regulation of water-salt metabolism in the kidneys are of particular interest, since impaired renal function and sodium reabsorption are associated with an increase in blood pressure. In particular, the genes encoding the b, -c, -d subunits of adducin can serve as an example (N.Z. Sirozhidinova et al., 2007; J.M. Saavedra, 2005). Adducin is expressed in all tissues and is involved in multiple functions, including cell movement and synaptic transmission (Y. Matsuoka et al., 2000). The role of adducin includes the stimulation of the activity of Na + -K + -ATP-ase, a key enzyme of Na transport through the renal tubules (Ferrandi et al., 2000).

According to Brigov A.N. et al. (2006), one of the main roles in the pathogenesis of hypertension is the hyperactivity of the sympathetic nervous system (A.N. Britov et al., 2006). This is proved by numerous studies of catecholomines in blood plasma, as well as by recording the activity of peripheral nerve fibers (G. Grassi et al., 1998). Moreover, several possible mechanisms of the formation of hypertension are considered: the central nervous mechanism of changes in ion exchange, impaired endothelial function, oxidative stress, along with the study of the importance of electrolyte metabolism in the pathogenesis of hypertension, there is growing interest in the role of trace elements (ME) in the development of cardiovascular diseases. There is little information that copper (Cu), zinc (Zn), iron (Fe), are integral parts of various enzymes, can have a significant effect on the development of hypertension, while the point of application of the action of ME is considered to be their effect on the functioning of pro- and antioxidant systems (A.R. Antonov et al., 2006; M.G. Yakobson, 2000).

In recent years, there has been a tendency to "tighten" the criteria for the diagnosis of hypertension. Thus, experts of the Joint National Committee (NOC) for the detection, assessment and treatment of high blood pressure (USA, 1993) recommended diagnosing hypertension with an increase in blood pressure of more than 140/90 mm Hg. and distinguish 4 stages. In 1999, the recommendations of the World Health Organization (WHO) and the International Society of

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Hypertension (ISHP) for the treatment of arterial hypertension were published, which provided a new classification of arterial hypertension. According to this classification, it is necessary to determine the degree of arterial hypertension, as well as to stratify the risk of developing cardiovascular complications to assess the prognosis[4,8,9].

Establishment of the "true" degree of blood pressure increase is possible only with newly diagnosed or untreated arterial hypertension. The blood pressure level is assessed based on the average values of at least two blood pressure measurements during at least two visits at intervals of 2 months. after the first detection of high blood pressure. The new classification of blood pressure levels has fundamental differences from the previous classifications [3,7,12,13]. The first important feature of the new classification is the identification of several categories of normal pressure, i.e. those values that cannot yet be called arterial hypertension (blood pressure <140 and 90 mm Hg). Distinguish between optimal, normal and high blood pressure. It is well known that there is a direct link between blood pressure levels and the risk of cardiovascular disease. Even in the range of normal blood pressure values (systolic <130 mm Hg, diastolic <85 mm Hg), those with the lowest blood pressure have a definite, however, the lowest risk of developing cardiovascular diseases. The second important feature of the new WHO classification of hypertension - ISHP (1999) is the rejection of the previously used (WHO, 1993) terms based on the value of diastolic blood pressure: mild (90-104 mm Hg), moderate (105-114 mm Hg) and severe (more than 114 mm Hg) forms. The refusal to use these terms is due to the fact that they often do not correspond to a long-term forecast. To characterize the degree of blood pressure increase in patients with arterial hypertension in the new classification, it is recommended to use the terms degree 1, degree 2, degree 3 of the disease instead of "stage", as it was in the WHO classification in 1993 (A.N. Okrokov, 2003).

The goal of modern antihypertensive therapy is cardiovascular protection, leading to a decrease in cardiovascular morbidity and mortality. Early diagnosis of hypertension is of great importance, allowing for an effective effect before changes occur in target organs, which can lead to the death of the patient (VT Ivashkin et al., 2001).

Until recently, the diagnosis of hypertension was made in those cases when, upon repeated measurements, systolic blood pressure (SBP) was at least 160 mm Hg. or diastolic blood pressure (DBP) of at least 95 mm Hg. These recommendations were based on the results of a single-stage survey of large groups of the population, while hypertension was defined as a condition in which the blood pressure level exceeds the average value of this indicator in a given age group by a value greater than twice the standard deviation [2,6,11,14,16].

In the early 90s, the AH criteria were revised towards their tightening. According to modern concepts, hypertension is a persistent increase in blood pressure (SBP above 140 mm Hg or DBP above 90 mm Hg). In people with increased emotionality, as a result of a stressful reaction to the measurement, overestimated data may be recorded that do not reflect the true state. As a result, misdiagnosis of hypertension is possible. To avoid such a condition, which has received the name "white coat syndrome" in the medical literature, rules for measuring blood pressure have been developed. Blood pressure should be measured with the patient sitting after 5 minutes. rest 3 times with an interval of 2-3 minutes. True blood pressure is calculated as the arithmetic mean between the two closest values. HELL below 140/90 mm Hg It is conventionally considered normal, but this level of blood pressure cannot be considered optimal if we take into account the risk of subsequent development of coronary artery disease and other cardiovascular diseases. The optimal blood pressure level from the point of

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view of the risk of developing cardiovascular diseases was established only after the completion of several long-term studies that included large groups of the population. The largest such prospective study was the 6-year MRFIT study (Multiple Risk Factor Intervention Trail, 1986). It involved 356,222 men aged 35 to 57 years without myocardial infarction in the prognosis. Analysis of the data obtained showed that the 6-year risk of developing fetal ischemic heart disease is the lowest among men with baseline DBP below 75 mm Hg. and SBP below 115 mm Hg, mortality from coronary artery disease is increased with DBP levels from 80 to 89 mm Hg. and SBP from 115 to 139 mm Hg. which are conventionally considered normal. According to Khodzhimetov A.K et al. X-ray ultrasound methods also play a significant role in the diagnosis and assessment of the effectiveness of treatment of patients with hypertension. The use of methods of X-ray ultrasound studies, along with clinical and biochemical studies, made it possible to identify the initial signs of hypertension and to carry out the treatment complex in dynamics (A.K. Khojimetova et al., 2008). The greatest difficulties arise in the diagnosis of the initial stage of hypertension. This is due to the lack of motivation in patients who feel healthy and ignore the need for in-depth examination. With the wider use of the methods of daily monitoring of blood pressure (ABPM) and self-monitoring of blood pressure (SAD), new criteria for the diagnosis of hypertension have emerged. ABPM allows you to identify the individual characteristics of the daily blood pressure profile, to assess the pressure load, which reaches its maximum values in people with LVH. The ABPM and ECHOEG methods make it possible to objectify the diagnosis of hypertension, significantly reducing the examination time (E.D. Dokina et al., 2008).

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