

COMPLICATIONS OF ARTERIAL HYPERTENSION

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Complications of arterial hypertension (AH), beginning to show a direct relationship with the level of blood pressure 145/95 mm Hg. Art., for many decades are the leading cause of death among all causes of death. Arterial hypertension, without a doubt, is the leading medical and social problem of our time, the role of which in mortality and disability of people continues to grow, despite the great attention paid to this problem by the scientific community, practitioners and authorities.

Against the backdrop of growing knowledge and progress in the field of pharmacology and therapy of hypertension, the frequency of achieving target blood pressure today in the United States and European countries has stabilized by 25-34%, in Russia in the 1990s. was - in men 5.7%, in women - 17.5%, decreasing with age[2]. According to the National Guidelines for the Prevention, Diagnosis and Treatment of Arterial Hypertension (draft) in Russia in 2006, this indicator slightly improved (21.5%)[2, 4]. Apparently, it is within these limits that one can speak of the limit of population possibilities of the unconditionally dominant drug therapy of hypertensive conditions today.

Historically, diastolic BP has been given more importance as a predictor of cerebrovascular and cardiac complications, which has affected the organization of major studies on the treatment of hypertension. We also fell under this influence at one time, concentrating on the predominant correction of diastolic blood pressure, assuming that its value indirectly determines the main area of interest of urologists - peripheral resistance and tissue perfusion, and systolic pressure is mainly an indicator of heart function, which itself will “sort out” with what frequency to it to work. Subsequently, it turned out that medical correction of systolic blood pressure



is even more difficult to achieve than diastolic blood pressure, and the latter is corrected unsatisfactorily.

Data from epidemiological studies before and after the 1990s confirm that both diastolic and systolic blood pressure are independently and linearly associated with the risk of cerebral stroke, coronary and renal complications. Most cases of stroke have been reported in patients with borderline or mild hypertension (from transient ischemic attacks to hemorrhage). It is now known that both systolic and diastolic BP levels correlate with the development and progression of renal failure, with systolic BP being an even more significant risk factor for kidney damage.[3].

The history of the study of hypertension (AH) and AH as a whole represents a change of brilliant paradigms, each of which reflected the current level of understanding of the etiology and pathophysiology of AH for its period. Without exaggeration, the symphony and logic of the pathophysiology of the formation, progression, stabilization and existence of hypertension can be called the "music of medicine" - a complex and harmonious cascade of complementary theories, models and concepts of metabolism in the beauty of their spatio-temporal totality, both in general and around each of the system-forming AG factors.

One of the most important manifestations of hypertension is a violation of the structure and function of "target organs", which include: the brain, heart, blood vessels, kidneys. Of these, the brain and heart are central, and the vessels and kidneys are peripheral organs of blood circulation regulation. In case of hypovolemia, shock, hemorrhage, heart failure, blood flow is redistributed due to spasm of the periphery in order to maintain a minimum level of perfusion pressure sufficient for the survival of the brain, heart and lungs in a catastrophe (crisis) of any origin. With perfusion pressure less than 80 mm Hg. Art. the kidney, as the main organ of peripheral regulation of blood flow, naturally ceases to exercise its filtration function.

With a feeling of deep respect for the founders, let us briefly note the main theories of the formation of the AG:

- I. Neurogenic concept of AH formation (external conditions and lifestyle, chronic stress, G.F. Lang, A.L. Myasnikov, 1930-40s); I
- I. The concept of impaired water-salt metabolism (the role of the kidneys, sodium and water retention A. Guyton, "salt theory", 1970s);
- III. "Membrane theory" of hypertension (Yu.V. Postnov, S.N. Orlov, genetically determined defect in plasma membranes, impaired calcium transport, 1960s);



IV. Genetic theory of hypertension (experimental model of genetically determined hypertension, K.Aoki, 1960s);

V. "Renin" theory of primary AH (V.Vertes, HRBrenner, JHLaragh 1970-1980s);

VI. Synthetic "mosaic" theory of AH (AH - compensation for decreased tissue perfusion due to the influence of eight. (In the last 20 years, more than 20 "candidate" genes have been identified, including the angiotensin II gene as a genetic marker of various myocardial remodeling variants, the aldosterone synthetase gene, NO - synthetases, haptoglobin, etc., the expression of which determines the functional activity of the humoral systems of the main factors - nervous, humoral, reactivity, volume, cardiac output, elasticity, vascular lumen diameter, blood viscosity - "Page's octagon", 1970s)[7]).

At the heart of our views lies the mechanistic concept of the relationship between "constriction" and "volume" that attracts with its simplicity outside the symptoms of heart failure: BP ultimately depends on the "size" of the arterial bed (bed) and the amount of fluid that fills it. From here, AH is conveniently subdivided into renin- and volume-dependent (congestive)[4, 7].

The experience of many doctors shows that if the manifestations of the metabolic syndrome are eliminated (The diagnosis of the metabolic syndrome is made in the presence of abdominal obesity (waist circumference in Europeans: more than 94 cm in men, more than 80 cm in women) and at least two of the following factors: triglyceride levels ≥ 150 mg/dL (1.7 mmol/L) or appropriate therapy, arterial hypertension (BP $\geq 130/85$ mmHg) or antihypertensive drugs for previously diagnosed hypertension, plasma glucose ≥ 100 mg/dL (5.6 mmol / l) or the presence of previously diagnosed diabetes mellitus (General Consensus of the International Diabetes Federation, 2005), hypodynamia and tissue hypoperfusion, everyday difficulties recede, then, as a rule, the problem of hypertension is also solved. Medicines for hypertension, no matter how perfect,[38, 45].).

The doctor cannot solve problems that relate to living conditions, interpersonal relationships, material well-being, the social status of the patient, which affect the course of diseases. Just as "social trust" in a representative of the medical profession determines the level of his "social responsibility", and vice versa.

According to the Stanford Heart Disease Prevention Program[eight]well-done media education influences health-related behavior. Numerous reviews show that the average person is often unreasonably optimistic about their chances of staying healthy. "Frightening Appeal", i.e. a message that creates fear in people that is likely



to cause them to change is the most common form of desired impact. According to the classic of psychological science Zimbardo F., "patient satisfaction creates fertile soil in which the seeds of consent can take strong roots"[8, p. 387] and the costs of successful health promotion campaigns not only pay off, but also outperform the often wasteful budgetary allocations for treatment. With the money and resources needed to personalize health education campaigns, i.e. to provide direct interpersonal influence on the patient and his individual learning, their effectiveness is greatly increased.

Even more important is the style of non-verbal communication, conveying a warm attitude, reflecting confidence in one's own competence and inspiring trust. A number of studies have shown the negative impact of physician dominance and superiority, the role of social isolation and support, and other aspects of the psychology of social influence.[36].

The "motivated patient" is the problem of the clinician, the result of his work, the "agent" of his successful influence and an example for the environment. Three-quarters of the time of work with the patient should be devoted to familiarization with the principles of the cardiovascular system in order to form the task and methodology for subsequent meaningful self-control, the inclusion of the "engineering thought" of the patient. The doctor must be convinced himself and convey confidence to the patient that any hypertension, in principle, can be cured. The patient must be given not only reliable information about the role of hypertension in the structure of mortality and disability, tell about the features of its course, but also be motivated to correlate quantitative estimates of his hemodynamic parameters in the self-control mode.

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