

# SPECIFICITY OF THE CLINICAL COURSE OF THE INITIAL STAGES OF HYPERTENSION IN ARID ZONES OF UZBEKISTAN AND NON-DRUG APPROACHES TO TREATMENT

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**Аннотация:** В статье описаны этиологические факторы, течение и риски развития артериальной гипертонии на ранних стадиях в жарком климате. Обобщены данные о патогенезе гипертонии и эффектах патогенетических вариантов симпатoadренальной и ренин-ангиотензиновой систем. Немедикаментозное лечение предлагается путем наблюдения за здоровым образом жизни пациентов из группы риска.

**Ключевые слова:** артериальная гипертония, артериальная гипертония, факторы риска, симпатoadренальная система, прессорные факторы, депрессорные факторы, тромбоэмболические осложнения

**Abstract:** The article describes the etiological factors, the course and risks of the development of hypertension in the early stages in a hot climate. The data on the pathogenesis of hypertension and the effects of pathogenetic variants of the sympatho-adrenal and renin-angiotensin systems are summarized. Non-drug treatment is proposed by observing a healthy lifestyle in patients at risk.

**Keywords:** hypertension, arterial hypertension, risk factors, sympatho-arenal system, pressor factors, depressor factors, thromboembolic complications.

Hypertension and its complications are considered to be one of the most pressing and social problems not only in the field of cardiology and therapy but also in medicine today. According to statistics, more than 1 billion people in the world suffer from hypertension. Hypertension is the leading cause of disability and mortality among diseases of the cardiovascular system. The incidence of dangerous complications such as myocardial infarction and stroke is high in hypertension. Hypertension remains the leading cause of chronic heart failure[1,p.2119; 2,p.1365]

The symptoms of the disease have been known since ancient times. Abu Ali ibn Sina, one of the founders of medical science, wrote about hypertension in his book, *The Laws of Medicine*. According to the book, rapid and irregular heartbeat is the main symptom of hypertension. According to the World Health Organization, today in the top ten causes of death worldwide, ischemic heart disease ranks first with 12.2%, followed by stroke with 9.7%. Complications of hypertension and myocardial infarction and stroke as a result of the disease are also common in people under 40 years of age. Based on this, it can be said that the age of onset of hypertension is also getting younger. After the age of 60, every second person has hypertension. The coexistence of hypertension with dyslipidemia and hemorrhagic disorders increases the incidence of dangerous complications such as myocardial infarction and stroke.

To date, the effect of meteorological factors on the level of arterial hypertension in patients suffering from diseases of the cardiovascular system, especially in patients with hypertension, is widely recognized and confirmed in a number of studies and studies. Studies have shown that climate change, such as sudden increases or decreases in air temperature, changes in atmospheric pressure, and increased humidity, lead to an increased risk of acute myocardial infarction and stroke and an increase in patient mortality.[3,p.15]

The problem that is the main focus of the International Medical Association in today's focus is this global temperature rise. A 2007 report by the IPCC noted that climate change would lead to an increase in morbidity and mortality due to extreme weather

conditions, as well as an increase in the incidence of cardiovascular disease, including hypertension.

The European Recommendation for the Diagnosis and Treatment of Hypertension noted for the first time that seasonal changes in arterial pressure are important, and that this condition is often associated with climate change. [4,p.1158; 5,p.305]

This leads to the development of diseases of the cardiovascular system, including hypertension, and the deepening of pathogenetic mechanisms in arid and hot arid zones of Uzbekistan. Yu.M. According to Petrov's book on Samarkand's climate and weather, the average daily air temperature and maximum air temperature will be higher during the summer months due to dry and hot air flows entering Samarkand through the Karakum and Kyzylkum deserts. According to the Uzbek Hydrometeorological Center, the average summer temperature in recent years has been 33 degrees Celsius. Dry and hot climates, on the other hand, naturally lead to a deterioration of blood rheology, an increase in blood viscosity, and an increase in erythrocyte aggregation. This leads to microreological and macroreological disorders. It also increases the formation of aggregates from blood-forming elements and the risk of thromboembolism. It is known that the volume flow rate is related to vascular and rheological factors. Changes in blood pressure usually have a high level of blood viscosity. Also, the higher the arterial blood pressure, the higher the blood viscosity. However, in dry and hot climates, a further increase in blood viscosity levels in the early stages of hypertension leads to the occurrence of microreological and macroreological disorders. In the early stages of hypertension, overweight patients are characterized by hyperlipidemia. This leads to atherosclerotic damage to the arteries, increased vascular stiffness, and subsequent damage to the target organs.[6,p.1630]

Although the etiology of hypertension remains unknown to date, a number of risk factors that predispose to the development of the disease have been studied. These include: hereditary predisposition, decreased physical activity - hypodynamics, obesity, excessive salt intake, excessive alcohol consumption, smoking.

According to the epidemiological survey, the majority of patients with hypertension have grade 1 arterial hypertension, and an increase in arterial hypertension from 115/75 mm Hg to every 20/10 mm Hg doubles the risk of possible complications in the cardiovascular system.[8,p.199]

In the early stages of hypertension, the activity of the sympatho-adrenal system increases. In 30-40% of patients there is an increase in the amount of norepinephrine and adrenaline in the blood.

It is important to form and follow a healthy lifestyle in patients in the early stages of hypertension. effective selection of drug and non-drug treatment prevents thromboembolic complications. This is of great importance in reducing disability and mortality rates. adherence to a healthy lifestyle is one of the most important non-drug treatments. Proper and rational nutrition: in the early stages of hypertension should follow the norm of salt intake. Salt should not exceed 5 grams in the daily ration. Regulate the consumption of strong foods that cause high blood pressure, ie horse meat, mutton, eggs, pastries, control blood pressure after consumption of such foods and take antihypertensive cocaine tinctures, if necessary, take medication on the advice of your doctor. should be done. The daily intake of fruits and vegetables in the daily diet should be 200-400 g, depending on the season. Strictly limit animal fats in the diet and consume vegetable fats in moderation as well. In the case of hypodynamics and overweight, of course, it is necessary to follow an active physical lifestyle, start the morning with light exercise and end the day with a walk after dinner. An active lifestyle is considered beneficial not only for diseases of the cardiovascular system but also for the musculoskeletal system. Typically, what type of exercise to engage in in the early stages of hypertension is chosen individually for each patient. Patients should be supervised by their physician when exercising: The patient's heart rate should not exceed 120-140 beats per minute during exercise, and physical activity should begin slowly. Exercise should be stopped immediately if the patient develops symptoms of shortness of breath, sweating and discomfort in the heart area. The most convenient method for patients is walking, it is advisable to

walk at a fast pace of 120 steps per minute and of course not less than an hour a day. Strict adherence to an active physical lifestyle is not only beneficial for patients with overweight and obesity, but also helps them to normalize body weight. Physical activity gives the expected effect when taken in conjunction with a diet. According to the data, the decrease in excess weight by 1 kg is 2 mm wire of arterial blood pressure. ust. leads to a decrease in Abandoning harmful habits altogether has a positive effect not only on the patient but also on his family members, both physically and mentally, leading to an improvement in social aspects. Given the increase in blood pressure in adverse climatic conditions, including dry and hot climates, it is advisable for patients to sit at home as much as possible in unfavorable climates and monitor blood pressure frequently on those days, taking antihypertensive drugs on the advice of the treating physician.[9,p.98]

In the early stages of hypertension, the following non-drug effective treatments can be used:

1. Lifestyle changes and strict adherence to the healthy lifestyle mentioned above;
2. Regular consumption of various medicinal herbs (deer grass, lemon grass, mint) and fruits with hypotensive and hypolipidemic properties with the help of folk medicine, such as lemon, shotut fruit is highly effective in the early stages of hypertension.
3. Autotraining and hypnosis using psychological methods are especially helpful in hypertension caused by an increase in sympathetic tone. Psychological methods are also a great help in giving up harmful habits, overweight problem and increasing resistance to daily stresses.
4. Reflexology, ie acupuncture, is also very effective in some patients
5. Diet (to prevent metabolic syndrome and atherosclerotic complications).

Of course, it is advisable to carry out non-drug treatment in combination with drug treatment in each patient, depending on the nature of the disease. Especially in patients with overweight, dyslipidemia and a tendency to hypercoagulability. Hypotensive drugs are selected according to the pathogenic variants of the disease. The use of small doses of beta-blockers is effective if the onset of hypertension in the

pathogenesis of the disease begins with an increase in the activity of the sympatho-adrenal system. If the renin-angiotensin-aldosterone system is the main link in the pathogenesis of the disease, the use of angiotensin converting enzyme inhibitors together with hypotensive efficacy prevents left ventricular myocardial hypertrophy.

**Conclusion:** Thus, in the early stages of arterial hypertension, which develops in dry and hot climates, a number of hemorrhagic and dyslipidemic changes occur, although the target organs are not damaged. This, in turn, requires timely correction of these changes. In this case, the use of non-drug treatments can greatly help to prevent the development of complications.

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