



## Modern Methods of Treating Hypertension in Pregnant Women

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**Abstract:** Arterial hypertension is a syndrome of increased systolic and (or) diastolic blood pressure. To make such a diagnosis, the systolic level should be above 140 mmHg, and diastole should be above 90 mmHg. This condition is observed with repeated measurements, at different times of the day and under different conditions (rest, activity, waking up after sleep). Hypertension is also called hypertension or essential hypertension. The term "hypertension" was introduced in 1948 by the Soviet scientist GF Lang. Hypertension is one of the most common forms of arterial hypertension. According to statistics, about 30% of the adult population suffers from it, and the probability of developing the pathology increases over the years. With a sharp and significant increase in pressure, an attack called "hypertensive crisis" may occur. This is a dangerous condition that requires immediate medical attention, such as intravenous therapy.

**Key words:** hypertension, development, prevention, high risk groups, levels Main symptoms: feeling of heaviness and fullness in the head, dizziness, tinnitus, rapid heartbeat, chest pain, shortness of breath at rest or with slight physical exertion, fog before the eyes and "floating", headaches of varying intensity, nausea, loss of balance, insomnia, sleep disorders.

### CAUSES OF DEVELOPMENT

The etiology of arterial hypertension is not fully understood. Therefore, primary (basic) hypertension is the most common in medical practice.

There are a number of factors that lead to an increase in pressure:

age - often over the years, patients note an increase in pressure (especially systolic);

obesity and overweight;

complex family history - arterial hypertension is observed twice as often in patients with high blood pressure in one or both parents;

excessive consumption of salt;

alcohol abuse;

long-term chronic stress, emotional overload;

sedentary lifestyle;

hormonal imbalance (often observed in women during pregnancy or menopause);



### **metabolic diseases, diabetes mellitus, atherosclerosis.**

The most common primary arterial hypertension, when it is difficult to determine the exact cause of the disease. With a constant increase in pressure and the presence of additional factors, a diagnosis of secondary arterial hypertension can be made.

Further treatment tactics depend on determining the cause.

What is arterial hypertension? This is primarily a pathology caused by a wrong lifestyle. Therefore, regular changes and giving up bad habits are always included in the treatment program.

Diseases associated with high blood pressure:

kidney diseases - pyelonephritis, arterial stenosis, connective tissue changes, polycystic disease, glomerulonephritis;

diseases of the endocrine system - hyperthyroidism, hypothyroidism, acromegaly, diseases of the adrenal cortex, Itsenko-Cushing syndrome;

### **Obstructive sleep apnea syndrome.**

Long-term use of glucocorticosteroids, non-steroidal anti-inflammatory drugs and oral contraceptives can lead to a sustained increase in systolic and diastolic blood pressure. When examining a patient, the doctor usually carefully examines the medical history, identifies factors that can lead to the development of arterial hypertension.

### **PATHOGENESIS**

Let's consider the mechanism of arterial hypertension.

Under the influence of adaptive factors (heredity, age, excess weight, endocrine diseases, etc.), the work of the endothelium is disturbed over time. It is the inner layer of the arteries and is responsible for the tone and lumen of the blood vessels. Endothelium is a local blood pressure regulation system.

There are other mechanisms of pressure regulation, such as the central nervous system (CNS), organs of the endocrine system, and the kidneys.

If the functioning of one of the regulatory mechanisms is disturbed, blood pressure rises.

Gradually, the walls of the vessels change - spasm occurs in small ones, atherosclerotic plaques are formed in large ones and atherosclerosis develops. The walls of the heart thicken, resulting in myocardial hypertrophy. The left atrial and ventricular spaces expand. High blood pressure destroys the glomeruli, which leads to deterioration of the blood filtration system. Due to changes in blood vessels in the brain, small bleeding foci and separate areas affected by necrosis appear.

### **There are three stages of hypertension.**

Stage 1. In this case, there is no damage to the heart, brain or kidneys. They are otherwise called target organs. For example, there is no hypertrophy of the heart muscle or thickening of the heart wall. Atherosclerosis, as a rule, does not develop. In the 1st stage, the systolic pressure level is 140-159 mmHg, diastolic - 90-99 mmHg. Heart rate at rest is more than 80 beats per minute. The patient may experience headaches, fatigue, difficulty concentrating, confusion, vision problems, and shortness of breath. Often the symptoms are not noticed for a long time and the patient may not pay attention to them. With regular monitoring by a cardiologist and compliance with medical instructions, serious medical intervention is not required.

Stage 2: Asymptomatic damage to the main target organs. Blood pressure is in the range of 160-179 mm Hg. Art. (systole) or 100-109 mm Hg. Art. (diastole). Moderate hypertension is diagnosed. At this stage, symptoms increase: dizziness, tinnitus, poor sleep, rapid heartbeat, anxiety and irritability are possible.



Stage 3: Blood pressure rises above 180 mm Hg. Art. (systolic) or above 110 mm Hg. Art. (diastolic). With such values, "severe hypertension" is diagnosed. In addition to serious damage to the target organ, the following clinical manifestations appear:

from the heart - angina pectoris, heart attack, arrhythmia, heart failure;

from the brain - strokes, hypertensive encephalopathy, dementia;

organs of vision - for example, hemorrhages in the retinal area;

kidneys - chronic renal failure (diagnosed by elevated creatinine level);

veins: aortic aneurysm, arterial occlusion.

In most cases, blood pressure rises asymptotically, and the pathology is detected only during an objective examination of the patient.

In the 2nd and 3rd stages, it is necessary to take drugs both to lower blood pressure and to treat related pathologies. The stages of arterial hypertension are determined by the damage to the target organs and accompanying diseases.

In the advanced form of the disease, complete treatment is not possible - the body has already adapted to constant high blood pressure. In the absence of therapy or improper treatment measures, serious complications, including death, may occur.

### **DANGEROUS**

At the initial stage, pathological changes in the body are not observed. The most dangerous is severe or long-term hypertension that affects target organs. Mainly heart and blood vessels, brain, organs of endocrine system, adrenal glands and kidneys are affected. In the absence of proper treatment, pathological changes occur in small arteries and arterioles, as well as in large vessels. The lumen of the vessel narrows.

Over time, these changes lead to diseases of the cardiovascular system and kidneys. Atherosclerosis of the aorta develops against the background of arterial hypertension.

In the third stage, the load on the veins increases rapidly. At the same time, the cardiovascular system undergoes pathological changes. If you have high blood pressure, if you do not take immediate action, you may experience the following diseases:

myocardial infarction;

cardiac ischemia (CHD);

pulmonary edema;

acute heart failure;

angina pectoris;

atrial fibrillation;

hemorrhagic stroke;

kidney failure;

pathology of the retina;

dementia, memory impairment.

Also, in the third stage, a hypertensive crisis can appear at any time. At the same time, all the characteristic symptoms of hypertension increase and the pressure reaches the maximum level.

The likelihood of developing complications depends on a number of factors - age, overweight, diabetes, smoking and alcohol consumption, genetic predisposition.



Myocardial infarction, stroke and rupture of the aneurysm are the most dangerous acute conditions leading to death.

Often, a short time passes from the appearance of the first symptoms to the development of serious complications. Therefore, when the first signs of hypertension appear, you should contact a cardiologist and monitor your blood pressure.

### **DIAGNOSTICS**

If you notice symptoms of high blood pressure, make an appointment with a cardiologist. The doctor will study your medical history and conduct a detailed survey to create a complete and objective picture of the disease. What information you should tell your doctor:

symptoms that bother you, how they are expressed, under what conditions they appear;

how often symptoms of arterial hypertension appear;

are there serious heart and vascular diseases among close relatives;

are there chronic diseases of other systems and organs;

Do you take medications to normalize blood pressure (names, duration of use, exact dosages).

Then the doctor will conduct a preliminary examination. The examination includes listening to the heart (auscultation) and measuring blood pressure using a tonometer.

A cardiologist can make a preliminary diagnosis based on medical history, examination, and measurements (systolic blood pressure greater than 140 mm Hg and diastolic blood pressure 90 mm Hg or greater). Usually, the doctor recommends undergoing additional diagnostics to clarify the diagnosis, determine the cause of high blood pressure and the stage of hypertension.

### **Laboratory tests are performed to detect hypertension:**

general clinical blood test;

biochemical blood test (glucose, creatinine, total cholesterol, triglyceride level);

lipid profile analysis (lipid profile);

general urinalysis.

Instrumental diagnostics:

electrocardiogram (ECG);

echocardiography (ultrasound examination of the heart) - allows to identify pathological changes in the structure of the organ, for example, thickening of the wall of the left ventricle;

ultrasound examination of the kidneys;

ophthalmoscopy - examination of the fundus of the eye, which is indicated for signs of retinal damage due to increased blood pressure.

Instrumental studies help to identify complications caused by hypertension and prevent further deterioration of the situation in time.

### **Daily monitoring - ABPM**

The most effective method for diagnosing hypertension is 24-hour monitoring (ABPM). The study allows you to measure pressure continuously over a 24-hour period, including periods of activity and sleep. This type of monitoring provides more accurate information about blood pressure abnormalities (than a single measurement in the doctor's office).

During the day, you wear a small device attached to your belt. The monitor is attached to a cuff on the upper arm. Automatically inflates and deflates regularly to measure blood pressure. For right-



handed people, the cuff should be placed on the left hand and the left hand on the right. The observation period lasts 24 hours, during which you should go about your daily activities.

Before the study, you should refrain from caffeine, alcohol and smoking - these factors can affect blood pressure. When wearing the monitor, it is best to wear loose clothing that does not restrict movement. During the day, you will need to keep a diary of observations, in which you will need to record the main points of activity.

**Show in the diary:**

physical activity (eg, walking outside, climbing stairs, timed);  
stress, emotional tension;  
when you go to sleep and when you wake up (including naps);  
time to take medication.

Download the heart rate and blood pressure monitoring diary

If during monitoring you feel pain in the heart, headache, heart palpitations, heart rhythm disturbances, record these feelings in your diary.

**TREATMENT**

How to treat high blood pressure? Drug therapy is often used to combat arterial hypertension. A cardiologist can prescribe antihypertensive, vasodilator and other drugs. Treatment of hypertension is carried out at home, hospitalization is required only in cases of severe hypertension.

The following classes of drugs are most effective:

diuretics or diuretics;  
beta-blockers;  
alpha-blockers;  
angiotensin-converting enzyme inhibitors;  
calcium channel blockers;  
centrally acting drugs.

Each group of drugs includes a number of drugs, the doctor recommends specific names; All of them are not well combined with each other, so you cannot take the medicine yourself without the supervision of a cardiologist.

The selected treatment strategy depends on the age of the patient, the stage of the disease, the cause of hypertension, concomitant diseases and other factors.

**Drug-free treatment methods**

These include: therapeutic diet with reduced calorie content, gymnastics (physical therapy), massage. In the case of arterial hypertension, it is necessary to correct the drinking regime and reduce salt consumption. Chronic diseases require the help of specialized specialists, for example, a nutritionist or an endocrinologist. It is necessary to work with a psychologist to stabilize the psycho-emotional state.

**PREVENTION**

Adherence to the recommendations will help prevent the development of arterial hypertension. If the symptoms of the disease are already present, prevention and a healthy lifestyle will slow down the development:



Control your body weight. Excess weight is one of the main triggering factors for the development of hypertension. According to statistics, every kilogram of weight added increases the average blood pressure level by one to two mmHg. Maintaining a normal body weight through a balanced diet and exercise can help prevent hypertension.

Eat right. The diet should be balanced, rich in fruits, vegetables, whole grains, lean protein and low-fat dairy products. Give preference to lean meat or fish, vegetable oil, low-fat cottage cheese and nuts. Foods rich in potassium and magnesium are especially useful for hypertensive patients - greens, figs, nuts, legumes, beans, raisins. It is important to avoid foods rich in saturated and trans fats, excess salt and sugar.

Give up bad habits. Smoking and alcohol damage blood vessels and increase the risk of heart disease and stroke. Thus, with complete withdrawal from nicotine, the risk of death from heart and vascular diseases is reduced by half. Every cigarette smoked quietly raises blood pressure levels.

Do moderate physical activity. Exercise regularly and move more: it helps to maintain a normal weight, strengthens the cardiovascular system and lowers blood pressure. Try to walk often at a moderate pace and exercise for 20-30 minutes a day (at least 3-4 times a week). Watch for shortness of breath, chest pain, or arrhythmia.

Avoid stressful situations. Excitement, anxiety, fear - all these contribute to a jump in blood pressure. It is impossible to completely protect yourself from stress, so try to respond to it adequately. Avoid overwork and fatigue, alternate mental and physical work.

Timely treatment of chronic diseases, kidney diseases and organs of the endocrine system. If you have diabetes, monitor your blood sugar levels and avoid sudden fluctuations.

Get enough sleep. Chronic sleep deprivation is associated with the risk of hypertension. To prevent the development of pathology, try to sleep 7-8 hours a day.

## FORECAST

The condition of the patient depends on the stage of development of the pathology, the presence of complications from the cardiovascular system, as well as the age of the patient. Risk factors are also important - smoking, alcohol abuse, overweight, high cholesterol, frequent stress.

In the 1st stage of arterial hypertension, if medical instructions are followed, the prognosis is favorable, the patient feels good. In the 2nd stage, if the blood pressure level is not normalized in time with medication, the disease develops and moves to the most severe stage, the 3rd stage. In order to prevent your health from deteriorating, you should undergo regular check-ups with a cardiologist and control your blood pressure.

## Reference:

1. *Болотских В. М. Болотских О. И.* Клиническое обоснование активно-выжидательной тактики ведения родов, осложненных преждевременным излитием околоплодных вод. // Журнал акушерства и женских болезней. — 2007. — Т. LVI, № 3. — С. 3-9.
2. *Васильев С. А.* Плазменный фибронектин при патологии системы крови: автореф. дис. ... канд. мед. наук. — М. 1987. — 21 с.
3. *Громова А. М.* Прогнозирование и профилактика преждевременного излития околоплодных вод при доношенной беременности: дис. ... д-ра мед. наук. — М. 1992. — 370 с.
4. *Долгов В. В., Свирин П. В.* Лабораторная диагностика нарушений гемостаза. — М.: Триада, 2005. — 227 с.
5. *Шавази Н., Халилова Д.* Медико-социальная проблема детей с ограниченными возможностями // Журнал гепато-гастроэнтерологических исследований. — 2021. — Т. 2. — №. 3.2. — С. 56-62.



6. S. N. N. B. The Role Of Fetal Fibronectin In The Prediction Of Premature Births Shavazi Nn (Republic of Uzbekistan) Email: Shavazi451@scientifictext.ru.
7. Shavazi N. N., Babamuradova Z. B. Ratio Of Pro-And Antiangiogenic Factors In Pathogenesis Of Premature Delivery In Pregnant Women Against Background Of Undifferentiated Connective Tissue Dysplasia.
8. Nuraliyevna S. N., Dilshodovna J. M. MORPHOFUNCTIONAL STRUCTURE OF THE PLACENTA IN PREMATURE LABOR //Galaxy International Interdisciplinary Research Journal. – 2022. – Т. 10. – №. 4. – С. 381-384.
9. Ахтамова Н. А., Шавази Н. Н. PREDICTION OF OBSETRIC BLOOD LOSS IN WOMEN WITH PRETERM BIRTH (LITERATURE REVIEW) //УЗБЕКСКИЙ МЕДИЦИНСКИЙ ЖУРНАЛ. – 2022. – Т. 3. – №. 5.
10. Nuralievna S. N., Islamovna Z. N., Rakhimovna K. D. Prediction of Premature Outflow of amniotic fluid in Preterm pregnancy //International Journal of Psychosocial Rehabilitation. – 2020. – Т. 24. – №. 5. – С. 5675-5685.
11. Shavazi N. N. The nature of changes markers of dysfunction of the endothelium in blood of women with premature bursting of amniotic waters //Journal of Advanced Medical and Dental Sciences Research. – 2021. – Т. 9. – №. 6. – С. 6-9.
12. Nuraliyevna S. N. et al. Total gisterektomiyaning subtotal gisterektomiyadan ustunvorligini tahlillash //Journal of biomedicine and practice. – 2022. – Т. 7. – №. 3.
13. Shavazi N. N. Informativity of the indicators of blood allowing to predict premature water breaking at prematurely born pregnancy //American Journal of Medicine and Medical Sciences.-America. – 2020. – С. 5-8.
14. Nasyrovich S. S. et al. PREDICTORS OF BLEEDING IN PRETERM LABOR: RETROSPECTIVE OBSERVATIONAL //Journal of Modern Educational Achievements. – 2023. – Т. 5. – №. 5. – С. 185-196.
15. Shavazi N., Akhtamova N., Katkova N. Perinatal risk of premature birth: New obstetric opportunities //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 413. – С. 03035.
16. Sattarova N., Shavazi N. PERINATAL RISK OF PREMATURE BIRTH: NEW OBSTETRIC OPPORTUNITIES //International Journal of Medical Sciences And Clinical Research. – 2024. – Т. 4. – №. 02. – С. 41-51.
17. Шавази Н. Н. и др. ПРЕЖДЕВРЕМЕННЫЕ РОДЫ: ОДИН СИМПТОМ МНОГО ПРИЧИН //ЖУРНАЛ ГЕПАТО-ГАСТРОЭНТЕРОЛОГИЧЕСКИХ ИССЛЕДОВАНИЙ. – 2022. – №. SI-3.
18. Jalilova D. M., Shavazi N. N. Prognosis of Fetoplacental Insufficiency in Pregnant Women with Preterm Obstetric Care and Optimize Preventive Measures //International Journal of Integrative and Modern Medicine. – 2024. – Т. 2. – №. 5. – С. 323-327.
19. Шавази Н. Н. Современные подходы в диагностике преждевременного разрыва плодных оболочек у беременных женщин //Новый день в медицине. – 2020. – №. 1. – С. 453-456.
20. Nuralievna S. N., Akbarjonovna A. N., Farkhodovna R. N. Management of the Reatening Preterm Birth //Texas Journal of Medical Science. – 2023. – Т. 17. – С. 25-38.