

EARLY DETECTION AND TREATMENT OF ARTERIAL HYPERTENSION

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Abstract: Arterial hypertension is one of the most common diseases of the cardiovascular system. This disease often progresses for a long time without noticeable symptoms and can lead to serious complications. This article highlights the causes of arterial hypertension, the mechanisms of its development, methods of early diagnosis, and modern treatment principles based on scientific sources. In addition, issues of disease prevention and the prevention of its complications are also discussed.

Keywords: arterial hypertension, blood pressure, diagnostics, antihypertensive drugs, prevention.

Introduction: Arterial hypertension is one of the most urgent problems of modern medicine. Millions of people around the world live with this disease. According to statistical data, approximately 30–40% of the adult population has elevated arterial blood pressure. The main danger of this disease is that it often develops without noticeable symptoms. Arterial hypertension leads to the development of serious complications such as ischemic heart disease, myocardial infarction, stroke, and renal failure. Therefore, early detection and proper treatment of this disease are among the important tasks of the healthcare system.

Relevance of the Study: Arterial hypertension is one of the most common pathologies among cardiovascular diseases. Currently, this disease affects millions of people worldwide and is considered one of the main risk factors for the development of serious complications such as ischemic heart disease, myocardial infarction, stroke, and renal failure. Another important feature of this disease is that it often develops without clear clinical symptoms for a long period of time. For this reason, many patients consult a doctor only at the later stages of the disease. Arterial hypertension significantly negatively affects public health and leads to an increase in disability and mortality rates. Therefore, early detection of the disease, timely identification of risk factors, and the application of effective treatment methods are among the most important tasks of modern medicine. This study is devoted to the investigation of early detection and treatment of arterial hypertension, which contributes to reducing complications and improving the quality of life of patients.

Purpose of the Study: The main purpose of this study is to investigate the importance of early detection of arterial hypertension, analyze its causes and pathogenesis, and study modern diagnostic and treatment methods based on scientific sources.

Research Objectives: Based on the purpose of the study, the following objectives were determined:

1. To study and analyze scientific literature related to arterial hypertension.
2. To identify the causes and mechanisms of development of arterial hypertension.



- 3.To study diagnostic methods used for early detection of the disease.
- 4.To analyze modern antihypertensive drugs used in the treatment of arterial hypertension.
- 5.To develop recommendations for the prevention of the disease and its complications.

Main Part: Arterial hypertension is a chronic disease characterized by persistently elevated arterial blood pressure. Normally, the blood pressure of a healthy person is about 120/80 mmHg. If the systolic pressure exceeds 140 mmHg or the diastolic pressure exceeds 90 mmHg, arterial hypertension is diagnosed. Arterial hypertension is divided into two types: Primary (essential) hypertension – the exact cause is unknown and it is the most common type. Secondary (symptomatic) hypertension – develops as a result of other diseases. The etiology and pathogenesis of arterial hypertension involve many factors that play an important role in the development of the disease. Hereditary factors. If parents have arterial hypertension, the risk of developing this disease in their children is also high. Other risk factors. The following factors increase the risk of developing the disease: excessive salt consumption, obesity, physical inactivity, stress, smoking, alcohol consumption. The following systems play an important role in the development of arterial hypertension: activation of the sympathetic nervous system, activation of the renin–angiotensin–aldosterone system, decreased elasticity of blood vessel walls. As a result, blood vessels constrict and arterial blood pressure increases. Early Detection of Arterial Hypertension. Early detection of the disease is important for preventing complications. Blood pressure measurement. The main diagnostic method for arterial hypertension is measuring blood pressure. Measurements should be taken in a calm state and repeated several times.

Laboratory tests. The following examinations are recommended: complete blood count, biochemical blood test, blood glucose level, cholesterol level, urinalysis.

Instrumental examinations. The following methods are used to detect complications of the disease: electrocardiography (ECG), cardiac ultrasound examination, kidney ultrasound examination, fundus examination. Treatment of Arterial Hypertension. The treatment of arterial hypertension is complex and includes lifestyle modification and the use of medications. Non-pharmacological treatment: reducing salt intake, normalizing body weight, increasing physical activity, reducing stress, eliminating harmful habits.

Pharmacological treatment. The following drugs are used in the treatment of arterial hypertension:

ACE inhibitors: enalapril, captopril.

Angiotensin receptor blockers: losartan, valsartan.

Calcium channel blockers: amlodipine, nifedipine.

Diuretics: hydrochlorothiazide, furosemide.

Beta-blockers: metoprolol, propranolol.

Prevention of Arterial Hypertension. Prevention of arterial hypertension includes: maintaining a healthy lifestyle, limiting salt intake, increasing physical activity, controlling body weight, regular monitoring of blood pressure.



Conclusion: Arterial hypertension is one of the most common and socially significant diseases of the cardiovascular system. This disease often develops for a long time without clear clinical symptoms; therefore, patients frequently consult a doctor only in the later stages of the disease. As a result, severe complications such as stroke, myocardial infarction, heart failure, and renal failure may develop. Therefore, early detection and timely treatment of arterial hypertension are among the most important tasks of medical practice. Along with hereditary factors, many external factors such as improper nutrition, excessive salt intake, physical inactivity, obesity, stress, and harmful habits also play an important role in the development of the disease. For this reason, promoting a healthy lifestyle is of great importance in the prevention of arterial hypertension. Increasing public medical awareness and regular preventive examinations help detect the disease at an early stage. Modern medicine uses various diagnostic methods to detect arterial hypertension. Regular measurement of blood pressure, laboratory tests, and instrumental examinations allow early diagnosis of the disease. Early diagnosis plays a crucial role in preventing severe complications in patients.

The treatment of arterial hypertension requires a comprehensive approach. In addition to lifestyle modification, proper nutrition, increased physical activity, and weight control, antihypertensive medications are widely used. ACE inhibitors, angiotensin receptor blockers, calcium channel blockers, diuretics, and beta-blockers are commonly used to effectively control arterial blood pressure. Early detection of arterial hypertension, reduction of risk factors, implementation of preventive measures, and the use of modern treatment methods can significantly reduce complications and mortality associated with this disease. Therefore, regular medical check-ups, adherence to a healthy lifestyle, and following doctors' recommendations are of great importance for the population.

References

1. World Health Organization. Hypertension: Key facts. Geneva, 2023.
2. European Society of Cardiology, European Society of Hypertension. Guidelines for the Management of Arterial Hypertension. 2018.
3. American Heart Association. Guideline for the Management of High Blood Pressure in Adults. 2017.
4. Harrison's Principles of Internal Medicine. McGraw-Hill Education, 2018.
5. Goodman & Gilman's The Pharmacological Basis of Therapeutics. McGraw-Hill, 2018.
6. Ministry of Health of the Republic of Uzbekistan. Clinical Protocols for Diagnosis and Treatment of Arterial Hypertension. Tashkent, 2021.
7. Propedeutics of Internal Diseases. Tashkent, 2020.
8. Clinical Pharmacology. Tashkent, 2019.

