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EARLY RISK FACTORS FOR ARTERIAL HYPERTENSION AND FEATURES OF ITS ASSOCIATION WITH OTHER DISEASES

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Abstract. *Pulmonary arterial hypertension (PAH) is a rare dyspnoea-fatigue syndrome caused by a progressive increase in pulmonary vascular resistance and eventual right ventricular (RV) failure. In spite of extensive pulmonary vascular remodelling, lung function in PAH is generally well preserved, with hyperventilation and increased physiological dead space, but minimal changes in lung mechanics and only mild to moderate hypoxaemia and hypocapnia. Hypoxaemia is mainly caused by a low mixed venous oxygen tension from a decreased cardiac output. Hypocapnia is mainly caused by an increased chemosensitivity. Exercise limitation in PAH is cardiovascular rather than ventilatory or muscular. The extent of pulmonary vascular disease in PAH is defined by multipoint pulmonary vascular pressure–flow relationships with a correction for haematocrit. Pulsatile pulmonary vascular pressure–flow relationships in PAH allow for the assessment of RV hydraulic load. This analysis is possible either in the frequency domain or in the time domain. The RV in PAH adapts to increased afterload by an increased contractility to preserve its coupling to the pulmonary circulation. When this homeometric mechanism is exhausted, the RV dilates to preserve flow output by an additional heterometric mechanism. Right heart failure is then diagnosed by imaging of increased right heart dimensions and clinical systemic congestion signs and symptoms. The coupling of the RV to the pulmonary circulation is assessed by the ratio of end-systolic to arterial elastances, but these measurements are difficult. Simplified estimates of RV–pulmonary artery coupling can be obtained by magnetic resonance or echocardiographic imaging of ejection fraction.*

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Key words: *Hypertensive disease, RAA system, myocardial infarction, coronary artery disease, heart failure.*

INTRODUCTION: The normal value of blood pressure for an adult is systolic (high) pressure of 120 mm Hg and diastolic (low) pressure of 80 mm Hg. The first reading is when the heart is contracting, and the second pressure is when the heart is relaxing. Of course, these indicators are relative averages, each body has its own normal blood pressure. Hypertension means blood pressure above 140 mm Hg, and diastolic blood pressure above 90 mm Hg. Blood pressure higher than these values requires special treatment measures. If arterial blood pressure is 180 to 110 and more, immediate medical attention is required.

In 90% of cases, it will not be possible to determine the cause of hypertension. This condition is called primary hypertension. Secondary hypertension (10%) appears as a consequence or complication of another disease. Such diseases can include:

Atherosclerosis;

Kidney and adrenal gland diseases

Dysfunction of the thyroid gland.

Hypertension, also known as high blood pressure, is a long-term natural condition in which the blood pressure in the arteries is persistently elevated. Long-term high blood pressure is a major risk factor for stroke, coronary artery disease, heart failure, atrial fibrillation, peripheral arterial disease, vision loss, chronic kidney disease, and dementia. According to the World Health Organization, hypertension currently affects more than 1 billion people worldwide, and this number continues to grow. For this reason, preventing hypertension and preventing it from causing serious complications is one of the main problems of every cardiologist, as well as other doctors.

METHODS AND LITERATURE ANALYSIS.

In order to prepare this article, PubMed, Google Scholar and other scientific databases were searched for keywords such as ―Hypertensive disease‖ and ―Arterial hypertension‖. Articles in Uzbek, Russian and English languages

published in the period from 2000 to 2023 were analyzed. The selected articles were analyzed in terms of pathogenesis, clinical signs, diagnostic methods, principles of treatment and prevention of complications.

RESULTS.

Hypertensive disease, primary (essential) arterial hypertension, idiopathic arterial hypertension is a common (up to 75%) increase in arterial blood pressure in humans.

Hypertension is of two types depending on the clinical course:

1) quiet, lasting for a long time

2) severe, rapidly developing form that causes brain, kidney failure and visual impairment in a short period of time.

According to the reasons of origin:

-Primary- the presence of a genetic predisposition of unknown etiology.

- Secondary - symptomatic arterial hypertension: - kidney diseases, endocrine pathologies, central nervous system, pregnancy taxicosis, drugs that increase arterial blood pressure, external environment, arteriosclerosis.

- The etiology is unknown.

Risk factors:

- Unchangeable risk factors: - Age; - Sex; - hereditary predisposition - chronic diseases that have a negative effect on the cardiovascular system (diabetes, rheumatoid arthritis, gout); - Age-related changes in blood vessels;

-Modifiable risk factors: -Overweight, sedentary lifestyle; - experiencing regular emotional stress, depression, tragic events, loss of loved ones; - strong nervous tension due to problems in business, work;

-brain injuries (car accident, fall, hypothermia); -viral and infectious diseases (meningitis, sinusitis, sinusitis);

- the high level of cholesterol in the blood, as a result of which accumulations are formed on the walls of blood vessels;

-harmful habits (smoking, drinking alcoholic beverages, excessive coffee consumption);

- eating a lot of salt during the day;
- increase adrenaline in the blood;
- sitting in front of the computer for a long time;
-less walking in the open air, etc.

Pathogenesis:

RAA system activation. The classification of hypertension was adopted by the World Health Organization

The classification of hypertension consists of the following stages:

The indicator of the increase in blood pressure of the first stage is higher than 140/90 mm Hg (for example, 150-180/90-* 105) without signs of damage to the central nervous system, cardiovascular and renal systems, does not last for a long time, and after the patient recovers from suffering and after drinking antihypertensive and sedative drugs and giving the body a certain period of rest, its condition improves and arterial pressure readings will soon moderate.

In stage II, the systolic value of arterial pressure can be equal to 160-179 mm Hg, and the diastolic value can be equal to 100-109 mm Hg and even higher. At this stage, the pathological change is determined mainly by hypertrophy of the left ventricle of the heart, as well as diffuse or focal narrowing of retinal vessels, microalbuminuria, i.e., a partial increase in the concentration of protein in the urine and keratin in the blood plasma. Atherosclerotic changes (platelets) can be detected by ultrasound examination or angiography (carried out in femoral arteries, aorta, iliac and femoral arteries). Clinical complaints often consist of headaches, dizziness (hypertensive crises), pain in the heart area, discomfort.

In the III stage, blood pressure indicators in patients are higher (systolic-180-209 mm, and diastolic equal to and higher than 110-119 mm Hg) and constant. The clinical picture of this stage is diverse, pathological changes are observed not only in the cardiovascular system (angina, myocardial infarction), but also in the blood vessels of the brain (hemorrhagic stroke, encephalopathy), kidney failure (nephroangiosclerosis), and retinal hemorrhages. When such severe complications occur, blood pressure can decrease or even normalize.

Hypertensive crisis - a sudden increase in blood pressure and blood pressure readings exceeding critical scales are often manifested by the following symptoms:

Difficulty breathing;

Chest pain, tachycardia;

Severe headache, dizziness;

Vision problems, eye redness, increased intraocular pressure;

Nausea and vomiting;

Redness of the skin and a slight increase in temperature;

Paleness of certain areas of the body or hands and feet.

The above-mentioned symptoms can also occur in other diseases, so it is necessary to measure the blood pressure as soon as the symptoms appear, and if the indicators are at a critical level, it is necessary to immediately seek emergency medical help.

The main complaints of hypertension:

Heart - pain in the area of the heart,

- rapid heartbeat

- shortness of breath if heart failure is added

Brain - headache - squeezing, stabbing, in the temple, in the back of the head - ringing in the ears - darkening of the front of the eyes - dizziness

- nausea

Eyes - reduced vision

Kidney - proteinuria - glucosuria - edema In the veins - frostbite of the hands and feet In the vision - skin color is red - obesity - edema

Causes of hypertension.

The reason for the development of the disease is long-term stress and depression, frequent psychological stress. Often, these are caused by work activities that require constant emotional tension. In addition, concussion patients have a high risk of developing the disease. Hereditary predisposition is also one

of the reasons: if a person's generation has this disease, then the risk of developing this disease increases several times.

DIAGNOSIS OF HYPERTENSION

In order to accurately diagnose the patient, the doctor will need to conduct several laboratory analyzes and hardware tests. The purpose of the diagnosis is to determine the stage of the disease and the degree of hypertension. With this information, the doctor will be able to choose an effective treatment method. Since the initial stages of the disease are hidden, most patients come to the doctor late. It is very difficult to completely cure the disease, so patients need to be patient, because the disease can accompany them for the rest of their lives. Therefore, it is necessary to prevent the disease in time, if suspicious symptoms appear, to undergo a doctor's examination. In this case, the above-mentioned main laboratory tests and hardware tests include: - General analysis of blood, cholesterol, uric acid, urea, glucose, urea - General analysis of urine - ECG, EXO - If cardiovascular diseases are suspected through these data Stress EXO, treadmill test is used depending on the situation. If the results of those examinations are negative, we should immediately perform a CORONAROGRAPHY examination, which is the result of our advanced medicine and technology, and send the patient to an invasive surgeon or cardiologist, depending on the result, after making the final conclusion.

Treatment.

1st degree hypertension

Adjust your lifestyle

Auxiliary methods: massage, phytotherapy

Medications are rare

2nd degree hypertension

Continuous intake of antihypertensive drugs

Diuretics

APF inhibitors

Combined therapy

3rd degree hypertension

Comprehensive approach: physical activity, diet, drugs

Rehabilitation in sanatoriums

Treatment of the elderly

Thiazide diuretics

Beta blockers

Calcium antagonists

Combined drugs

Hypertensive crisis

Rehabilitation:

physiotherapy, medications

Treatment of hypertension is a complex and long-lasting process, which requires the patient to strictly follow the doctor's instructions.

- Nomedicomentosis: treated with modifiable factors. First of all, the patient should change his lifestyle, diet, work and rest regimes, refrain from drinking alcohol and smoking, eat less salty and fatty foods, avoid obesity, drink fluids, do light exercise: walk a little, jog slowly (pulse is measured), ski, cycle should use it, spend productive days off (go outside the city, breathe fresh air, sleep well), engage in self-training, try to stay away from various nervous and mental emotions. Psychotherapy, hyperbaric oxygenation, electrosleep, acupuncture and massage methods should also be used.

Prevention

Primary prevention of hypertension:

Maintaining a normal body weight

Salt restriction

Exclusion of smoking and alcohol

Avoiding physical and nervous stress

Prevention of hypodynamia

Treatment of chronic diseases

Secondary prevention of hypertension:

Selection of antihypertensive drugs

Complex of supporting measures

Diet

Nutrition in hypertension

Reduce salt to 4 g per day

Consumption of 1.5 liters of liquid per day (water, namatak decoction)

Exclusion of coffee, bitter tea and alcohol

Small meals: 5-8 times a day

Reduce meat and animal fats; preference for lean meat, lean cooking

Increase the consumption of vegetables, cereals and products rich in potassium and magnesium

Avoid sweet confectionery products, prefer dry fruits, honey

Avoiding strict fasts and diets

CONCLUSION:

In conclusion, we can say that hypertension is now a widespread and life-threatening pathology, and everyone should start implementing prevention and prevention of this disease, that is, a healthy lifestyle and proper nutrition. , playing sports is the main prevention of this disease. What measures should we take to prevent this? For this, we need to increase the capacity of medical knowledge in the regions, and introduce general practitioners and the patronage system more widely. It is ensured that every citizen measures his blood pressure regularly at home, the most optimal indicator is 120/80 mm sim.ust (hereinafter referred to as a unit), 130/90 for adults. As a result of environmental influences or physical activity, the pressure can increase by 5-10 units. A very large difference between the lower and upper pressure is also a sign of air pollution - usually this indicator should not exceed 50 units. If there are frequent changes in blood pressure, it is recommended to see a doctor. In addition, we will increase the attention and demands of our family nurses, increase the number of ambulance service cars, and increase the capacity of ambulance service workers - by providing the first service on time. - we will be able to prevent complications such as myocardial infarction

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and stroke. In addition, by increasing the number of our modern tools and equipment, we have prevented the increase in the number of disabled people in Uzbekistan by eliminating serious complications as a result of early diagnosis, and we have not allowed citizens to rush by spending time and money. lick In order to achieve all this, we must first start from ourselves, that is, as general practitioners, we must acquire deep knowledge, work tirelessly for our country, be an example to the citizens, and teach the citizens about improving medical knowledge. It is assumed that we organize meetings to provide more information and actively participate in them. In the open dialogue of the President of the Republic of Uzbekistan with representatives of the health sector on the topic "Medicine of Uzbekistan - for human dignity" from April 1, medical equipment imported from abroad in Uzbekistan will be exempted from VAT and customs duty, and all Damascus cars in the ambulance system It was noted that they will be replaced by modern cars by 2025. This, in turn, serves as another important reform aimed at preventing the unpleasant events described above. Also, in order to increase the medical knowledge potential of cardiologists and general practitioners serving in family polyclinics, free training courses were introduced in our country. All this is being done in order to improve the health of the population of our country and reduce the number of diseases.

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