

CAUSES OF HEART DISEASES

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ABSTRACT

This article describes the causes of ischemic heart disease in humans, their pathology, clinical signs and consequences of ischemic heart disease .

Keywords: ischemic heart disease, blood vessels, arterial endothelium, coronary vessels, coronary circulation, myocardium, etiology, pathogenesis, cardiosclerosis, angina pectoris.

INTRODUCTION

Today, the number and types of diseases are increasing, regardless of how much people follow a healthy lifestyle to ensure their life safety.

In particular, ischemic heart disease (hereinafter referred to as CHD) is one of the main causes of death among the elderly population in the whole world as well as in Uzbekistan. Conducted scientific studies and analyzes showed that 5-8% of men aged 20-44 years, and 18-24.5% of men aged 45-69 years had IUD. Among older women, this indicator is 13-15%. According to the information of the European Society of Cardiology, every 1 mln. 30-40,000 people have IUD among the population. There are 11 million people with IBD in the USA. More than 500,000 people die every year.

So, let's focus on the factors that cause IUD. It will be possible to study the factors causing UIK into two types, i.e. uncontrollable risk factors and controllable risk factors (Table 1).

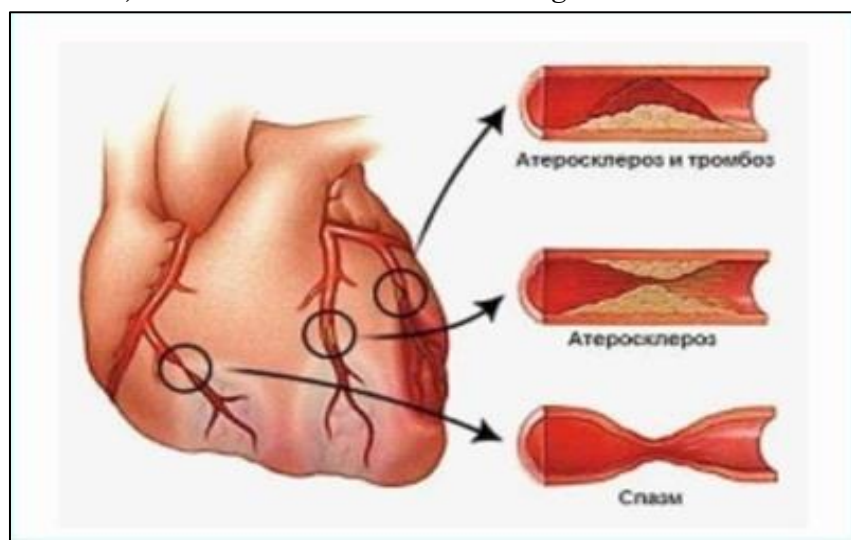
Table 1

T/R	Risk factors	
	Uncontrollable	Reasons
1	Age of the patient	The risk of developing UIC increases after the age of 40
2	Sex	Male
3	Hereditary predisposition to cardiovascular diseases	If the patient's close relatives under the age of 55 have CKD, hypertension and their complications
	Controllable	Reasons
1	Obesity	Body mass index ≥ 25);
2	The presence of carbohydrate metabolism disorders in the patient and his parents	Hyperglycemia, diabetes - QD);
3	Hypodynamia	Low physical activity
4	Psychoemotional stress	Not properly planning the service
5	Features of nutrition	Improper diet
6	Professional and social status	The owner of a heavy profession and financial difficulties from the family point of view
7	Environmental influence	Pollution of nature
	Disturbance of uric acid metabolism	hyperuricemia)

It can be seen from the above information that a number of factors have been confirmed to be of great importance in the formation of the UIC. Therefore, the doctor should pay special attention to them. Because their removal dramatically reduces the origin and complications of CKD. They are divided into two uncontrollable and controllable groups:

Early detection and elimination of these factors improves the quality of life of patients and reduces the risk of complications and sudden death. Therefore, all doctors should have detailed information about them.

Etiology and pathogenesis . The main cause of CHD is the failure of myocardial oxygen demand due to coronary atherosclerosis, spasm, and blood clot formation. Among them, atherosclerosis of the coronary vessels is the main reason for the development of CKD not only in adults, but also in men under the age of 40.



Atherosclerotic changes in coronary vessels cause transient or permanent ischemia in their blood supply areas. The degree of atherosclerotic changes in coronary vessels is different, one of them is detected in approximately 30% of patients, two in 1/3, and three vessels in the rest.

In most cases, the atherosclerotic process first damages the anterior interventricular branch of the left artery, then the bypass branch, and then the right coronary artery.

According to some data, atherosclerosis is observed more often at the beginning of 6 cm of the coronary artery. At the same time, it was found that several branches of the coronary vessels were damaged at the same time in patients with CHD, and in obvious clinical cases, 75% or more were narrowed due to atherosclerotic changes.

Atherosclerotic narrowing of the proximal large coronary arteries is not detected in 10-15% of patients diagnosed with transient myocardial ischemia with obvious clinical signs of IHD. Underlying the development of this type of CHD, known as "Syndrome X", is damage to peripheral small blood vessels that cannot be detected by coronary angiography.

In a number of diseases that lead to coronary insufficiency with their damage (congenital anomalies of coronary arteries, systemic arteritis, rheumatism, infective endocarditis, systemic lupus erythematosus, vasculitis, amyloidosis, aortic stenosis, thoracic aorta folding aneurysm, cardiopathies), transient myocardial ischemia can even be observed with MI. possible But these are not considered YUIK. Because each of these cases has its own clear and distinct clinical and pathomorphological symptoms, the coronary circulation disorder is a secondary syndrome observed as a result of the main disease or a complication of them.

As we mentioned above, in a healthy person there is a balance between the myocardial oxygen demand and its supply. When its demand for oxygen increases, coronary vessels expand, their

resistance decreases, coronary blood circulation increases significantly (coronary reserve increases), and more blood flows into the myocardium, providing it with sufficient oxygen (Fig. 1).

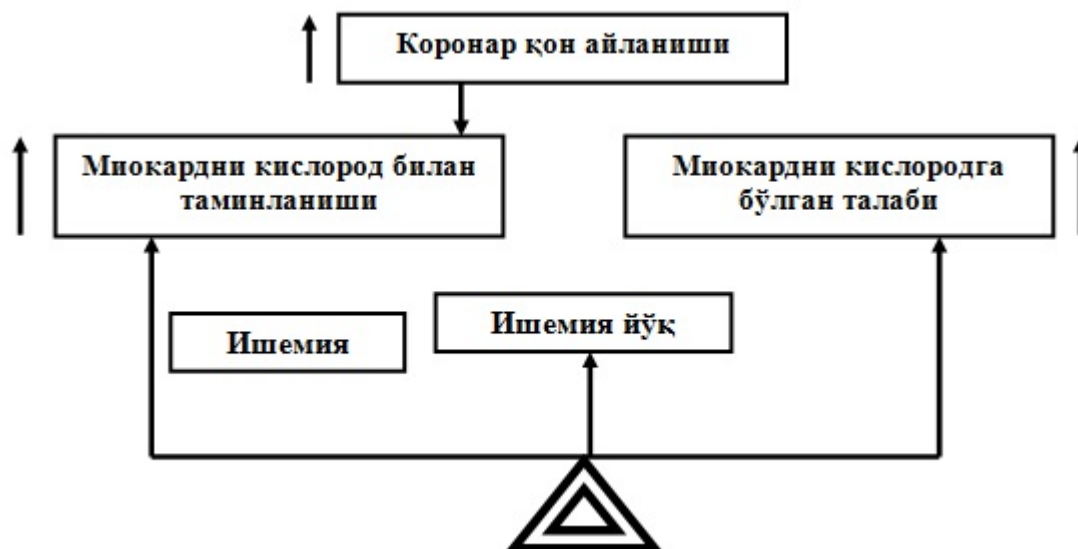


Figure 1. The balance between myocardial oxygen demand and its supply

So, based on the above data, when the oxygen demand of the myocardium increases, if the blood circulation in the coronary vessels is not sufficient, then we can see the development of ischemia (Fig. 2).

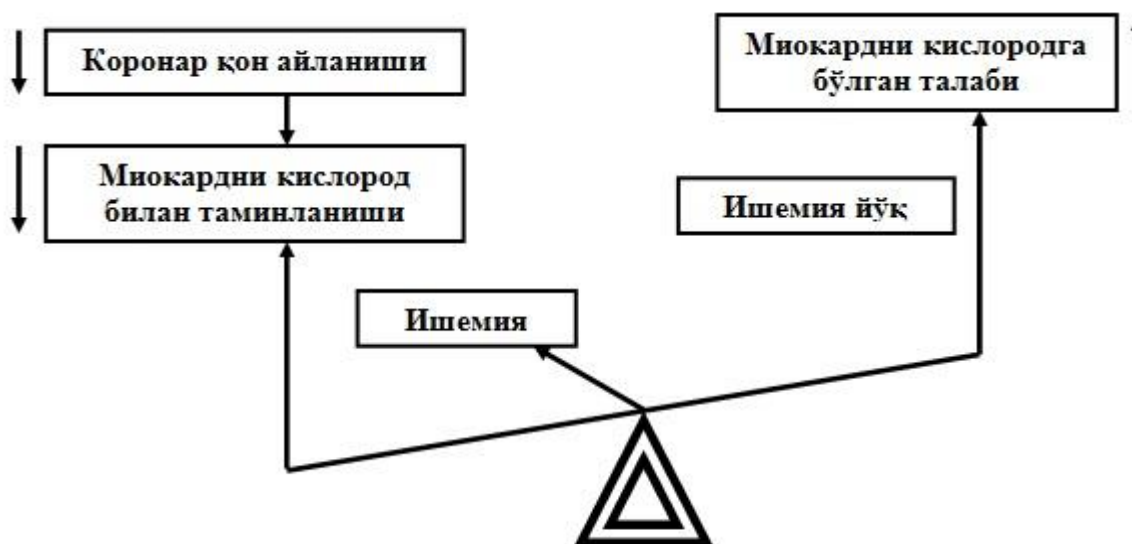


Fig. 2. Disturbance of the balance between the myocardium's demand for oxygen and its supply

The following factors are important in breaking the balance between the demand for oxygen of the myocardium and the ability of the coronary arteries to satisfy it:

- ✓ As a result of the narrowing of the proximal coronary vessels by atherosclerosis plaques, the coronary blood circulation and/or its functional reserve are limited. As a result, the

myocardium cannot adequately expand the vessels in response to the increased demand for oxygen;

- ✓ Crown veins obvious manifestation has been constriction ("dynamic stenosis");
- ✓ Toj Tomirs thrombosis , including in May land in tomirs microthrombi harvest to be
- ✓ Microvascular dysfunction.

In this place, YuIK is the best a lot spread out form angina pectoris is considered

Angina . Download YuIK a lot diffuse clinical form is considered and mostly cases conductivity to deterioration take coming big crown vessels in " uncomplicated " atherosclerosis observed . It's a strain angina pectoris in the form of manifestation the myocardium to oxygen demand increased at the time resistive arterioles suitable respectively not expanding due to surface will come The following circumstances myocardium to oxygen has been demand to increase take comes (Fig. 3).

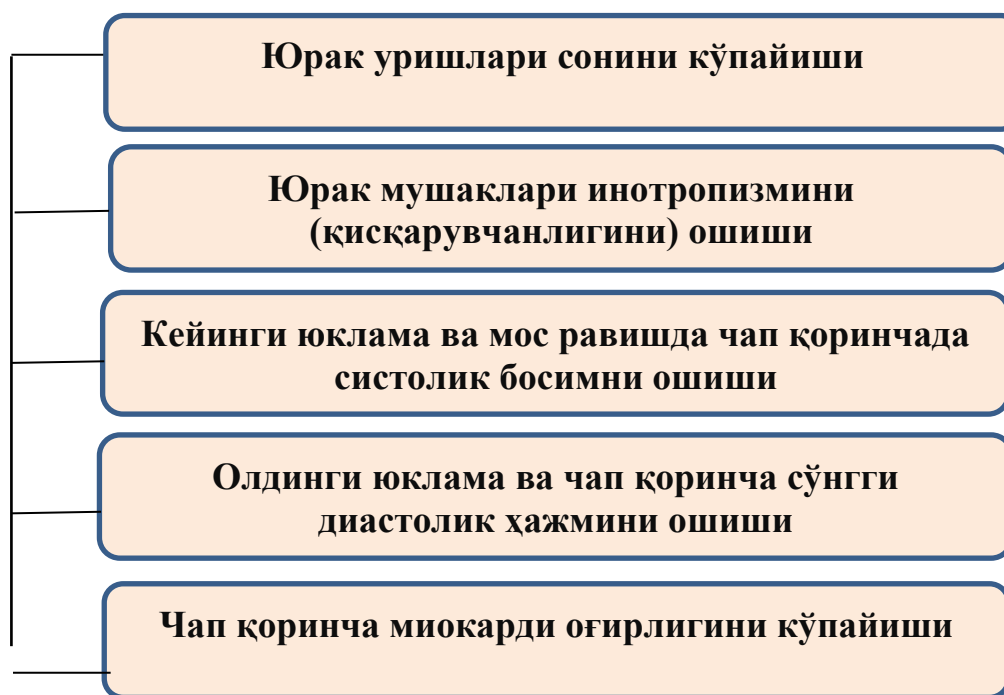


Figure 3. Factors leading to an increase in myocardial oxygen demand

Therefore, in the occurrence of angina pectoris, not only physical load (fast walking, running, climbing the stairs, heavy lifting), but also what factor causes the heart muscle to increase its demand for oxygen (emotional stress, nervousness, increasing QB, venous blood coming to the heart) increase in blood volume, heart failure, tachycardia, etc.)

Stable (steady) tension angina pectoris. According to the results of the Framingham study, in approximately 40% of men and 56% of women, HF begins as stable angina pectoris and gradually progresses.

Clinical picture:

In angina pectoris, pains usually have crushing, squeezing, burning, pressing characteristics, and in most cases they are located behind the chest, they are transmitted to the left arm, lower

jaw, neck, epigastric region, rarely to the right side of the chest and the right arm, back (?-? – pictures). In some cases, it is accompanied by panting, sweating, and a feeling of fear of death; Sometimes pains can be located at the apex of the heart, between the II-V ribs to the left of the sternum, under the left shoulder blade, even in the left arm or around the spine, on the left side of the lower jaw (atypical pains);

The pains are paroxysmal, sometimes in the form of an unconscious feeling in the chest, and can last from 1-2 minutes to 15-20 minutes;

In most cases, the pains are burning, pressing, pressing. Some patients describe the pain as "a feeling of discomfort in the chest". During an attack, they are speechless and show the location of pain by placing their palm or fist on the chest (photo 15 from the lecture);

Most often, the pain is transmitted to the left arm, shoulder, shoulder blade, spine, and in rare cases to the lower jaw and epigastric area (left ventricle ischemia in the area of the lower diaphragm) and to the right side of the chest, to the right arm (Fig. 5.16). This situation is related to the presence of anatomical similarities between the afferent pathways of innervation of the heart and pain-transmitting organs, and the spinal cord and thalamic centers;

In approximately 70% of patients with IUD, pain occurs during physical exertion (walking fast, climbing uphill, lifting heavy loads). But angina attacks are caused by nervous disorders (constriction, anger, strong excitement - including fear under the influence of television programs), eating large amounts of food, cold, wet and windy weather, strong excitement, sex, taking drugs (antianginal, hypotensive, antiarrhythmic) can also be caused by factors such as suspension, transition from a vertical position to a horizontal one. In some cases, the pain is of secondary importance, and instead of it, the patient has a feeling of lack of air, tightness of the chest, severe weakness, fear of death;

The pain goes away within 1-2 minutes at rest or after taking nitroglycerin under the tongue; Seizure didn't happen at the time instrumental inspections less info gives

Treatment . Myocardium painful and without pain of ischemia pathogenesis being the same treatment of MOI due to steady stress angina pectoris from treatments difference does not This group patients treatment too drugs (antiaggregants , antianginal agents , cytoprotectors) and drug without means (risk of YuIK factors eliminate take) will go There is an MOI in practice has been in patients this events done increase one so much complicated is considered Because in them treatment the effect means simple (eg pain seizures decreasing) characters no This own in turn treatment efficiency control in doing addition check methods (downloadable test , Holter monitoring and others) importance increases .

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