MODERN METHODS FOR DIAGNOSTICS OF ANGINA

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Abstract: The diagnosis of angina is clinical, based on a detailed analysis of the pain syndrome. Even in the absence of changes according to instrumental studies (including coronary angiography), the typical clinical picture gives grounds for a diagnosis of angina pectoris.

Key words: atherosclerotic lesion, stable angina, diagnosis.

Angina pectoris is a clinical manifestation of transient myocardial ischemia, which occurs as a result of an acute discrepancy between the myocardial oxygen demand and its delivery.

Pathogenesis by three mechanisms:

1. atherosclerotic lesion of the CA and the inability to meet increased needs (fixed coronary obstruction – stable angina pectoris)

2. transient vascular thrombosis – platelet aggregates (unstable angina pectoris)

3. decrease in coronary blood flow due to spasm or increased tone AS (dynamic obstruction) [1].

A fairly significant part of episodes of myocardial ischemia can occur without symptoms of angina pectoris or its equivalents, up to the development of a painless myocardial infarction.

Episodes of pain-free myocardial ischemia are usually diagnosed during exercise tests and with a daily ECG monitor, as well as with scheduled ECG registrations.

Diagnosis of angina pectoris. The diagnosis of angina pectoris is clinical, based on a detailed analysis of the pain syndrome. Even in the absence of changes according to instrumental studies (including coronary angiography), the typical clinical picture provides grounds for the diagnosis of angina pectoris.

Functional studies in angina pectoris are necessary from several points of view:

1. the diagnosis should be verified by the detection of ischemia during pain;

2. Based on the data obtained, a high risk of an adverse outcome can be assessed and further patient management tactics selected.

Objective data

Signs of atherosclerosis:

- tendon xanthomas, xanthelasmas, corneal lipoid arch

- systolic murmur (mitral regurgitation in ischemic papillary muscle dysfunction)

- stenotic noise over the carotid arteries

- intermittent lameness with lesions of the iliac arteries and Lerish syndrome.

Diagnosis of other diseases occurring with angina syndrome (aortic heart disease, aortic aneurysm).

Laboratory methods

1. Blood lipids (dyslipidemia)

2. Fasting glucose level (diabetes mellitus) Non-invasive examination methods.

ECG at rest (inter-access period)

70% of ECGs have no signs or are non-specific in nature.

ECG during an attack or during daily monitoring

Ischemic ECG changes: ST segment depression, T wave inversion, ST elevation. These changes disappear immediately after pain relief. Load tests (bicycle ergometry (VEM), treadmill test). Stress tests are considered a mandatory method of investigation for angina pectoris.

They represent the achievement of a submaximal heart rate (individually for each patient, taking into account age and gender) when performing a stepwise increasing load under ECG control on a bicycle ergometer or a footpath. ECG signs indicating the appearance of myocardial ischemia are horizontal or oblique ST displacement equal to or exceeding 2 mm or an increase in displacement relative to the baseline level.

Stress ECHO. It is performed to verify the diagnosis of coronary heart disease. Violations of the movement of LV walls are revealed: zones of hypokinenia or akinesia.

Perfusion isotope techniques. The method allows to identify areas of the myocardium with impaired blood circulation by introducing isotopes: thallium or technetium. Stress methods are also used: physical activity or medications (dipyridamole, adenosine).

Radionuclide ventriculography (radioactive iodine albumin) – assessment of myocardial contractile function.

A sample with ergometrine. It is performed to diagnose vasospastic angina pectoris. The indication for the test is spontaneous attacks of chest pain of ischemic origin with negative results of non-invasive and invasive examination methods.

Coronary angiography is a method of X–ray examination of coronary arteries by selectively filling coronary vessels with a contrast agent.

Заключение. Basic indications:

• patients with stable angina pectoris of tension I-II FC who have undergone MI

• patients with postinfarction aneurysm and progressive (left ventricular) heart failure

• patients with stable angina pectoris III-IV FC with ineffective antianginal therapy

• patients with stable angina pectoris with blockage of the legs of the Gis bundle in combination with signs of myocardial ischemia according to myocardial scintigraphy

• patients with coronary heart disease in combination with aortic heart defects requiring surgical correction

• patients with obliterating atherosclerosis of the arteries of the lower extremities referred for surgical treatment

• patients with coronary heart disease with severe cardiac arrhythmias requiring clarification of the genesis and surgical correction.

Contraindications:

• in the presence of fever

• in severe diseases of parenchymal organs

• with severe total heart failure • with acute cerebral circulatory disorders • with severe ventricular rhythm disorders.

Ventriculography – LV contrast is performed during CAH, which makes it possible to evaluate a number of important hemodynamic parameters:

• detect regional LV dysfunction (hypo and akinesia zones)

• diagnose a LV aneurysm

• identify intracavitary formations (wall clots and tumors)

• to assess the condition of the valvular heart apparatus

• evaluate LV systolic function

• Functionally significant is: occlusion, stenosis of more than 75%, the main trunk of 50% or more.

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