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ATYPICAL FORMS OF MYOCARDIAL INFARCTION AND ITS MODERN TREATMENT

Z.J.Narzilloeva

Annotation: Diseases of the circulatory system are a pressing problem in the world. Myocardial infarction is one of the main causes of death in coronary heart disease. Correct and timely diagnosis of myocardial infarction plays a key role in the prognosis of the patient's life.

Key Words: Coronary heart disease, myocardial infarction, atypical forms.

Myocardial infarction (MI) is one of the clinical forms of coronary heart disease, which occurs with the development of ischemic necrosis of the myocardium due to the absolute or relative insufficiency of its blood supply.

The main reasons that increase the risk of developing MI:

- Elderly age.
- Male gender.
- Hereditary factors.
- Poor nutrition.
- Hyperlipidemia (increased levels of low-density LDL cholesterol relative to HDL)
- Arterial hypertension with lack of control over blood pressure provokes MI.
- Diabetes.
- Excess body weight.
- Physical inactivity.
- The presence of bad habits, in particular smoking.
- Alcohol consumption.
- A large number of atherosclerotic plaques.
- Stressful situations.

The heart is an organ that requires a sufficient amount of oxygen. If there are a large number of atherosclerotic plaques on the walls of the coronary artery and a narrowing or blockage has formed, then such pathologies lead to slow or rapid death of the muscle cells of the heart. Improper functioning of blood vessels and subsequent disorders are among the most common causes of myocardial infarction. Rupture of an atherosclerotic plaque also leads to pathological processes. Damage to a coronary vessel by thrombosis greatly increases the risk of myocardial infarction and has a high percentage of recorded cases of myocardial infarction.

Classification of myocardial infarction

1. According to the anatomy of the lesion:

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- transmural.
- intramural .
- subendocardial.
- subepicardial .

2. By volume of damage:
   - large-focal (transmural), Q-infarction.
   - small-focal, non-Q-infarction.
3. By localization:

- Myocardial infarction of the left ventricle (anterior, lateral, inferior, posterior).
- Isolated myocardial infarction of the apex of the heart.
- Myocardial infarction of the interventricular septum (septal).
- Right ventricular myocardial infarction.
- Combined localizations: posterior -inferior , anterior -lateral, etc.

Clinical classification of myocardial infarction

- Spontaneous MI (Type 1) associated with ischemia due to a primary coronary event, such as plaque erosion and/or rupture, cracking, or dissection.
- Secondary myocardial infarction (type 2), associated with ischemia caused by an increase in oxygen deficiency or supply, for example, with coronary spasm, coronary embolism, anemia, arrhythmia, hyper- or hypotension.
- Sudden coronary death (type 3), including cardiac arrest, often with symptoms of presumed myocardial ischemia with expected new ST elevation and new left bundle branch block, detection of fresh coronary artery thrombus at angiography and/or autopsy, death occurring before obtaining blood samples or before increasing marker concentrations.
- PCI-associated MI (type 4a).
- MI associated with stent thrombosis (type 4b), which is confirmed by angiography or autopsy.
- CABG-associated MI (type 5).

Clinical picture of myocardial infarction

The most common and characteristic symptom of myocardial infarction is pain. In typical cases, the pain is diffuse in nature, localized in the left side of the chest, behind the sternum, and can radiate to the left arm or shoulder. Sometimes the pain is represented by a feeling of heaviness, burning, pressure. In rare cases, it is confused with pain in the stomach. Most often, the sensations last more than 30 minutes, are not relieved by taking nitroglycerin and painkillers, and are accompanied by cold sweat and fear of death. Often the pain occurs in waves, for a long time, then weakening, then intensifying again. This pathology also has a number of atypical signs of a heart attack, which may indicate other problems. These include:

- Loss of consciousness.

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- Heart rhythm disturbances, including angina.
- Severe headache, dizziness that does not go away within several days.
- During an attack, nausea and fever are possible.
- Blue discoloration of the nasolabial triangle, etc.

Signs can be less or more pronounced, but the patient requires emergency ambulance care and even a stay in intensive care. This is important to prevent deterioration of the condition, damage to other organs, for example, the development of pulmonary edema, stroke as a result of insufficient oxygen supply to the brain, and other problems. The patient's life depends on the correct and timely provision of qualified care. This is especially important during the first day. When the first signs appear, there is no need to wait for them to last long. MI is dangerous due to its sharp deterioration and severe course with a high percentage of death. Therefore, you should seek medical help as soon as possible.

Atypical forms of myocardial infarction

In some cases, the symptoms of myocardial infarction may be atypical. The following forms of MI are distinguished:

- Abdominal form - pain is localized in the upper abdomen, accompanied by bloating, nausea, and vomiting.
- Asthmatic form - represented by increasing shortness of breath, reminiscent of an attack of bronchial asthma.
- Atypical pain syndrome may be localized not in the chest, but in the right arm, shoulder, or iliac fossa.
- Silent myocardial ischemia is rare, more often in patients with diabetes mellitus. In this case, sometimes patients may experience hypotension, weakness, and cyanosis of the lips.
- The cerebral form is represented by dizziness, disturbances of consciousness, and neurological symptoms.
- In some cases, in patients with osteochondrosis of the thoracic spine, the main pain syndrome during MI is accompanied by girdle pain in the chest, characteristic of intercostal neuralgia, which intensifies with changes in body position and palpation.

All complications of myocardial infarction are life-threatening :

- Cardiogenic shock.
- Heartbreak.
- Rhythm and conduction disturbances (ventricular fibrillation).
- Acute heart failure.
- Development of left ventricular aneurysm.
- Development of Dressler's syndrome .
- Development of chronic heart failure.

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Treatment of myocardial infarction

The only method of treating myocardial infarction, which in a significant proportion of cases allows us to completely prevent negative consequences and preserve the viability of the heart muscle, is the restoration of coronary blood flow in the first hours after the onset of the disease.

The patient requires urgent hospitalization in a hospital capable of immediate coronary angiography , balloon angioplasty and stenting of the coronary arteries (surgical intervention). Restoring blood flow through the coronary arteries is possible through thrombolytic therapy (the first 6-12 hours of myocardial infarction), however, this method is less effective and has its limitations. Upon admission, an ECG (electrocardiography) is required; if the condition is not severe, echocardiography, MRI, CT (computed tomography) are performed. Laboratory tests are required, including a biochemical blood test. The person's breathing is monitored (to timely determine a decrease or increase in frequency).

In the post-infarction period, the patient should also be under the supervision of the attending physician for several weeks or more (depending on the severity, lesion, concomitant diseases, etc.). Each stage of treatment is adjusted and, with the right approach, gives a high chance of a good recovery.

Prevention of myocardial infarction

Prevention of acute myocardial infarction and other types means a system of measures, the main focus of which is the prevention of atherosclerosis and, if possible, the elimination of risk factors for myocardial infarction. The goal of prevention after a myocardial infarction is to prevent death, the development of recurrent myocardial infarction and chronic heart failure and other possible complications.

Primary prevention of myocardial infarction is based on maintaining a “healthy lifestyle”, following medical recommendations to prevent the development of coronary artery disease (maintaining normal levels of blood pressure, glucose, cholesterol). The patient must follow proper nutrition, regular physical activity and properly selected exercises, and give up bad habits.

Secondary prevention after myocardial infarction is necessary to prevent death, the development of recurrent myocardial infarction and chronic heart failure. Long-term prognosis after MI is determined by the severity and extent of stenotic atherosclerosis of the coronary arteries; the degree of left ventricular dysfunction, the age of the patient, the presence of potentially dangerous arrhythmias. After an MI, constant medical monitoring is necessary to prevent the development of long-term complications of myocardial infarction (chronic heart failure, arrhythmias). These complications are in most cases successfully prevented with the appropriate doctor-recommended regimen, nutrition and special drug treatment. It is recommended to

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regularly visit a cardiologist (at least once every 6 months) to monitor your general condition and assess the degree of effectiveness of the therapy.

It is important to remember that MI is a serious disease, provoked by other diseases. Therefore, it is necessary to monitor the condition of all systems, including the endocrine system, undergo regular medical examinations , and not ignore taking medications prescribed by doctors. Sometimes simple pills can save a life by preventing the development of serious pathologies.

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