

Factsheet Myocardial Infarction

Myocardial Infarction (MI)

Myocardial infarction, known as a heart attack, occurs when the blood flow in one or multiple coronary arteries of the heart decreases or stops. The resulting lack of oxygen leads to the death of tissue (infarction) in the heart muscle.

Causes of MI

Most MIs are the result of coronary artery disease. Plaque, made up of fat, cholesterol, calcium and other substances found in the blood, can build up in the arteries and rupture, forming a thrombus (blood clot). If a thrombus blocks coronary arteries, cutting off blood and oxygen supply, muscle cells of the heart begin to die. Irreversible damage begins within 30 minutes of blockage. Less commonly, heart attacks are caused by coronary artery spasms, a temporary tightening of the muscles in the artery wall that can reduce or block blood flow to the heart.

Risk Factors

The risk factors for coronary artery disease include older age, high blood pressure, smoking, diabetes mellitus, lack of exercise, obesity, high level of low-density lipoprotein cholesterol, poor diet, family history of heart attacks. Coronary artery spasms are not associated with common risk factors for heart disease but can be triggered by tobacco use, exposure to cold, extreme emotional stress or the use of stimulant drugs such as cocaine.

Treatment

The immediate treatment may include supplementary oxygen, nitroglycerin to relieve chest pain, thrombolytic (clot-busting) medication, and antiplatelet medication like Aspirin to prevent further blood clotting. To restore blood flow, a procedure called percutaneous coronary intervention (PCI) is used, in which a catheter-based device is inserted into the affected artery to open the blockage. During PCI, a stent is often inserted to prevent a blockage from forming again at the site. People with severe blockages may undergo coronary artery bypass grafting (CABG), a procedure in which a blood vessel from another part of the body is used to create a diversion for the blood.