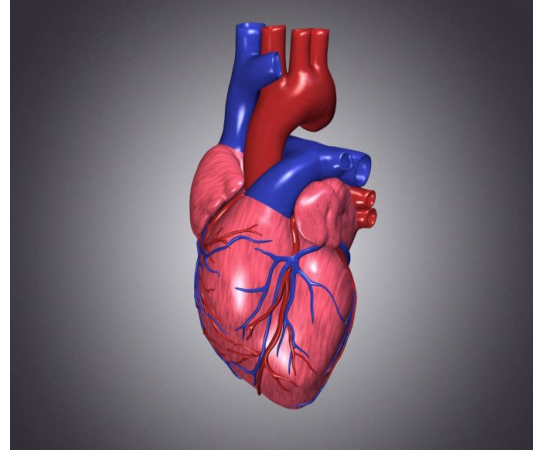


Angina pectoris

Angina pectoris is the name of the pain, feeling of pressure or heaviness in the chest caused by coronary artery blockage. It happens when the heart muscle does not receive all the blood it needs to supply the heart muscle with oxygen. Angina pectoris is a symptom of myocardial ischemia (ischemia means lack of oxygen). This occurs when one or more arteries (coronary arteries) that provide oxygen to the heart muscle become narrow or blocked. When the heart muscle does not receive enough oxygen, people experience symptoms of angina pectoris.



Angina pectoris can also occur in people with heart valve disease. Similarly, it can occur in people with an enlarged heart (hypertrophy) caused by heart disease or uncontrolled hypertension. However, coronary artery blockage is the most common cause of angina pectoris.

Symptoms

Angina pectoris is often described as an uncomfortable feeling of pressure, fullness, compression or pain in the middle of the chest. This discomfort can also be felt in the neck, jaw, shoulder, back or arm. Patients with angina pectoris may also complain of shortness of breath, nausea and anxiety or a feeling of imminent doom. There are many types of chest pain unrelated to angina pectoris. A few examples are acid reflux, pulmonary infections and pulled muscles. Sometimes it is difficult to differentiate between angina pectoris and chest pain unrelated to the heart. It is important to report your symptoms to your doctors, so that they can help you determine the cause of the symptoms.

Angina pectoris can occur during activities with which the heart muscle needs more oxygen. Physical exercise, emotional stress and very hot or cold temperatures are examples of when the heart muscle needs more oxygen. People with angina pectoris are at greater risk of suffering a heart attack.

There are two categories of angina pectoris: stable and unstable.

Stable angina pectoris

Stable angina pectoris causes chest discomfort that occurs at regular intervals. It involves symptoms that tend to occur with the same intensity of physical activity,

for example, climbing a flight of stairs. The stress caused by anger or discontent may also cause the symptoms. Patients with symptoms of angina pectoris should undergo an evaluation of their heart disease risk factors performed by their doctor. In addition, the doctor may take a medical history and conduct a physical exam to determine whether the symptoms suggest angina pectoris. If they consider that it is possible that you have angina pectoris, tests are normally done. Most frequently, the first test requested is an electrocardiogram (ECG). Sometimes, a chest X-ray is used to evaluate the size of the heart and to see if there are pulmonary problems that could cause the symptoms. In some people, a stress test with exercise is also needed to see if there is any change in the heart during exercise, or with the administration of medications that subject the heart to stress. An echocardiogram could be performed to take images of the heart and see if there is a structural problem. Catheterization of the heart may be necessary to determine whether a patient's symptoms are caused by the blockage of one or more coronary vessels.

Unstable angina pectoris

People with unstable angina pectoris experience chest pain unexpectedly and unpredictably. The first time that someone has angina pectoris it is usually considered unstable angina because its type is not known. In some patients, the symptoms could occur while they are at rest. The symptoms of unstable angina pectoris may be more severe than those of the stable form. The most common cause of unstable angina pectoris is coronary artery blockage (atherosclerosis), which limits the flow of blood to an area of the heart muscle. Another cause of the symptoms may be abnormal narrowing of an artery or partial blockage by a blood clot. An inflammation or infection can also lead to unstable angina pectoris. Unstable angina pectoris is a medical emergency. Patients with new or unstable angina pectoris should call 911 or their local emergency response service. Unstable angina can precede a heart attack. It can also cause serious heart arrhythmias (irregular heart beats), which in turn could lead to sudden cardiac death.

Prinzmetal's angina (or variant angina pectoris) is caused by coronary artery spasms, which tighten the coronary artery and reduce blood flow. This can cause chest discomfort. This tends to occur at rest. It is often related to atherosclerosis, and the spasms tend to occur near the area of the blockage, which limits the flow of blood more than the blockage itself.

Treatment of angina pectoris

Angina pectoris can be treated with medications that affect the flow of blood to the heart muscle, the heart's oxygen requirements, or both. The medications that

affect blood flow are called coronary vasodilators and make the blood vessels relax. When this occurs, the space within the vessels (the lumen) grows larger. The blood flow improves, which allows more oxygen and nutrients to reach the heart muscle. Nitroglycerin is the medication most frequently used. It relaxes the blood vessels throughout the body, especially the veins. It also relaxes the coronary arteries slightly. In relaxing the veins, it decreases the volume of blood that returns to the heart and the heart's workload. By relaxing the coronary arteries, it increases the flow of blood to the heart.

The heart's oxygen requirements can also be adjusted with medications that lower blood pressure. Since the heart does not need to pump blood against so much pressure, the heart's workload and need for oxygen are reduced. Medications that slow the heart rate have a similar effect. For these effects, medications called beta-blockers and calcium antagonists (calcium channel blockers) are used. There are many beta blockers and calcium antagonists. The specific medication used is chosen depending on each patient's individual needs.

Patients with angina pectoris often require heart catheterization. This procedure allows doctors to take images of the heart and the blood vessels that carry blood to the coronary muscle (coronary arteries) to see if they are blocked. This information can help your doctor determine whether you need a medication that improves the flow of blood to your heart muscle, whether you need a procedure called percutaneous angioplasty, in which the coronary blood vessel is opened with a special catheter, or whether you need open-heart surgery to restore blood flow to the coronary artery.