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Unstable angina

Unstable angina is a condition in which your heart doesn't get enough blood flow and oxygen. It may lead to a heart attack.

Angina is a type of chest discomfort caused by poor blood flow through the blood vessels (coronary vessels) of the heart muscle (myocardium).

See also:

- Stable angina
- Variant angina

Causes

Coronary artery disease due to atherosclerosis is by far the most common cause of unstable angina. Atherosclerosis is the buildup of fatty material called plaque along the walls of the arteries. This causes arteries to become narrowed and less flexible. The narrowing interrupts blood flow to the heart, causing chest pain.

People with unstable angina are at increased risk of having a heart attack.

Rare causes of angina are:

- Abnormal function of tiny branch arteries without narrowing of larger arteries (called microvascular dysfunction or Syndrome X)
- Coronary artery spasm

Risk factors for coronary artery disease include:

- Diabetes
- Family history of early coronary heart disease -- a close relative such as a sibling or parent had heart disease before age 55 (in a man) or before age 65 (in a woman)
- High blood pressure
- High LDL cholesterol
- Low HDL cholesterol
- Male gender
- Not getting enough exercise
- Obesity
- Older age
- Smoking

Symptoms

Symptoms of angina may include:

- Chest pain that you may also feel in the shoulder, arm, jaw, neck, back, or other area
- Discomfort that feels like tightness, squeezing, crushing, burning, choking, or aching
- Discomfort that occurs at rest and does not easily go away when you take medicine

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- Shortness of breath
- Sweating

With stable angina, the chest pain or other symptom only occurs with a certain amount of activity or stress. The pain does not occur more often or get worse over time.

Unstable angina is chest pain that is sudden and often gets worse over time. You may be developing unstable angina if the chest pain:

- Starts to feel different, is more severe, comes more often, or occurs with less activity or while you are at rest
- Lasts longer than 15 - 20 minutes
- Occurs without cause (for example, while you are asleep or sitting quietly)
- Does not respond well to a medicine called nitroglycerin
- Occurs with a drop in blood pressure or shortness of breath

Unstable angina is a warning sign that a heart attack may happen soon. It needs to be treated right away. If you have any type of chest pain, see your doctor.

Exams and Tests

The doctor will perform a physical examination and check your blood pressure. The doctor may hear abnormal sounds, such as a heart murmur or irregular heartbeat, when listening to your chest with a stethoscope.

Tests for angina include:

- Blood tests to show if you have heart tissue damage or are at a high risk for heart attack, including troponin I and T-00745, creatine phosphokinase (CPK), and myoglobin
- ECG
- Echocardiography
- Stress tests
 - Exercise tolerance test (stress test or treadmill test)
 - Nuclear stress test
 - Stress echocardiogram
- Coronary angiography (taking pictures of the heart arteries using x-rays and dye) -- this is the most direct test to diagnose heart artery narrowing

Treatment

Your doctor may want you to check into the hospital to get some rest, have more tests, and prevent complications.

Blood thinners (antiplatelet drugs) are used to treat and prevent unstable angina. You will receive these drugs as soon as possible, unless they would be unsafe for you to take. These medicines include aspirin and the prescription drug clopidogrel. Aspirin (and sometimes clopidogrel) may reduce the chance of a heart attack in certain patients.

During an unstable angina event:

- You may get heparin (or another blood thinner) and nitroglycerin (under the tongue or through an IV)
- Other treatments may include medicines to control blood pressure, anxiety, abnormal heart rhythms, and cholesterol (such as a statin drug)

Often if a blood vessel is found to be narrowed or blocked, a procedure called angioplasty and stenting can be done to open the artery.

- Angioplasty is a procedure to open narrowed or blocked blood vessels that supply blood to the heart.

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- A coronary artery stent is a small, metal mesh tube that opens up (expands) inside a coronary artery. A stent is often placed after angioplasty. It helps prevent the artery from closing up again. A drug-eluting stent has medicine in it that helps prevent the artery from closing.

Heart bypass surgery may be done for some people. Whether this surgery is done depends on which arteries, how many arteries, and what parts of their coronary arteries are narrowed, and how severe the narrowings are.

Outlook (Prognosis)

Unstable angina is a sign of more severe heart disease.

How well you do depends on many different things, including:

- How many and which arteries in your heart are blocked, and how severe the blockage is
- Whether you have ever had a heart attack
- How well your heart muscle is able to pump blood out to your body

Abnormal heart rhythms and heart attacks can cause sudden death.

Possible Complications

Unstable angina may lead to:

- Abnormal heart rhythms (arrhythmias)
- A heart attack
- Heart failure

When to Contact a Medical Professional

Seek medical attention if you have new, unexplained chest pain or pressure. If you have had angina before, call your doctor.

Call 911 if your angina pain:

- Is not better 5 minutes after you take nitroglycerin (your health care provider may tell you to take three total doses)
- Does not go away after three doses of nitroglycerin
- Is getting worse
- Returns after the nitroglycerin helped at first

Call your doctor if:

- You are having angina symptoms more often
- You are having angina when you are sitting (rest angina)
- You are feeling tired more often
- You are feeling faint or light-headed, or you pass out
- Your heart is beating very slowly (less than 60 beats a minute) or very fast (more than 120 beats a minute), or it is not steady
- You are having trouble taking your heart medicines
- You have any other unusual symptoms

If you think you are having a heart attack, get medical treatment right away.

Prevention

Lifestyle changes can help prevent some angina attacks. Your doctor may tell you to:

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- Lose weight if you are overweight
- Stop smoking
- Exercise regularly
- Drink alcohol in moderation only
- Eat a healthy diet that is high in vegetables, fruits, whole grains, fish, and lean meats

Also keep strict control of your blood pressure, diabetes, and cholesterol levels. Some studies have shown that making a few lifestyle changes can prevent blockages from getting worse and may actually improve them.

If you have one or more risk factors for heart disease, talk to your doctor about taking aspirin or other medicines to help prevent a heart attack. Aspirin therapy (75 - 325 mg a day) or drugs such as clopidogrel or prasugrel may help prevent heart attacks in some people. Aspirin therapy is recommended if the benefit is likely to outweigh the risk of side effects.

Alternative Names

Accelerating angina; New-onset angina; Angina - unstable; Progressive angina

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