Tikrit university

College of Nursing

Clinical Nursing Science

Fourth Stage/ 2025

Critical Care Nursing

(Angina Pectoris)

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Angina pectoris

Learning Objectives: At the end of this lecture, the student should be able to:

1. Define concepts

2.Identify the risk factors and etiology of angina

Definition

Angina pectoris :is a symptom complex caused by transient myocardial ischemia, which occurs whenever there is an imbalance between myocardial oxygen supply and demand.Angina is most frequently the result of underlying coronary artery disease. The coronary arteries supply the heart with oxygen-rich blood.

Etiology and pathophysiology of angina:

1.Atherosclerosis - a buildup of plaque around the artery wall - is the most common cause of angina.When cholesterol aggregates on the artery wall and hard plaques form, the artery narrows. These plaques narrow the arteries or may break off and form blood clots that block the arteries.

Unstable angina is often caused by blood clots that partially or completely block an artery. Larger blockages may lead to heart attacks. As blood clots form, dissolve, and form again, angina can occur with each blockage.

2.Coronary artery spasm: Angina may result from vasospasm of the coronary arteries. This may coexist with atherosclerosis, especially in unstable angina , but may occur as an isolated phenomena, in patients with normal coronary arteries on angiography

3.Others:Angina may also occur in aortic valve disease and when the coronary arteries are involved with vasculitis or aortitis

There are several types of angina.

1. Stable or chronic angina

Stable angina occurs when the heart is working harder than usual, for instance, during exercise. It has a regular pattern and can be predicted to happen over months or even years. Rest or medication relieves symptoms.

2. Unstable angina

Unstable angina does not follow a regular pattern. It can occur when at rest and is considered less common and more serious because rest and medication do not relieve it. This version can signal a future heart attack within a short time -hours or weeks.

Clinical features of Angina:

The history is the most important factor in making the diagnosis Stable angina is characterised by central chest pain, discomfort or breathlessness that is predictably precipitated by exertion or other forms of stress and is promptly relieved by rest.

Classic features of anginal pain:

• Retrosternal

• 'Crushing', 'heaviness', or 'like a tight band'

• Worse with physical or emotional exertion, cold weather, and after eating

• Relieved by rest and nitrate (within a couple of minutes)

• Sometimes associated with breathlessness.

In addition, patients classically clench their right fist and hold it to their chest when describing the pain

Risk factors of angina

1. unhealthy cholesterol levels

2. high blood pressure

3. tobacco smoking

4. diabetes

5. being overweight or obese

6. metabolic syndrome

7. sedentary lifestyle

Diagnosis

A correct diagnosis is important because it can predict the likelihood of having a

heart attack. The process will start with a history and physical exam as well as a discussion of symptoms, risk factors, and family medical history.

1. Electrocardiogram (EKG): Records electrical activity of the heart and can

detect when the heart is starved of oxygen.

2. Stress test: Blood pressure readings and an EKG while the patient is

increasing physical activity.

3. Coronary angiography: Dye and special X-rays to show the inside of coronary arteries.

4. Blood tests: These check fat, cholesterol, sugar, and protein levels.

Treatment

Angina treatments aim to reduce pain, prevent symptoms, and prevent or lower the risk of heart attack. Medicines, lifestyle changes, and medical procedures may all be employed.

A*Lifestyle changes recommended to treat angina include:

1. Stopping smoking

2. Controlling weight

3. Regularly checking cholesterol levels

4. Resting and slowing down

5. Avoiding large meals

6. Learning how to handle or avoid stress

7. Eating fruits, vegetables, whole grains, low-fat or no-fat dairy products, and fish.

B. Anti anginal drugs:

Nitrates, such as nitroglycerin, are most often prescribed for angina. Nitrates

prevent or reduce the intensity of angina attacks by relaxing and widening blood vessels.

Other medicines may be used such as:

1. Beta blockers

2. Calcium channel blockers

3. Angiotensin – covering enzyme (ACE) inhibitors

4. Oral anti – platelet medicines

C.Procedures:

1.Percutaneous coronary intervention(PCI):

Percutaneous coronary intervention (PCI) involves passing a fine across a coronary stenosis under radiographic control and using it to position a balloon, which is then inflated to dilate the stenosis.

2.Coronary artery bypass grafting(CABAG): The internal mammary arteries, radial arteries or reversed segments of the patient's own saphenous vein can be used to bypass coronary artery stenoses.

Nursing Care for angina:

1.Help client to sit or rest in semi-Fowler's
2.Provide oxygen (when O2 SAT < 90% or signs of respiratory distress).
3Administer medications as ordered.
4.Check vital signs, especially heart rate to monitor for possible arrhythmia.
5 Assess: location of pain, characteristics, pain scale, health history, onset and duration, contributing factors, relieving factors, other symptoms.
6. client education, regarding exacerbating factors and advocates healthy life style.