

Myocardial Infarction Assessment

Myocardial infarction aka “heart attack” is when the blood flow to the heart is decreased causing decreased oxygenation to the heart tissue. When this decreased oxygenation is prolonged the tissue becomes ischemic and dies. Decreases in blood flow are most commonly due to atherosclerotic plaques lodging in the coronary arteries. It is important to know that infarctions are slow to develop and preventative measures are preferred but that the aim of care is to restore blood flow within 4-6 hours. MI's most commonly occur at the bifurcation of the left coronary artery. Common causes of death after MI include arrhythmias and pump failure secondary to cardiogenic shock.



PLAY PICMONIC

Assessment

Substernal Chest Pain

Below the Sternum Chest Pain-bolt

Pain is typically substernal or feels as if it is below the sternum. Pain intensity does not increase with palpation.

Crushing or Dull Sensation

Crushed Dull-guy

Patients will describe the pain as dull, heavy, or crushing. Often described as “there is an elephant sitting on my chest.” Some may display Levine’s sign, where the patient describes the pain by squeezing their fist and placing it on their chest.

Arm, Jaw, and Neck

Arm, Jaw and Neck guy

Pain often radiates to other locations, especially in women. Characteristically pain will radiate down the left arm, but studies have shown that women and older adults may present as having jaw or neck pain. Women may experience atypical discomfort, shortness of breath, and fatigue. Older adults experience changes in mentation (confusion), along with dizziness and dysrhythmias.

> 20 Minutes

> 20 Minutes Timer with (20) Dollar-bill

This pain typically lasts longer than 20 minutes and is unrelieved by nitroglycerin. Any patient with persistent chest pain should be assessed for possible MI and should seek immediate care.

Unrelieved by Nitro

Not-suppressed by Nitro-glacier

Nitroglycerin does not typically relieve the pain in myocardial infarctions because the lumen of the arteries are severely occluded. The decrease in preload by nitroglycerin is not enough to improve the ischemia and relieve the chest pain.

Palpitations

Heart with Palpitating-paw

These are strong, sometimes irregular beats that the patient will be able to sense in their chest. Often patients will say they “felt my heart skip a beat.”

Diaphoresis

Sweaty-sweatband

Sympathetic response to pain in myocardial infarctions includes cool, sweaty skin which may also be pale. The mechanism is thought to be related to a sympathetic nervous system response to pain.

Fear of Impending Doom

Guy in Fear of Impending Doom

In severe cases patients simply have a sense that they may die. Be sure to remember to differentiate from panic disorder as it is a common presentation in this disorder.

Nausea and Vomiting

Nausea & Vomiting

Although not a specific, finding patients often experience nausea and vomiting when experiencing an MI. Some patients experience nausea due to the extreme pain they are suffering.

Shortness of Breath

S.O.B.

Shortness of breath occurs because of an increase in heart rate and a response to attempt to increase cardiac output/blood flow to the damaged myocardial tissue. These patients may also report fatigue, especially women. SOB may also be related to anxiety of the underlying disease process.

Considerations

Monitor for Arrhythmias

Monitor for Broken Arrhythmia-drum

Patients with MI are at a high risk for cardiac arrhythmias and sudden death due to ischemia of the myocardial tissue. Heart rhythms should be consistently monitored as ventricular fibrillation and ventricular tachycardia often occur in these patients, which can lead to death.