Acute Pericarditis Assessment

Acute pericarditis is a condition caused by inflammation of the pericardial sac related to various causes (refer to the Picmonic on "Acute Pericarditis Causes"). Some patients with acute pericarditis may be asymptomatic. Patients with symptoms of acute pericarditis may experience sharp chest pain, pericardial friction rub, and fever. Electrocardiogram (ECG) assessment findings include a widespread ST-elevation and T-wave inversion. Cardiac tamponade and pericardial effusion are complications of acute pericarditis.



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Pericardial Sac Inflammation

Pear-heart Sac In-flames

Acute pericarditis is caused by inflammation of the pericardial sac. The pericardial sac, or pericardium, is composed of the inner serous and outer fibrous layers surrounding serous fluid. The pericardium provides lubrication to decrease friction during heart movements. Causes of inflammation of the pericardium include infections, acute myocardial infarction, neoplasms, trauma, radiation, myxedema, rheumatic fever, and drug reactions.

Assessment

Sharp Chest Pain

Sharp-point Pain-bolts

Severe, sharp chest pain is characteristic of acute pericarditis. The pain may radiate to the patient's clavicle, neck, or trapezius. Trapezius muscle pain is characteristic of acute pericarditis because the phrenic nerve innervates the areas of the shoulders and upper back. Since it may also radiate to the left shoulder, the pain may be mistaken for angina.

Increased with Inspiration

Up-arrow Pain-bolt with Inspiration

Patients with acute pericarditis may experience worsening chest pain with deep inspiration. To avoid chest pain, the patient may begin to develop dyspnea by breathing rapid, shallow breaths.

Pain Decreased by Leaning Forward

Down-arrow Pain-bolts when Leaning Forward

Patients with acute pericarditis may exacerbate sharp chest pain when lying supine. Instruct the patient to sit up and lean forward in order to relieve the severe pain.

Pericardial Friction Rub

Pear-heart being Rubbed

The hallmark symptom of acute pericarditis is the pericardial friction rub. This scratching, grating, high-pitched sound is caused by friction between the roughened pericardial and epicardial surfaces. The sound is best heard at the left lower sternal border. In order to consistently hear the sound and differentiate it from a pleural friction rub, instruct the patient to hold their breath during auscultation. If the sound is still present, it is cardiac-related.

Diffuse ST-Elevation

D-fuse with Elevated St.

Obtaining an electrocardiogram (ECG) will help diagnose the patient with acute pericarditis. Since the pericardial inflammation causes abnormal repolarization, characteristic changes in the ECG includes diffuse or widespread, ST-segment elevations. Additional ECG changes include T-wave inversion and PR-segment depression.

T Wave Inversion

Upside down Mr. T

Inflammation of the epicardium causes changes in the patient's ECG. The ECG of a patient with acute pericarditis may include T-wave inversion.

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Fever

Fever-beaver

Fever is a result of the body's anti-inflammatory response. A large percentage of patients with acute pericarditis experience chronic or intermittent fever as an early symptom. Instruct the patient to monitor body temperature to determine if drug therapy is effective.

Considerations

May Be Asymptomatic

Thumbs-up with Maybe

Acute pericarditis may be asymptomatic in some patients. Since the infection is recurrent, the patient may not show symptoms between cases of pericarditis. Instruct the patient to carefully monitor for unassuming symptoms such as fever and chest pain.

Cardiac Tamponade

Heart with Tampon

Pericardial effusion is a complication related to acute pericarditis. The build-up of fluid in the pericardium may compress surrounding structures such as the heart, lungs, laryngeal nerve, and phrenic nerve. Cardiac tamponade is an acute type of pericardial effusion that compresses the heart. Symptoms include chest pain, confusion, anxiety, restlessness, tachypnea, and tachycardia. Increased compression of the heart causes decreased cardiac output, muffled heart sounds, and narrowed pulse pressure. The patient may develop pulsus paradoxus, which is a decrease in systolic blood pressure during inspiration.

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