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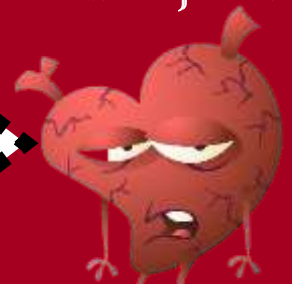
Heart Failure

Inability of Ventricles to Fill or Eject Blood



Ricardo Garcia, admitted for an acute STEMI develops a new pansystolic murmur.

Results In

Irreversible myocardial necrosis →

A life threatening condition caused from an abrupt decrease or total cessation of blood flow to cardiac muscle. ST-segment elevation diagnosed with a 12-lead ECG.

S/S of Left Sided Heart Failure

SIGNS
- Tachypnea
- Tachycardia
- Cough
- Bibasilar crackles
- S_3 and S_4
- ↑ PAP
- Hemoptysis
- Cyanosis
- Pulmonary edema

SYMPTOMS
- Fatigue
- Dyspnea
- Orthopnea
- PND
- Nocturia

Blood goes backwards into lungs → pulmonary S/S

Blood goes backwards into venous system → systemic S/S

S/S of Right Sided heart Failure

SIGNS
- Peripheral edema
- Hepatomegaly
- Splenomegaly
- Hepatojugular reflux
- Ascites
- JVD
- ↑ CVP

SYMPTOMS
- Weakness
- Anorexia
- Indigestion
- Weight gain
- Mental changes

Priority Nursing Diagnoses

- Ineffective Cardiopulmonary Tissue Perfusion R/T acute myocardial ischemia.
- Decreased Cardiac Output R/T alterations in contractility and heart rate.
- Compromised Family Coping R/T critically ill family member.

Aggressive Medical Management

- Relieve symptoms.
- Enhance cardiac performance.
- Correct known precipitating causes.

Patient Outcomes

The patient will demonstrate adequate cardiac function by:

- Maintaining an O_2 Sat at 95% or greater.
- ABGS within the normal range.
- Maintenance of urine output at least 30 mL/hr,
- Maintenance of mean arterial blood pressure within 10 mm Hg of baseline.

Diagnosed by

Diagnostic Studies for HF

After HF symptoms controlled determine myocardial perfusion

- ↑ B-type natriuretic peptide (BNP) level in patients with fluid overload and SOB.
- Diagnostic studies: cardiac catheterization, Doppler echocardiography & imaging, determining ejection fraction.
- Surgical repair or replacement of affected valve.

Nursing Interventions

Balance O_2 supply & demand, prevent complications & provide education

- IV meds are weaned to oral agents.
- ACEIs to inhibit LV remodeling & dilation. If not tolerated, ARBs may be used.
- Low dosage beta-blockers - strict surveillance to avoid untoward negative inotropic effects.
- Digoxin, especially if person has concomitant AF.
- Nonpharmacologic interventions may include cardiac resynchronization therapy (CRT).

After acute exacerbation is resolved

Acute exacerbation

- Monitor LV function via a PA catheter.
- Manage fluid overload & improve CO by ↓ SVR & ↑ contractility.
- Give diuretics to ↓ preload. If pulmonary edema develops, additional diuretics are used.
- Morphine given to facilitate peripheral dilation & ↓ anxiety.
- ↓ Afterload and peripheral arterial resistance with a vasodilator like nitroglycerin.
- Nitrates also ↓ preload & vasodilate coronary arteries.
- If indicated, an IABP can be temporarily used to ↓ afterload.
- Administer positive inotropic medications to ↑ contractility.