

Cardiovascular Medications

For nursing students preparing for the NCLEX exam, it is essential to understand key cardiovascular medications, including their uses, side effects, and nursing considerations. Here are some important cardiovascular meds and related facts:

Antihypertensives

A. ACE Inhibitors (e.g., Lisinopril, Enalapril)

- Mechanism: Blocks the conversion of angiotensin I to angiotensin II, leading to vasodilation and decreased blood pressure.
- Uses: Hypertension, heart failure, and post-myocardial infarction.
- Side Effects: Cough, hyperkalemia, hypotension, angioedema.
- Nursing Considerations: Monitor blood pressure, renal function, and electrolytes. Educate patients about the potential for a persistent cough.

B. Beta-Blockers (e.g., Metoprolol, Atenolol)

- Mechanism: Blocks beta-adrenergic receptors, reducing heart rate and cardiac output.
- Uses: Hypertension, angina, arrhythmias, heart failure.
- Side Effects: Bradycardia, hypotension, fatigue, bronchospasm.
- Nursing Considerations: Monitor heart rate and blood pressure. Caution in patients with asthma or COPD.

C. Calcium Channel Blockers (e.g., Amlodipine, Diltiazem)

- Mechanism: Inhibits calcium ions from entering the cardiac and smooth muscle cells, causing vasodilation.
- Uses: Hypertension, angina, arrhythmias.
- Side Effects: Edema, hypotension, bradycardia, constipation.
- Nursing Considerations: Monitor blood pressure and heart rate. Educate patients about potential edema and dietary changes for constipation.

Diuretics

A. Thiazide Diuretics (e.g., Hydrochlorothiazide)

- Mechanism: Inhibits sodium reabsorption in the distal convoluted tubule.
- Uses: Hypertension, edema.
- Side Effects: Hypokalemia, hyperglycemia, hyperuricemia.
- Nursing Considerations: Monitor electrolytes, blood pressure, and blood glucose levels. Encourage potassium-rich foods.

B. Loop Diuretics (e.g., Furosemide)

- Mechanism: Inhibits sodium and chloride reabsorption in the ascending loop of Henle.
- Uses: Edema, heart failure, hypertension.
- Side Effects: Hypokalemia, hypotension, ototoxicity.
- Nursing Considerations: Monitor electrolytes, renal function, and hearing. Educate patients about potassium supplementation.

C. Potassium-Sparing Diuretics (e.g., Spironolactone)

- Mechanism: Inhibits sodium reabsorption in the distal nephron, while sparing potassium.
- Uses: Hypertension, heart failure, hyperaldosteronism.
- Side Effects: Hyperkalemia, gynecomastia.
- Nursing Considerations: Monitor electrolytes and renal function. Educate patients to avoid potassium-rich foods.

Anticoagulants

A. Warfarin

- Mechanism: Inhibits vitamin K-dependent clotting factors.
- Uses: Prevention and treatment of thromboembolic events.
- Side Effects: Bleeding, bruising.
- Nursing Considerations: Monitor INR, educate patients about diet consistency with vitamin K intake, and bleeding precautions.

B. Heparin

- Mechanism: Inactivates thrombin and factor Xa.
- Uses: Prevention and treatment of thromboembolic events.
- Side Effects: Bleeding, thrombocytopenia.
- Nursing Considerations: Monitor aPTT, platelet count, and signs of bleeding.

C. Direct Oral Anticoagulants (e.g., Rivaroxaban, Apixaban)

- Mechanism: Inhibits factor Xa.
- Uses: Prevention of stroke in atrial fibrillation, treatment of DVT/PE.
- Side Effects: Bleeding, GI upset.
- Nursing Considerations: Monitor renal function and signs of bleeding. No routine monitoring required unlike warfarin.

Antiarrhythmics

A. Amiodarone

- Mechanism: Prolongs the action potential and refractory period.
- Uses: Life-threatening ventricular arrhythmias, atrial fibrillation.
- Side Effects: Pulmonary toxicity, liver toxicity, thyroid dysfunction.
- Nursing Considerations: Monitor ECG, liver function tests, thyroid function, and pulmonary status.

Cardiac Glycosides

A. Digoxin

- Mechanism: Increases myocardial contractility and slows heart rate by inhibiting the sodium-potassium ATPase.
- Uses: Heart failure, atrial fibrillation
- Side Effects: Bradycardia, toxicity (nausea, vomiting, visual disturbances).
- Nursing Considerations: Monitor heart rate, digoxin levels, and signs of toxicity. Educate patients about the importance of adherence and recognizing toxicity signs.

General Tips for NCLEX:

- Understand drug classes: Know the common drugs in each class, their mechanisms, and primary uses.
- Side Effects and Monitoring: Be aware of common and serious side effects and the necessary monitoring parameters.
- Patient Education: Be prepared to educate patients on medication adherence, dietary restrictions, and recognizing adverse effects.
- Nursing Considerations : Know the nursing implications for administering these medications, including assessments and interventions for side effects.

Reviewing these medications and their implications can help nursing students feel more prepared for cardiovascular questions on the NCLEX exam.