

MWLCEMS SYSTEM
Continuing Education Packet

Nesiritide

Class: Vasodilator

Trade Name: Natrecor

Nesiritide is a recombinant formulation of endogenous B-type natriuretic peptide (BNP). BNP is secreted by the left ventricle in response to stretching of the myocytes that occurs when left ventricular end-diastolic pressure (preload) is increased. It binds to vascular receptor sites causing smooth muscle relaxation. This dilation of veins and arteries decreases preload and afterload improving the hemodynamic environment for a failing heart to pump in. It also inhibits renin-angiotensin-aldosterone system and endothelin pathways, prompting the release of fluid and sodium from the body.

It is indicated for decompensated heart failure in persons who have dyspnea at rest or with minimal activities and clinical evidence of fluid overload.

Natrecor is contraindicated in patients who are hypersensitive to any of its components. It should not be used as primary therapy for patients with Cardiogenic shock or I patients with a systolic blood pressure of less than 90 mm Hg. Administration of Natrecor should be avoided in patients suspected of having, or known to have, low cardiac filling pressures. It is not recommended for patients for whom vasodilating agents are not appropriate, such as patients with significant valvular stenosis, restrictive or obstructive cardiomyopathy, constrictive pericarditis, pericardial tamponade or other conditions in which cardiac output is dependent upon venous return.

Dosage: IV infusion 0.01mcg/kg/min for up to 48 hours, may be titrated up to 0.03mcg/kg/min

Side Effects include:

- Hypotension
- Headache
- Back pain
- Nausea
- Dizziness
- Anxiety
- Angina
- Palpitations
- Bradycardia/Tachycardia
- Atrial Fibrillation
- Ventricular dysrhythmias
- AV conduction delays
- Increased Serum Creatinine

Pharmacodynamics/Kinetics

Onset of action: 15 minutes (60% of 3-hour effect achieved)

Duration: >60 minutes (up to several hours) for systolic blood pressure; hemodynamic effects persist longer than serum half-life would predict

Half-life elimination: Initial (distribution) 2 minutes; Terminal: 18 minutes

Time to peak: 1 hour

Excretion: Primarily eliminated by metabolism; also excreted in the urine

Special Considerations:

- Monitor HR, BP, urine output and neurologic status
- Note Contraindications: shock; systolic BP less than 90 mm Hg, significant valvular stenosis, restrictive or obstructive cardiomyopathy, constrictive pericarditis and tamponade
- Use caution when the patient is receiving other drugs that cause hypotension (e.g., ACE inhibitors)
- Use cautiously with pregnant or actively lactating patients
- Nesiritide binds with heparin, so do not administer through any heparin-coated catheters.
- Do not administer through the same catheter as Heparin or Bumetanide
- This drug should not be administered through the same line with any other drugs.

MWLCEMS System
Nesiritide
Post Test

Name: _____

Date: _____

Department: _____

1. Endogenous BNP is secreted by the _____ in response to stretching of the myocytes that occurs when left ventricular end-diastolic pressure (preload) is _____.
2. Nesiritide binds to vascular receptor sites causing smooth muscle relaxation and vasodilation.
 - A. True
 - B. False
3. The vasodilation results in _____ preload and _____ afterload.
4. List the indication for Nesiritide:
5. The minimal acceptable systolic blood pressure for someone receiving Nesiritide is _____.
6. Other than hypotension list three other contraindications for the use of Nesiritide.
 - A. _____
 - B. _____
 - C. _____
7. The correct dosage of Nesiritide is:
8. List 5 possible side effects of Nesiritide.
 - A. _____
 - B. _____
 - C. _____
 - D. _____
 - E. _____
9. Nesiritide may be run through the same line as other medications
 - A. True
 - B. False
10. All patient receiving Nesiritide must be on a cardiac monitor.
 - A. True
 - B. False