

Firelands Regional Medical Center School of Nursing  
AMSN 2023  
Unit 6: Heart Failure online assignment (1.5H)

Directions:

- Read Lewis Chapter 34, review ATI Pharmacology Made Easy 4.0: Cardiovascular Module: Drug Therapy for Heart Failure, and review the Unit 6 Pharmacology List.
- Utilizing the resources above, complete the case study. There will be many items for each question.
- Utilizing the Pharmacology List and ATI/Skyscape, complete three ATI Medication Templates from the Pharmacology List.
- This assignment is due in the Unit 6: HF assignment drop box by March 13, 2023 at 0800.
- Be prepared to discuss this assignment in class.
- You must complete the assignment in full to receive the 1.5H theory credit.

Assignment Objectives:

- Determine overall goals in the treatment of heart failure.

**CASE STUDY:**

Frannie Failure, a patient on 4P, calls the nurse and states, "I feel really puffy. My rings feel so tight on my fingers and I am having trouble catching my breath." The patient is lying flat in the bed and is alert and oriented x 3. NS @ 125mL/HR running.

Assessment:

- Vital Signs: T 97.9 oral, HR 120, RR 24, SpO2 86% RA, BP 152/94, pain 0/10.
- Respiratory: Lung sounds- crackles throughout bilaterally, non-productive cough.
- Cardiac: Heart sounds- S3, pedal pulses not palpable, 3+ pitting edema bilateral feet and ankles.
- Skin intact, pale and cool.
- Gastrointestinal: Bowel sounds x4 WNL, BM yesterday morning.
- Intake/Output: Patient has had 900ml in and 200ml out.

**1. What additional information would you want to know?**

- a. How long have they been SOB?
- b. I would want a diet history (especially sodium).
- c. What other medications they are on from other conditions and if they take NSAIDS which can contribute to sodium retention and exacerbate heart failure.
- d. Do they have sleep apnea and if they do, do they use their CPAP machine? Not using their CPAP can worsen pulmonary or systemic HTN and worsen HF.
- e. Are they diabetic, have hyperlipidemia, obese, have HTN, and/ or have metabolic syndrome?

- f. Does she have valvular disease (it may contribute to HF and they may need a repair or replacement)?
  - g. When did they last try to use the restroom?
- 2. What assessment/ interventions would be appropriate for this patient?**
- a. Raise HOB to help aid in breathing. High-fowlers.
  - b. 2L nasal cannula to help the ratio of oxygen demand of the heart/workload of the heart to bring Spo2 up. Along with continuous pulse ox monitoring.
  - c. Influenza and pneumococcal vaccines are important for patients with HF to reduce respiratory infections.
  - d. Possibly a bladder scan since input is significantly higher than output, just to confirm.
  - e. Doppler to try and hear pedal pulses since the legs are too edematous to palpate the pulses.
  - f. Dangle feet for dyspnea. (Raising legs may help with the edema but right now increasing the thoracic capacity by decrease venous return to aid in breathing is the priority).
  - g. Assess for other signs of fluid overload like JVD, positive hepatojugular reflux test, s3 heart sound, crackles, hypoxia, worsening renal function, edema, and ascites (which some have already been evident).
  - h. Assess Q4h for oxygenation.
  - i. Assess for continued decreased UO, cool extremities, altered mentation, heart murmur, dysrhythmias, and hypotension which may indicate decreased perfusion.
- 3. What would you anticipate the healthcare provider to order?**
- a. The HCP may order a cessation on IV fluids to correct edema and crackles/SOB.
  - b. Loop diuretic such as furosemide (Lasix) to correct the pitting edema in her legs and decrease pulmonary venous pressure, and help her symptoms of fluid congestion.
  - c. Drug therapy with other medications listed below, such as metoprolol (lower BP and HR) and captopril (prevent and reverse heart remodeling).
  - d. Higher oxygen rate if needed. Or possibly BiPAP or intubation if worsening ventilation.
  - e. Lab tests for BNP, cardiac biomarkers, liver function tests, thyroid function tests, CBC, lipid profile, kidney function tests, and urinalysis.
  - f. Chest x-ray, 12 lead ECG, 2-dimentional echocardiogram, nuclear imaging studies, cardiac catheterization.
  - g. Heart healthy diet.
  - h. Daily weights.
  - i. Stress test.
  - j. Transfer to ICU if unstable.
- 4. What medications would be appropriate for this patient (include all pertinent from the Pharmacology List) ? Doses? Nursing Interventions? You will pick three of these medications to complete the ATI Medication Templates.**
- a. Appropriate medications for heart failure may include a diuretic (loop, thiazide, or potassium sparing), an inotrope, a RAAS inhibitors (ace inhibitors and ARBS), a beta blockers, amongst others.

- b. The drugs I chose to do templates on are dobutamine ( positive inotrope b-adrenergic antagonist), digoxin (digitalis glycoside), and milrinone (phosphodiesterase inhibitor). (See 3 attached med lists).
  - c. Other specific drugs include captopril, lisinopril, and enalapril which are ACE inhibitors and prevent/ reverse remodeling of the heart.
  - d. ARBs like losartan and valsartan help reduce mortality for patients with HF.
  - e. Digoxin reduces HF symptoms, and the dose is based on body mass and renal function but the usual maintenance dose is 0.125 mg daily.
  - f. Dobutamine increases contractility of the heart to increase CO (but may cause dysrhythmias so may need amiodarone).
  - g. Entresto (Nepriylsin-angiotensin receptor inhibitor) lowers BP, vasodilates, and improves renal blood flow.
  - h. Furosemide, hydrochlorothiazide, and spironolactone all are diuretics with different modes of action that help to increase urine output which decreases fluid volume from HF.
  - i. Morphine can help vasodilate to reduce pulmonary congestion.
  - j. Nitrates like isosorbide and nitroglycerin can help reduce afterload, increase renal perfusion, increase fluid loss, decrease BP, decrease preload, and relieve HF symptoms (dyspnea).
- 5. What patient education would you include?**
- a. Daily weights (call HCP with weight gain of 3lb (1.4 kg) over 2 days, or 2-5lb weight gain over a week).
  - b. Low sodium diet.
  - c. Lifestyle change such as diet and exercise to help if they have HTN, diabetes, hyperlipidemia, metabolic syndrome, or are obese.
  - d. To understand HF is a chronic and progressive disease and will require lifelong therapies.
  - e. S/S of digoxin toxicity and how to administer digoxin (how to take pulse for full minute beforehand and to hold if bradycardic).
  - f. S/S of hypokalemia or hyperkalemia with diuretic use (weakness, fatigue, constipation, muscle cramping)