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March 13th, 2023

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**?
   For this patient, I would want to know their history including current admitting diagnoses, I would want to see the patient's most recent lab values, what medications they are taking (including over-the-counter meds), and of any recent diagnostic findings.
2. **What assessment/ interventions would be appropriate for this patient?**
   This first things I would do is sit the patient up (raise the HOB), administer oxygen via Nasal Cannula, and stop/saline lock the fluids that had been running. I would do a bladder scan to determine PVR volume. I would implement new orders such as daily weights, sodium restricted diet, O2 administration, Q1HR Vital Signs, Strict I/O Q1HR until stabilized, continuous ECG and pulse oximetry monitoring, hemodynamic monitoring, cardioversion, ultrafiltration, etc.

3. **What would you anticipate the healthcare provider to order?**
   I would anticipate orders for oxygen administration, new medications, EKG monitoring, possibly other diagnostic and/or laboratory tests, frequent vital sign checks including continuous oxygen saturation monitoring, and frequent physical assessments, daily weights, and frequent I/O's.
4. **What medications would be appropriate for this patient (include all pertinent from the Pharmacology List) ? Doses? Nursing Interventions? <u>You will pick three of these medications to complete the ATI Medication Templates.</u>**

Captopril: PO (Adults): PO (Adults): 6.25-mg test dose, followed by 12.5 mg 3 times daily, may be ↑ up to 50 mg 3 times daily. (max dose = 450 mg/day). Correct volume depletion, if possible, before initiation of therapy due to possible precipitous drop in BP during first 1–3 hr following first dose. Risk of hypotension may be decreased by discontinuing diuretics or cautiously increasing salt intake 2–3 days prior to beginning captopril. Monitor BP closely. Resume diuretics if BP is not controlled. PO Administer 1 hr before meals or 2 hr after meals. May be crushed if patient has difficulty swallowing. Tablets may have a sulfurous odor. An oral solution may be prepared by crushing a 25-mg tablet and dissolving it in 25–100 mL of water. Shake for at least 5 min and administer within 30 min.

Losartan: PO (Adults): 50 milligrams (mg) once a day. May be adjusted as needed. Monitor signs of angioedema, including rashes, raised patches of red or white skin (welts), burning/itching skin, swelling in the face, and difficulty breathing. Notify physician immediately of these signs. Assess blood pressure periodically and compare to normal values to help document antihypertensive effects. Report low blood pressure (hypotension), especially if patient experiences dizziness or syncope. Assess peripheral edema using girth measurements, volume displacement, and measurement of pitting edema. Report increased swelling in feet and ankles or a sudden increase in body weight due to fluid retention.

Digoxin: PO (Adults): 10 to 15 micrograms (mcg) per kilogram (kg) of body weight. Doctor may adjust as needed. Maintenance dose 3 to 4.5 mcg per kg of body weight per day. Monitor apical pulse for 1 min before administering; hold dose if pulse < 60 in adult or < 90 in infant; retake pulse in 1 hr. If adult pulse remains < 60 or infant < 90, hold drug and notify prescriber. Note any change from baseline rhythm or rate. Check dosage and preparation carefully. Avoid IM injections. Avoid giving with meals; this will delay absorption. Have emergency equipment ready; have K+ salts, lidocaine, phenytoin, atropine, and cardiac monitor readily available in case toxicity develops. Monitor for therapeutic drug levels: 0.5–2 ng/mL.

Diltiazem: PO (Adults): 180 to 240 milligrams (mg) once daily (morning). Doctor may adjust as needed. Check blood pressure, heart rate, and cardiac monitor prior to administering diltiazem. Assess baseline renal (BUN, Cr) and liver function (AST, ALT) lab tests. Monitor for signs of heart failure (e.g., pulmonary edema, weakness, dyspnea).

Dopamine: (Adults) Initial dose: 2 to 10 mcg/kg/min IV by continuous infusion. Maintenance dose: 2 to 50 mcg/kg/min IV by continuous infusion. Monitor BP, heart rate, ECG, pulmonary capillary

wedge pressure (PCWP), cardiac output, CVP, and urinary output continuously during the administration. Report any significant changes in vital signs or arrhythmias. Monitor patient's status against physician for parameters for pulse, BP, or ECG changes for adjusting dose or discontinuing medication.

Furosemide: PO (Adults) 20 to 80 milligrams (mg) once a day as a single dose or divided and given twice per day. Assess fluid status. Monitor daily weight, intake and output ratios, amount and location of edema, lung sounds, skin turgor, and mucous membranes. Notify health care professional if thirst, dry mouth, lethargy, weakness, hypotension, or oliguria occurs. Monitor BP and pulse before and during administration.

Hydrochlorothiazide: PO (Adults) 25-100 mg PO once daily or twice daily; not to exceed 200 mg/day. Give with food or milk if GI upset occurs. Administer early in the day so increased urination will not disturb sleep. Measure and record weights to monitor fluid changes. Monitor patient closely for changes in effectiveness of their other medications.

Beta Blockers: PO (Adults): 80 milligrams (mg) once a day (bedtime). Monitor heart rate and report rate slower than 60 beats/min (or prearranged parameter) to provider. Monitor for signs of heart failure and report to provider. Teach client not to stop beta blocker suddenly. On discontinuation, taper dose slowly over 1 to 2 weeks. Monitor for color, temperature, and pulses in extremities (pulses may be present even if poor circulation exists). Monitor for CNS effects.

Milrinone: (Adults) Loading dose: 50 mcg/kg IV over 10 minutes. Maintenance: 0.375 to 0.75 mcg/kg/min. Monitor intake and output and daily weight. Assess patient for resolution of signs and symptoms of HF (peripheral edema, dyspnea, rales/crackles, weight gain) and improvement in hemodynamic parameters (increase in cardiac output and cardiac index, decrease in pulmonary capillary wedge pressure).

Spironolactone: (Adults) tablets: 100 milligrams (mg) per day, taken in either single or divided doses. Suspension: 75mg (15mL) per day, taken in either single or divided doses. Implement fall-precautions. Monitor patient for arrhythmias and other diuretic side effects (dizziness, muscle cramps), and monitor their lab values, intake and output, and their weight. Caution patient to be slow with position changes due to possibility for orthostatic hypotension.

5. What patient education would you include?

Information on how to prevent exacerbations. Recognize signs such as increased shortness of breath or edema. Monitor weight daily at home. Teach them to report weight gain (sudden increases) to their HCP. Restrict fluid intake to 2 to 2.5 L per day and restrict sodium intake as prescribed. Advise the patient of the importance of medication compliance. Be sure the patient (and family) understand the medications, including the effects, correct dosage, correct route, potential adverse effects to look out for, and the need for routine laboratory monitoring for certain drugs. Advise the patient that any chest

pain unrelieved by rest, or any onset of shortness of breath not relieved with rest, is reason to call for emergency assistance.