

1 CLASS PREP: CARDIAC DAY 2

Video – Heart Failure

- > Watch the following video about the fundamentals of heart failure then complete the case study below.
- > https://youtu.be/Y1IUFgh2T_E?si=U5fo4s5Y7BsRw55x

CASE STUDY

You are working in the internal medicine clinic at Beebe. Today your first patient is 70-year-old J.M., a man who has been coming to the clinic for several years for management of coronary artery disease (CAD) and hypertension (HTN). A cardiac catheterization done a year ago showed 50% stenosis of the circumflex coronary artery. He has had episodes of dizziness for the past 6 months and orthostatic hypotension, shoulder discomfort, and decreased exercise tolerance for the past 2 months. On his last clinic visit 3 weeks ago, a chest x-ray (CXR) examination revealed cardiomegaly. You review J.M.'s morning blood work and initial assessment.

Laboratory Results

Chemistry

Sodium	142
Chloride	95
Potassium	3.9
Creatinine	0.8
Glucose	132
BUN	35

Initial Assessment

Complete Blood Count

WBC	5.4
Hgb	11.5
Hct	37%
Platelets	229

J.M. reports increased fatigue and shortness of breath, especially with activity, and “waking up gasping for breath” at night, for the past 2 days.

Vital Signs

Temperature	97.9 ° F (36.1 ° C)
Blood pressure	155/93
Heart rate	105 beats/min
Respiratory rate	18 breaths/min

1. Highlight the lab results that cause you concern and explain why.

The BUN is elevated as the norm is maximum 20 mg/dL this could indicate renal impairment. Sugar elevation as high as 132 is concerning because it is considered hyperglycemic and could damage renal perfusion (also increase risk for UTIs).

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CASE STUDY PROGRESS

J.M. tells you he becomes exhausted and has shortness of breath climbing the stairs to his bedroom and must lie down and rest (“put my feet up”) at least an hour twice a day. He has been sleeping on 2 pillows for the past 2 weeks. He has not salted his food since the provider told him not to because of his high blood pressure, but he admits having had ham and a small bag of salted peanuts 3 days ago. He states that he stopped smoking 10 years ago. He denies having palpitations but has had a constant, irritating, nonproductive cough lately.

2. You think it’s likely that J.M. has heart failure (HF). From his history, what do you identify as probable causes for his HF. The heart failure is likely caused by the pt.’s HTN.

3. For each potential assessment listed, specify whether it is associated with left-sided HF or right-sided HF.

Potential Assessment Finding	Left-Sided HF	Right-Sided HF
a. Weakness	<input type="checkbox"/>	
b. Jugular (neck) vein distention		<input type="checkbox"/>
c. Dependent edema (legs and sacrum)		<input type="checkbox"/>
d. Hacking cough, worse at night	<input type="checkbox"/>	
e. Enlarged liver and spleen		<input type="checkbox"/>
f. Exertional dyspnea	<input type="checkbox"/>	
g. Distended abdomen		<input type="checkbox"/>
h. Weight gain		<input type="checkbox"/>
j. Crackles and wheezes in lungs	<input type="checkbox"/>	

CASE STUDY PROGRESS

The provider confirms your suspicions and indicates that J.M. is experiencing symptoms of early left-

sided heart failure. An echocardiogram is ordered. Medication orders are written.

Medication Orders

- ✓ Enalapril 10 mg PO twice a day
- ✓ Furosemide 20 mg PO every morning
- ✓ Carvedilol IR 6.25 mg PO twice a day
- ✓ Digoxin 0.5 mg PO now, then 0.125 mg PO daily
- ✓ Potassium chloride 10-mEq tablet PO once a day

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4. For each medication listed, identify its class and nursing assessments related to each.

Medication	Classification	Nursing Assessments
Enalapril	Ace Inhibitor	Check BP prior to administration.
Furosemide	Loop Diuretic	Furosemide DECREASES POTASSIUM monitor for signs of hypokalemia
Metoprolol	Beta Blocker	Monitor for bradycardia
Digoxin	Cardiac glycoside	Hold if HR is <60
Potassium Chloride	Electrolyte replacement	Check potassium levels before administration

5. When you go to remove the medications from the RX Station, you see that carvedilol (Coreg ER) is stocked. Will you give it to J.M.? Explain.

Carvedilol is a Beta Blocker, which lowers BP and HR. With the pt's current vitals having tachycardia and HTN carvedilol would be indicated.

6. As you remove the digoxin tablet from the automated medication dispensing machine, you note that the dose on the tablet label is 250 mcg. How many tablets would you give?

2.

7. Based on the new medication orders, which blood test or tests will be monitored carefully? Explain your answer.

Potassium: furosemide causes the body to shed K⁺ and is the

END