



QUESTIONS (SELECT ALL THAT APPLY)

1- Heather was working with a patient on the medical floor with +3 edema in the extremities. When the patient sat up to eat their breakfast she noticed that she could see their veins start to budge in their neck. She placed a call to the physician with what concern?

- A- Left sided HF
- B- Right sided HF
- C- Left & right sided HF
- D- HF with preserved EF

2- Later in her shift she was caring for a 71 year old patient with a history of ETOH, amyloidosis and hyperthyroidism being treated for complications r/t COPD. As a SN she was having trouble ascertaining if the patient had ascites or if their obesity created a body composition that gave the appearance of ascites. She asked her clinical instructor for support and Wynona took her to the MAR to pull up imaging labs. There she showed Heather images of the patient's spleen and liver and pointed out that they were enlarged. What information provided in this case studies indicates signs of right sided HF?

- A- Trouble breathing, SOB, COPD
- B- Ascites, Splenomegaly, Hepatomegaly
- C- Obesity, Age, COPD, Ascites
- D- Age, ETOH, Amyloidosis, Hyperthyroidism

3- The patient has an EF of 29%. The nurse assumes this patient has:

- A- HFrEF
- B- HFpEF
- C- Systolic HF
- D- Diastolic HF

4- My friend Jennifer is 79 years old with a hx of HTN and stenosed valves. When I started nursing school and began to learn about HF what did I wonder if Jennifer was going to encounter?

- A- HFrEF
- B- HFpEF
- C- Systolic HF
- D- Diastolic HF

5- When the kidneys are compromised, how will this contribute to HF? Circle all that apply:

- A- Erythropoietin
- B- Renin
- C- Homocysteine
- D- Calcium/Phosphate
- E- Magnesium
- F- Increased/Decreased urination



Match the stages with the patient: (Class 1, II, III & IV)

6- Justin is a 48 year old male who trains weight lifting 2x/week and does HIIT 3x/week. He takes his dog for a walk on most days (except for when it's rainy) and enjoys the menu options at 5 Guys Burgers about once a week. Justin takes a daily multi-vitamin and probiotics. He also takes 5-6 fish oil capsules a day to help him train without inflammation but other than this, is not on any medications.

7- David is a 45 year old father of 2 and works in the tech industry. Occasionally when participating in his weekly basketball club for middle-aged athletes, he feels a swelling in his body and keeps meaning to make an appointment to speak with his PCP about this. His father has HF and takes sublingual nitro but David is not on any medications.

8- Steve is a 73 year old male and an active football player in his youth. He continued to be physically active into adulthood but due to his heart issues physical discomfort began to always make it painful for him to be active to the point where the only thing he could do that felt comfortable was watch The Unbreakable Kimmy Schmidt on NetFlix. Sometimes even this was painful because he laughed so hard (Tina Fey is brilliant!!!).

9- Ken is a 71 year old male who struggled with obesity his entire life. Although he was never open about it, the family suspected he also had significant issues with HTN due to the bulging vasculature in his forehead and slightly aggressive constitution. These co-morbidities were detrimental and even laying in bed was painful for him. His wife confided in the rest of the family how worried she was that he would have a heart attack.

10- Heather went home and visited her 75 year old father over the holidays. Since nursing school she has been interested in the health of her family members and asked her father about his recent visit to the doctors. He replied that his doctor diagnosed him as having HFrEF. Heather knew that this would mean his medications regime would include:

- A- Losartan & Blahblanolol
- B- Furosemide & Lisinopril
- C- Lisinopril & Spironolactone
- D- Accupril & Atenolol

11- Heather went back to California this February to attend an event and had a chance to catch up with one of her teacher's from *Salvador, Bahia (Brasil). He mentioned that he just had to go on medication for his heart but could not remember what they were called. He also explained what she believed was a systolic HF condition. Heather kept rambling medication names to jog his memory. Which one of these lists is likely the medications her friend from Salvador was taking for his heart:



**Salvador, Bahia is predominantly populated by people of African descent.*

- A- Losartan, Blahblanolol, Hydrochlorothiazide and Isosordil
 - B- Furosemide, Lisinopril, Isosorbide
 - C- Lisinopril, Spironolactone & a Nitrate
 - D- Accupril, Lasix, Atenolol & Hydralazine
-

ANSWERS:

1- Right sided HF. The blood is backing up into the body.

This often develops as a result of left sided HF

2- B - Ascites, Splenomegaly & Hepatomegaly.

All of the things listed for this pt. are r/t HF but only B is specific to the right sided HF symptoms. Just a friendly reminder to carefully read questions.

Risk factors for HF include:

- HEART- MI, HTN, CAD, Arrhythmias, Hx of ischemic heart disease, valve disorders, myocarditis, Amyloidosis, Endocarditis
- LUNG - COPD, PE, Smoking
- OTHER - Renal Disease, DM2, Aging, Obesity, Congenital defects

Right sided HF:
Peripheral edema
Ascites
JVD
Hepatomegaly
Splenomegaly

3- Both A & C

Systolic HF is HFrEF (EF , 40%)

4- More women have HFpEF than men d/t hormones that preserve this.

During HRpEF the ventricles fail to relax during diastole likely d/t the tissues has thickened and/or stiffened. The EF for the preserved HF is usually 50-70%. Usually d/t HTN or valve stenosis.

A- Erythropoietin: The kidneys produce erythropoietin and without this there will not be enough hemoglobin which means less O₂ l/t the heart has to work harder.



B- Renin: The BP will not be maintained towards homeostasis with a lack of renin (from the kidneys).

C- Homocysteine: Homocysteine is an amino acid. High levels are associated with HF and also related to low vitamin levels of Vitamin B6 & 12, folate and renal disease.

D- Calcium/Phosphate: Decreased nephron function l/t Hyper-phosphatemia which = Hypocalcemia.

6- Justin = Class 1

7- David = Class II

8- Steve = Class III

9- Ken = Class IV

Class I = NO symptoms. No limitations

Class II = No Symptoms @ rest.

Class III = ONLY comfortable @ rest.

!!!Class IV = Symptoms @ rest!!!

10 & 11- HFrEF Treatment: ACEi & Beta Blocker: (-pril) and (-olol)

Examples:

Lisinopril and Metoprolol

Accupril & Atenolol

IF the ACEi CAN NOT be tolerated d/t the cough, then an ARB will be prescribed.

Examples of this protocol will look like this:

Losartan & Nadolol

Olmесartan & Propanolol

For fluid overload - remember to add in a loop diuretic (i.e. furosemide) - check for hypokalemia
Persons of African descent will also add in a Hydral-Nitrate (Isosordil)

I remember this because the first 2 letters of the alphabet are A & B.

The alphabet is at the heart of learning.

The A (ACEi) & B (Beta-Blockers) are the first 2 drugs to treat heart failure.

