

Time	Patient Name	Age	Type	Notes
10:40 AM	James, Richard	62 M	WALK-IN	Short of breath

*NOTE: This is not a real patient!

A 62-year-old African American man with known systolic heart failure presents with worsening dyspnea on exertion. He reports that he now feels short-winded with minimal activity, though he has not needed to add pillows to his bed at night, and he is not experiencing paroxysmal nocturnal dyspnea. He does report breathing easier when he lies on his left side. He has been taking his medication and adhering to an appropriate diet.

PMH:

CHF (EF 25%) d/t ischemic CM
Hyperlipidemia
HTN
CAD, s/p DES to LAD
CKD, stage II

Meds:

Lisinopril 10 mg daily
Carvedilol 25 mg BID
Rosuvastatin 10 mg daily
Aspirin 81 mg daily
Spironolactone 25 mg daily
Furosemide 40 mg daily

Soc Hx:

Current 1.5 ppd smoker
Prior EtOH abuse
No illicit drug use

ROS:

(-) weight change (reported dry weight = 148 lb)
(-) fevers or chills
(-) chest pain, (-) hemoptysis

Exam:

VS: T 37.4 HR 80 BP 96/60 RR 22 SpO₂ 100% (RA) Wt 147 lb
Gen: Slightly uncomfortable male, (+) mild temporal wasting
CV: Normal S1/S2, RRR, (+) 3/6 holosystolic murmur at apex with radiation to axilla, CVP at 7 cm, (+) trace BLE pitting edema to mid-shin
Resp: Breathing mildly labored, but no accessory muscle use; (+) Diminished BS at R base with associated dullness to percussion and decreased fremitus, no egophony
GI: Abdomen soft, NT/ND, NABS

Data: CXR PA/lat/decubitus: see following pages.







UP

DECUB

DOWN

Which of the following MOST STRONGLY indicates a need for thoracentesis in a patient with heart failure and pleural effusions?

- A. Lateral decubitus film demonstrates unilateral effusion with >10 mm of layering fluid
- B. BNP level is unexpectedly normal
- C. The patient becomes hypotensive following attempts at diuresis
- D. The patient has evidence of respiratory compromise
- E. None of the above. As heart failure is a cause of pleural effusions, there is no need for an invasive procedure.

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Answers:

Which of the following MOST STRONGLY indicates a need for thoracentesis in a patient with heart failure and pleural effusions?

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- B. BNP level is unexpectedly normal
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- D. The patient has evidence of respiratory compromise
- E. None of the above. As heart failure is a cause of pleural effusions, there is no need for an invasive procedure.

Discussion Points:

1. CHF, when controlled, should not produce pleural effusions. Pleural effusions found during heart failure exacerbations are typically bilateral and similar in size. Most resolve within 48 hours after diuresis is started.
2. A unilateral effusion is highly abnormal and not characteristic of heart failure. Thoracentesis should be performed to determine the etiology.
3. Other features that are not typical of heart failure and may suggest an alternate primary etiology for pleural effusions include pleuritic chest pain, fever, and effusions that do not resolve with diuresis.
4. While respiratory compromise certainly warrants aggressive heart failure treatment, it does not necessarily warrant thoracentesis in all heart failure patients who have effusions.
5. A pleural effusion that layers less than 10 mm is considered small and should not prompt thoracentesis.

Reference(s):

Light RW. Pleural Effusion. *NEJM* 2002; 346(25): 1971-77.

Full text: <http://www.nejm.org.proxy.library.emory.edu/doi/full/10.1056/NEJMcp010731>