

N202 Unit III
Class Preparation Assignment – Dysrhythmia Case Study

Patient Profile:

F.B is a 70-year-old male who was admitted to the hospital with decompensated heart failure. During his hospitalization, he experienced a cardiac arrest secondary to pulseless ventricular tachycardia and was successfully defibrillated. He is now in the Intensive Care Unit under your care, receiving close monitoring.

PMH:

CAD, CHF, HTN, HLD, previous MI

Subjective Data:

Reports dyspnea with activity, fatigue, & mild chest discomfort from the defibrillation

Objective Data:

Appears pale & anxious

Vitals: HR 70 bpm, BP 104/56 mmHg, RR 26/min, SpO2 92% on 2L NC, T 100.1 Oral

Focused Assessment: crackles auscultated in lung bases, shallow inspiratory effort, audible S3 present on cardiac auscultation

Diagnostics: Echocardiogram – EF 25%, K+ 2.9 mEq/L on morning labs, Telemetry – strip below



Questions:

- 1) Interpret the rhythm above: **Sinus with 2 unifocal PVCs**
- 2) Identify two reasons why F.B. may be experiencing this ectopy:
PMH of CAD and CHF, previous MI and survived SCD
Hypokalemia (K+ 2.9 mEq/L)
- 3) Why is F.B. on an amiodarone infusion?
Amiodarone – Class III antiarrhythmic, inhibits adrenergic stimulation, prolongs the AP and refractory period, and decreases AV conduction and sinus node function
 - **Used to manage life-threatening, recurrent V-fib or recurrent, hemodynamically unstable V-tach (i.e. Prevention of recurrent ventricular arrhythmias, rate control)**

Change in Condition:

Later that same day, F.B. receives potassium replacement and continues to be monitored on the Amiodarone infusion. He begins to complain of dizziness and increased weakness.

New set of vital signs reveals: HR 42 bpm & BP 88/46 mmHg.

Telemetry now shows: P waves that are present and regular, QRS complexes that are slow and regular, but no consistent relationship between P waves and QRS complexes.

The provider orders a temporary pacemaker.

Questions:

- 4) Based off of the telemetry description above, what rhythm is F.B. now experiencing?
Third-degree AV block (Complete heart block)
- 5) What is the main purpose of a temporary pacemaker in this situation?
Maintain adequate CO and HR to prevent subsequent ischemia, HF, syncope, and shock.
- 6) Based on F.B.'s history and hospitalization, is he a candidate for an implantable cardioverter-defibrillator (ICD) prior to discharge?
Yes, F.B. is a candidate for an ICD
 - **Survived SCD – Cardiac arrest secondary to pulseless V-tach**
 - **Risk factors for life-threatening cardiac dysrhythmias – CAD, CHF, previous MI**
 - **Symptomatic (e.g. Dizziness, HR 42, BP 88/46, weakness) – Indicative of decreased CO, cerebral hypoperfusion**
 - **EJ of < 25%**