

*14th Annual UMEM
Residency ECG
Competition*

May 6, 2026



Name: _____

What program are you in? (circle one)

EM

EM/Peds

EM/IM

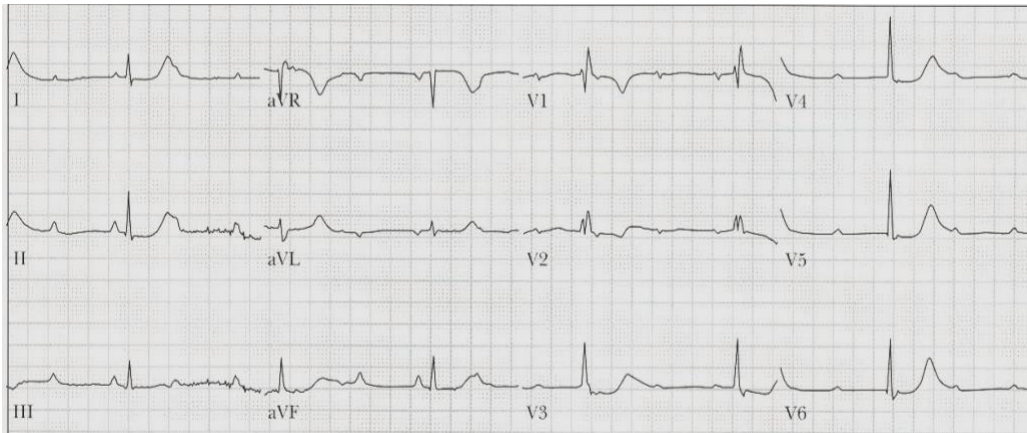
EM/IM/CC

What is your PG year? (1-5) _____

PLEASE READ THIS PAGE BEFORE BEGINNING!

In some of the following questions, I'll ask you for a FULL ECG interpretation/diagnosis. Here's what I am asking for:

SAMPLE QUESTION: A 58 yo M presents with chest pain and the ECG noted below. What is the FULL ECG diagnosis? (5 points)



Answer:

Sinus tachycardia, complete heart block, junctional escape rhythm, RBBB, diffuse ischemia

In this example, I would give you 1 point for identifying the atrial rhythm (ST), one point for identifying CHB, 1 point for identifying that there is a junctional escape, 1 point for identifying the RBBB, and one point for noting the ischemia (ST depression in multiple leads). In other words...

be complete in your interpretation!

Be sure that you **don't just describe what you see....interpret the ECG!** For example, I don't want you to say "ST depression in ___ leads." I want you to say "diffuse ischemia."

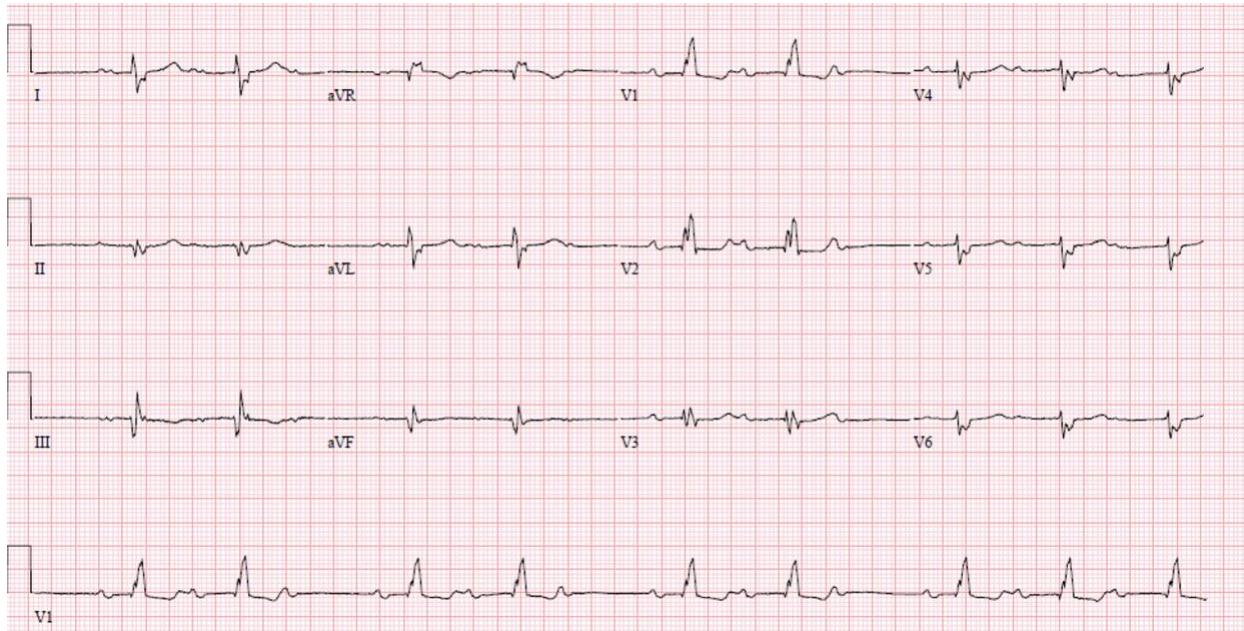
Also, in your interpretation, if you think there's an underlying issue, say it.

For example, if you think the underlying dx is hyperK, or TCA OD, or Brugada, etc., say it.

Don't assume that points correlate with the number of things I am looking for. For example, if something is worth 3 points, that does NOT mean there are 3 things you need to list! Points are allotted based on how important I think something is.

Also, for all of the questions below, please assume that a cath lab is not immediately available to you.

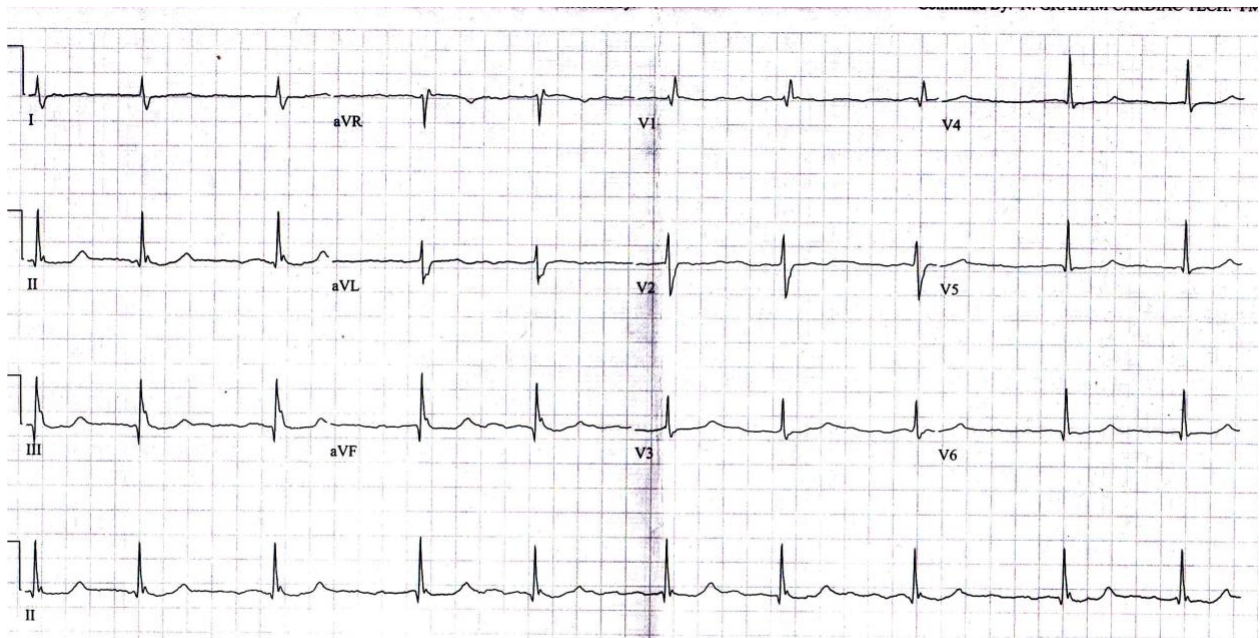
1. A 75 yo M presents after an episode of near-syncope. His BP is 110/65. He is awake and alert. What is the FULL ECG diagnosis? (4 points)



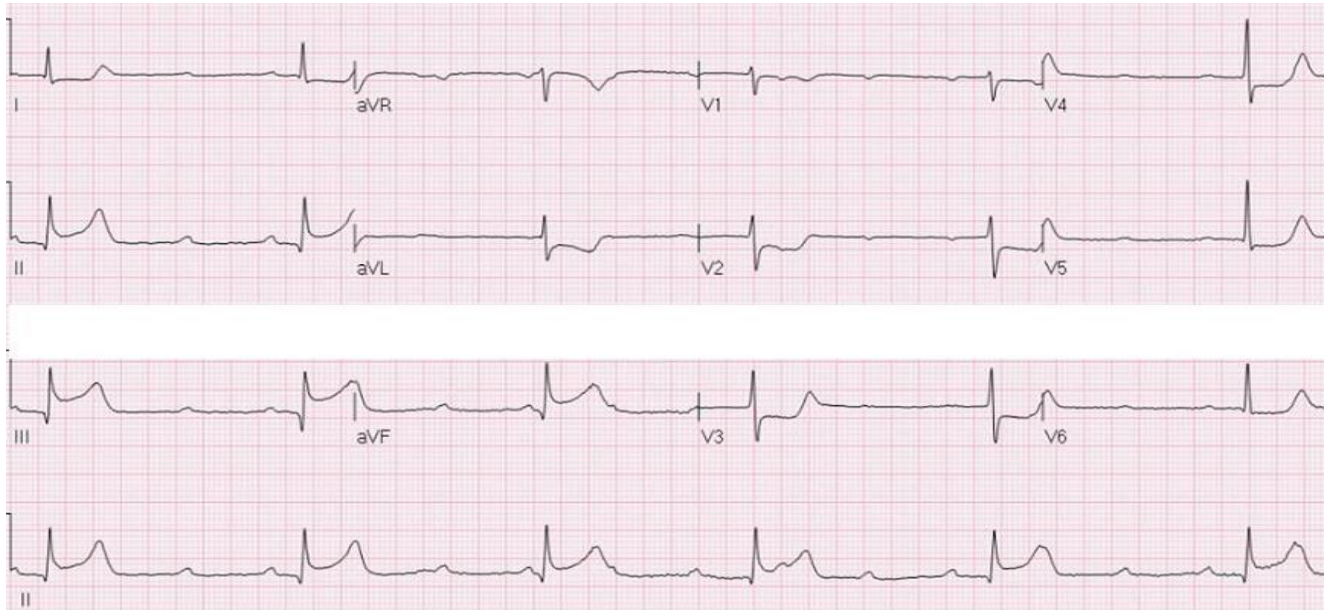
2. A 36 yo M presents with gradual progression of dyspnea on exertion, palpitations, and lower extremity (LE) edema over the past 2-3 weeks. He has a long history of exercise intolerance and intermittent atrial fibrillation.

What diagnosis is suggested by the ECG as the underlying cause of his symptoms? (2 points)

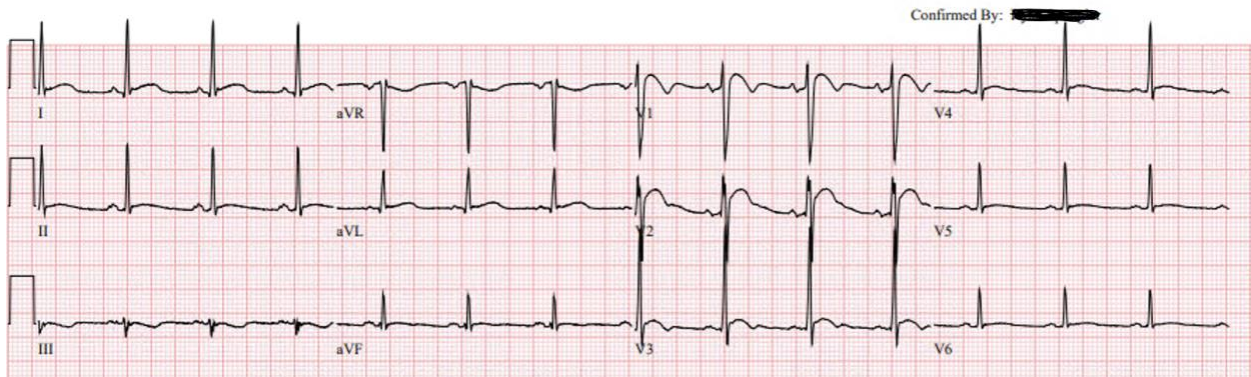
What do you expect to find on his exam (aside from JVD & LE edema)? (2 points)



3. A 56 yo W presents w/chest tightness and dyspnea. BP is 125/75.
What is the FULL ECG diagnosis? (4 points)

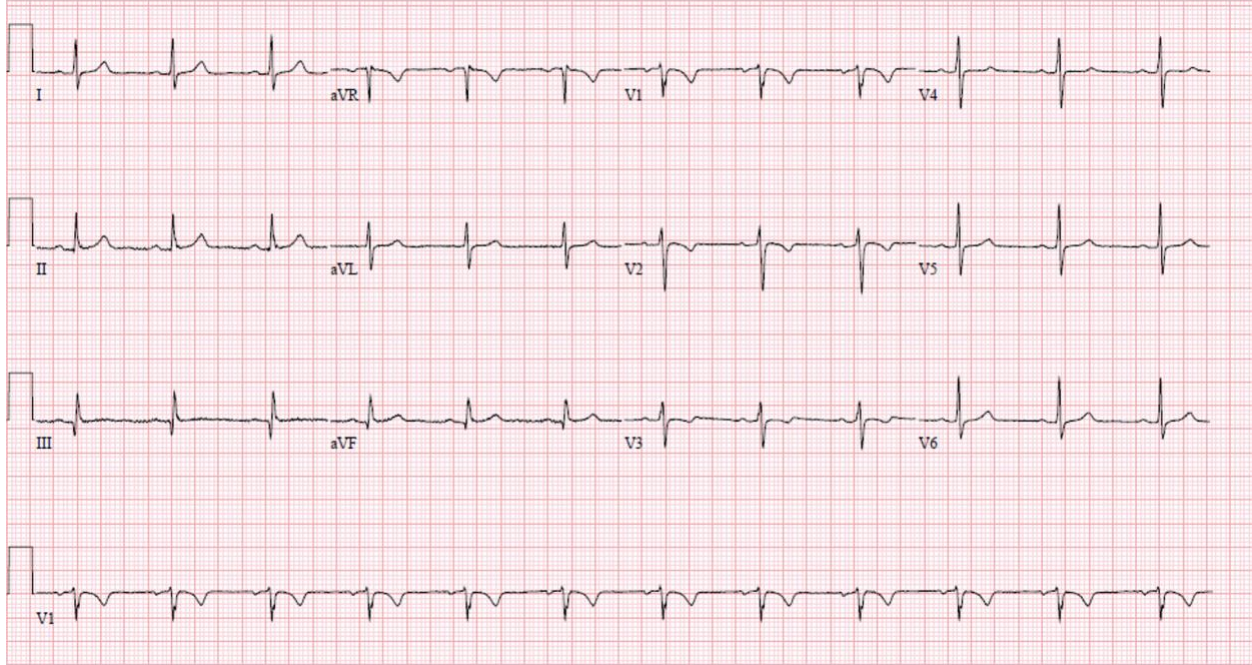


4. A 35 yo M presents with vomiting and weakness. His BP is 105/58.
What is the diagnosis? (2 points)
What is the most important therapy for this patient in the first hour? (2 points)



5. A 33 yo W presents with reproducible chest wall pain and clinically was considered to be low-risk for ACS, but an ECG showed a T wave abnormality in leads V1-V3, seen below. What is the diagnosis? (2 points)

Name 4 other conditions that can produce T wave inversions in leads V1-V3. (2 points)



6. A 65 yo M non-English-speaker presents to triage “not feeling well” and he looks sick. BP is 85/55. An ECG is obtained in triage. People are trying to find the iPad translator for more hx... What is the most likely diagnosis? (2 points)

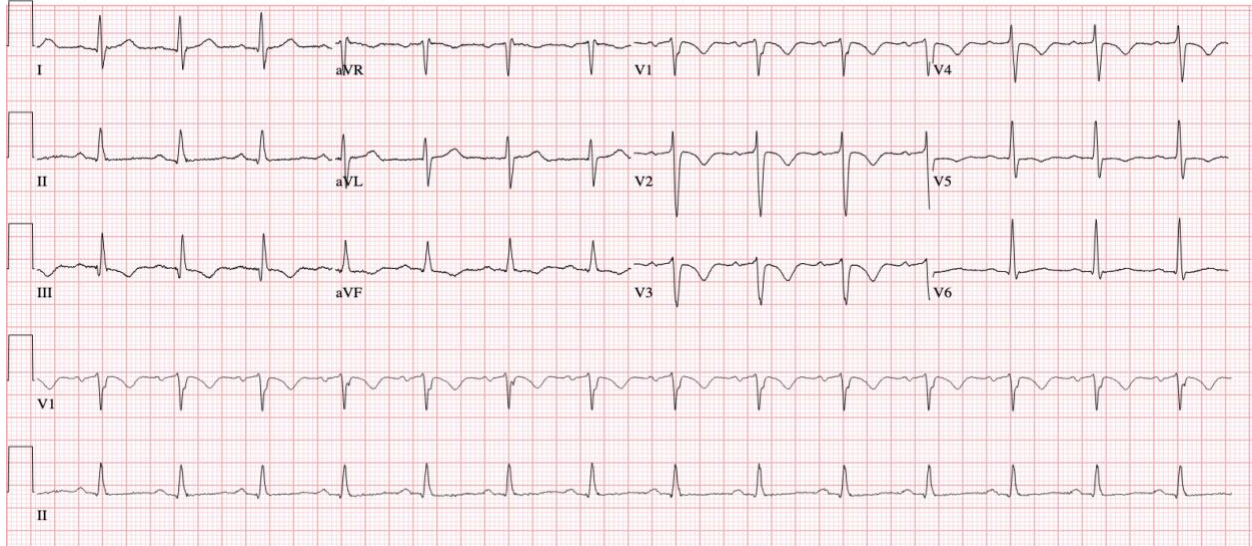
Shortly after this ECG, the patient has a cardiac arrest. What is/are the most important medication(s) to call for? (2 points)



7. A 67 yo M presents with chest pain. BP is 105/65.

What is the most likely diagnosis? (2 points)

Aside from T wave inversions, what are 4 other ECG findings that are often found in this condition? (2 points)

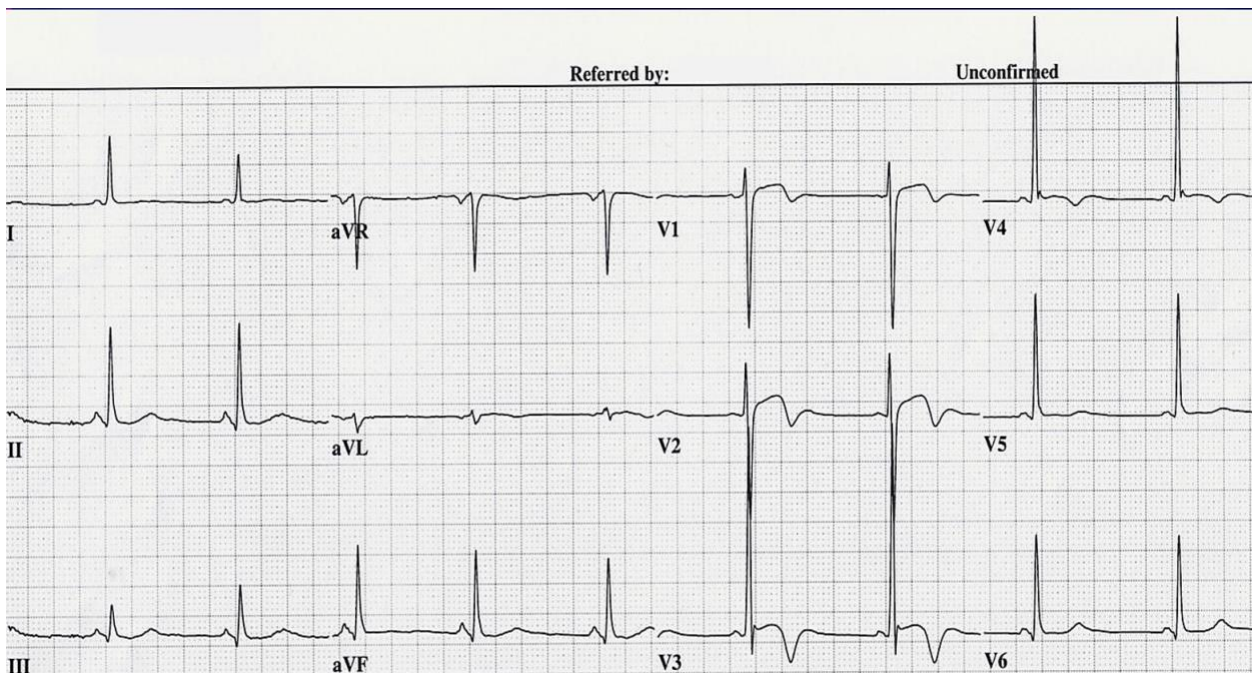


8. A 34 yo M runner presents with vomiting and severe malaise after a tough cardio workout.

BP is 110/65.

What is the most likely diagnosis? (2 points)

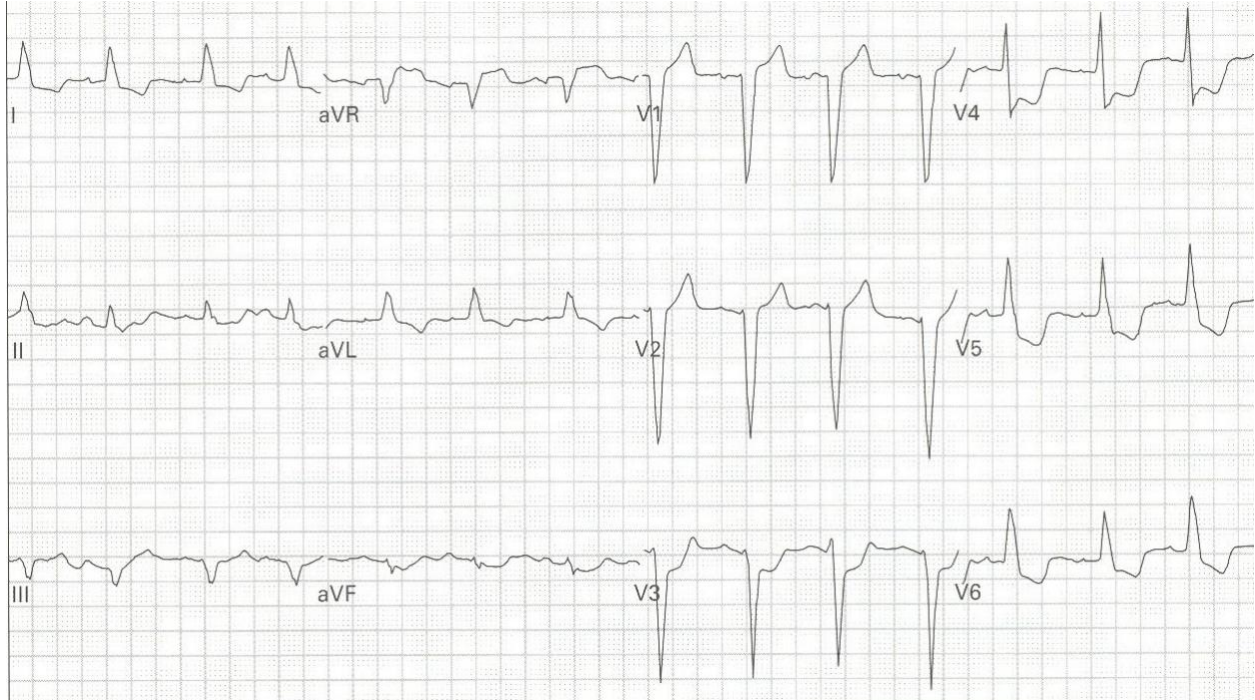
What is the treatment? (2 points)



9. 56 yo W presents with chest pain. BP 89/55.

What is the FULL ECG diagnosis? (2 points)

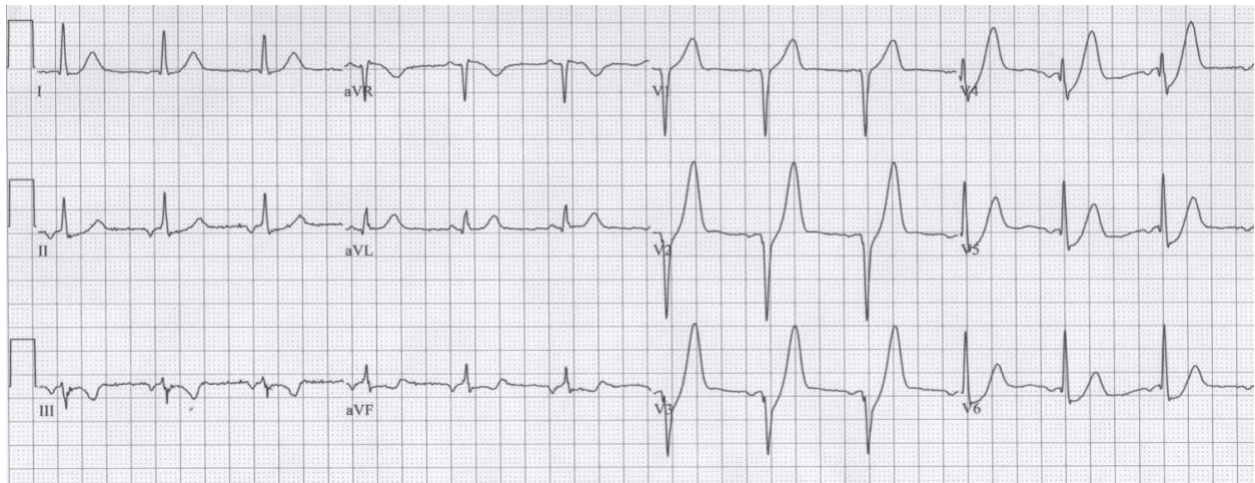
Based on current U.S. (ACC) guidelines, identify which lead(s) is/are diagnostic for the condition you identified above. (2 points, but lose a point if you identify leads that are not diagnostic)



10. A 69 yo W presents with dyspnea and vomiting.

What is the diagnosis? (2 points)

Following this ECG, the patient had a cardiac arrest and died. What did the autopsy show as the cause of death? Please be as specific as you can. (2 points)



11. Describe how lead V6 can be used to distinguish early repolarization from acute pericarditis and STEMI. Feel free to draw diagrams to help clarify your answer. (2 points)

12. List the ECG criteria for the Aslanger pattern for acute coronary occlusion. Feel free to draw diagrams to help clarify your answer. (2 points)

13. Describe what “T wave alternans” is and why it is significant when found. Feel free to draw diagrams to help clarify your answer. (2 points)

14. Describe the Barcelona criteria for diagnosing acute coronary occlusion in the presence of a LBBB. Feel free to draw diagrams to help clarify your answer. (2 points)