

Northwest Community EMS System April 2021 CE Credit Questions: 12 Lead Review
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Name:	Date submitted:
EMS Agency/hospital:	Credit awarded (date):
EMSC/Educator reviewer:	Returned for revisions:
	Revisions received:

This packet earns you the equivalent of the 2 hours of live or Zoom CE class.

Sources: Apr 2021 CE handout; SOPs; CE PPT for Credit Qu; Skill sheet for 12 L ECG.

1. The focus of STEMI Systems of Care are to improve the quality of care and outcomes for STEMI patients through improvements in what two processes involving EMS, ED physicians, cardiologists, and ED staff?

2. One of the expectations on EMS is to obtain a “clean pre-hospital ECG”, to reduce potential for errors in diagnosis by both practitioners (EMS, ED physicians) and software. What characteristics of prehospital 12 Leads is expected of EMS, to make the 12 Lead reliable and “interpretable”?

3. Drawbacks to activation of the cardiac cath lab (CCL) prior to EMS’ arrival at the hospital are related to both individual patient factors and those that EMS can have an impact on. List three “system – specific factors” that EMS can take steps to improve upon.

4. **List 3** presentations/signs/symptoms that might preclude a patient going to the CCL?

- 5.** What method of skin preparation is expected in the NCH EMS System prior to obtaining a 12 Lead?

- 6.** In addition to positioning the patient supine, what other action should EMS take with respect to the patient's arms and legs?

- 7.** With regards to land-marking for accurate lead positioning, explain how to locate the Angle of Louis, and how doing so helps you identify what intercostal space you have located.

- 8.** What is the most common error in placement of chest lead?

- 9.** List 3 actions to avoid or eliminate artifacts on 12 Lead.

- 10.** Complete the following table.

Lead	Looks from	Looks at	Reciprocal Leads if any	Landmarks
II, III, aVF				N/A
I and aVL				N/A
V1 and V2				
V3 and V4				
V5 and V6				
V4R			N/A	
II, III, aVF				N/A
I and aVL				N/A

11. List the information required for OLMC report when calling a STEMI alert.

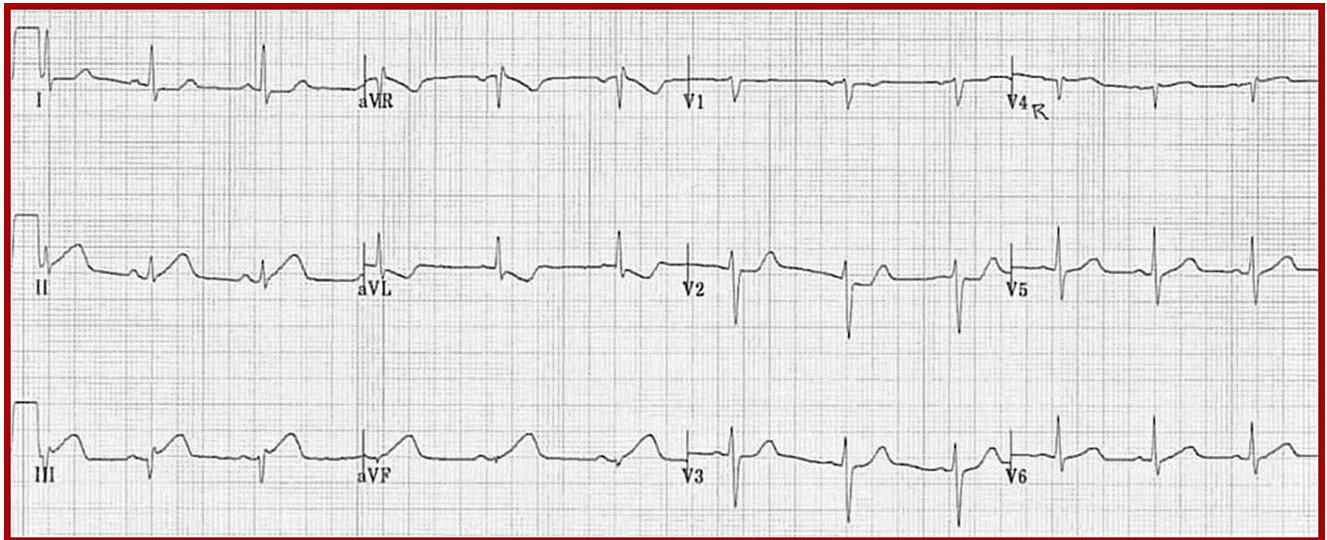
12. In addition to ST elevation and depression, what T wave abnormalities may signal ischemia/injury?

13. T wave inversion may signal ischemia if the following characteristics are present:

14. Complete the following statement: Hyperacute T waves are short-lived, occurring early in coronary artery occlusion, prior to and rapidly evolving into _____. The shape of their base is _____, their sides are _____, and their amplitude is _____.

15. In which leads do you see hyperacute T waves on the following 12 Lead?

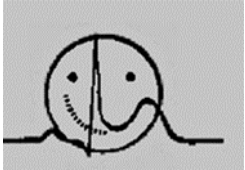
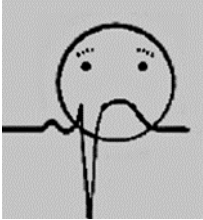
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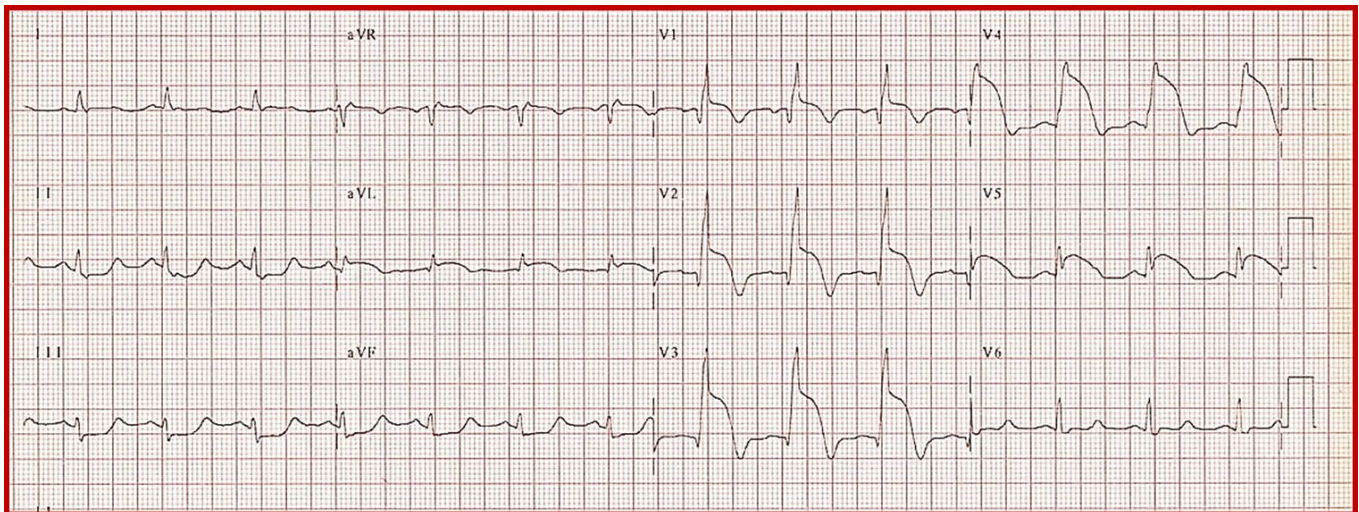
16. Which ECG change can be an indicator of ischemia, use of digitalis, or reciprocal indicators of injury/infarct?

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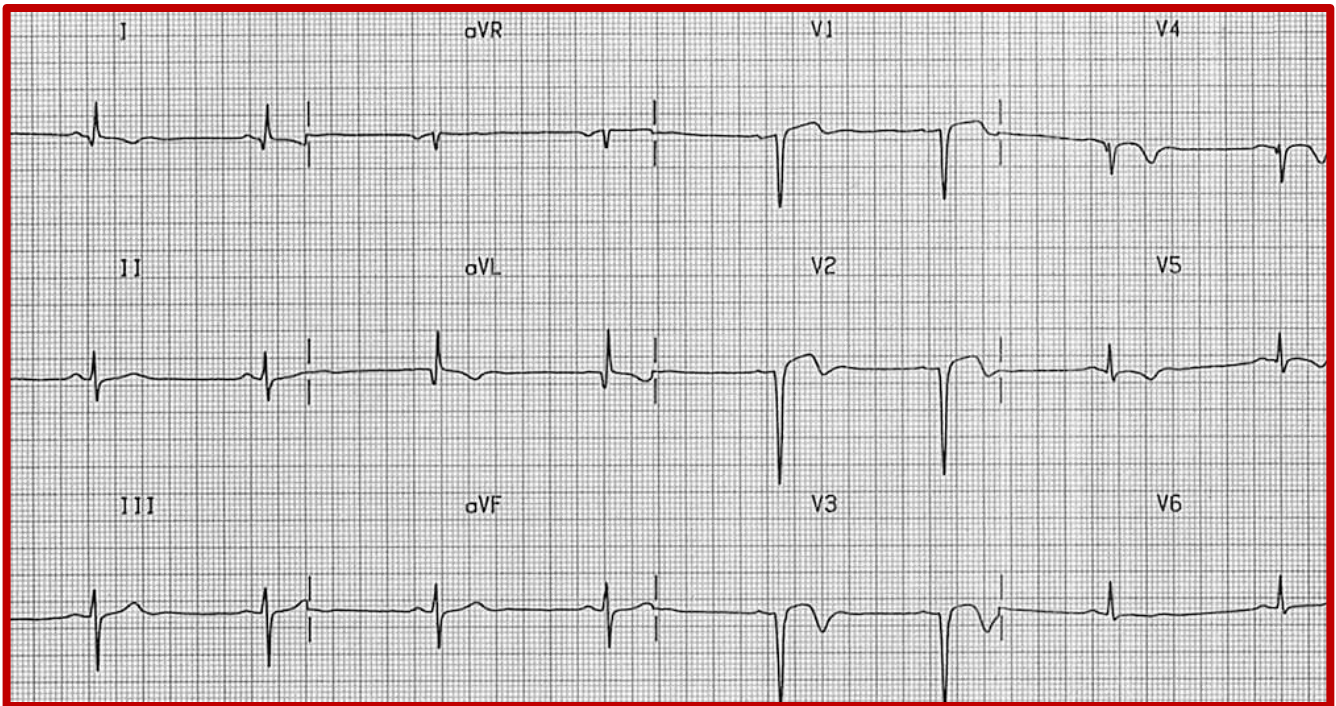
17. ST elevation: define and illustrate the characteristic findings of STE that likely signal injury/infarct vs ST elevation that likely represents early repolarization.

<p>Early repolarization:</p>	
<p>Injury / infarct:</p>	

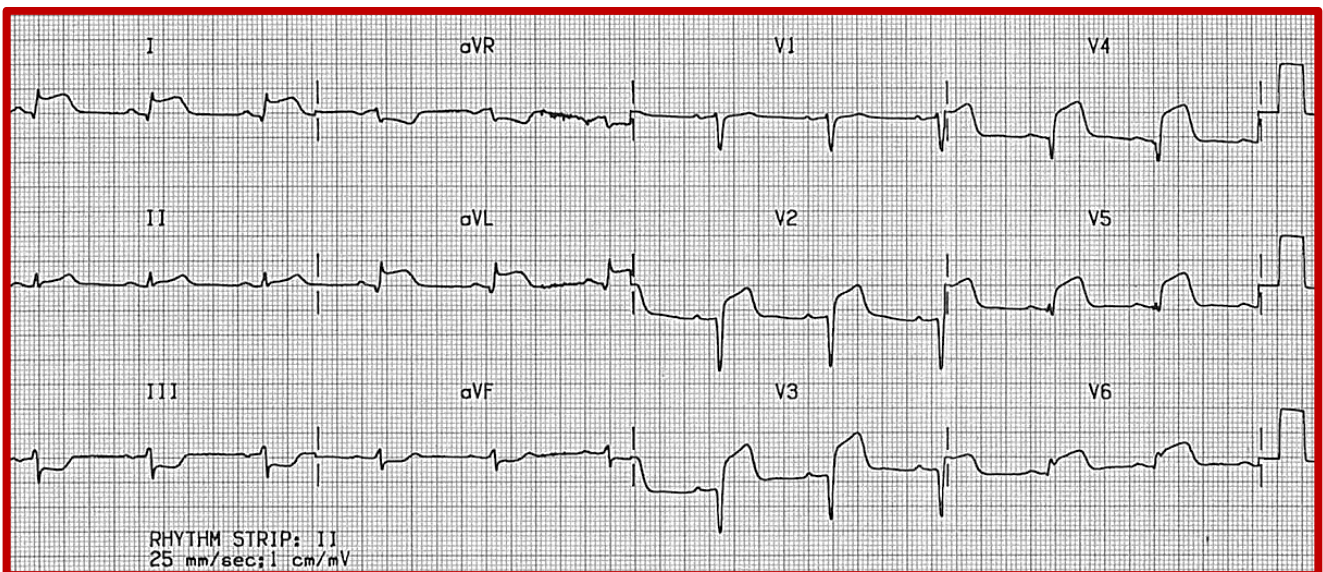
18. What abnormalities are found on the following 12 Lead? List the abnormality and the lead where it is found. Then state your interpretation. Image source: LITFL



19. What abnormalities are found on the following 12 Lead? List the abnormality and the lead where it is found. Then state your interpretation. Image source: LITFL



20. What abnormalities are found on the following 12 Lead? List the abnormality and the lead where it is found. Then state your interpretation. Image Source: LITLF



- 21.** With regards to septal wall MI, (1) what special structures travel within this part of the heart, and in the presence of infarction there, (2) what possible complications should EMS be alert for? (3) What precautionary measure should be taken?

(1)
(2)
(3)

- 22.** List 3 complications that can reasonably be expected in patients with inferior wall MI.

- 23.** With regards to inferior wall MI, it is reasonable to expect that the _____ will also be affected because both ventricles are supplied by what artery?
_____.

- 24.** Explain how you would modify the 12 Lead ECG to view the right ventricle.

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- 25.** Ntg is contraindicated in patients with Rt ventricular MI. Explain the result of SL Ntg as it applies to venous return and the function of the Rt ventricle, known as Starling's Law.

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26. Posterior wall MI frequently occurs in combination with MI's involving which areas?
Involvement of which additional chamber is also a risk w/ PWMI?

27. Posterior lead reciprocal leads are the anterior leads. Therefore, posterior wall MI may be indicated by ST depression in which leads?

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28. What 2 ECG characteristics differentiate PWMI from anterior ischemia?

1.
2.

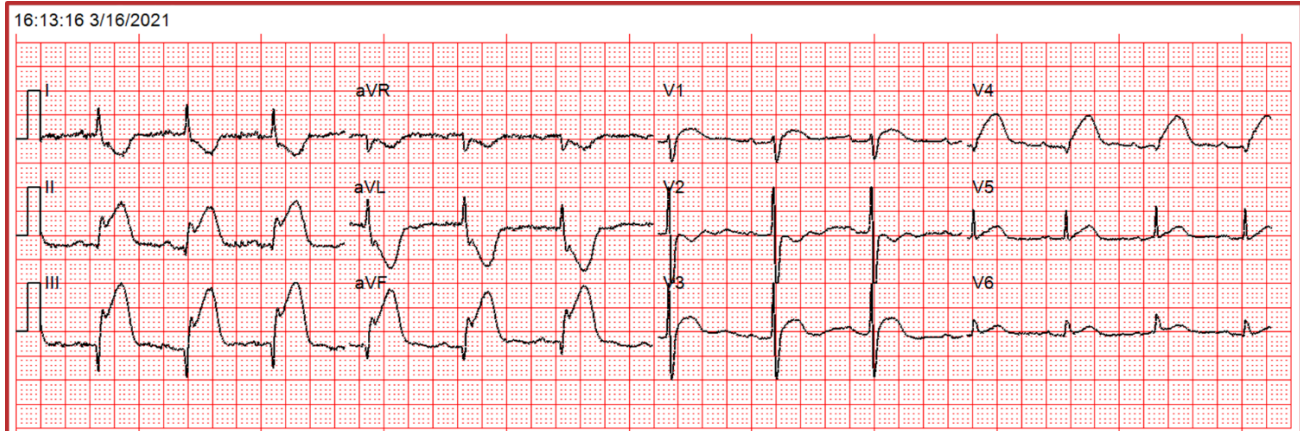
29. "Axis deviation" on the 12L interpretation refers to

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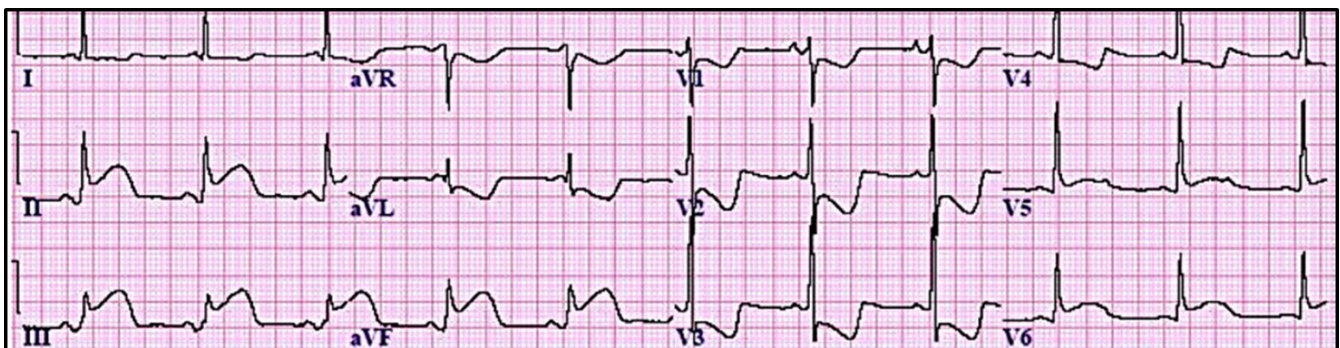
30. With regard to Bundle Branch Blocks, what abnormality or condition should the patient be monitored for, and what precaution should be taken should this occur?

- 31.** With regard to LV hypertrophy, what condition/problem has this patient likely endured for a prolonged period of time?

- 32.** Interpret the following 12 Lead: List the abnormality and the lead where it is found. Then state your interpretation. **NOTE:** ECG was done with V4 positioned in the 5th intercostal space, mid-clavicular line on the Rt chest.

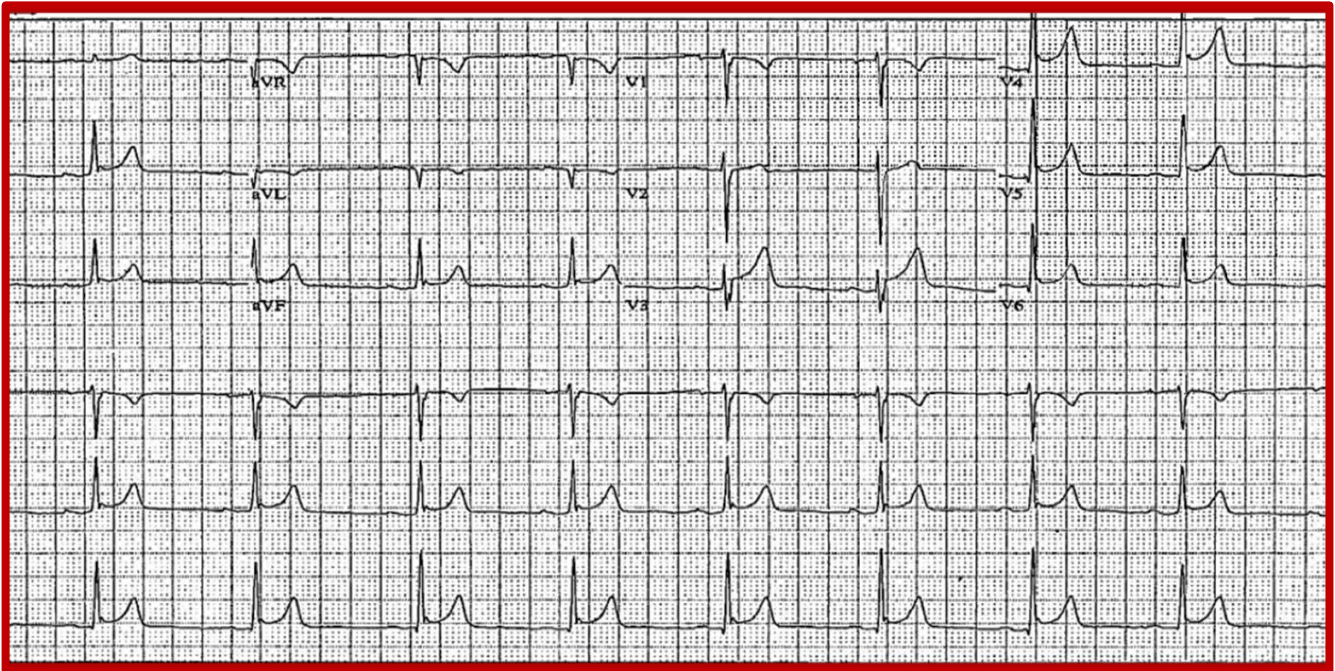


- 33.** Interpret the following 12 Lead: List the abnormality and the lead where it is found. Then state your interpretation.

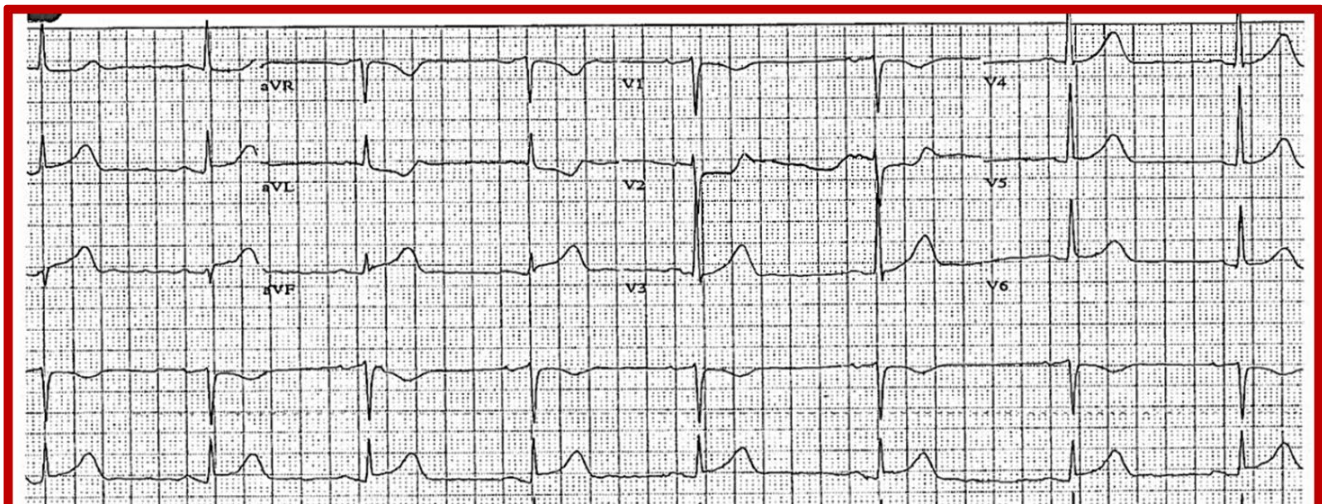


34. 12 Lead below: (1) Where do you see ST elevation? (2) What is your interpretation?.

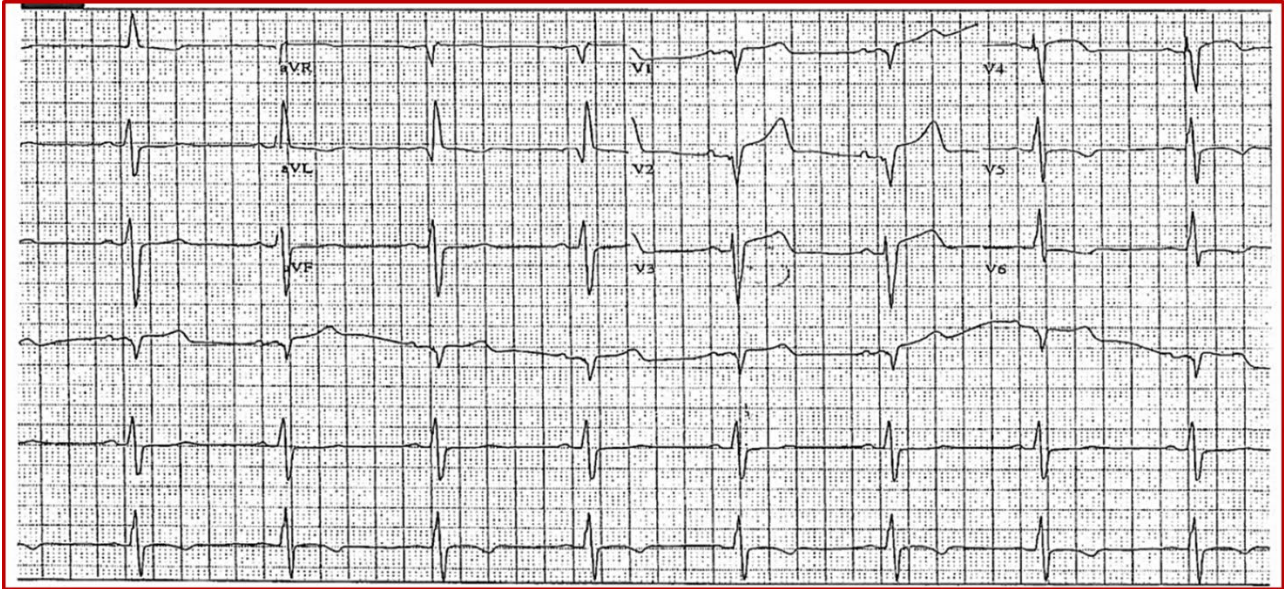
Look closely at the “form” of the ST segments in the leads you detect elevation. (3) What is another possible explanation / etiology for the ST elevation?



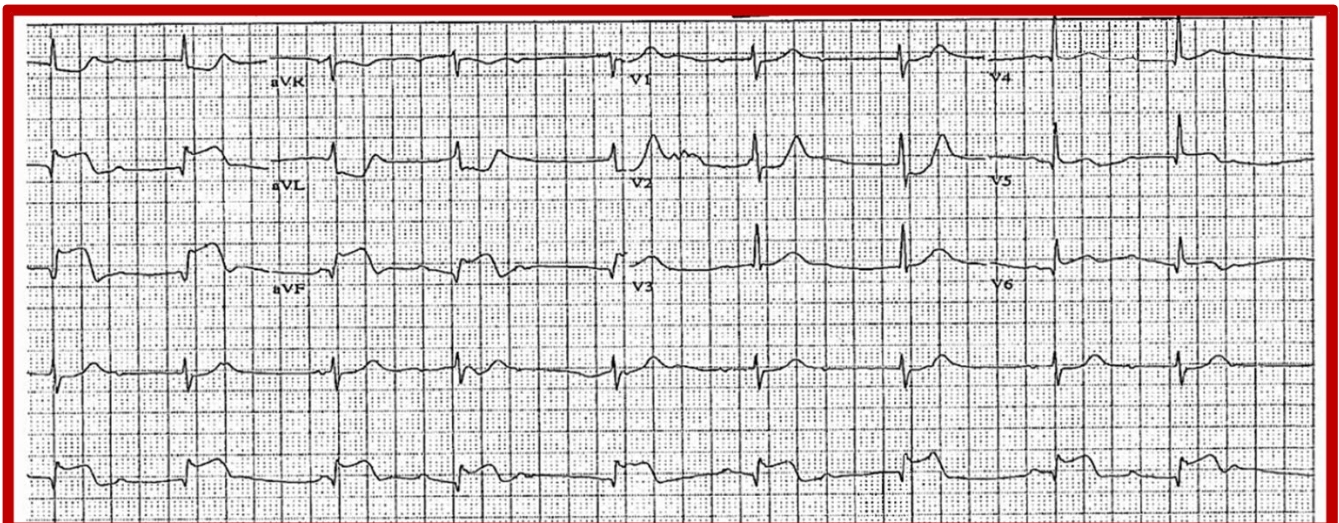
35. Interpret the following 12 Lead: List the abnormality and the lead where it is found. Then state your interpretation.



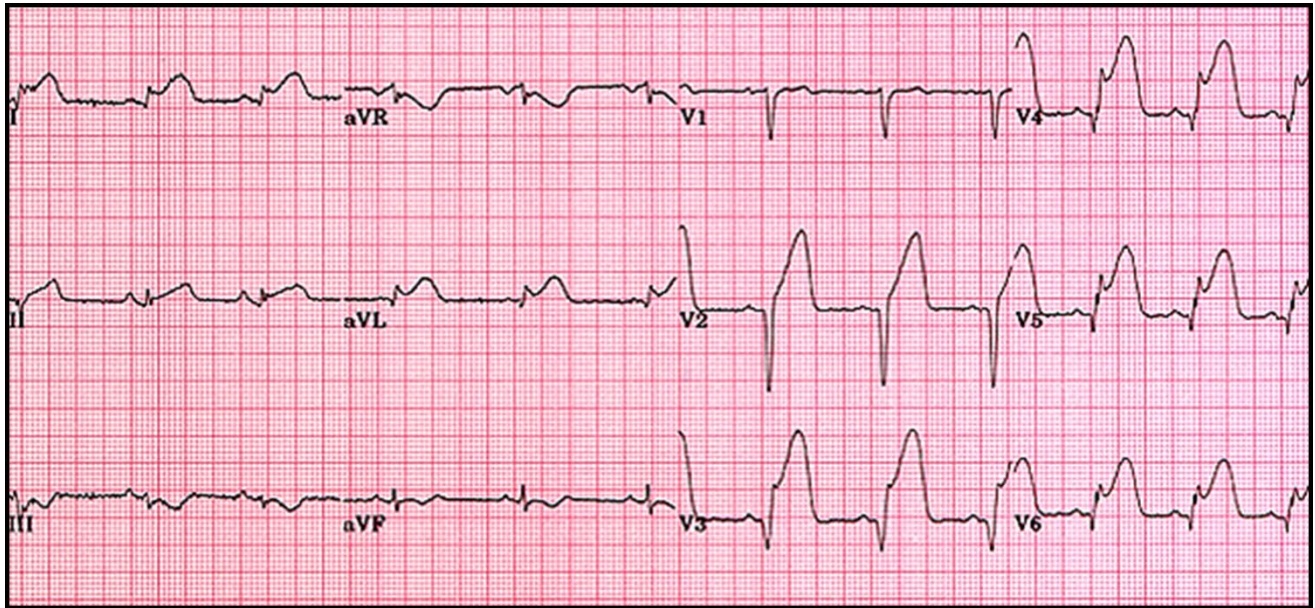
36. Interpret the following 12 Lead: List the abnormality and the lead where it is found.
Then state your interpretation.



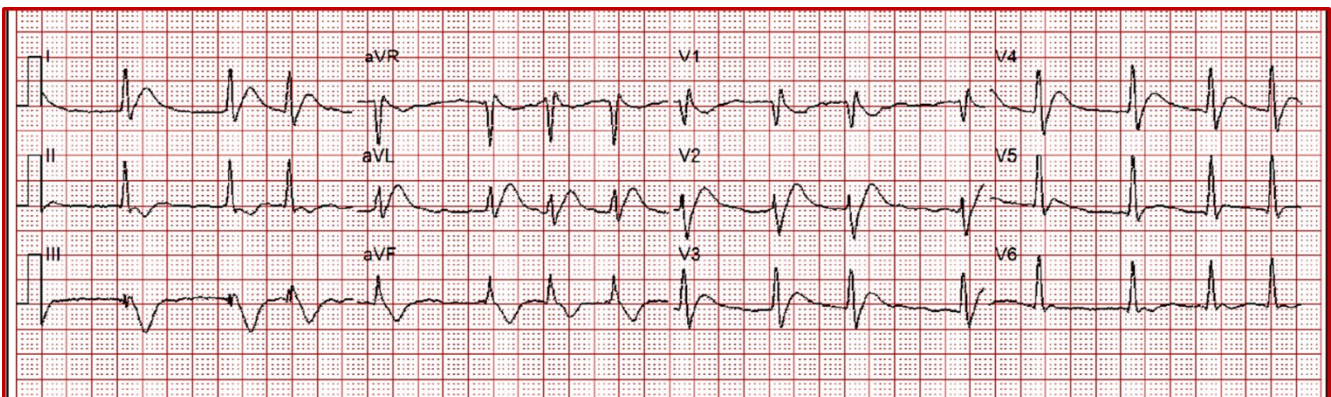
37. Interpret the following 12 Lead: List the abnormality and the lead where it is found.
Then state your interpretation.



38. Interpret the following 12 Lead: List the abnormality and the lead where it is found. Then state your interpretation.



39. Interpret the following 12 Lead: List the abnormality and the lead where it is found. Then state your interpretation.



40. Interpret the following 12 Lead: List the abnormality and the lead where it is found.
Then state your interpretation.

