Case 25: Questions & Answers:

1. STEMI? Yes.

2. Territory? High lateral & posterior walls.

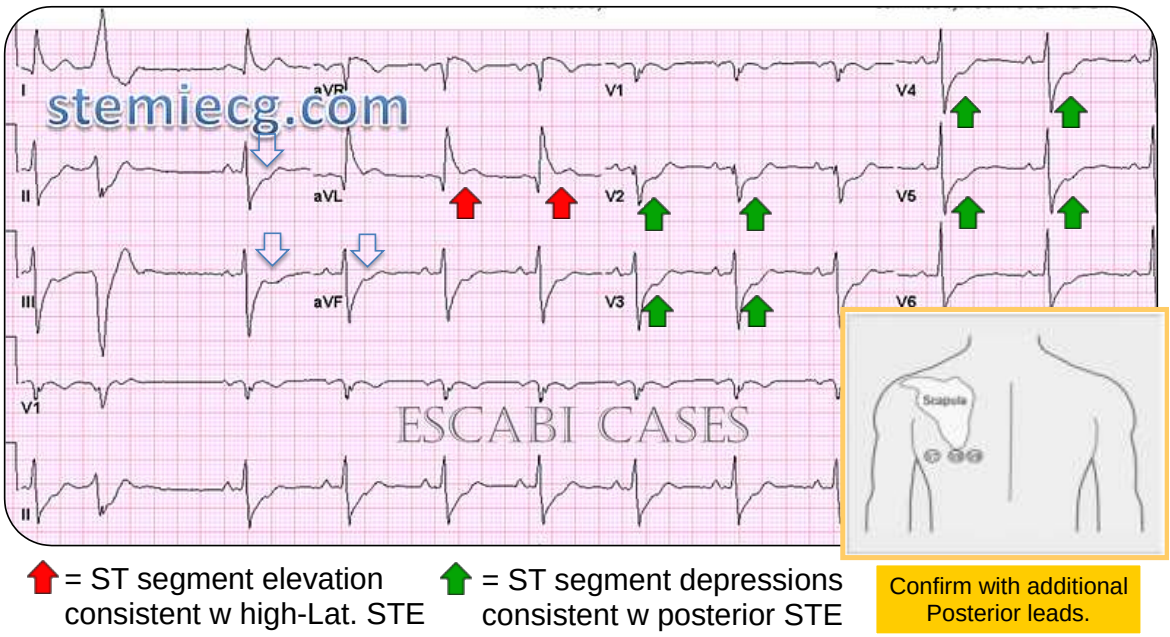
3. What is the Culprit Vessel? Proximal Circumflex artery.

ECG findings:

- ST segment depressions upon V2-V5 (green arrows), consistent with posterior STEMI.
- High lateral ST segment elevation on aVL (>0.5mm). Reciprocal ST segment depressions on the inferior leads (L-II, III & aVF).

Teaching Points:

- **Isolated posterior AMI are frequently MISSED (5-10%).**
- Acute PWMI occurs in 15-20% of all AMI's.
- Posterior AMI may be isolated or concurrent with inferior, RV, and/or lateral AMI.
- Posterior with high lateral STEMI is related to a circumflex occlusion.
- Posterior with inferior wall STEMI is related to an RCA occlusion also supplying a right posterior descending artery (PDA) in a right dominant system.
- Isolated posterior manifests as ST depression in V1-V4 and/or ST elevation >0.5mm in V7-V9.
- Posterior injury needs confirmation with a posterior ECG.
- How to differentiate ST depressions in V1-V4 from posterior STEMI versus anterior subendocardial ischemia as may be seen in UA/NSTEMI:
    - Maximal ST depression ≥ 2mm in V1-V3 (90% specific for posterior STEMI).
    - Presence of posterior STE >0.5mm (V7-V9)
    - T waves are usually upright but may be asymmetrically inverted.
    - ST depression of UA/NSTEMI is usually transient, rarely with tall upright T waves, and often < 2mm.
- The sensitivity of ST elevation for detection of lateral AMI is limited because the circumflex artery supplies an electrocardiographically silent area of the myocardium. Complete circumflex occlusion manifests (a) any ST elevation at all in only 36% of cases; (b) ST elevation > 2 mm in only 5% of cases; (c) ST depression alone in 30% of cases; (d) ST elevation or ST depression or both in approximately 67% of cases; and (e) neither ST elevation nor ST depression in 33% of cases.



= ST segment elevation consistent w high-Lat. STE

= ST segment depressions consistent w posterior STE

Confirm with additional Posterior leads.

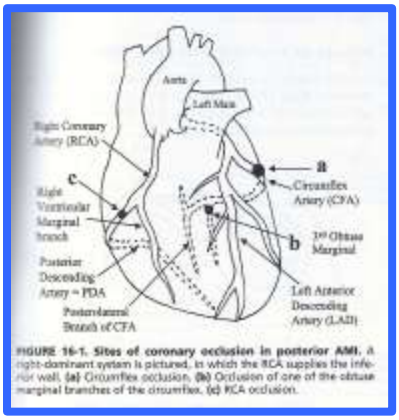
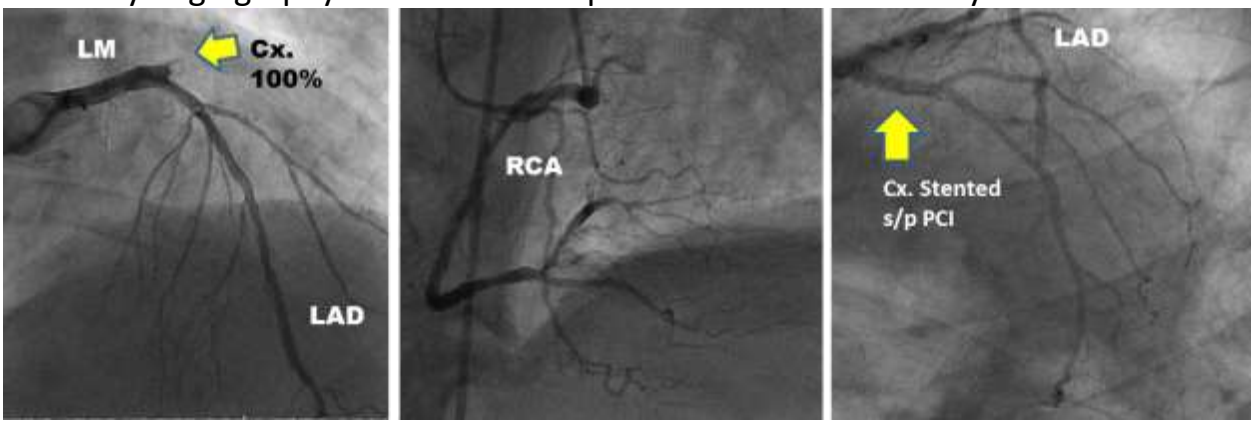


FIGURE 16-1. Sites of coronary occlusion in posterior AMI. A right-dominant system is pictured, in which the RCA supplies the inferior wall. (a) Circumflex occlusion. (b) Occlusion of one of the obtuse marginal branches of the circumflex. (c) RCA occlusion.

Coronary angiography and PPCI to the proximal circumflex artery:



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