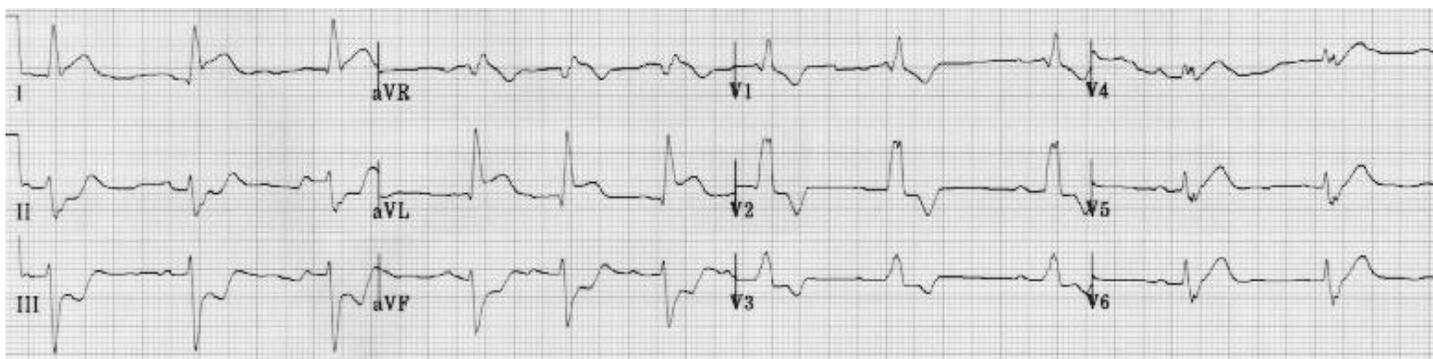


# Which Artery Is Occluded and Where Is the Occlusion (Proximal or Distal)?

## -Discussion-

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**Figure 1**

There is STE in Lead aVL which rules out any involvement of the RCA. That leaves the LAD and LCX.

Which of the two arteries (LAD or LCx) can cause

...STE in Leads I and aVL? **BOTH!**

...ST depression in the inferior leads? **BOTH!**

...ST elevation in Leads V4 – V6? **BOTH!**

So far, no differentiation!

Which of the two arteries (LAD or LCx) can cause

...STE in Lead aVR? **LAD**, but let me explain a nuance of meaning here:

A proximal occlusion of the LAD can CAUSE the ST elevation in Lead aVR by involving the basal septum. The LCx may be *associated* with STE in Lead aVR – but it is never a *direct cause* of it.

...an acute RBBB? **BOTH!** - but again, another explanation:

The LAD is the primary vascular source for the right bundle branch via the first septal perforator (S1). The LCx is sometimes a *collateral source* for it also. If there were a previous proximal occlusion of the LAD, but the collateral circulation from the LCx

succeeded in keeping the right bundle branch from infarcting, it would then become the sole provider of circulation. Then, if there were an occlusion of the LCx, the right bundle branch would lose its circulation and an RBBB would develop. So, the bottom line is that the LAD would still be strongly favored.

Regarding the STE in Lead aVR and the acute RBBB, the LCx *might* be involved but only in the rarest and most unusual of circumstances.

This is ***a very proximal occlusion of the LAD***. The three indicators of a proximal LAD occlusion with high accuracy are:

1. STE in Lead aVR
2. Sudden RBBB
3. ST depression in the inferior leads (in the presence of 1 and 2)