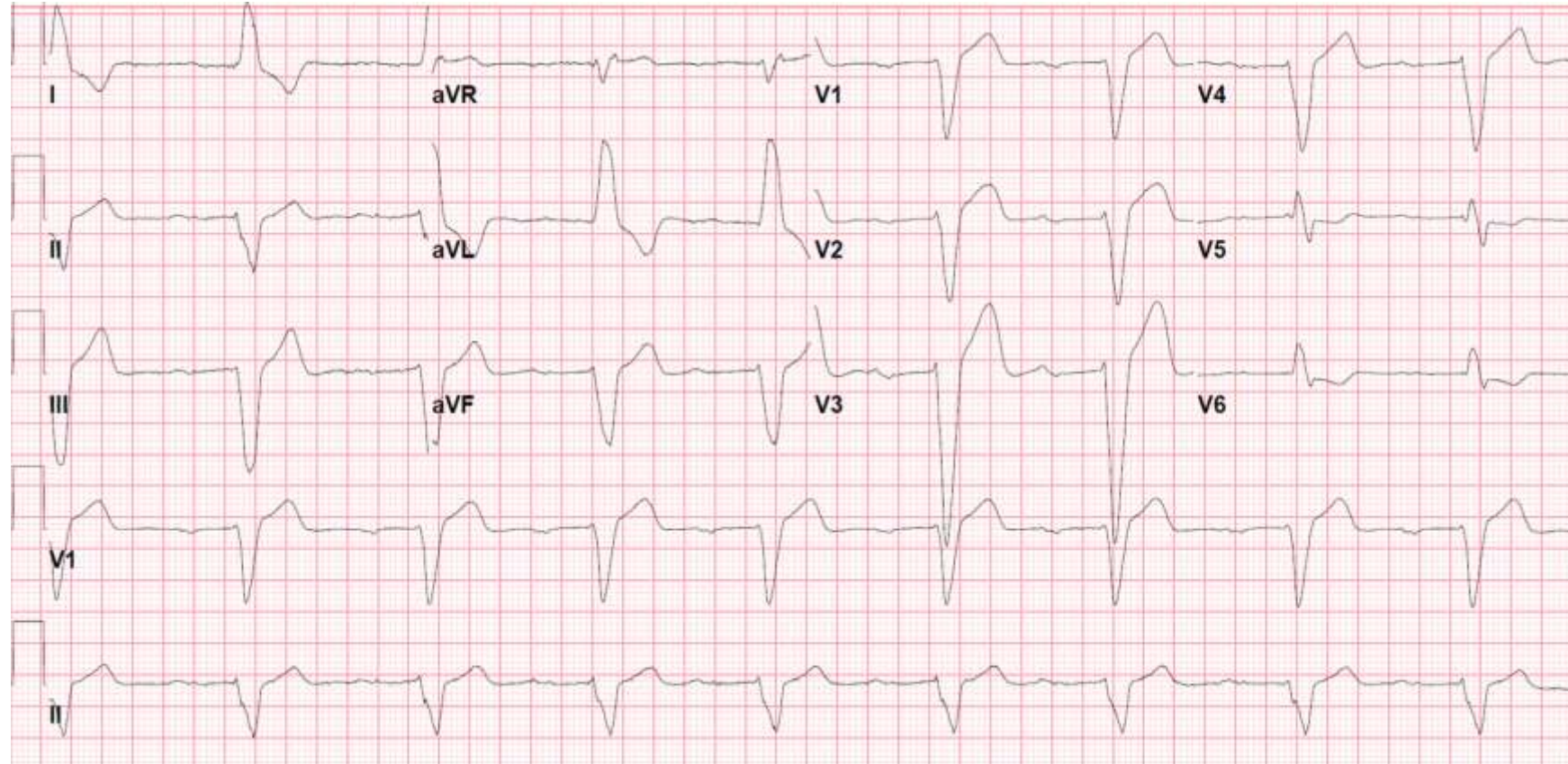


Left Bundle Branch Block (LBBB)

You will learn:

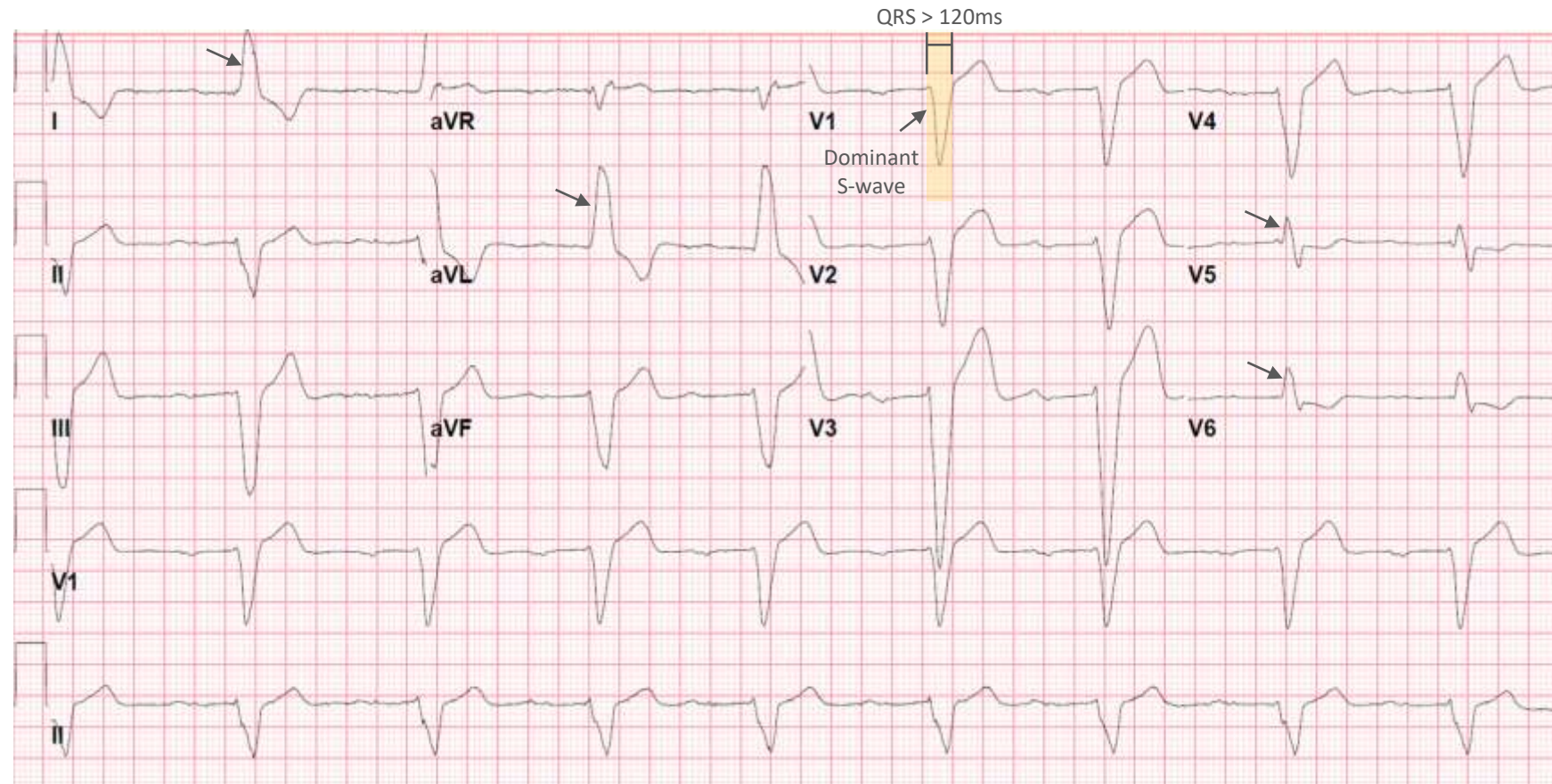
- ECG Features of LBBB
- Electrophysiology
- QRS & ST abnormalities
- Conditions causing LBBB
- LBBB & Chest pain



Left Bundle Branch Block (LBBB)

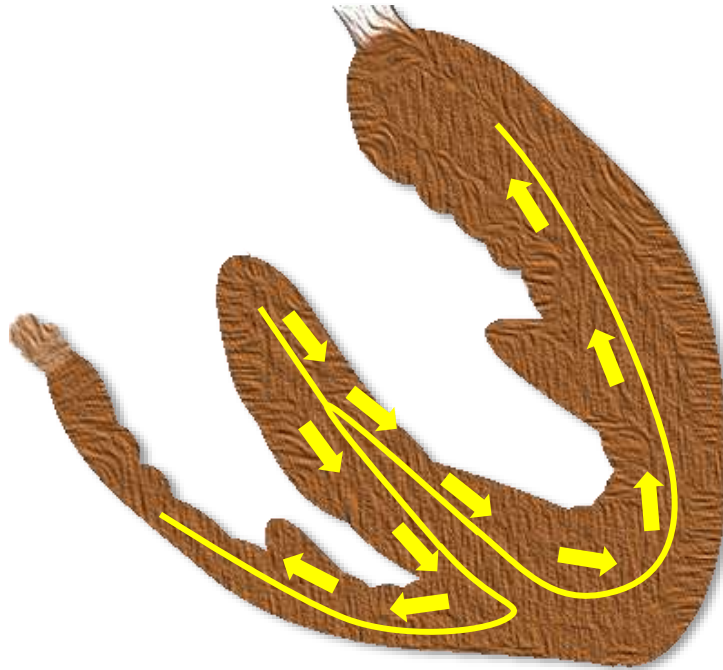
Diagnostic Features

- i. QRS duration prolongation $> 120\text{ms}$ (>3 small squares)
- ii. Dominant S-wave in V1
- iii. Broad mono-phasic R-wave in lateral leads (I, aVL, V5-V6)
- iv. Absent Q-waves in lateral leads
- v. Prolonged R-wave peak time (RWPT) $> 60\text{ms}$ in leads V5-V6



Left Bundle Branch Block (LBBB)

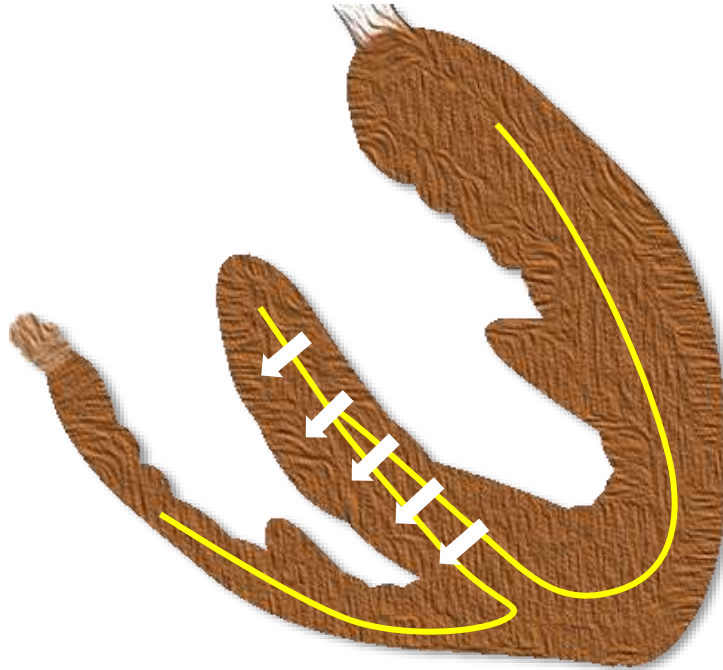
Electrophysiology



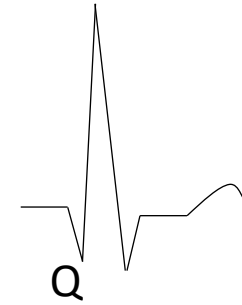
Left Bundle Branch Block (LBBB)

Electrophysiology

V1-V3



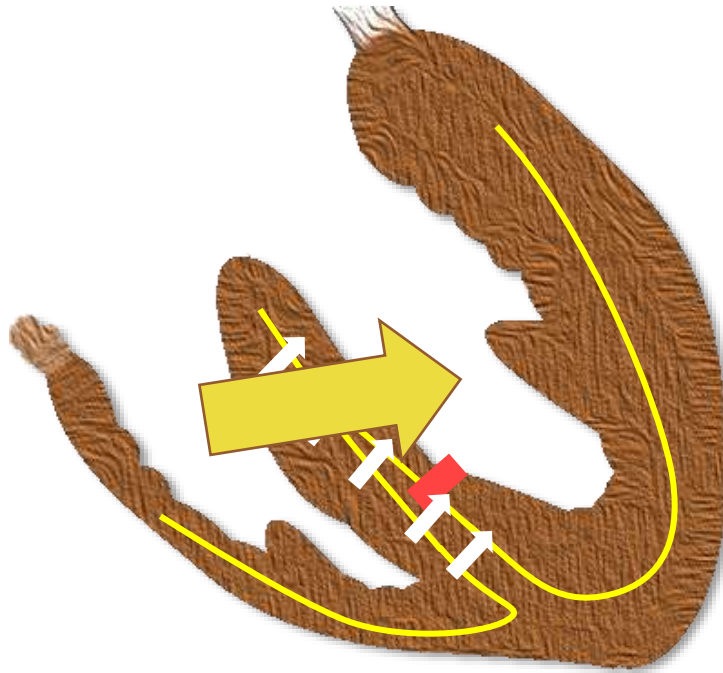
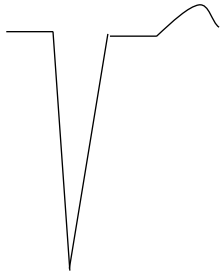
I, aVL, V5-V6



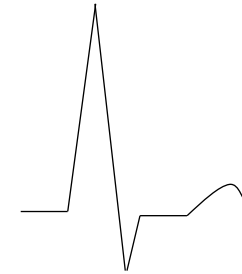
Left Bundle Branch Block (LBBB)

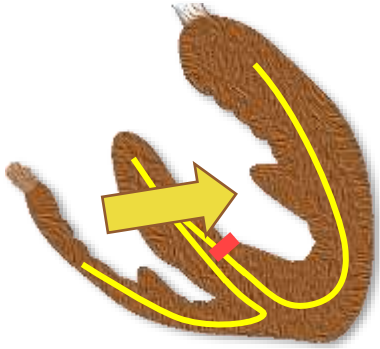
Electrophysiology

V1-V3



I, aVL, V5-V6





Left Bundle Branch Block (LBBB)

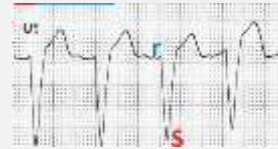
Electrophysiology

V1-V3

I, aVL, V5-V6

QRS Morphology

rS complex



QS complex

M-shaped

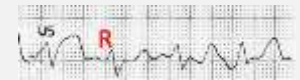


Notched

Monophasic, or



RS complex



ST segment

ST segment elevation
($<25\%$ of preceding S-wave depth)



ST segment depression

T-wave inversion



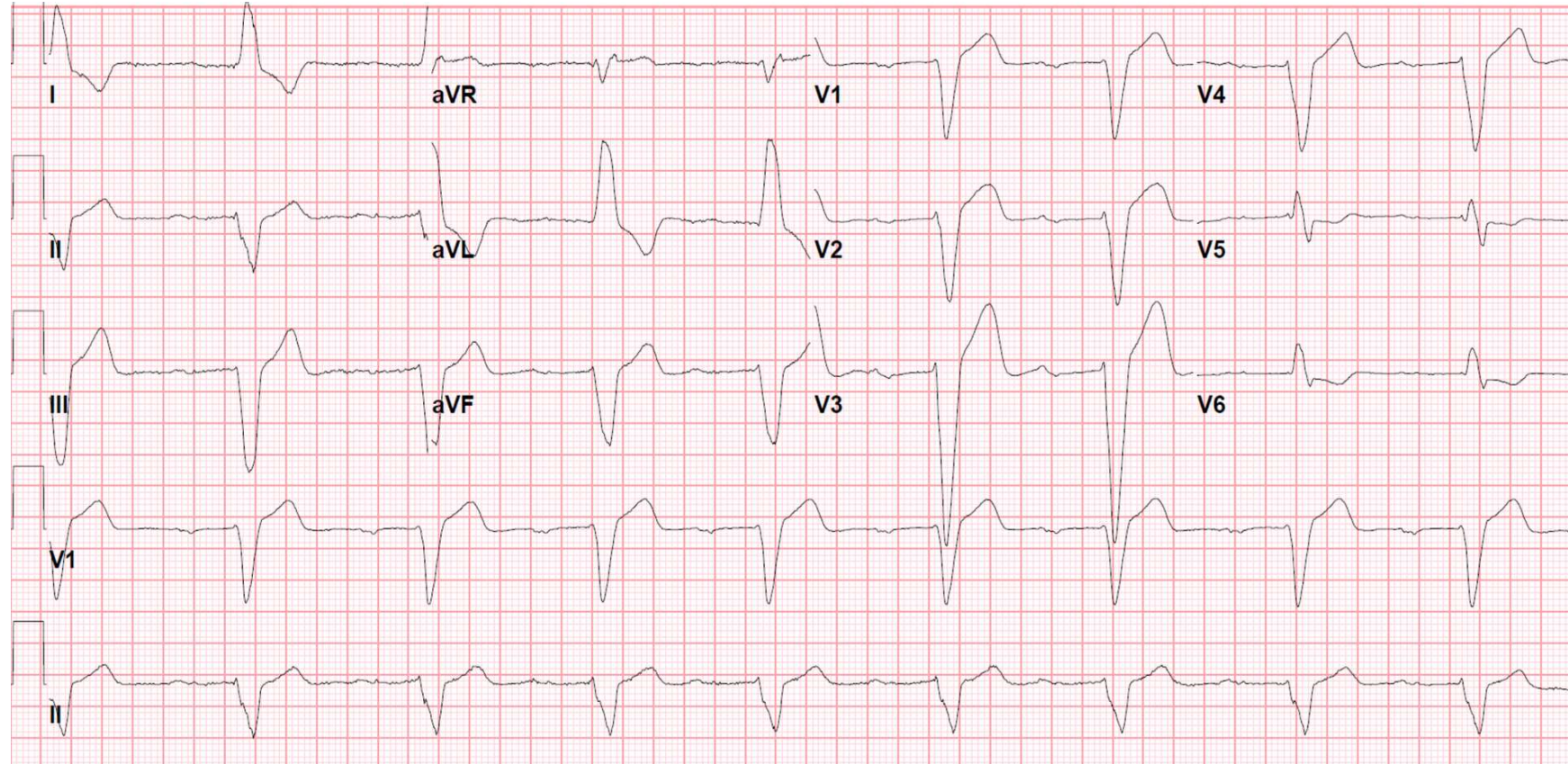
Important: Any concordant ST-segment change is concerning for Ischemia

Left Bundle Branch Block (LBBB)

Causes

Left bundle branch block indicate organic disease.

- Ischaemic heart disease
- Aortic stenosis
- Hypertension
- Dilated cardiomyopathy
- Anterior MI
- Lenègre-Lev disease (Primary degenerative disease of conducting system)
- Hyperkalaemia
- Digoxin toxicity



Left Bundle Branch Block (LBBB)

LBBB & Chest Pain

New Left branch block in presence of chest pain was once considered a - “STEMI-equivalent”

Currently, practice has evolved to examining for excessive discordance, or concordant ST segment changes, which are more indicative of infarction.

- Sgarbossa criteria (Not in practice now)
- Smith Modified Sgarbossa criteria
 - Helps in diagnosing STEMI in presence of LBBB.
 - If you find any of these criteria in presence of LBBB in a patient with typical chest pain, the diagnosis is most likely Acute MI.

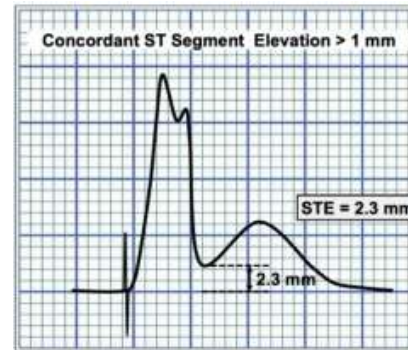
Left Bundle Branch Block (LBBB)

LBBB & Chest Pain

Smith Modified Sgarbossa criteria

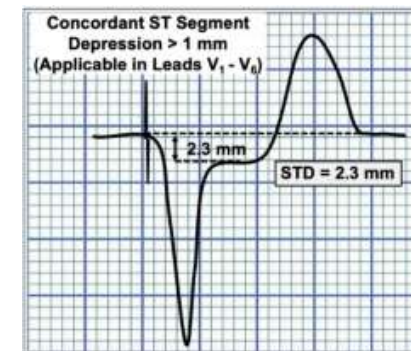
- i. ≥ 1 Concordant ST elevation in ≥ 1 leads
- ii. 1 mm Concordant ST segment depression in any lead from V1-V3
- iii. Proportionally excessive discordant ST Elevation in ≥ 1 , anywhere, defined by ST elevation $\geq 25\%$ of the depth of the preceding S-wave

i.



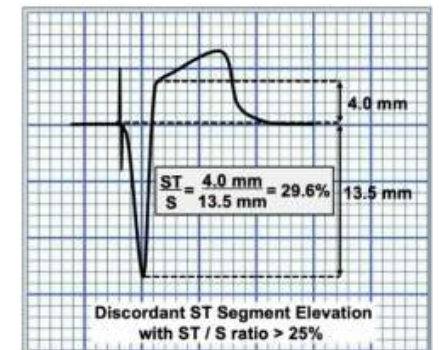
Concordant ST Segment Elevation Greater than 1 mm

ii.



Concordant ST Segment Depression Greater than 1 mm & Applicable in Leads V₁ - V₆

iii.



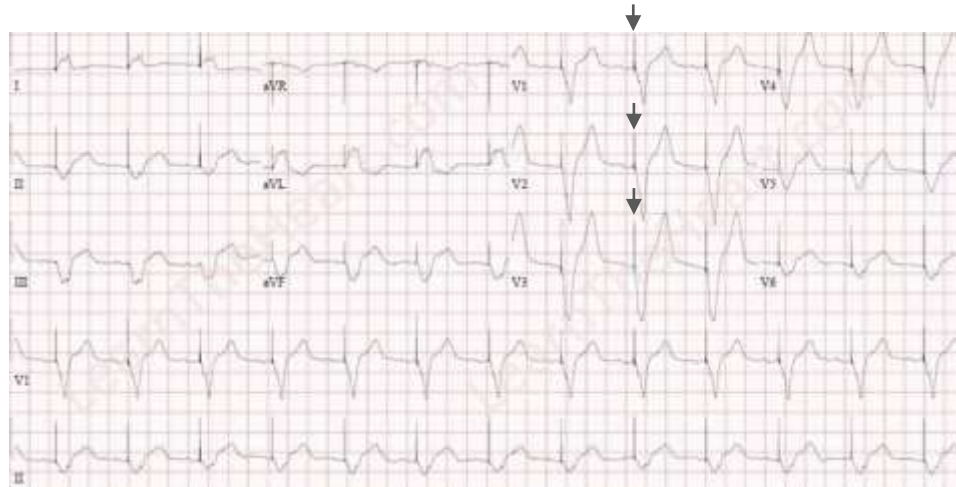
Discordant ST Segment Elevation with ST / S ratio > 25%

Left Bundle Branch Block (LBBB)

Differential Diagnosis

Right ventricular paced rhythm

- Produce a similar morphology because, impulse originate & conduct from the Right Ventricle.
- It travel across the septum to the Left Ventricle
- Pacing spikes are present
- Same concepts of appropriate discordance apply

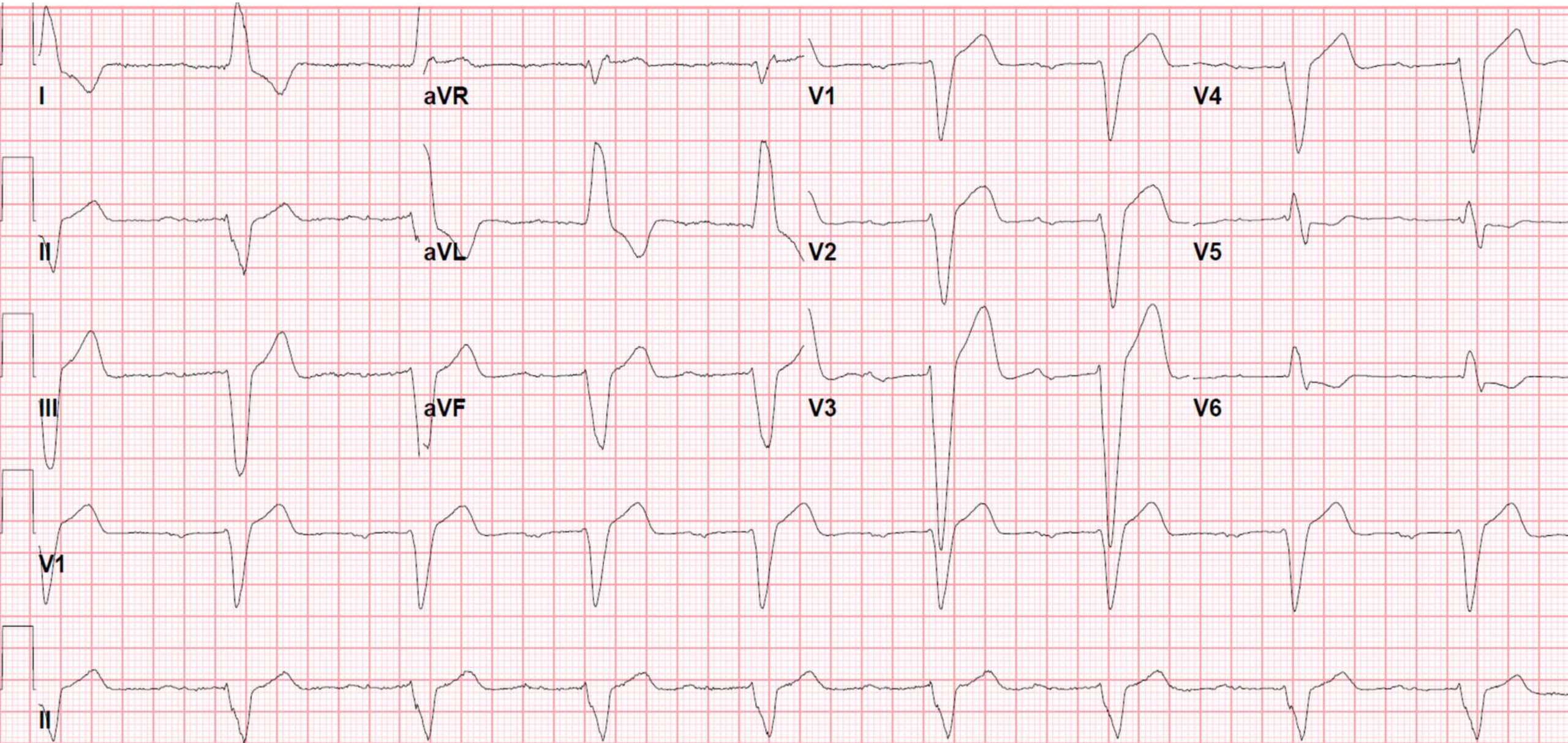


Left Ventricular Hypertrophy (LVH)

- may produce similar appearance to LBBB, with QRS widening, ST depression & T-wave inversion in lateral leads



Left Bundle Branch Block (LBBB)



Last Second **Medicine**

[Like](#) | [Share](#) | [Subscribe](#)