SNS COLLEGE OF ALLIED HEALTH SCIENCES

SNS Kalvi Nagar, Coimbatore - 35

Affiliated to Dr MGR Medical University, Chennai

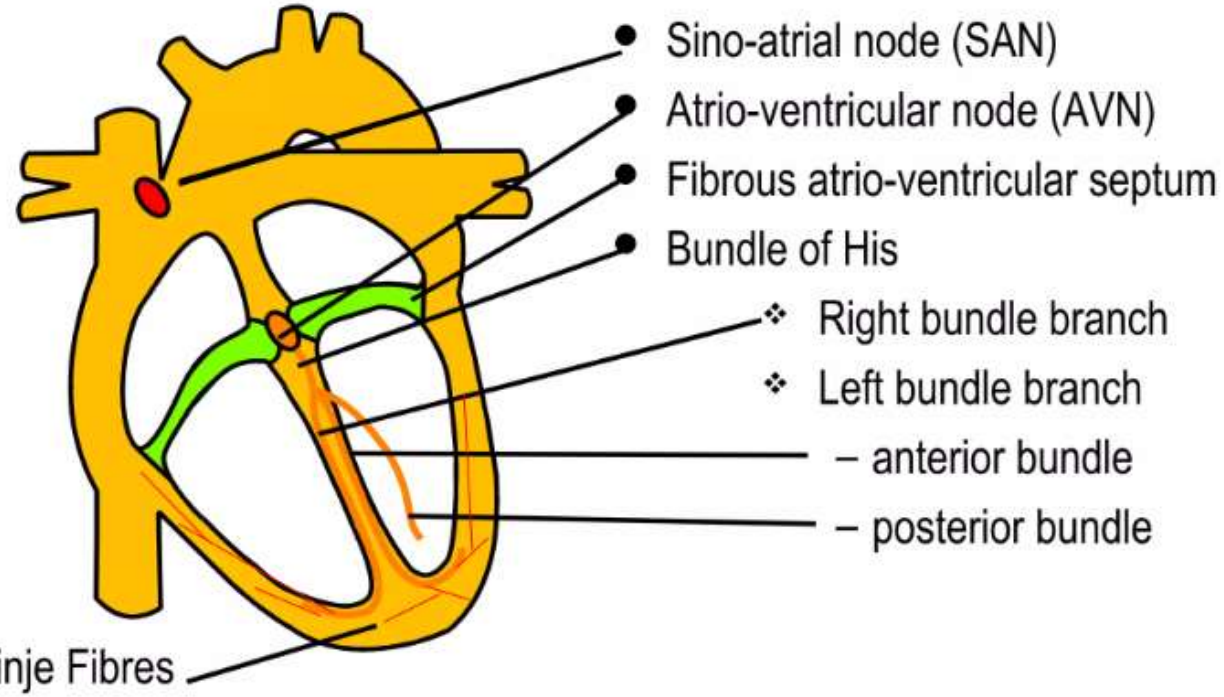
DEPARTMENT OF CARDIAC TECHNOLOGY -II YEAR

UNIT I :ATRIAL ABNORMALITIES

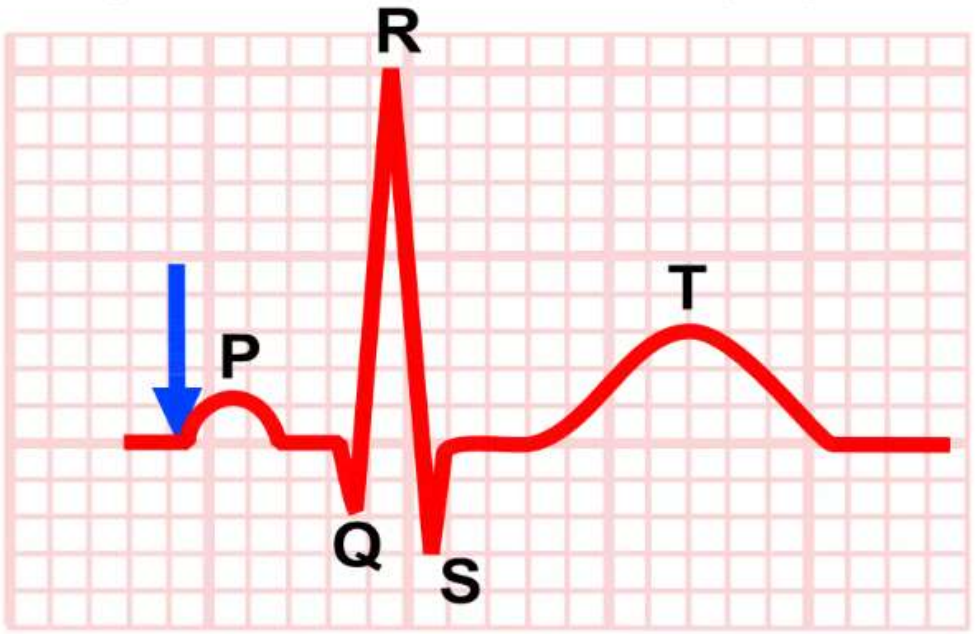
ECG IN MITRAL VALVE STENOSIS

MITRAL STENOSIS ECG

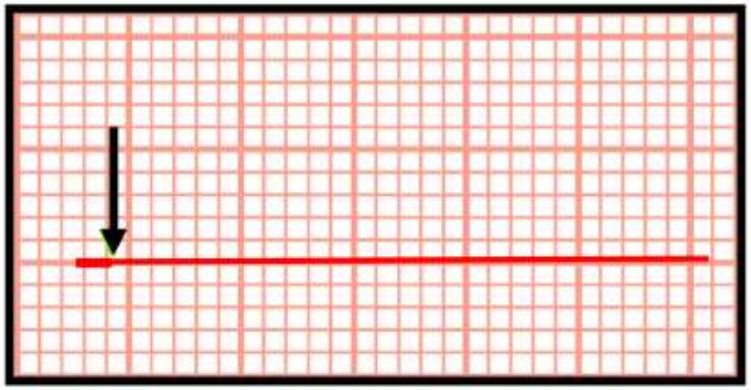
Main Structures



The electrical events of a single cardiac cycle and how it is represented on ECG paper.

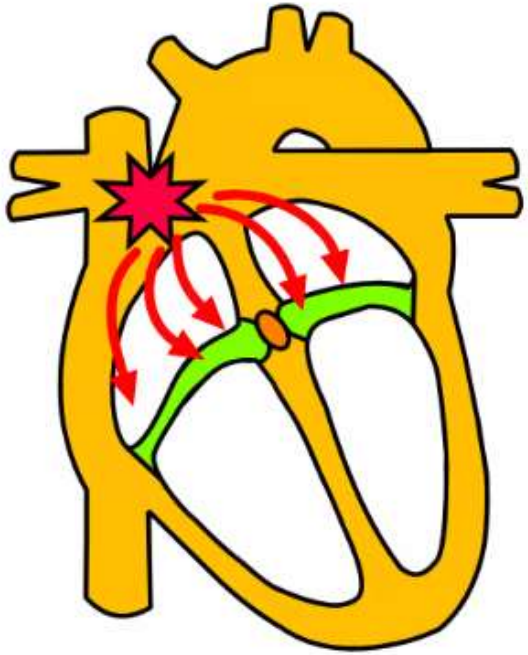


The Iso Electrical Line

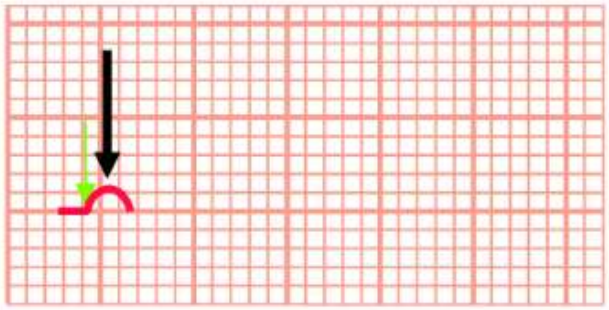


This represents the resting potential of the heart. The electrical events of the cardiac cycle will be represented by deflections away from this line.

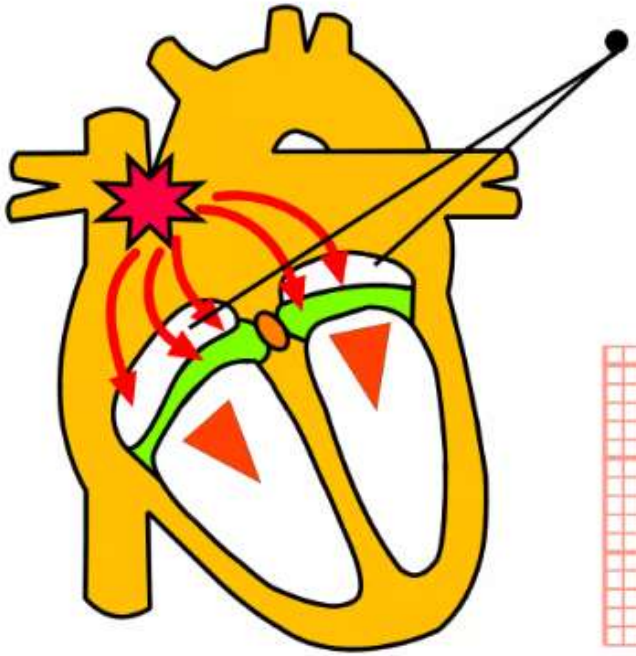
Atrial Depolarsiation (P Wave)



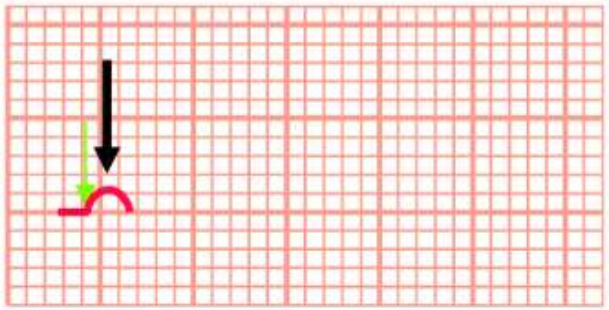
- The wave of electrical depolarisation is conducted through the cardiac muscle of both atria



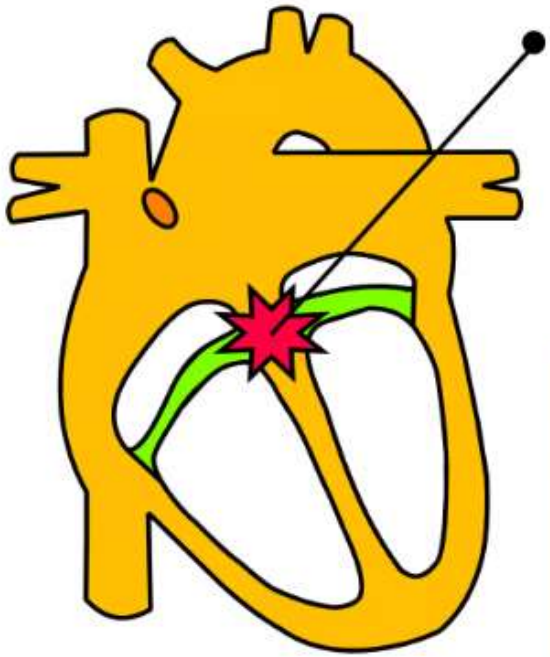
Atrial Contraction (P Wave)



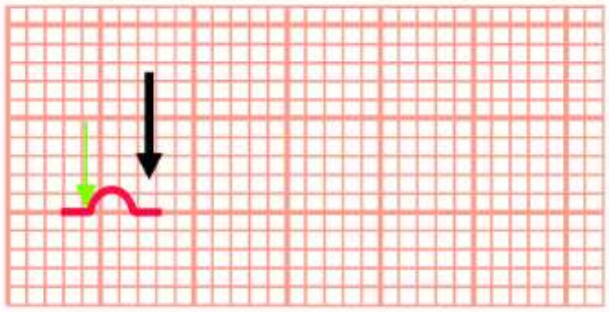
The depolarising wave causes contraction of the atria pushing blood into the ventricles



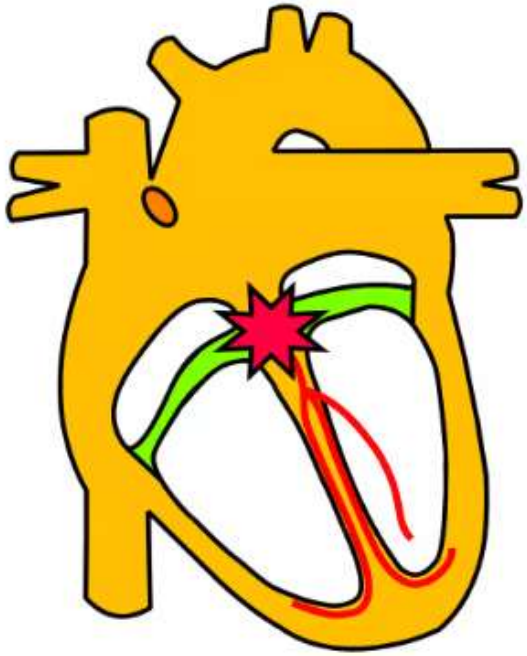
AVN depolarisation (PR Interval)



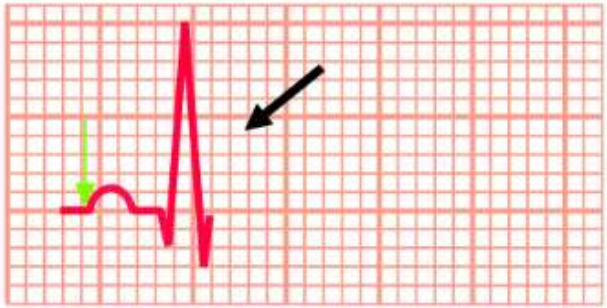
The wave of depolarisation reaches the atrio-venticular node which depolarises and conducts, but slows the wave



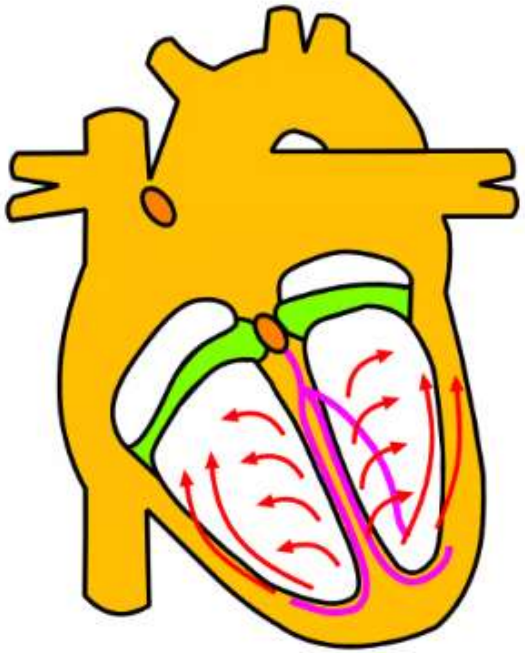
Specialised conducting tissue (QRS Complex)



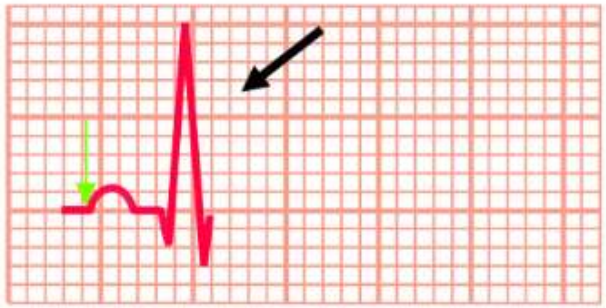
- The AVN conducts the depolarisation to the Bundle of His



Ventricular depolarisation (QRS Complex)



- The wave of depolarisation quickly moves through the specialised conducting tissue

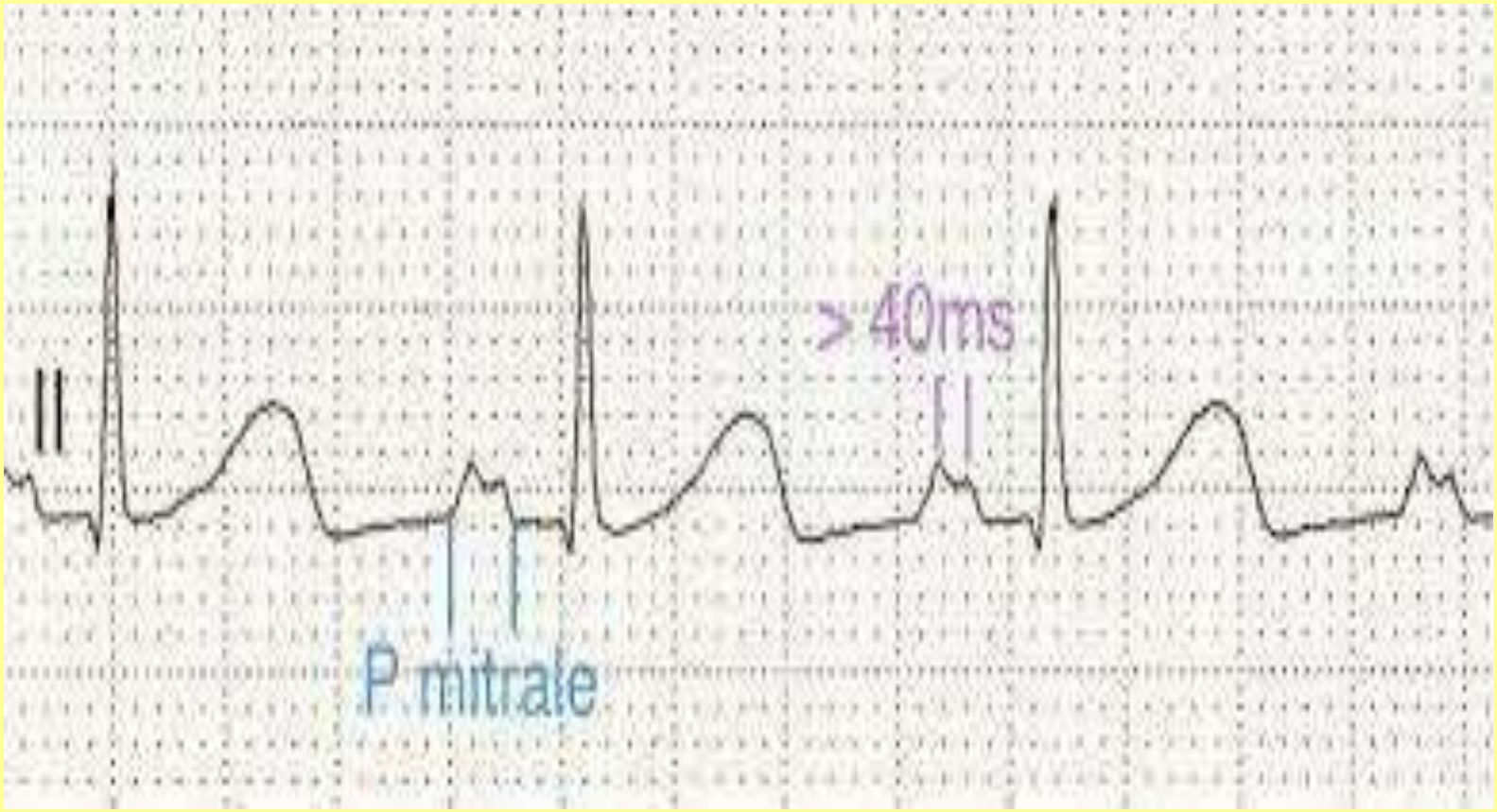


- (ECG) in mitral stenosis might have no significant abnormalities. Findings suggestive of left atrial enlargement and hypertrophy might be present, such as a broad, bifid P wave in lead II (referred to as P mitrale) and an **enlarged terminal negative portion of the P wave in V1**.
- The ECG might demonstrate findings of pulmonary hypertension and right ventricular hypertophy.
- Atrial fibrillation is not an uncommon finding among patients with mitral stenosis.

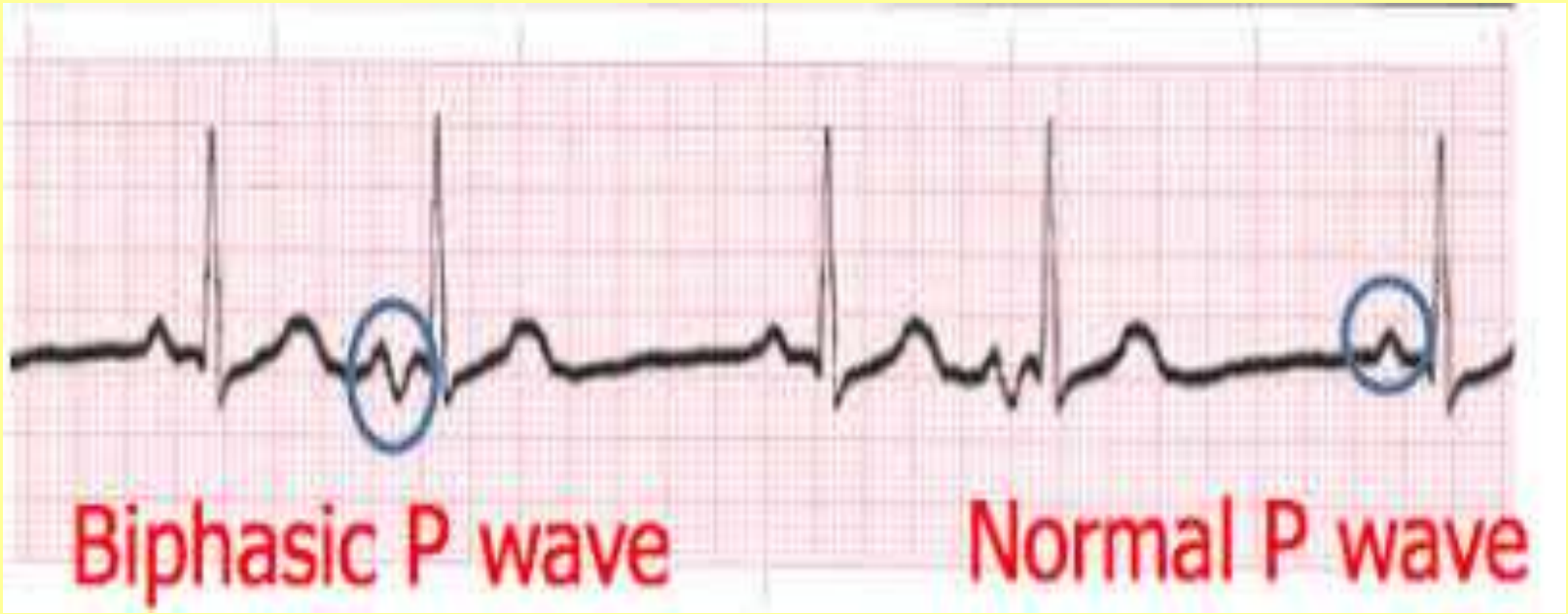
LA ENLARGEMENT

- Left Atrial Enlargement
- Left atrial enlargement produces a broad, bifid P wave in lead II (P mitrale) and enlarges the terminal negative portion of the P wave in V1.
- Bifid P wave with > 40 ms between the two peaks
- Total P wave duration > 110 ms

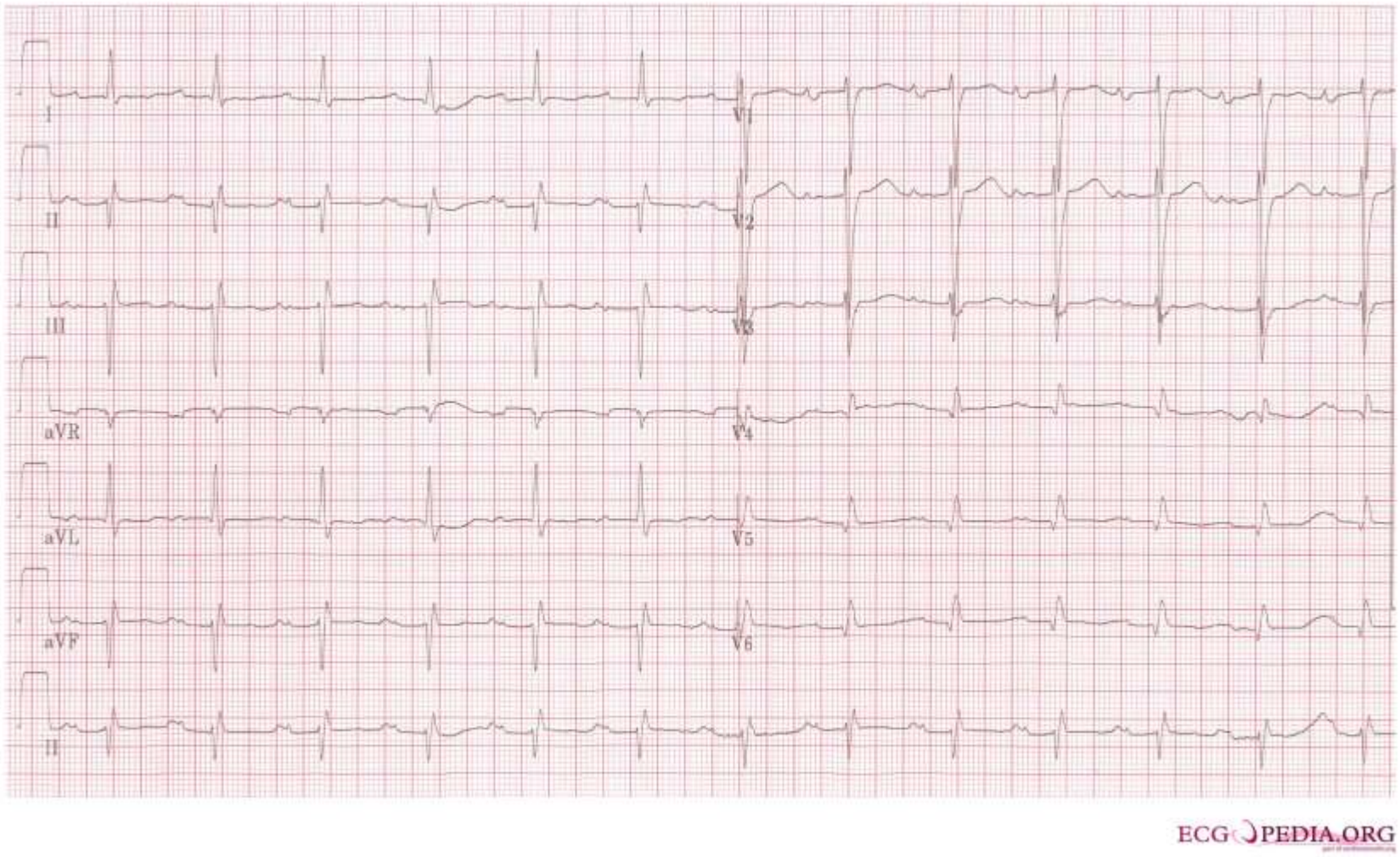
Bifid P waves



- Biphasic P wave with terminal negative portion > 40 ms duration
- Biphasic P wave with terminal negative portion > 1mm deep



MS - ECG



THANK YOU