Surface Electrocardiographic Findings of Atrio-Ventricular Nodal Reentrant Tachycardia (AVNRT)

Saravi Mehrdad
Assistant professor of Cardiology
Interventional electrophysiologist

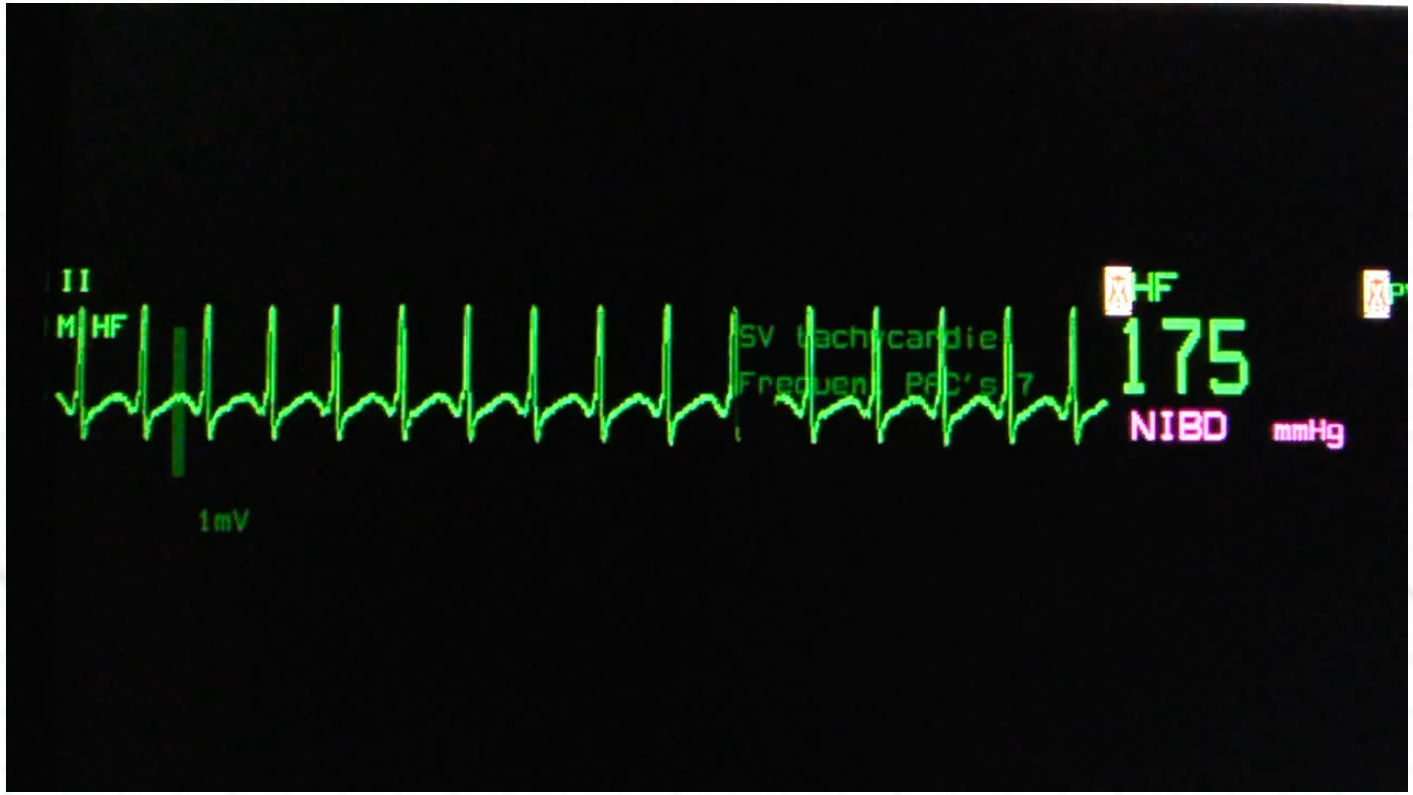
Definition

Mechanism

Subtypes ?

Narrow or wide Complex?

Atrio-Ventricular Blocks?



Definition

Mechanism

Subtypes ?

Narrow or wide Complex?

Atrio-Ventricular Blocks?

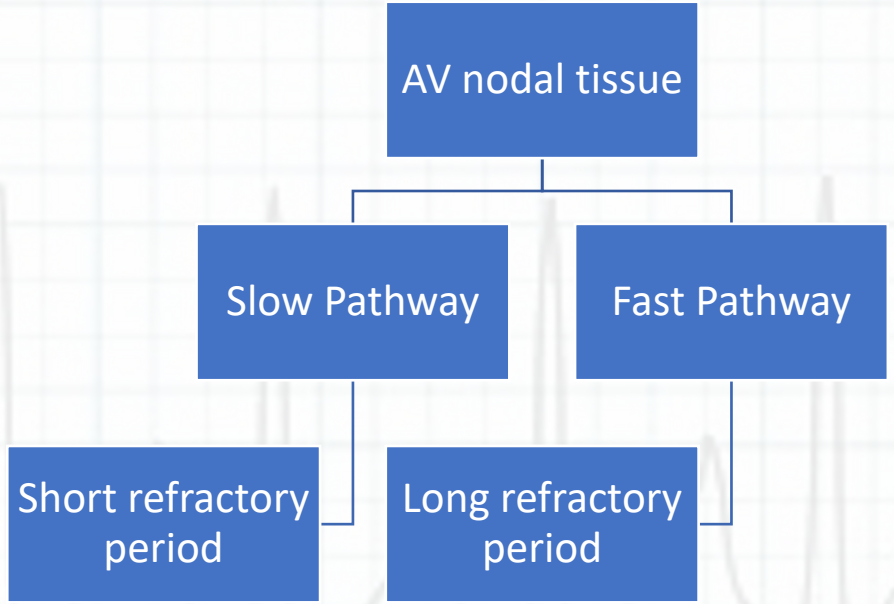
- A type of supraventricular arrhythmia
(above the bundle of His)

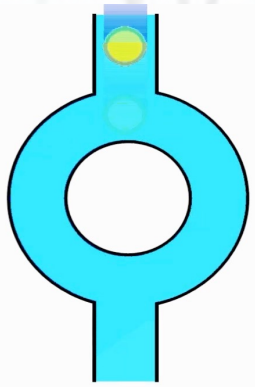
- Paroxysmal : With abrupt onset-offset

- In Common form is narrow and regular

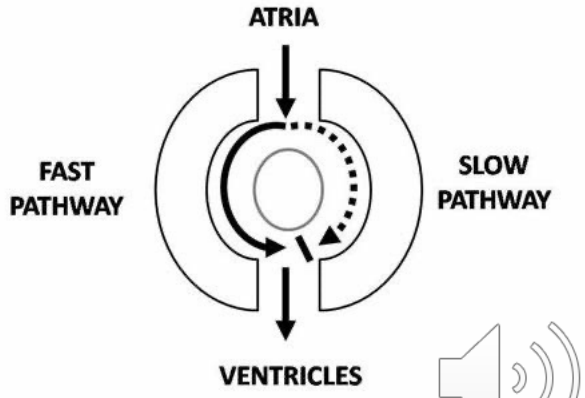
- Definition
- Mechanism
- Subtypes ?
- Narrow or wide Complex?
- Atrio-Ventricular Blocks?

Longitudinal or functional dissociation of AV nodal tissue





Reentry



Definition

Mechanism

Subtypes ?

Narrow or wide Complex?

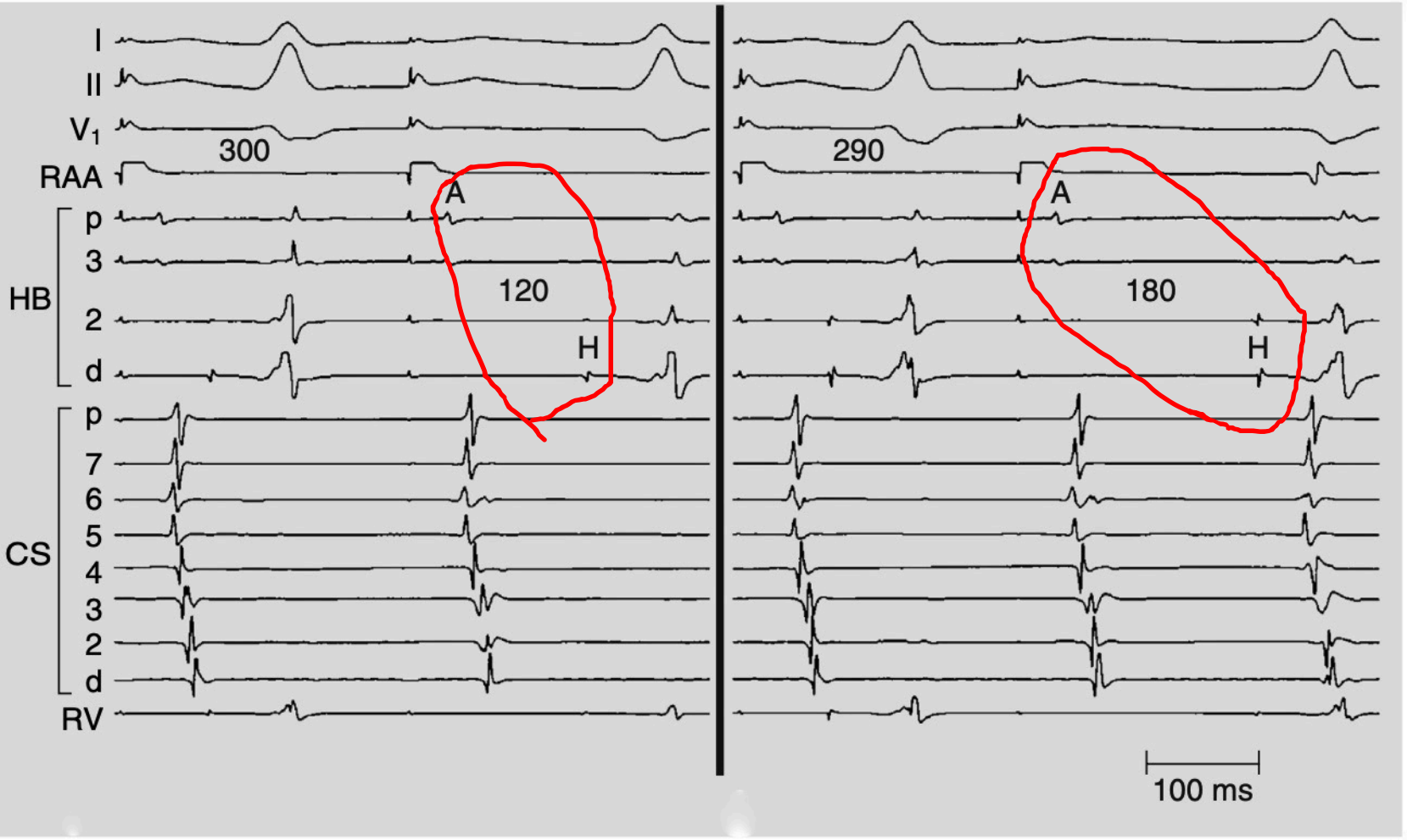
Atrio-Ventricular Blocks?

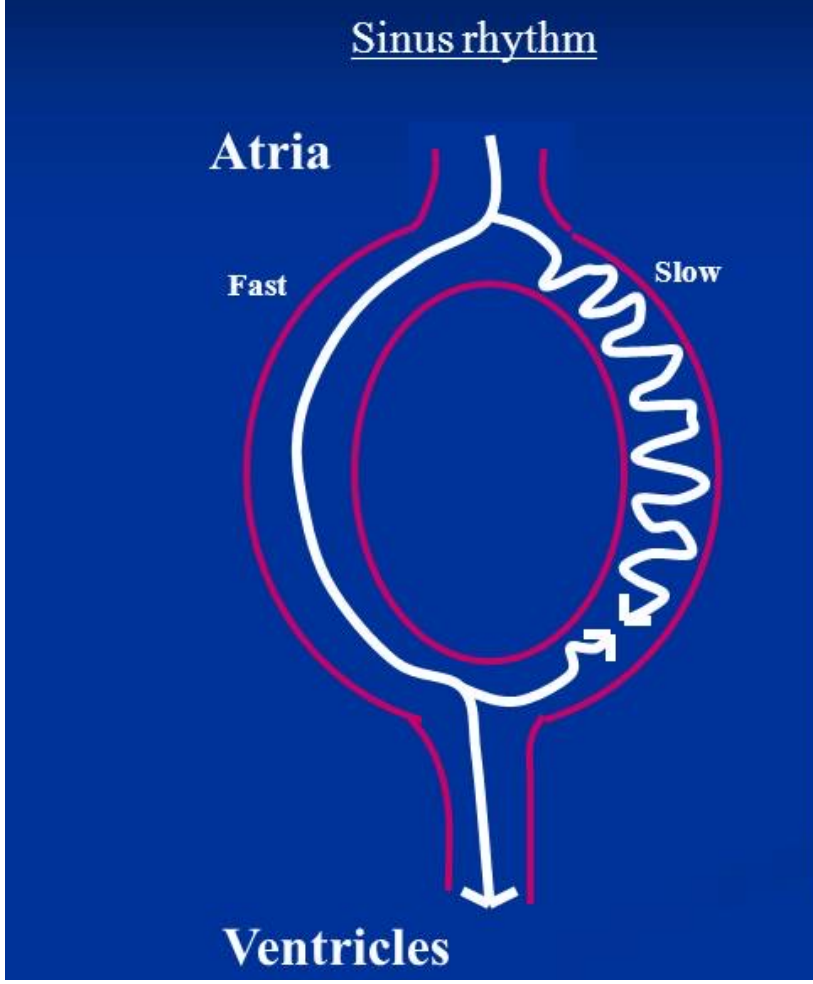
Slow- Fast

Fast- Slow

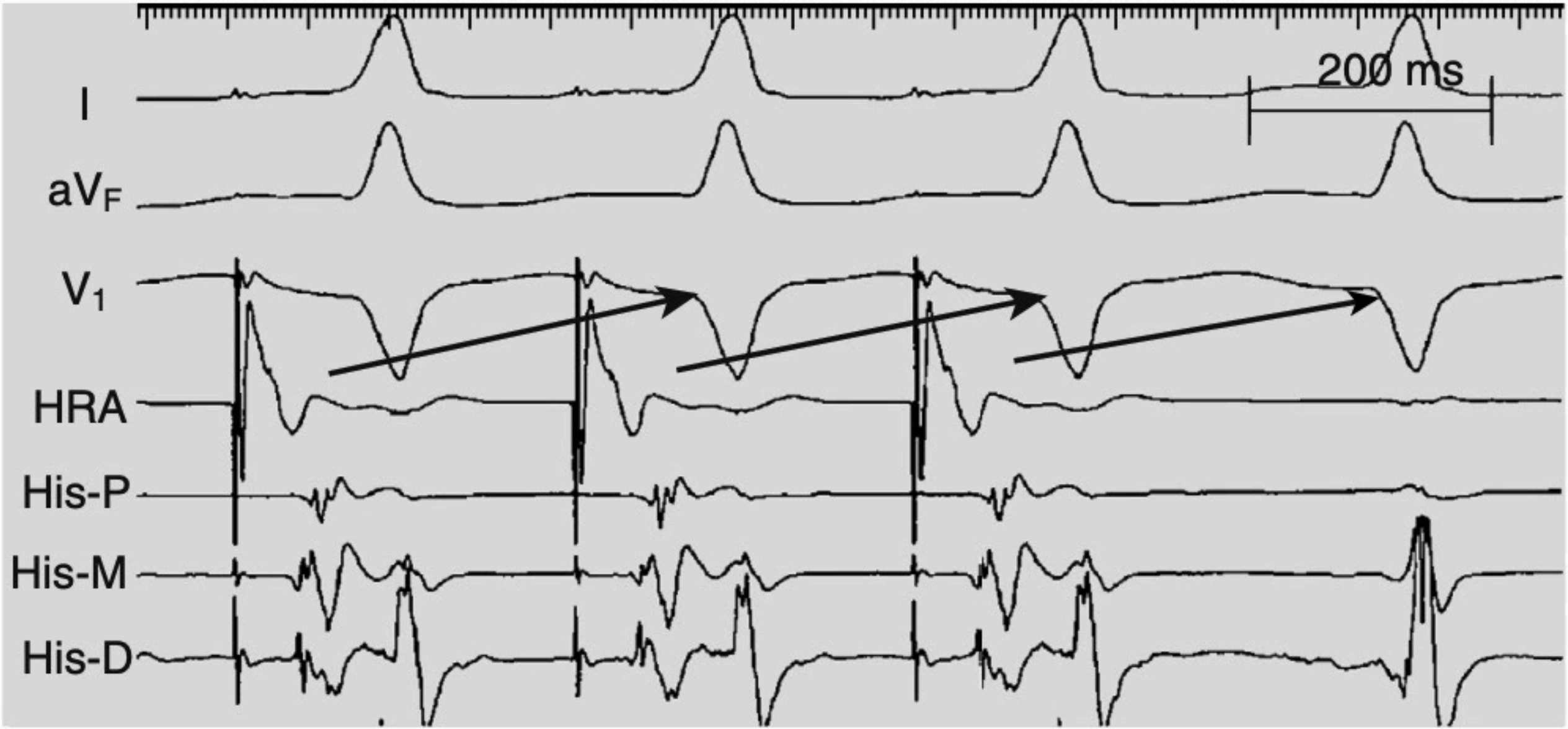
Slow- Slow

Left Sided

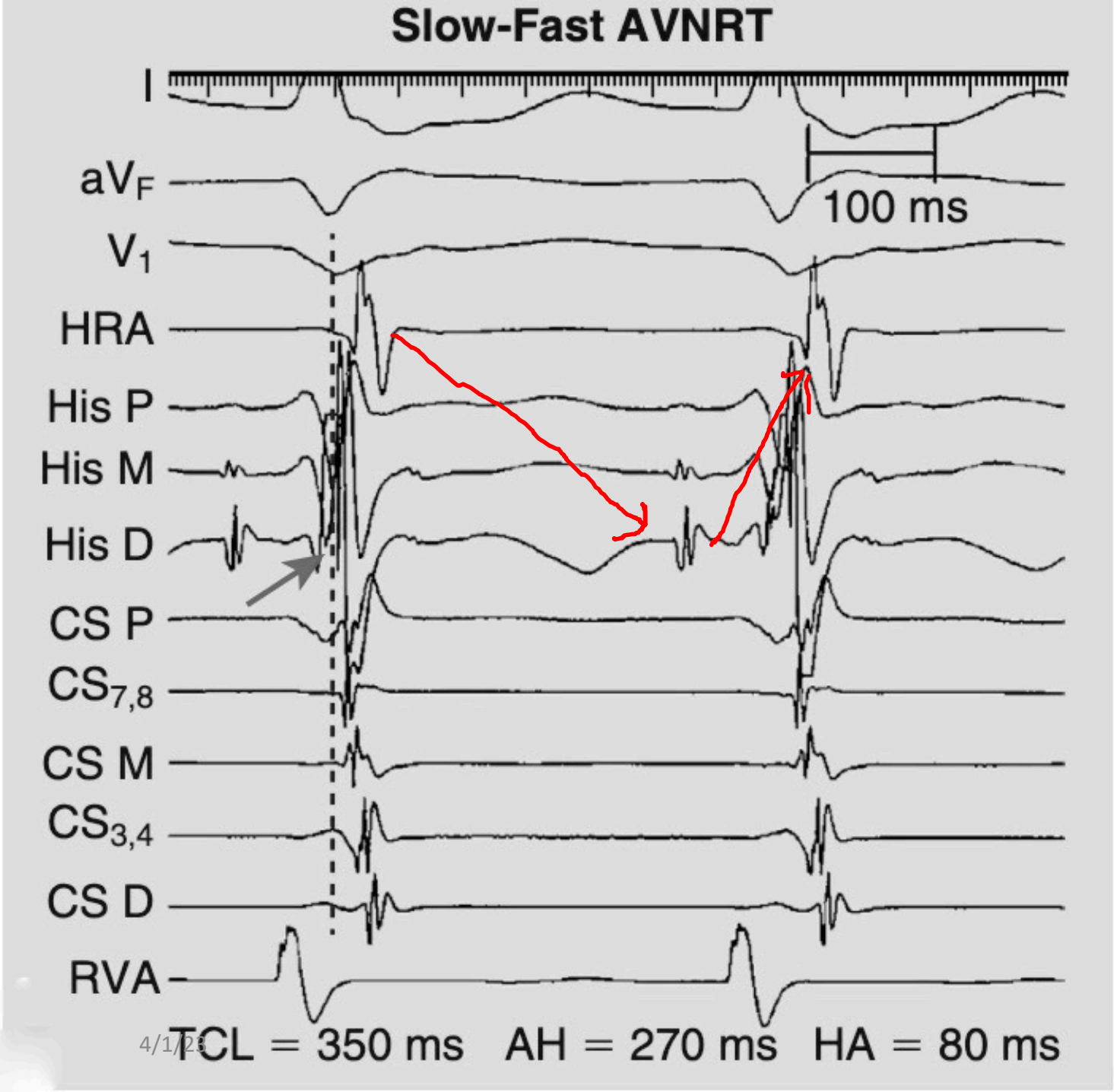


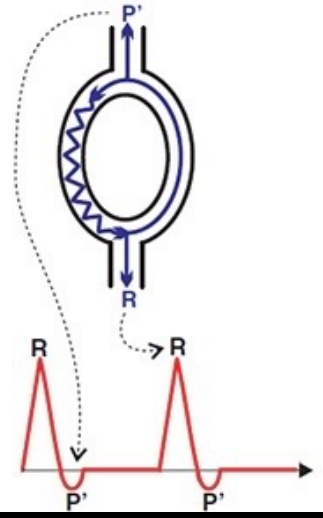


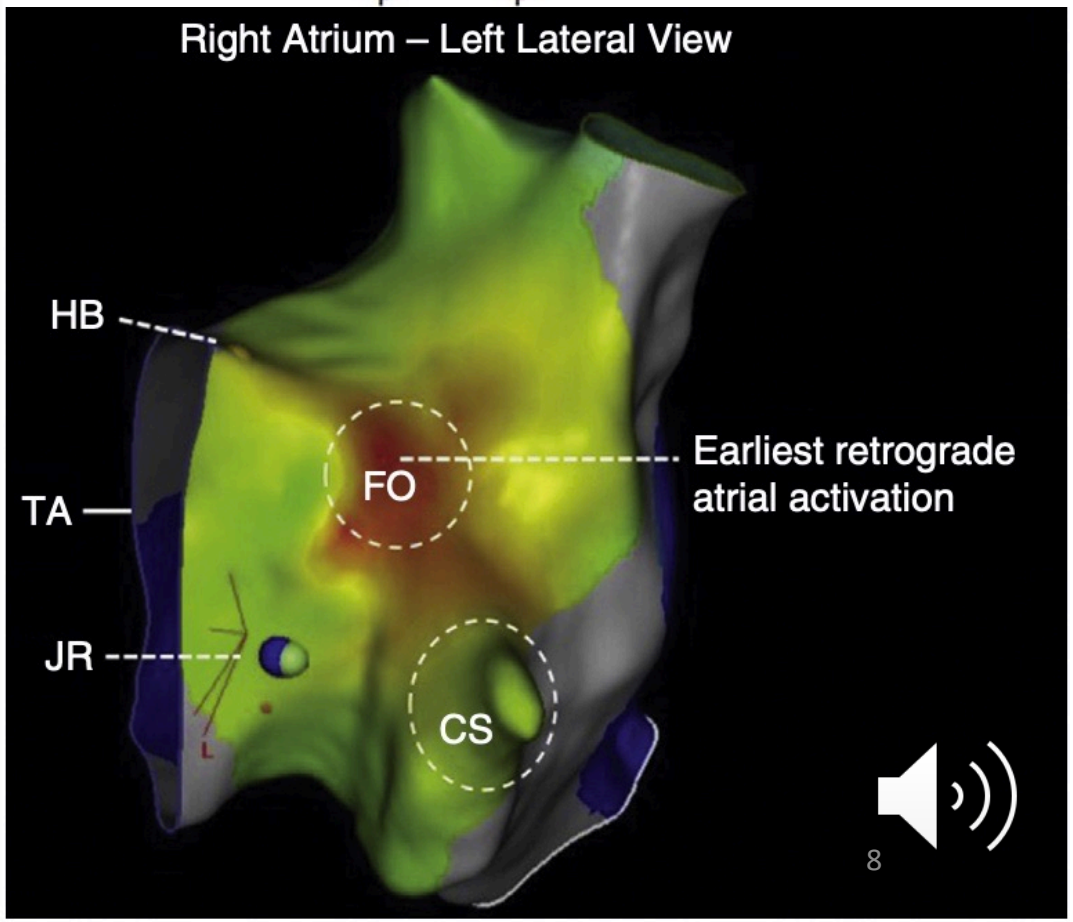
Dual AV nodal Pathway



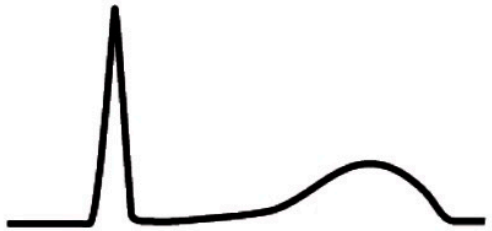
Atrial pacing (280 ms): Antegrade Slow pathway conduction. PR interval 340 ms > PP interval .


Slow-Fast AVNRT
I
aVF
V1
HRA
His P
His M
His D
CS P
CS7,8
CS M
CS3,4
CS D
RVA
100 ms
TCL = 350 ms
AH = 270 ms
HA = 80 ms

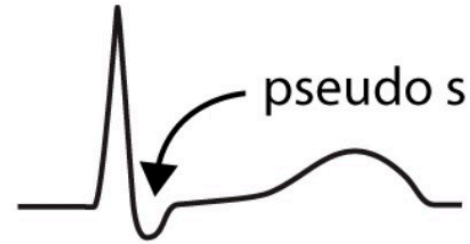

P'
R
R
R
P'
P'


Right Atrium – Left Lateral View
HB
TA
JR
FO
CS
Earliest retrograde atrial activation

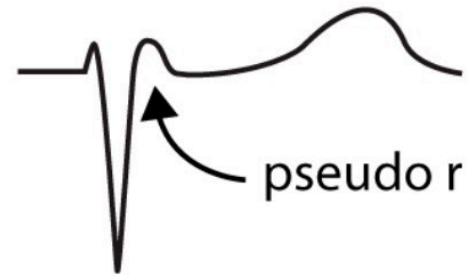
Slow – Fast (Typical) AVNRT



In most cases the P-wave is hidden in the QRS complex.

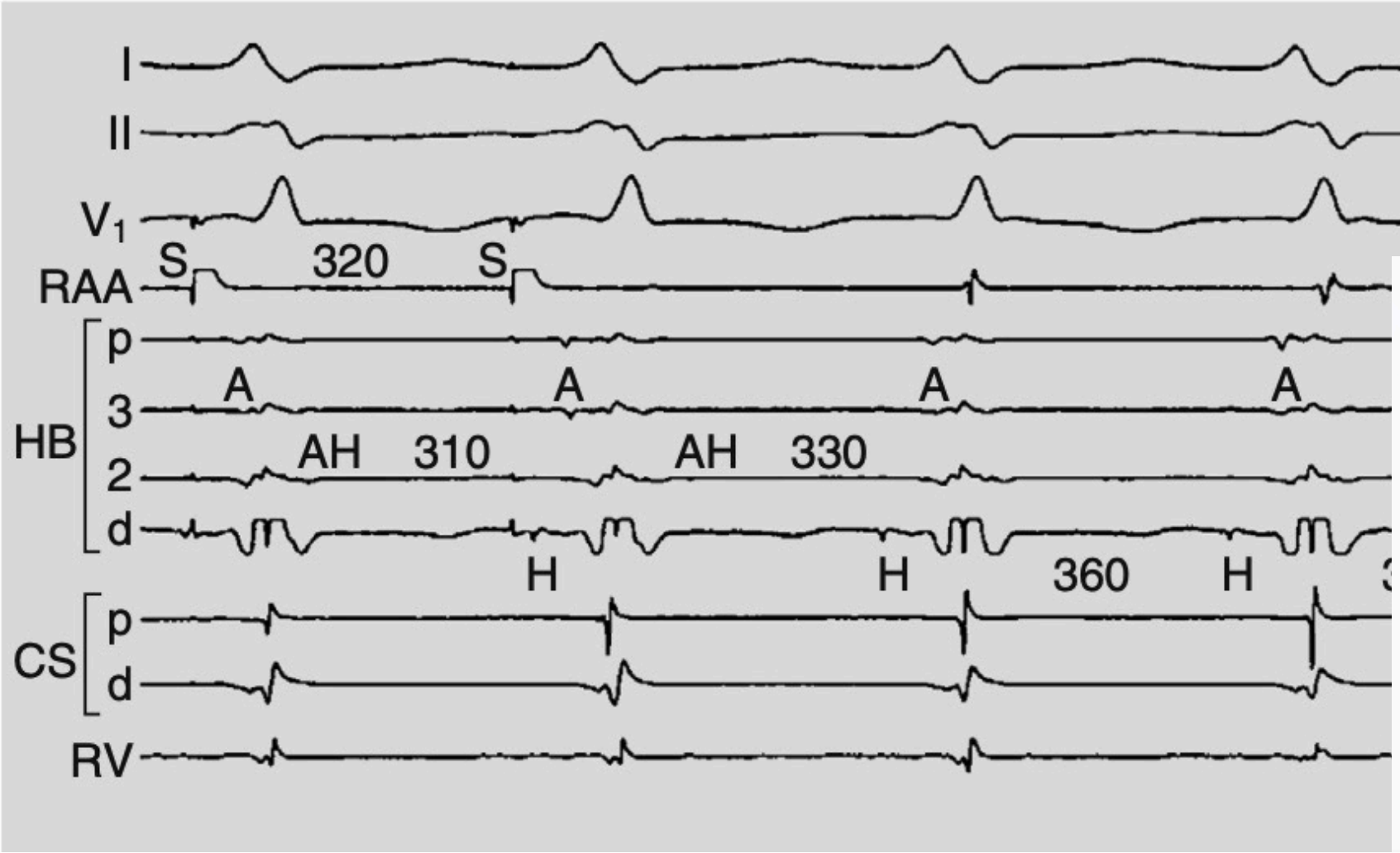


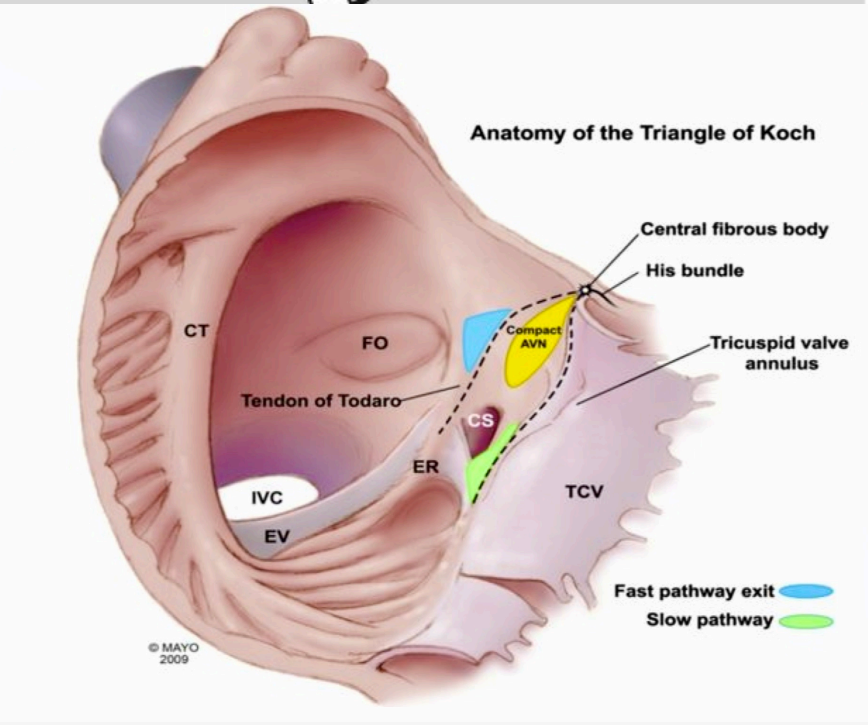
Lead II



Lead V1

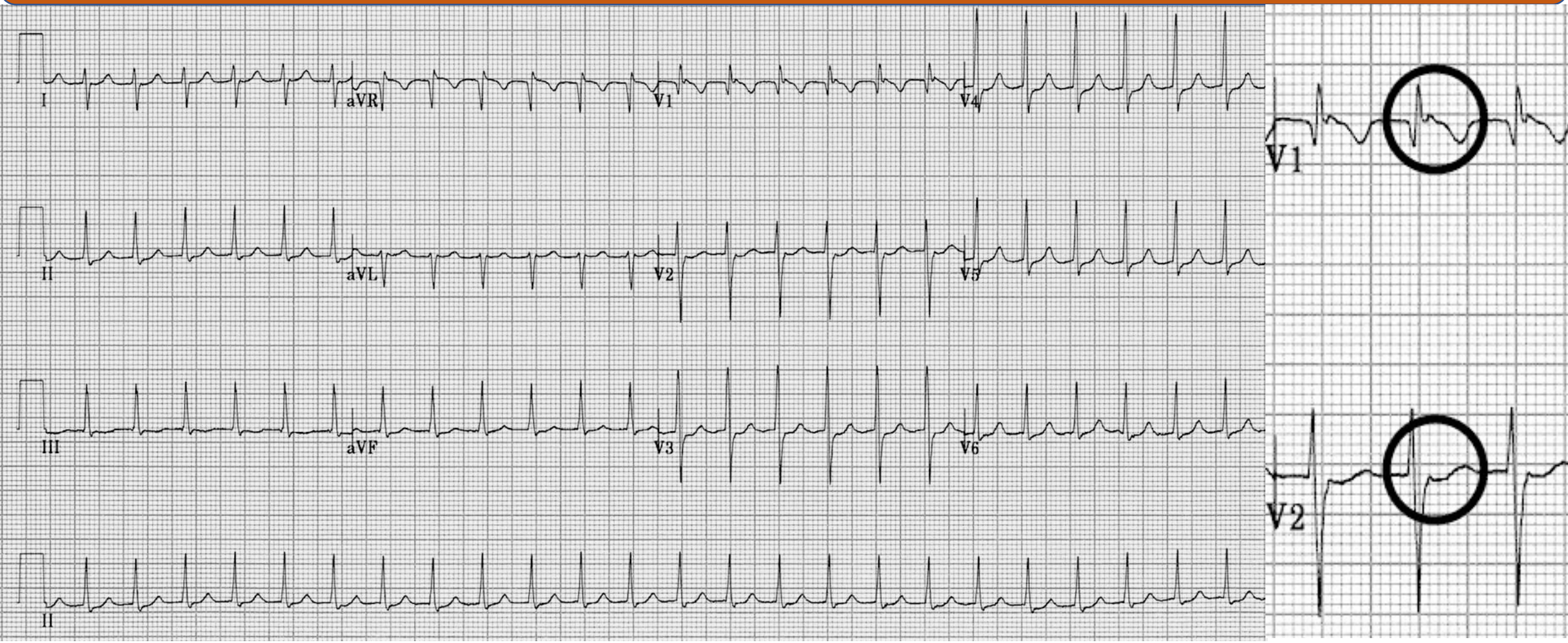
The P-wave is sometimes seen after the QRS complex. It will present itself as "pseudo s" in lead II and "pseudo r" in lead V1.





Slow-Fast (typical) AVNRT

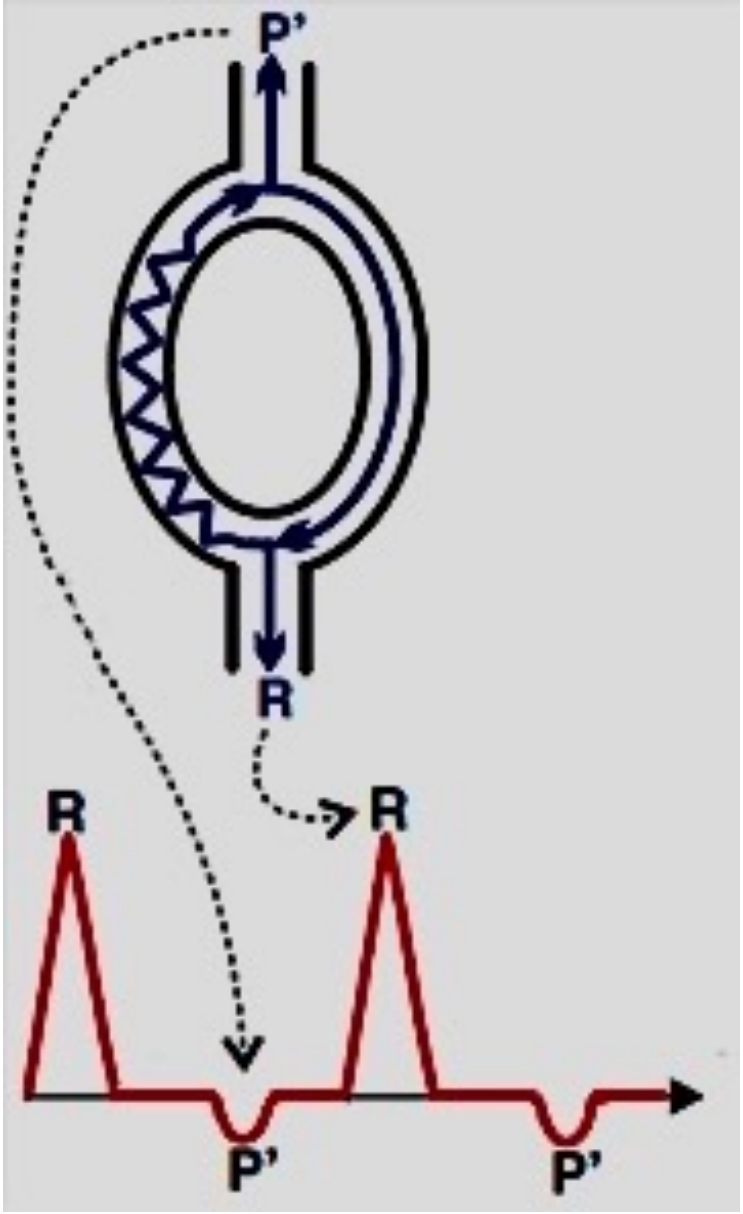
Slow – Fast AVNRT



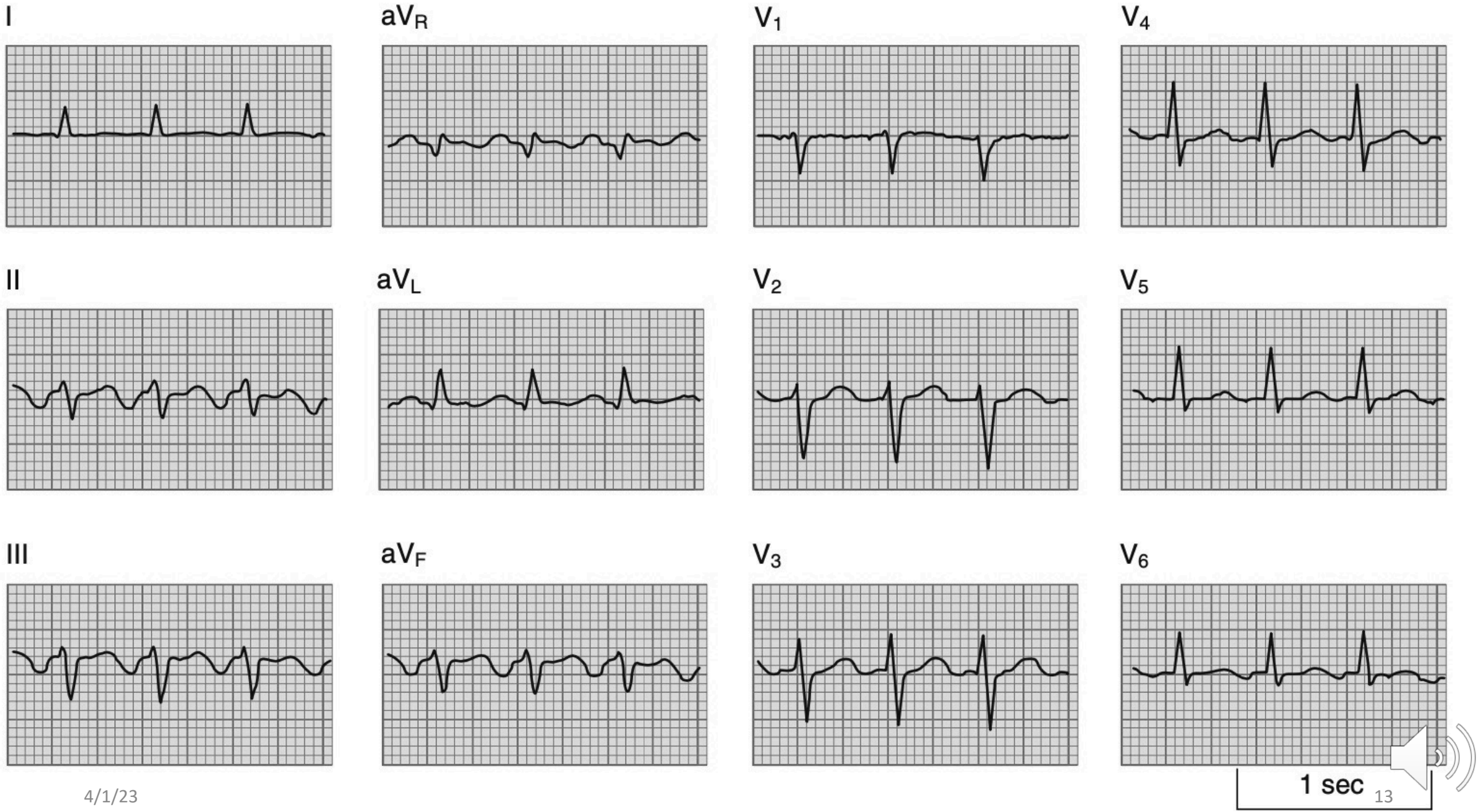
Narrow Complex Tachyarrhythmia

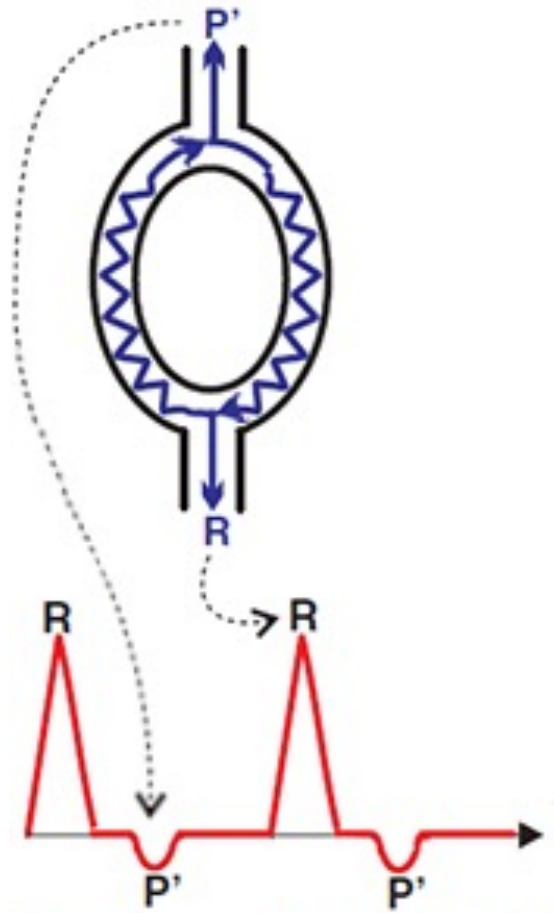
No visible P waves

Pseudo R’ in V1, V2 VR

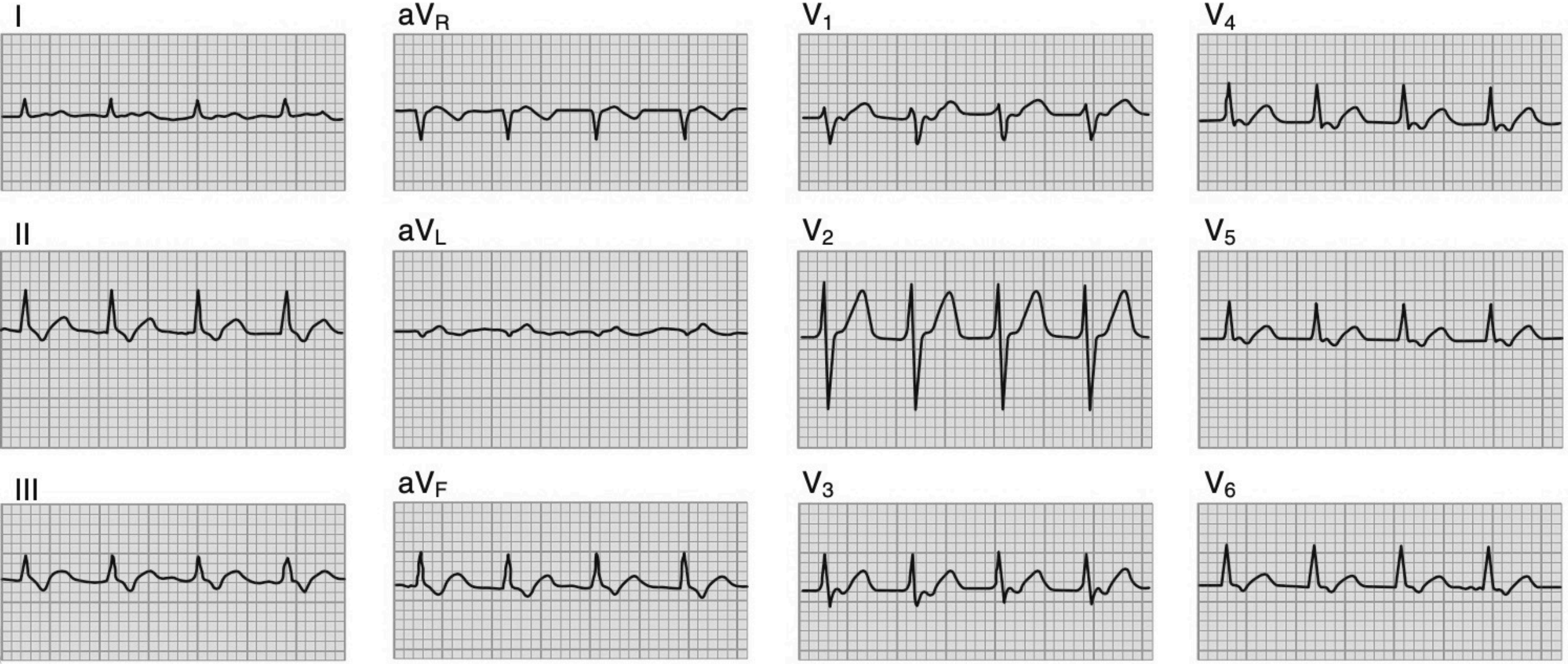


P-wave before QRS complex

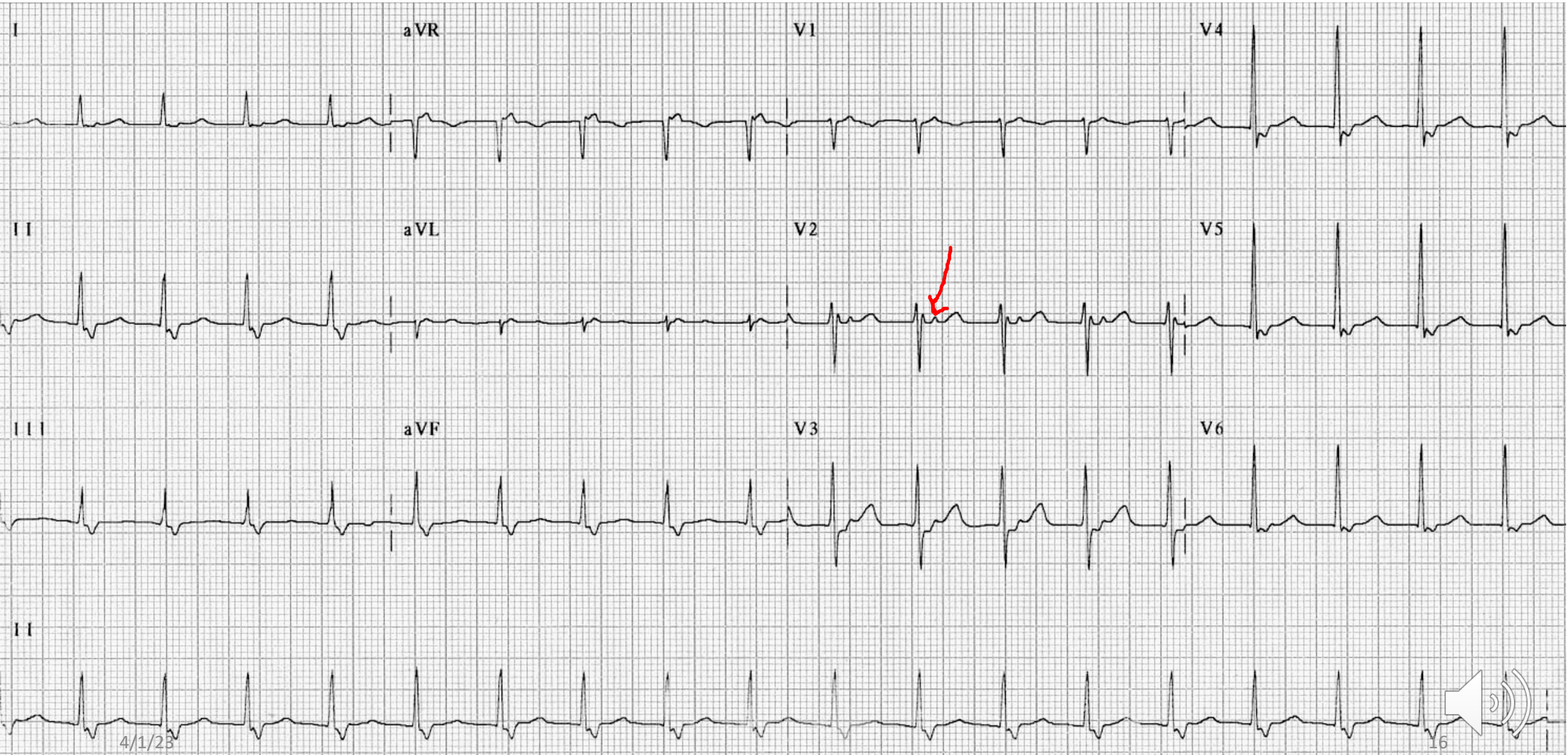

I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
1 sec



P-wave on the ST-T segment


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6

Slow -slow AVNRT



Definition

Mechanism

Subtypes ?

Narrow or wide Complex?

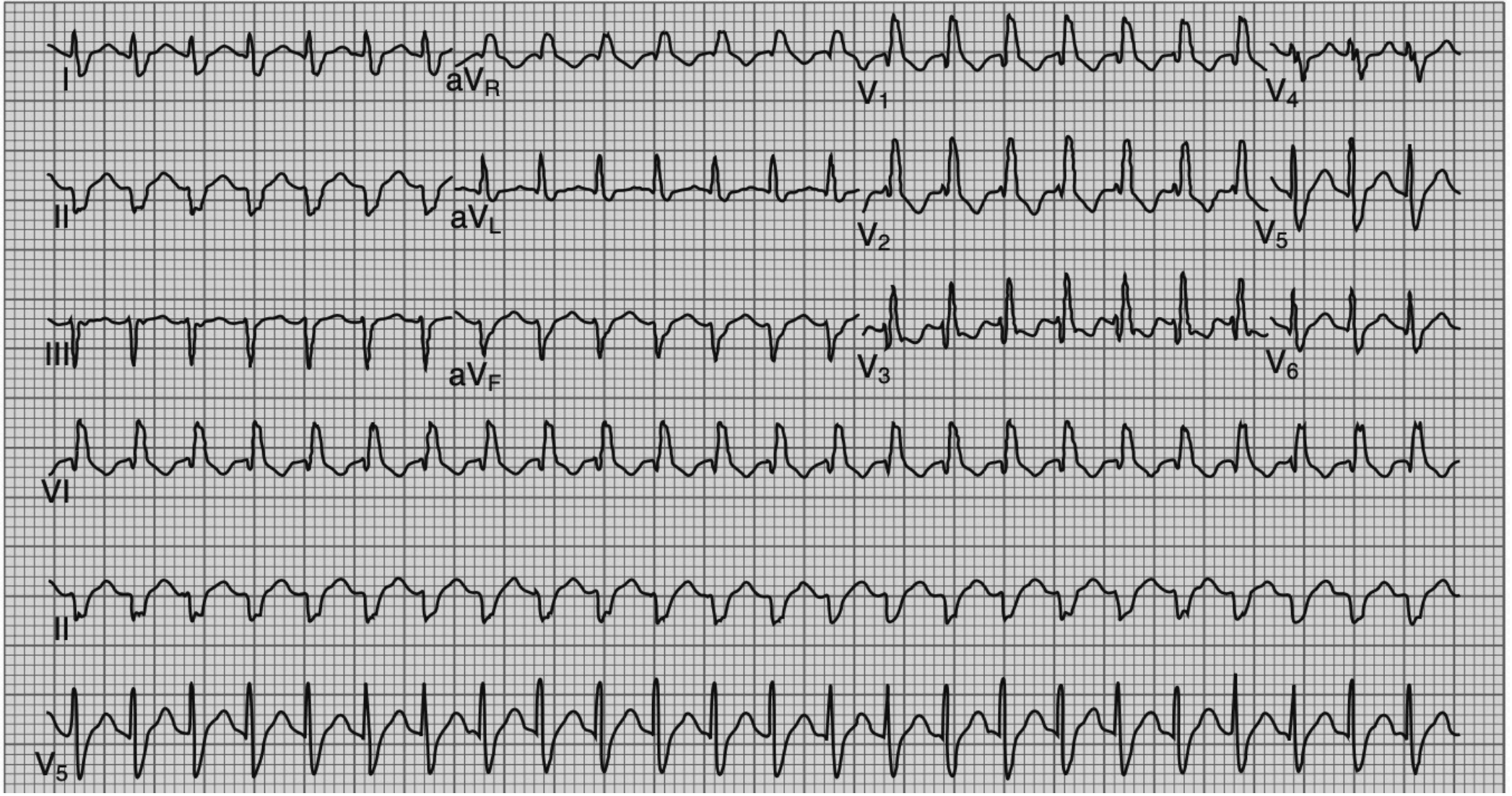
Atrio-Ventricular Blocks?

The QRS width is narrow , except:

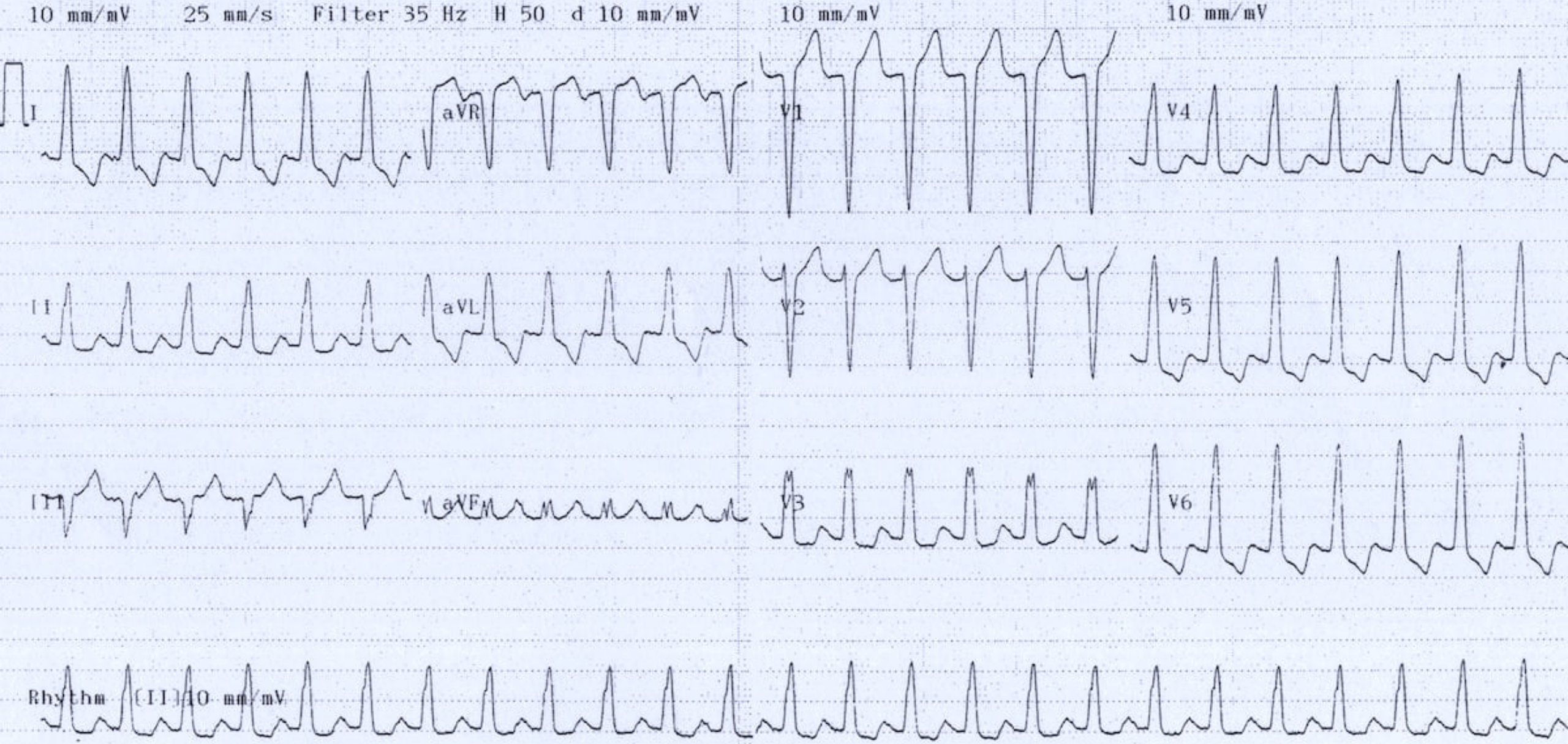
Preexisting bundle branch block

Functional (rate-dependent) bundle branch block

Associated Arrhythmias like accessory pathways



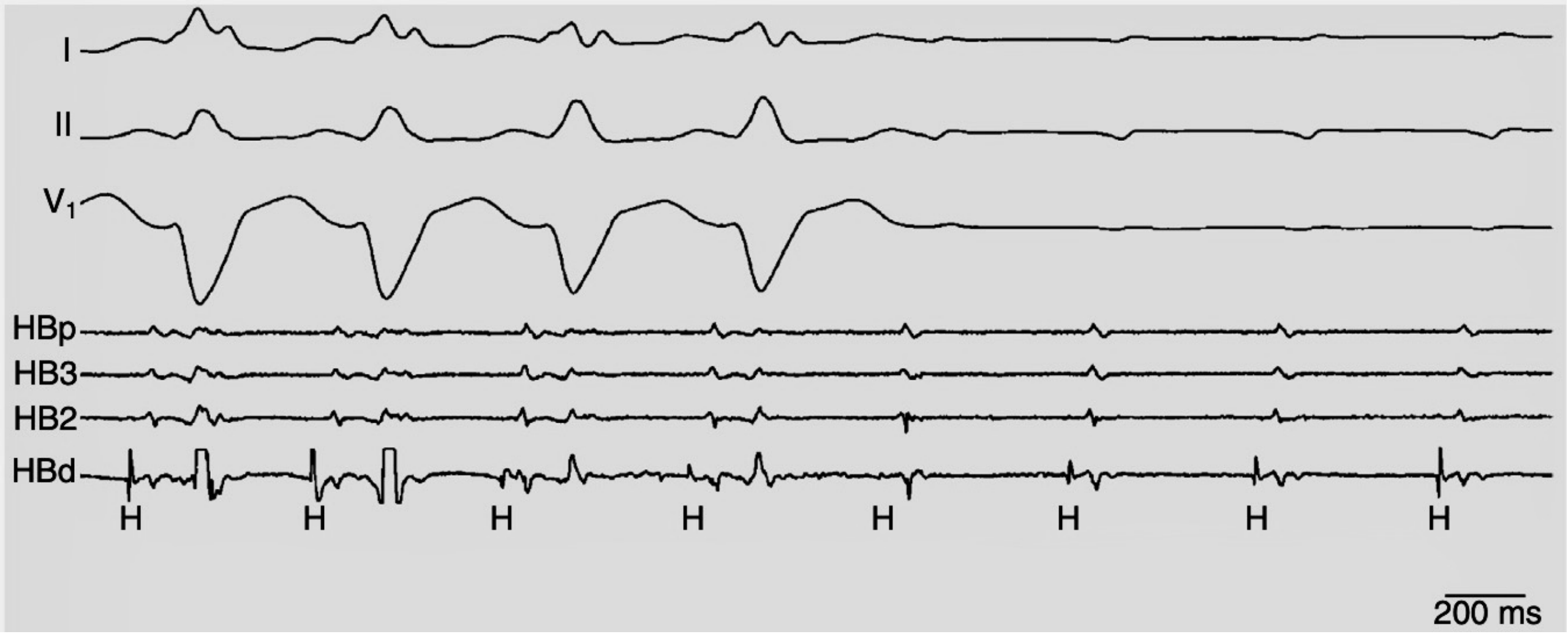
Slow-Fast AVNRT
Pre-existing RBBB+ LAFB



Slow-Fast AVNRT
Pre-existing LBBB

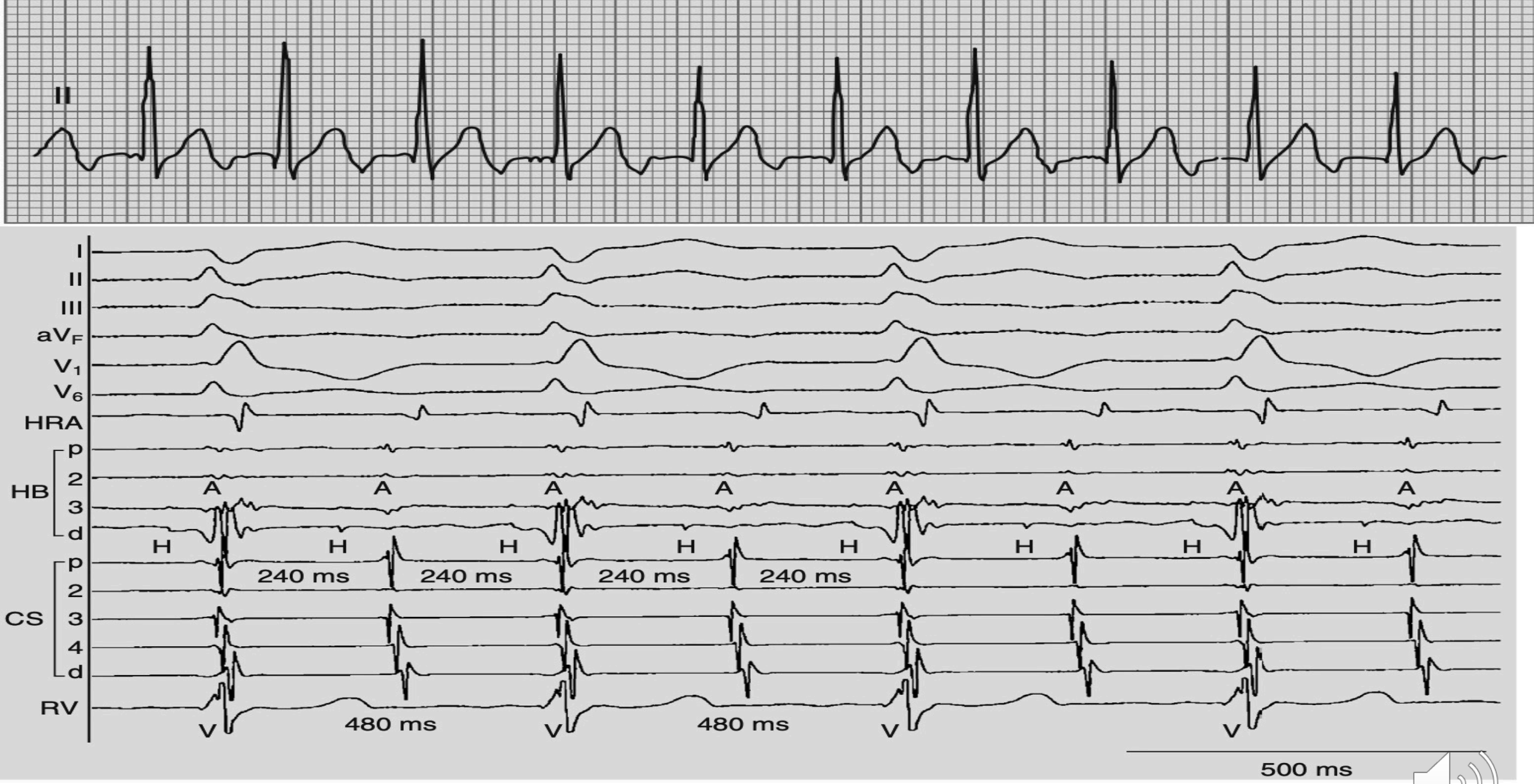
- Definition
- Mechanism
- Subtypes ?
- Narrow or wide Complex?
- Atrio-Ventricular Blocks?

Functional distal Infra-His Block



Recurrent Syncope, LBBB and Slow- Fast AVNRT

Phase 3 or acceleration dependent paroxysmal AV Block



Slow-Fast AVNRT with 2:1 AV Block ; Functional Block distal to His Bundle activation