

# Wide QRS tachycardia

Ko Jum Suk, MD, PhD

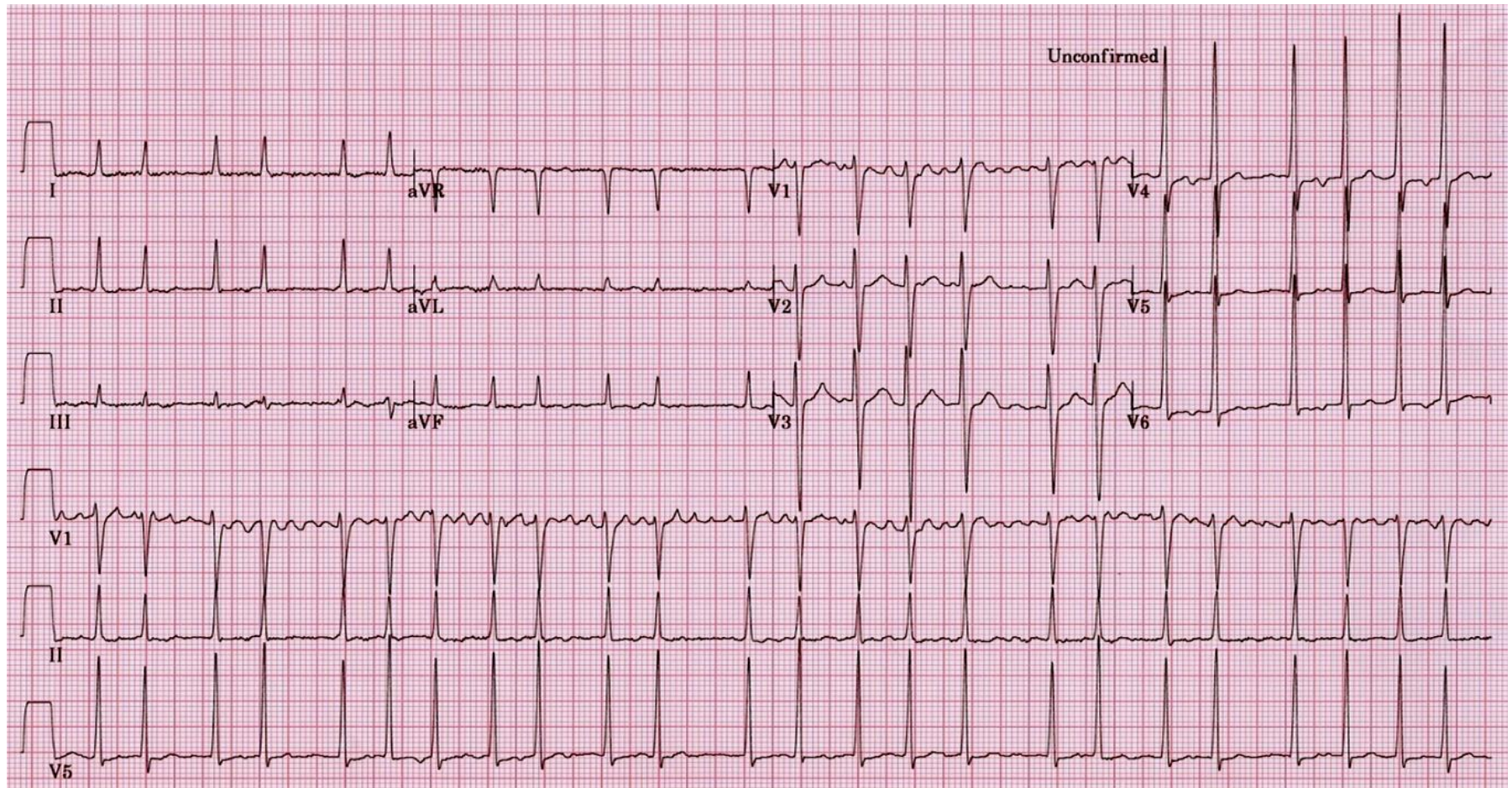
Wonkwang university school of medicine and hospital

# ECG description of tachycardia

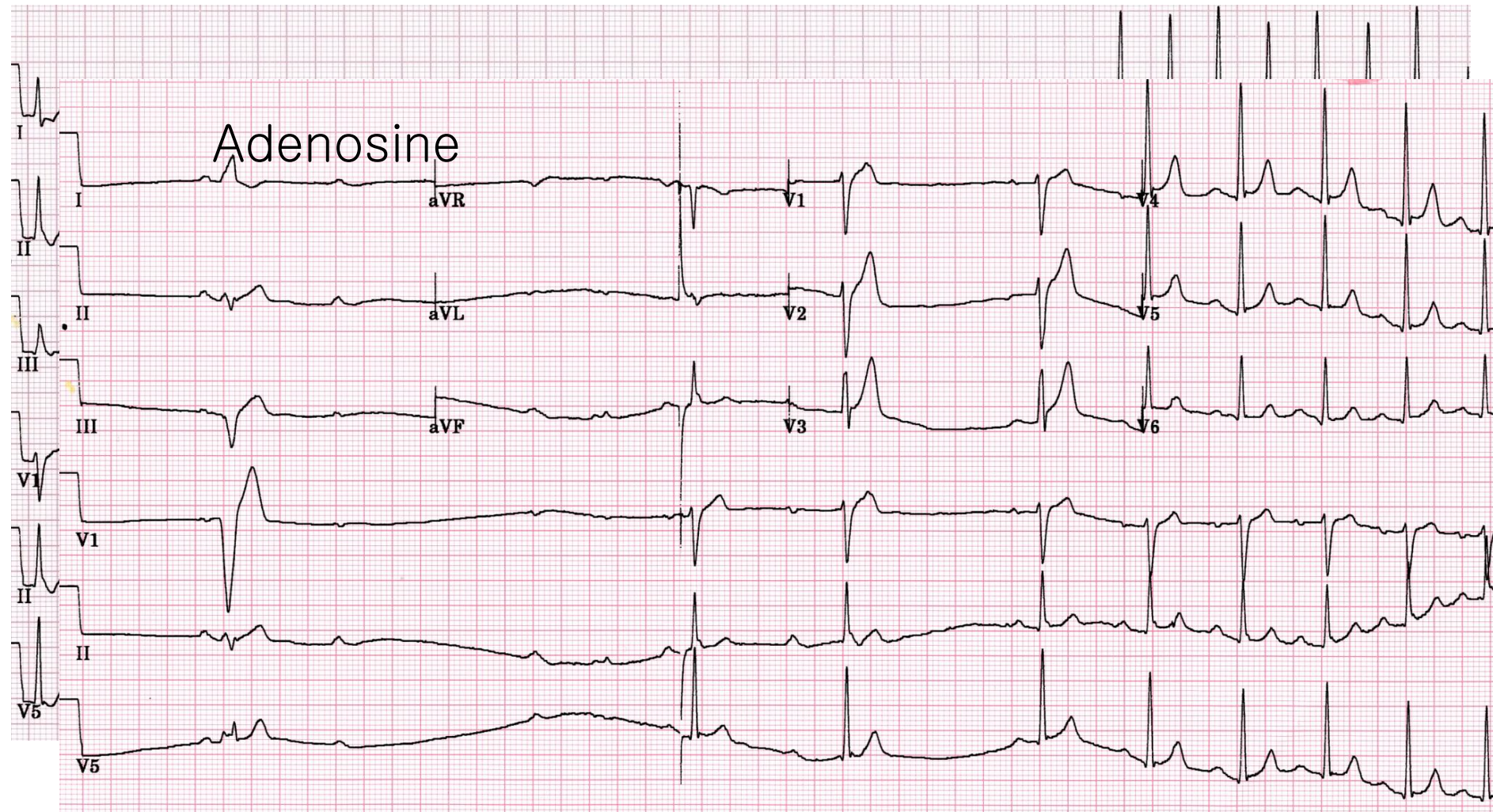
1. Regular narrow QRS tachycardia
2. Irregular narrow QRS tachycardia
3. Regular wide QRS tachycardia
4. Irregular Wide QRS tachycardia



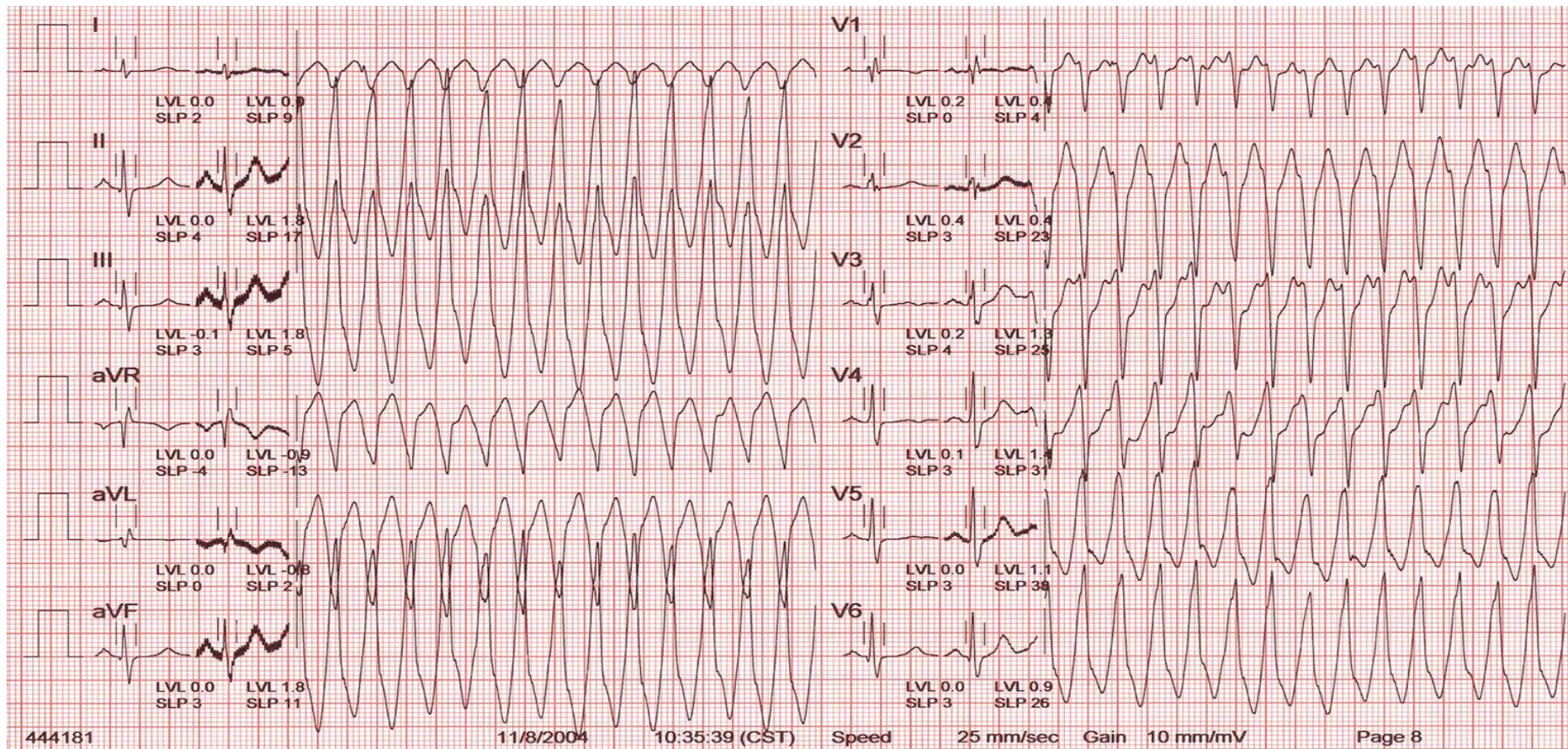
# Palpitation



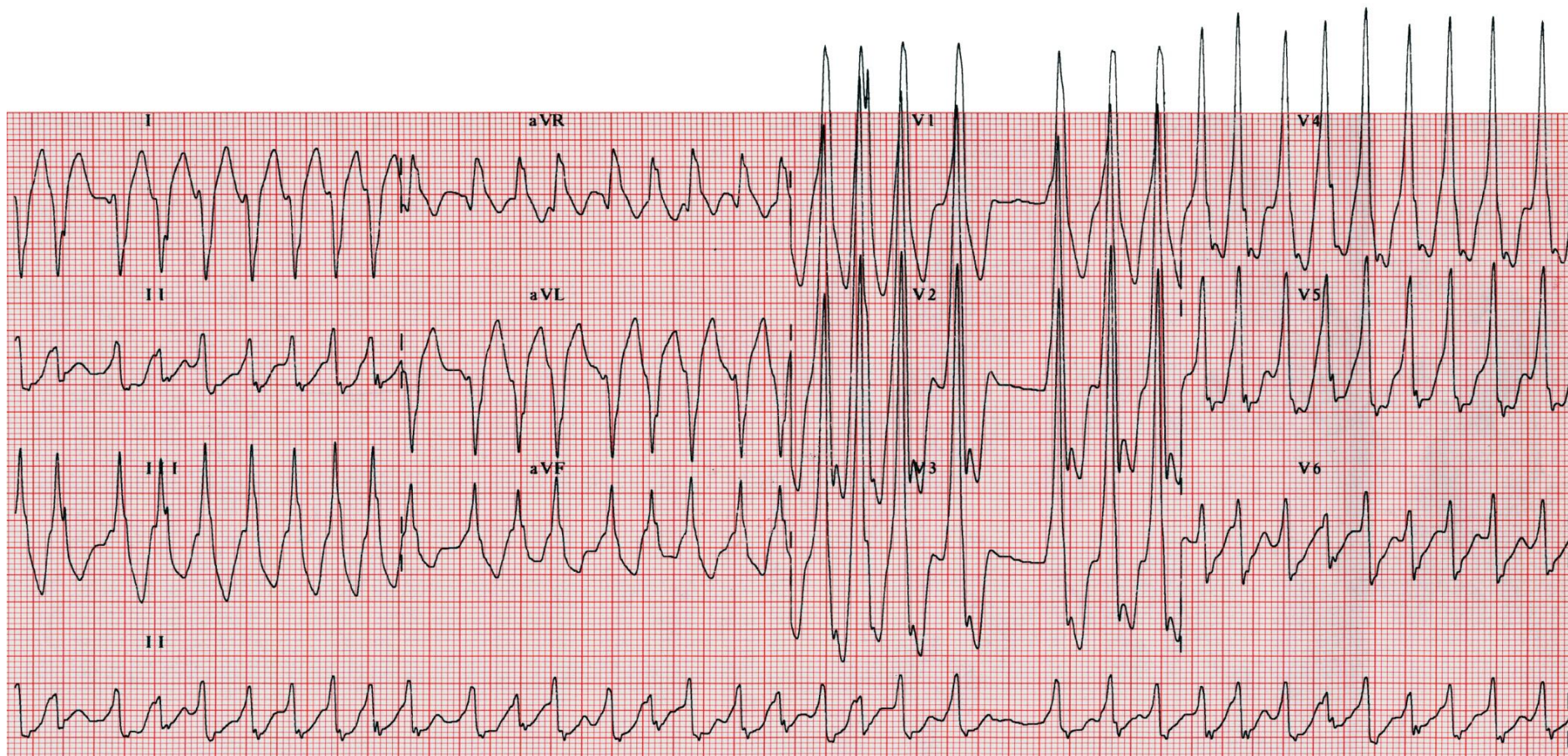
# Palpitation : terminated by adenosine



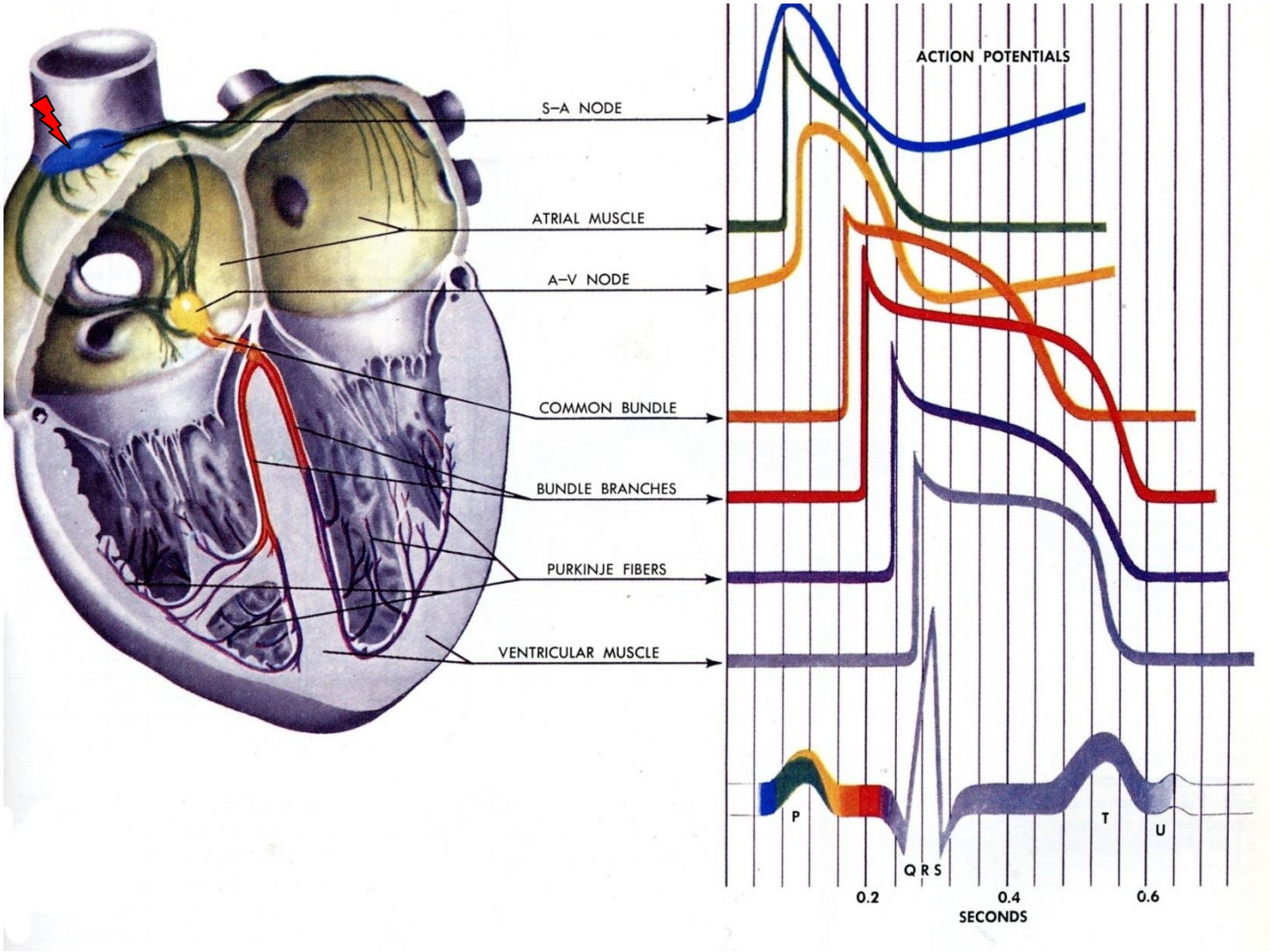
# Abnormal rhythm during TMT






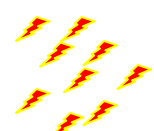
# Palpitation with collapse

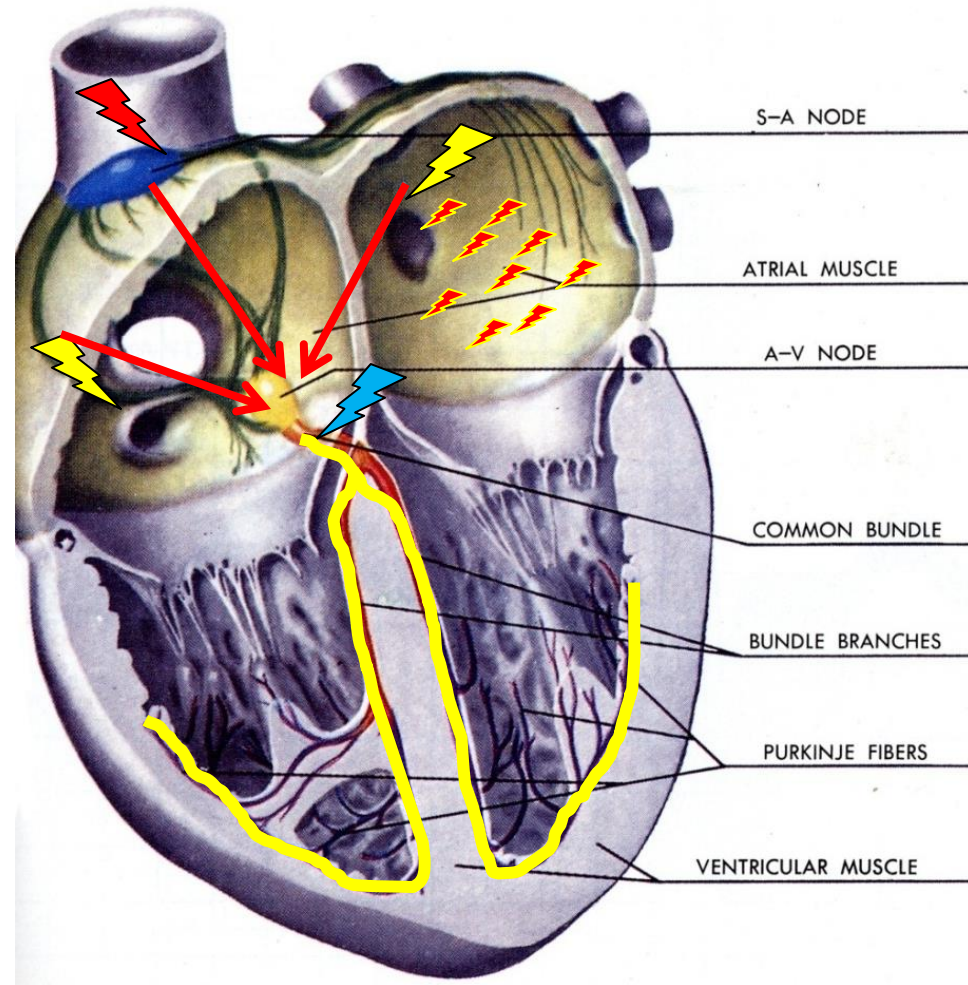


# Normal conduction system



# Possible mechanisms of narrow QRS tachycardia (1)

- Sinus tachycardia 
- Atrial tachycardia 
- Junctional tachycardia 
- Atrial fibrillation 





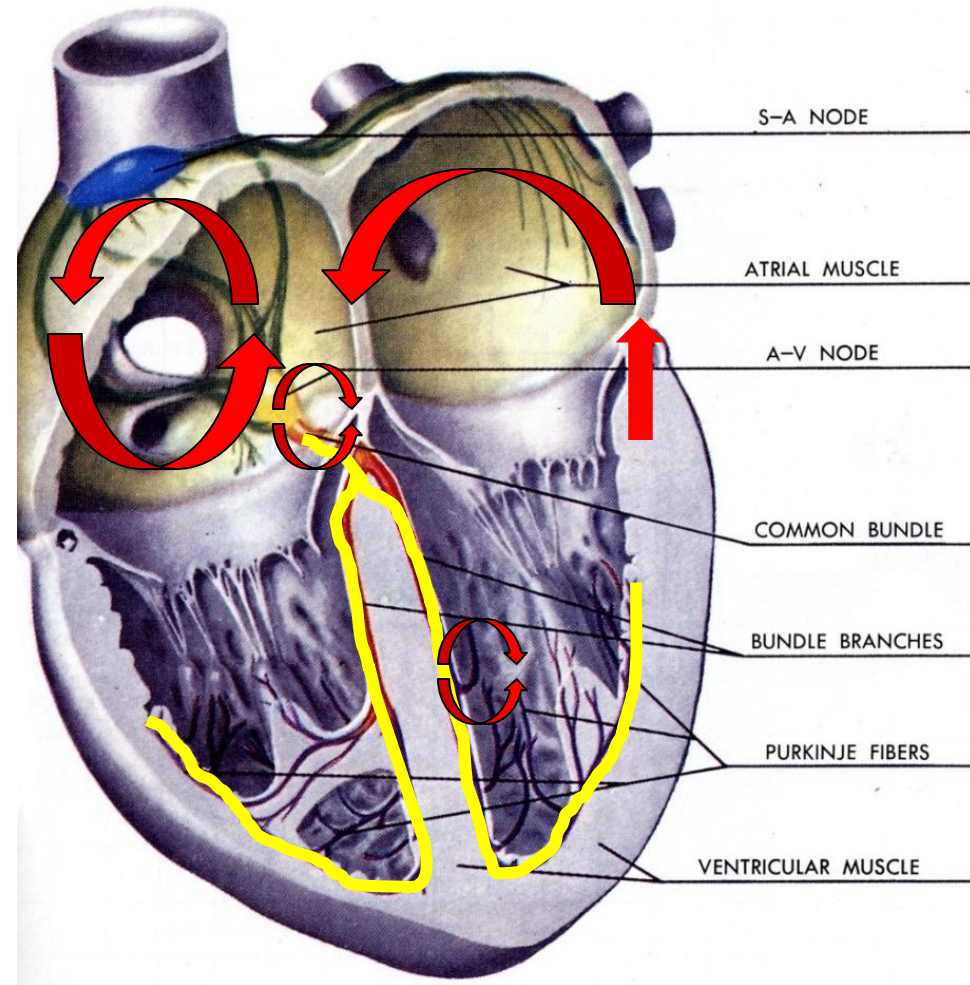
# Possible mechanisms of narrow QRS tachycardia (2)

■ Atrial flutter

■ AVNRT

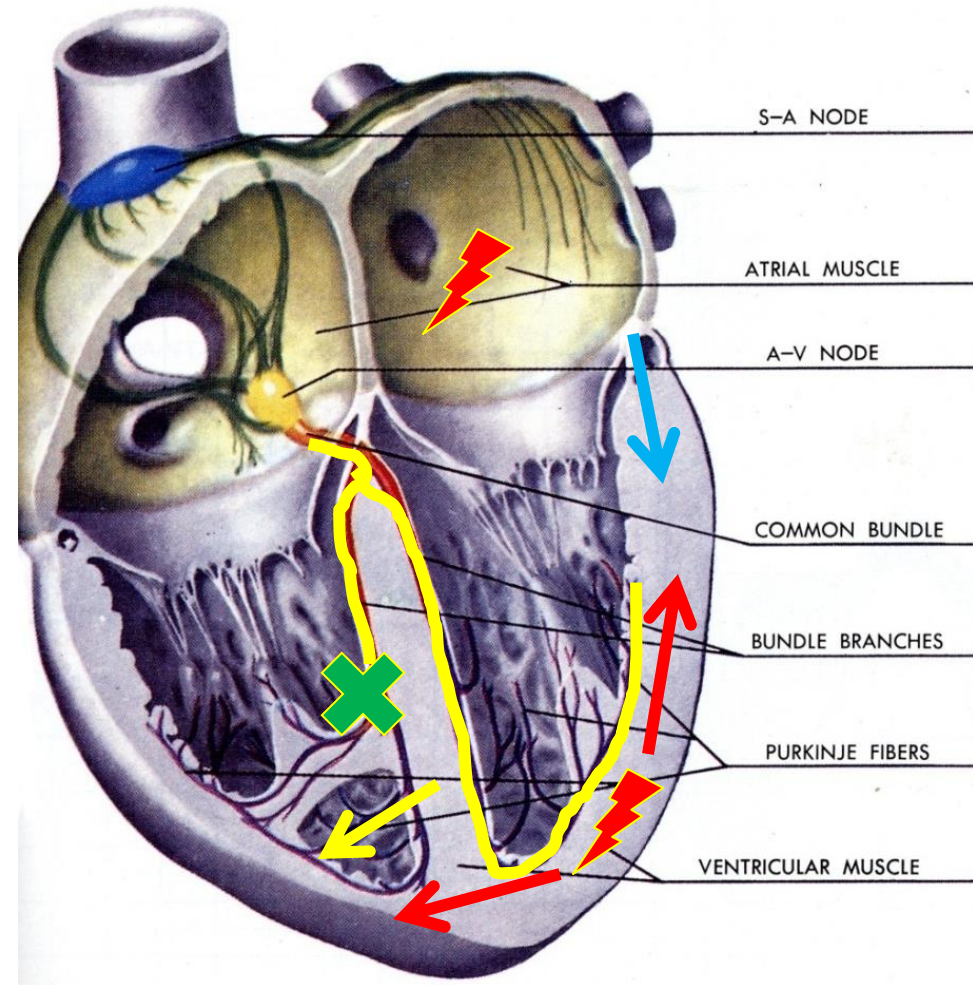
■ AVRT

■ ILVT



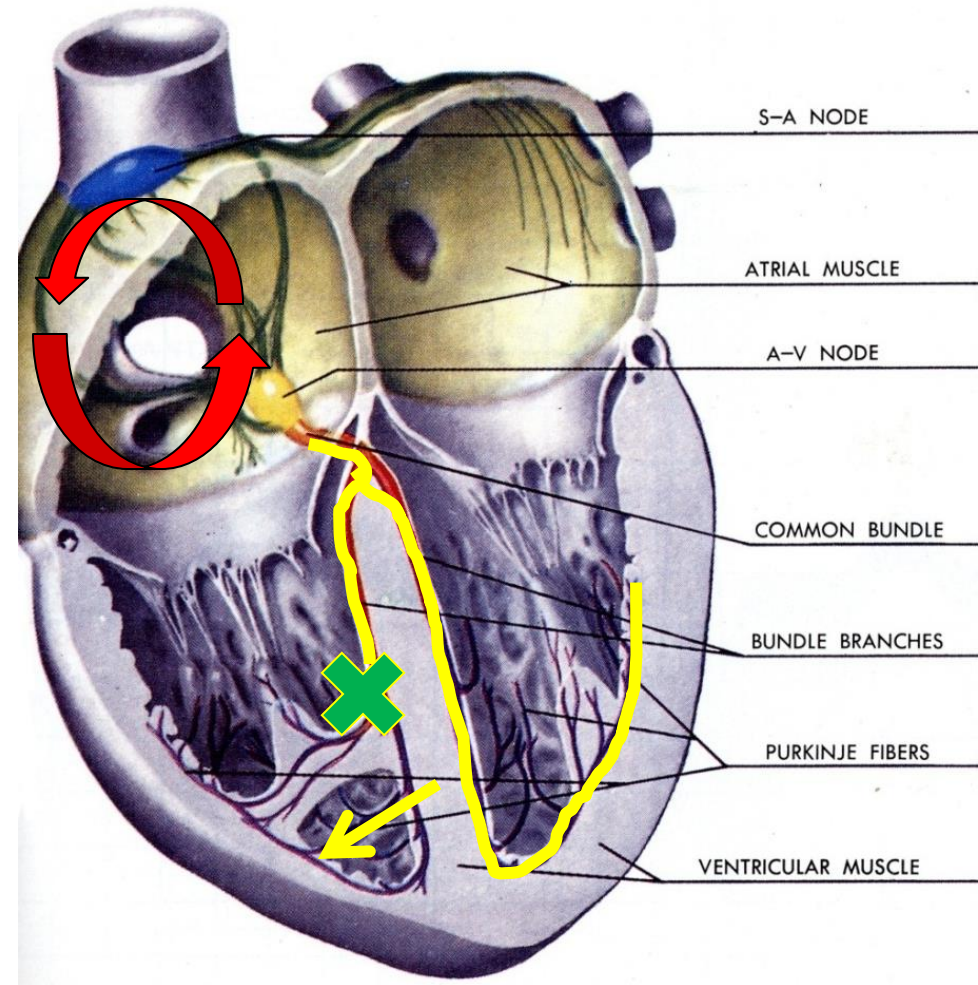
# Possible mechanisms of wide QRS tachycardia

- Ventricular tachycardia
- SVT with aberrant conduction
- AF with preexcitation
- AVRT(antidromic tachycardia)

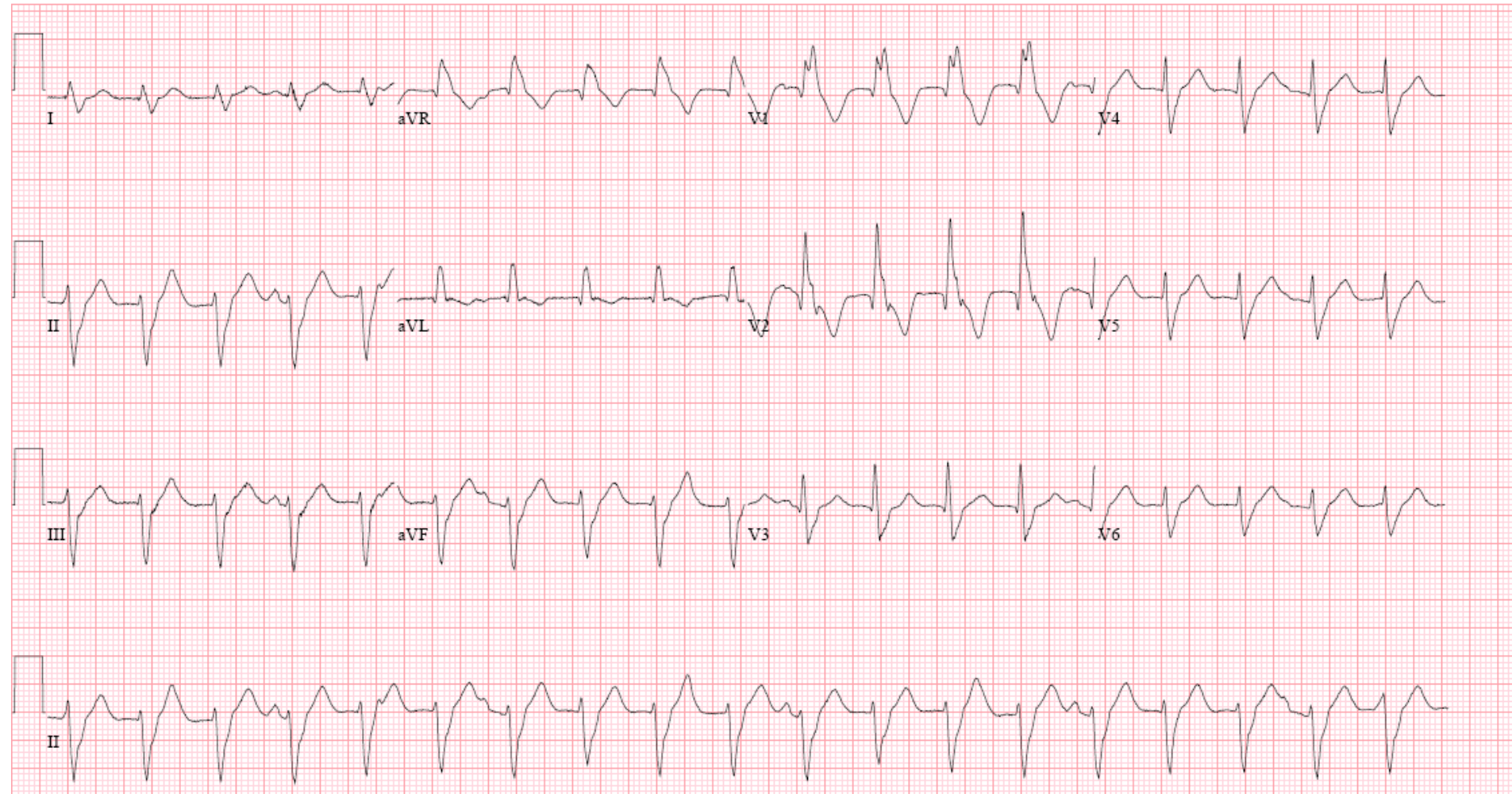


# Possible mechanisms of wide QRS tachycardia

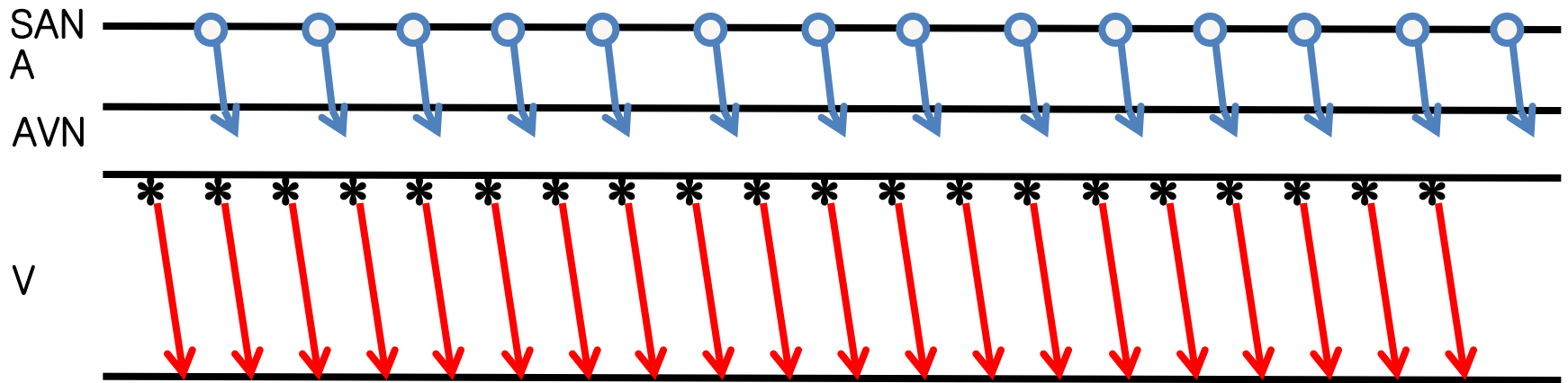
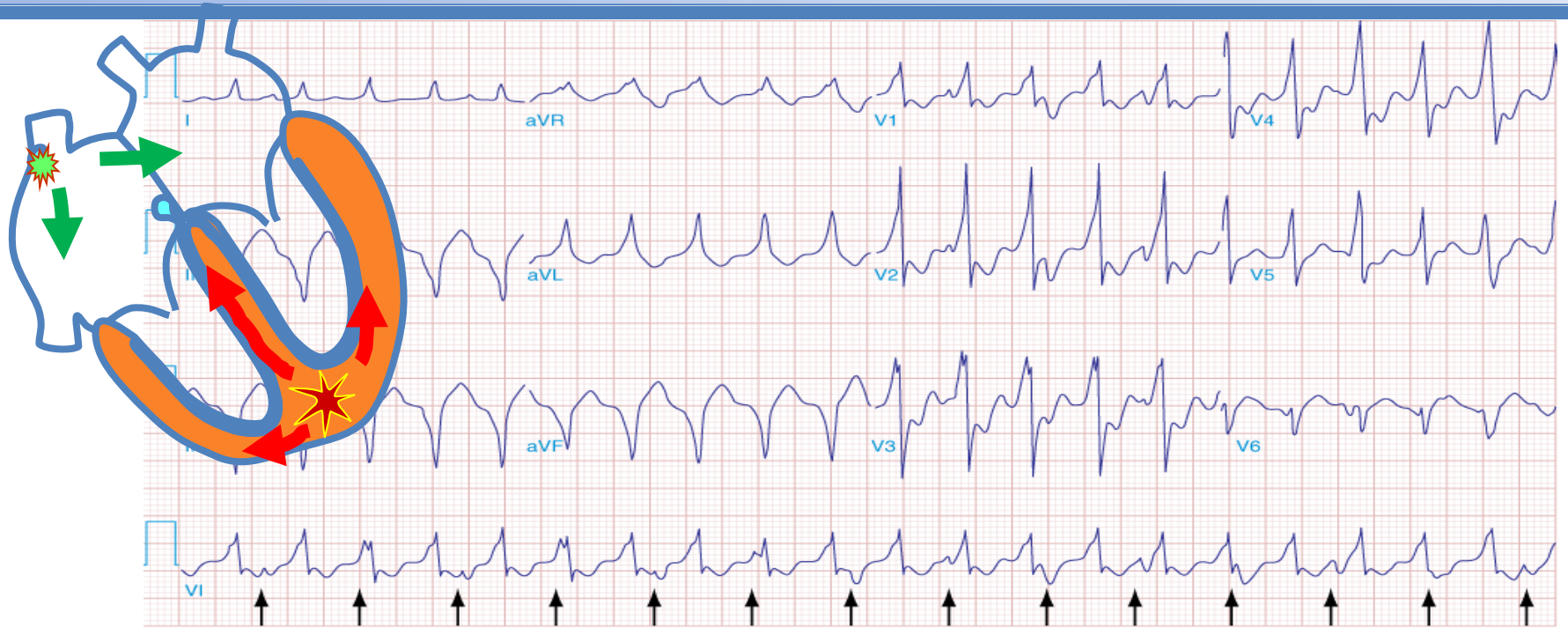
- Ventricular tachycardia
- SVT with aberrant conduction
- AF with preexcitation
- AVRT(antidromic tachycardia)



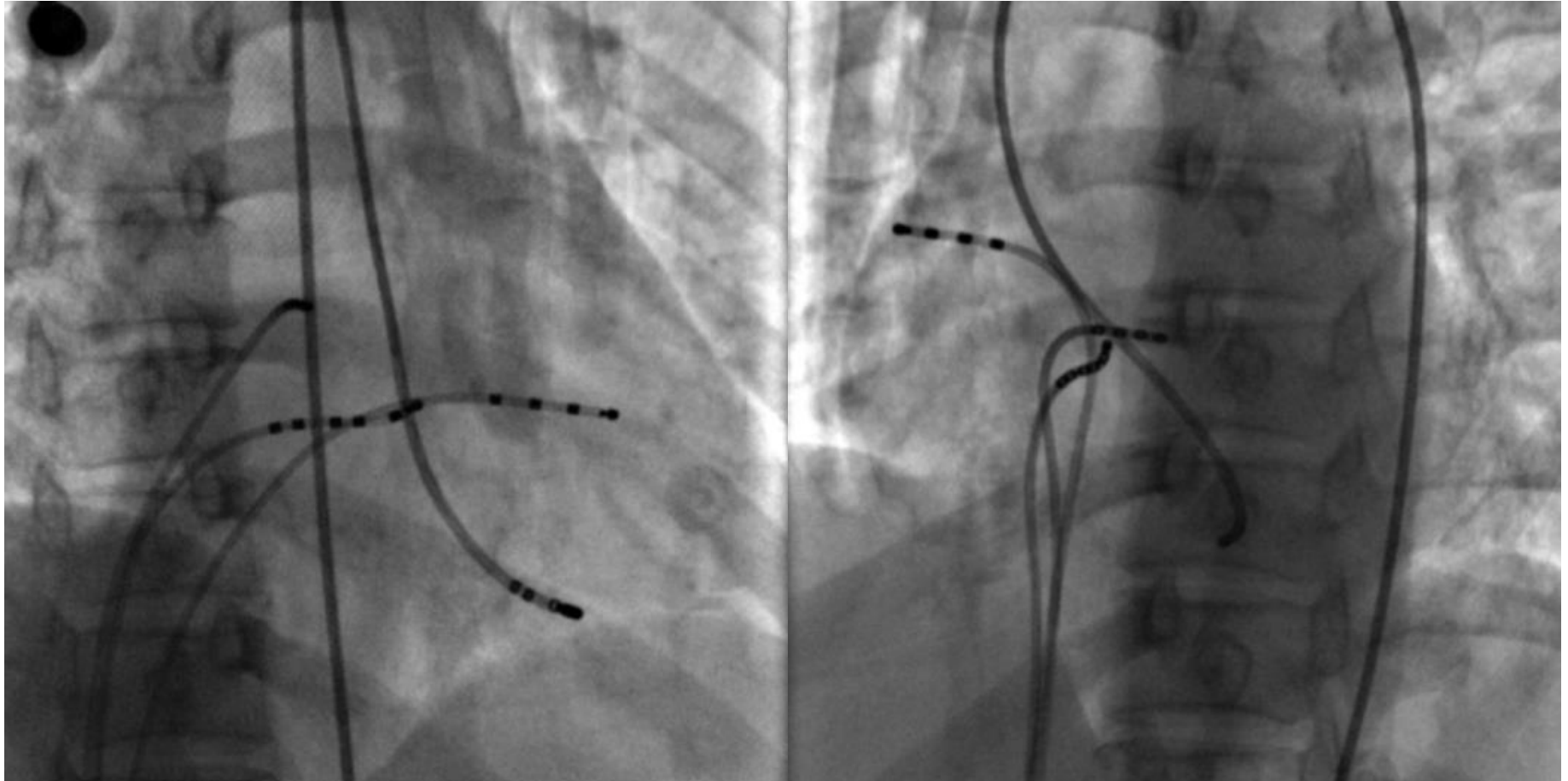
# 28/F palpitation



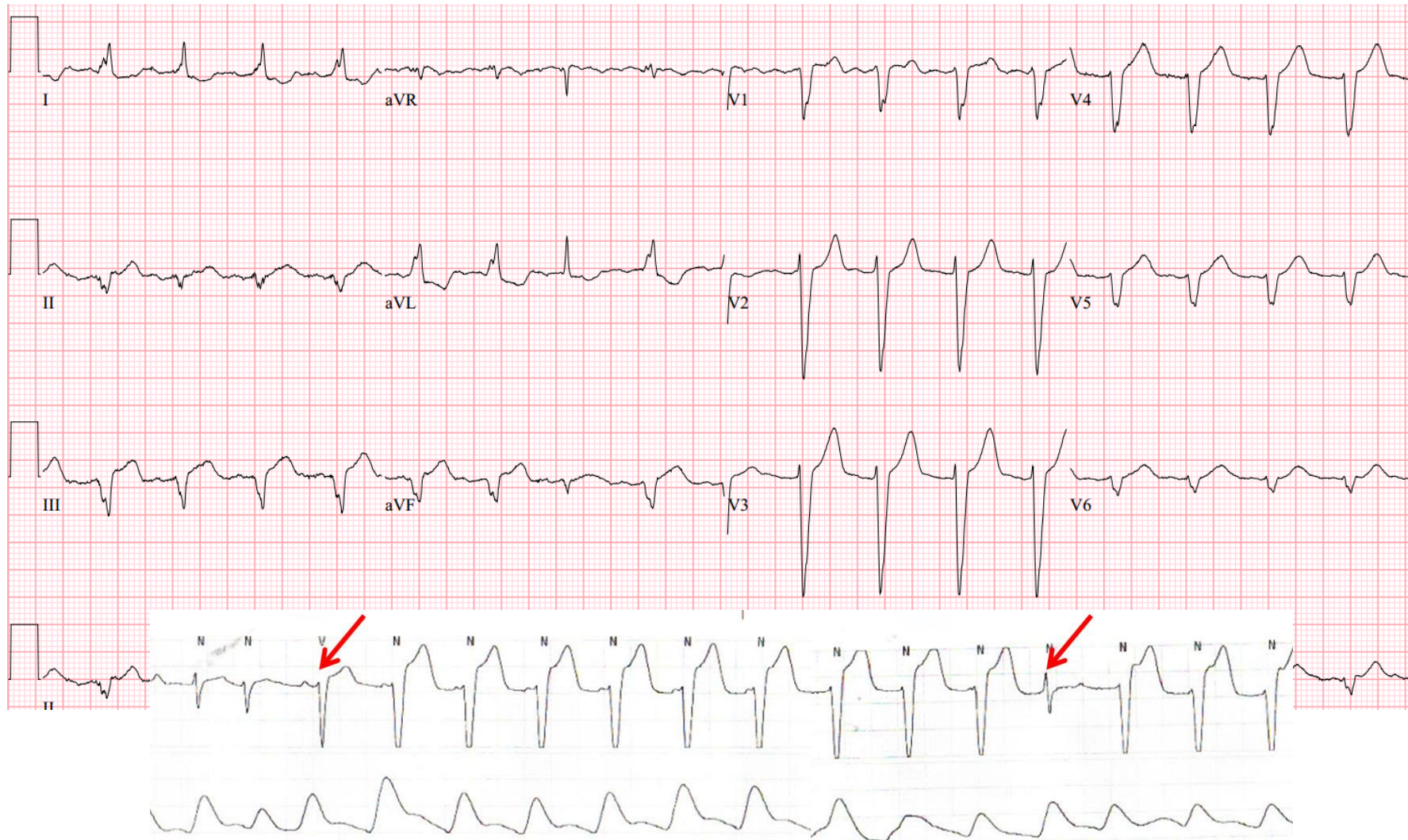
# AV dissociation



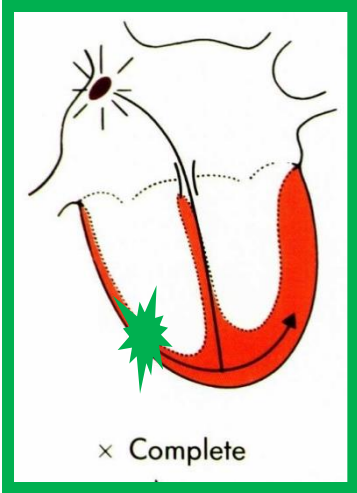
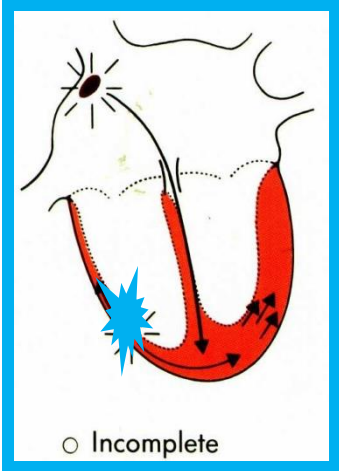
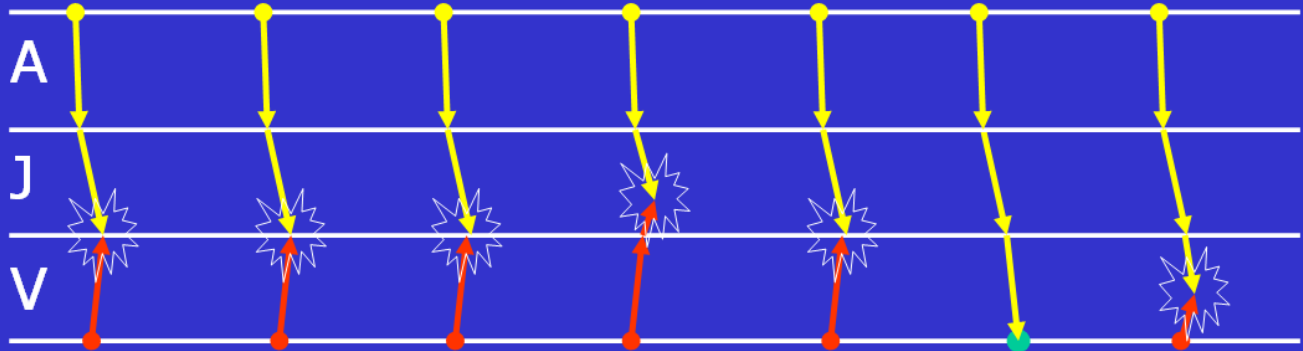
# RFCA



# 87/M palpitation

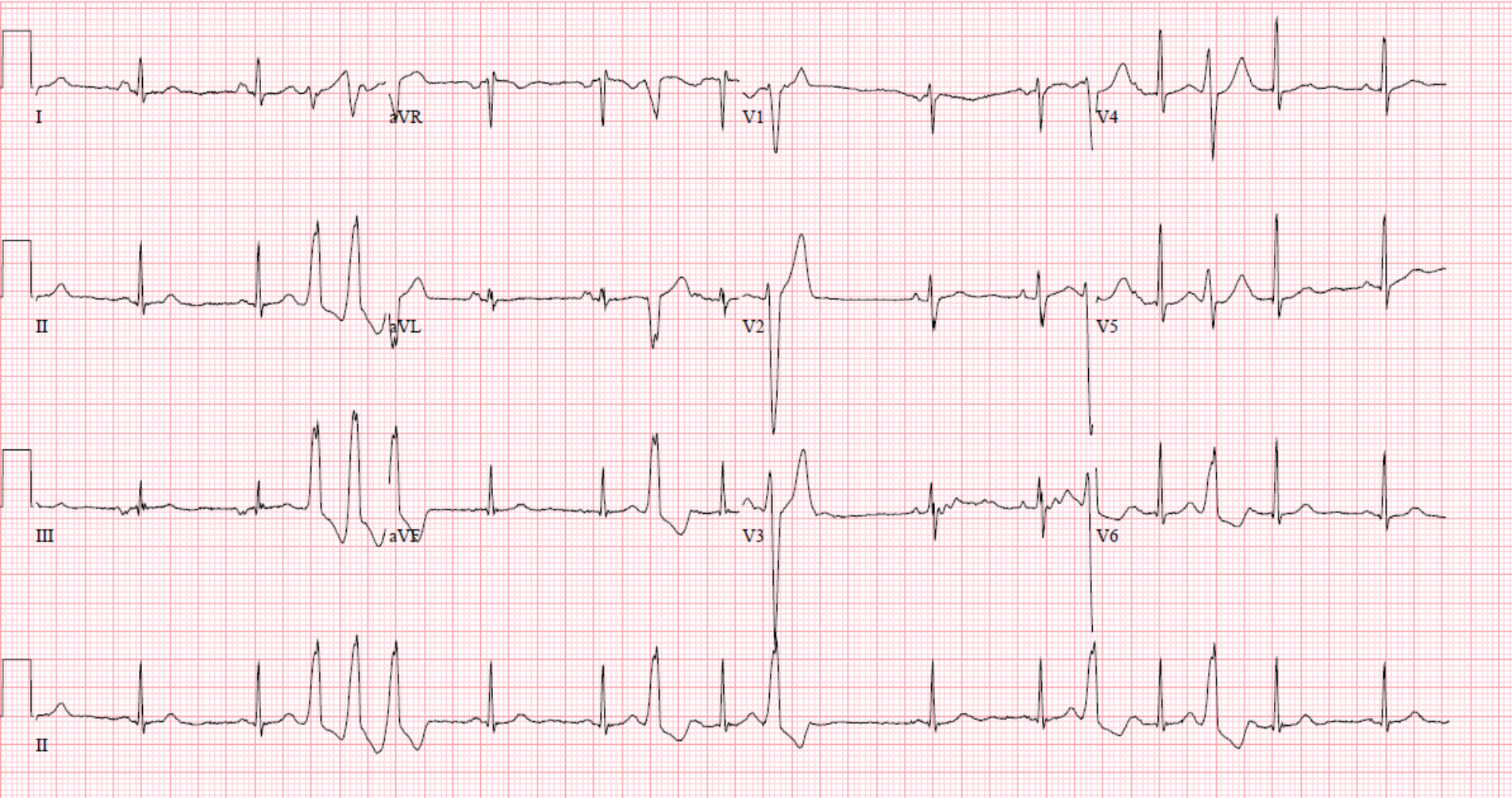


# Fusion/Capture beat

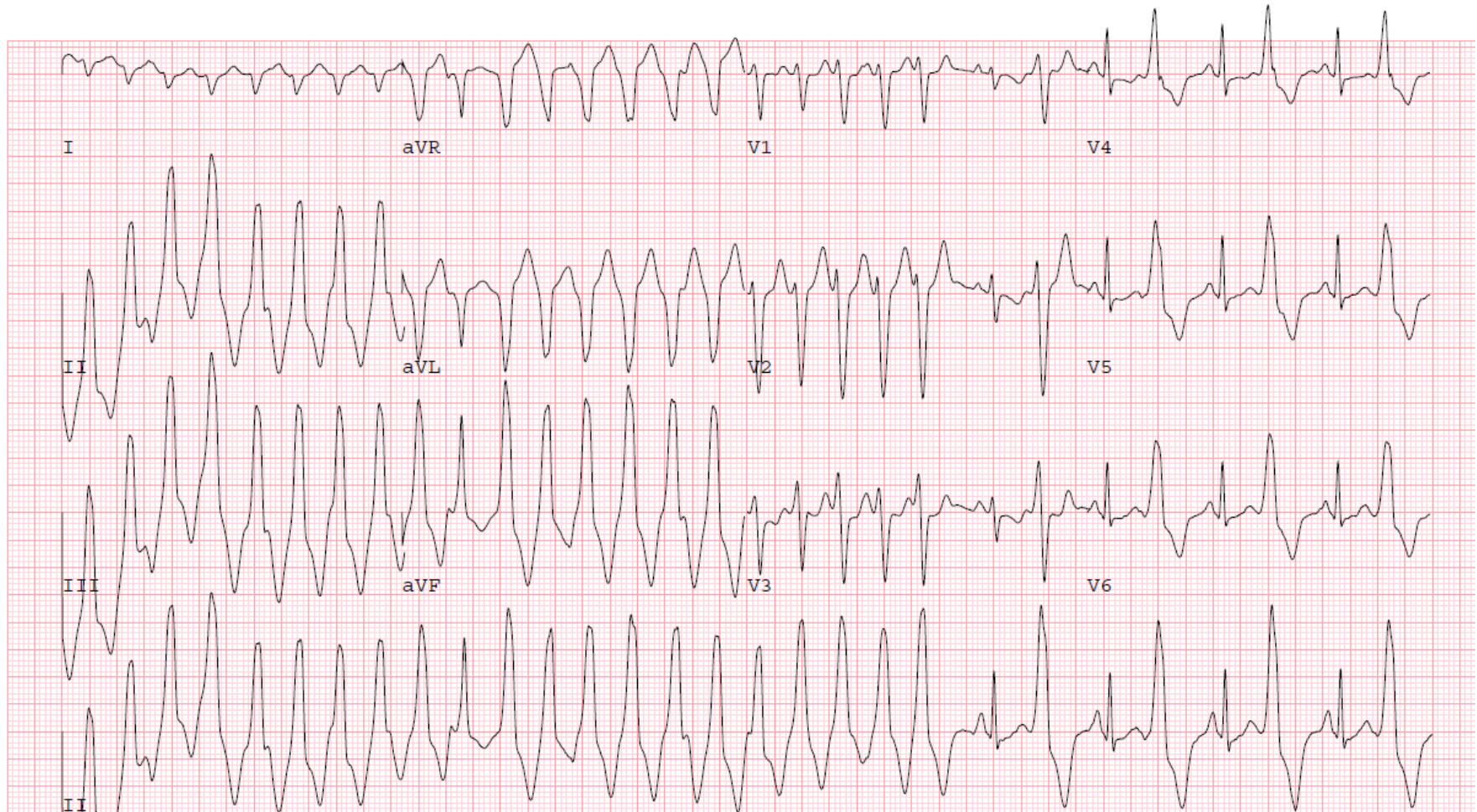




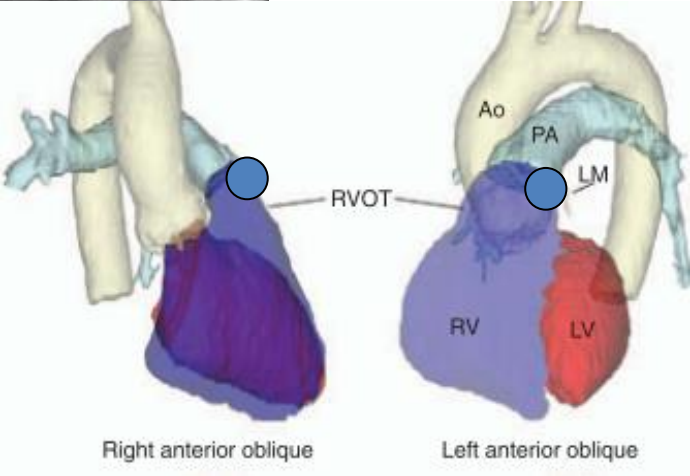
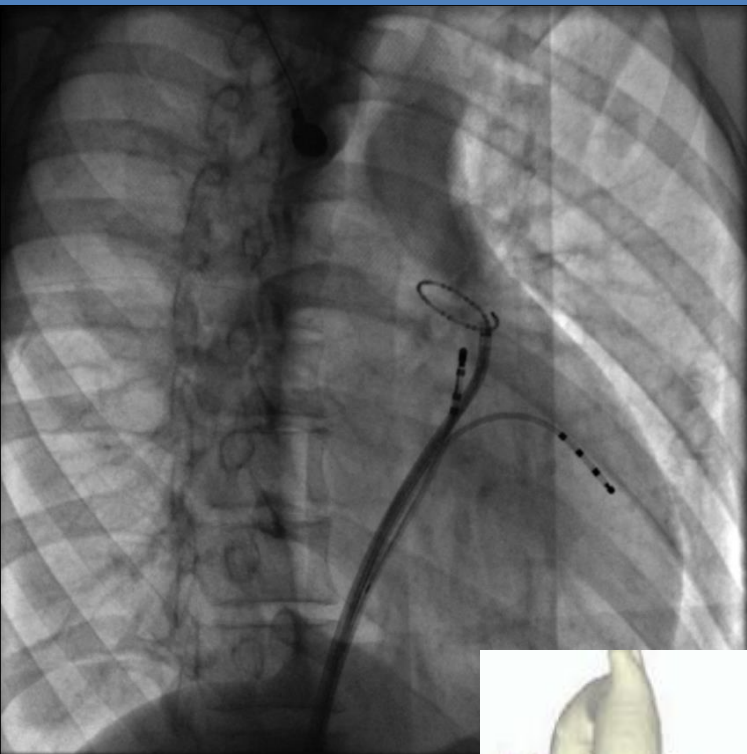
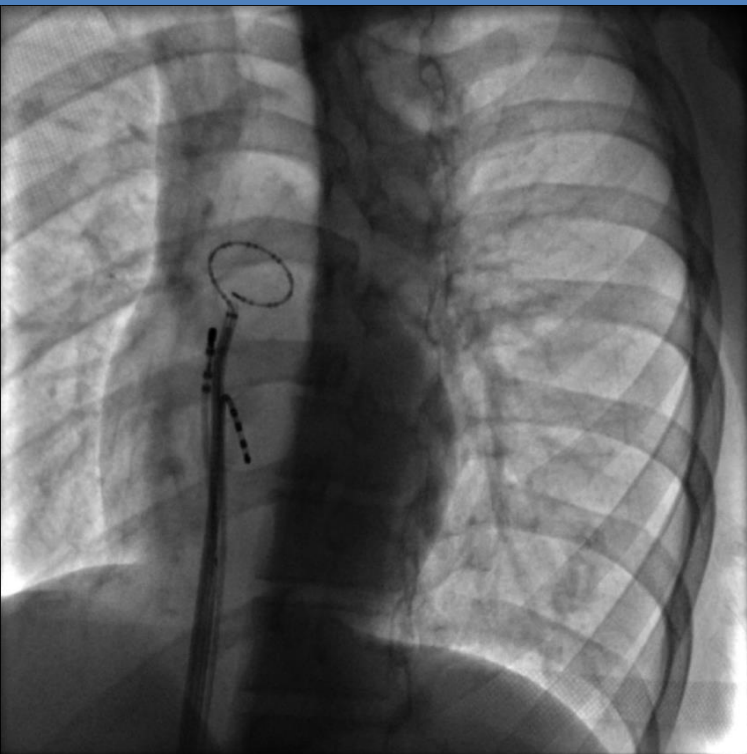
# 35/F syncope



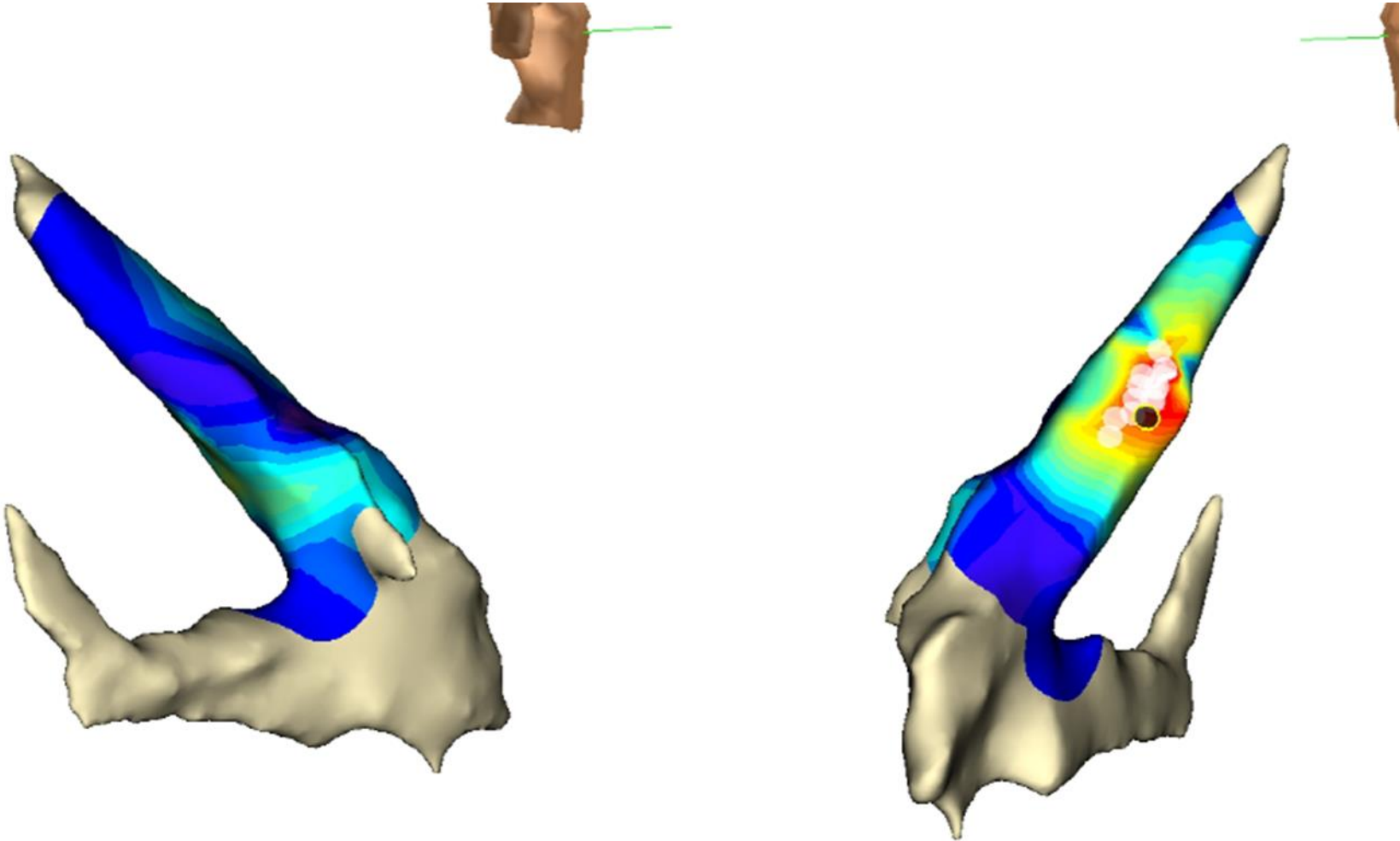
# TMT



# RVOT VT

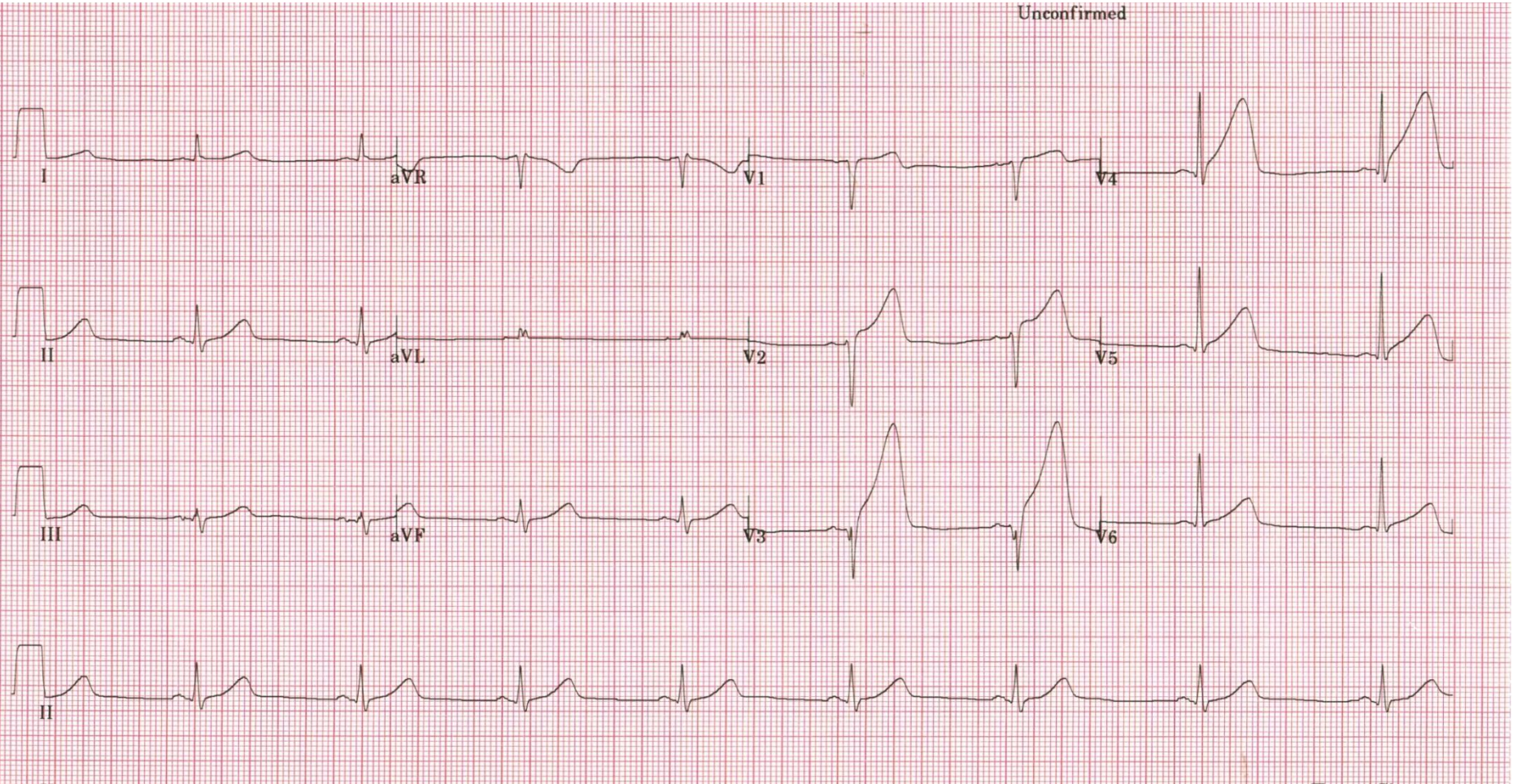


# RVOT VT

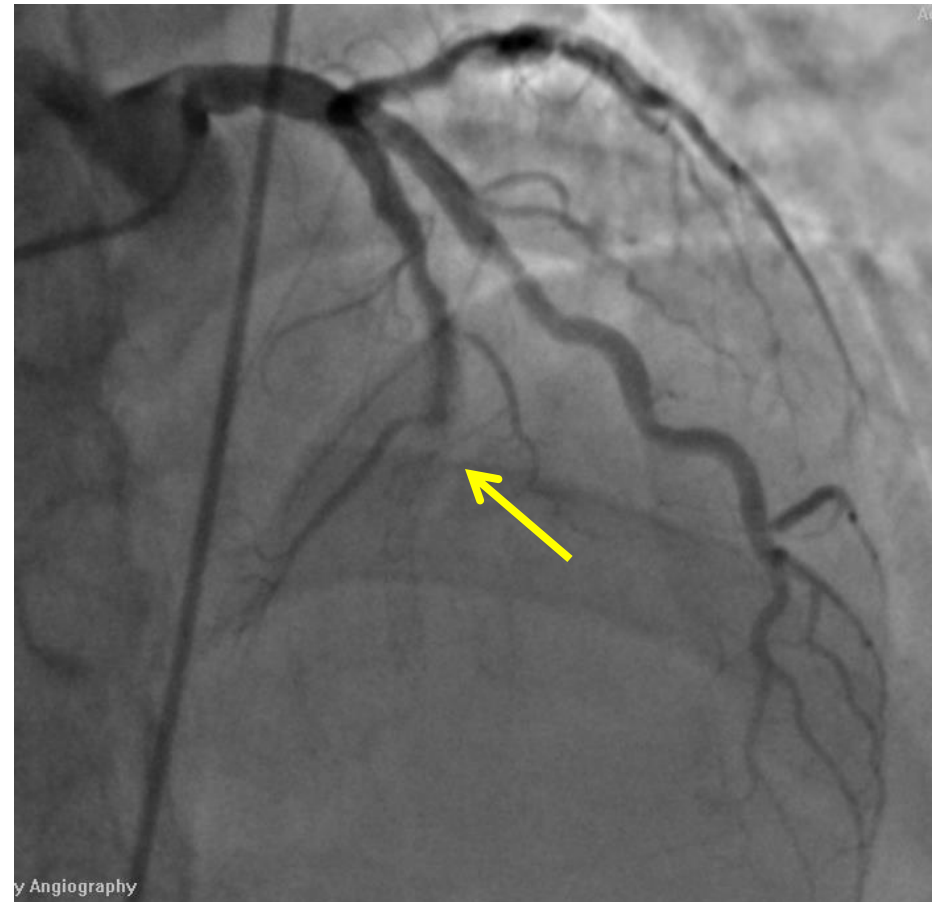


# 43/M chest pain

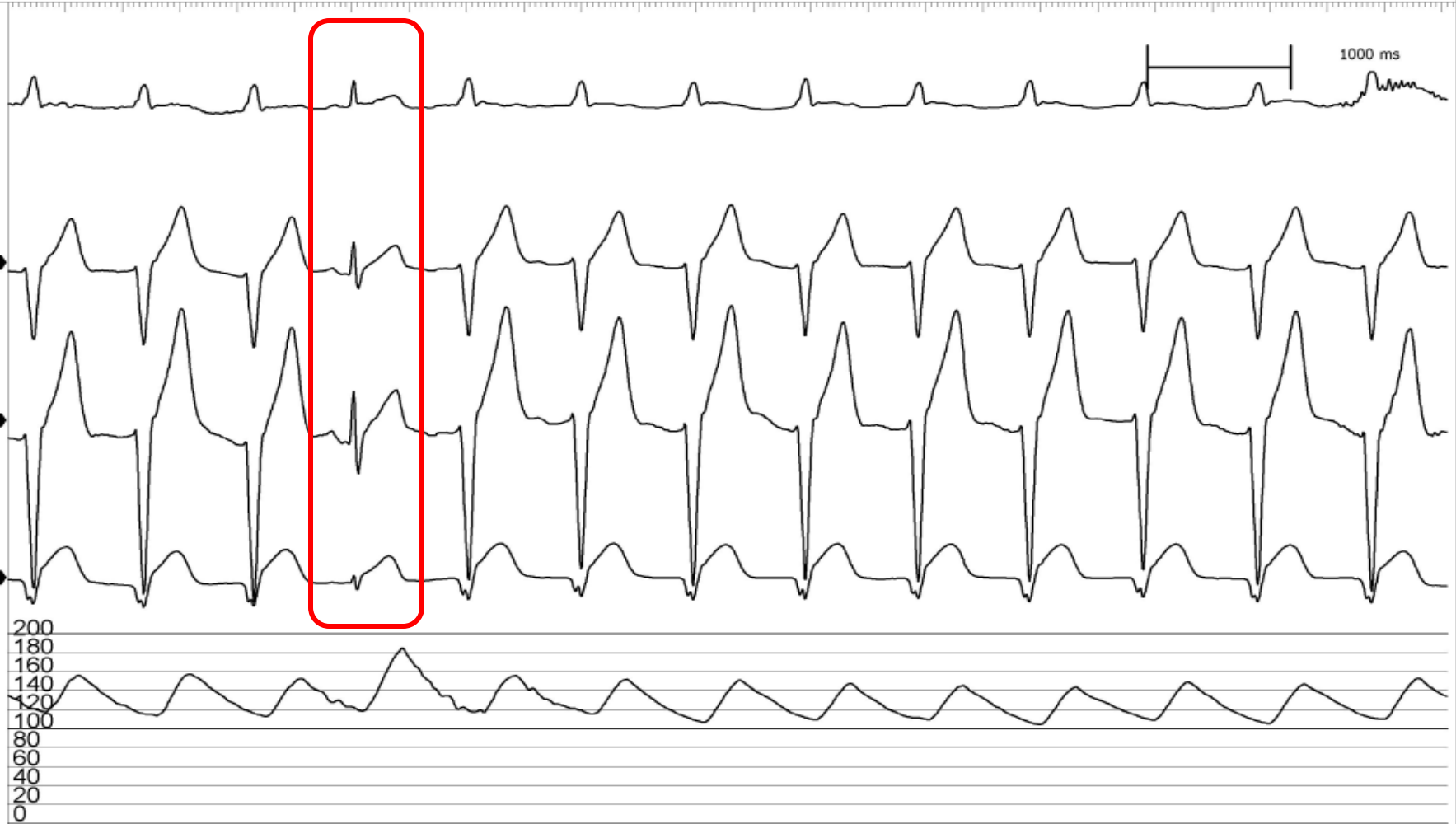
Unconfirmed



# PCI



# Rhythm change after reperfusion

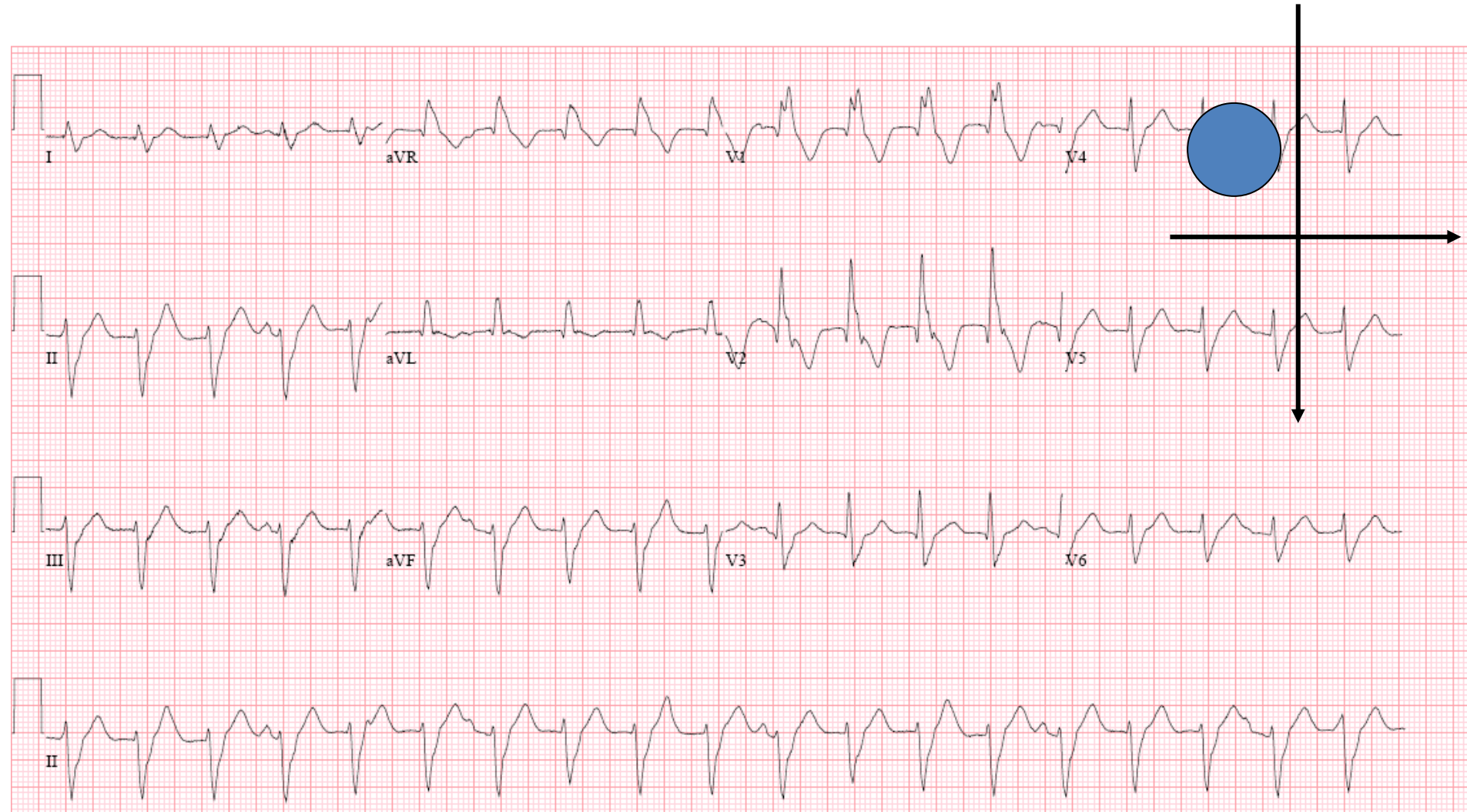


# VT or SVT?

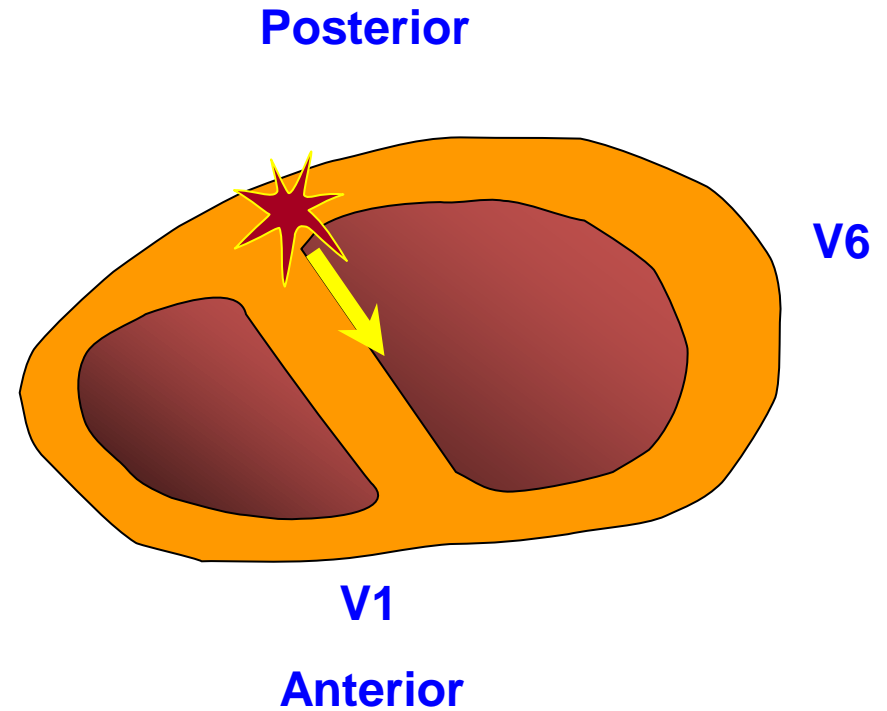
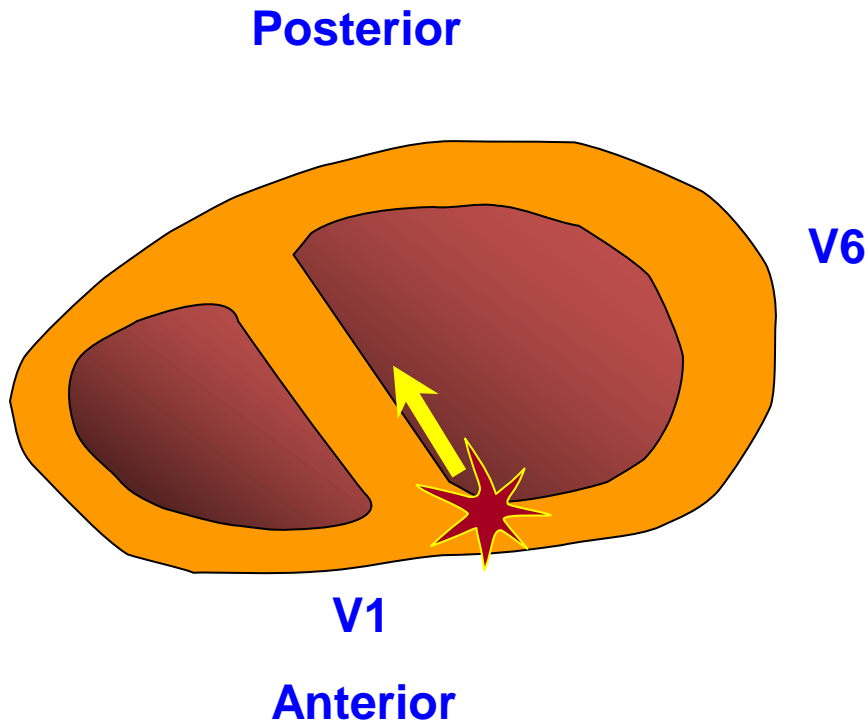
- **Axis character**
  - Rt. Sup. Axis (northwest axis, no man's area),
  - RBBB c Lt axis deviation, LBBB c Rt. Axis deviation
  - Axis shift more than 40 degree



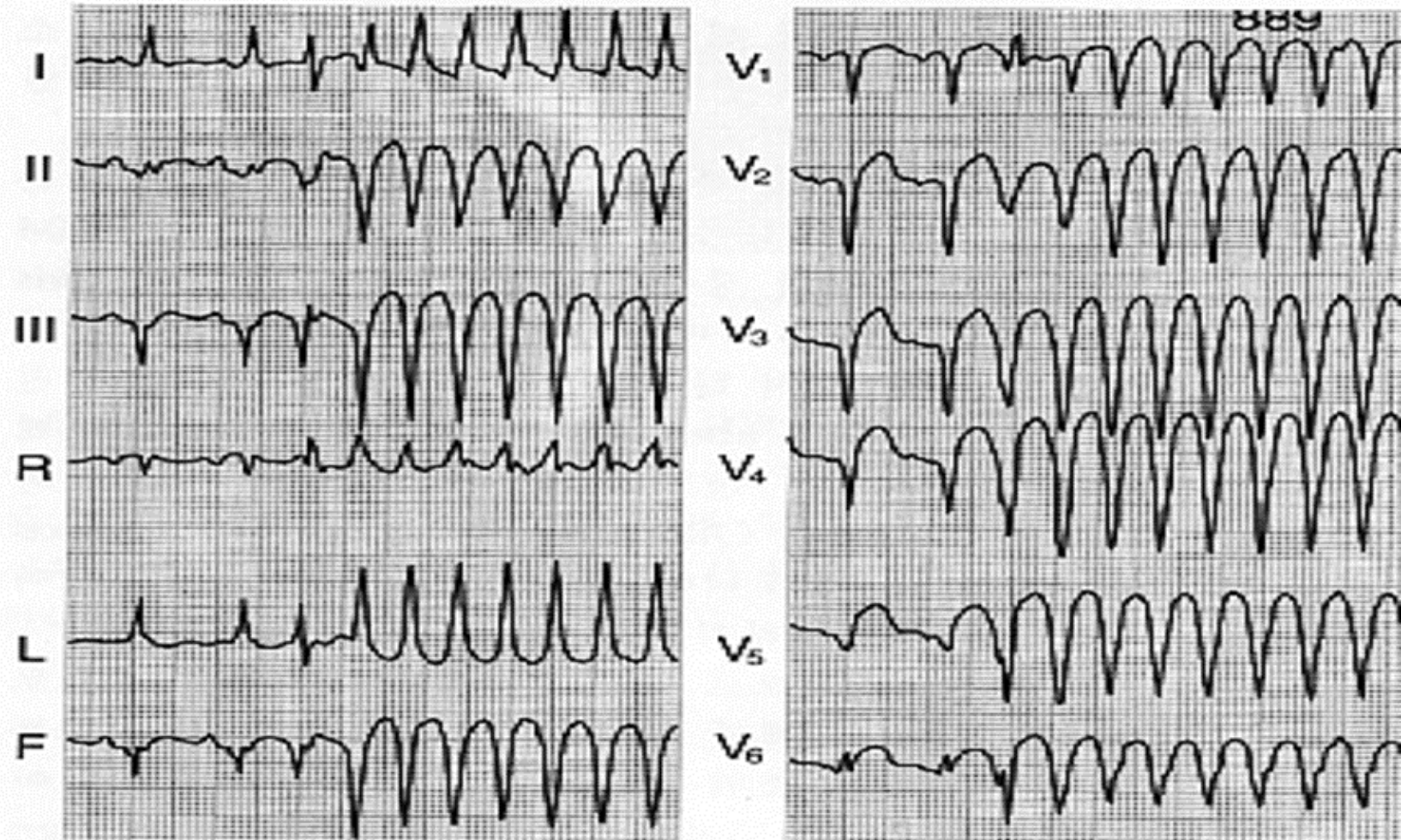
# 28/F palpitation




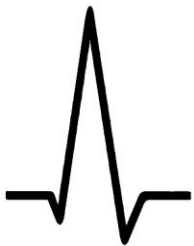
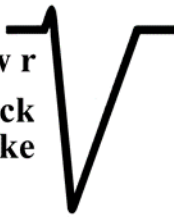

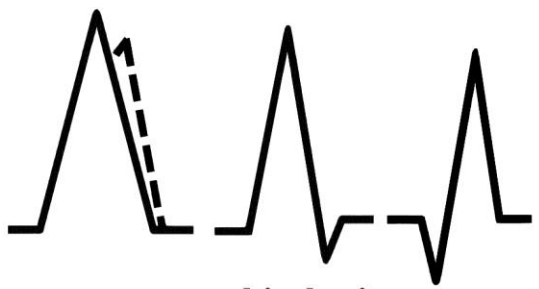
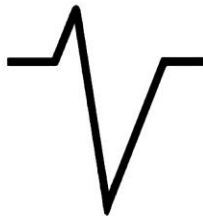
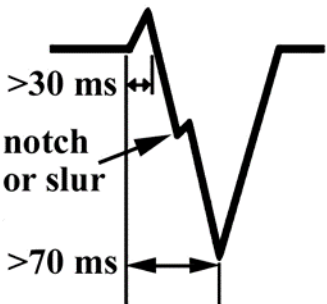

# Concordance



# Concordance



# Morphology

	<b>RBBB</b>		<b>LBBB</b>	
<b>S</b>				
<b>V</b>				
<b>T</b>	tri-phasic		narrow r sleek, quick downstroke	no Q
	<b>RBBB Pattern</b>		<b>LBBB Pattern</b>	
<b>V</b>				
<b>T</b>				
	mono- or bi-phasic	$R/S < 1$	$>30\text{ ms}$ notch or slur $>70\text{ ms}$	any Q
	<b>V1</b>	<b>V6</b>	<b>V1</b>	<b>V6</b>

# 70/M palpitation

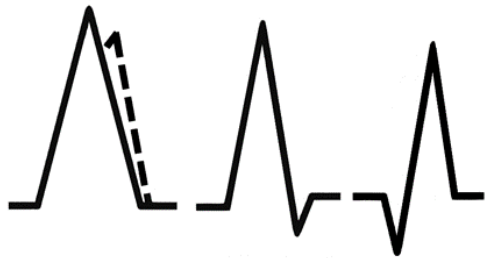
## RBBB



tri-phasic



## RBBB Pattern



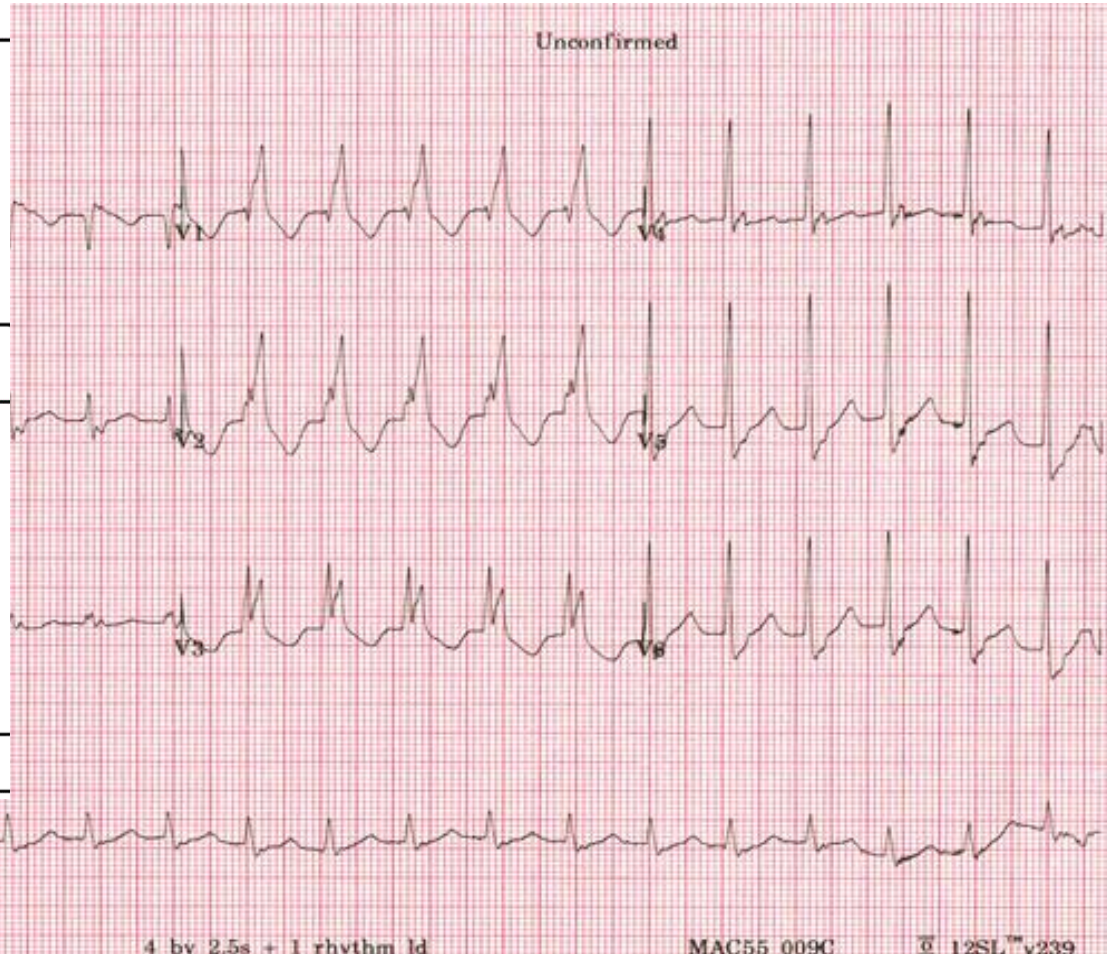
mono- or bi-phasic

V1



R/S < 1

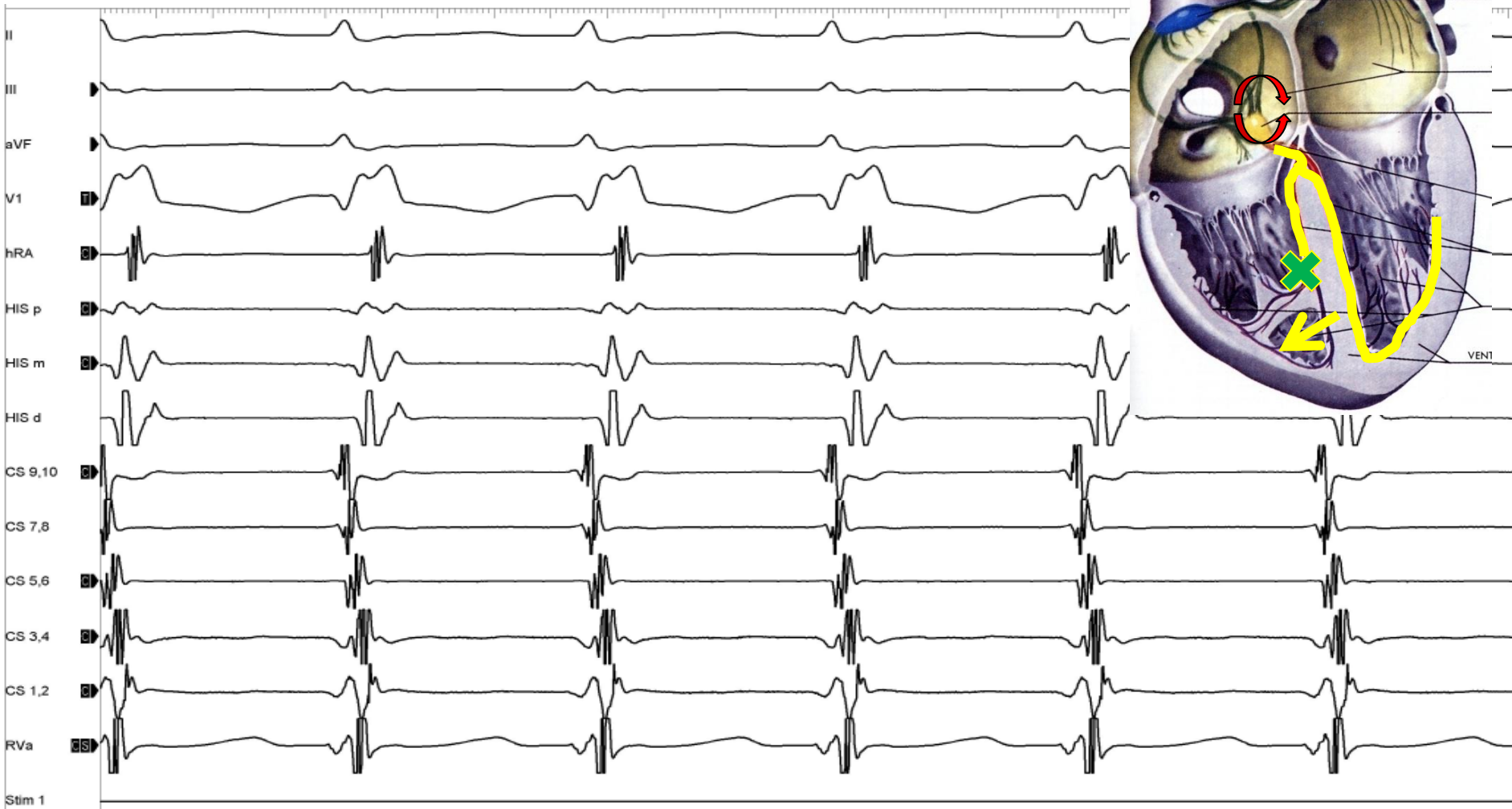
V6



# Response to adenosine



# EPS : AVNRT with BBB



# 50/M palpitation

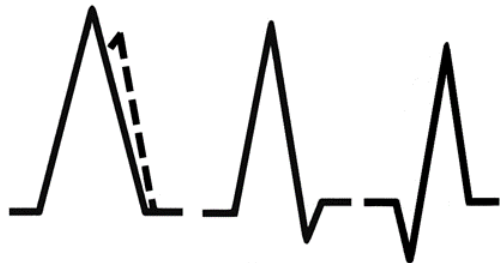
## RBBB



tri-phasic



## RBBB Pattern



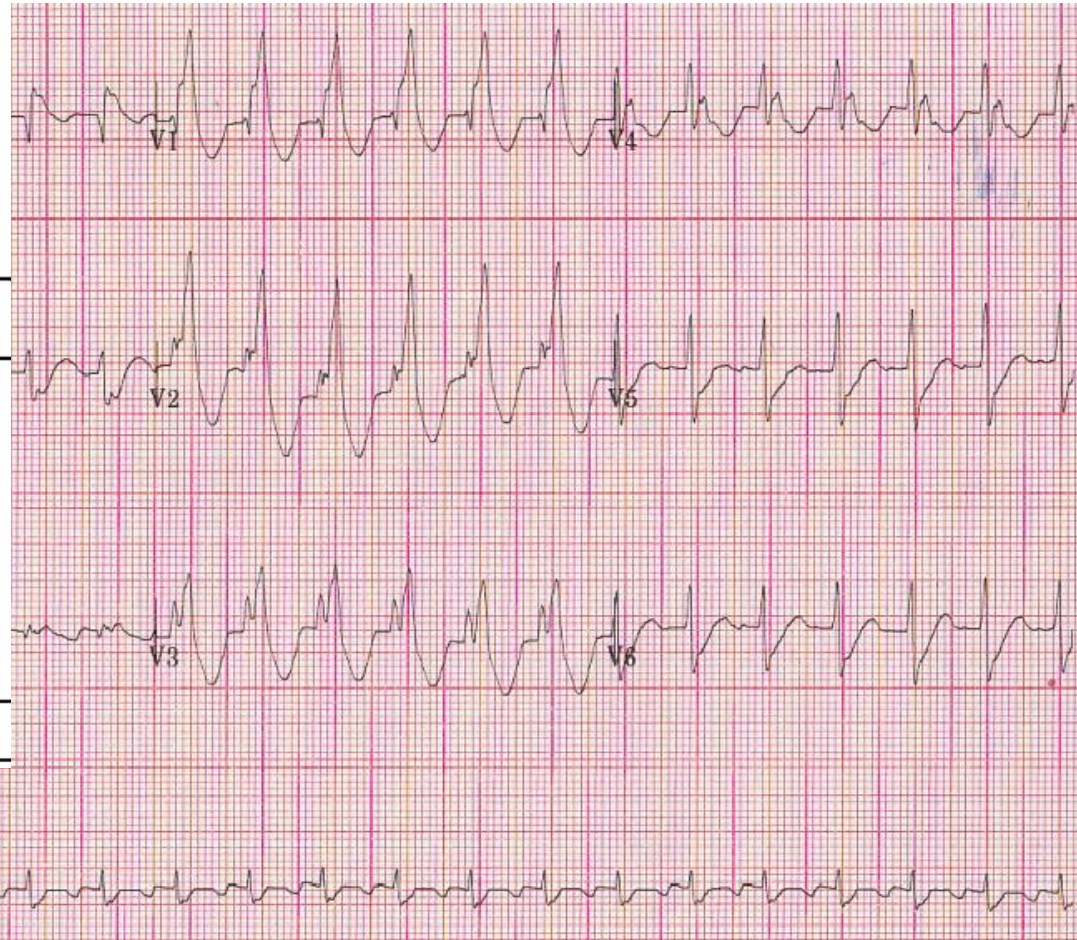
mono- or bi-phasic

V1



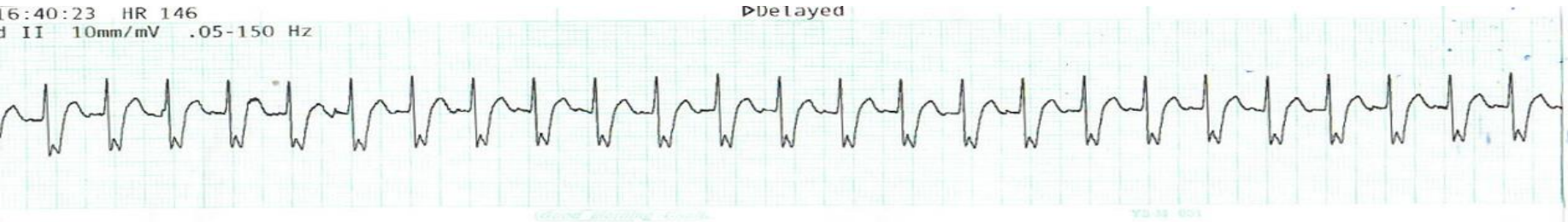
R/S < 1

V6

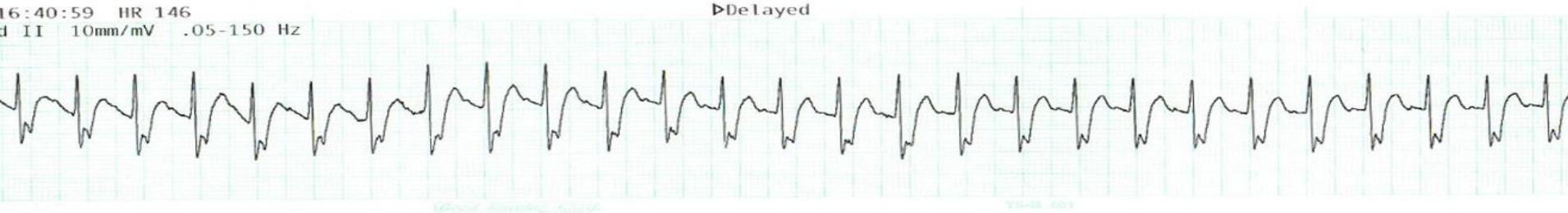




# Response to adenosine



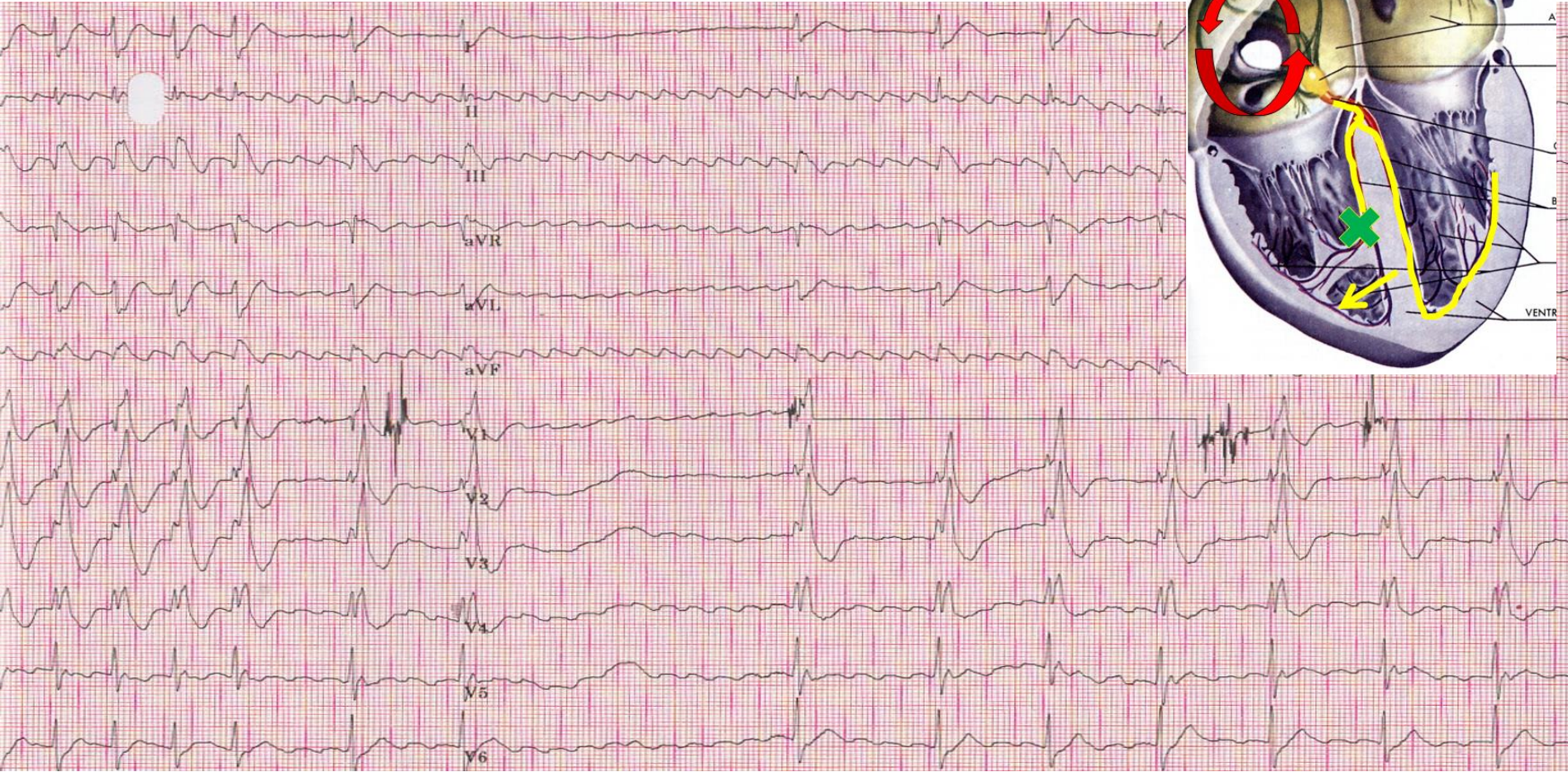
*Adenosine bag 100*



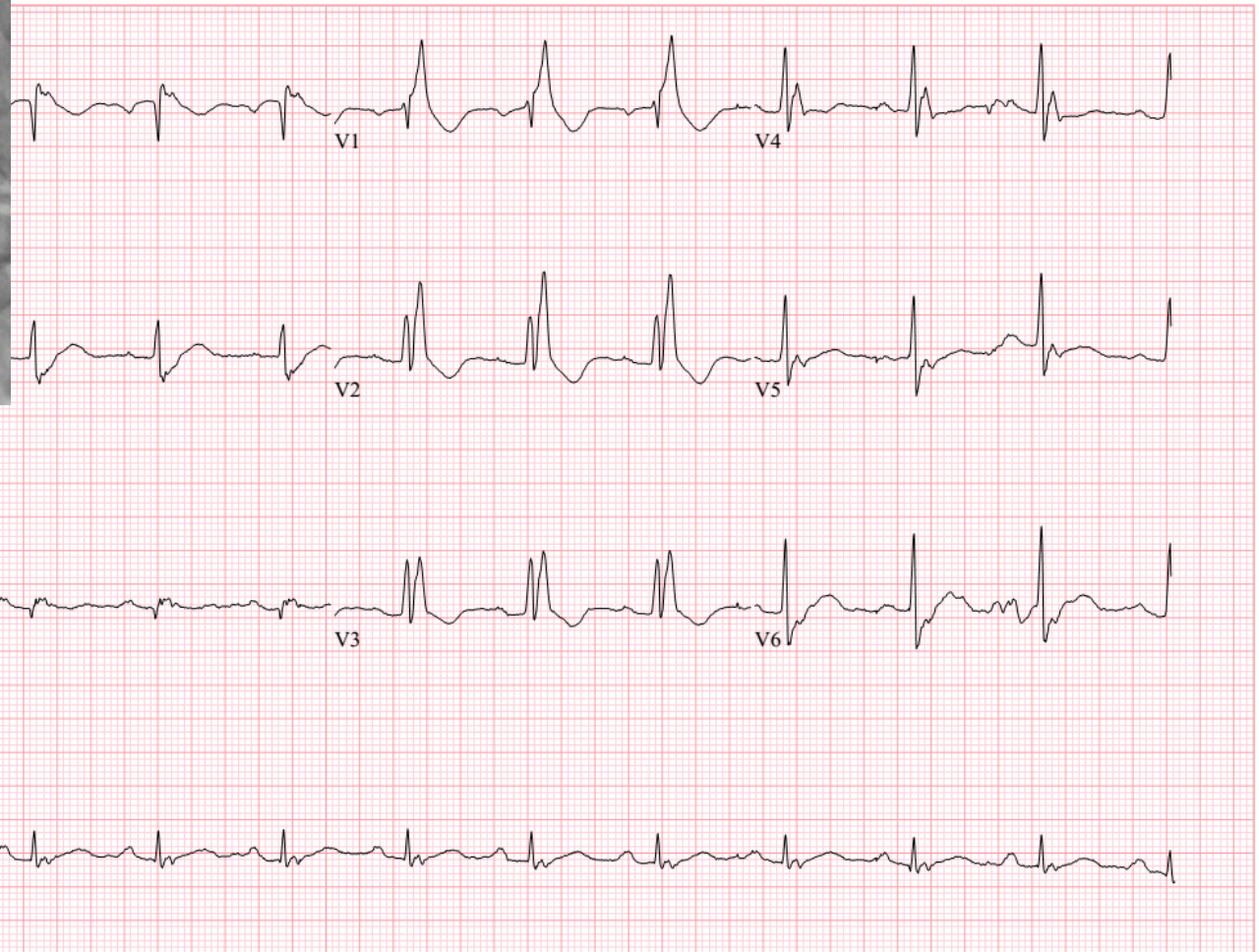
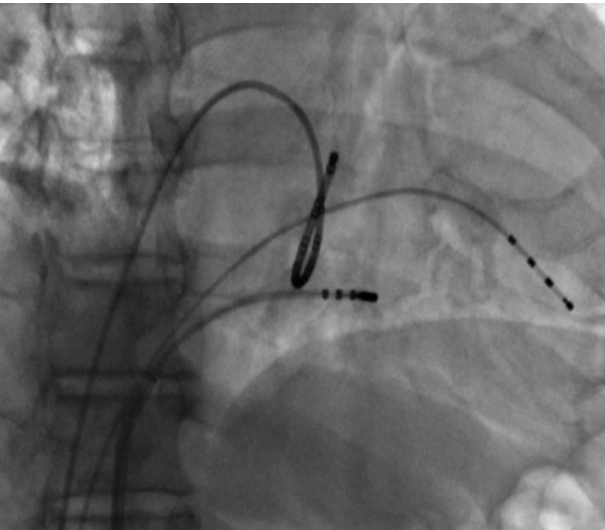
*Adenosine bag 100*



# Response to adenosine



# After CTI block



# 28/F palpitation

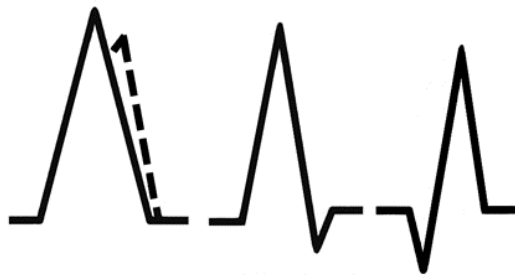
## RBBB



tri-phasic



## RBBB Pattern



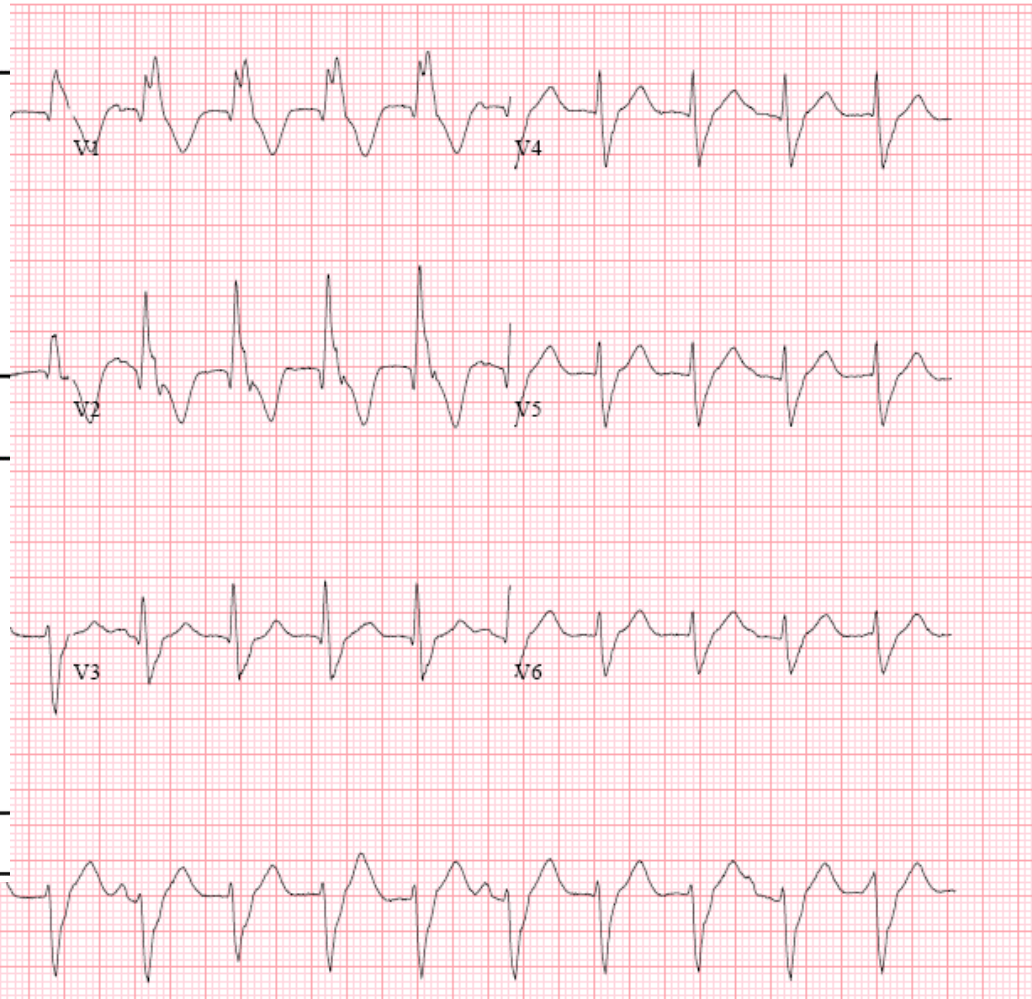
mono- or bi-phasic

V1



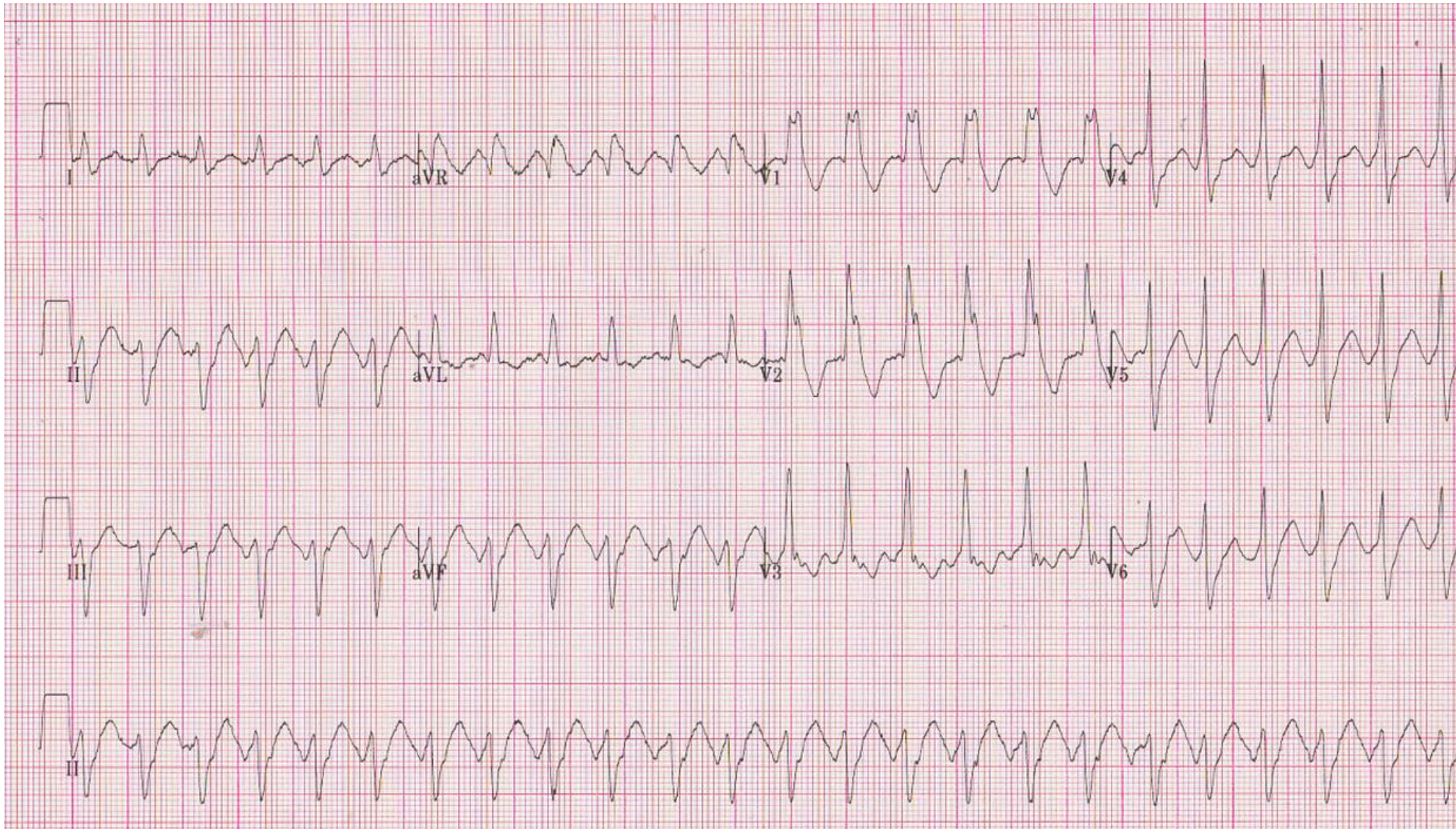
R/S < 1

V6

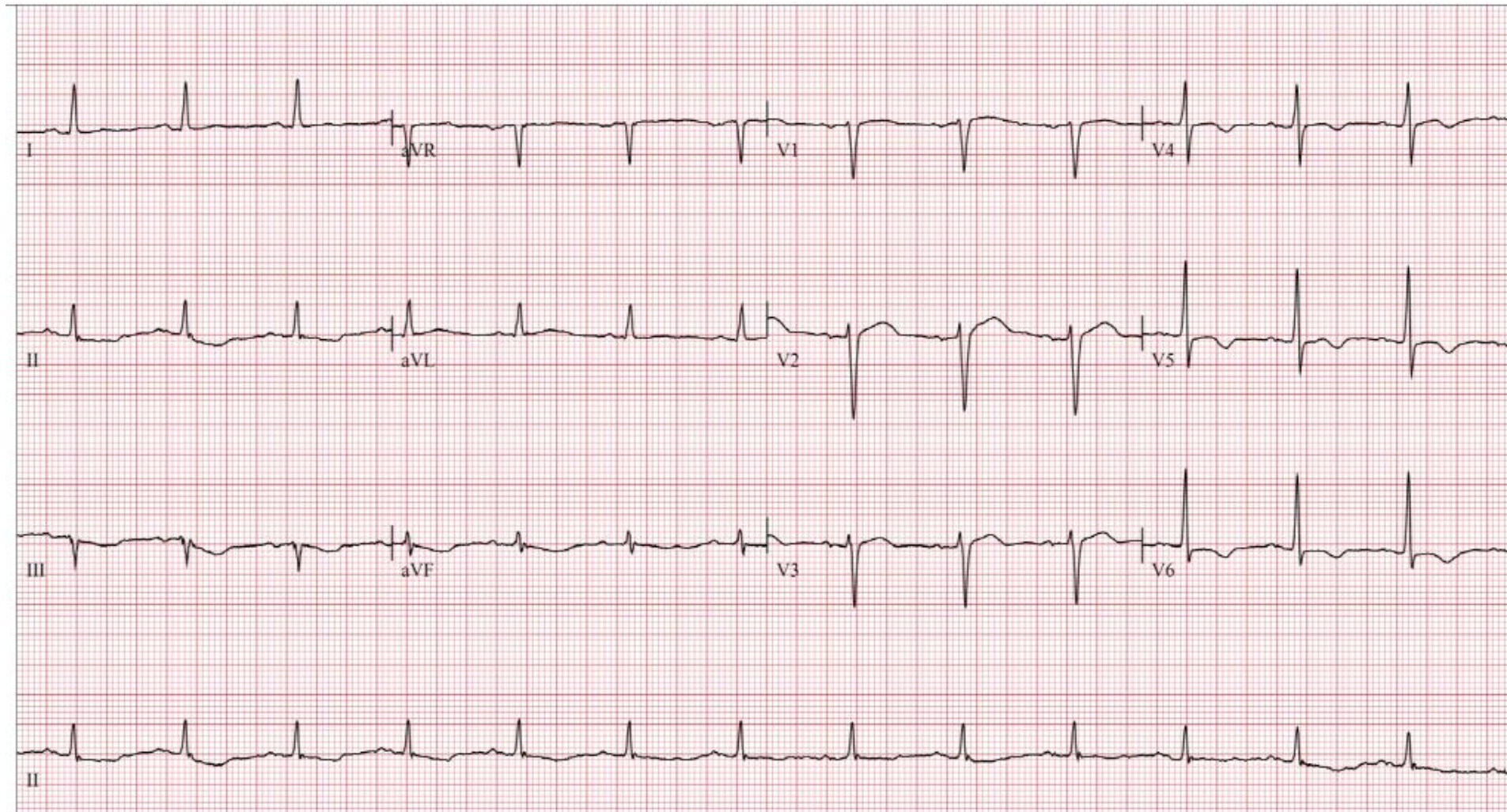


II

# 68/M palpitation

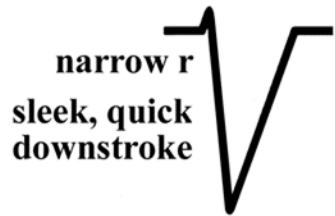


# After cardioversion

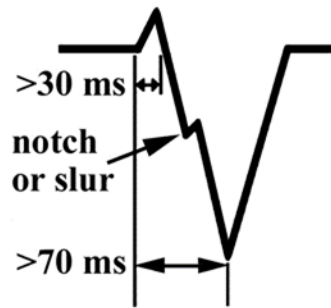


# 65/M palpitation

## LBBB



## LBBB Pattern

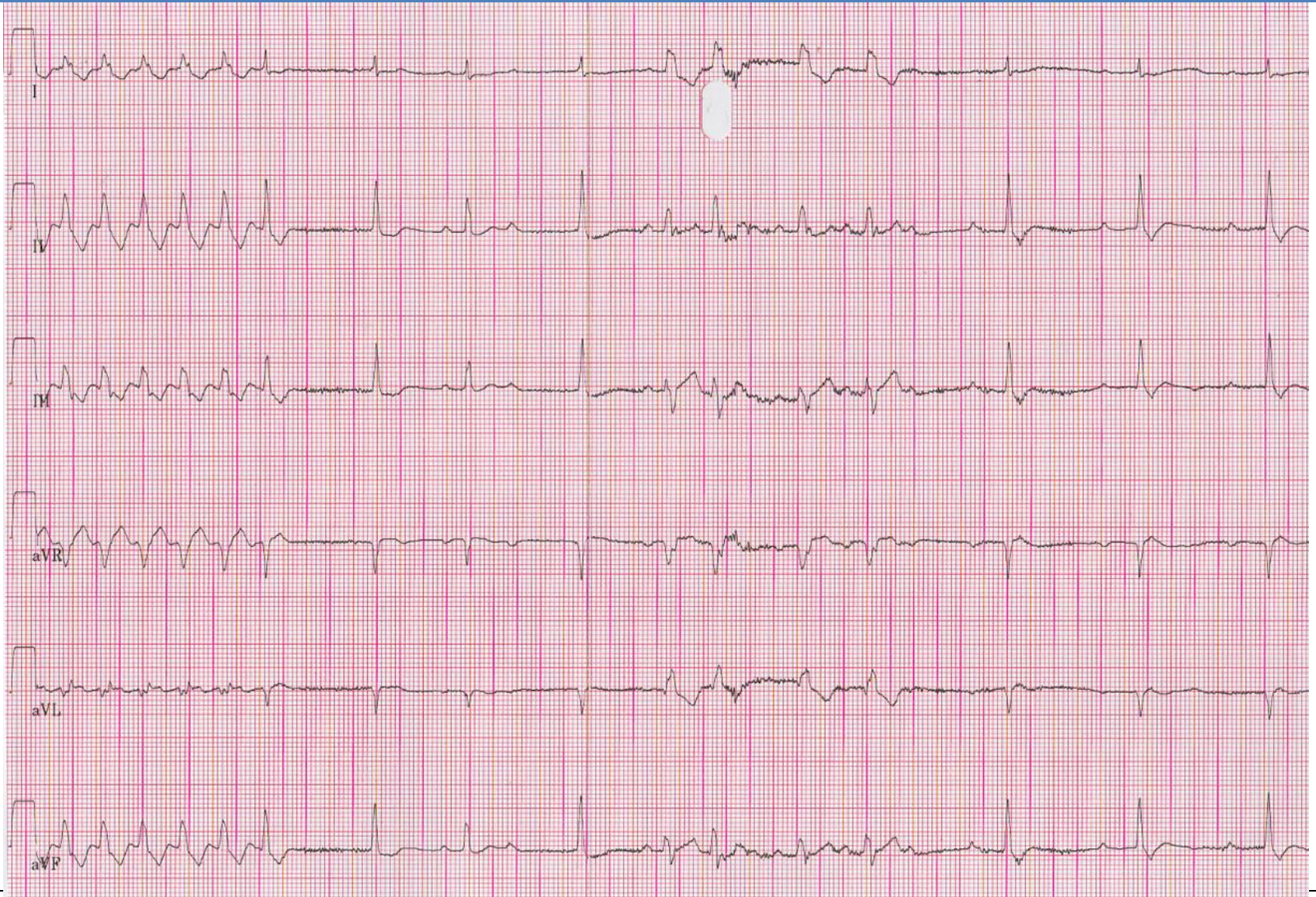


V1

V6

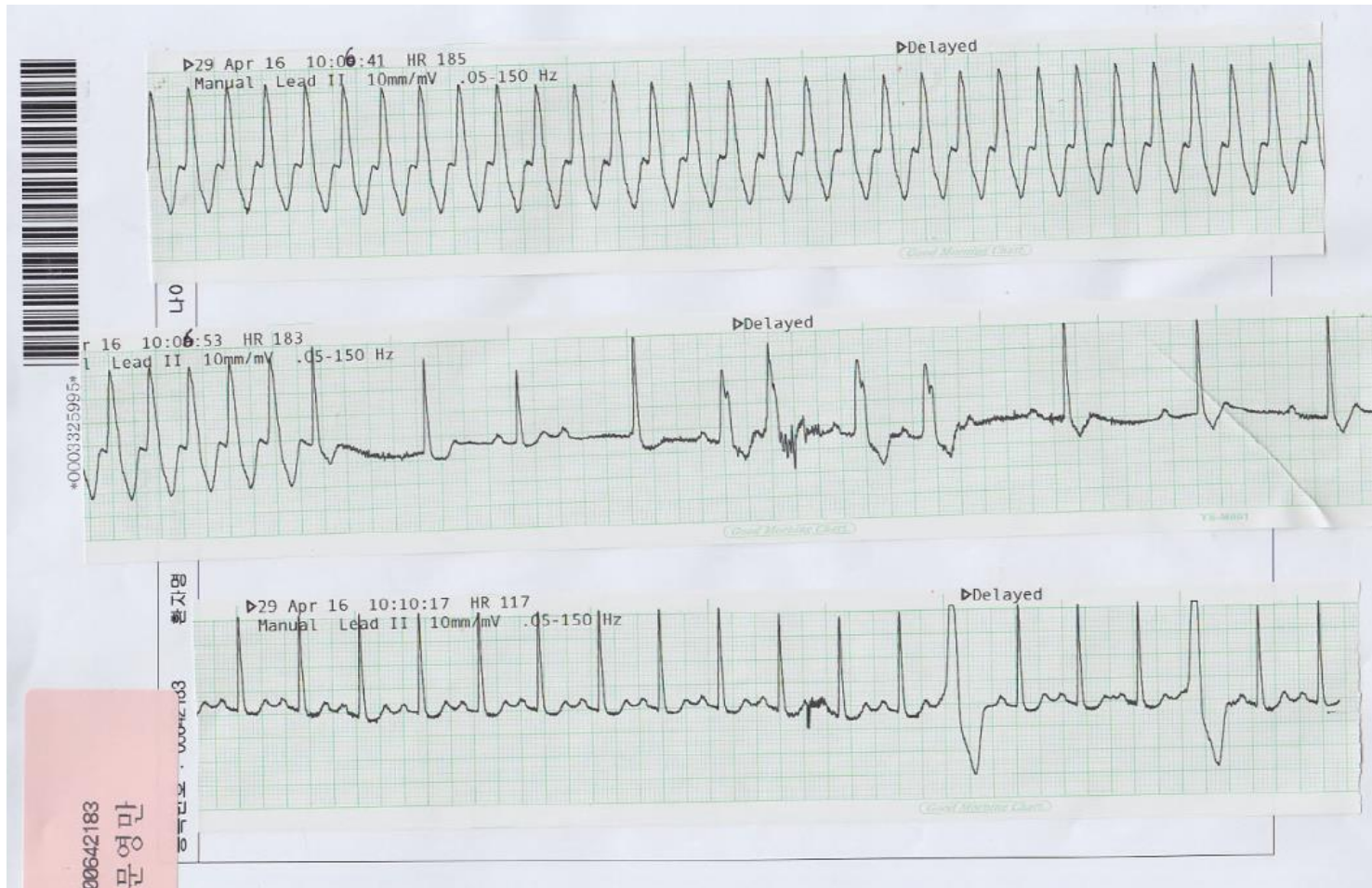


# Adenosine

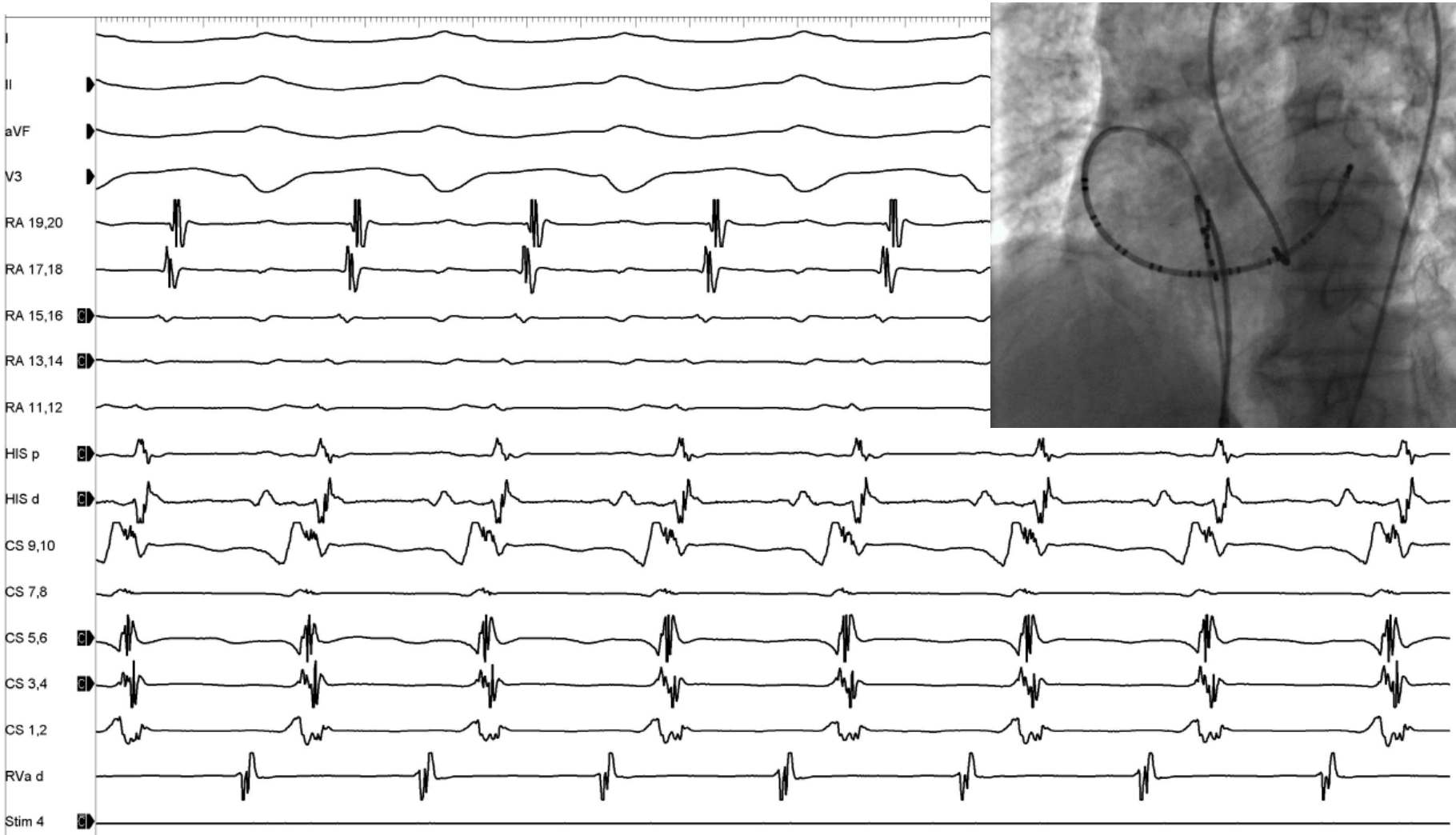




# Adenosine

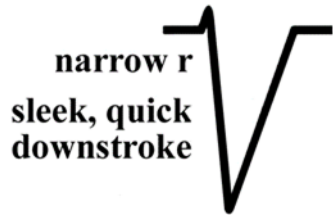


# EPS : AVRT

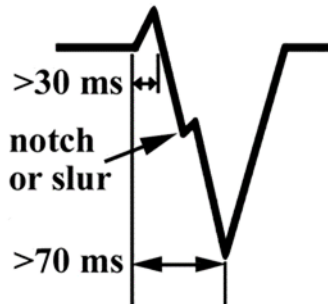


# 60/M dyspnea, palpitation

## LBBB

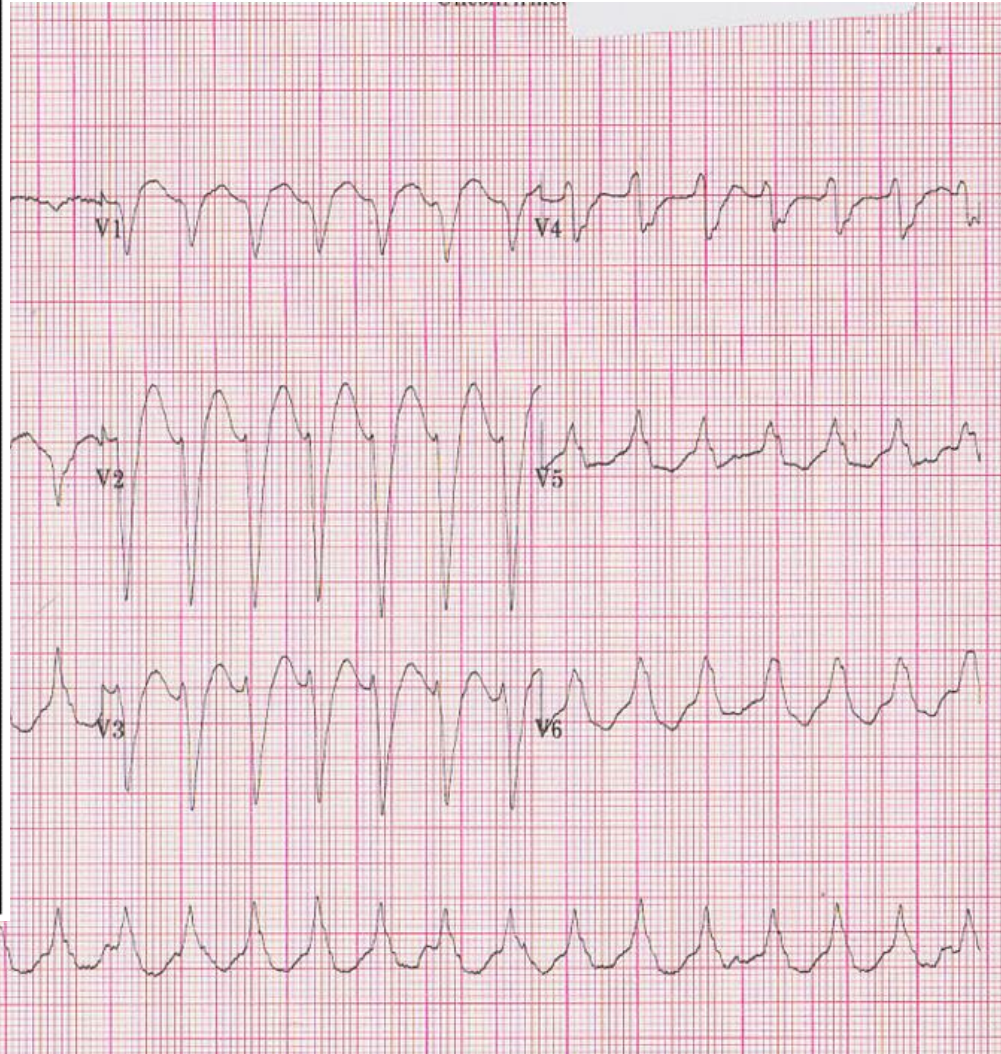


## LBBB Pattern



V1

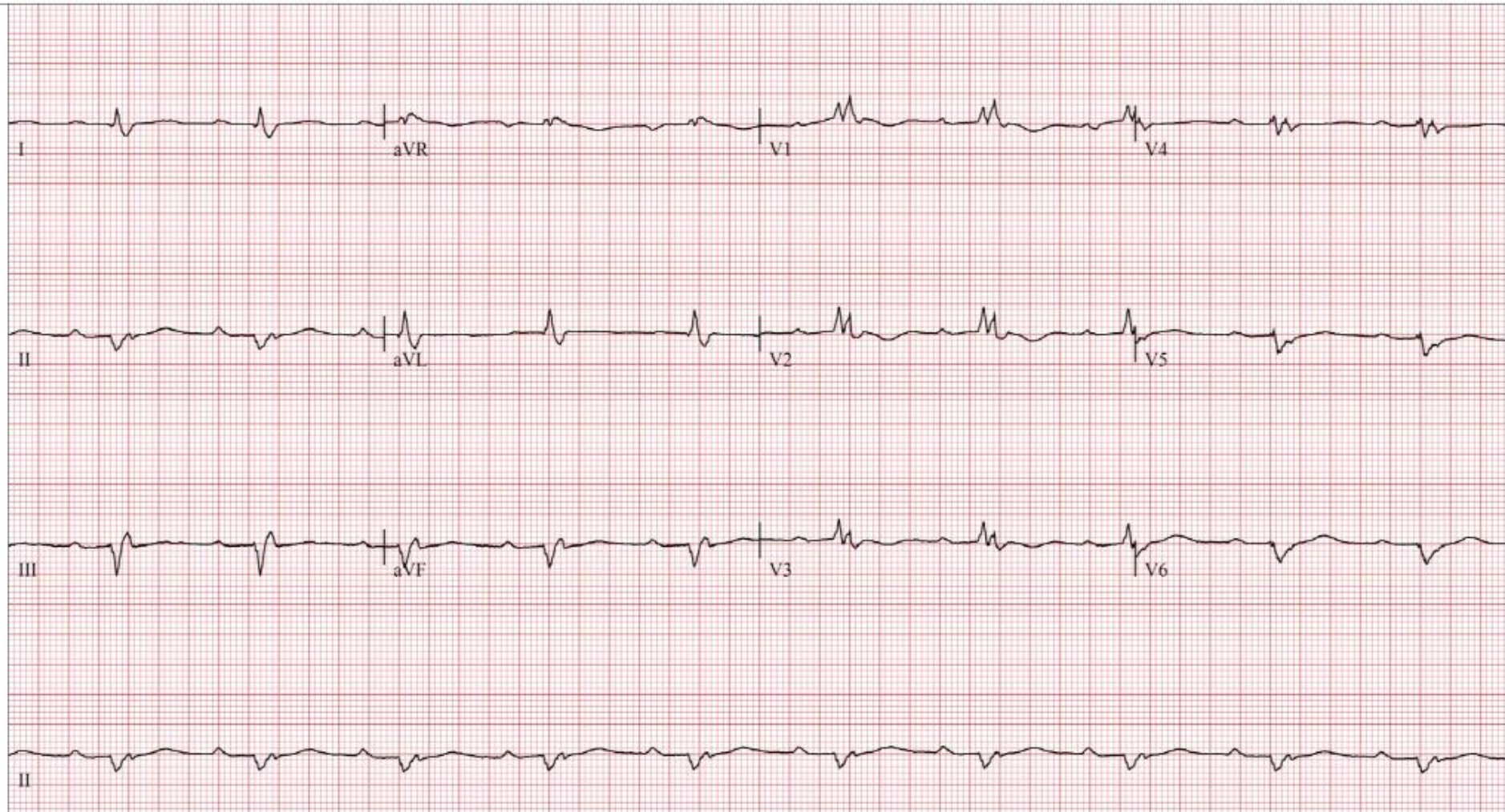
V6



# Telemetry



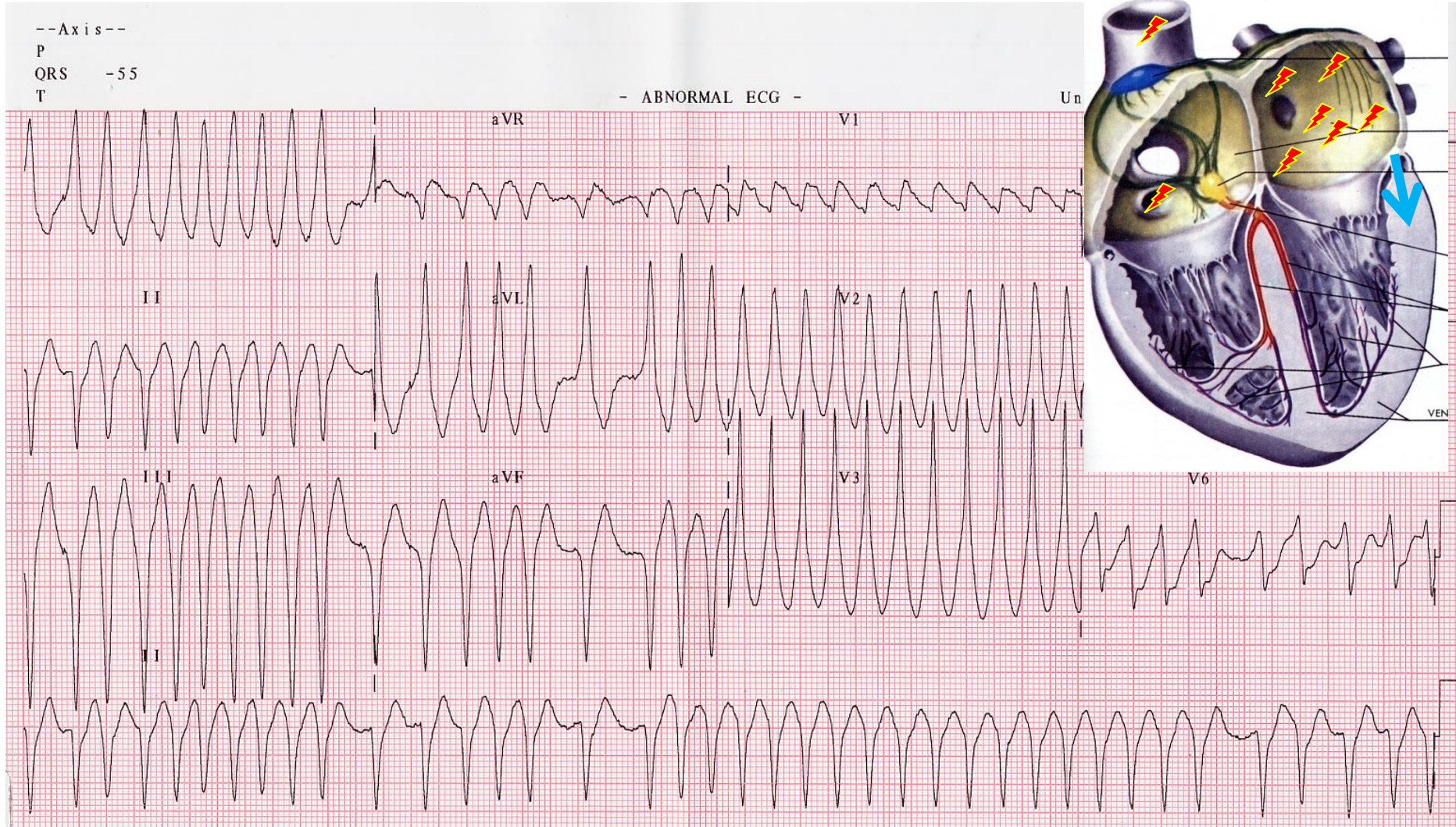
# ECG after cardioversion



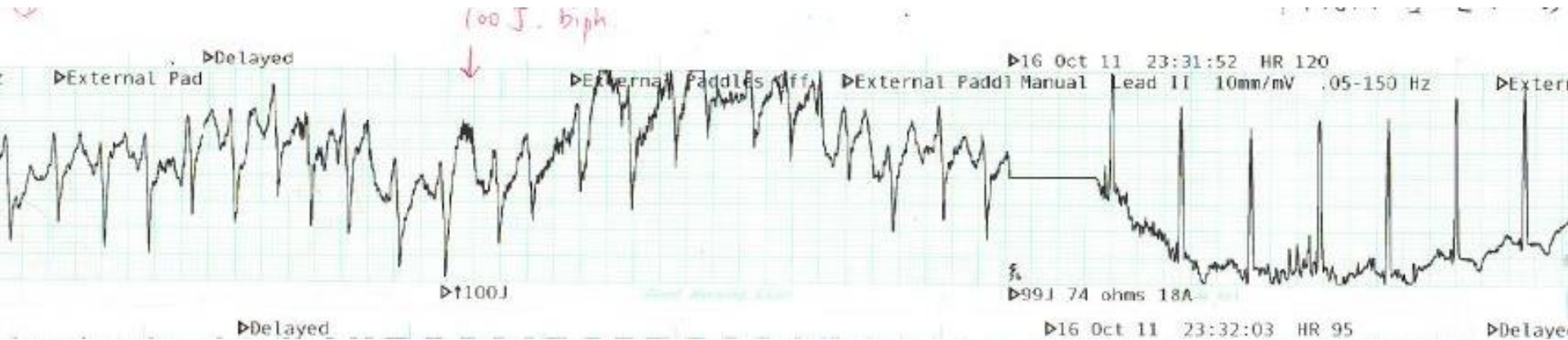
# PET scab



# Palpitation with collapse



# Electrical cardioversion





# ECG after cardioversion

Room:  
Loc:5

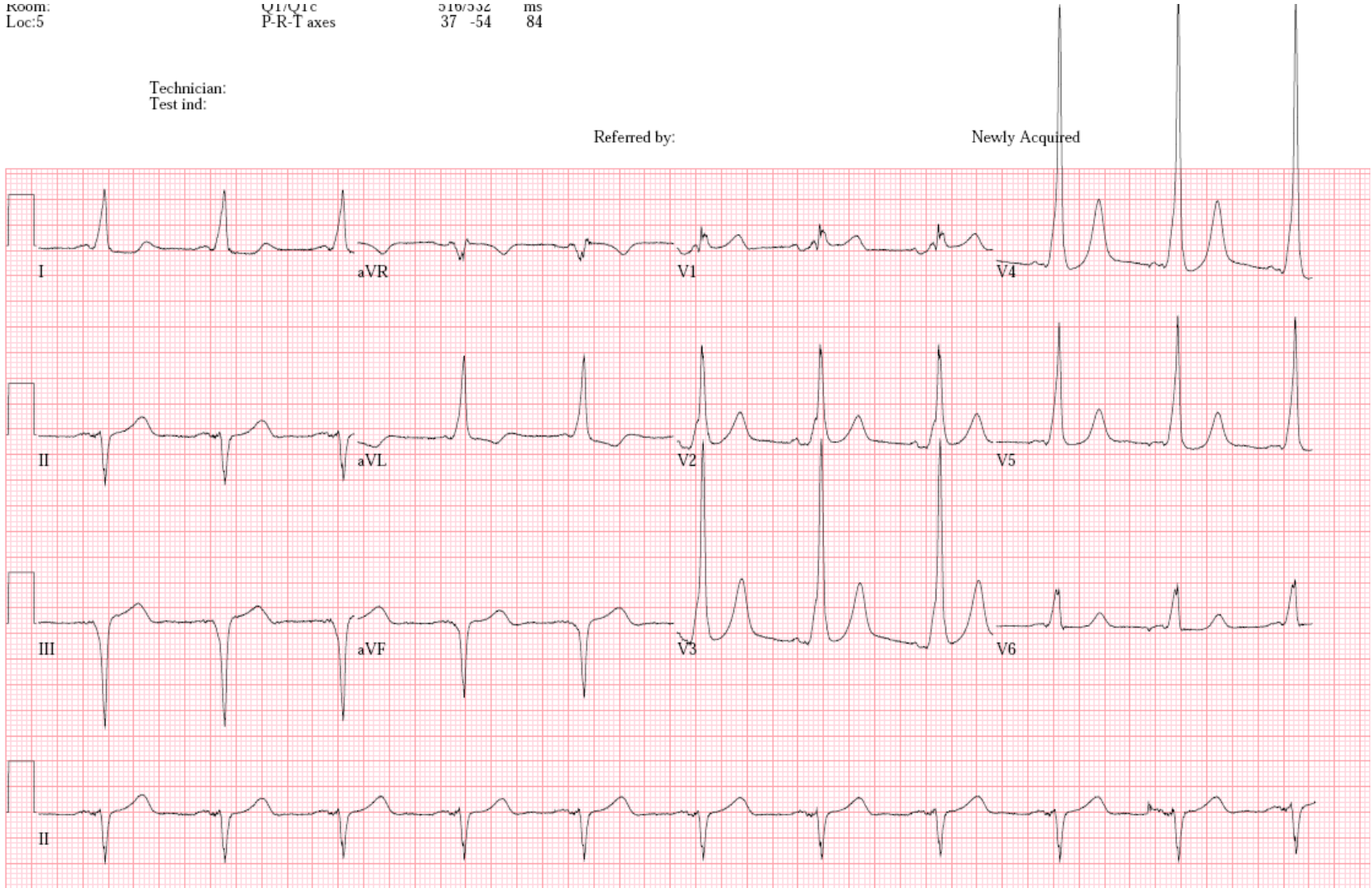
Q1/Q1C  
P-R-T axes

519/532 ms  
37 -54

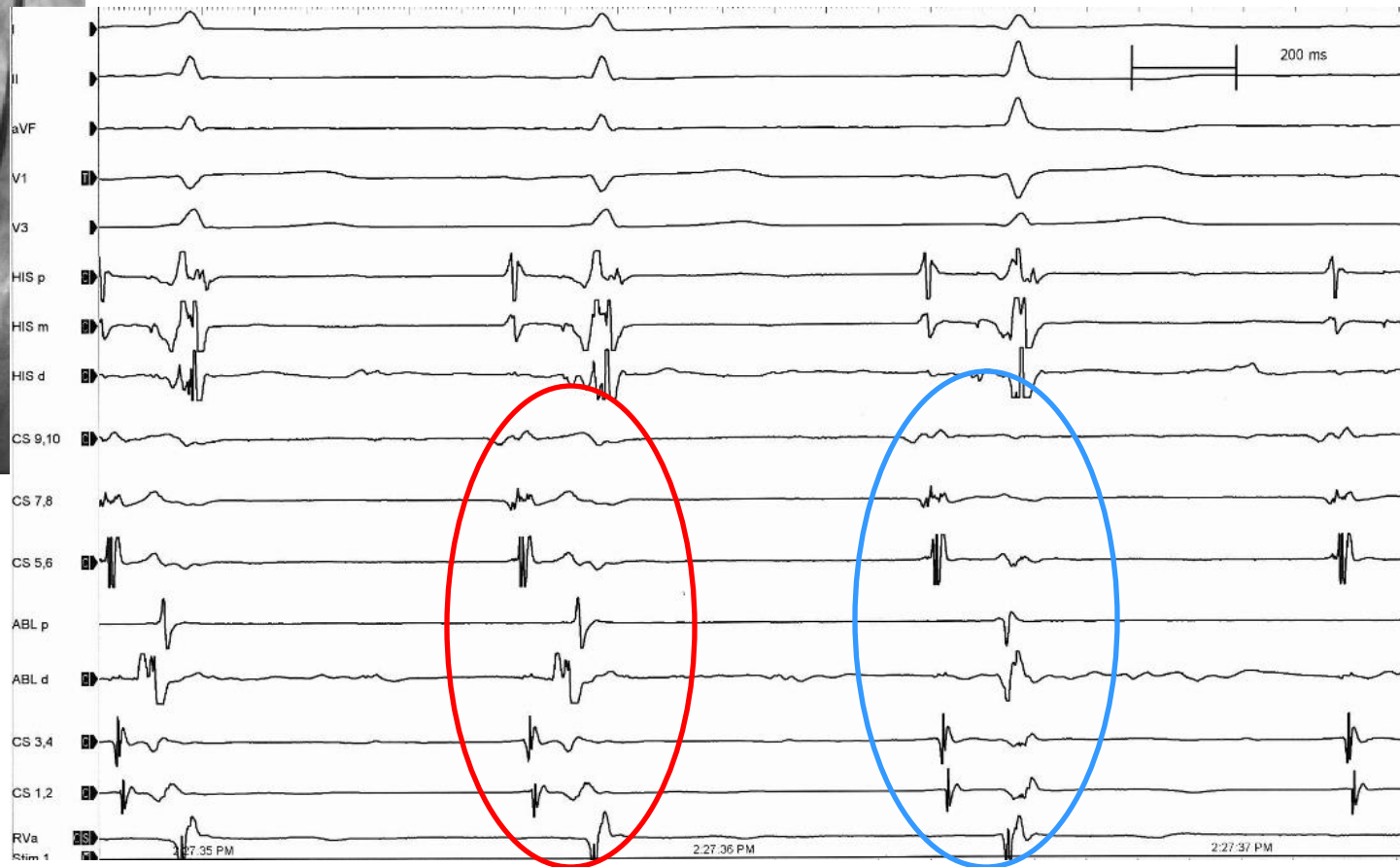
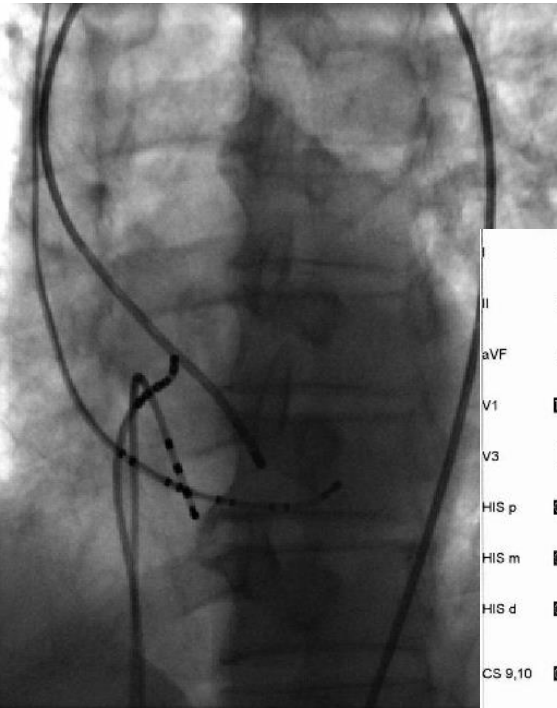
Technician:  
Test ind:

Referred by:

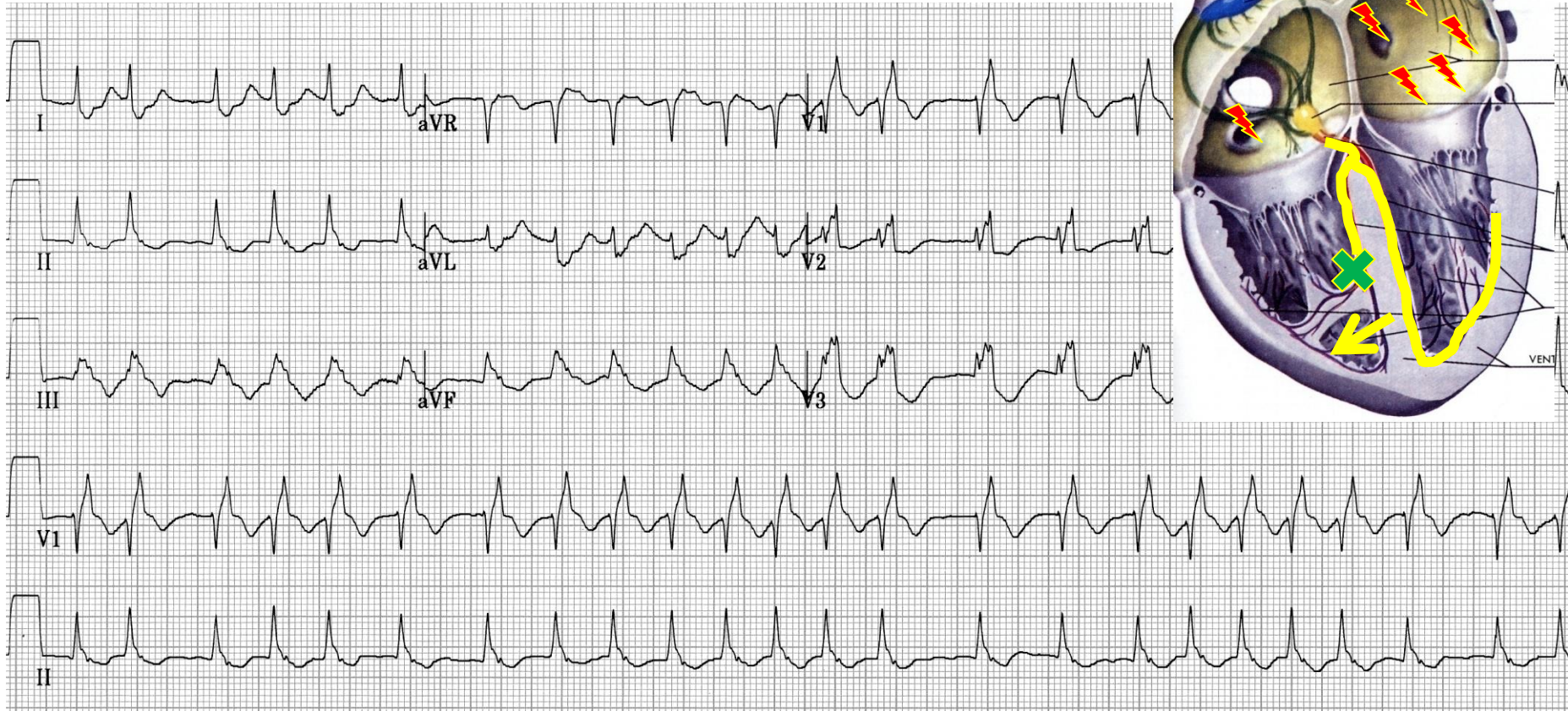
Newly Acquired



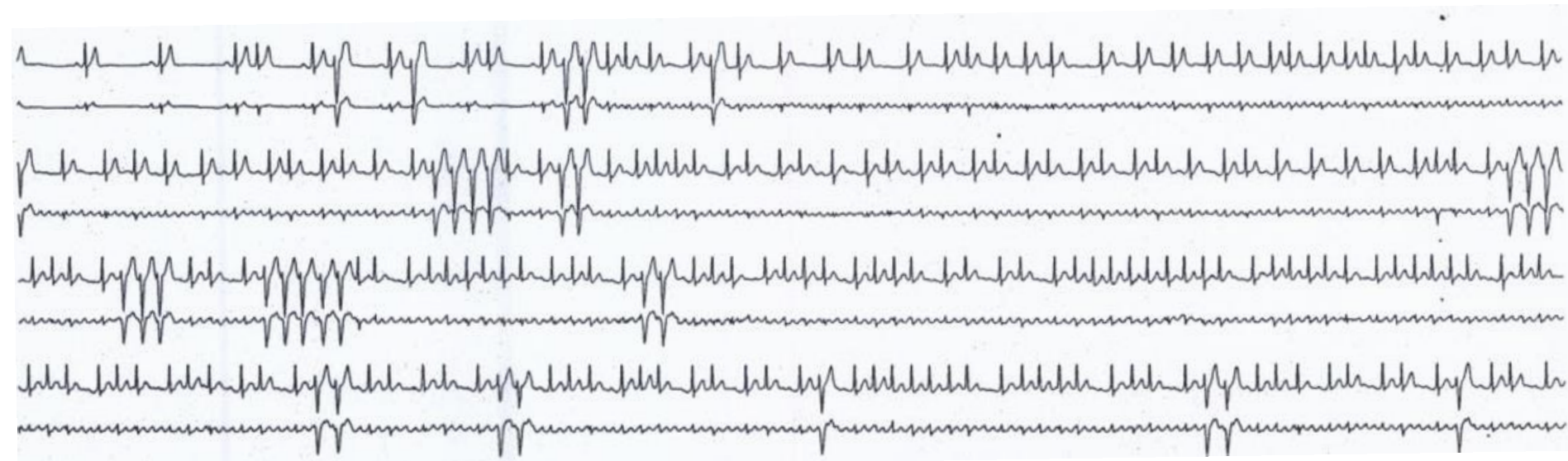
# Confirmation and Tx of substrate



# Another case of irregular wide QRS tachycardia

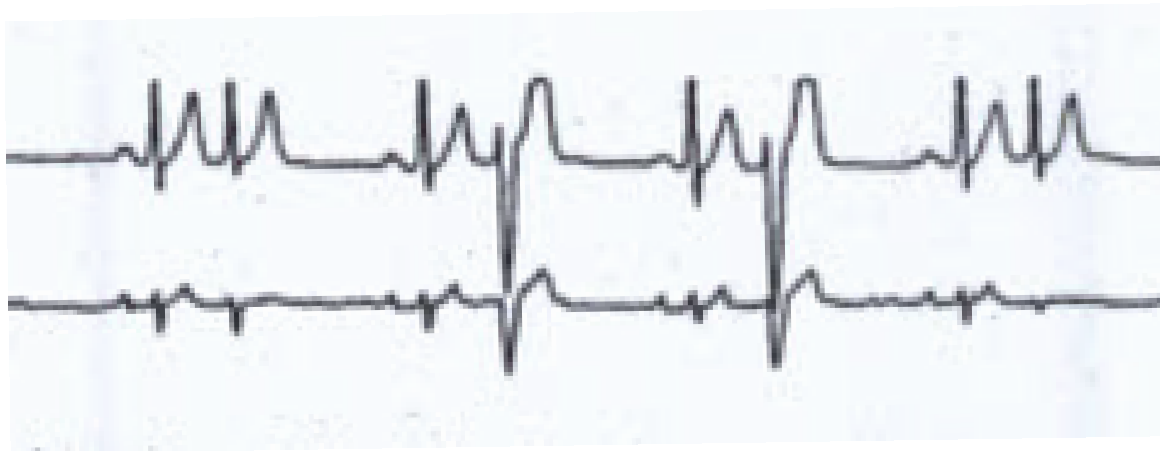


# Palpitation

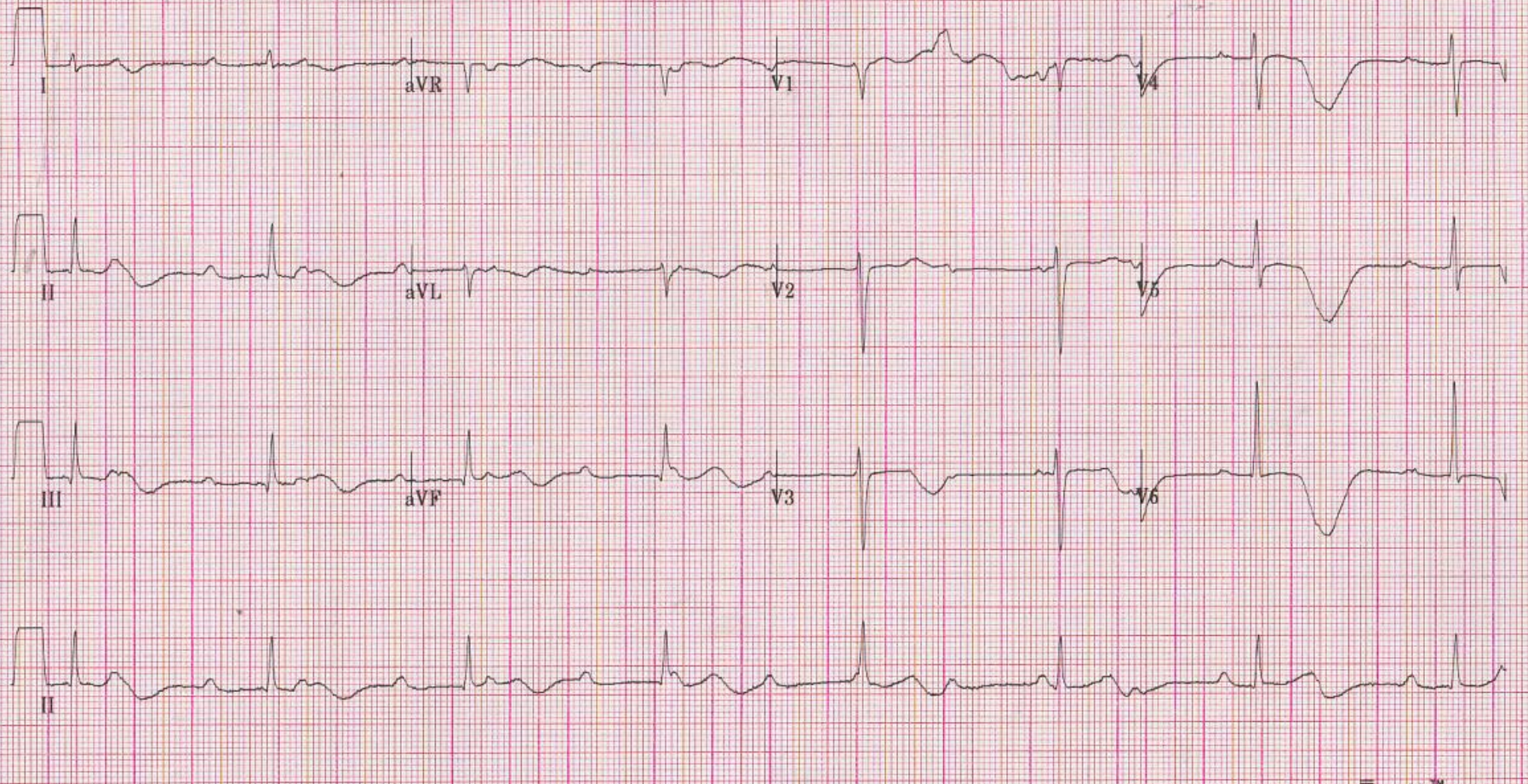


# Ashman phenomenon

- Wide complex QRS complexes that follow a short R-R interval preceded by a long R-R interval
- Represents an aberrantly conducted complex rather than a complex that originates in ventricle
- Refractory period of bundle branch is proportional to the R-R interval of the preceding cycle



# 67/F syncope



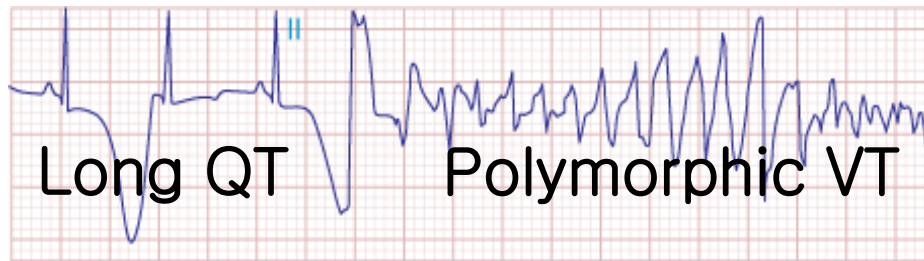
# Telemetry



# Polymorphic VT

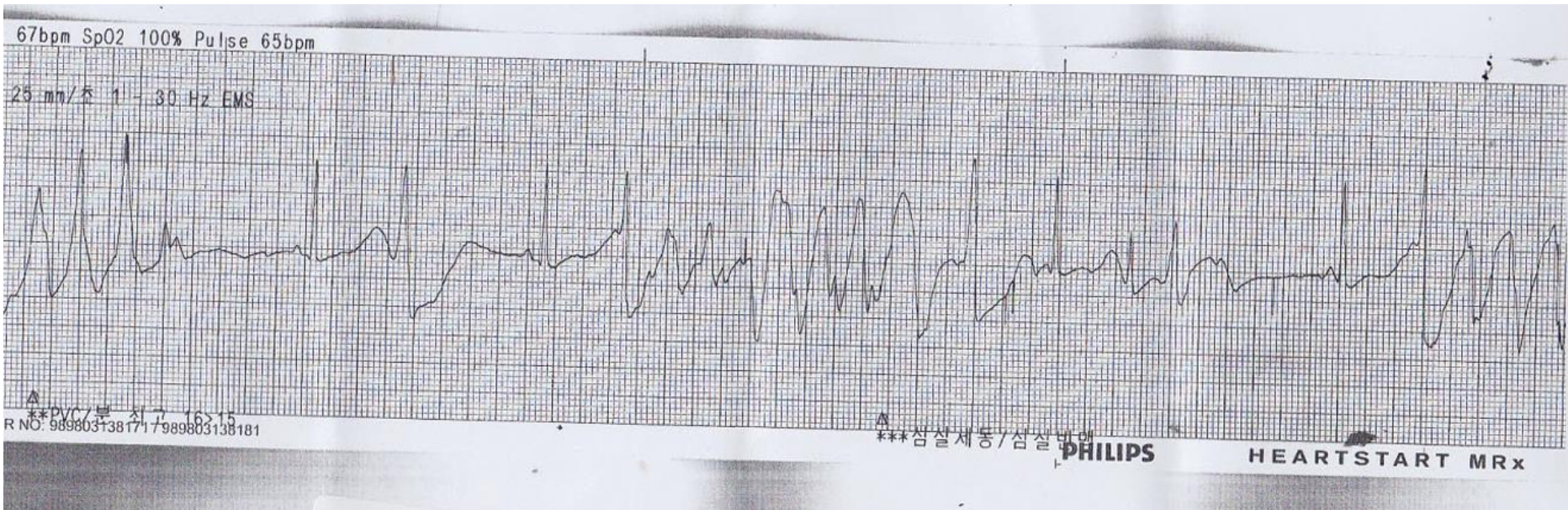
## ■ 정의 : **twisting of the points**

- 크기가 다른 **QRS**군이 기선을 중심으로 회전하며 바뀌는 심실빈맥
- **QT prolongation(>500ms) : prolonged ventricular repolarization**
- **CAVB**에 의한 **bradycardia**에서 발생할수 있음

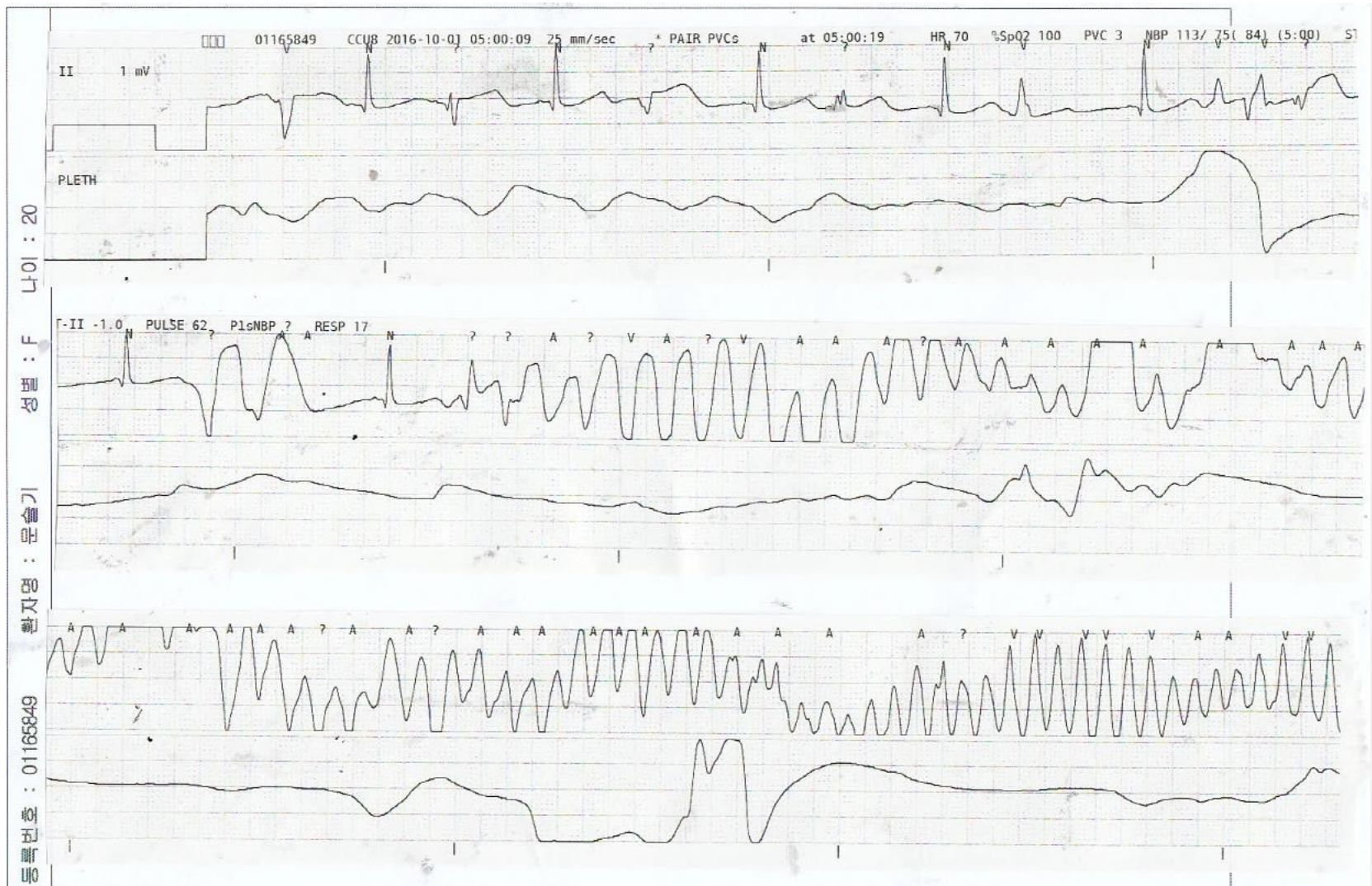




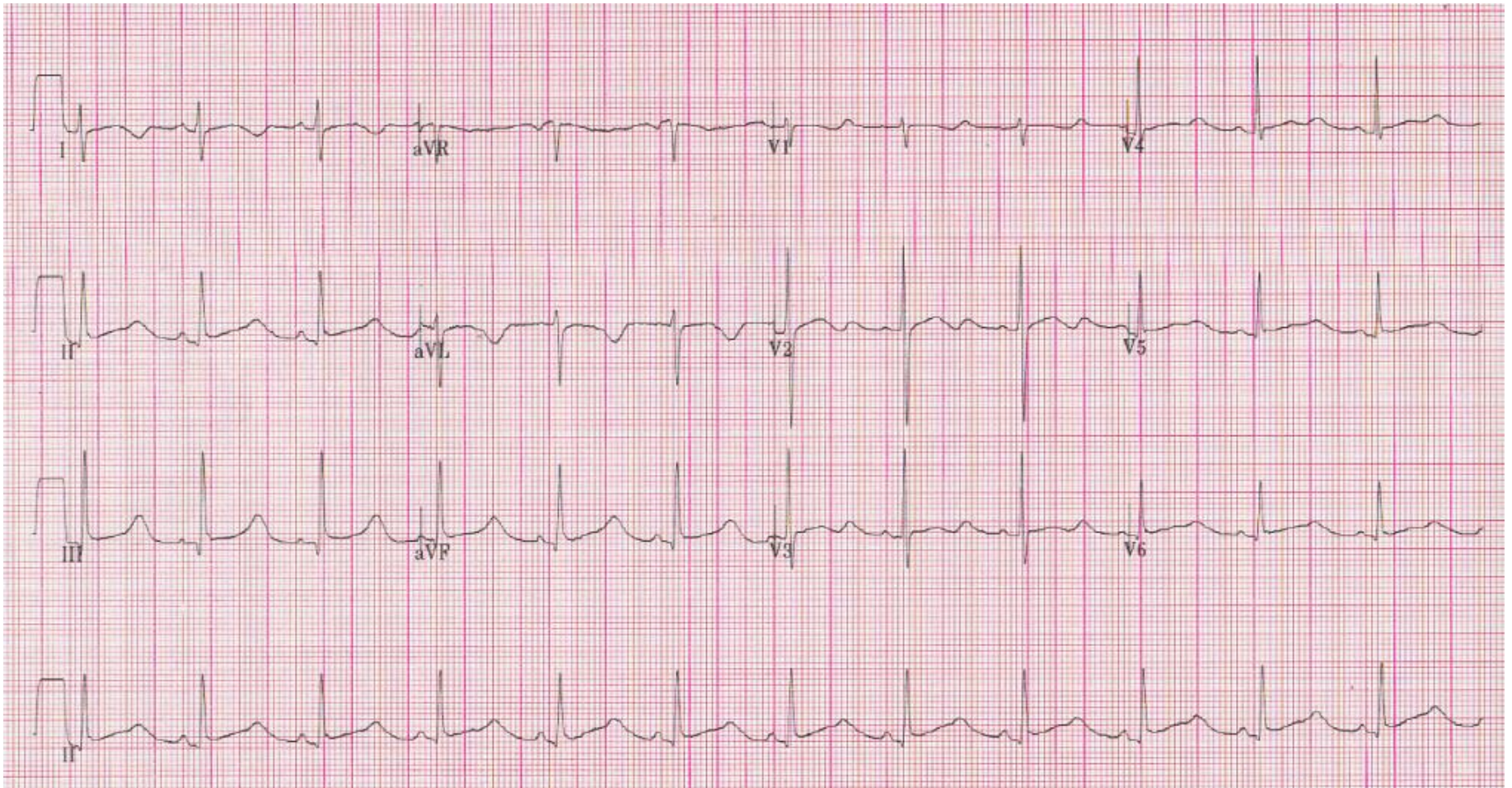
# 21/F SCD #01165849



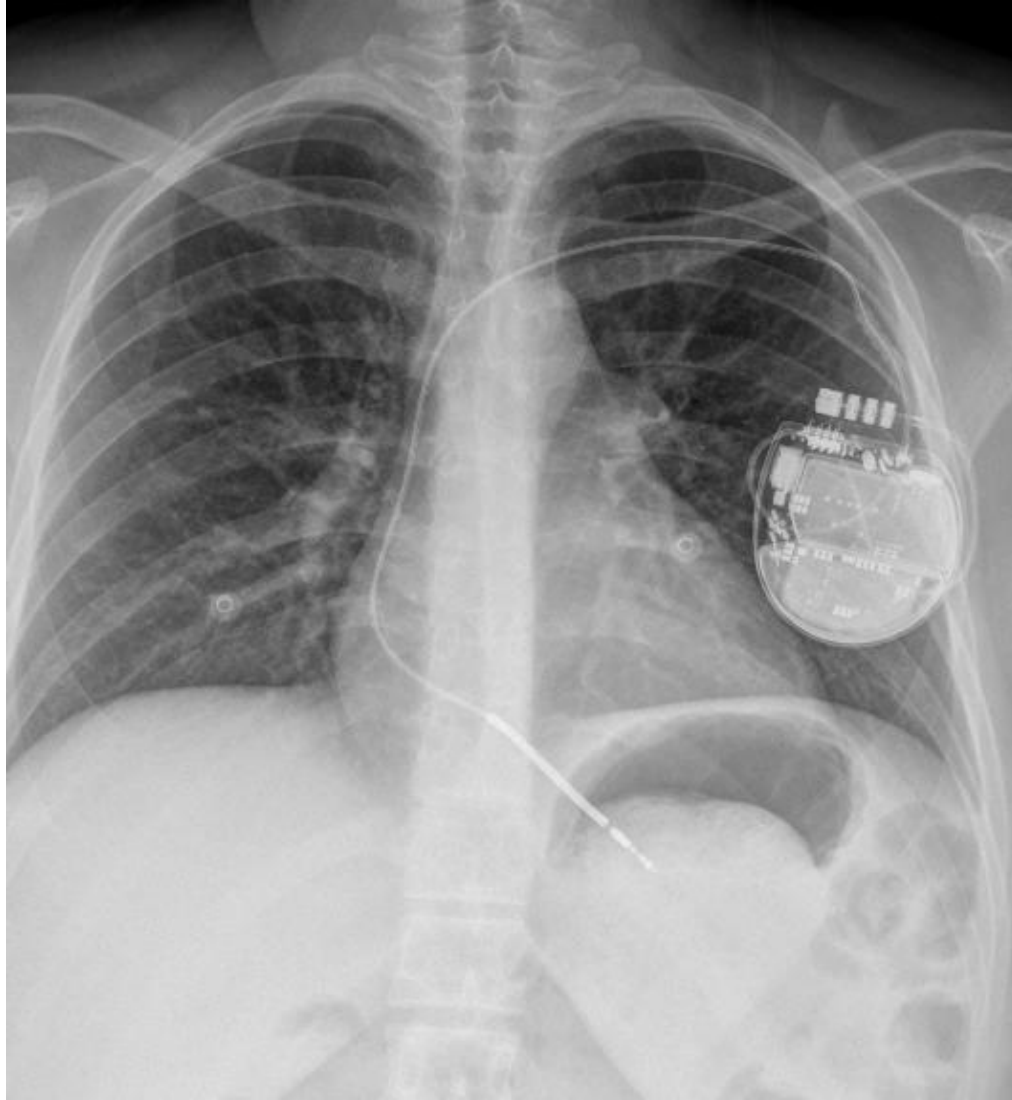
# Telemetry



# ECG after cardioversion



# ICD



# ECG F/U

