

EKG PATOLOGIE

M. Kozák

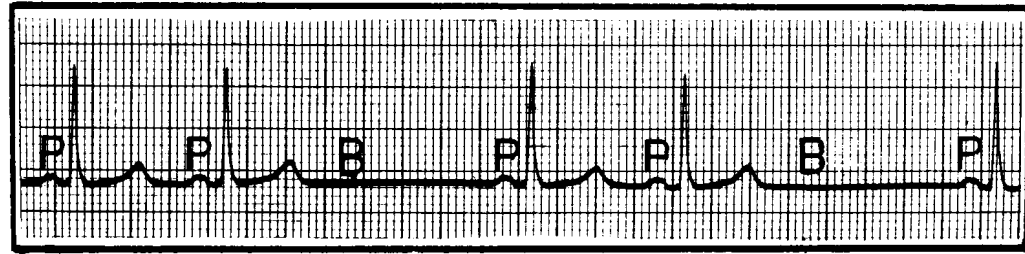
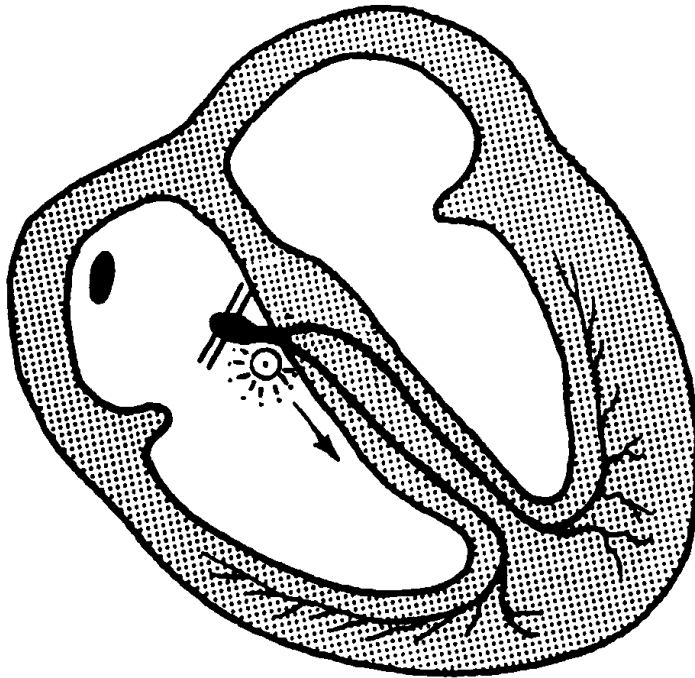
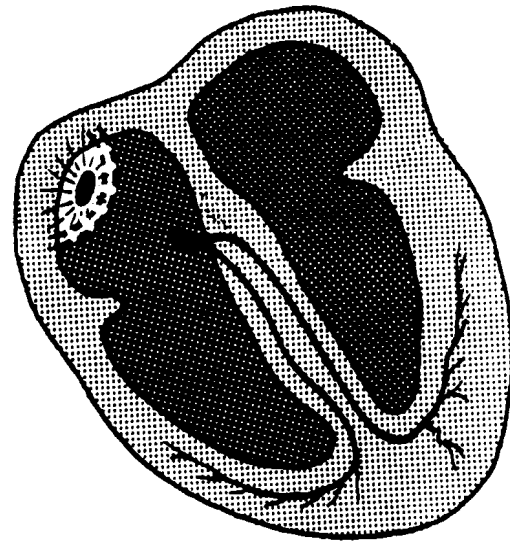
Interní kardiologická klinika FN Brno-Bohunice

ARYTMIE - bradyarytmie, tachyarytmie, blokády ramének

BRADYARYTMIE

- **frekvence pod 50/min**
- **pauzy nad 3 s a brady pod 40/min jsou
přímou indikací k trvalé kardiostimulaci**

SA blok



AV blok

(a)



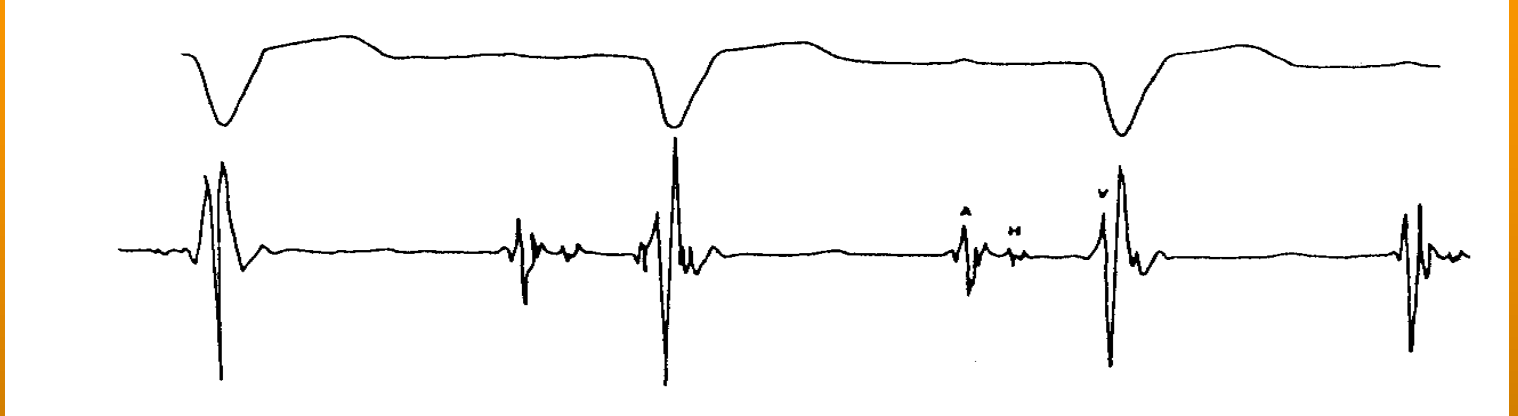
(b)



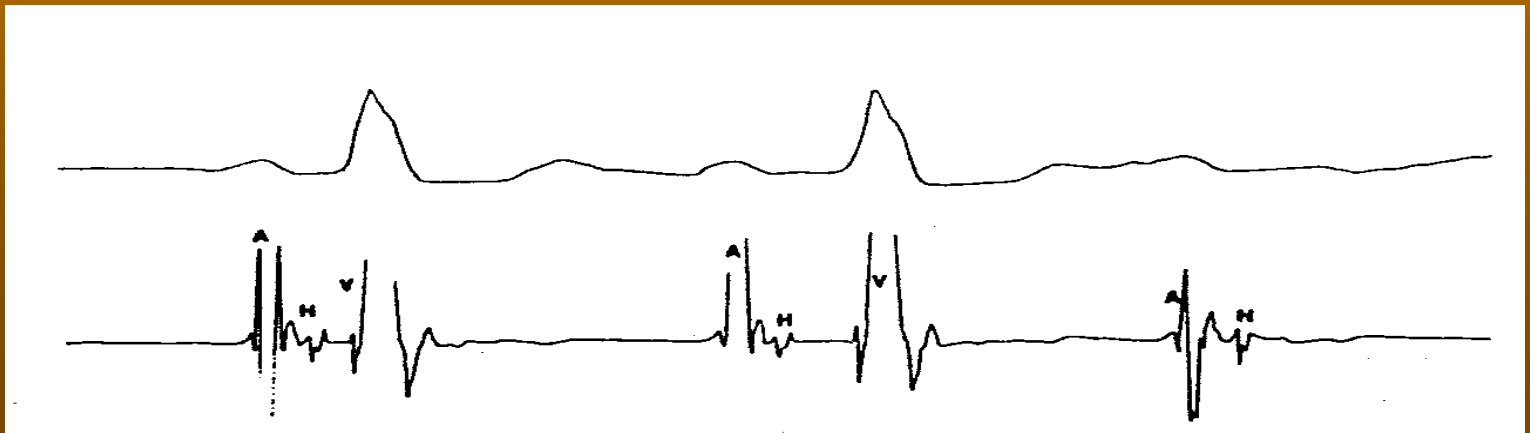
(c)



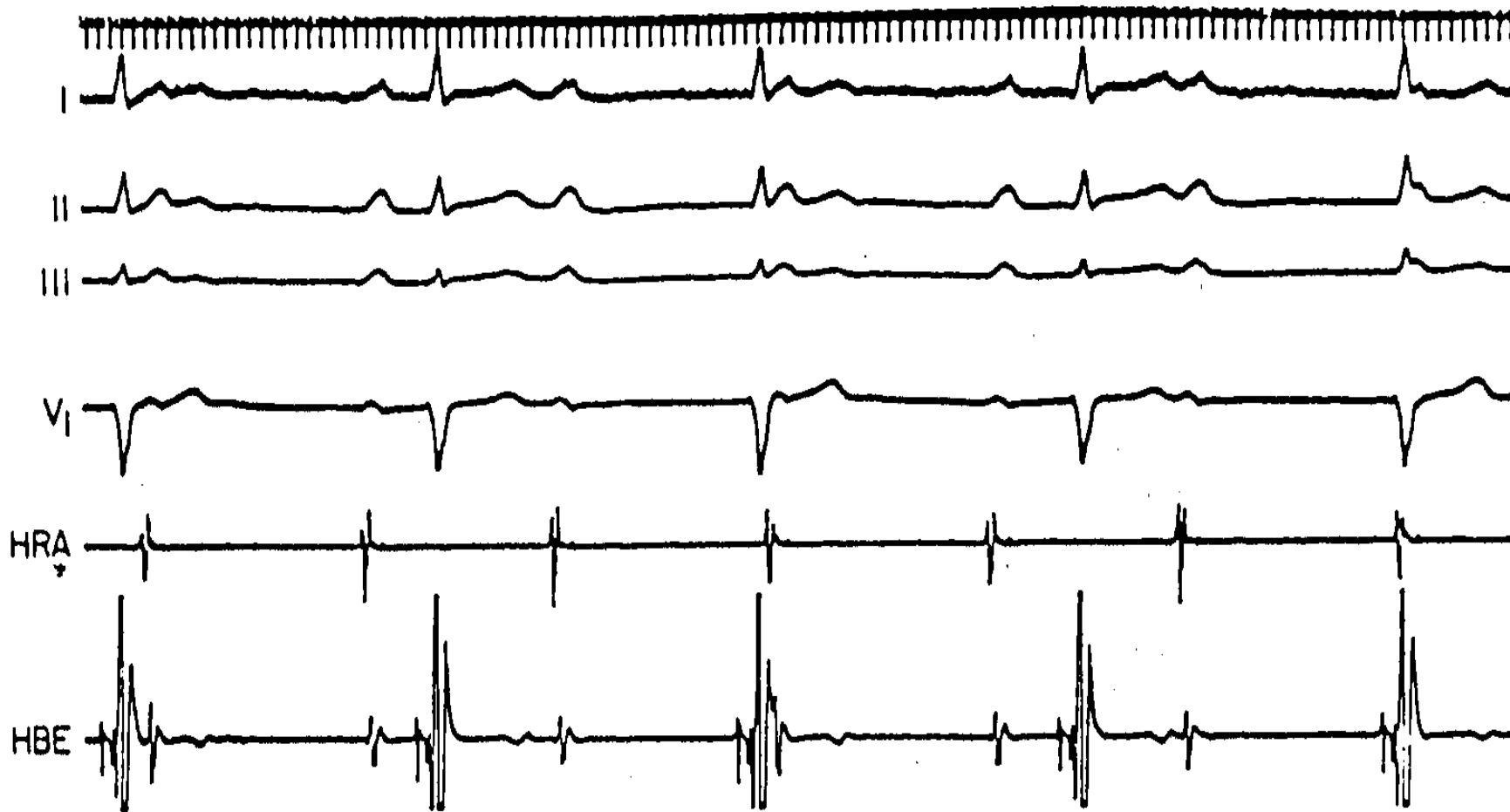
AVB I. st.



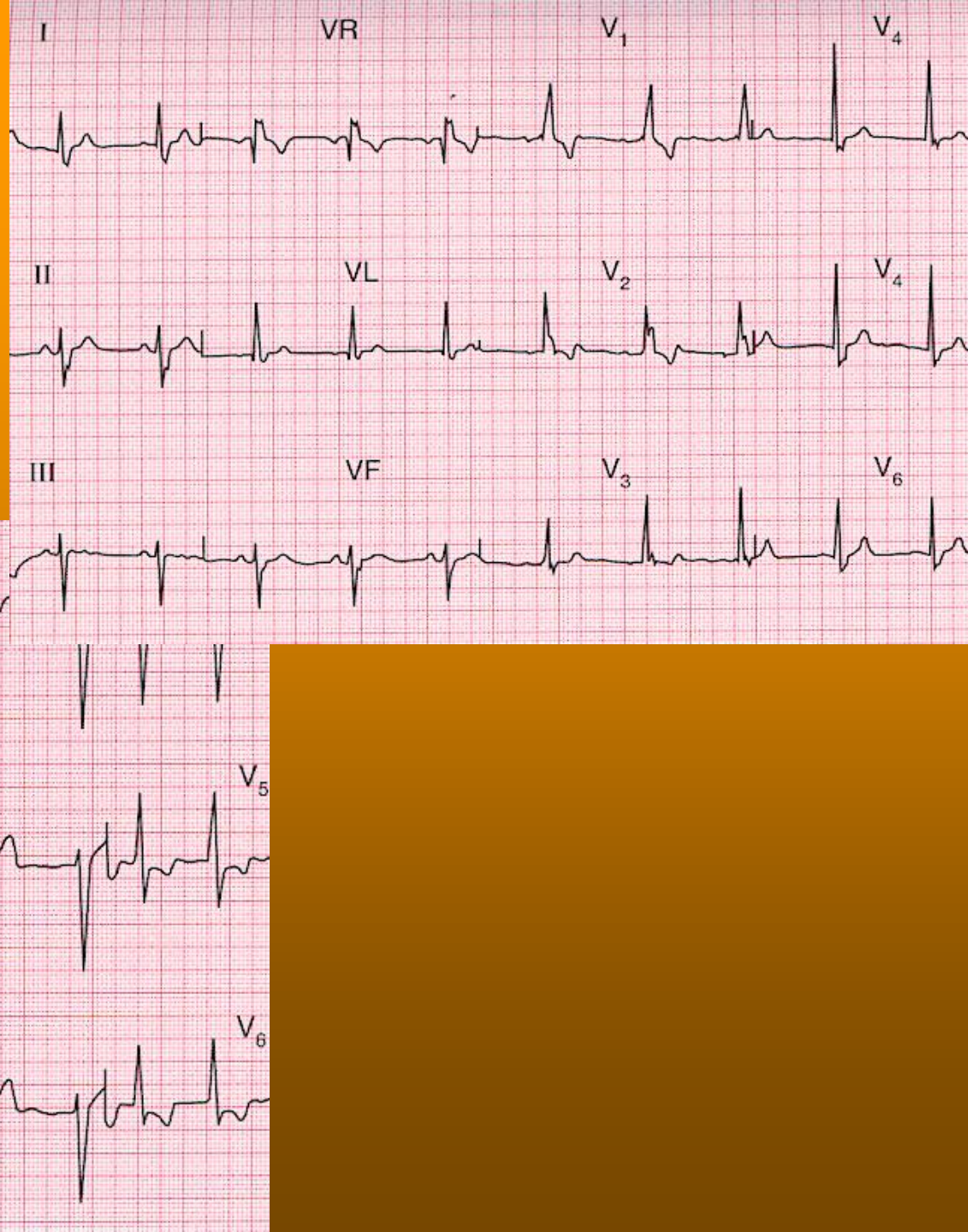
AVB II. st.



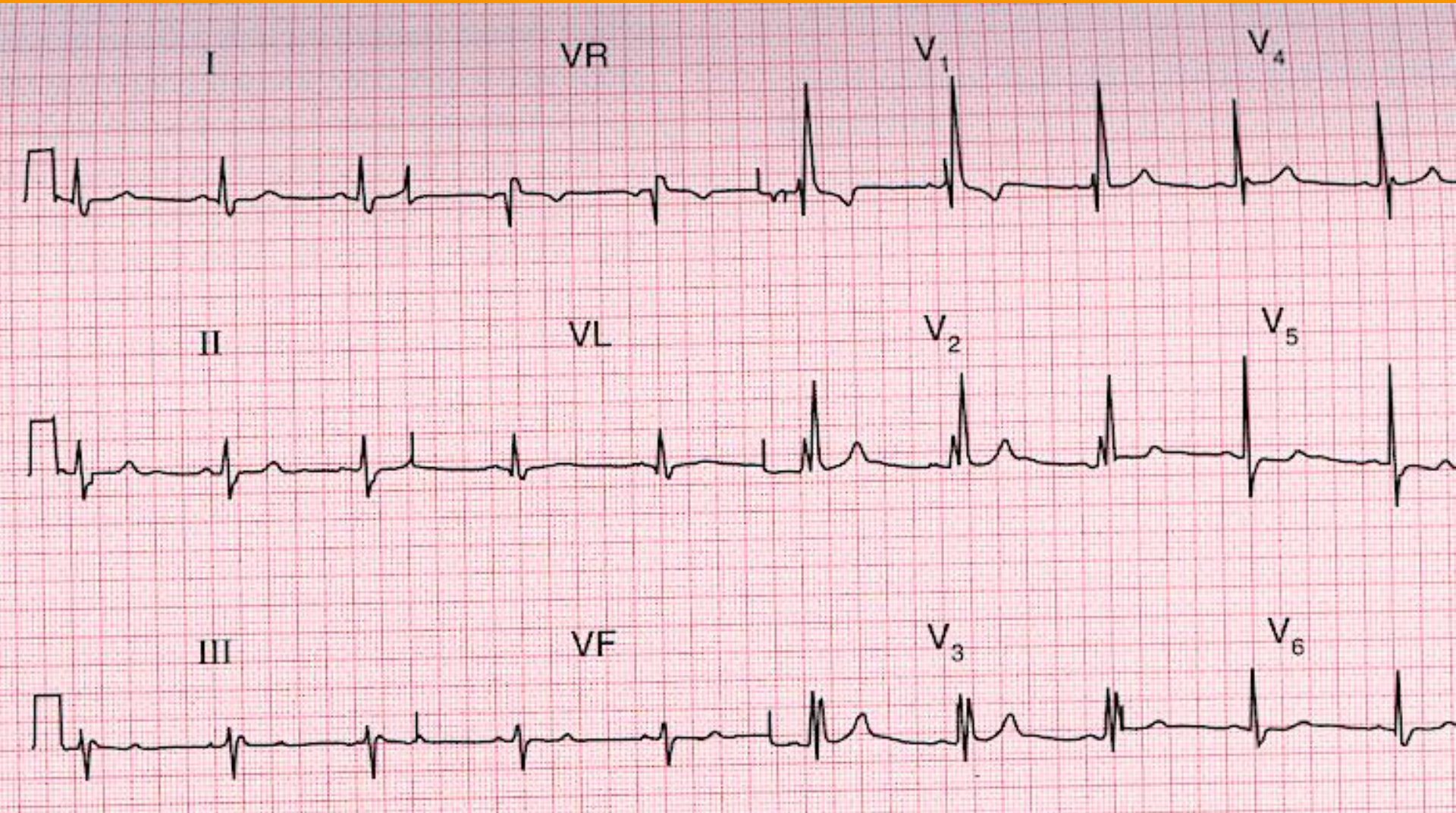
AVB III. stupně



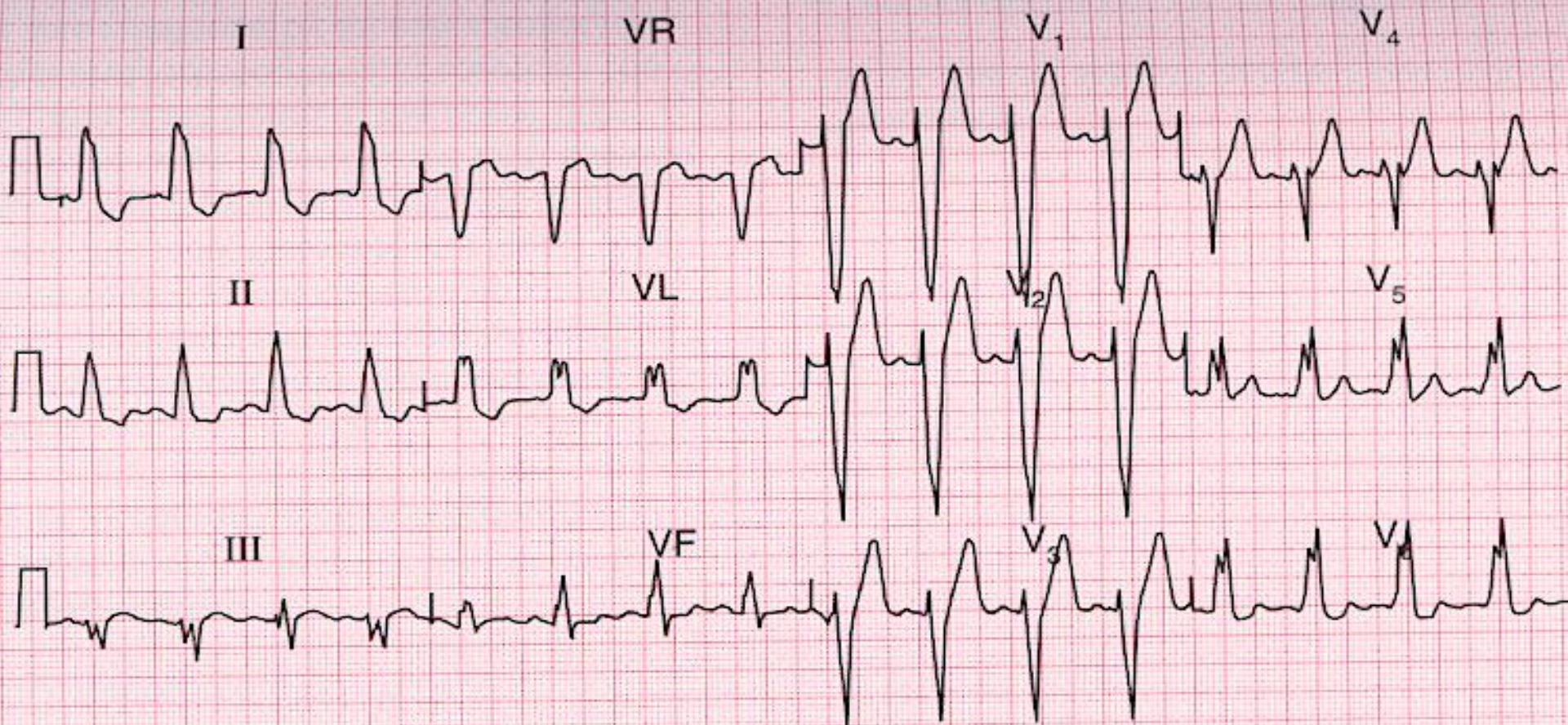
LAH



BPRTw



BLRTw



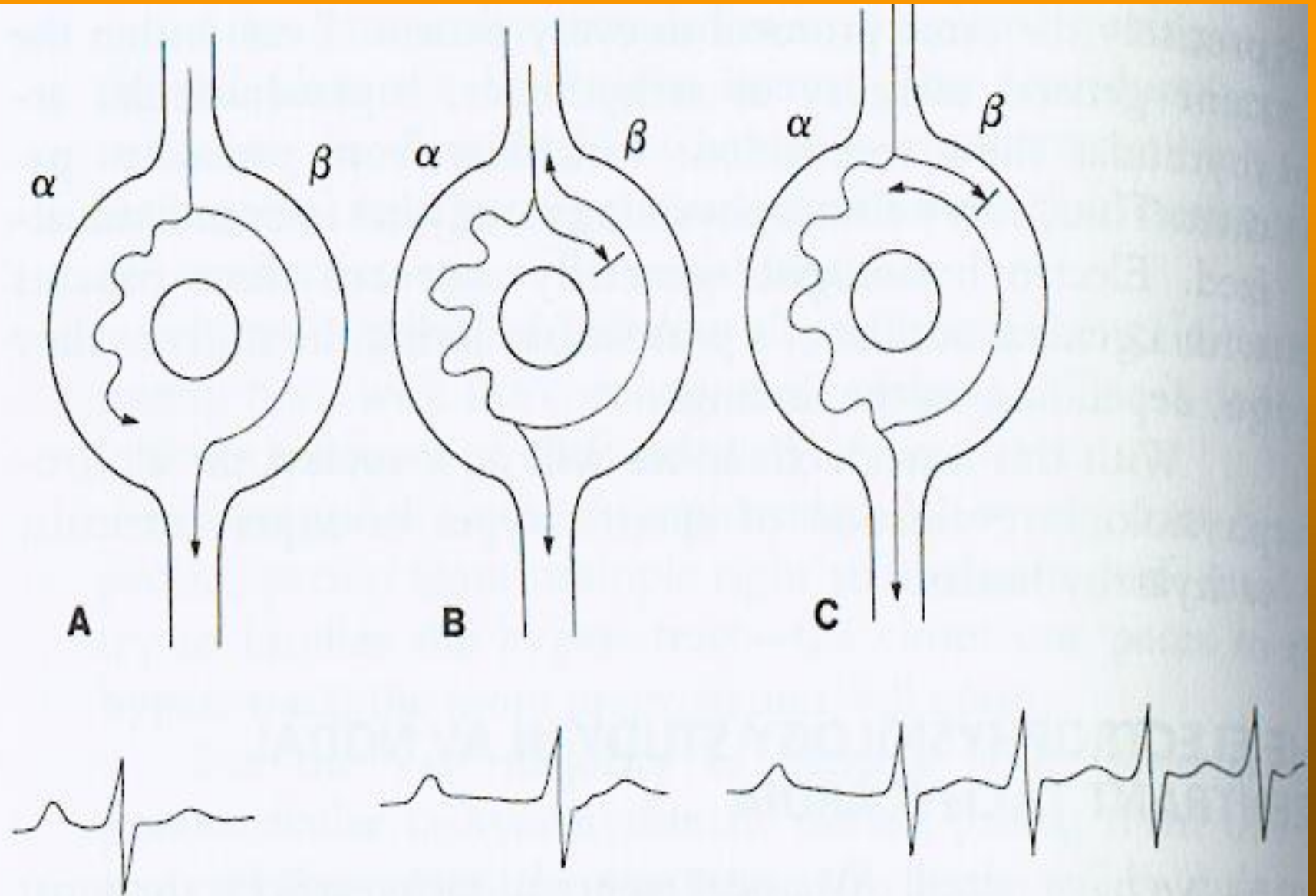
DEFINICE

- **tachykardie** - tachyarytmie s frekvencí nad 100/min
- **flutter** - s frekvencí nad 220/min
- **fibrilace** - s frekvencí nad 300/min
- **supraventrikulární** - realizuje se proximálně od Hisova svazku
- **komorová** - realizuje se distálně od Hisova svazku
- **nesetrvalá** 3 QRS do 30ti sekund
- **setrvalá** nad 30 s
- **symptomy arytmií** - MAS ekvivalenty, paroxysmy (Morgagni Adams Stokes)

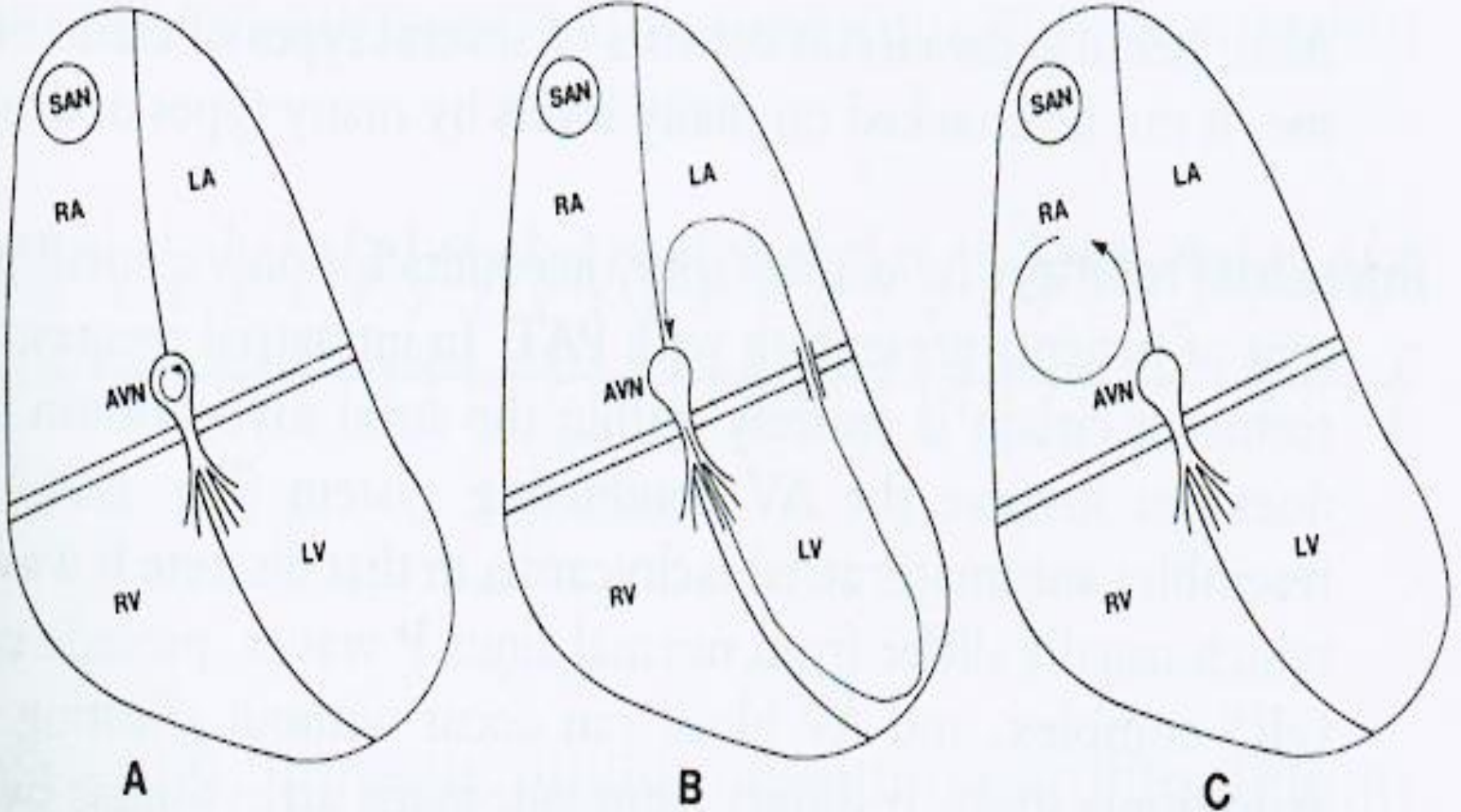
DEFINICE

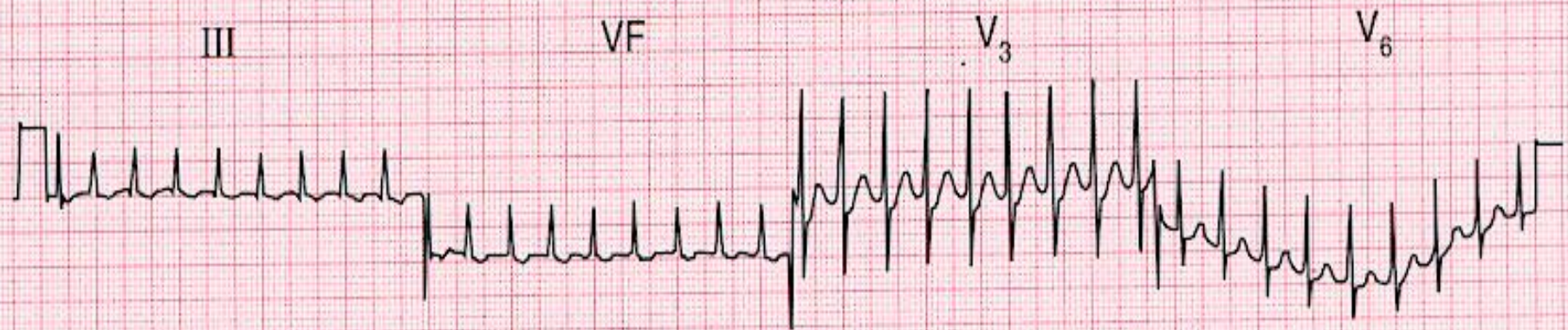
- nejčastější **mechanismus** arytmii je reentry
- **frekvence komor u SVT** vedené převodním systémem je dána Wenckebachovým bodem
- **frekvence komor reentry** tachyarytmie je dána nejpomalejším článkem
- **SV** - fibrilace, flutter síní, síňové tachykardie, AVNRT, AVRT
- **komorové** - monomorfní, polymorfní (TdP), flutter komor, fibrilace komor
- **Valsalvovy manévry** jako první terapie u hemodynamicky tolerované tachyarytmie

Reentry

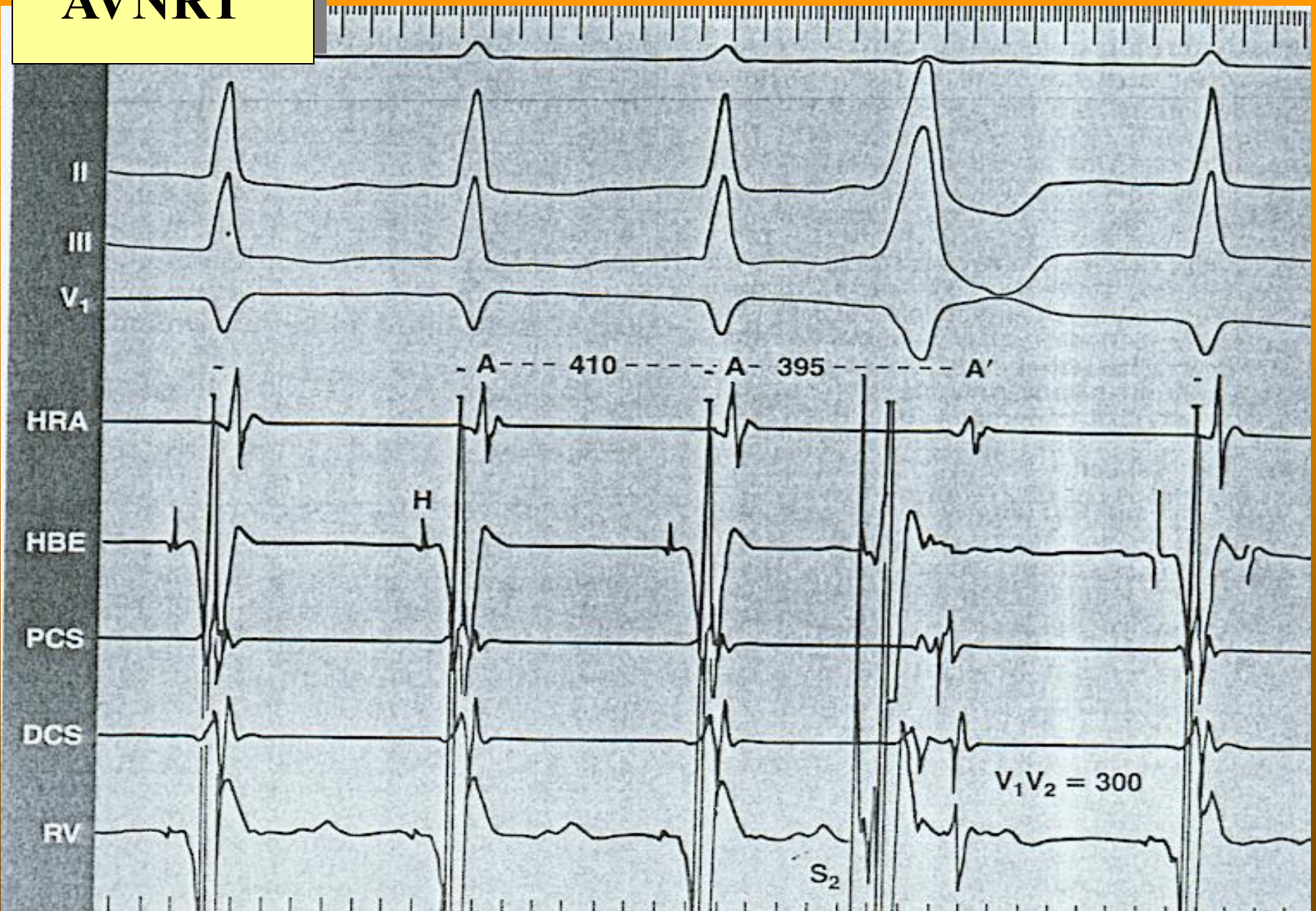


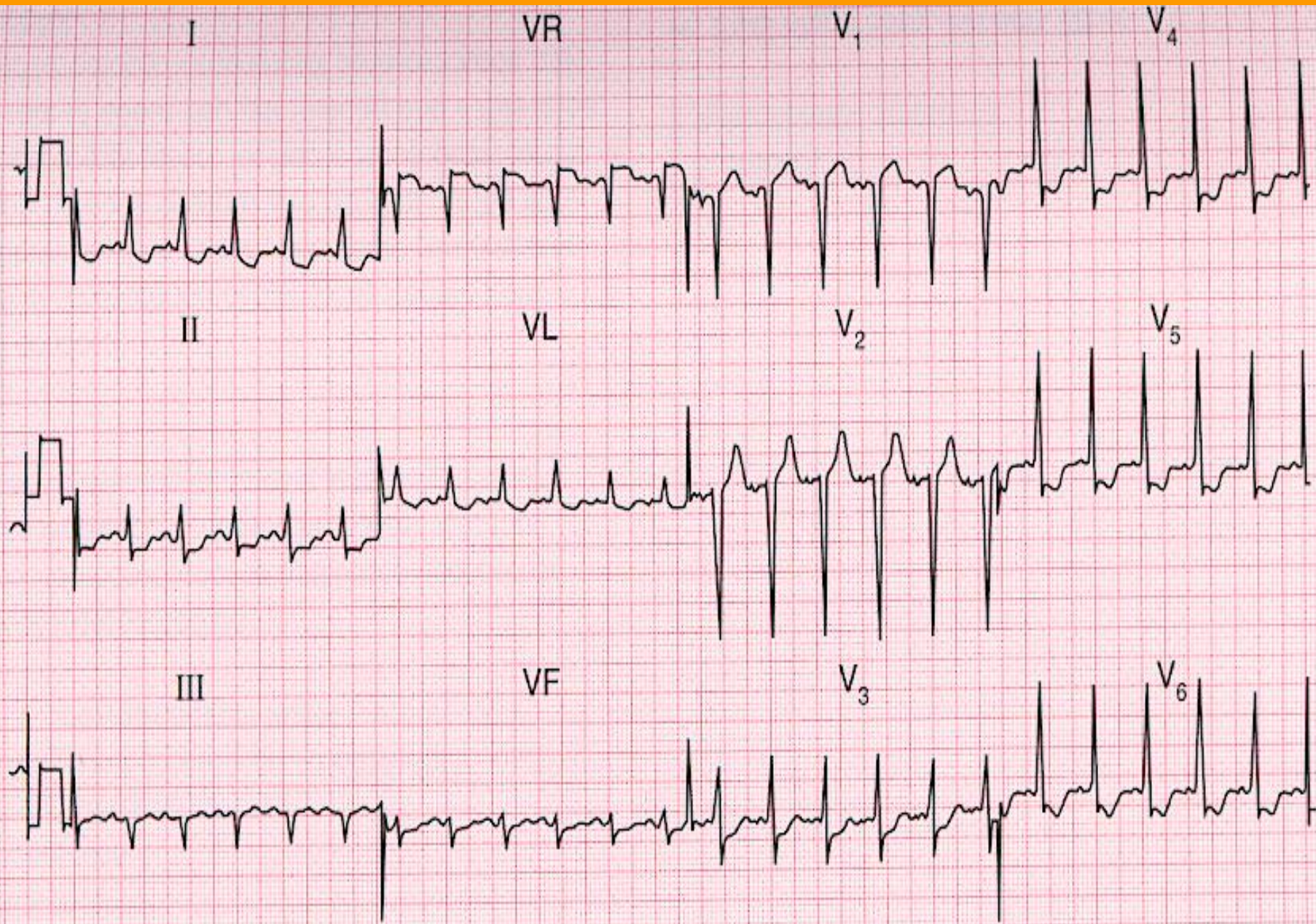
Reentry

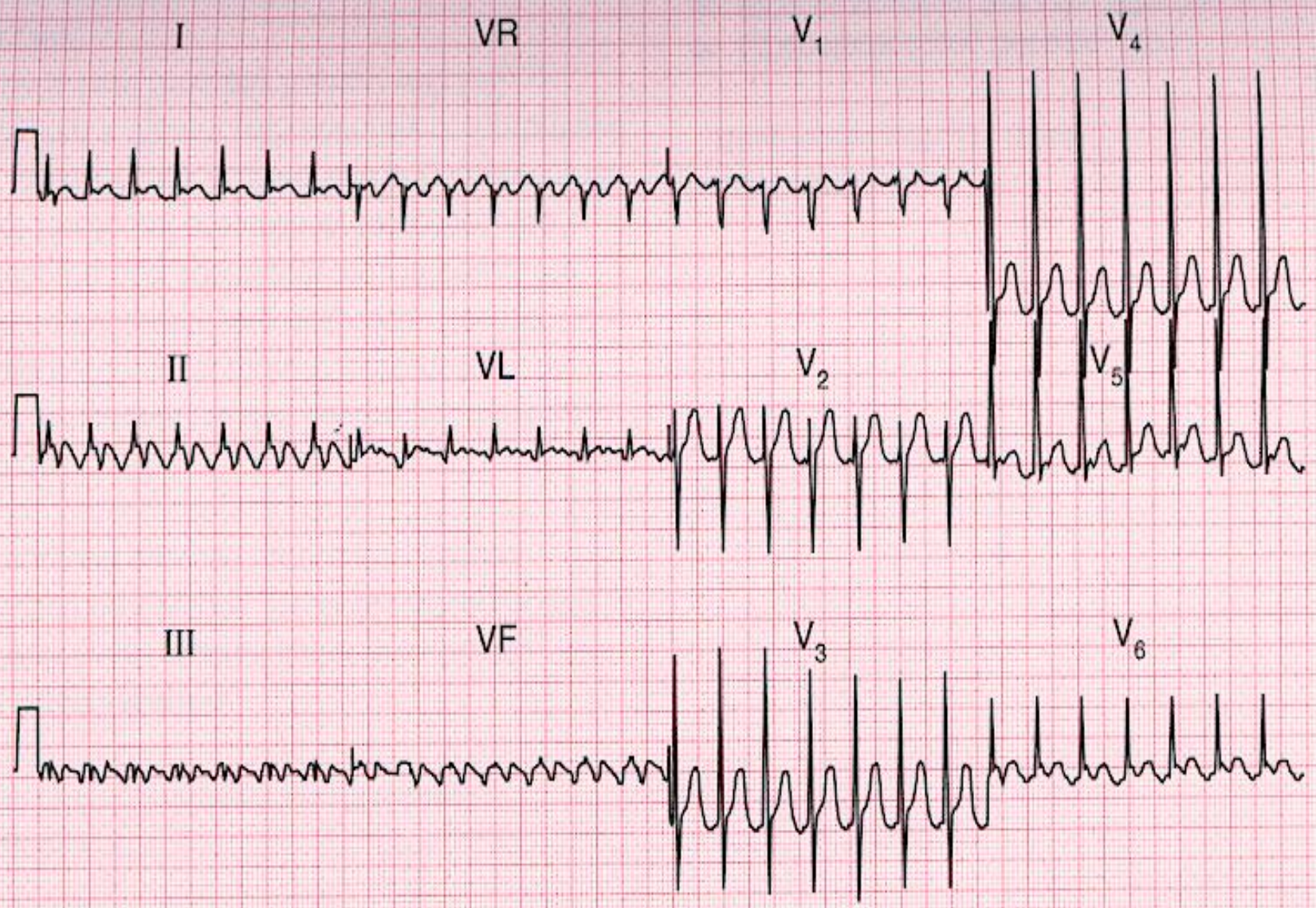


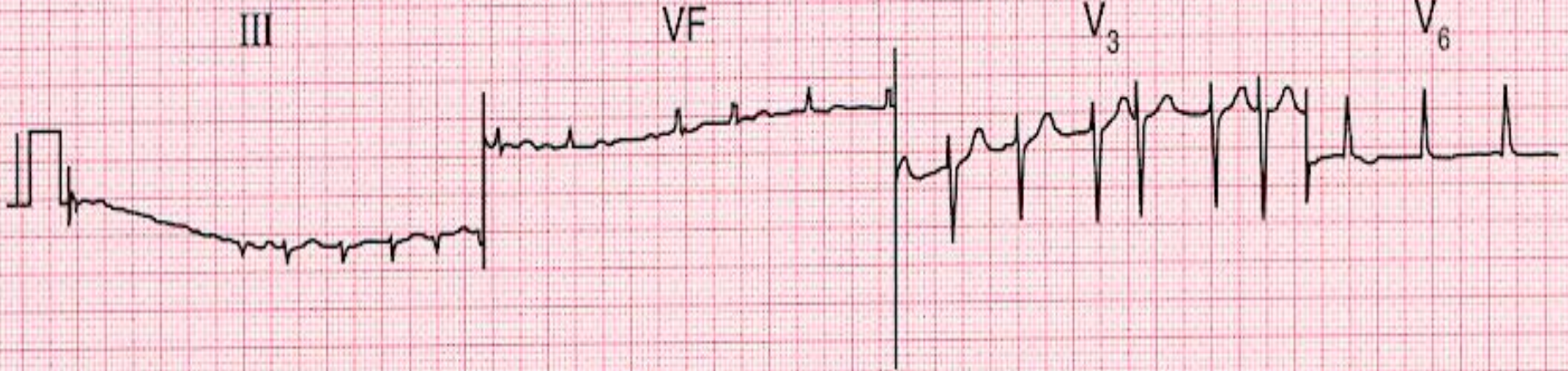
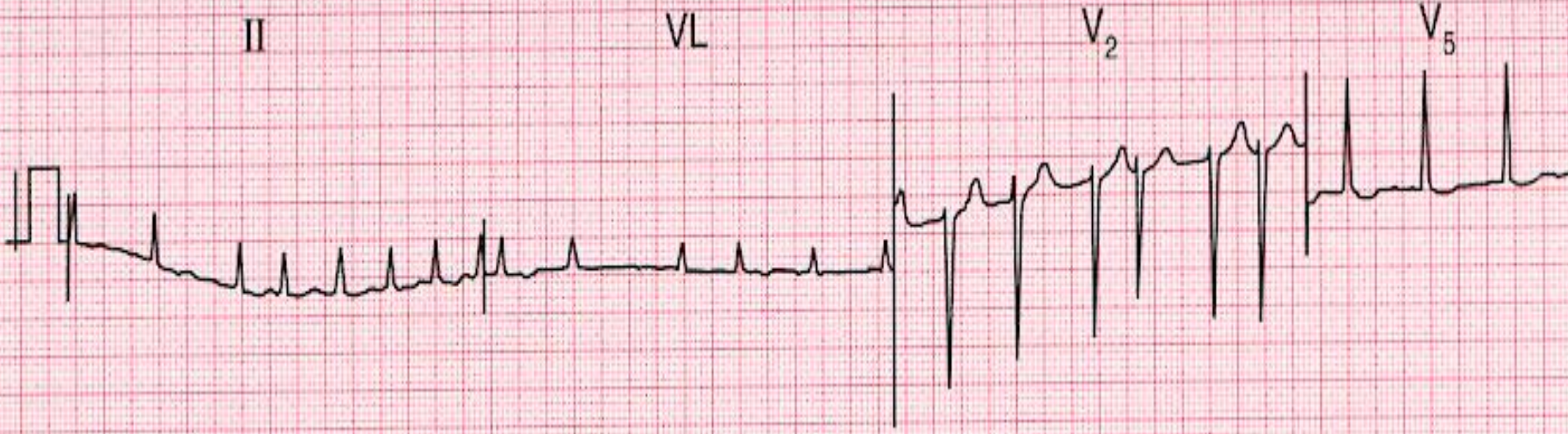
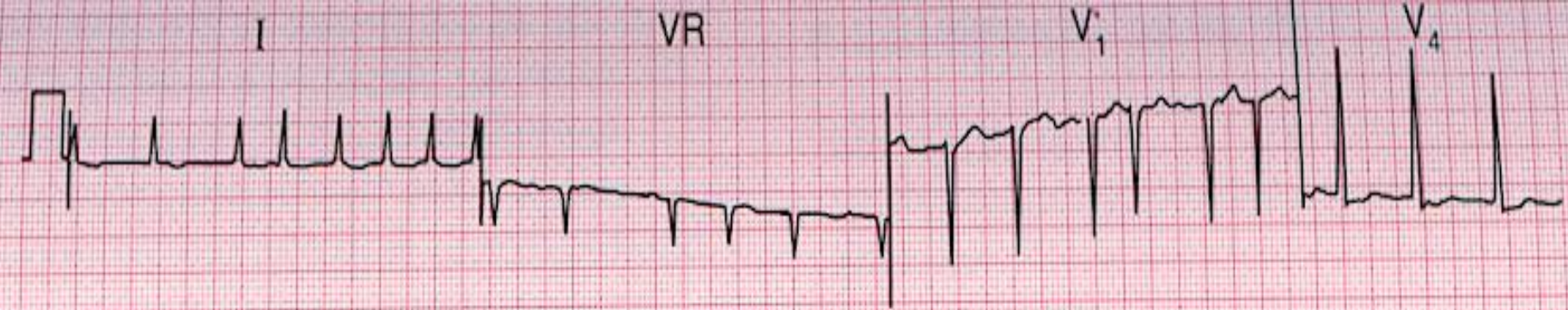


AVNRT









KOMOROVÉ TACHYKARDIE

EKG kriteria

- Srdeční frekvence (nespolehlivé)
- Šířka QRS $> 140\text{ms}$ RBBB, 160ms LBBB
- Osa QRS od -90 do ± 180 (severozápadní)
- Konkordance - pozit., negat. amplituda QRS (specifická $> 90\%$, senzitivita 20%)
- AV disociace - zřetelná u $15-20\%$ KT
- Splynulé stahy

Tachykardie se širokým QRS

1. Komorová 80%

2. SVT 15-20%

3. PM tachykardie

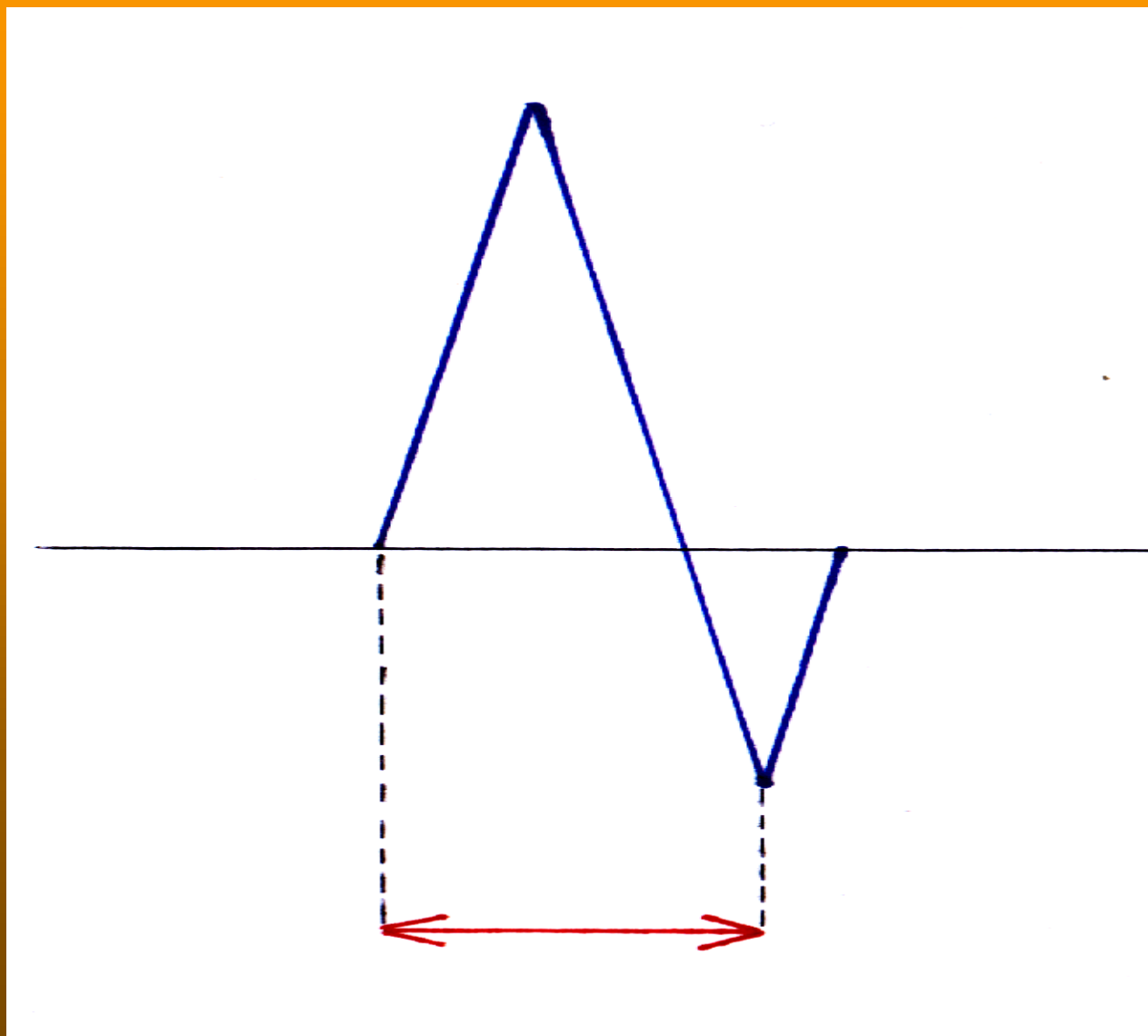
SVT se širokým QRS

1. **Aberace**
 - a) **fixní**
 - b) **funkční**
2. **WPW**
3. **Abnormální vedení svalem (DKMP)**
4. **Elektrolytová dysbalance (farmaka)**

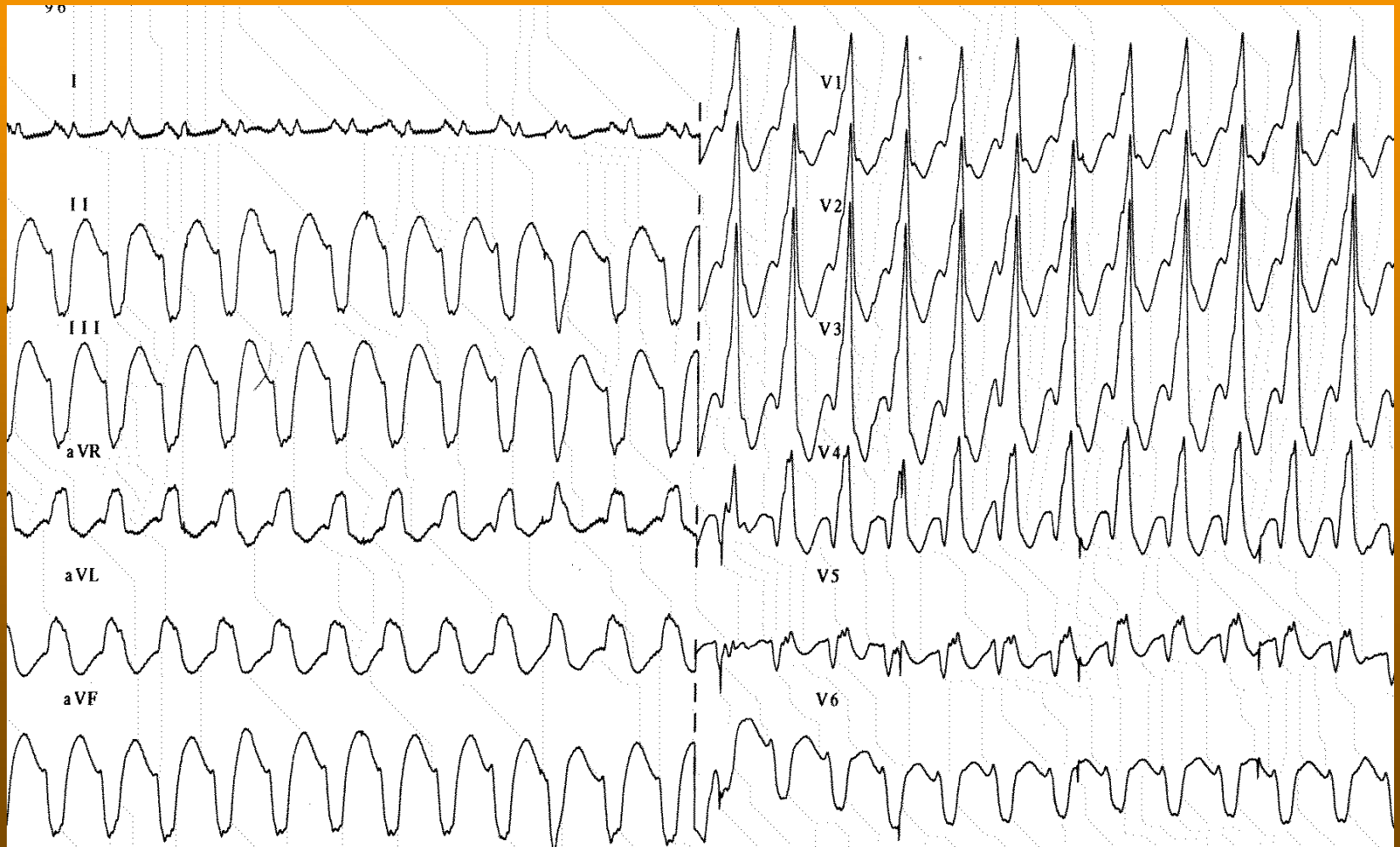
P+J Brugada

- **Senzitivita 98%, Specificita 96%**
 1. **Přítomnost RS kmitu?**
 2. **Trvání RS > 100ms?**
 3. **Přítomnost AV diosciace?**
 4. **Morfologická kritéria?**

RS kmit



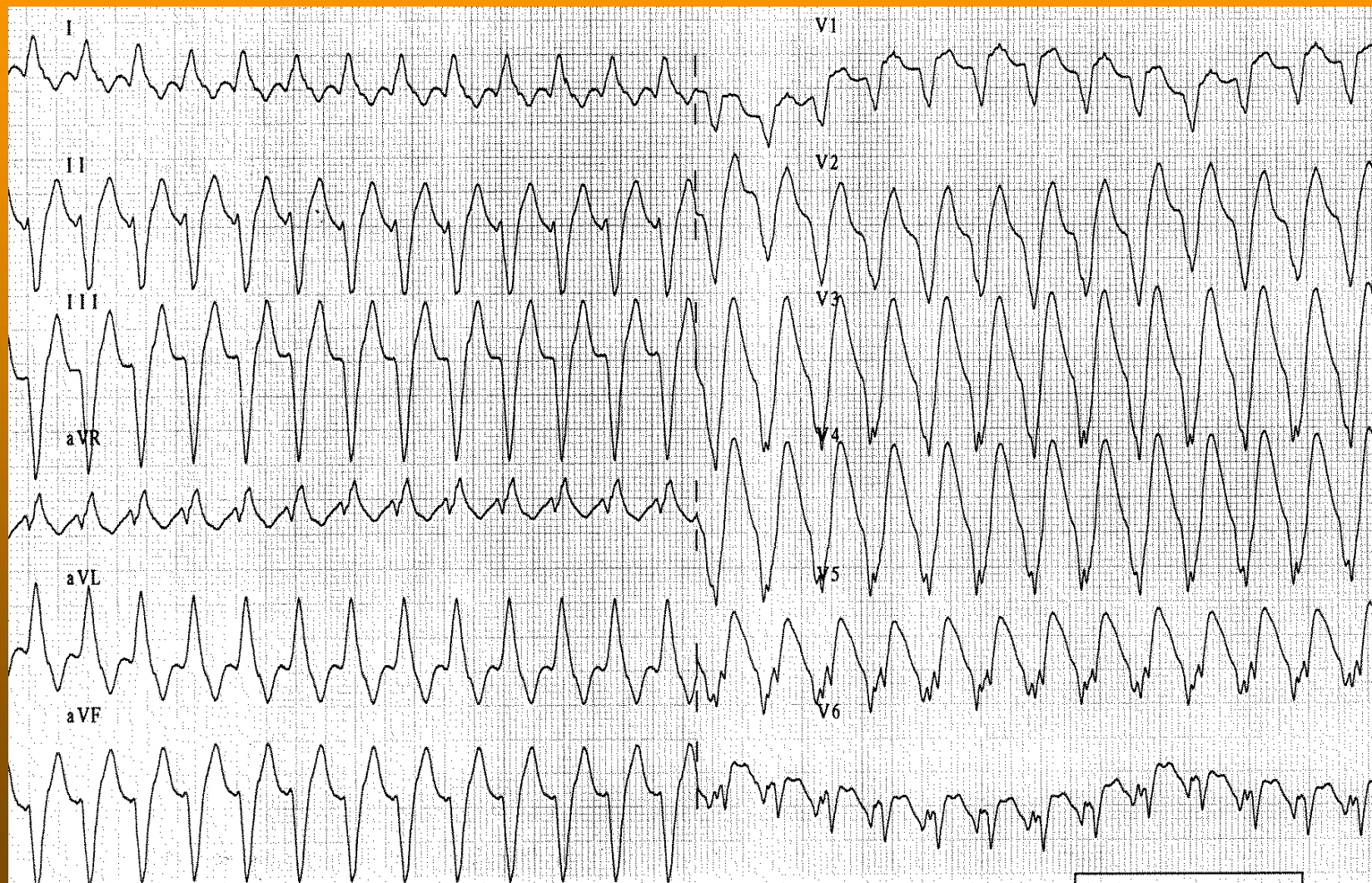
Komorová tachykardie



KT s obrazem RBBB



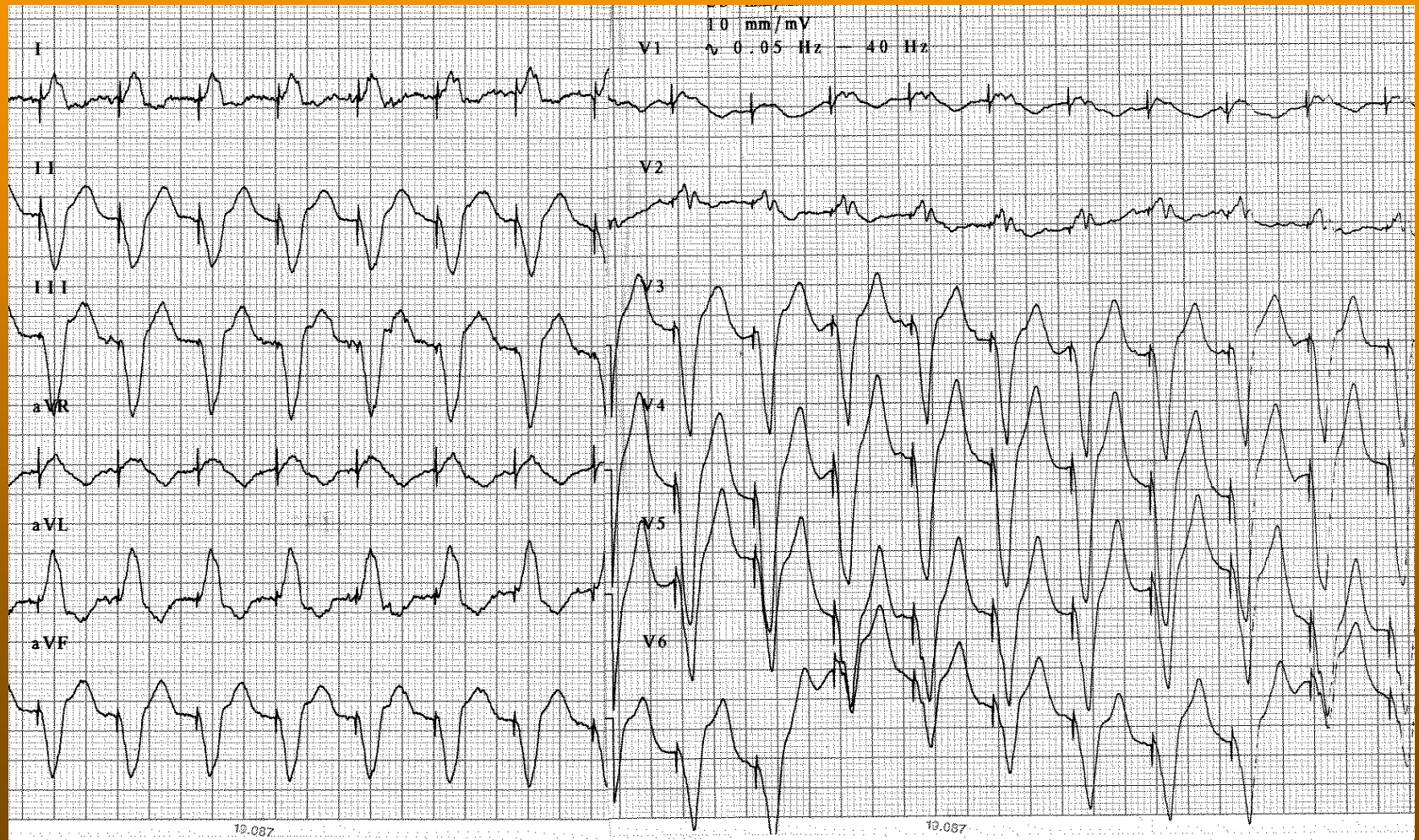
KT s obrazem LBBB



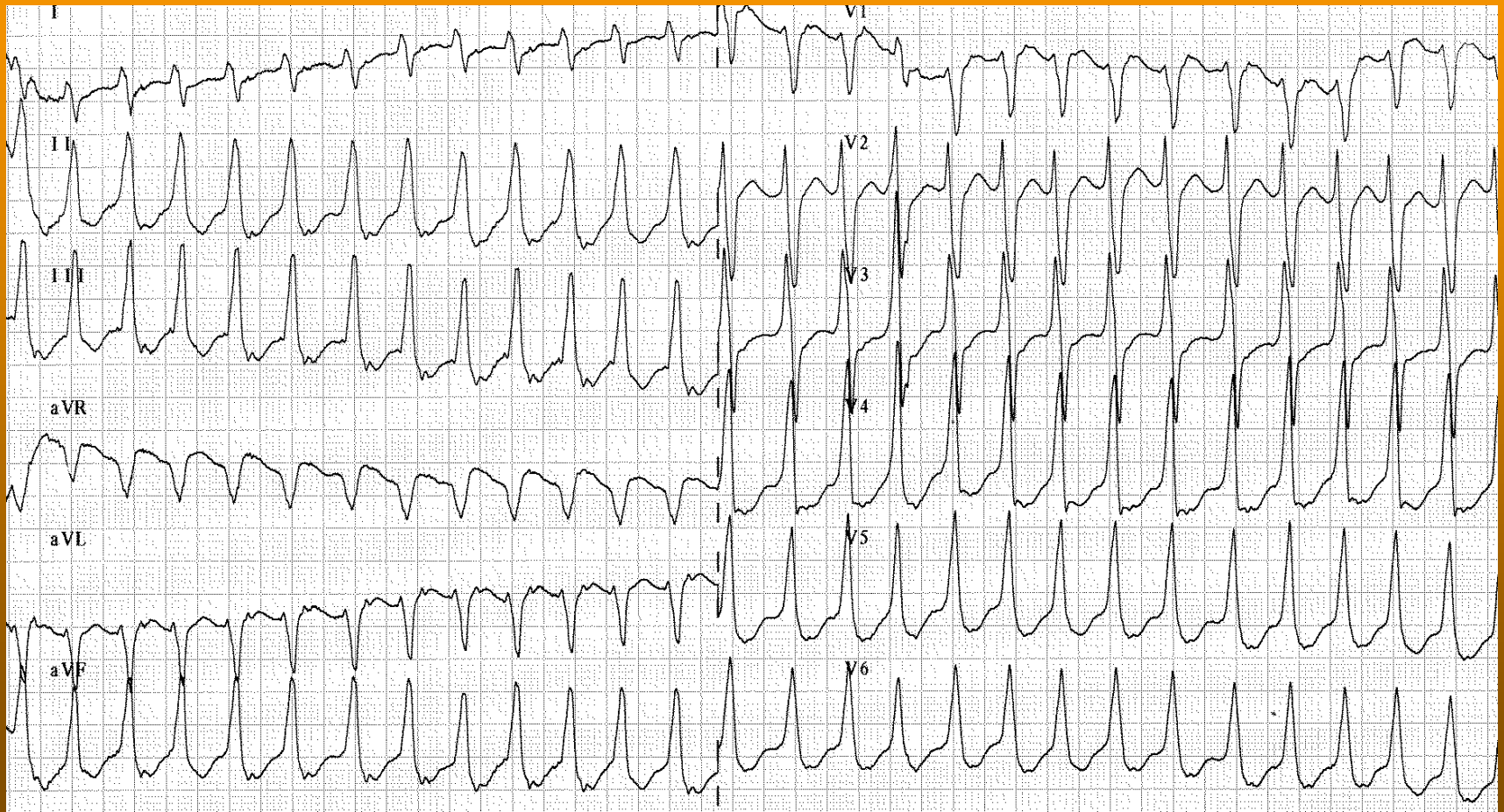
SV tachykardie s LBBB



PM tachykardie



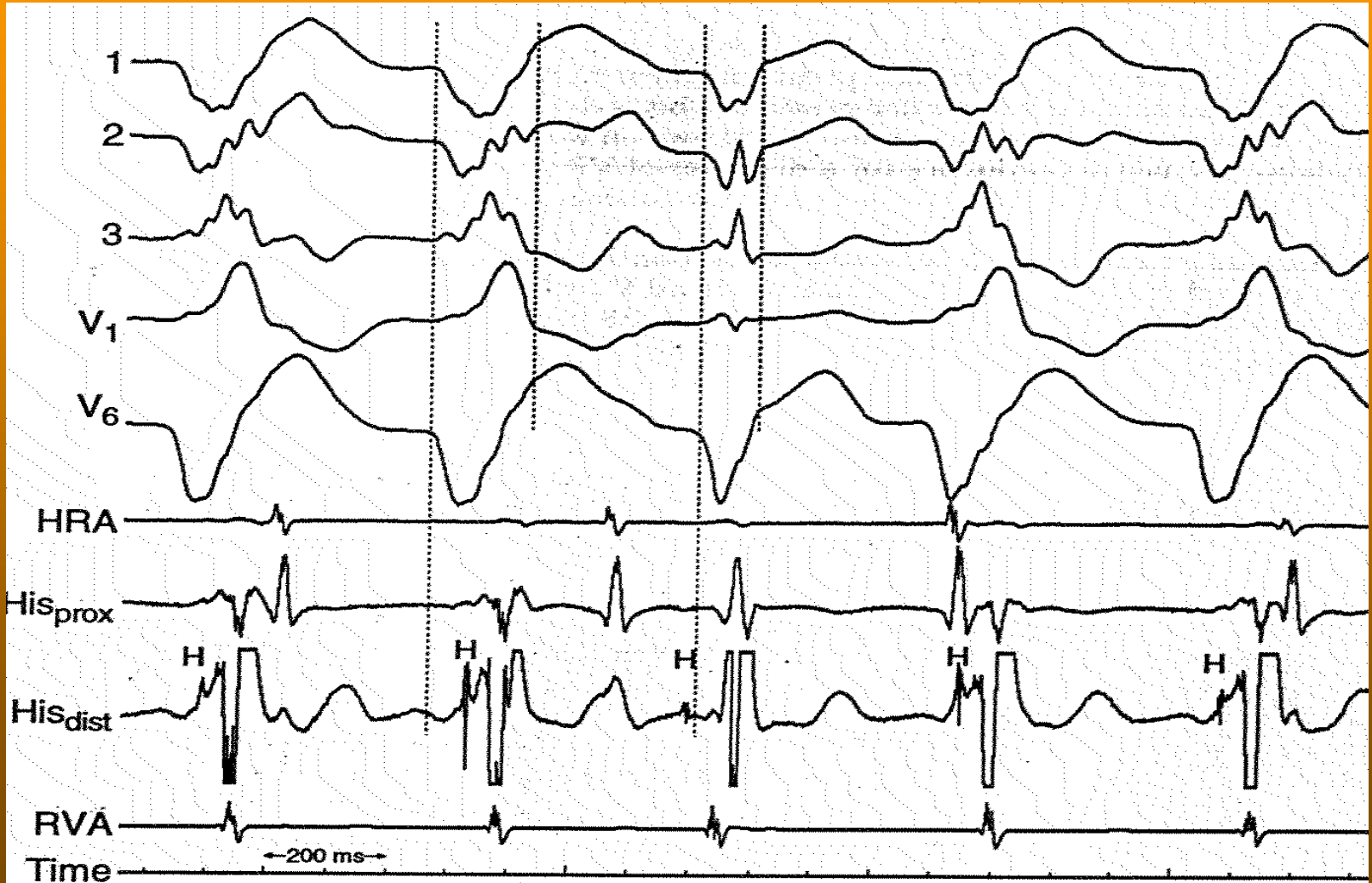
KT - QRS = 120ms

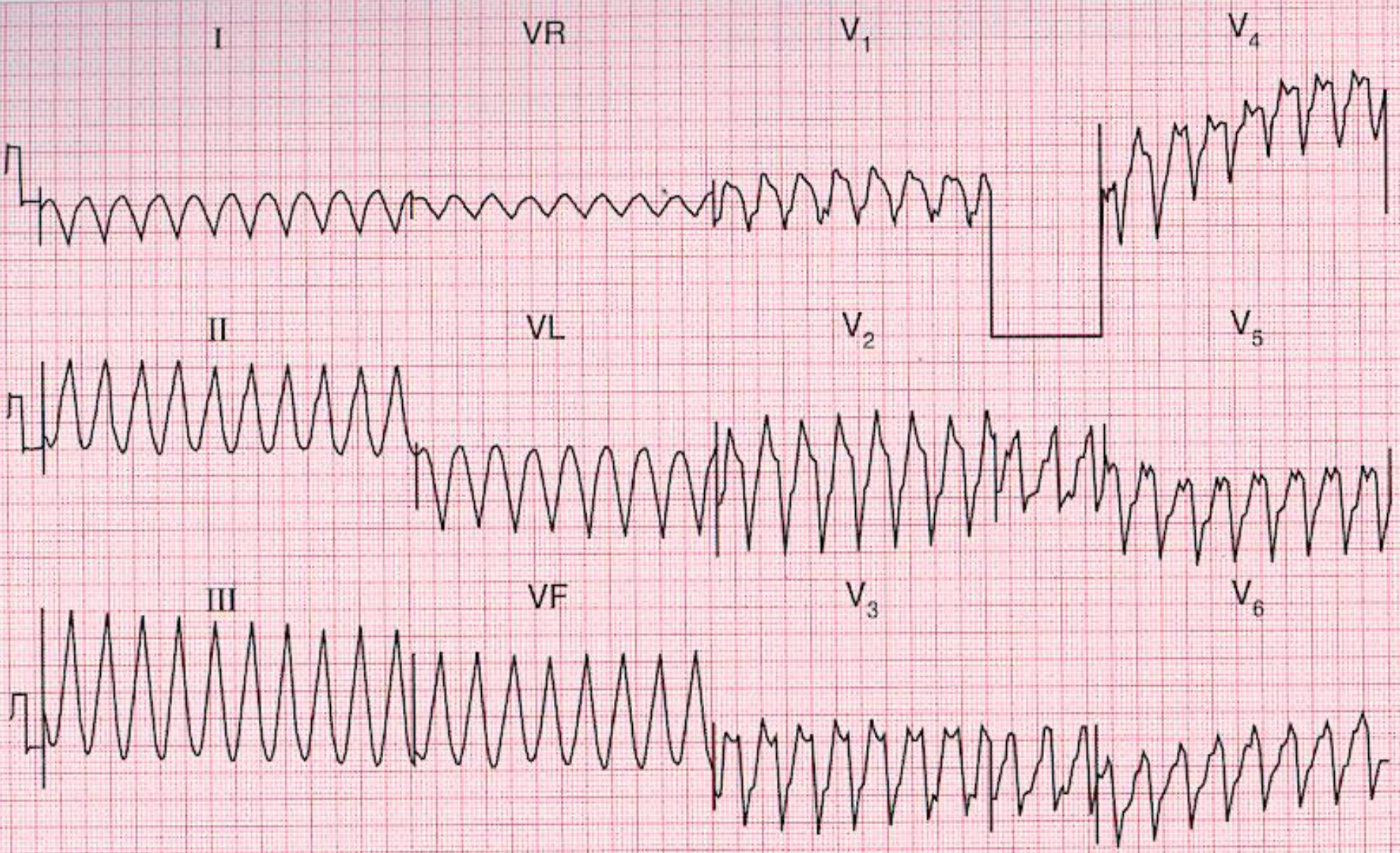


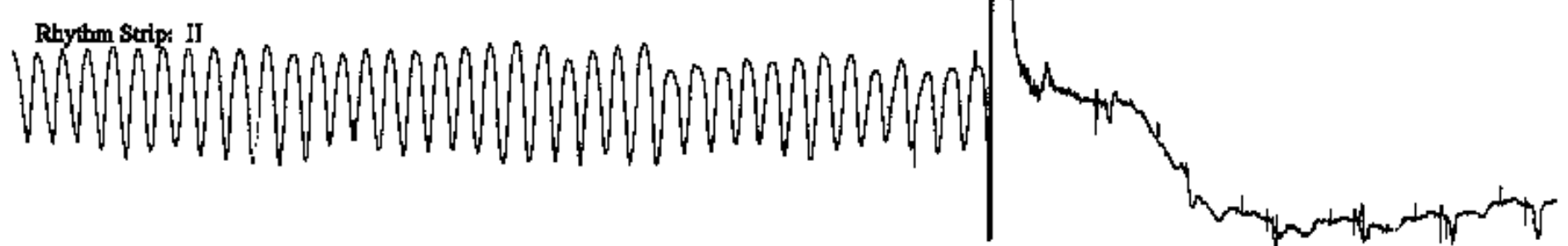
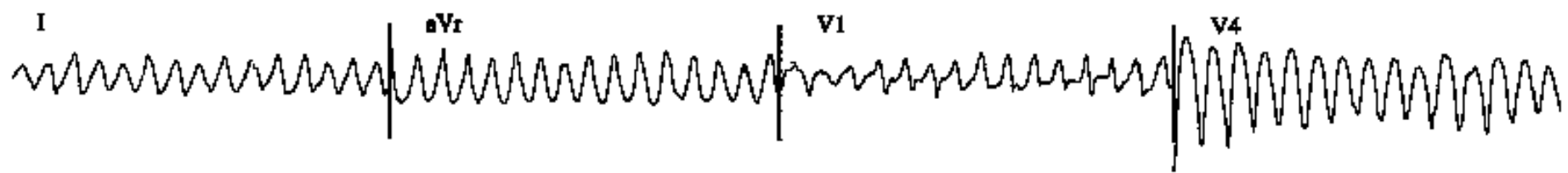
KT - QRS = 220ms



Splynulý stah







Přítomnost RS V1 - V6 ???

NE = KT

ANO

RS nad 100ms V1 - V6 ???

ANO = KT

NE

AV disociace ???

ANO = KT

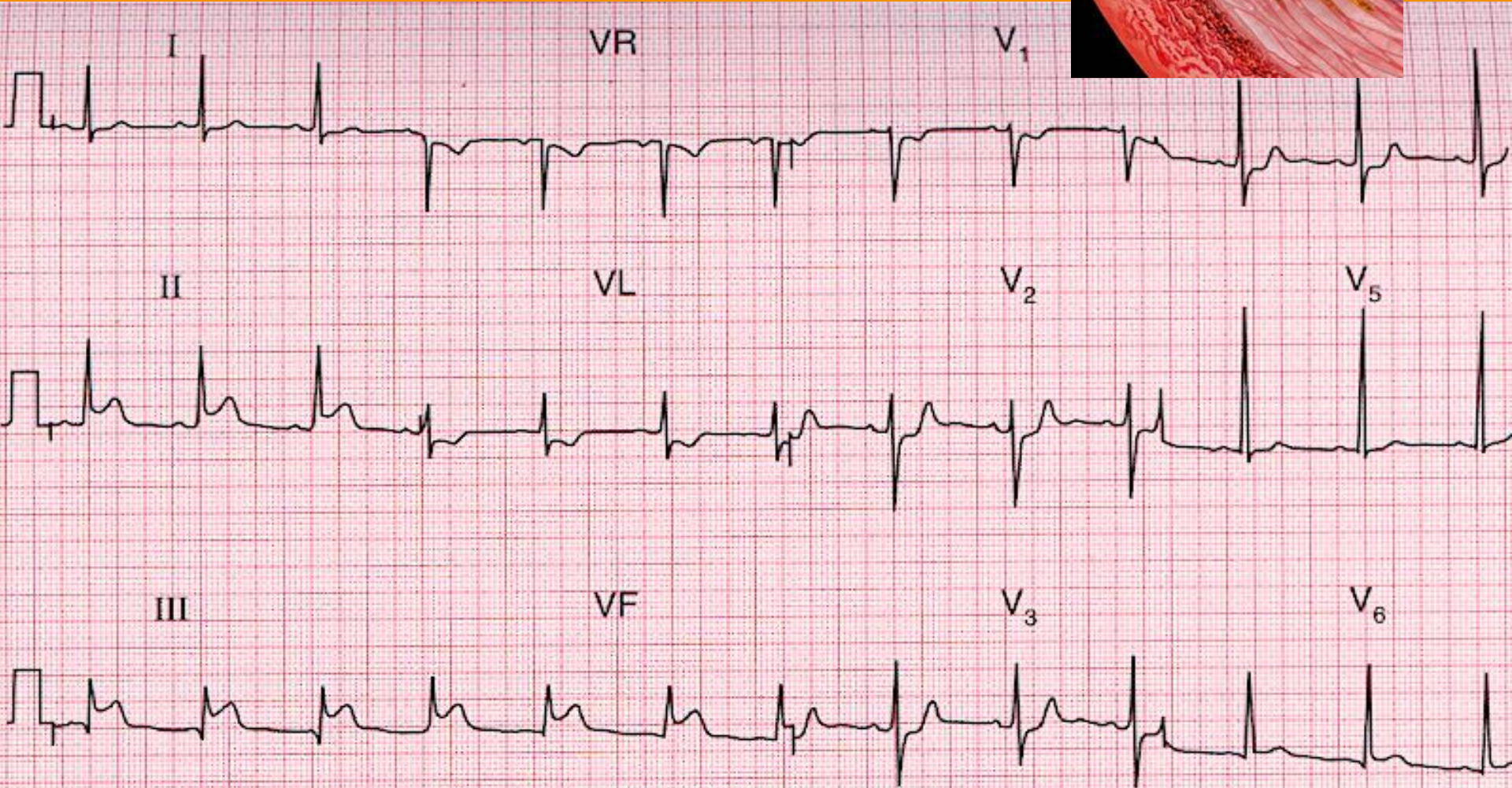
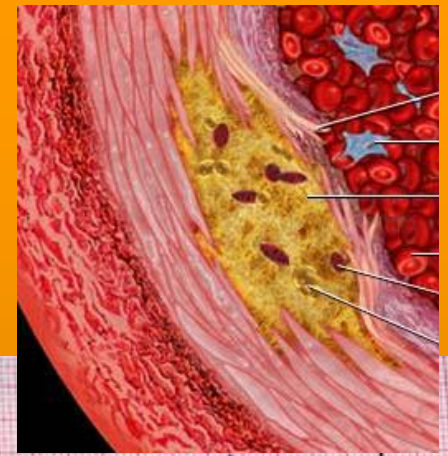
NE

Morfolog. kriteria ???

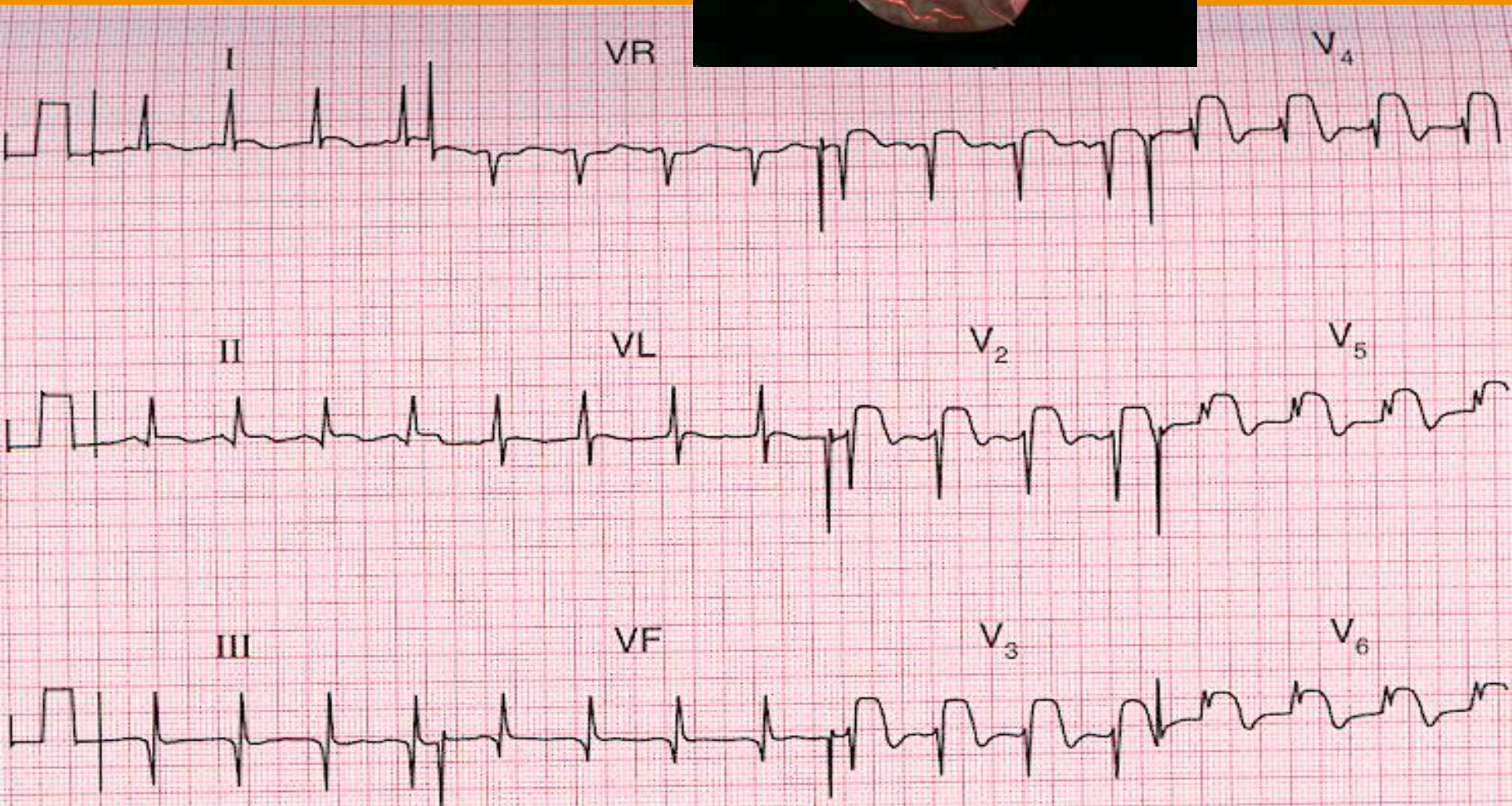
ANO = KT

NE = SVT

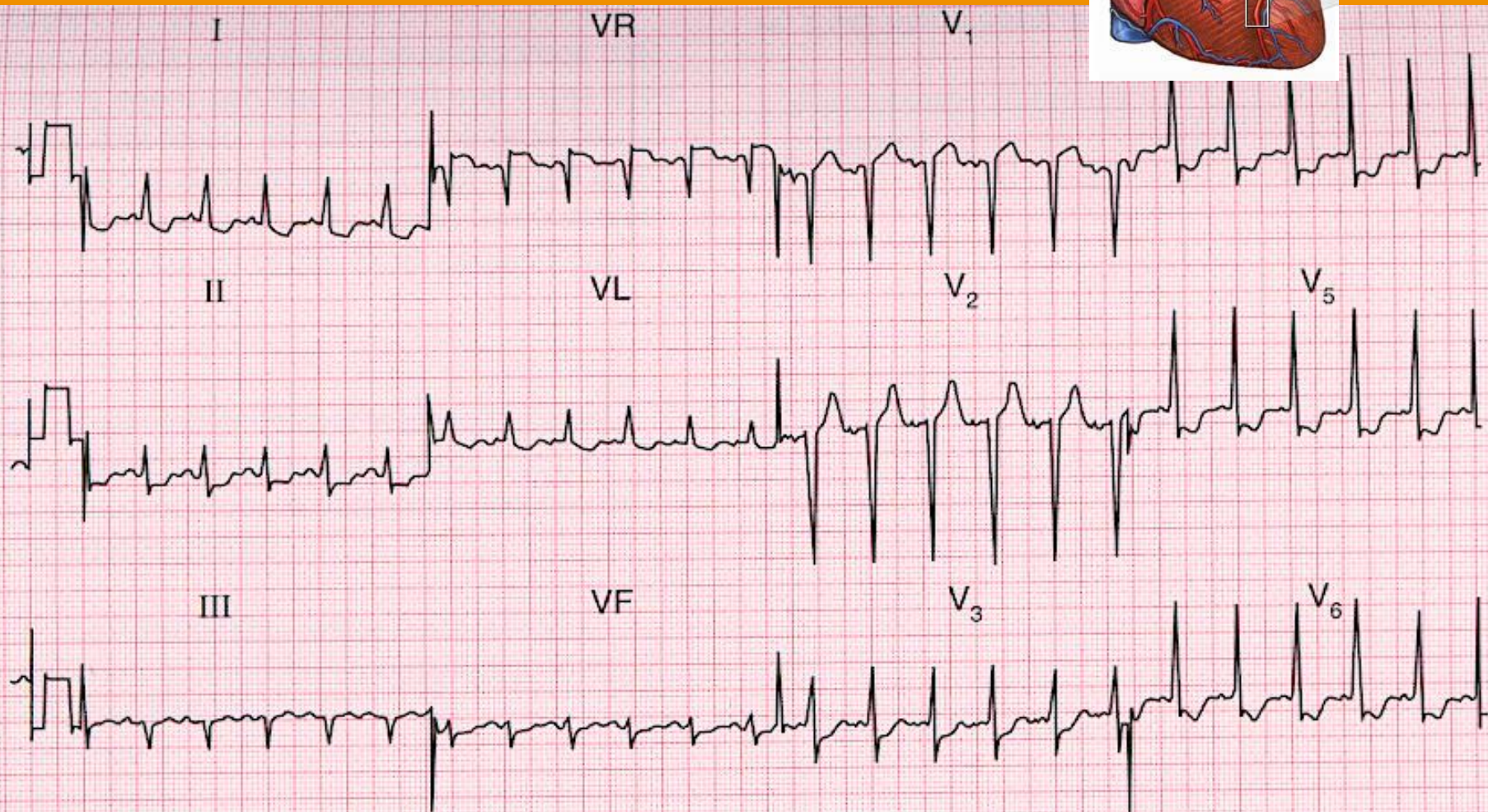
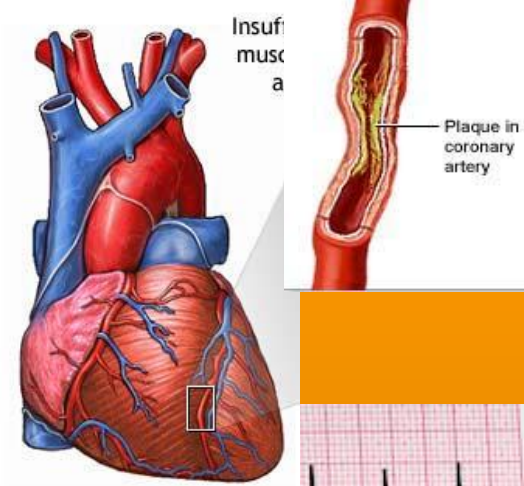
ISCHEMIE



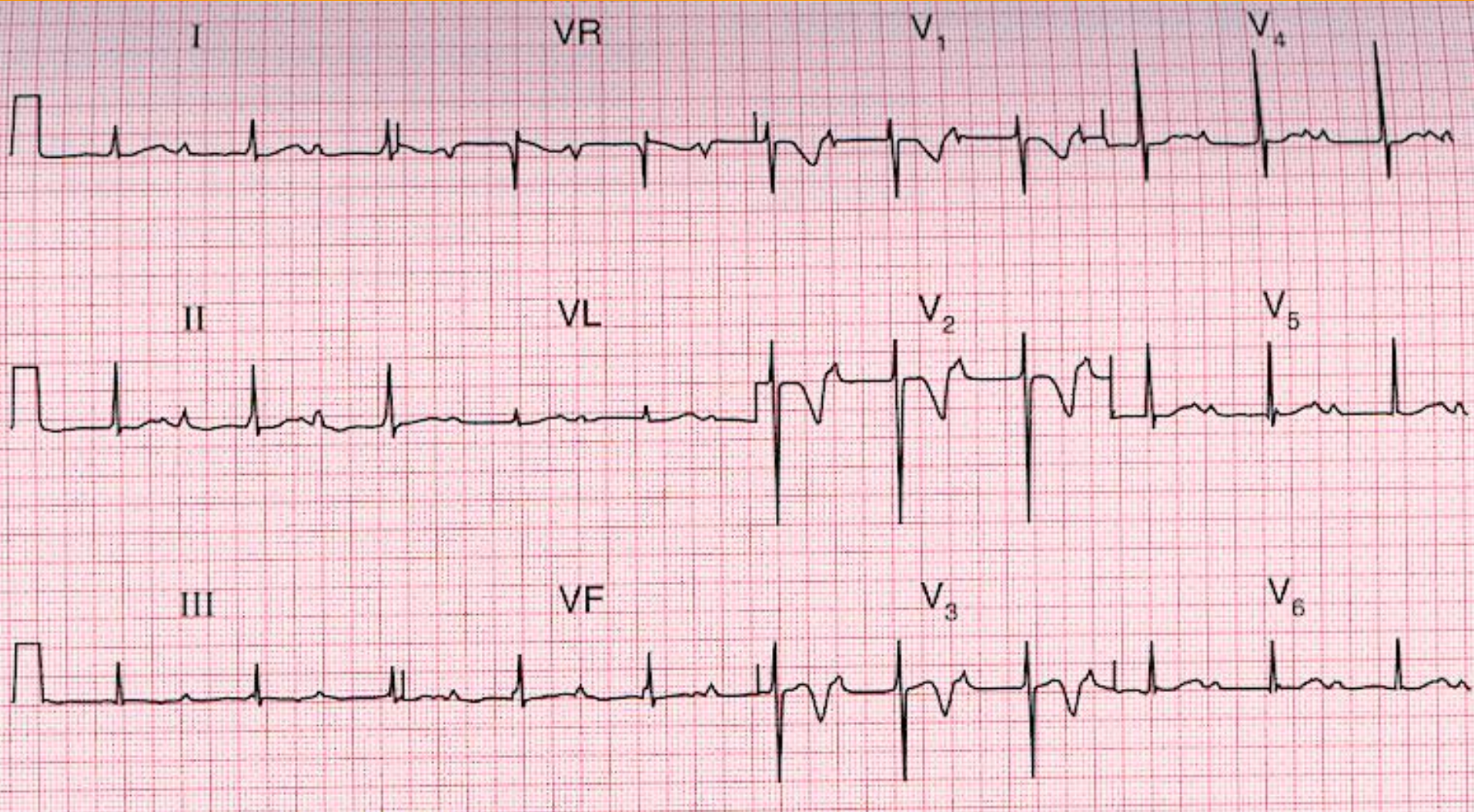
AIM PS STEMI



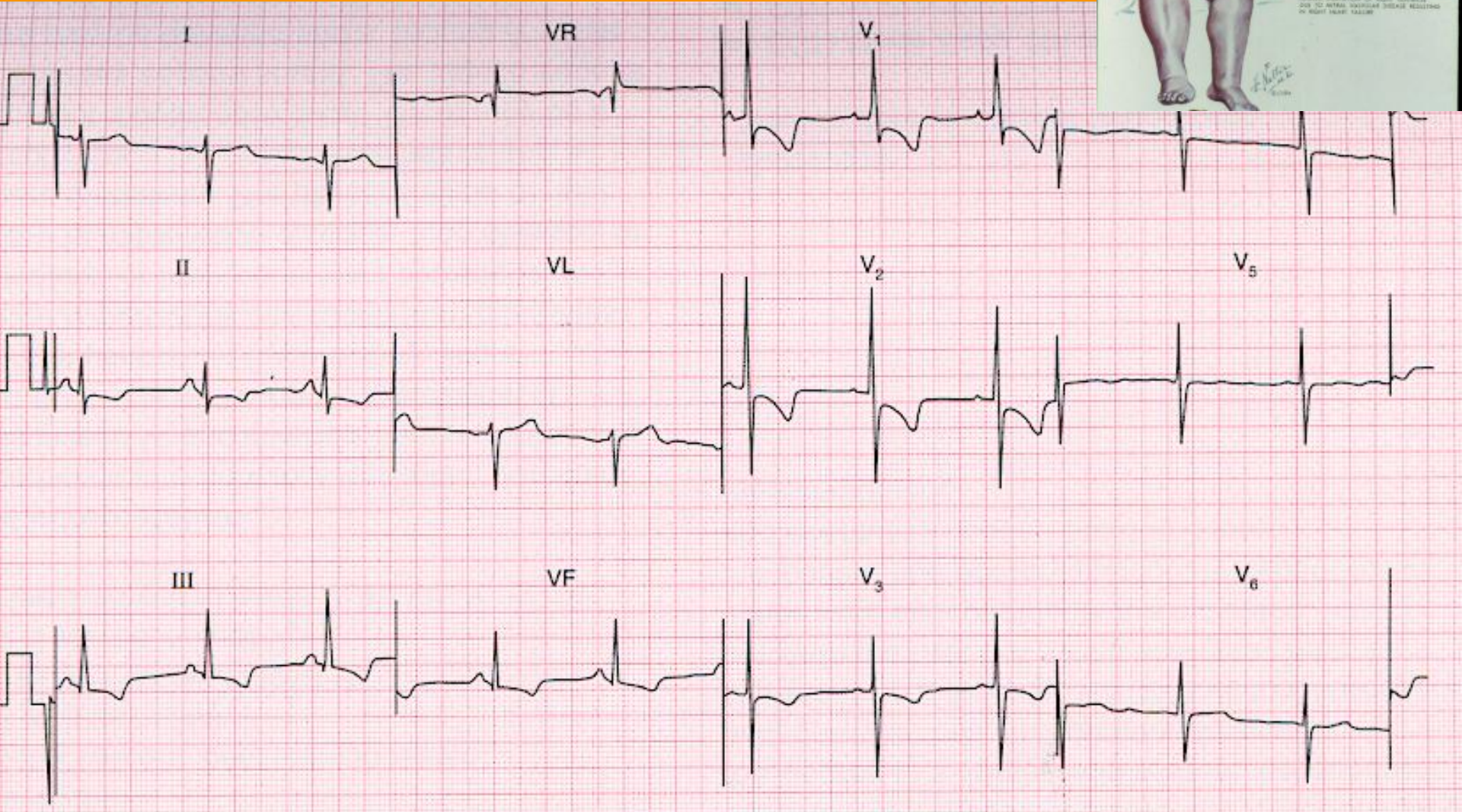
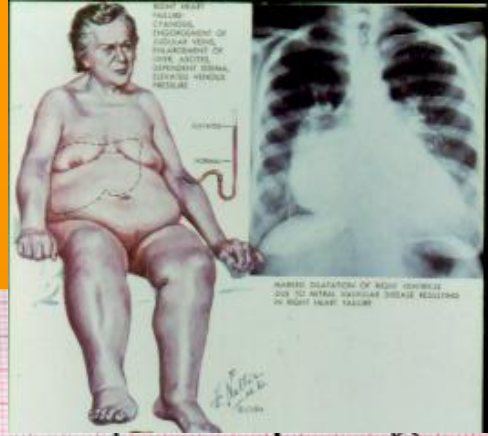
Subendokardiální ischemie



ACS PS - nepřímé ekg zn. ischemie



HPK



HLK

- McPhie - SVmax + RVmax přes 40 mm
- Sokolov/Lyon - SV1 + RV5,6 přes 35 mm

