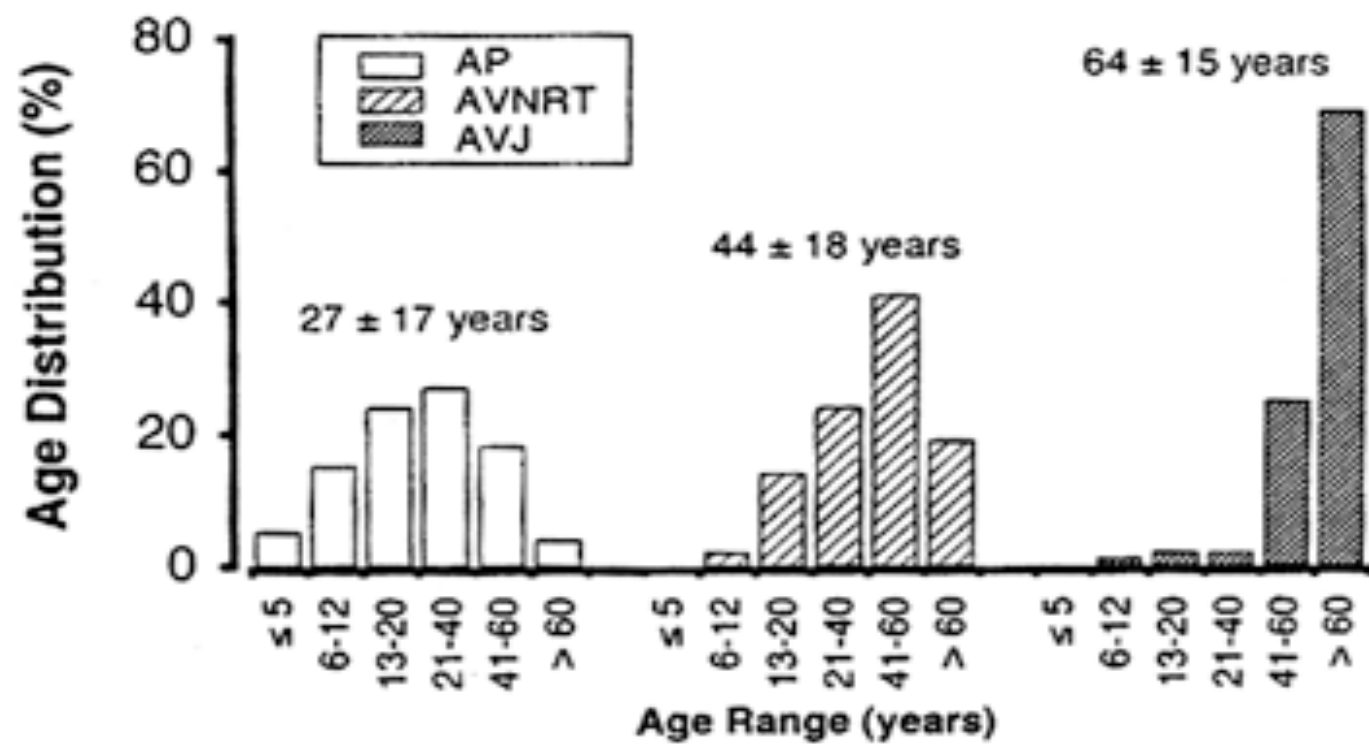


AVNRT epidemiology

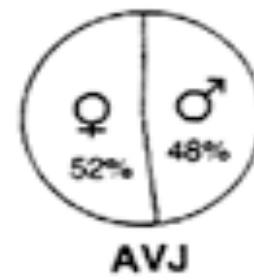
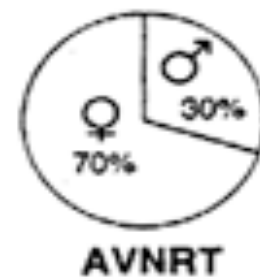
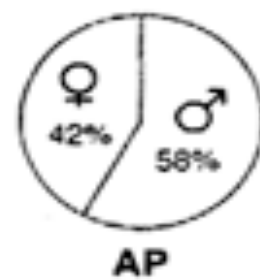
- Most common form of paroxysmal SVT
- More frequent between 30-50 y
- More common in women than in men (2:1 ratio)
- Usually no association with structural heart disease

AVNRT clinical presentation

- Episodes can last from seconds to several hours
- Regular rapid tachycardia of abrupt onset and termination
- Palpitations and dizziness common
- Dyspnoea and weakness less common
- Angina and frank syncope very rare

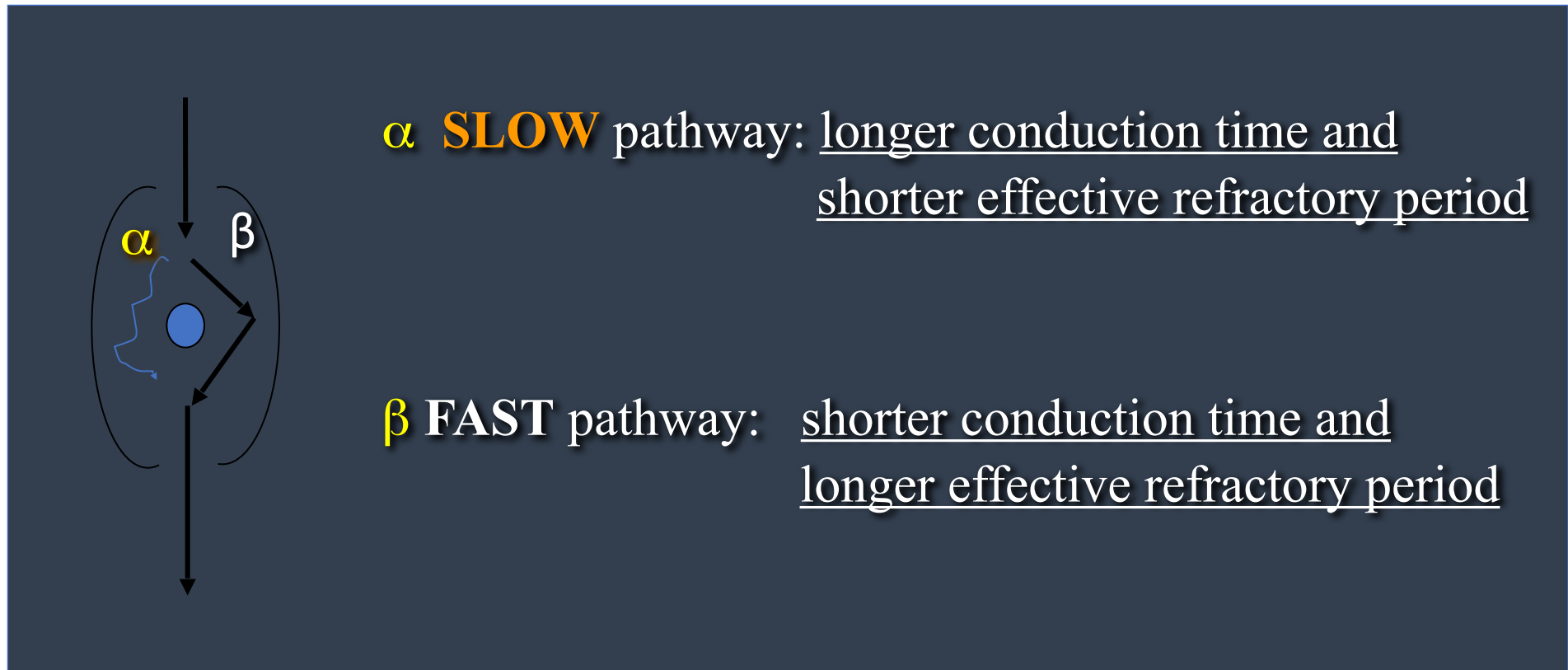


Gender Distribution (%)

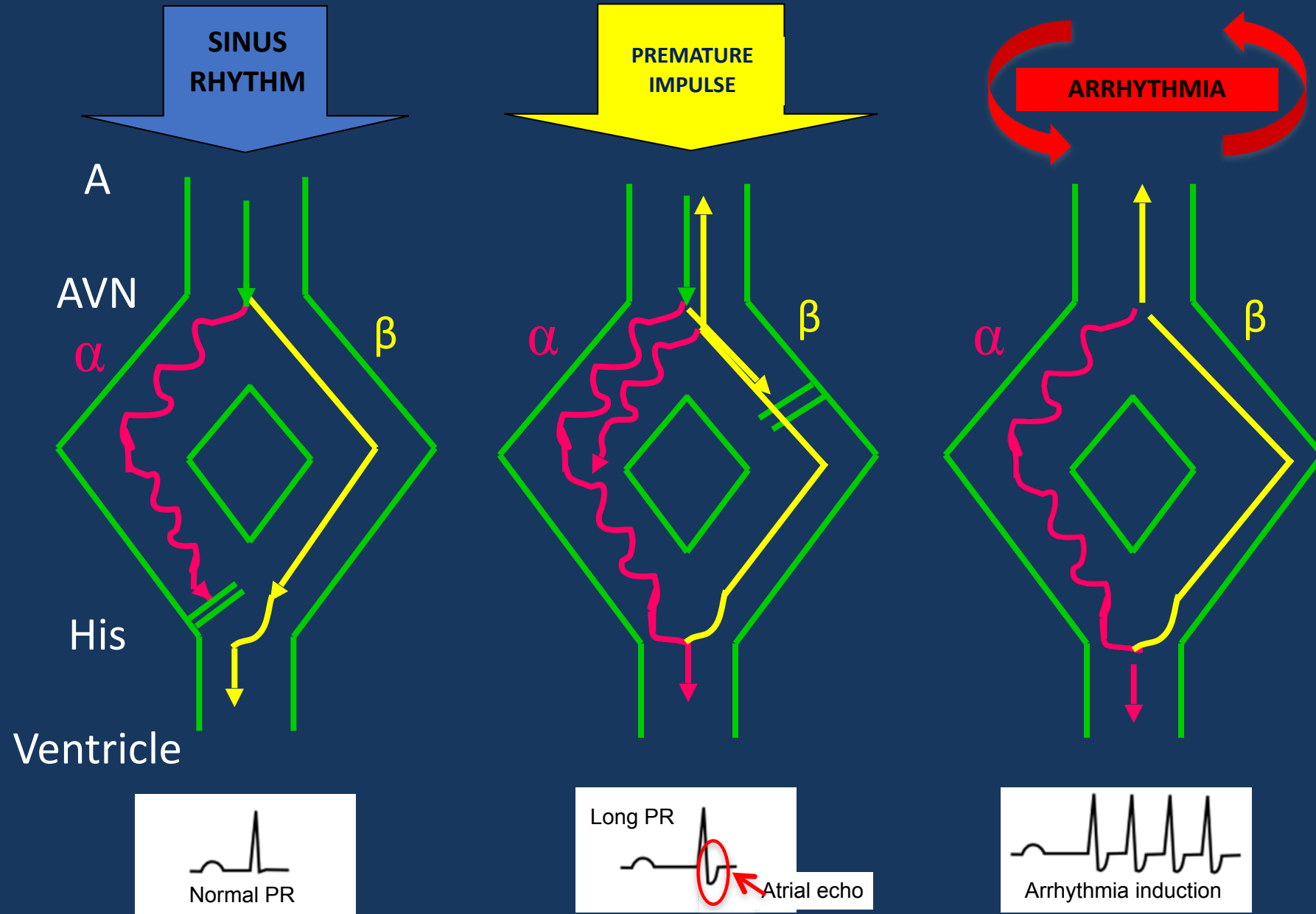


Re-entry circuit in AVNRT

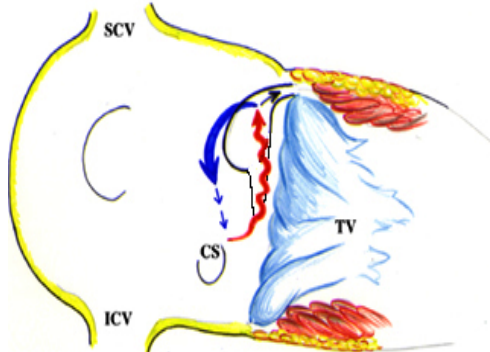
A reentrant rhythm involves the presence of 2 distinct pathways, a zone of slow conduction and unidirectional block in one limb, allowing an electrical impulse to travel down the second limb and reenter the blocked pathway from the other direction. The re-entry circuit in AVNRT usually involves two anatomical pathways showing different electrophysiological properties.



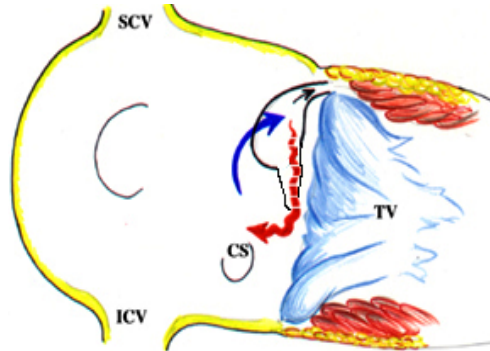
RE-ENTRY AND ARRHYTHMIA MECHANISM



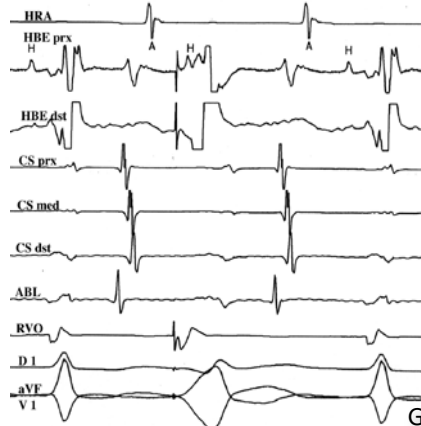
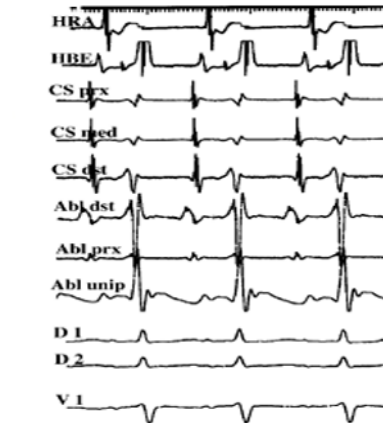
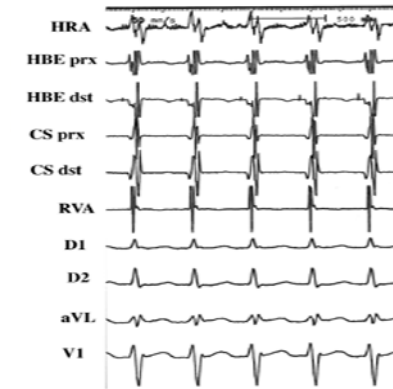
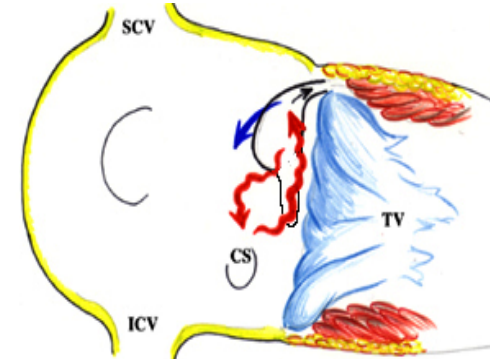
SLOW FAST AVNRT



FAST SLOW AVNRT



SLOW SLOW AVNRT



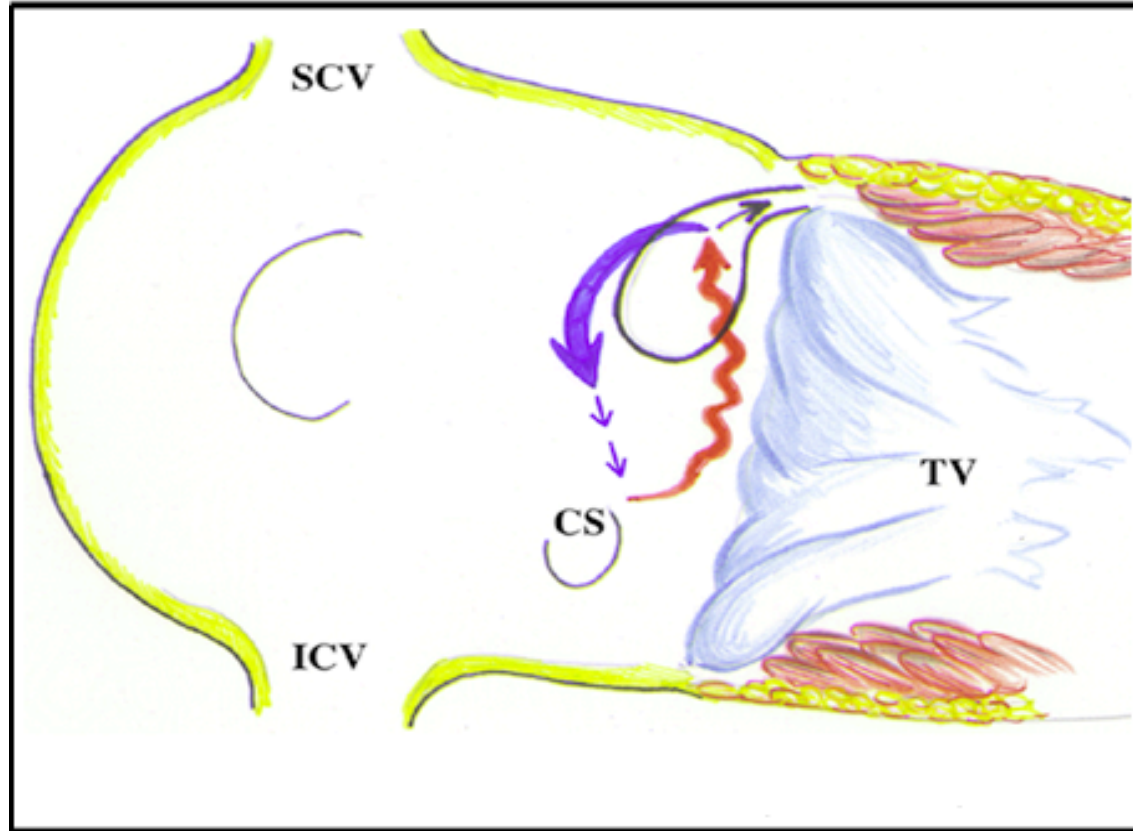
CLASSIFICATION:

Slow-fast: 90%

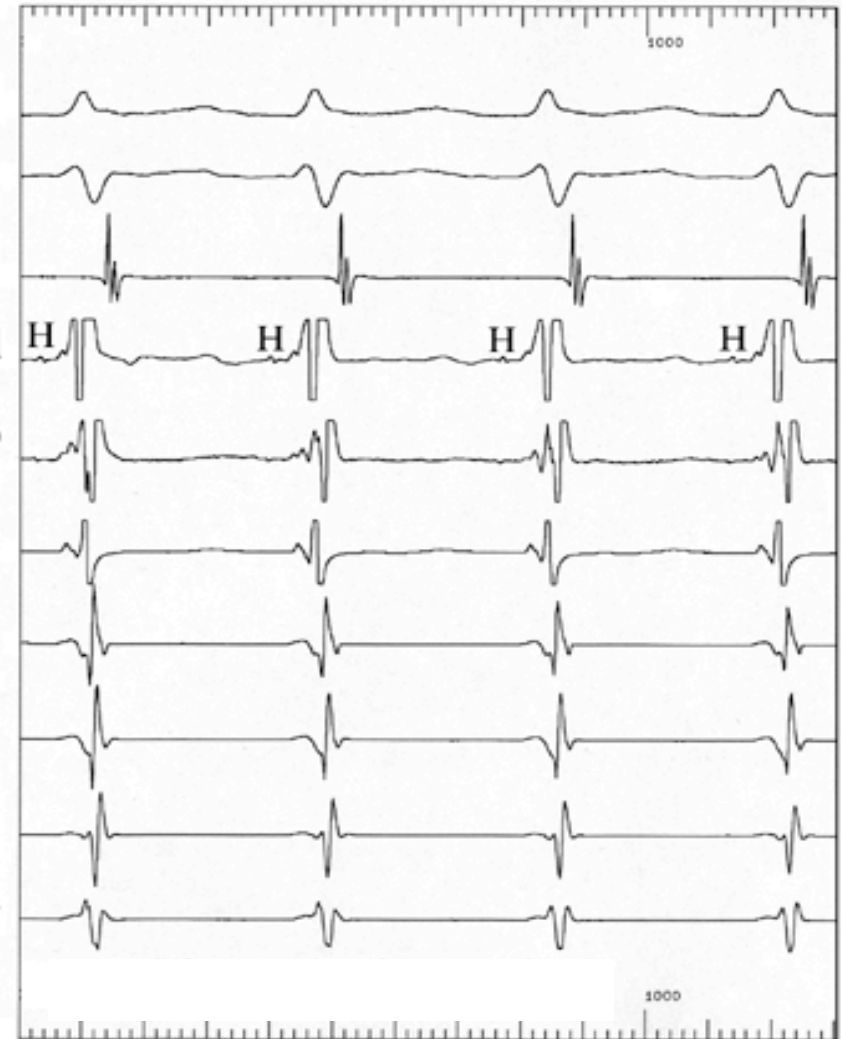
Fast-slow: < 1%

Slow-slow: 9%

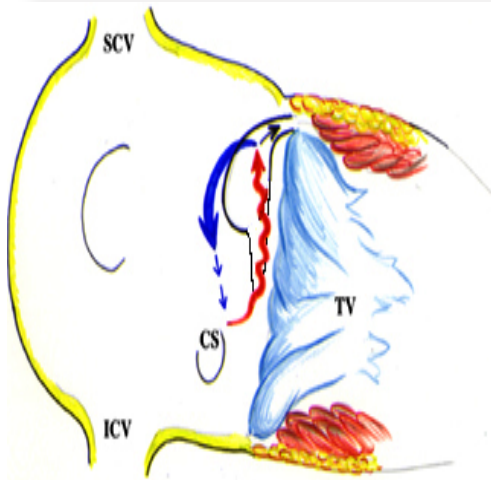
Slow-Fast



I
V1
HRA
HBEd
HBEP
RVA
CSd
CS 3-4
CS 5-6
CS 7-8



TYPICAL AVNRT : SLOW-FAST



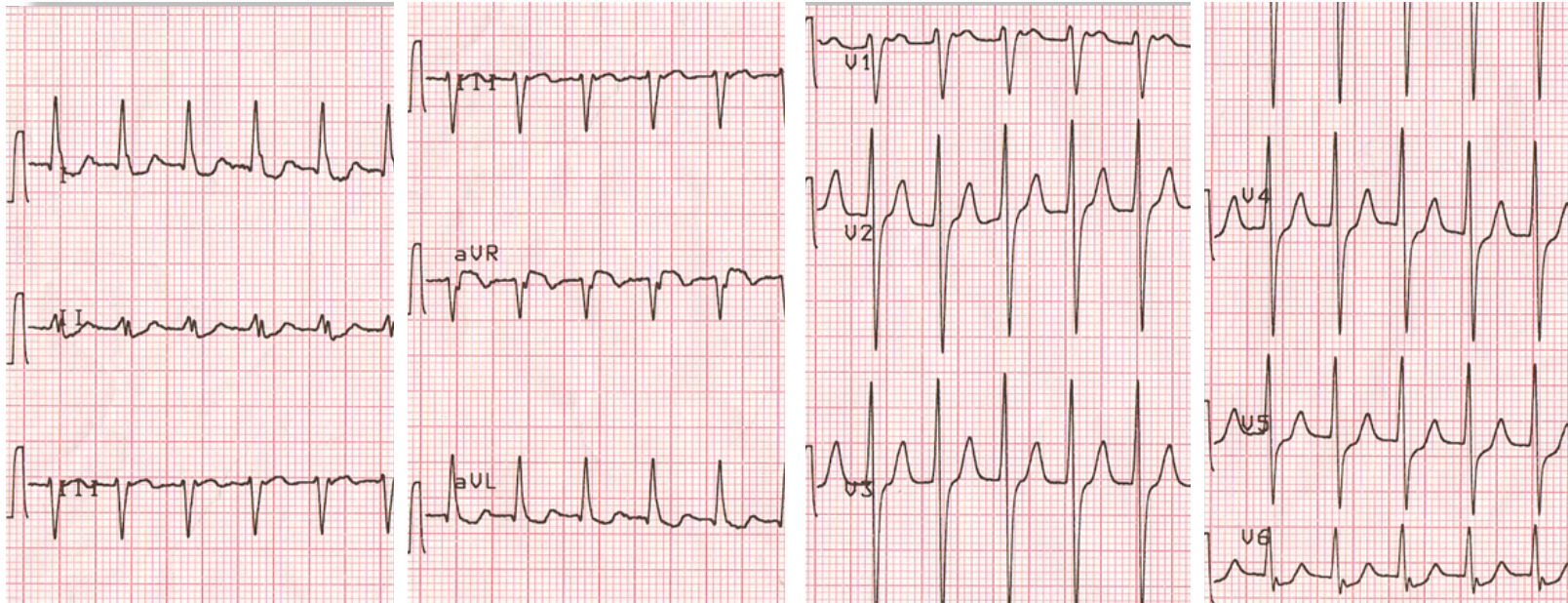
P
wave

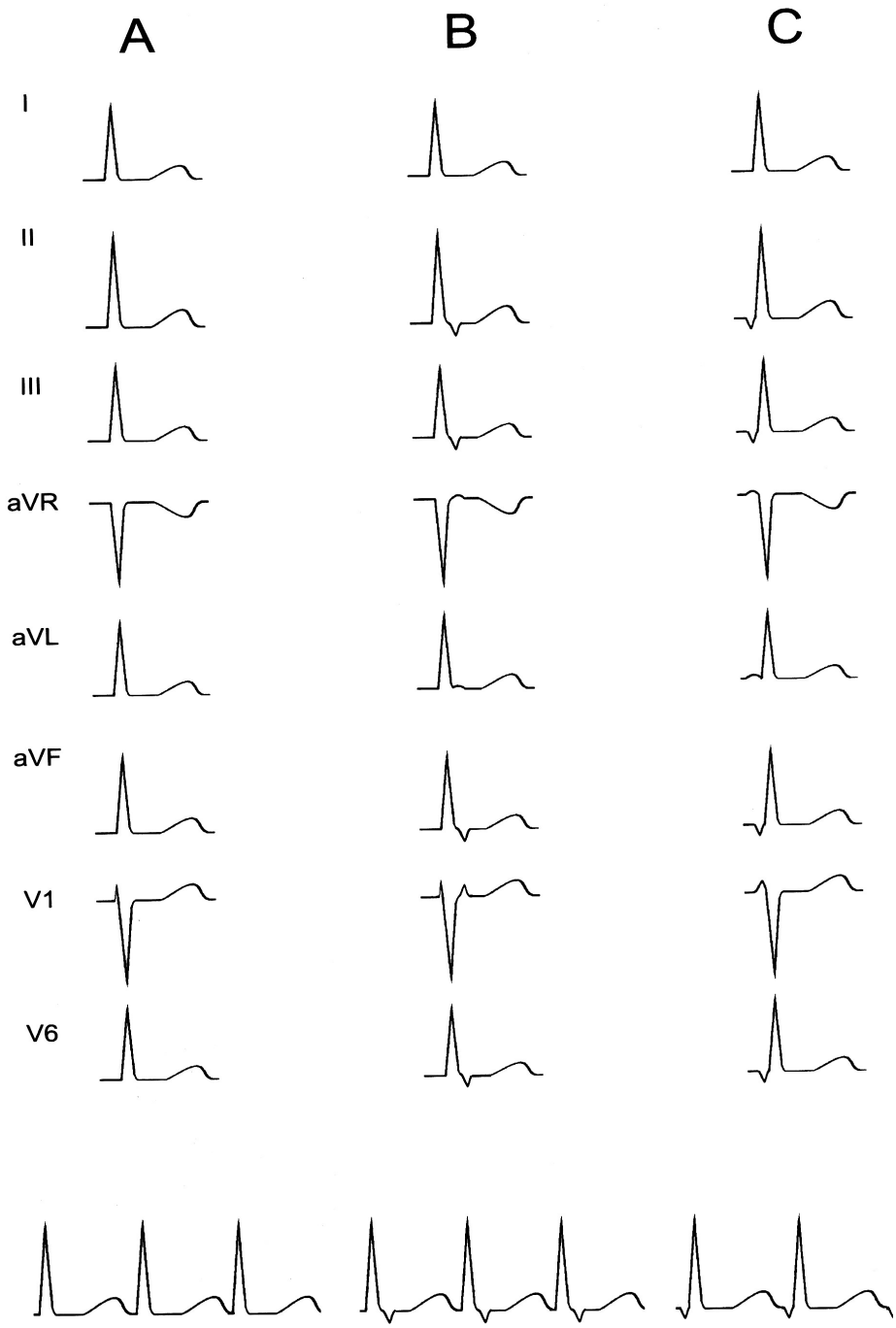
Not visible in QRS (43%)

Visible after QRS (55%)

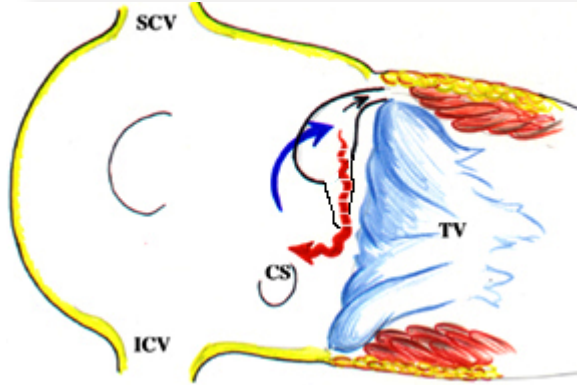
Above the QRS (2%)

$RP' \leq 70$ ms





Atypical AVNRT: FAST-SLOW

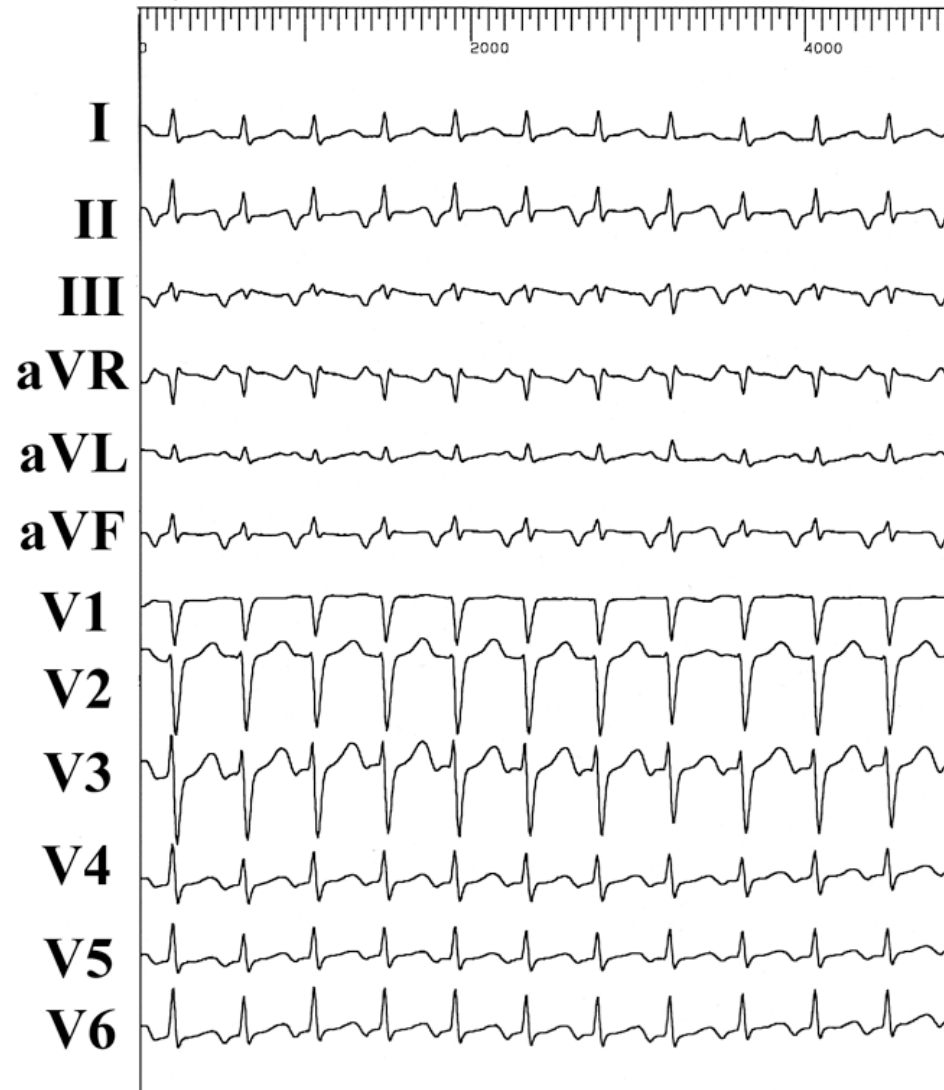


P
wave

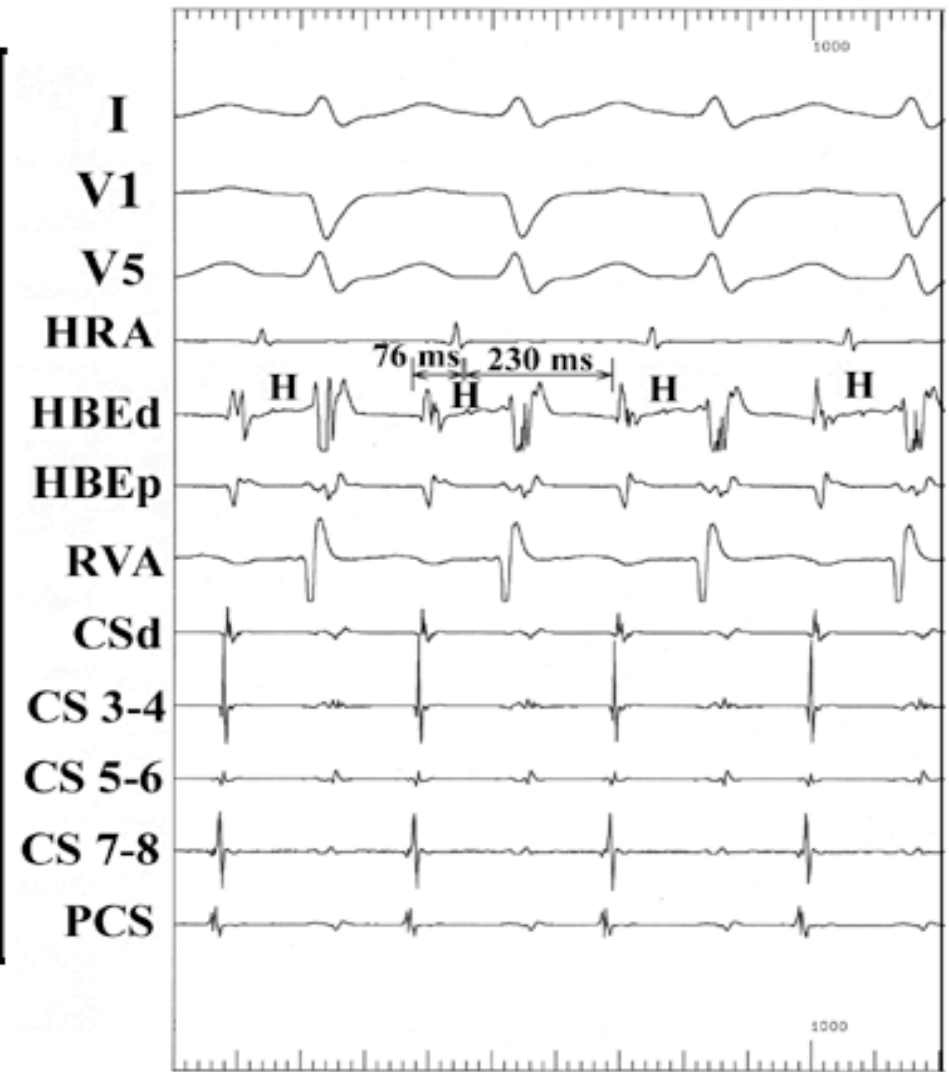
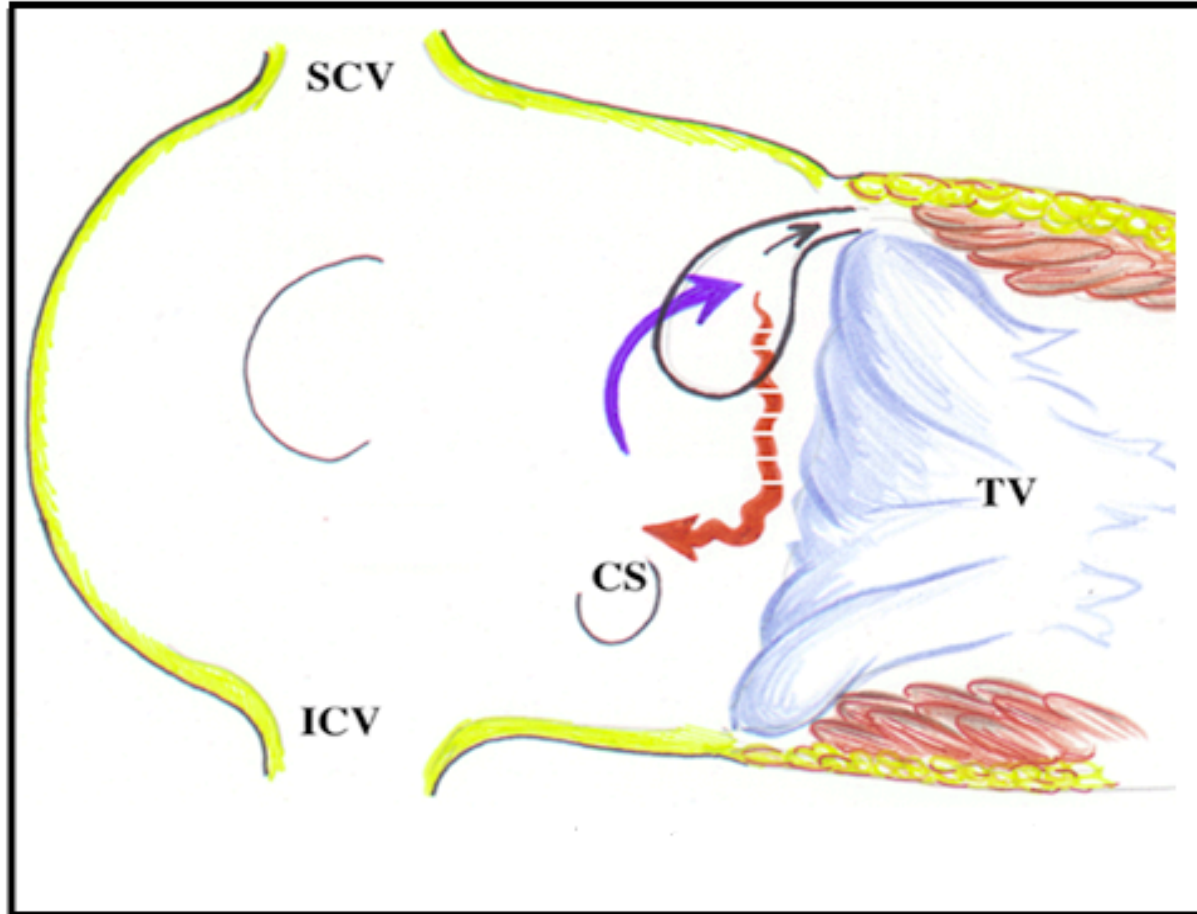
Visible after the QRS

Negative morphology in
inferior derivations

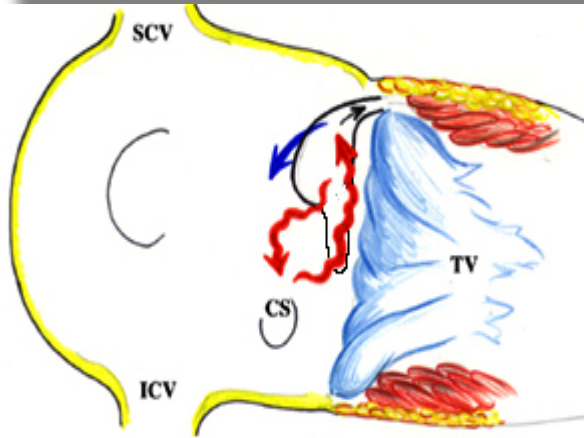
$RP' > P'R$



Fast-Slow



Atypical AVNRT : SLOW-SLOW

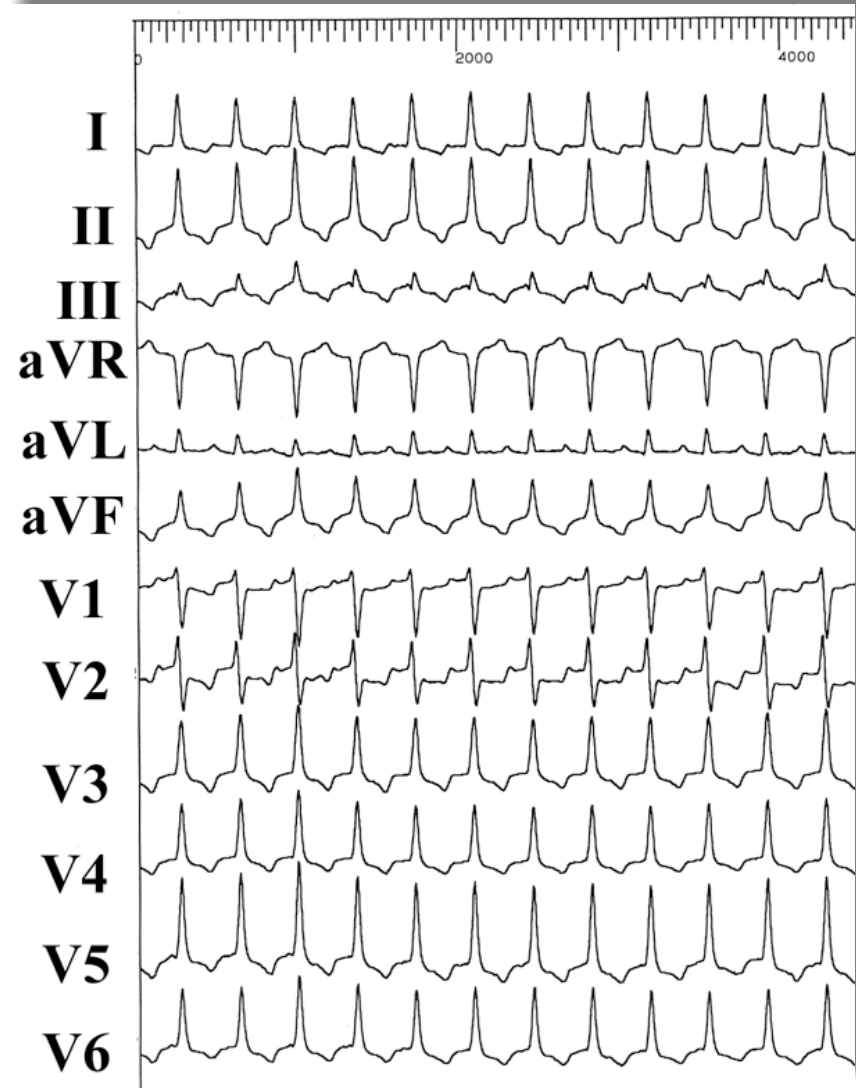


P
wave

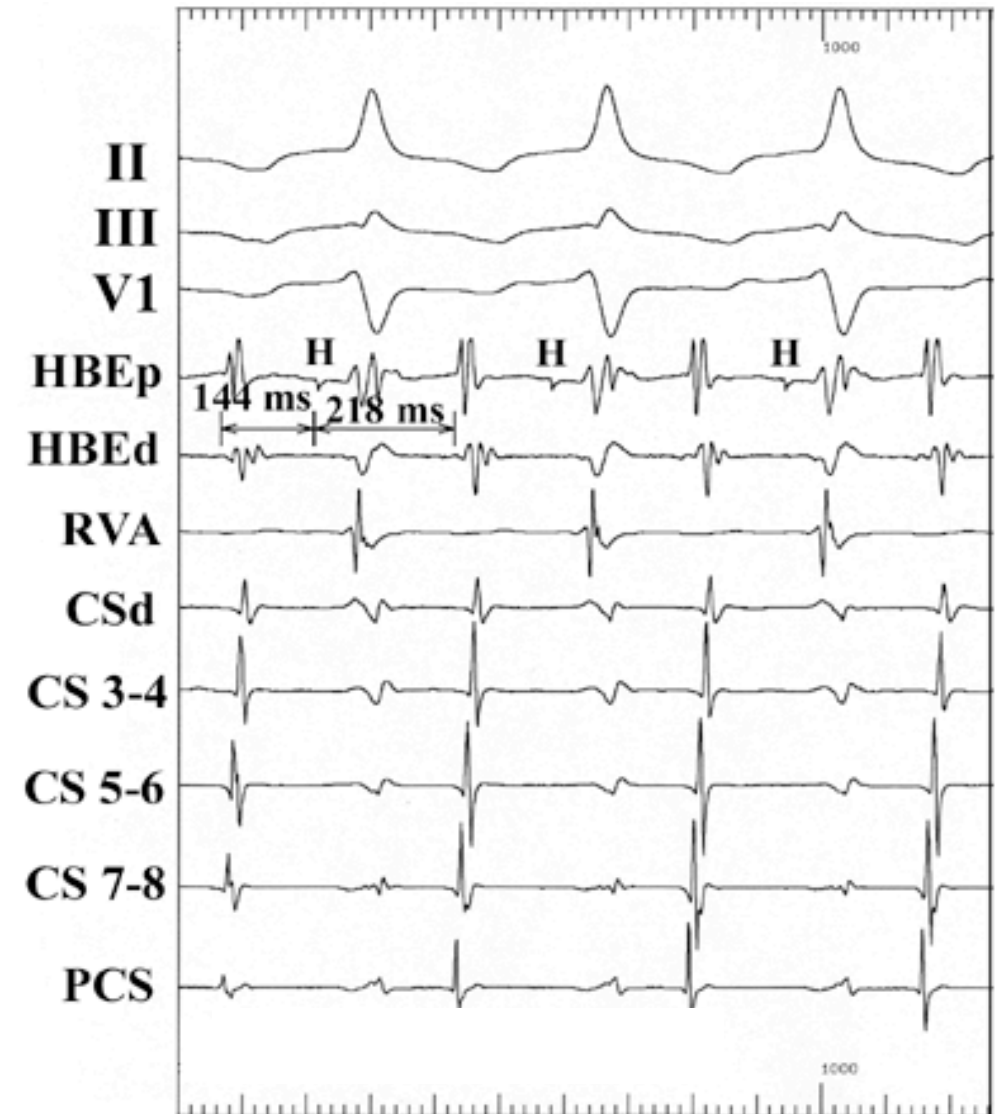
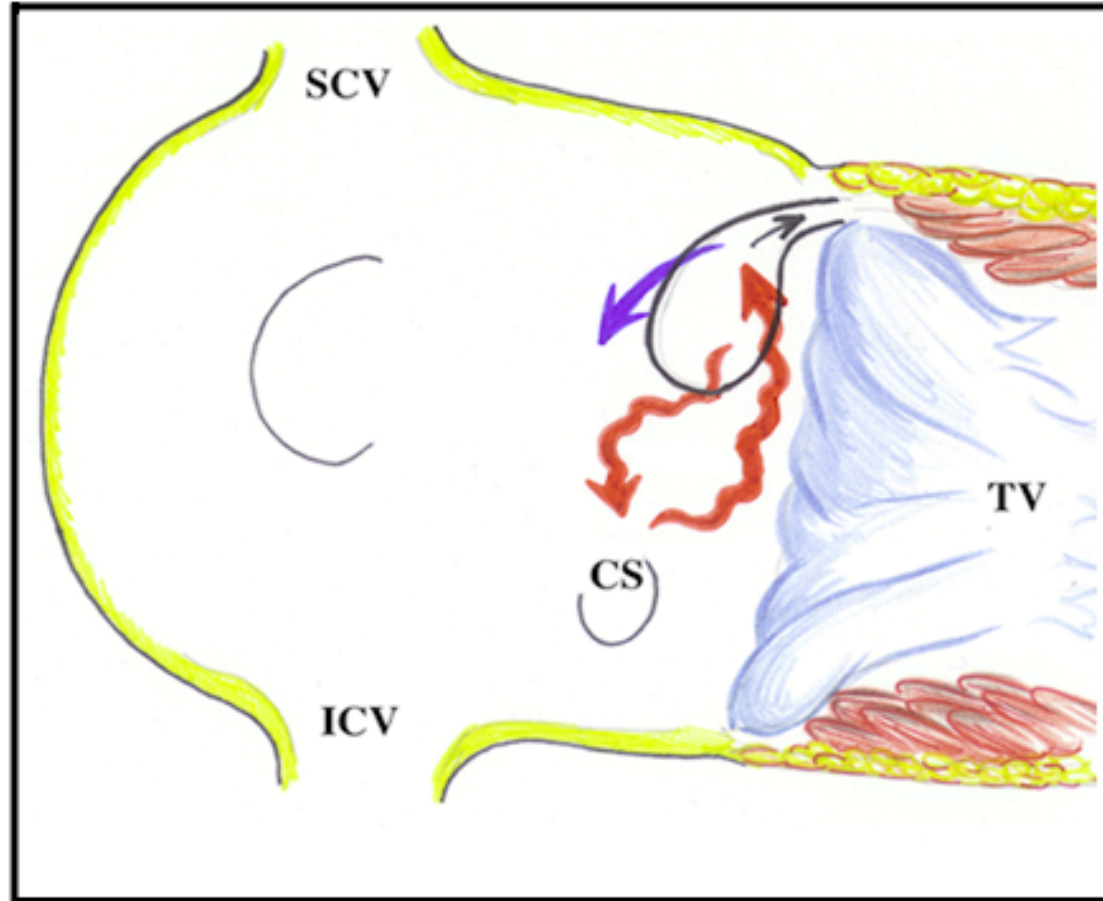
Visible after QRS

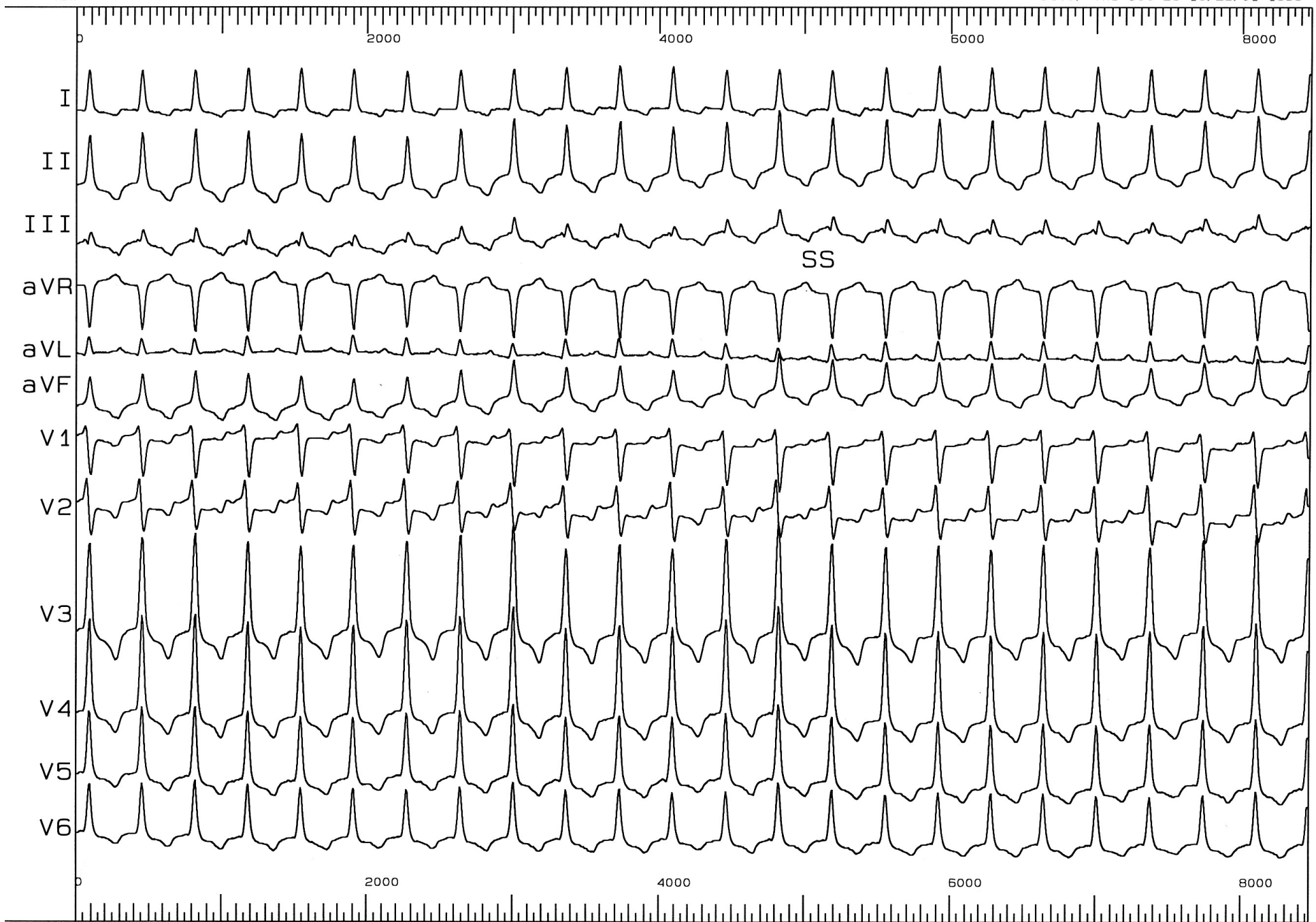
Negative morphology in inferior leads

$RP' = P'R$

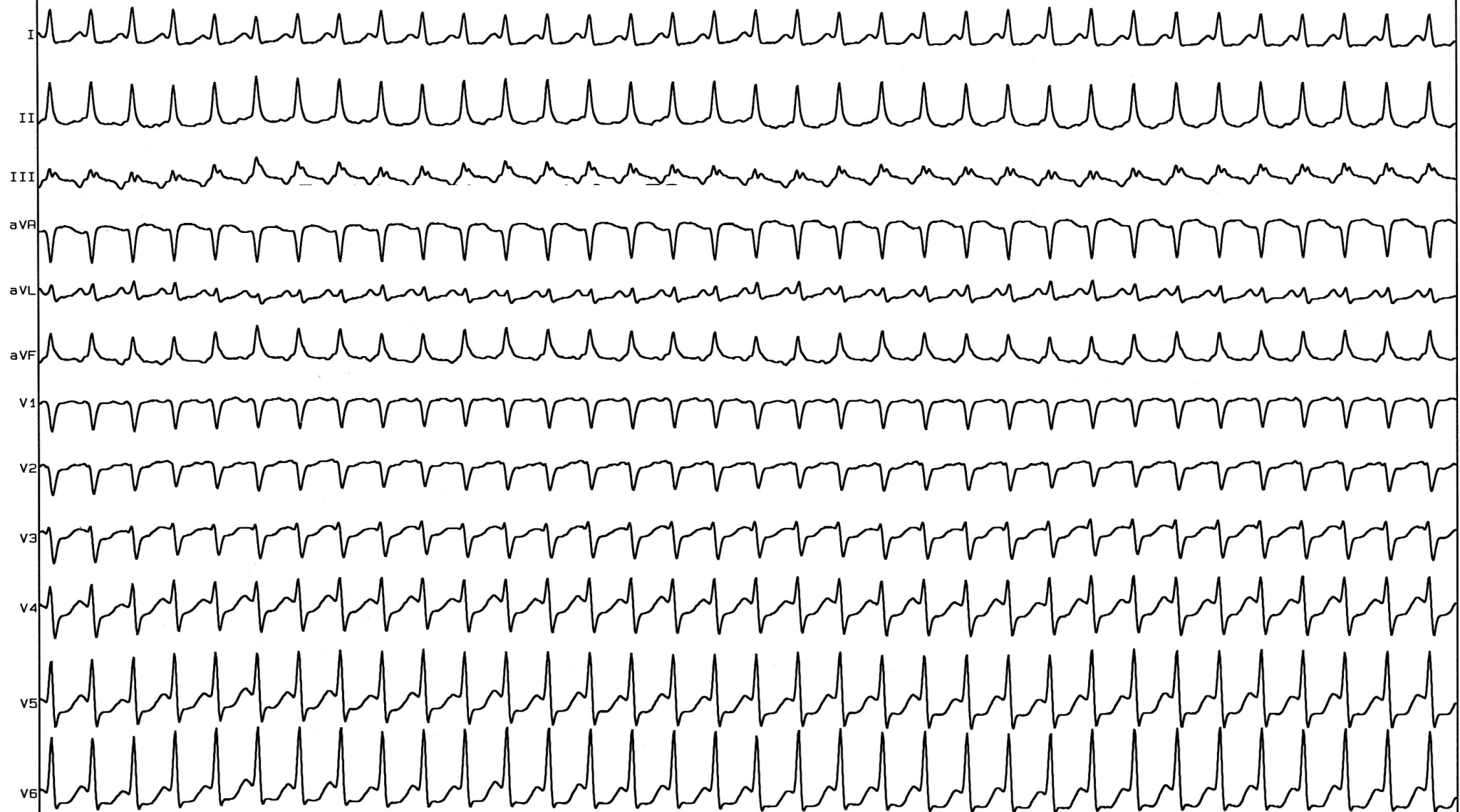


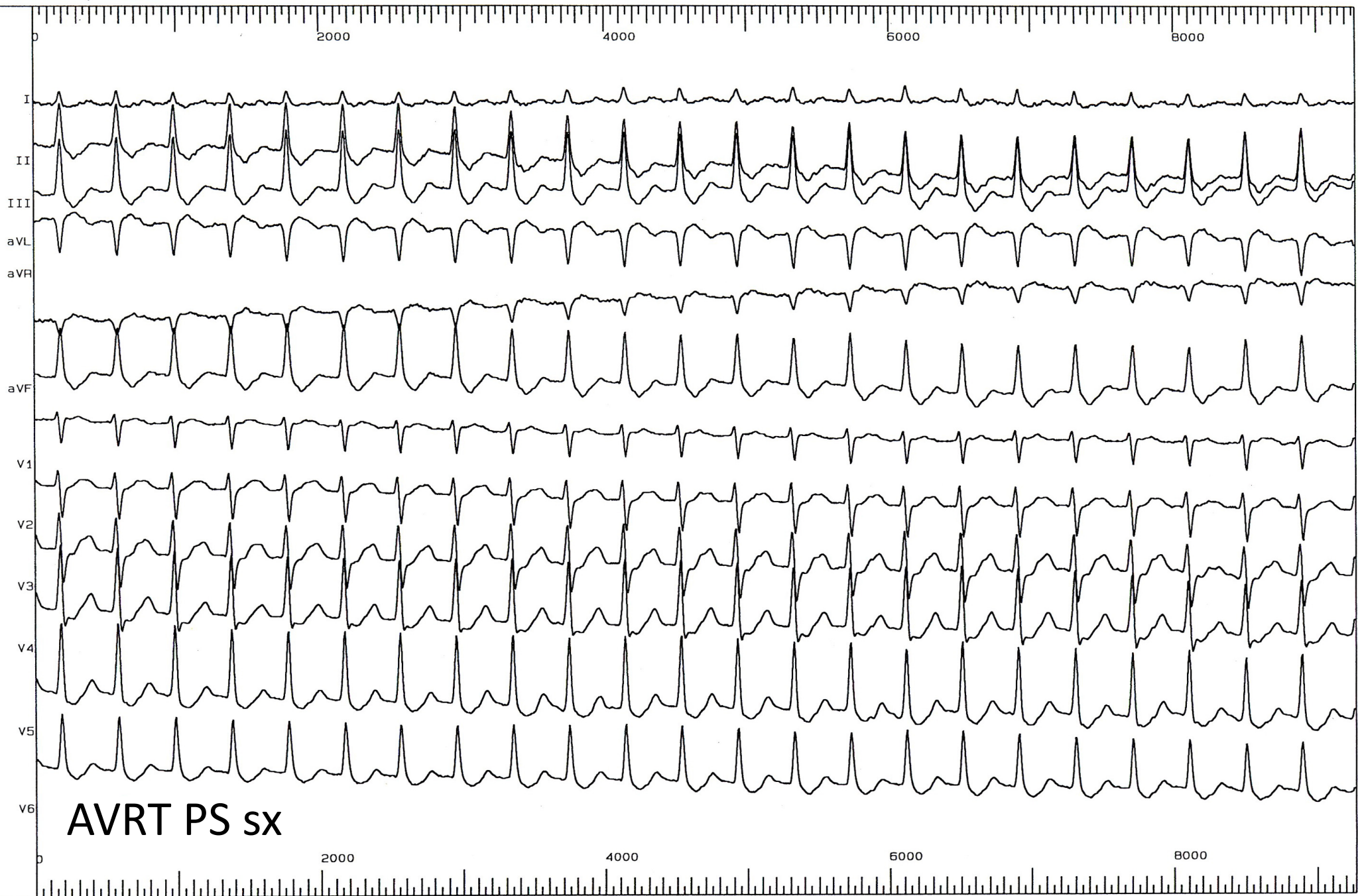
Slow-Slow

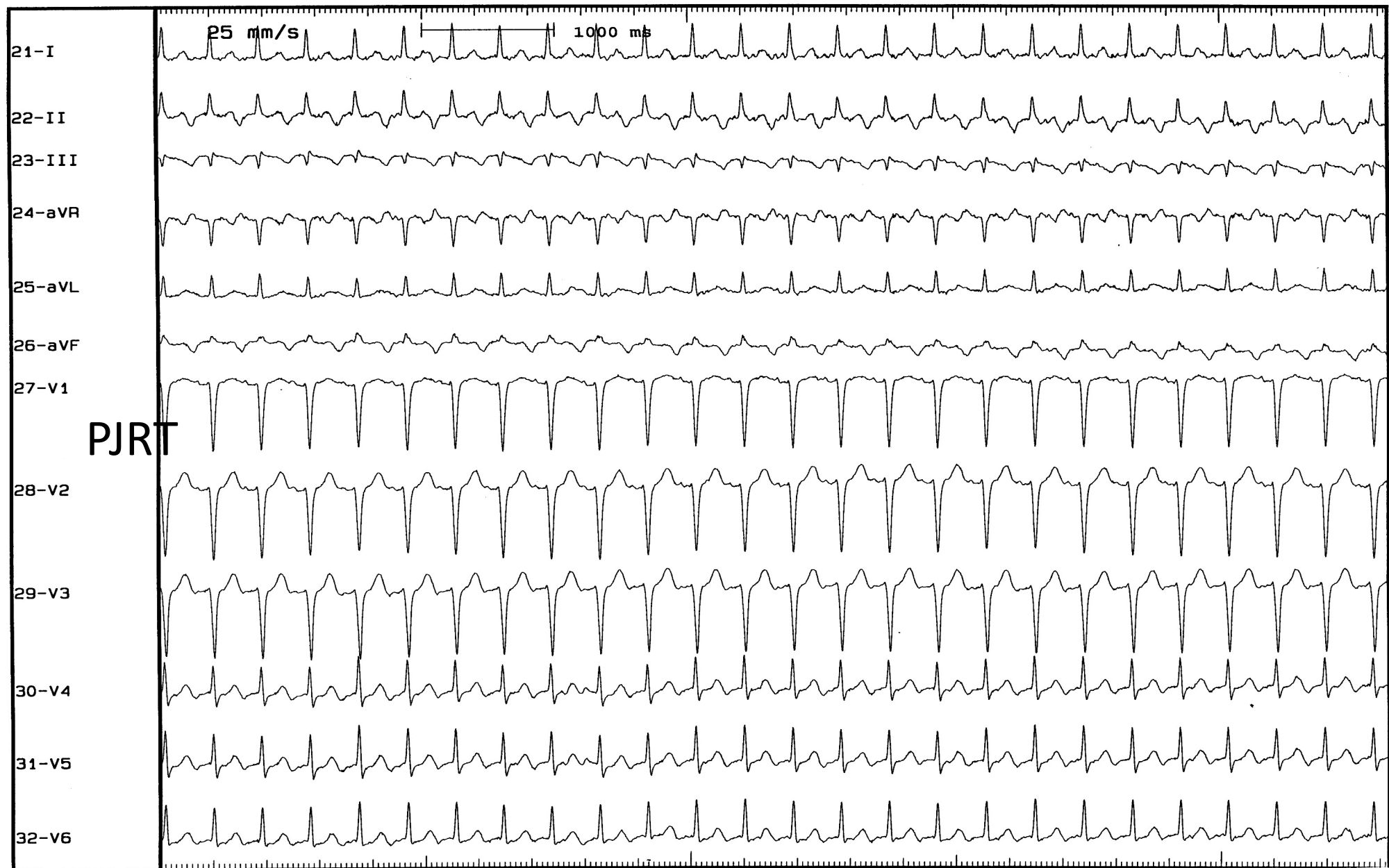


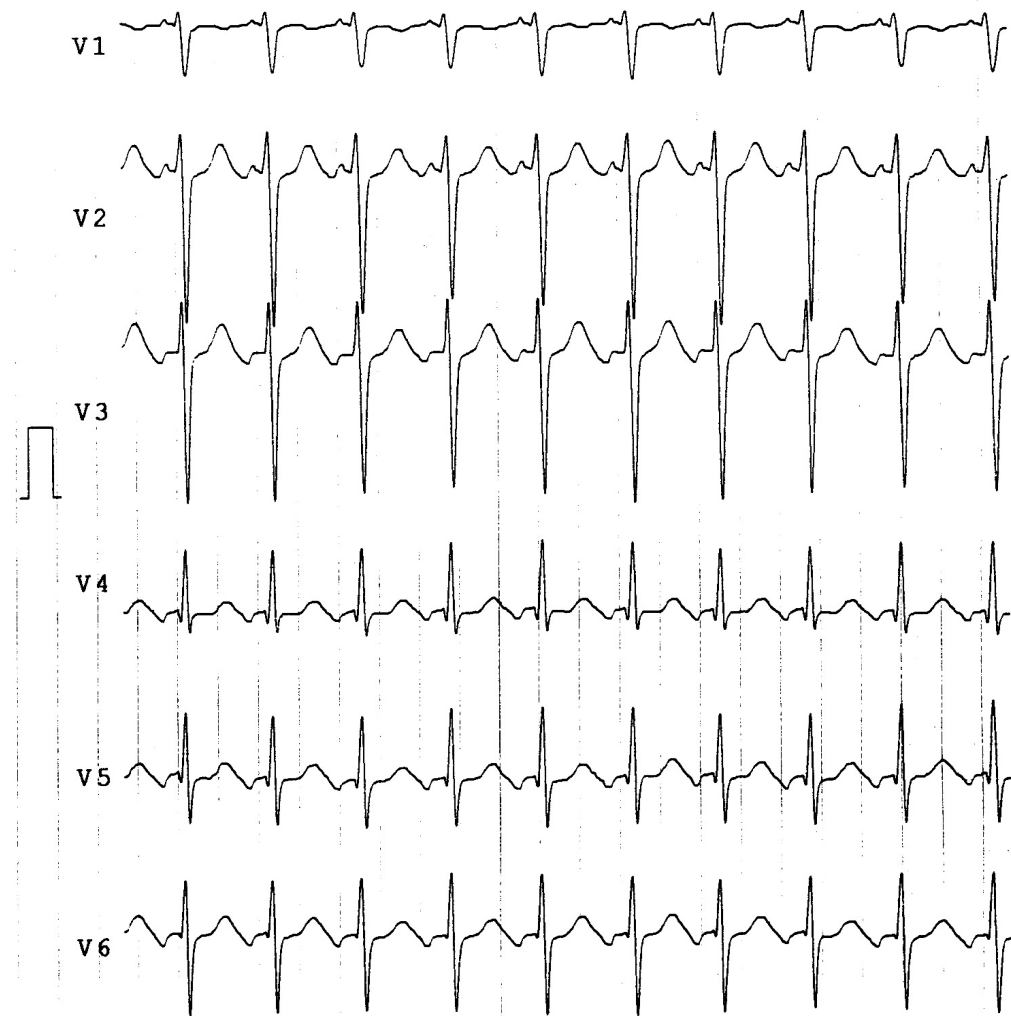
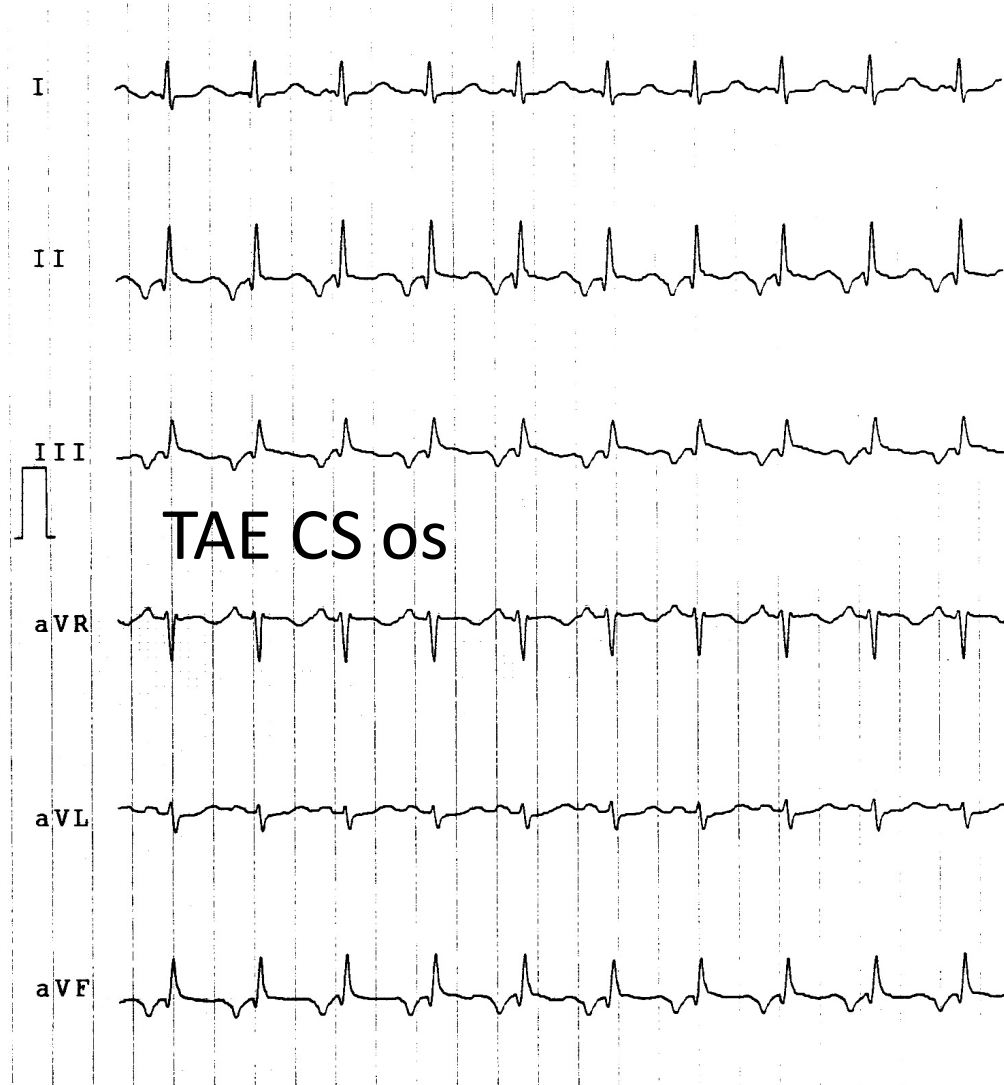


FS









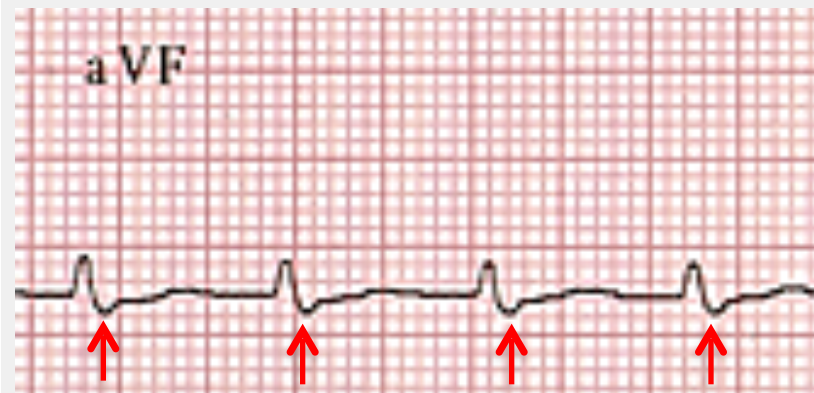
12 lead ECG

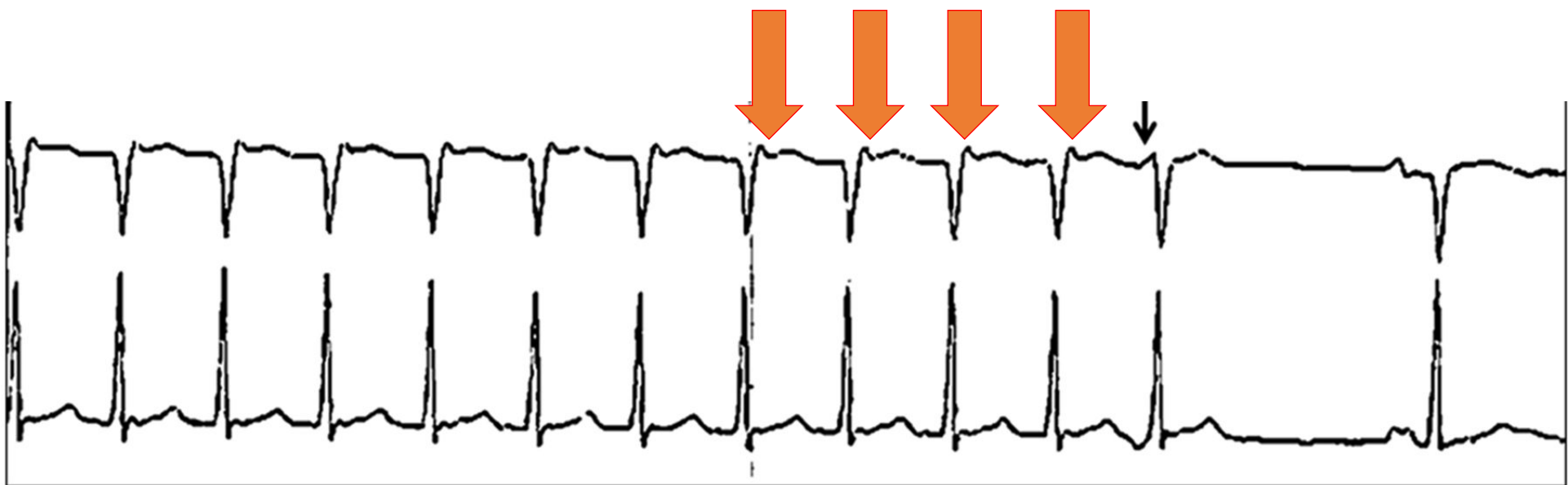
Hi, My
NAME is TPSV?

Sinus Rhythm



Tachycardia

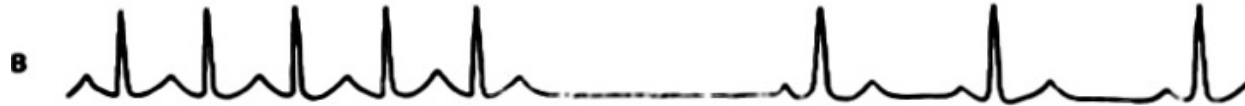




EFFECTS OF CSM



**SINUS
TACHYCARDIA**



AVNRT



AVRT



**ATRIAL
FIBRILLATION**



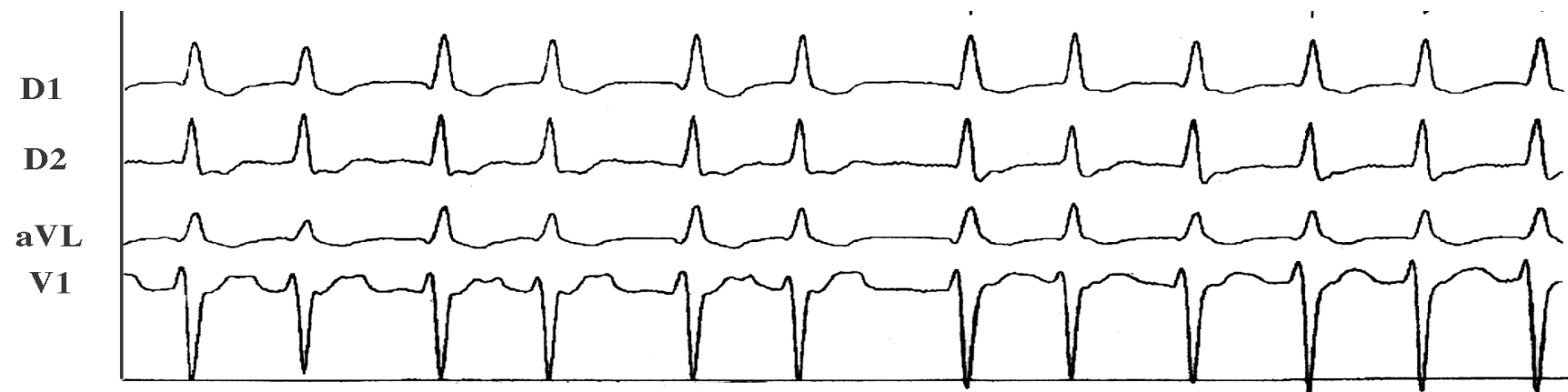
ATRIAL FLUTTER 2:1

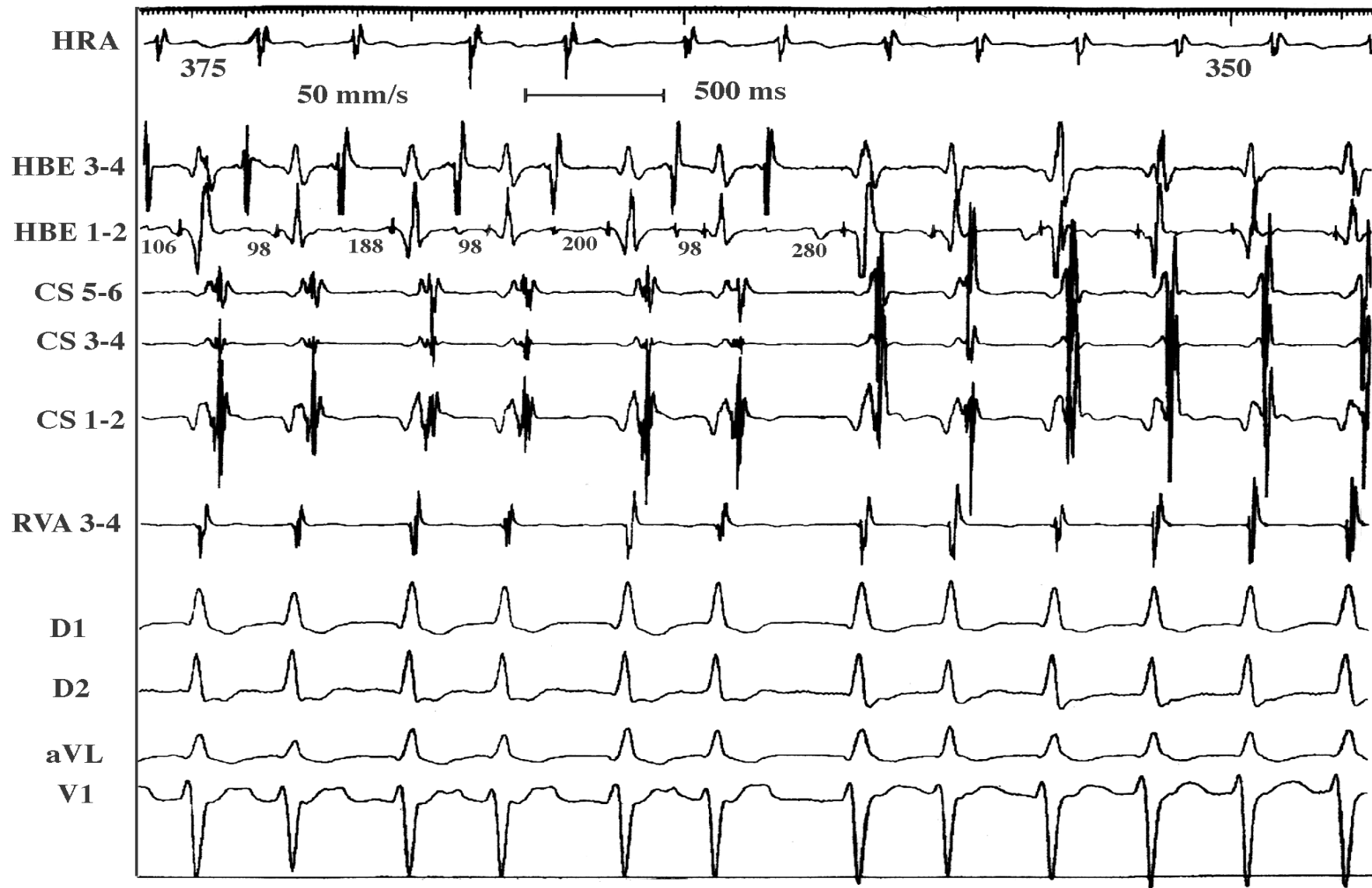


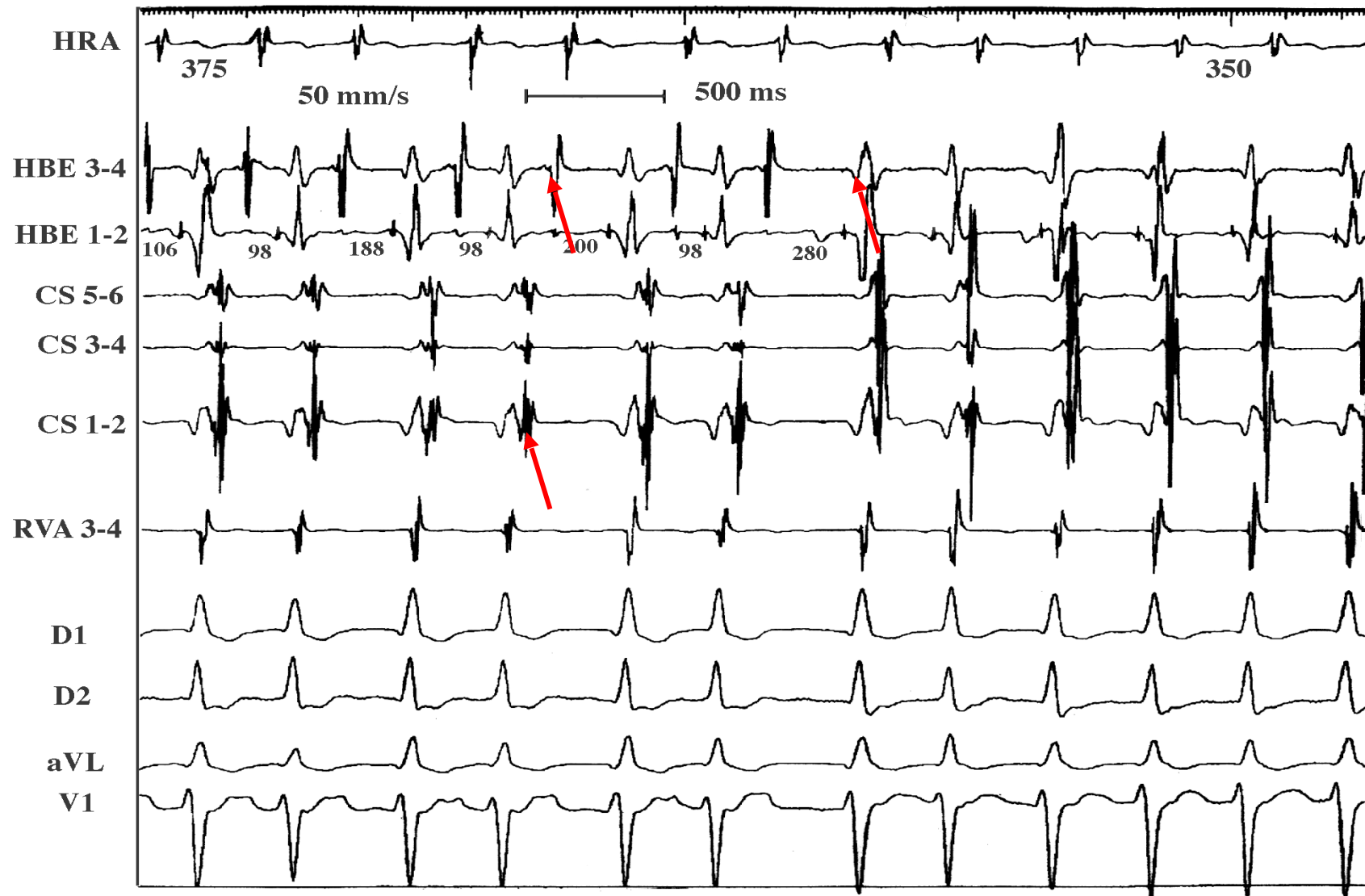
**ATRIAL TACHYCARDIA
AV- BLOCK 2:1**



**VENTRICULAR
TACHYCARDIA**







The first 6 QRS complexes represent an orthodromic AVRT with the earliest atrial activation at the CS 1-2.

The AH is constant in 2nd, 4th, and 6th complex (fast pathway conduction).

The AH interval is longer and progressively lengthened in the 1st, 3rd, 5th, and 7th (slow pathway

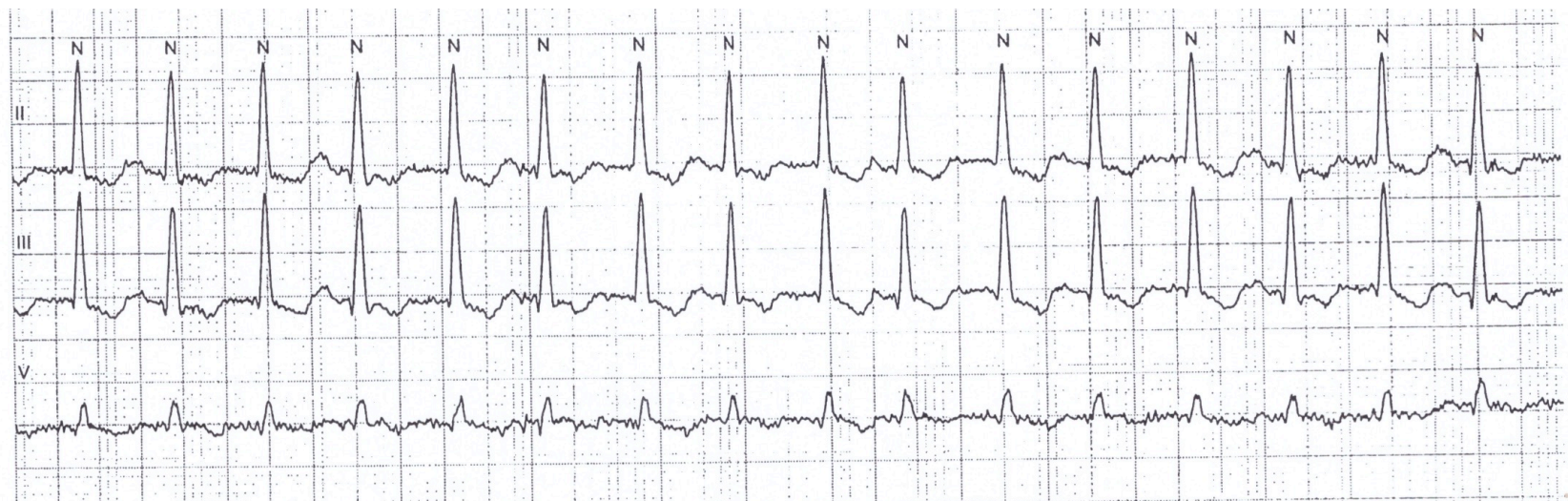
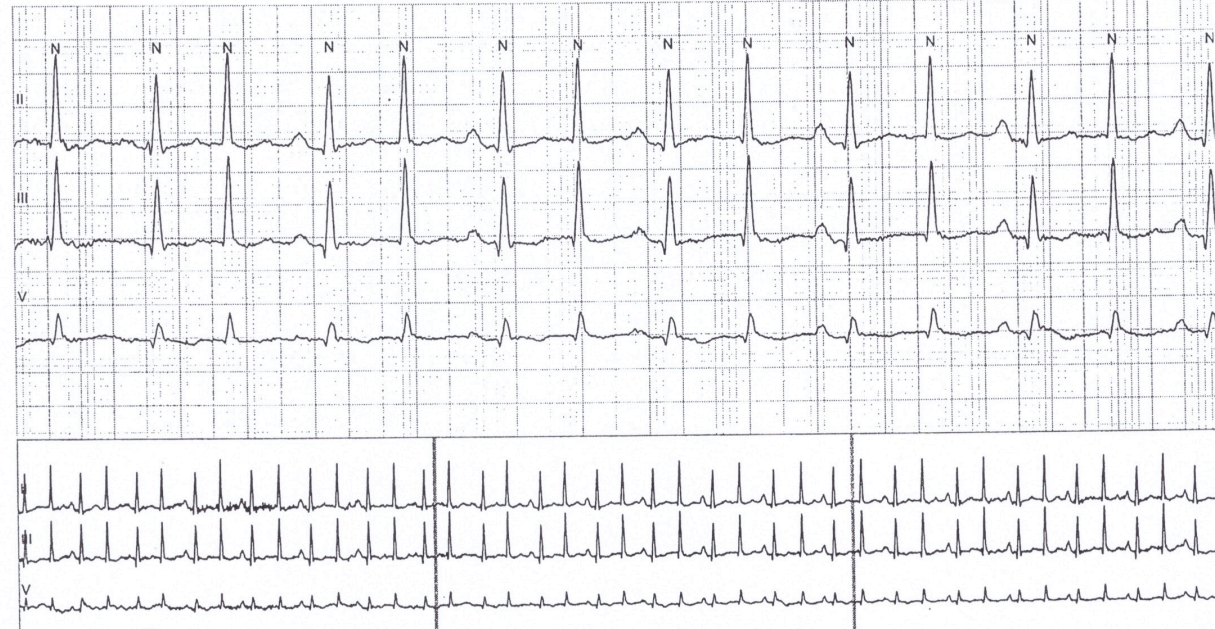
Clinical Case

- 60-year-old female
- Symptomatic for palpitations
- Non-cardiac comorbidities: chronic lymphocytic thyroiditis in euthyroidism, systemic lupus erythematosus
- Echocardiogram: LV with normal volume and size, **LVEF 40% due to global hypokinesia**
- Medical therapy: Bisoprolol 2.5 mg, Hydroxychloroquine 200 mg, Alprazolam 0.5 mg.

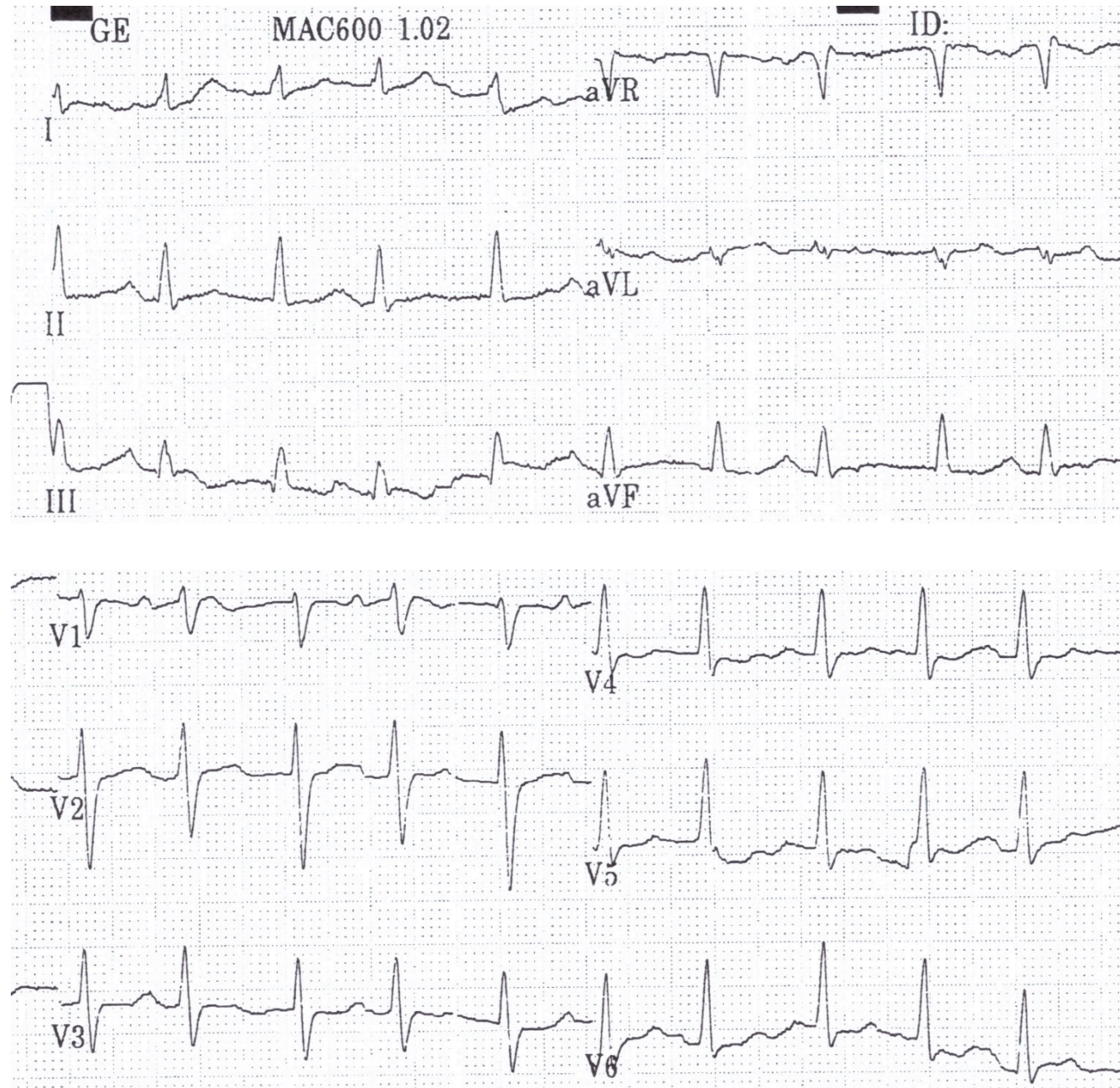
Holter ECG

Strip selezionate dall'utente 7,5s

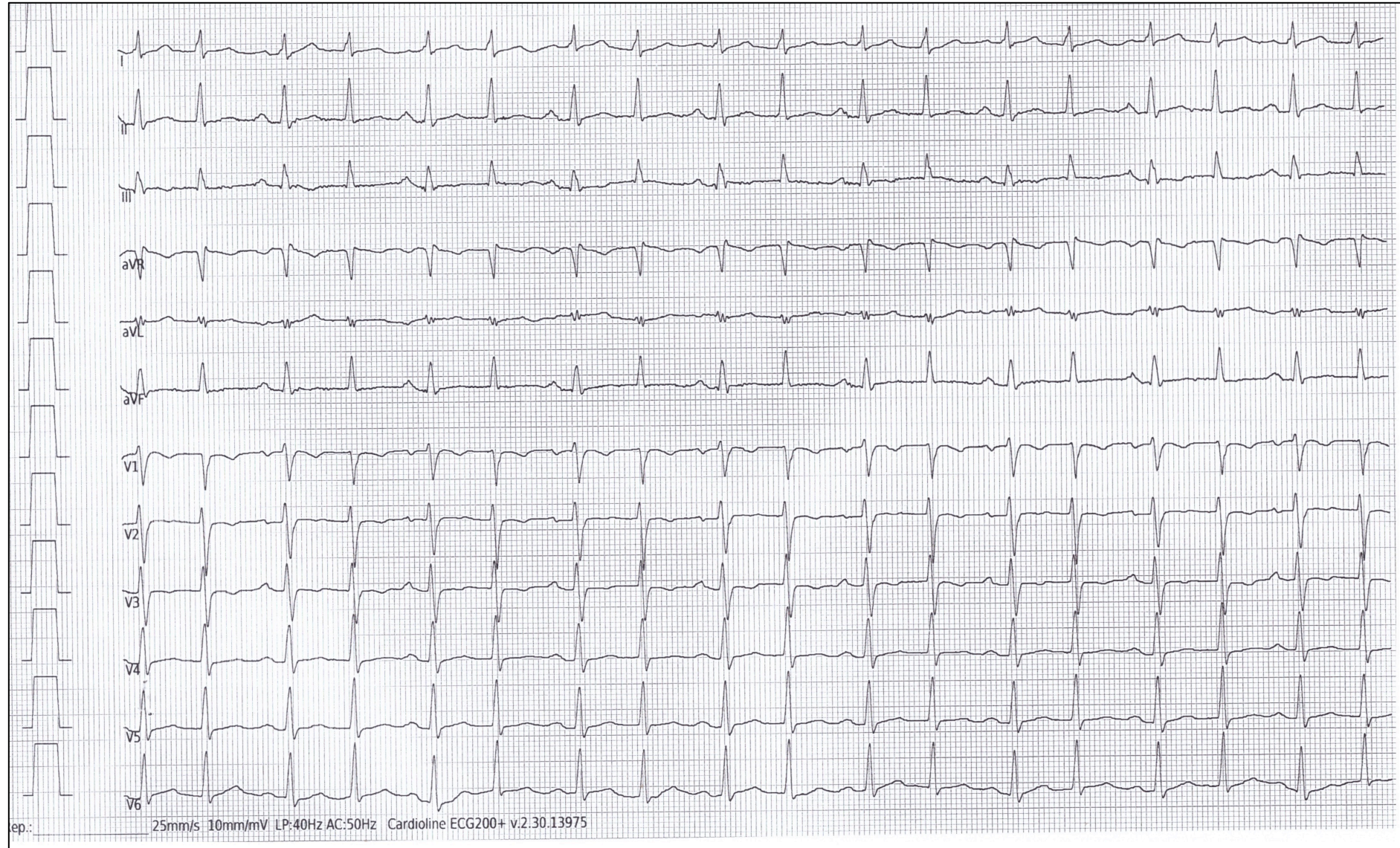
FC113 BPM 25mm/s 10mm/mV 0-60Hz 13/12/2024 14:1



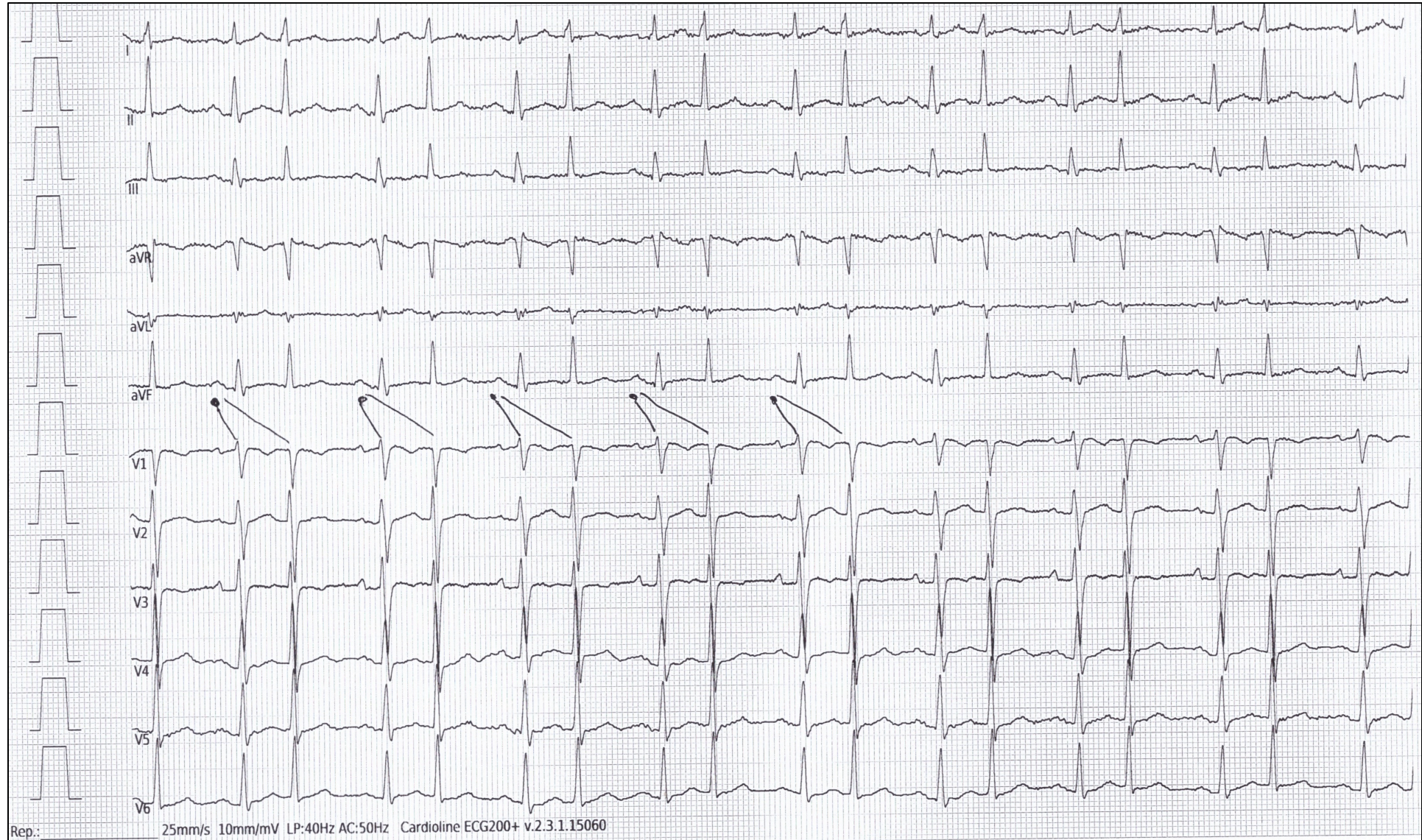
ECG



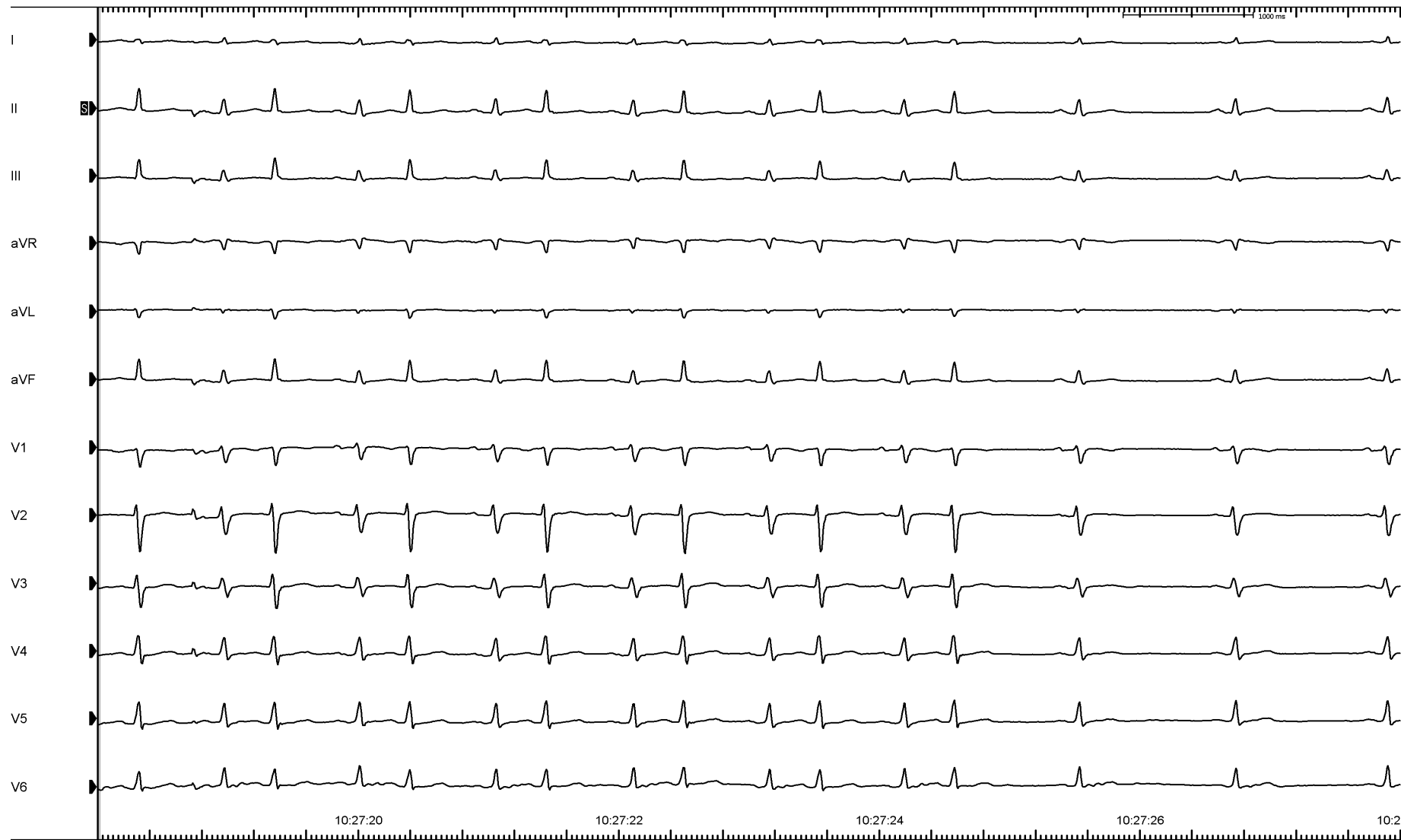
ECG



ECG

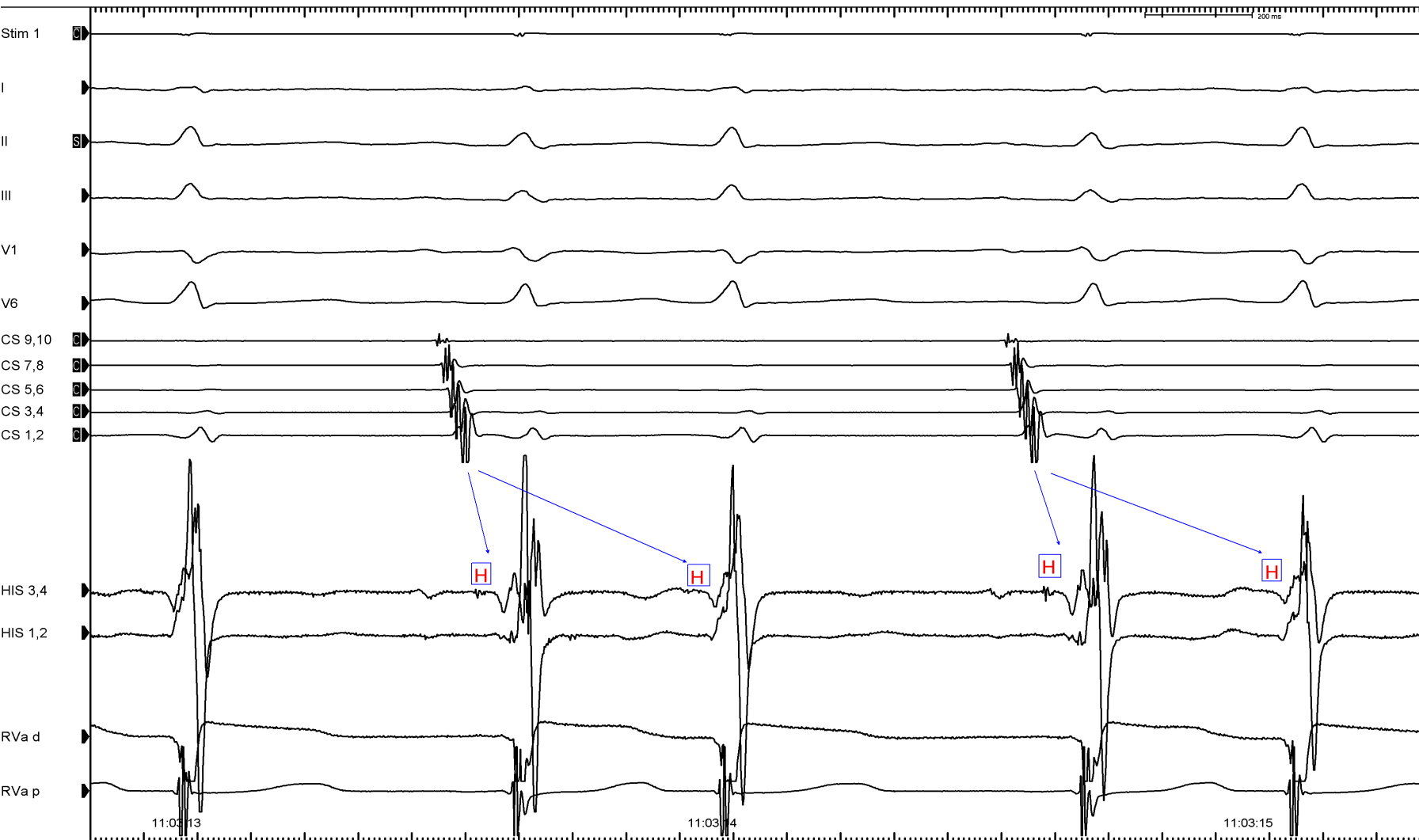


EP study (1)



Basal ECG showing a single P wave followed by two narrow QRS complexes.

Electrophysiological study



EGM intracavitary electrograms

A single atrial signal generates two ventricular depolarization. The impulse is conducted through the AV node first through the fast pathway and then through the slow pathway.

Electrophysiological study



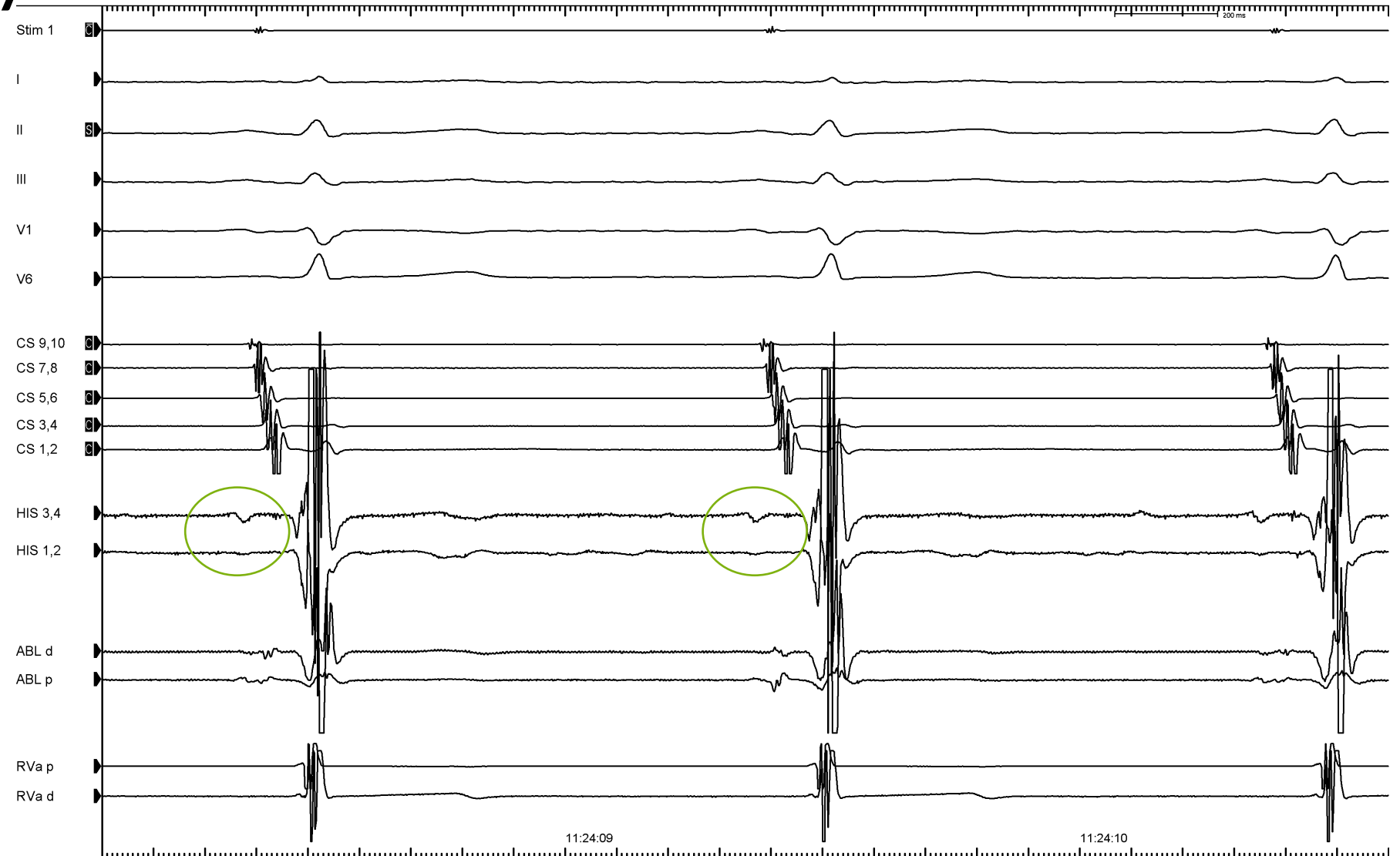
Programmed atrial stimulation
(S1S1 400msec, S1S2 320msec) showing **AH Jump** on the slow pathway.

Electrophysiological study

Slow pathway (SP) potential.

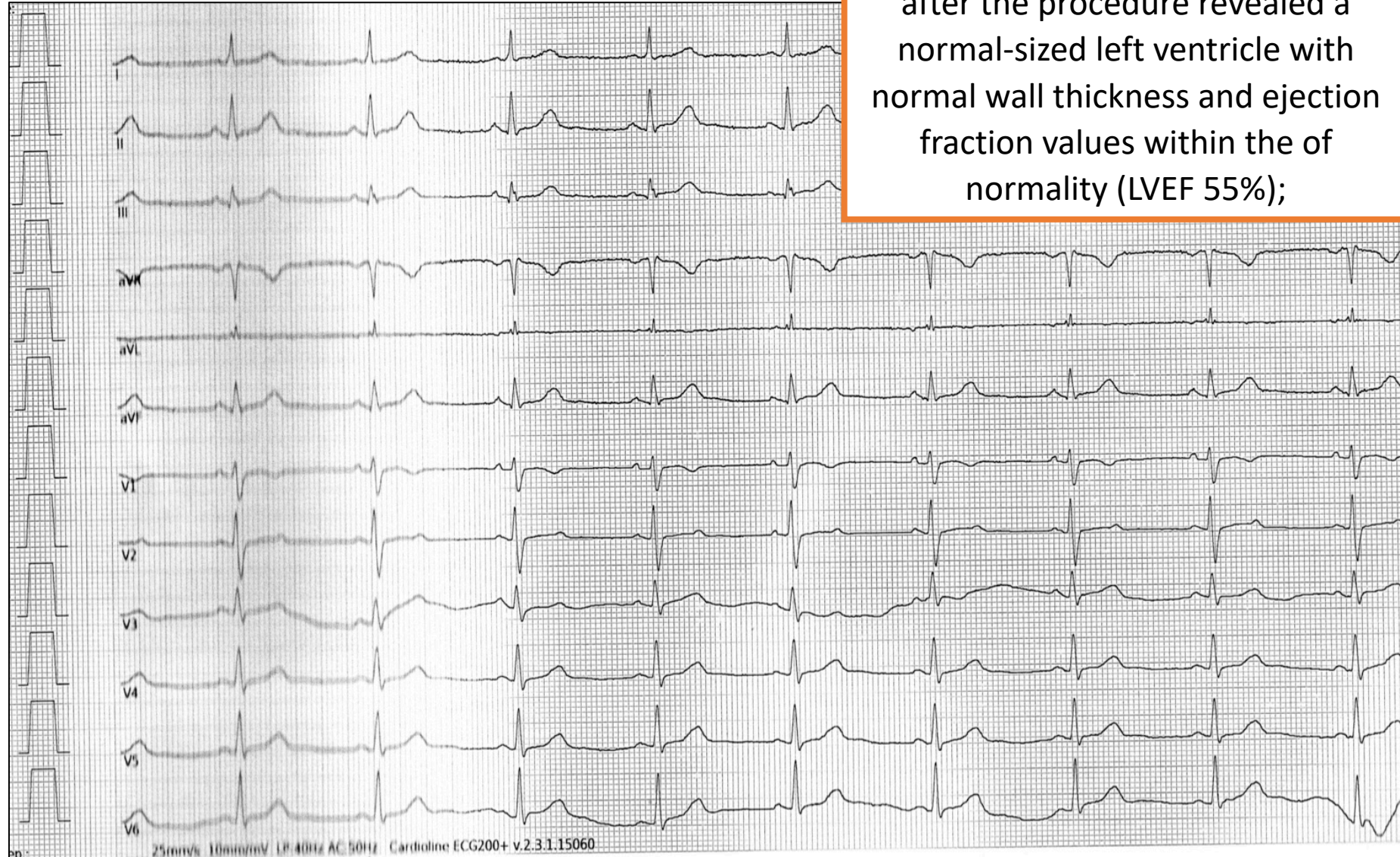
Ablation catheter is positioned on the postero-septum where it records a low amplitude atrial electrogram followed by SP potential and a moderate ventricular electrogram.

In this position the radiofrequencies were delivered.

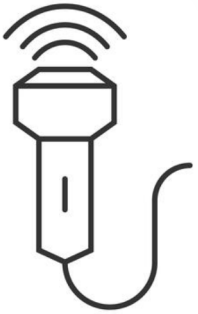


ECG post RF ablation

The echocardiogram performed after the procedure revealed a normal-sized left ventricle with normal wall thickness and ejection fraction values within the of normality (LVEF 55%);



Post-procedural course



- **Echocardiogram** performed **after the procedure** revealed:

Normal-sized left ventricle with normal wall thickness and ejection fraction values within the of normality (LVEF 55%); the absence of significant valvular dysfunction and the absence of pericardial effusion.

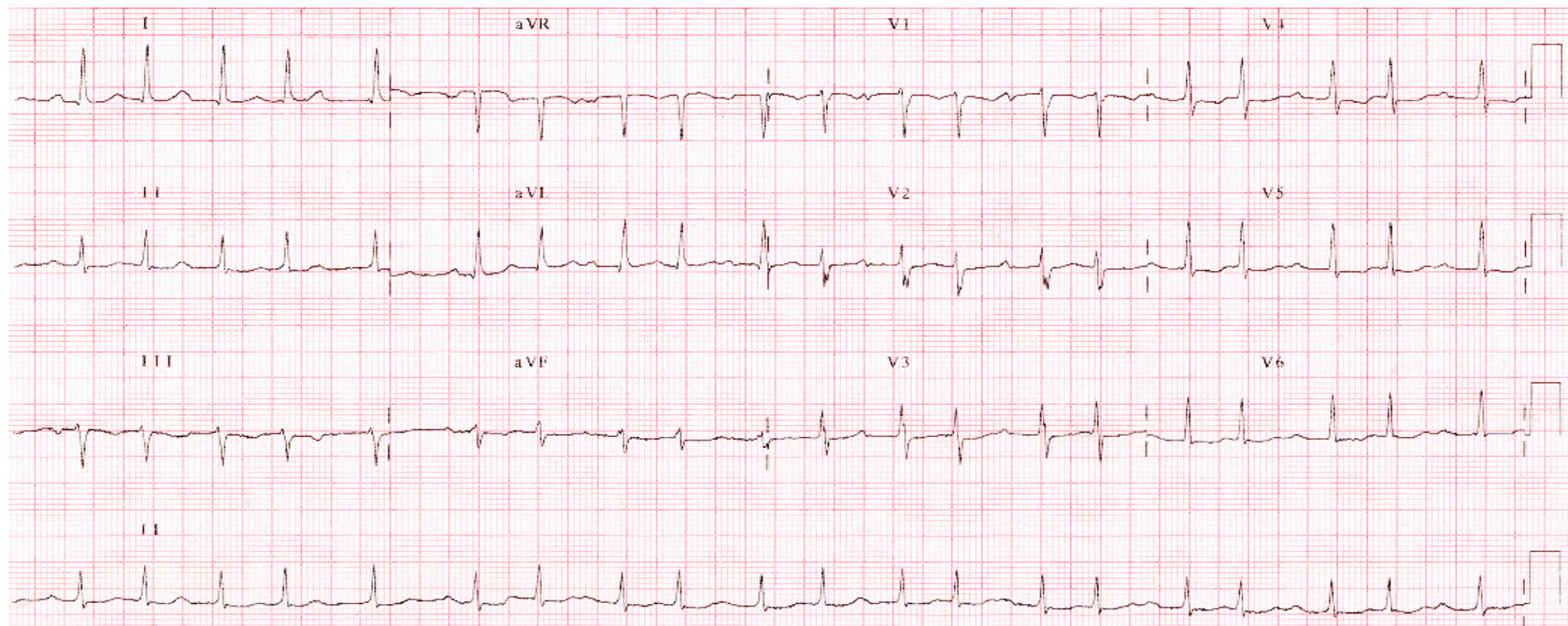


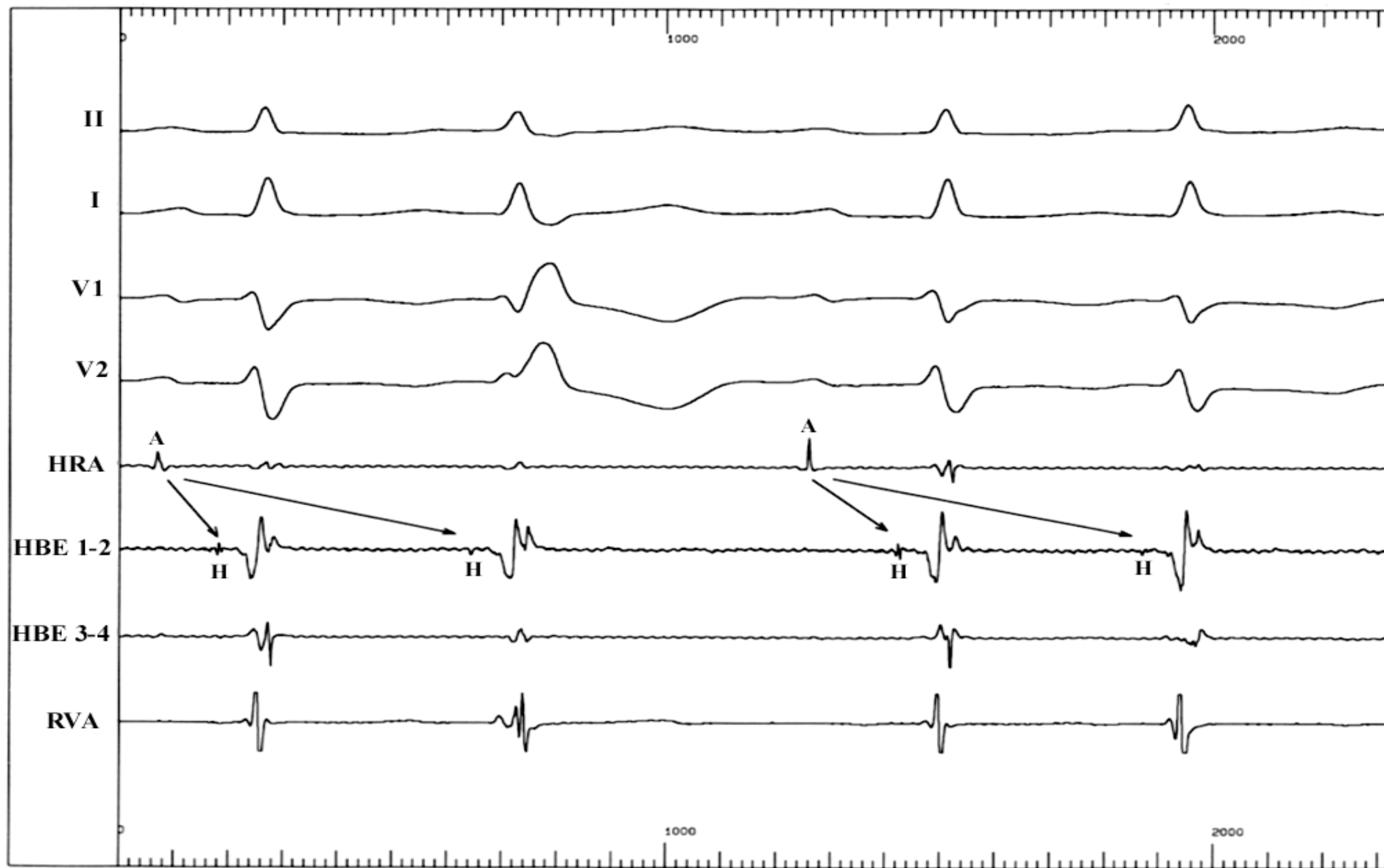
- **Medical Therapy:** was optimized with just a low dose of beta blockers Bisoprolol 2.5 mg and was introduced a lipid lowering therapy with statin (Rosuvastatin 5 mg).

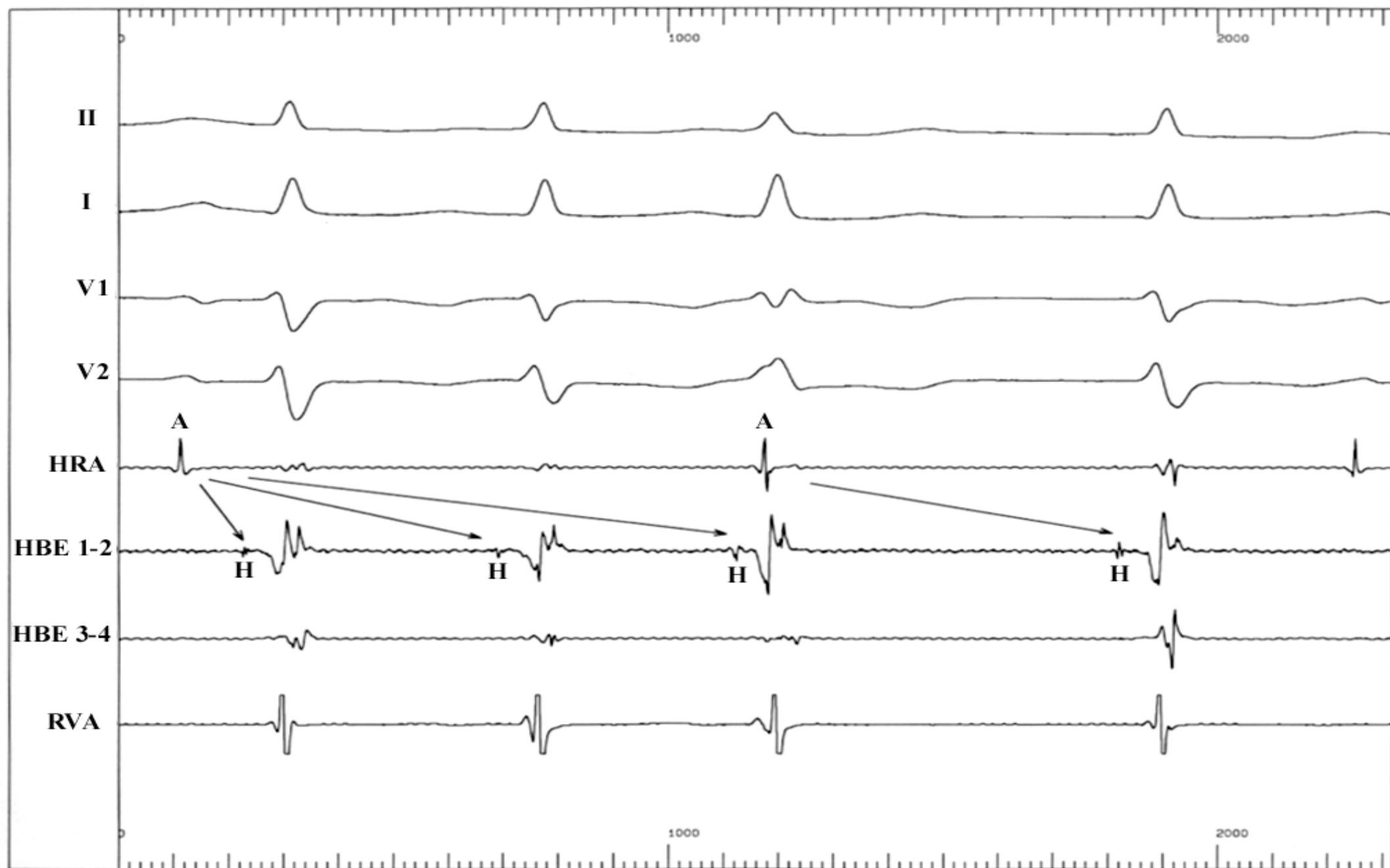
Donna di 58 anni

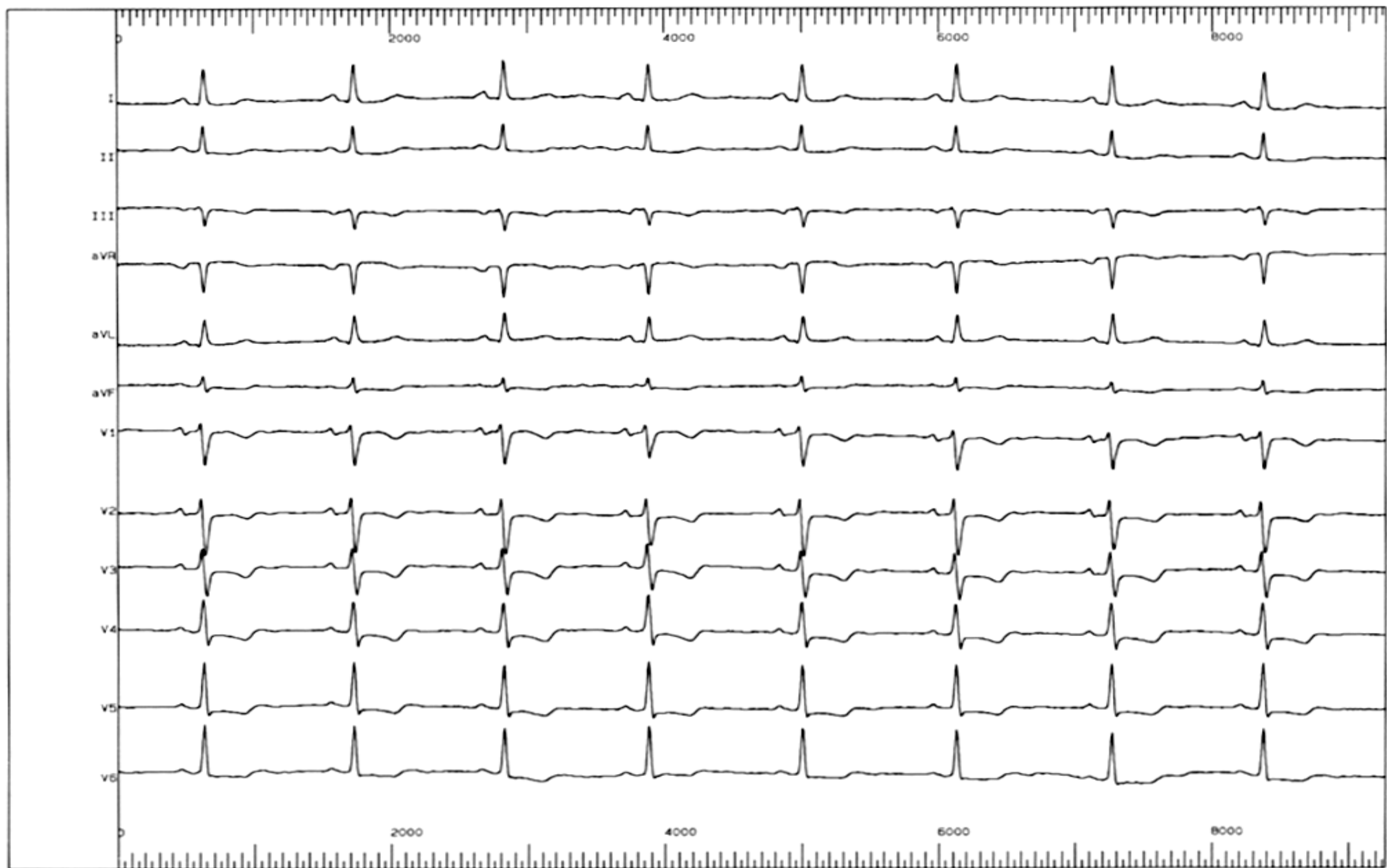
FE circa 30% con lieve aumento del volume ventricolare sx
IM lieve

Diagnosi di FA permanente sottoposta a CVE inefficace
nonostante terapia antiaritmica con amiodarone









Dopo 3 mesi in rs stabile FE circa 45% con volumi normali e poi a 6 mesi normale FE