

A sailboat with white sails is on a calm sea under a blue sky with white clouds. The boat is on the left side of the image, and its reflection is visible in the water. A person is standing on the deck of the boat. The text is overlaid on the right side of the image.

Diagnosi precoce di cardiomiopatie e coronaropatie non è mai troppo presto

Gabriele Bronzetti
Bologna

Braunwald 1929-2026



Il tempo è muscolo

P come Place, Pinocchio, Precoce

Il legno
non ha
fibrosi



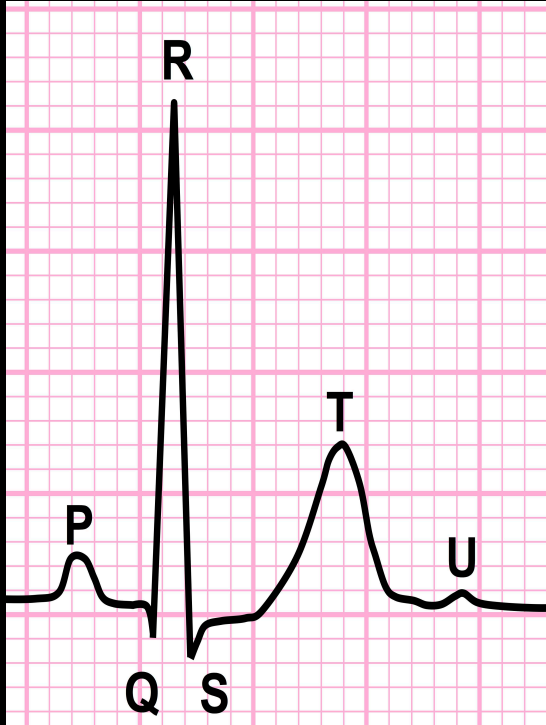
**Il muscolo
è tempo,**

**la fibrosi
è tempo**

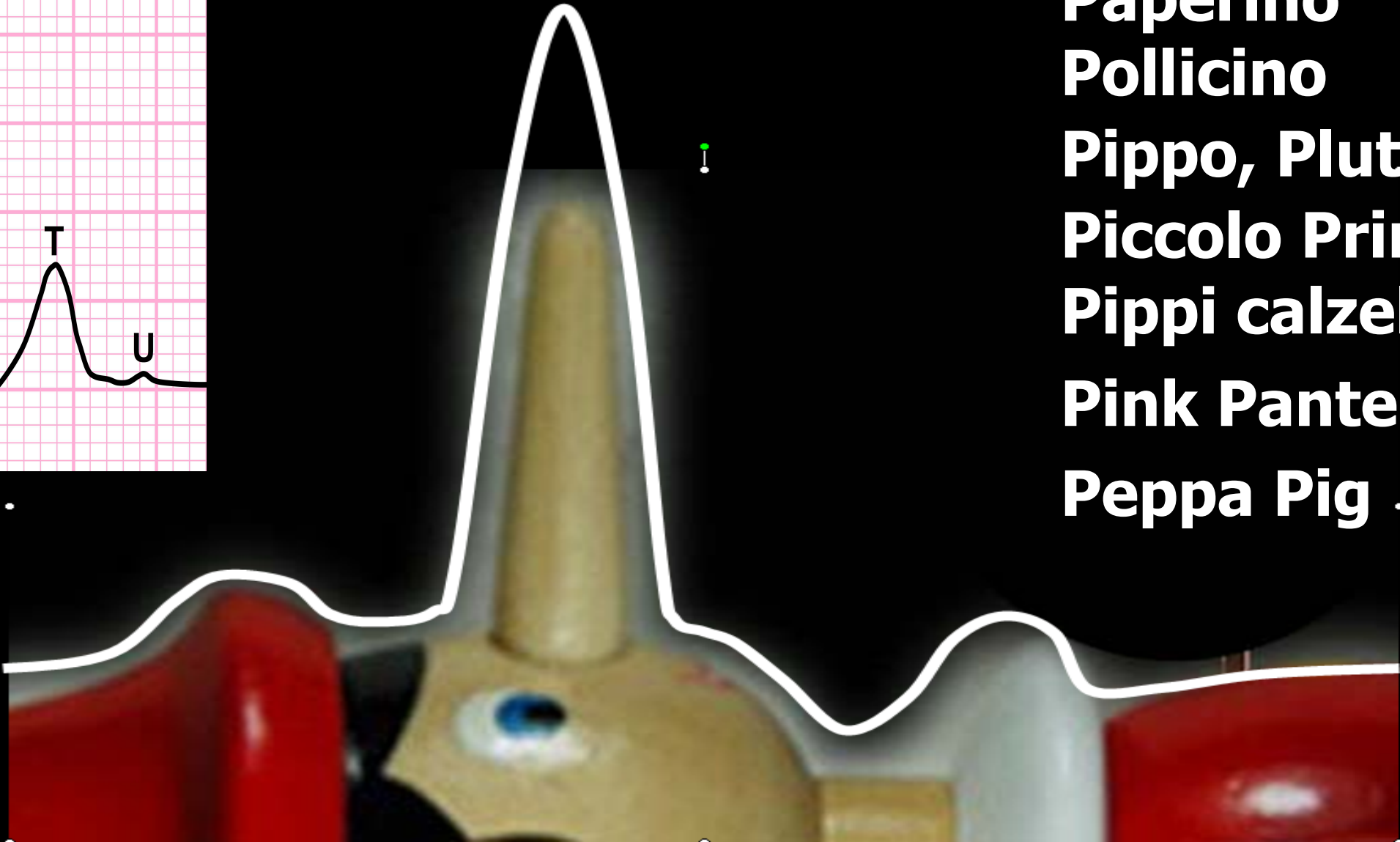
**La fibrosi
fibrilla**



Pincipia tutto per **P**

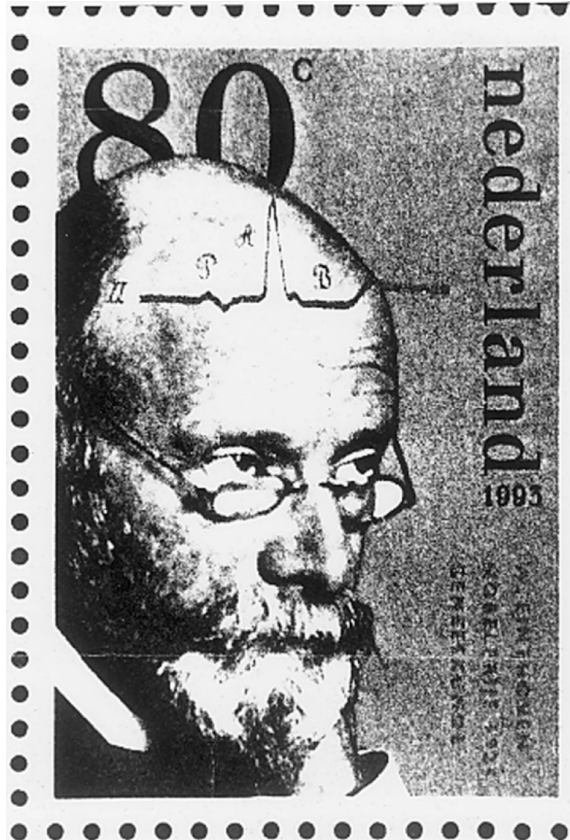


Peter Pan
Paperino
Pollicino
Pippo, Pluto
Piccolo Principe
Pippi calzelunghe
Pink Panter
Peppa Pig .



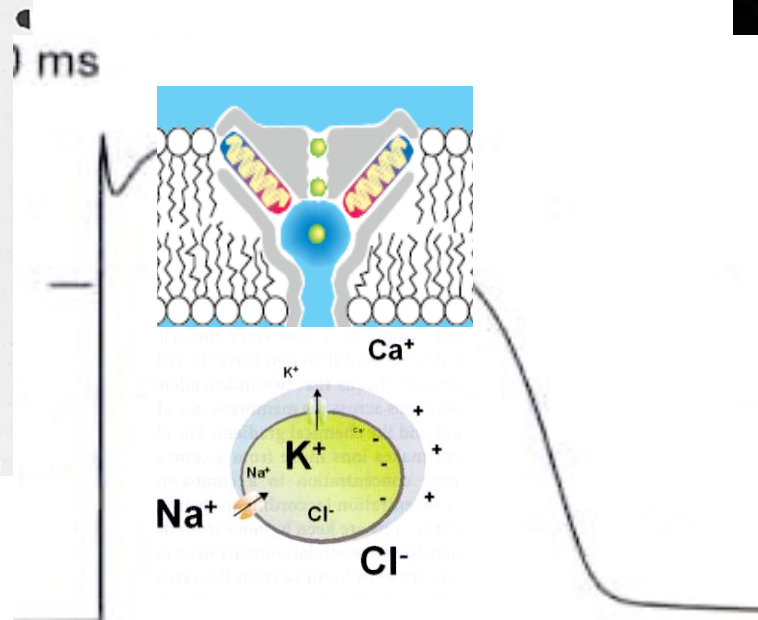
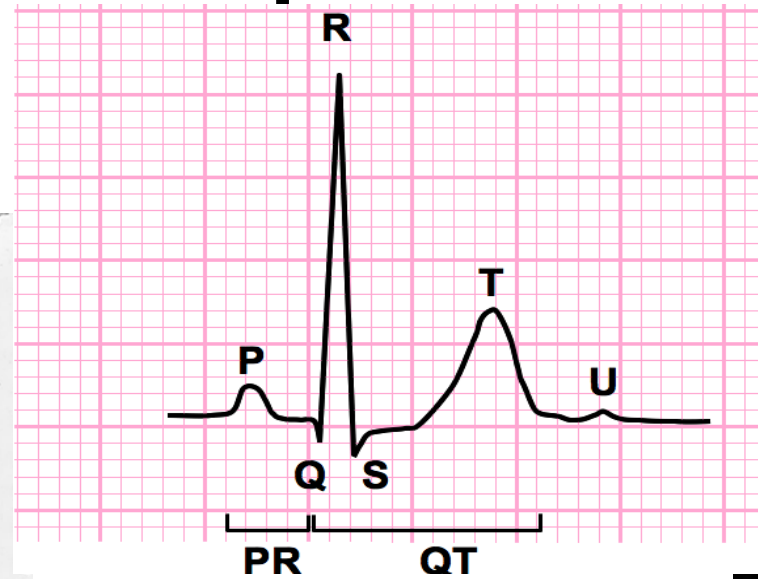
**Segni
IONI**

'900



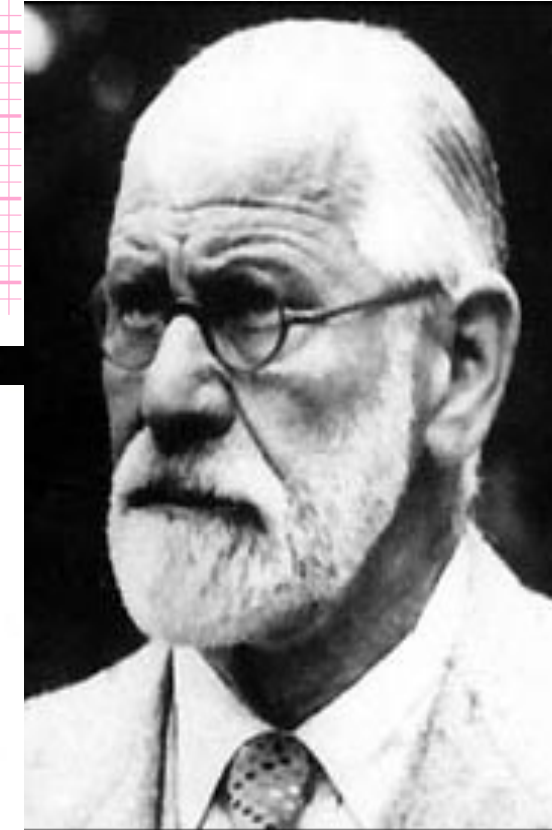
**DEPOLARIZZAZ IONI
e RIPOLARIZZAZ IONI**

Superficie



Profondo

**Sogni
IO**



**EMOZ IONI
e VIS IONI**

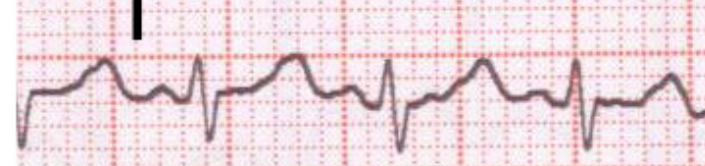
Due gemelle

GIADA



Muto



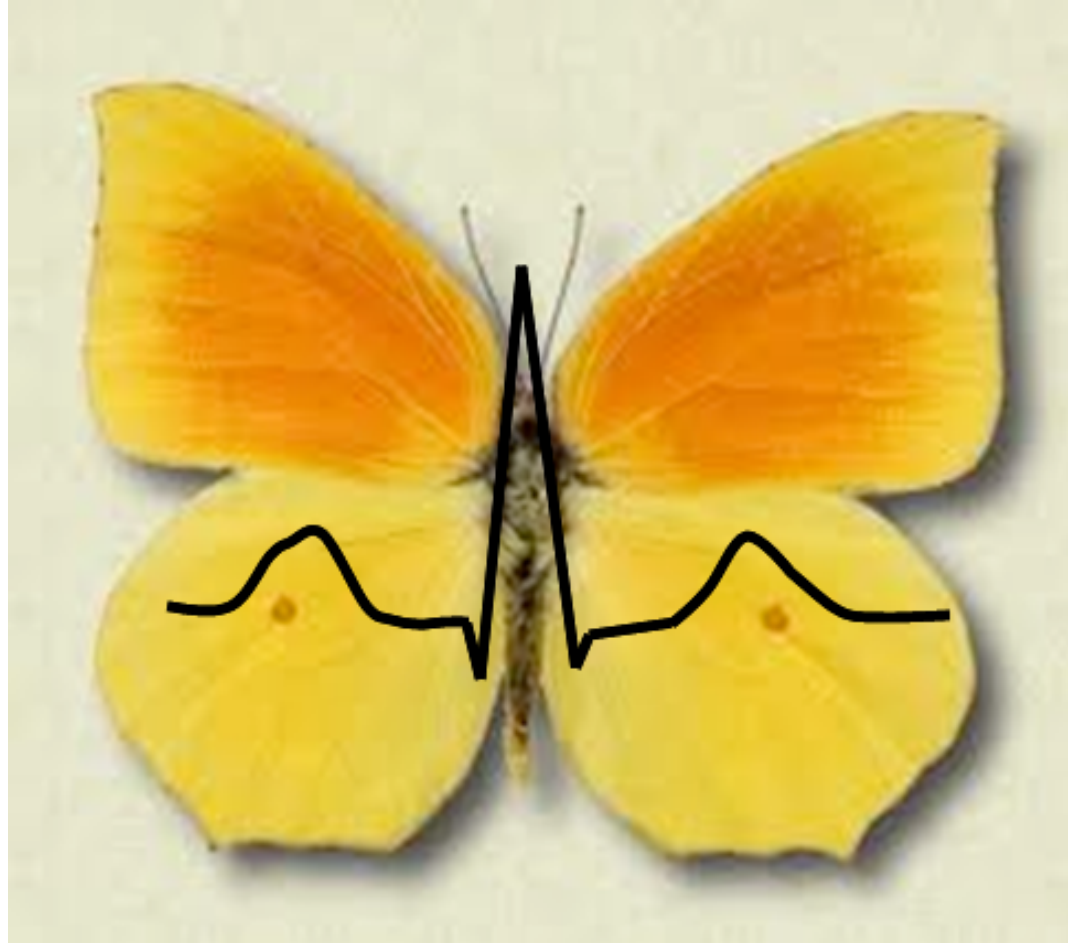
Twin A		Δ	Twin B	
27/01/2017 10:51:13			27/01/2017 10:45:08	
HR:	176 bpm	2	HR:	174 bpm
PR:	116 ms	0	PR:	116 ms
QRS:	54 ms	0	QRS:	54 ms
QT/QTcH:	244/447 ms	1	QT/QTcH:	246/446 ms
QTcB:	418 ms	1	QTcB:	419 ms
QTcF:	349 ms		QTcF:	351 ms
Rv5-6/Sv1:	1.64/--- mV		Rv5-6/Sv1:	1.63/0.55 mV
Sok-Lyon:	1.64 mV		Sok-Lyon:	2.18 mV
Assi:	63/83/20 °		Assi:	74/86/29 °
				

GAIA



The **P** remains the same

Tu corri nel
vento e
sembri una
farfalla...



C'è un posto
nel mio cuore
dove tira
sempre il

vento

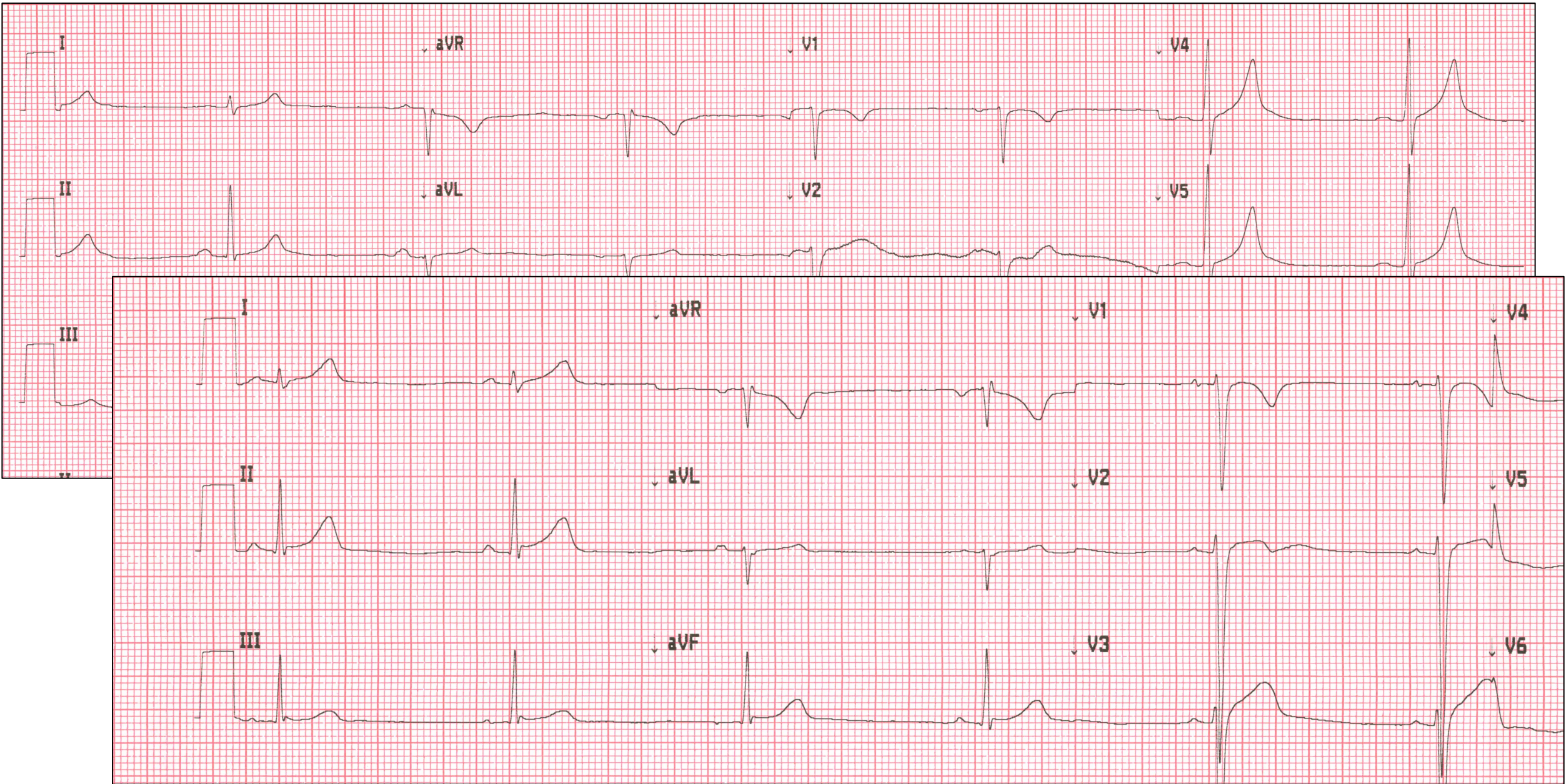
Per i tuoi pochi
anni e per i
miei che sono
cento

L.Dalla

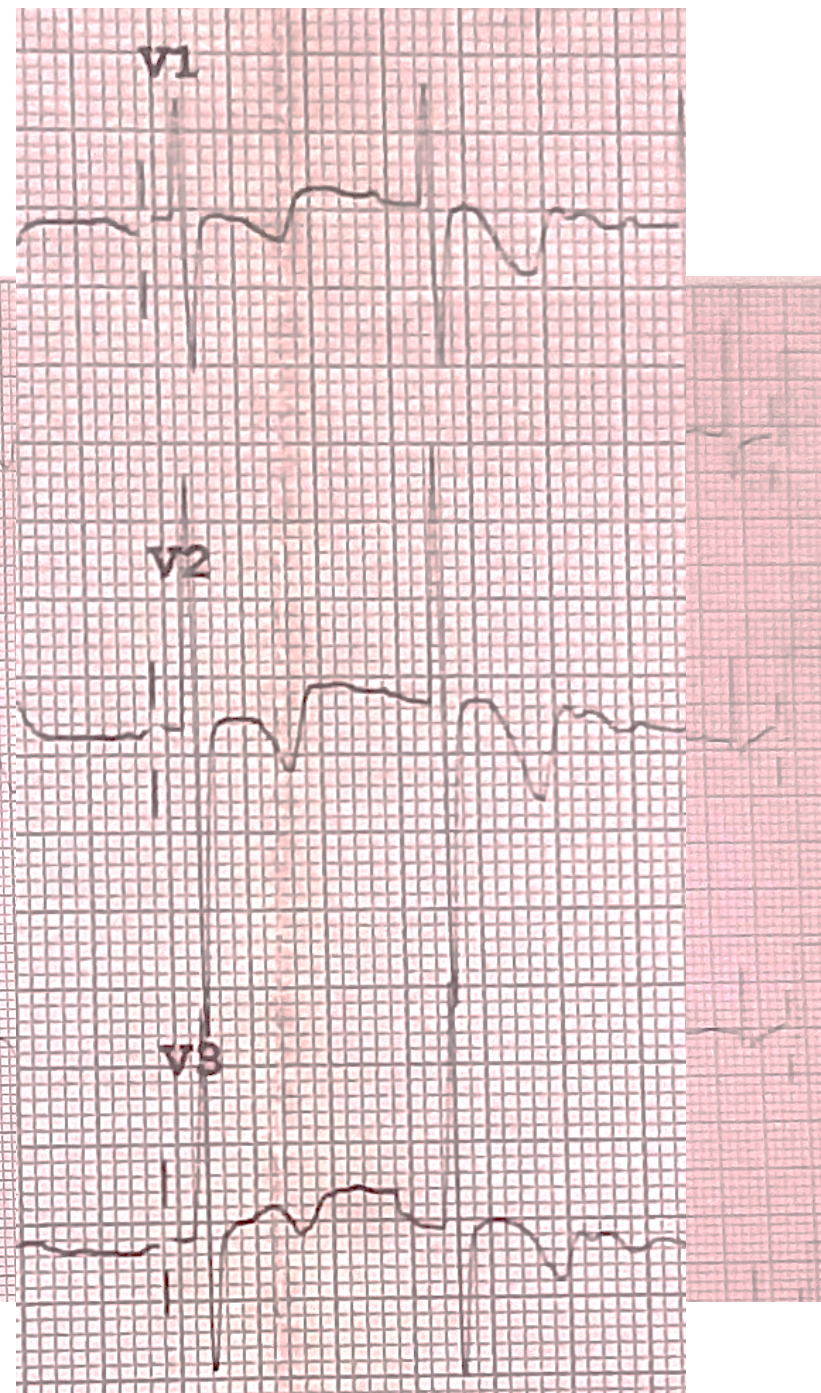
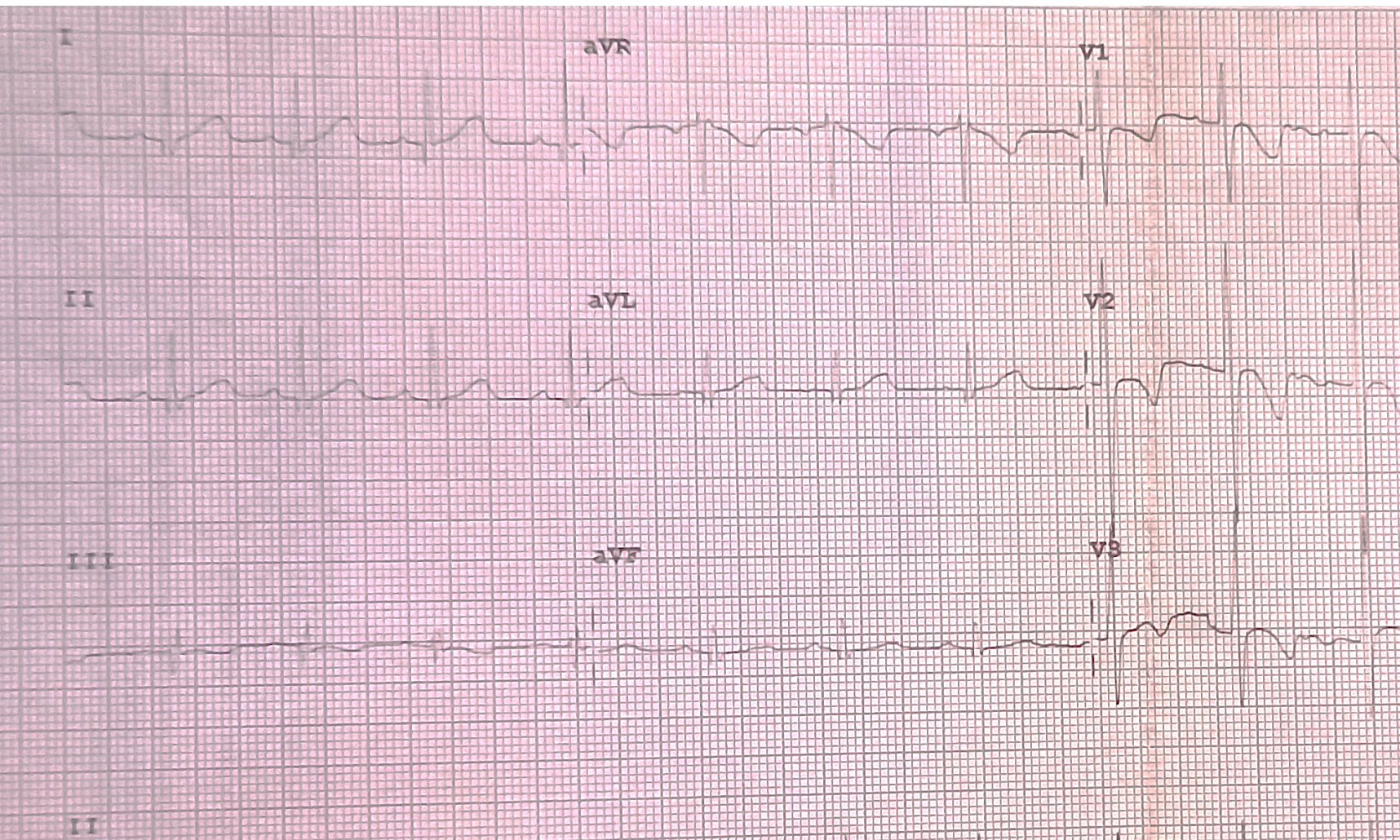
« Cara »

But **T** & **R** flies

Padre felice, 47 aa, e figlio 17 aa

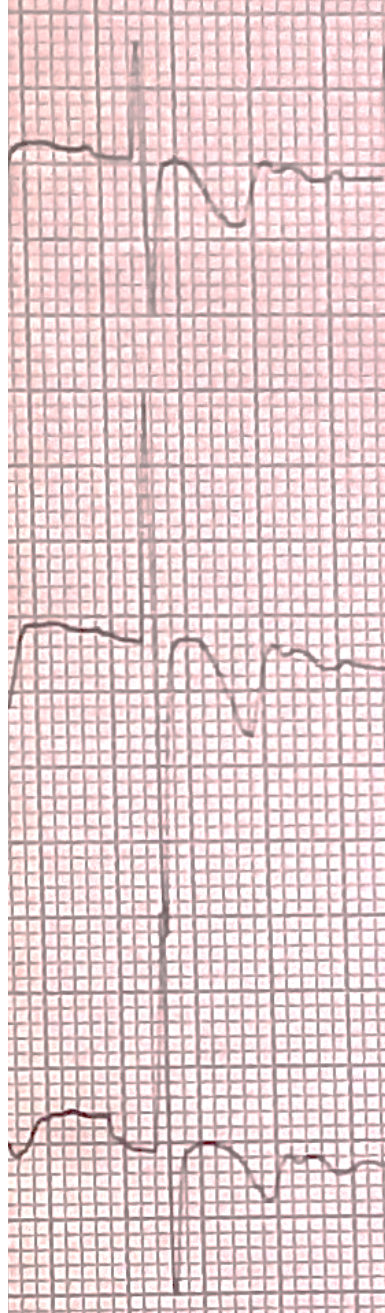


50 anni, arresto durante **tennis** FV cardiovertito
con DAE al 2° shock > ICD
RMN: edema miocardio in attesa di ripetizione



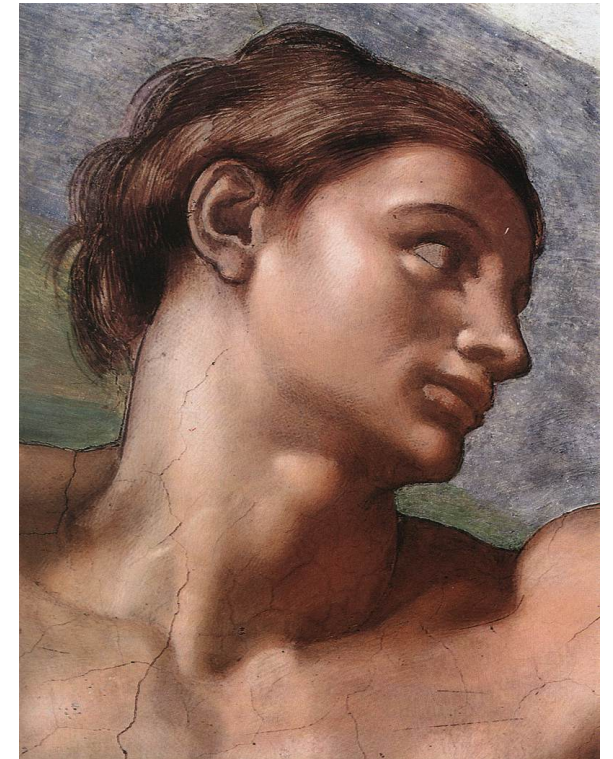
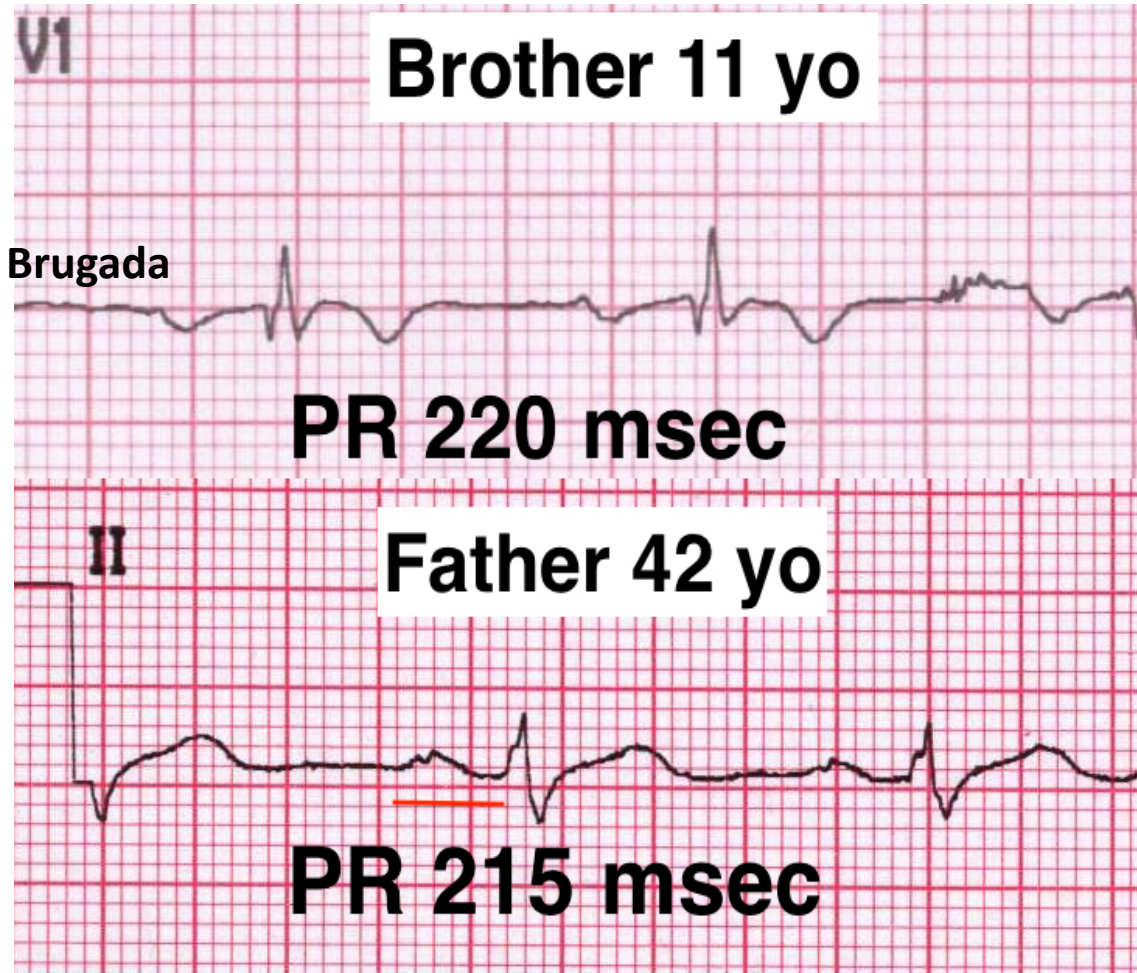
Figlio di 14 aa, calciatore

Padre e figlio



Brugada SCN5A

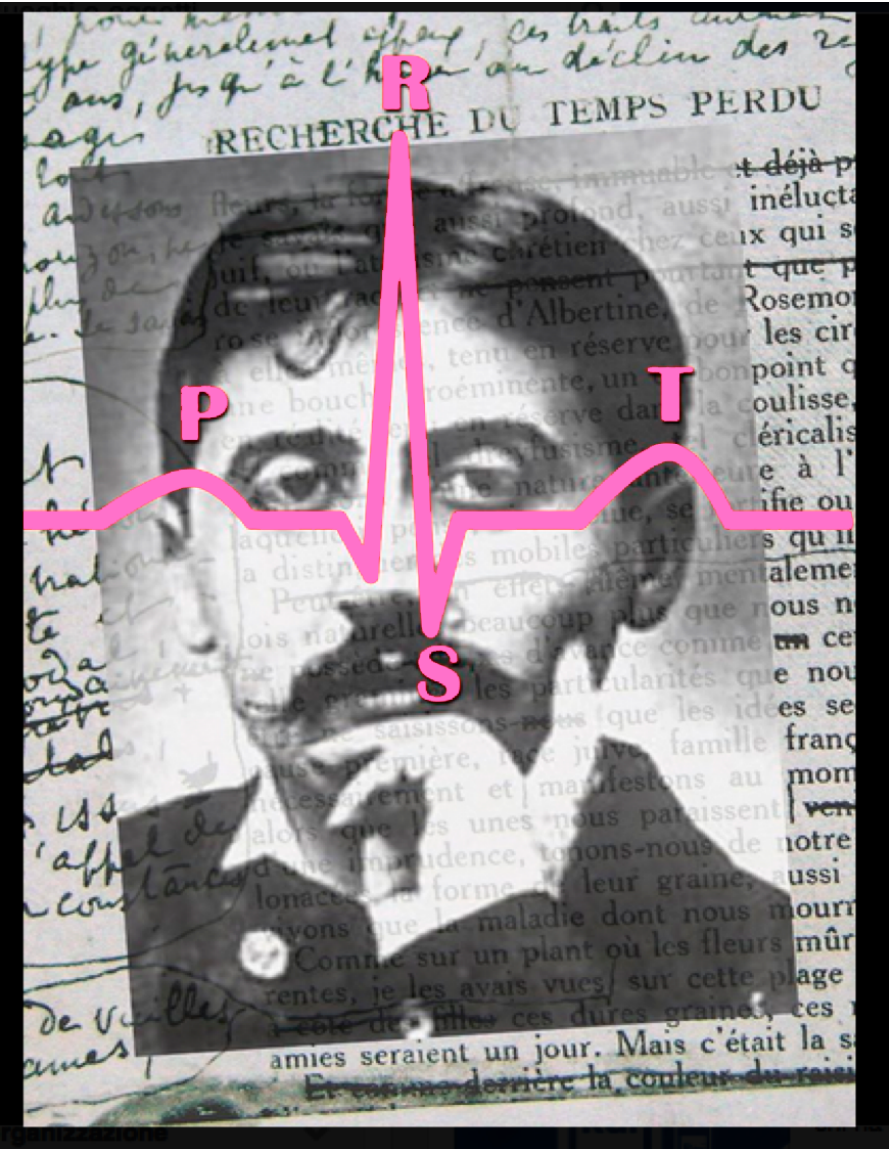
Pomo d'adamo dell'ECG



Rosa , costa poco, non si butta niente



Proust , o la memoria



Post TPSV

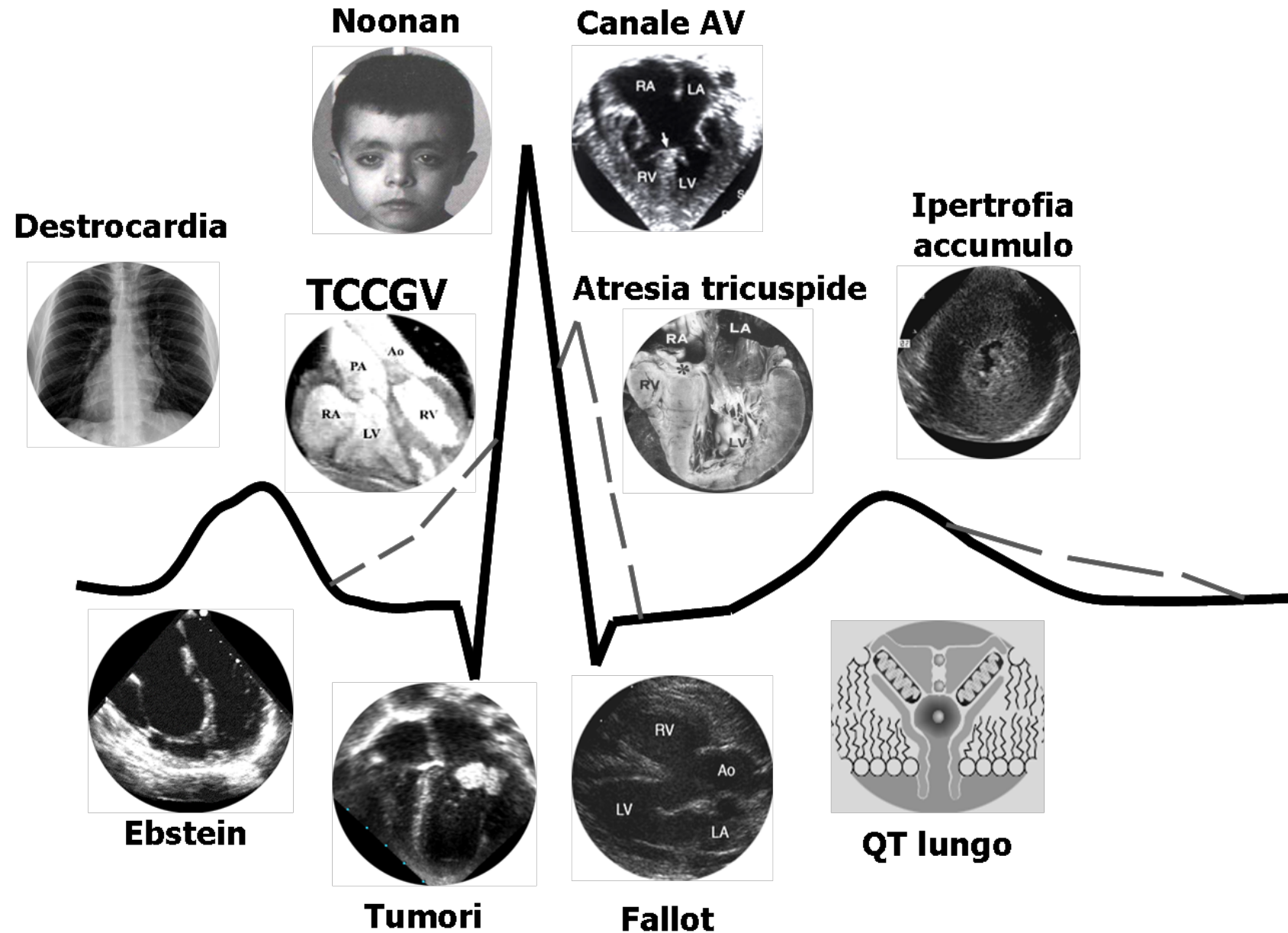


Post TV



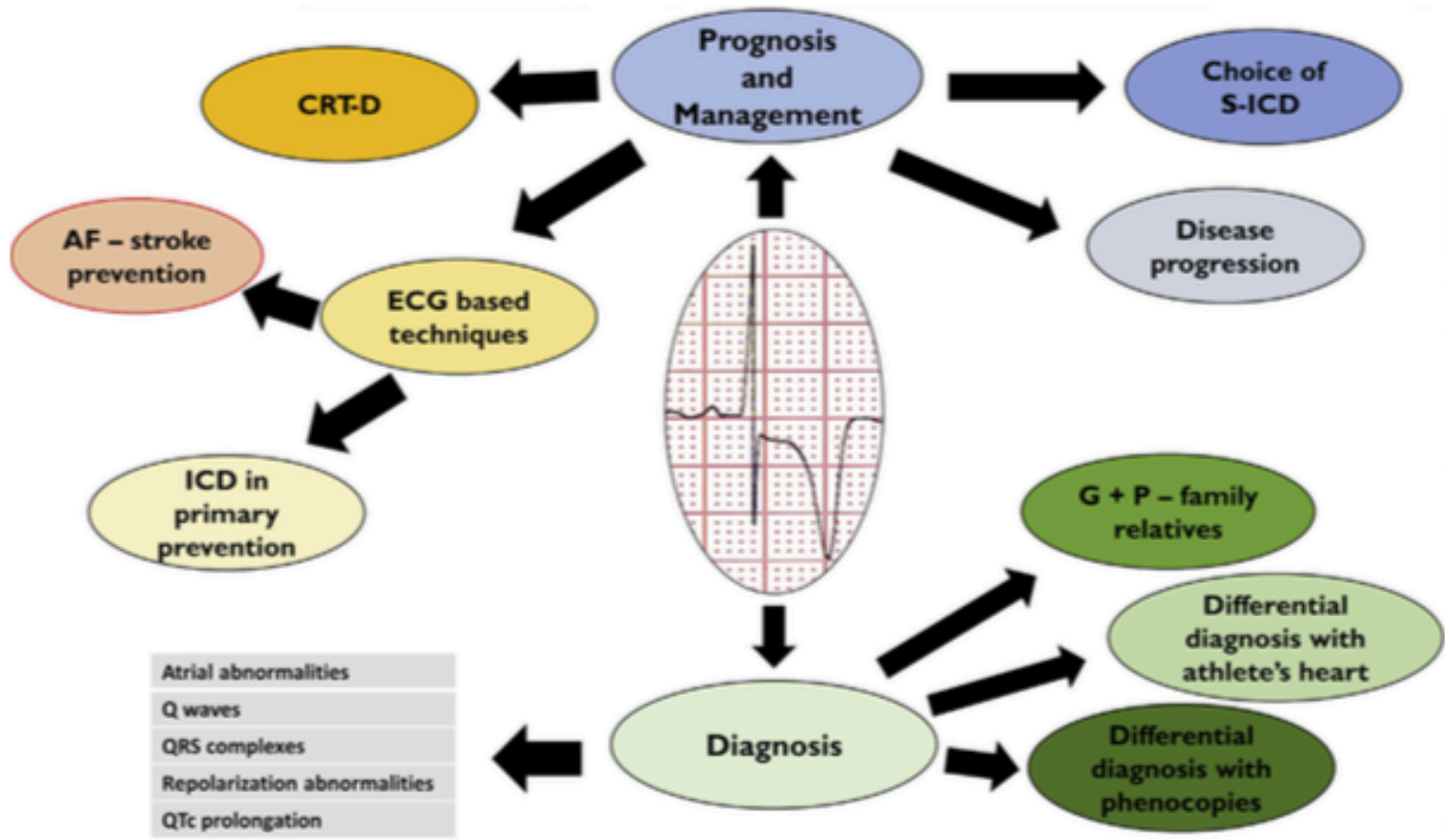
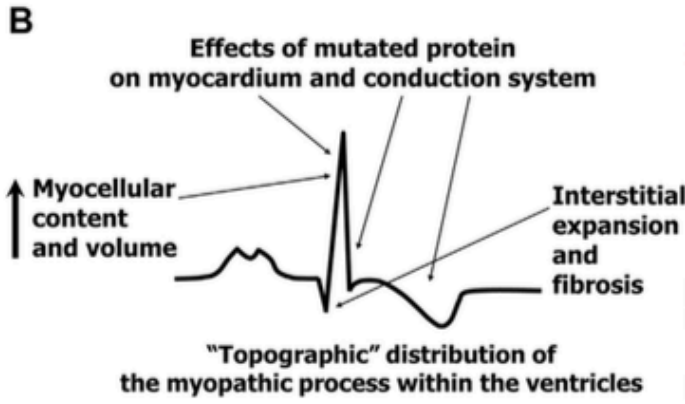
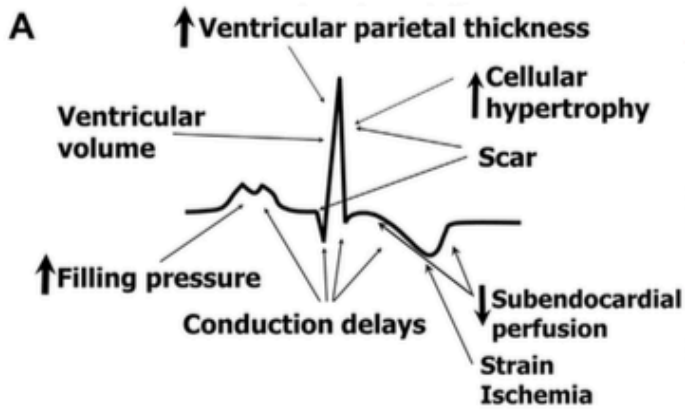
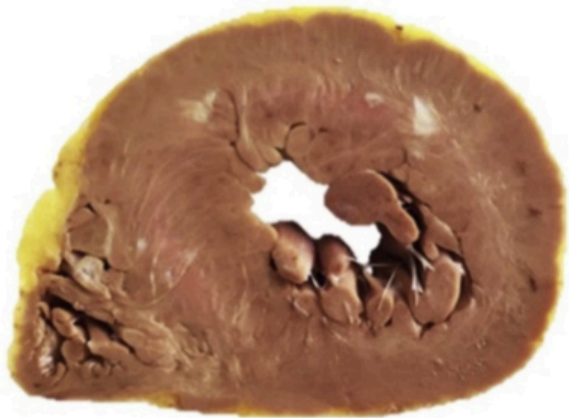
Post pacing, post aritmia, post preeccitazione

Immaginazione e' imaging

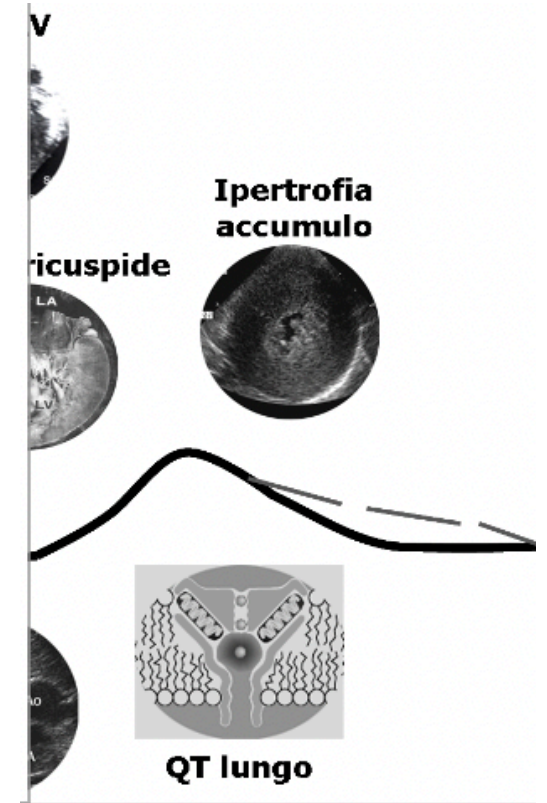
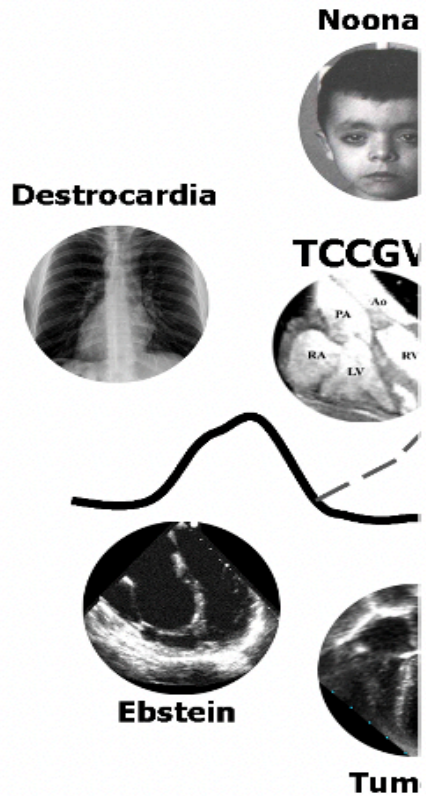
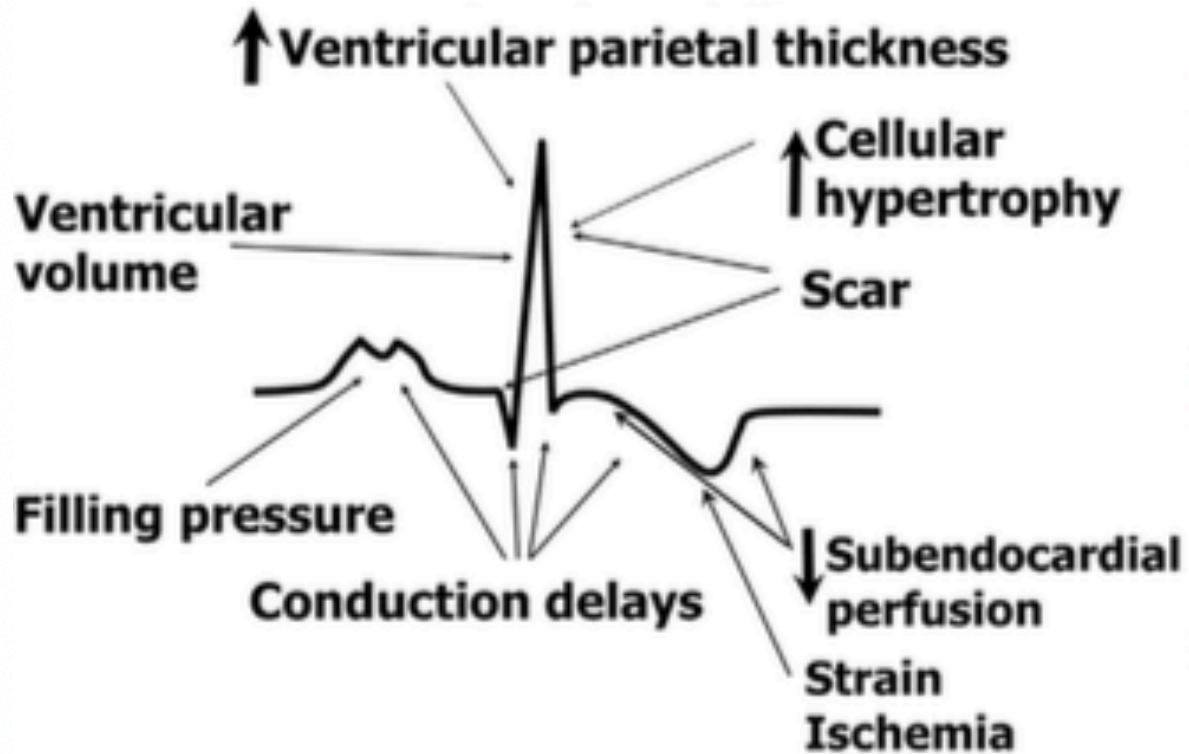
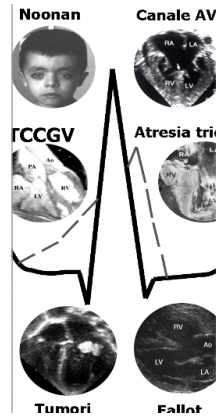
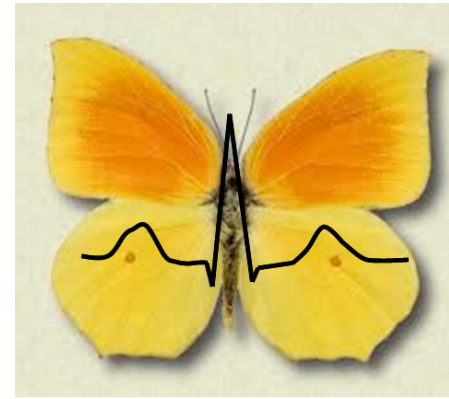


The electrocardiogram in the diagnosis and management of patients with hypertrophic cardiomyopathy

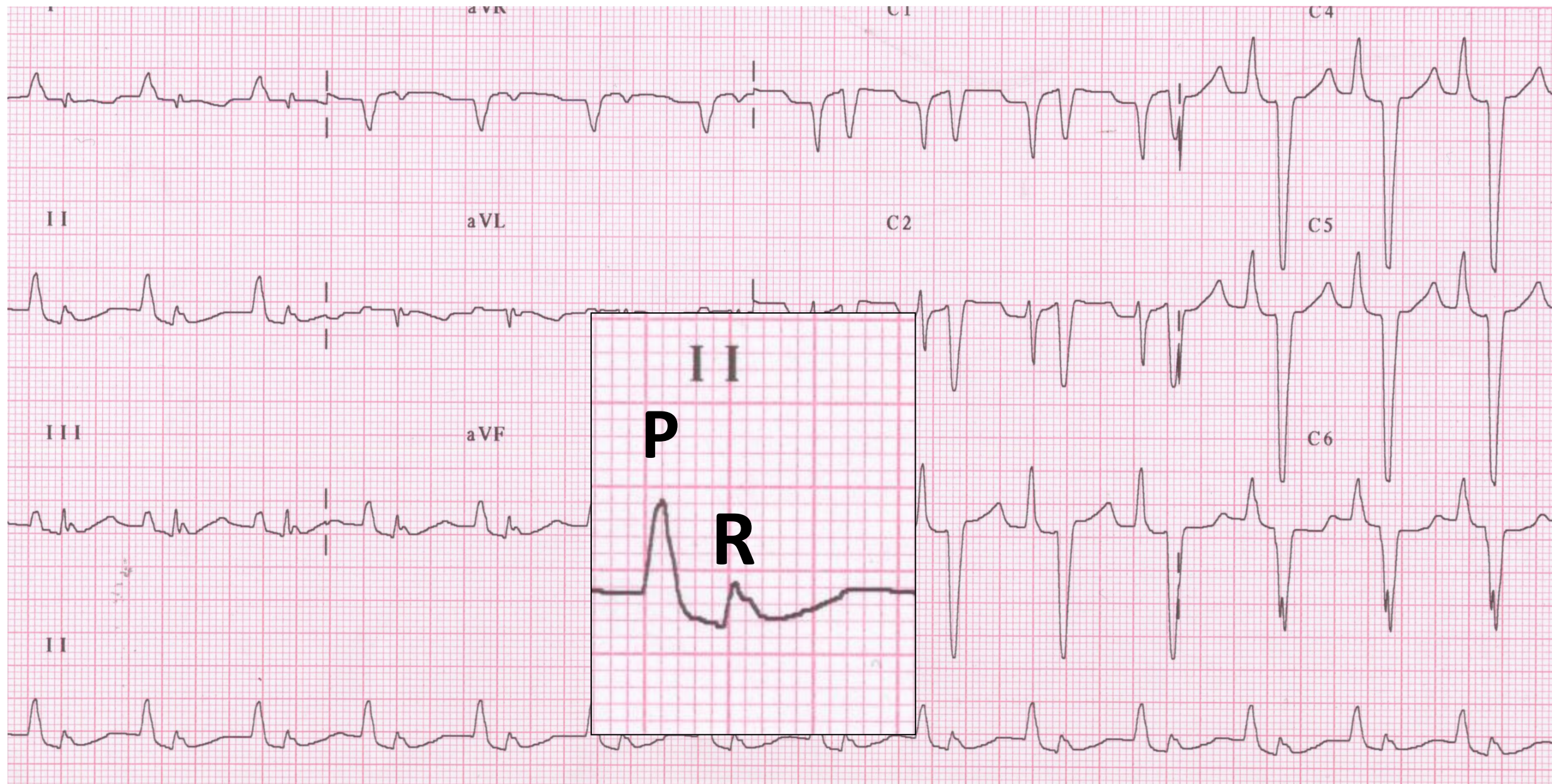
Gherardo Finocchiaro, MD, PhD,* Nabeel Sheikh, MRCP, PhD,* Elena Biagini, MD,† Michael Papadakis, MBBS, MRCP, MD,‡ Nicolò Maurizi, MD,§ Gianfranco Sinagra, MD,|| Antonio Pelliccia, MD,¶ Claudio Rapezzi, MD,† Sanjay Sharma, BSc, MBChB, MD,‡ Iacopo Olivetto, MD§



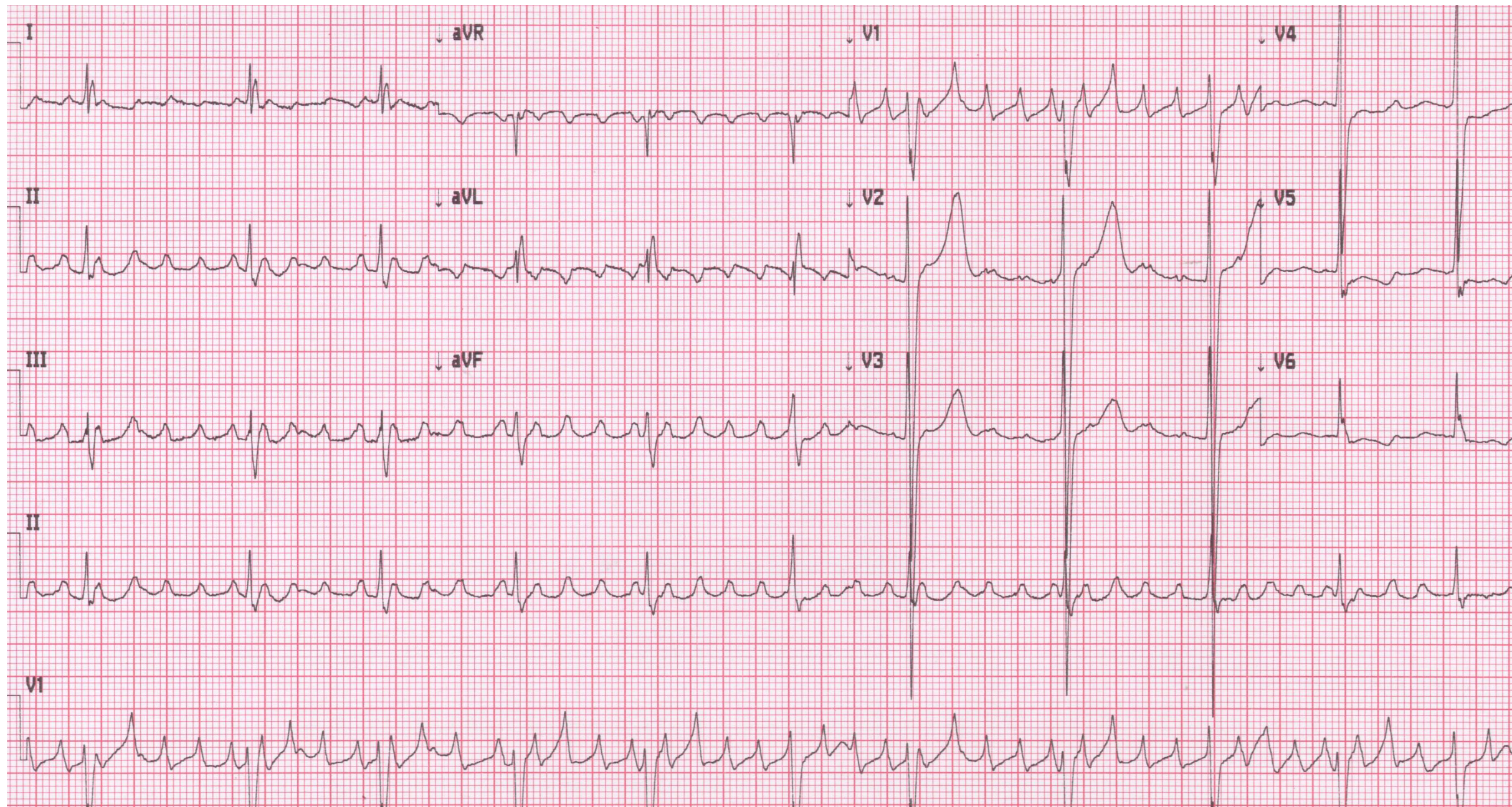
Entomologia



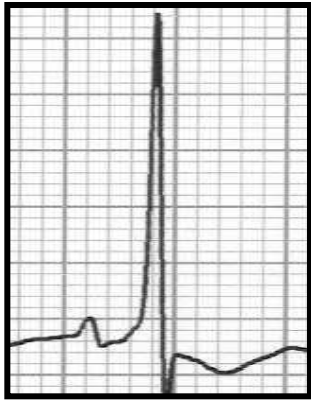
CMP restrittiva 6 aa



15 aa, cardiomiopatia restrittiva



PR breve



WPW

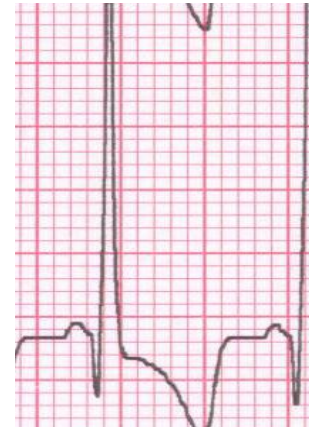
(EBSTEIN
S.TUBEROSA,
L-TGA,
AT)



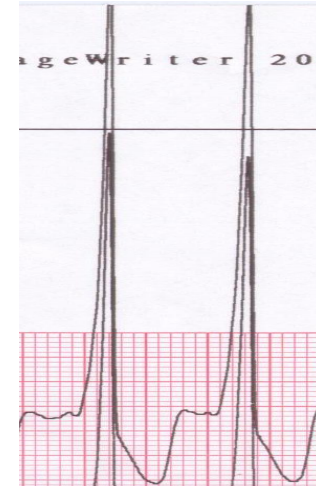
CPVT



Duchenne



**Pompe,
Fabry**



**Danon
PRKAG2**

Accumulo dentro $\uparrow$ R e accorcia PR- Accumulo fuori $\downarrow$ R e allunga PR

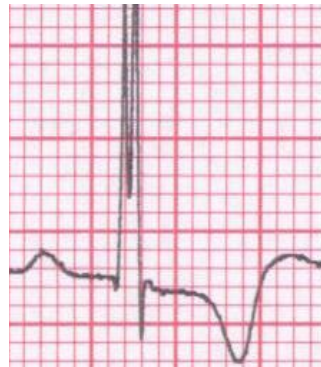
PR lungo



Malattia
Reumatica



Brugada



CMPI

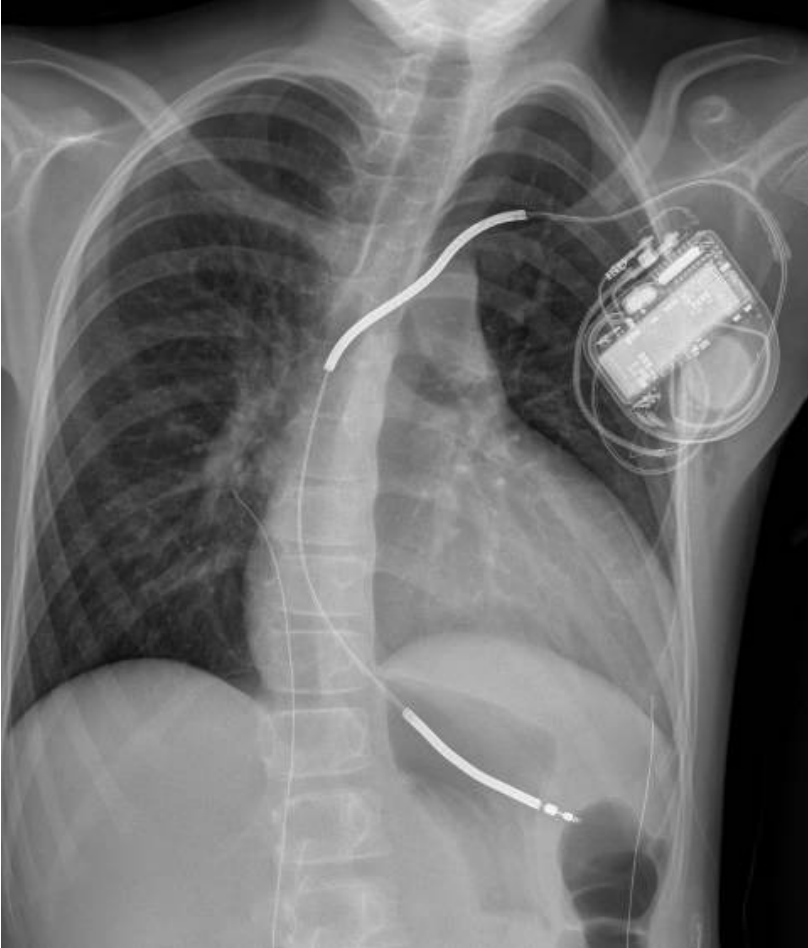


Canale AV



L-TGA

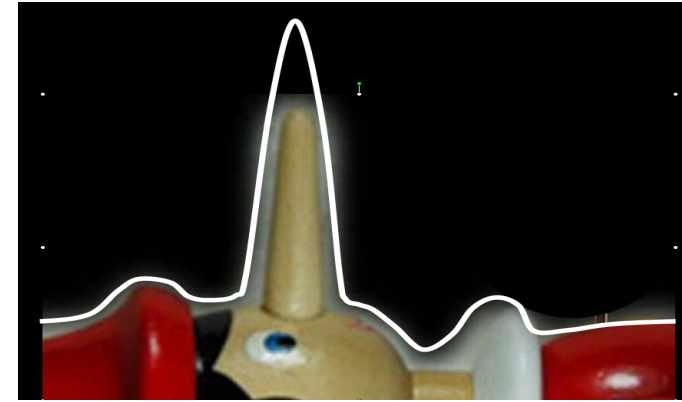
DANON



From "Atlas of Pediatric and Youth ECG"
G.Bronzetti, Springer int.

Una R non fa ipertrofia

**la R alta patologica non viaggia sola
peggio R basse inattese**

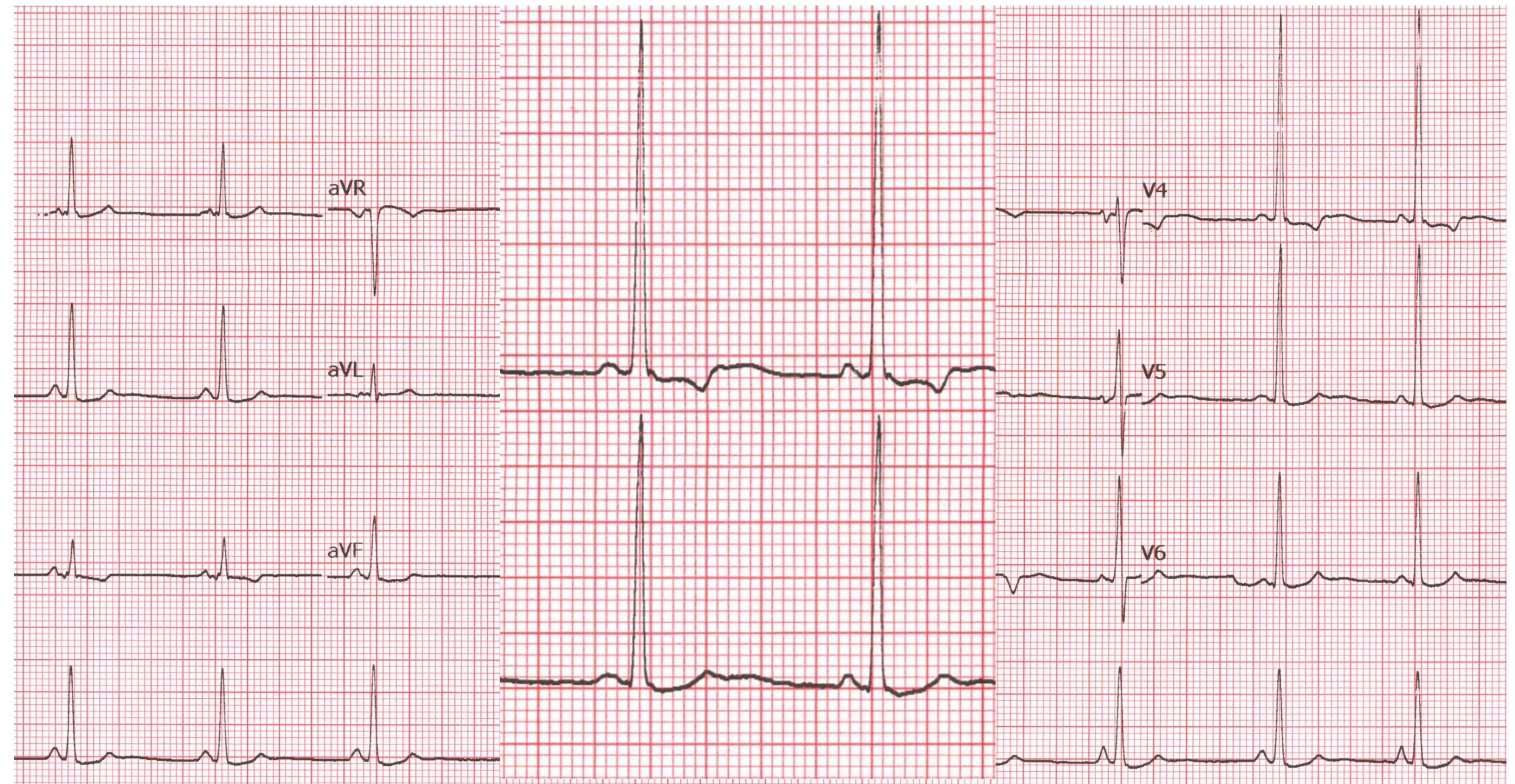


$Q < 25\%$ di R

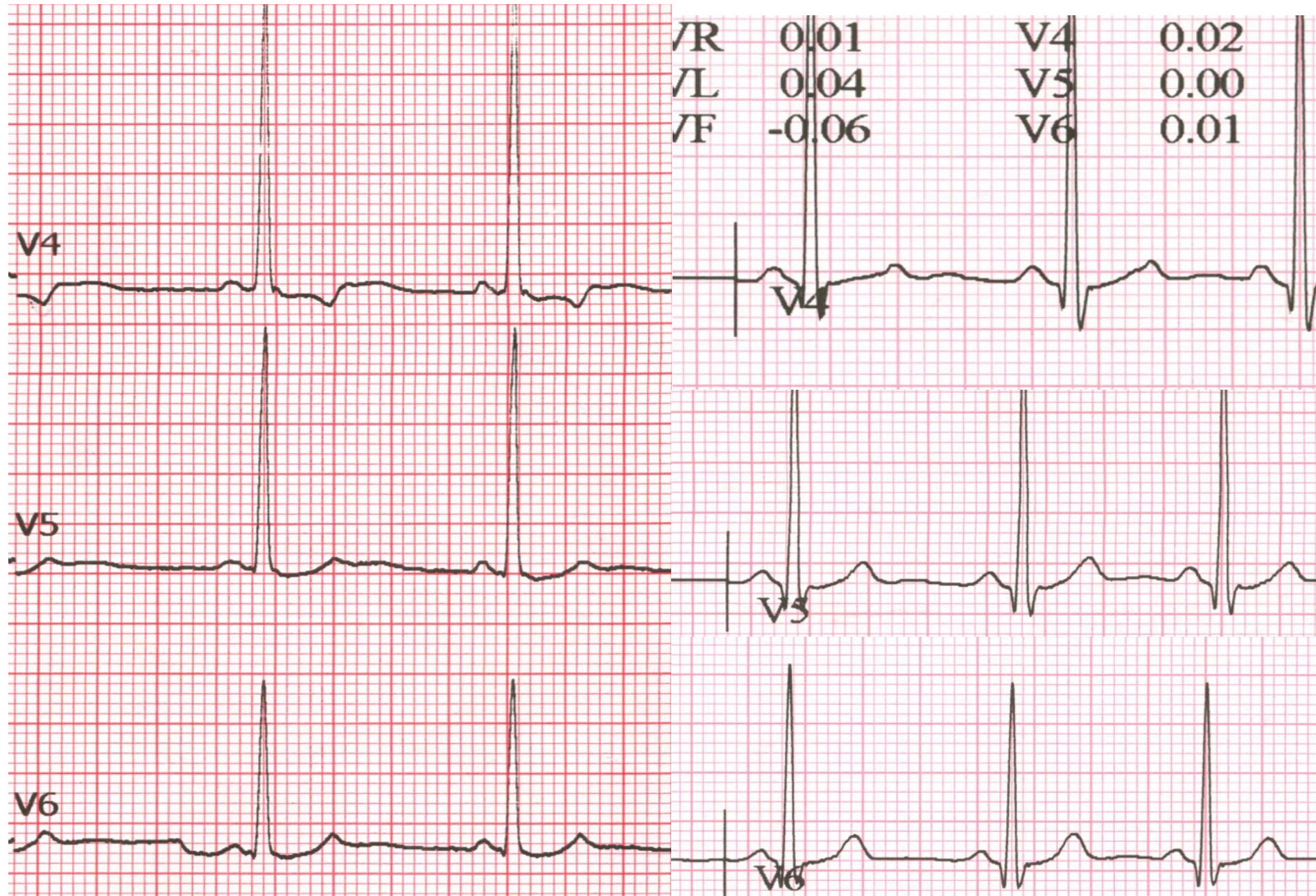


La ripolarizzazione canta più della depolarizzazione

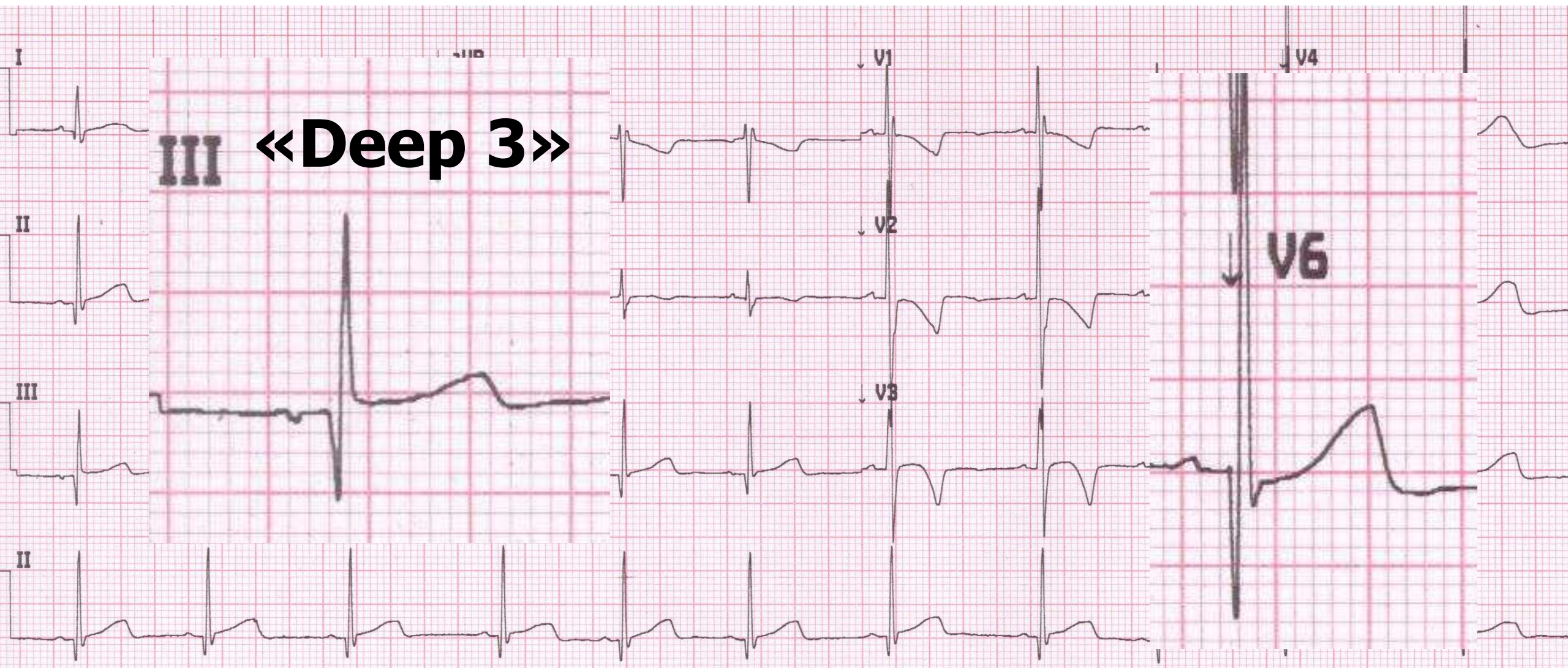
RP, 13 aa, inviato per eco pre RMN per sospetta CMP



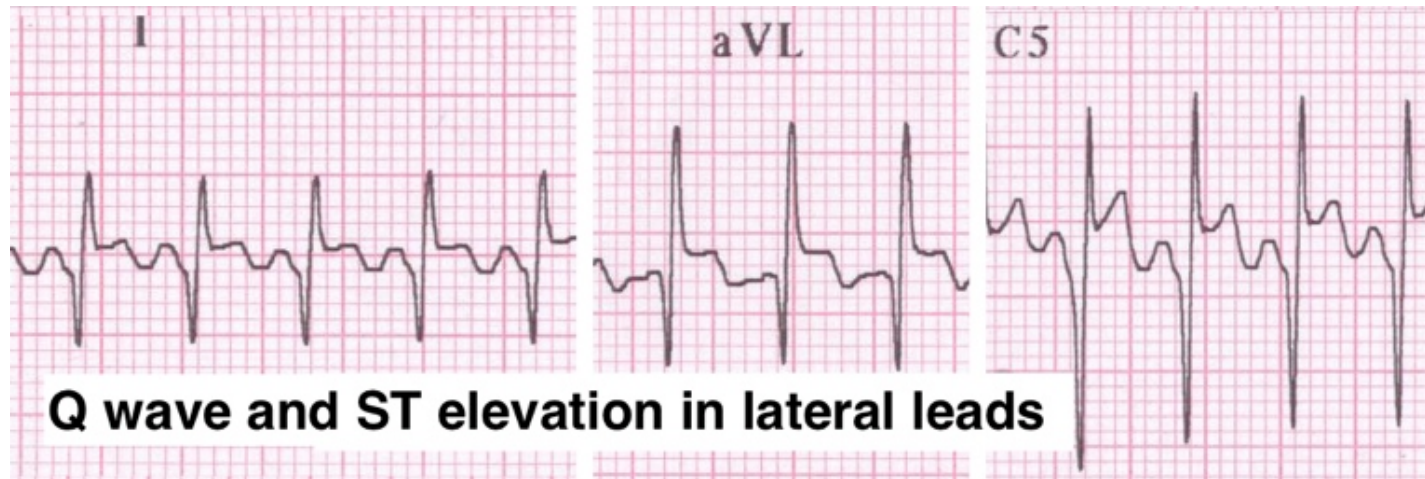
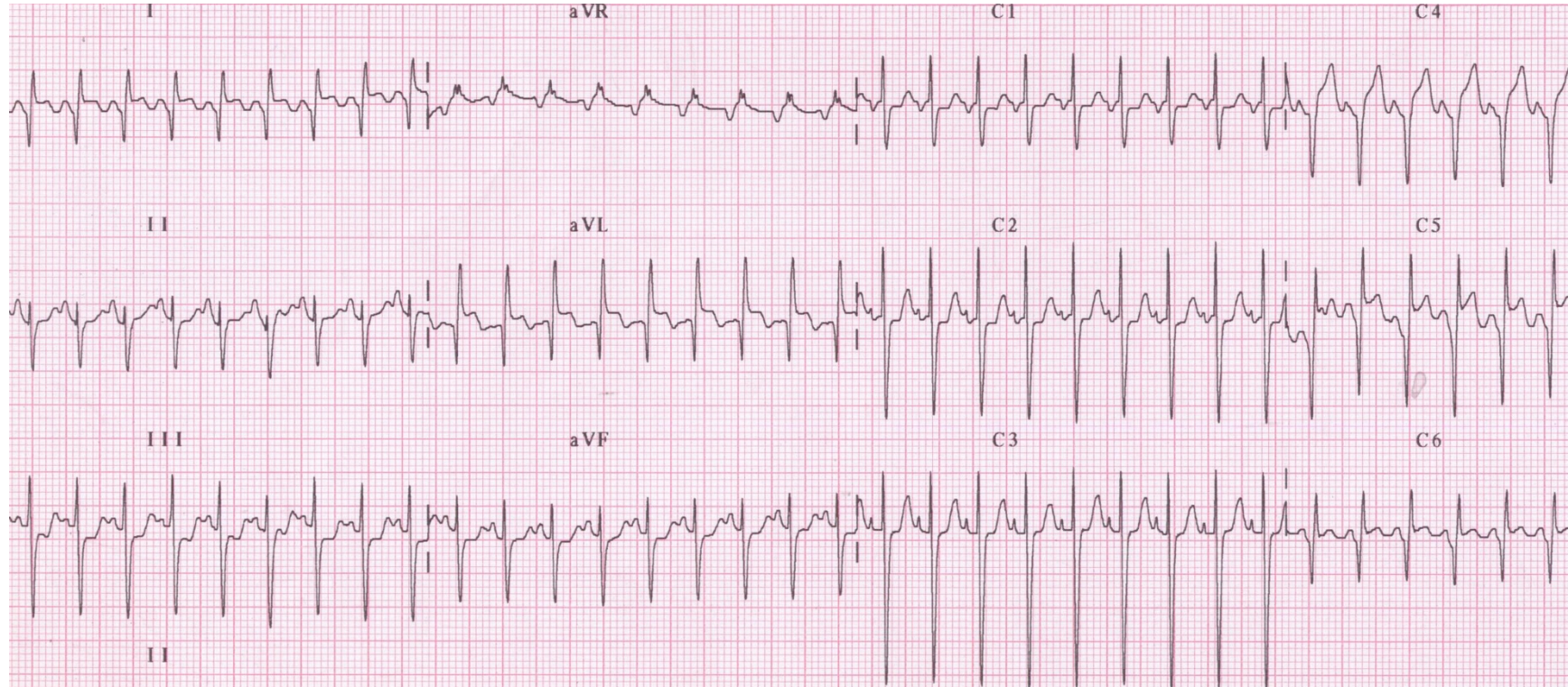
RP, inviato per eco pre RMN per sospetta CMP, pochi giorni dopo



Q PROFONDE ECO NORMALE Dove non c'è Q c'è



Le Q è meglio averle, c'è un limite a tutto



2 anni , africano magro

0/a:31-lug-2010
I, F

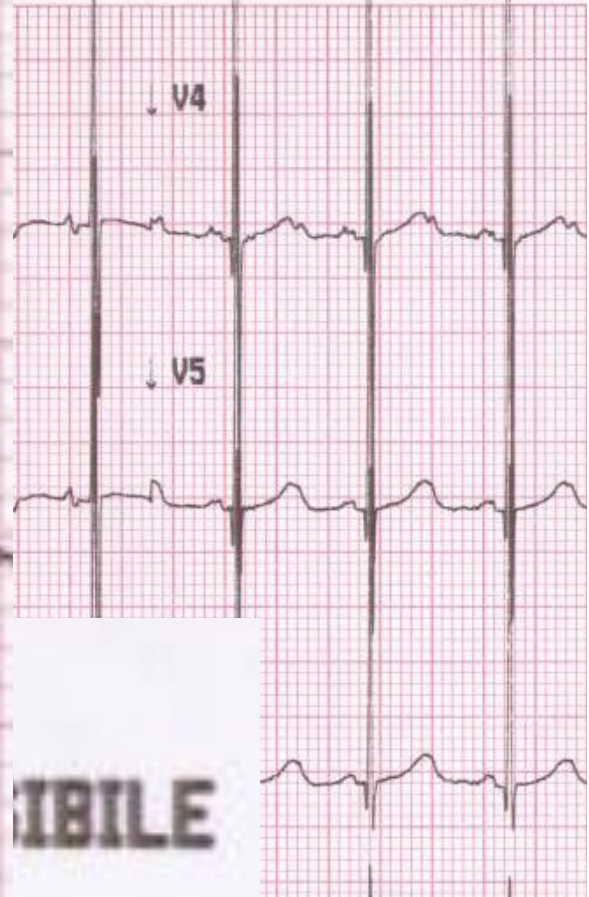
vy
Cui 61
SO2 9

Freq Vent: 115 BPM
Int PR: 0 ms
Dur QRS: 55 ms

INTERPRETAZIONE COMPLETA NON POSSIBILE
ECG ATIPICO

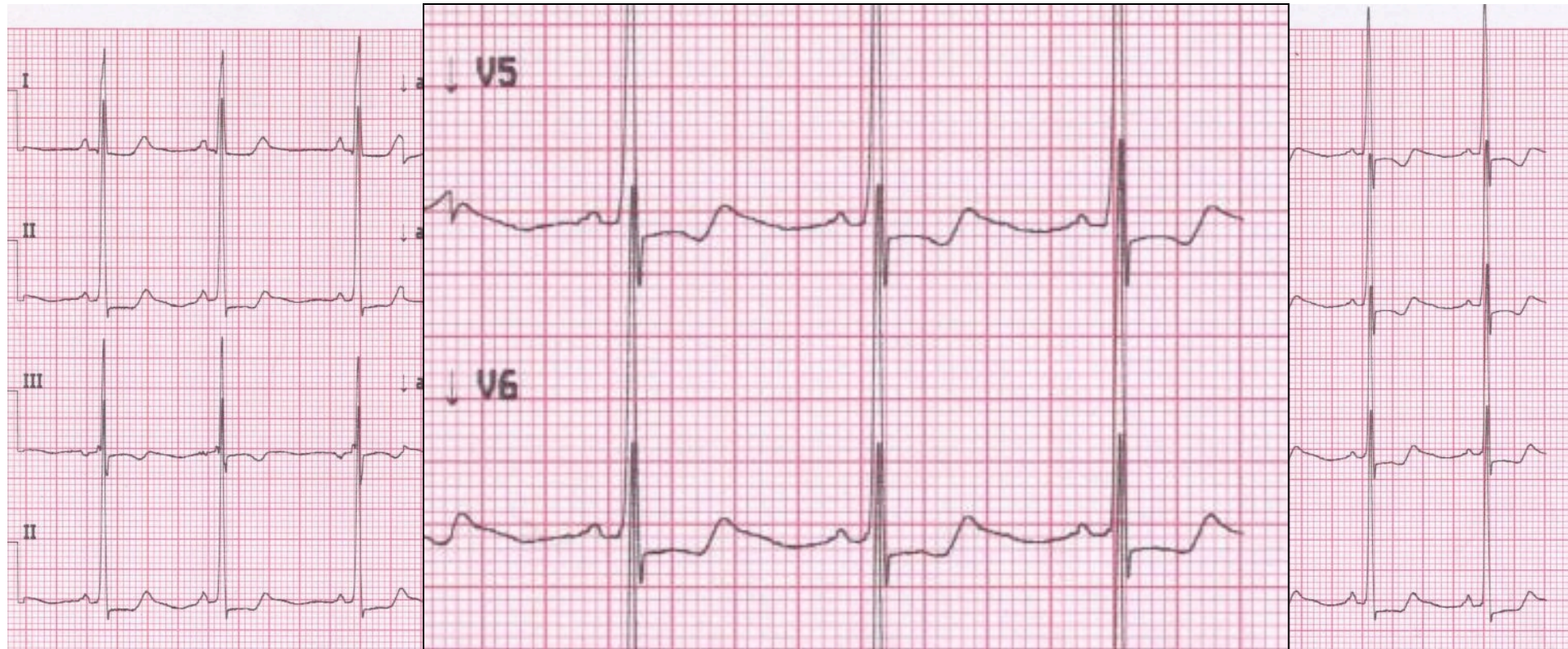
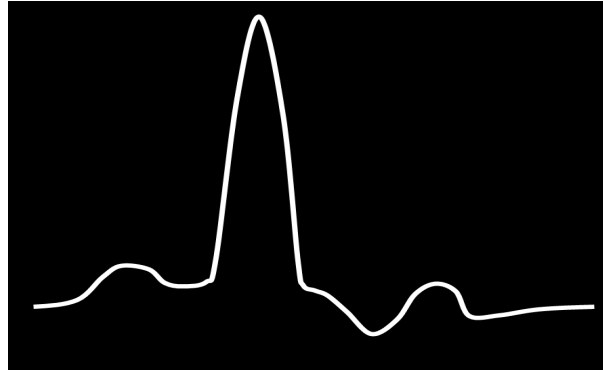
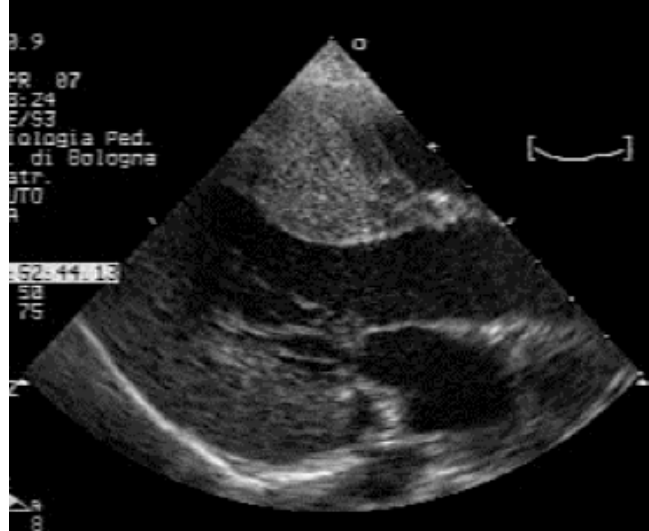


PAC
INT
ECG

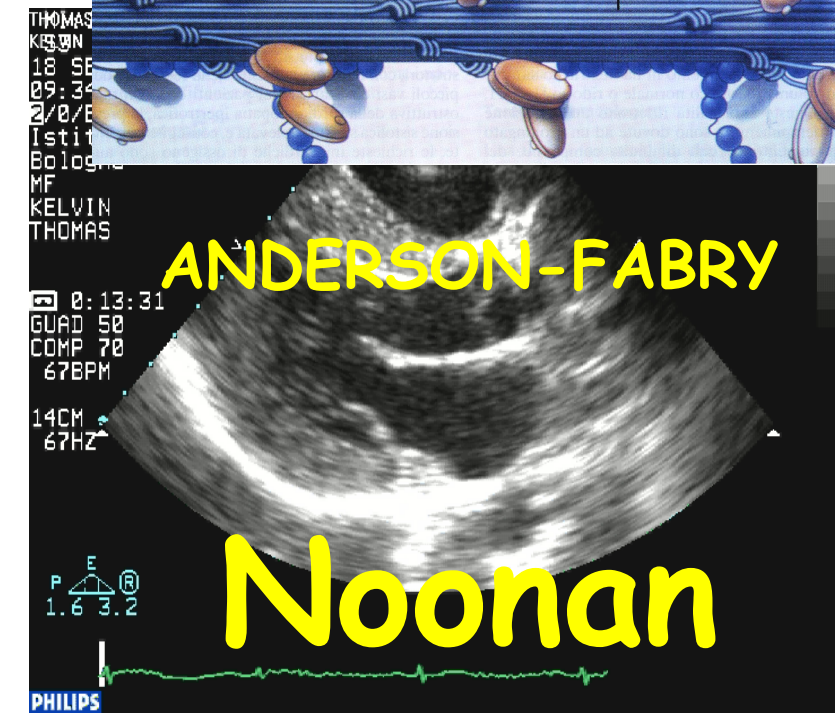
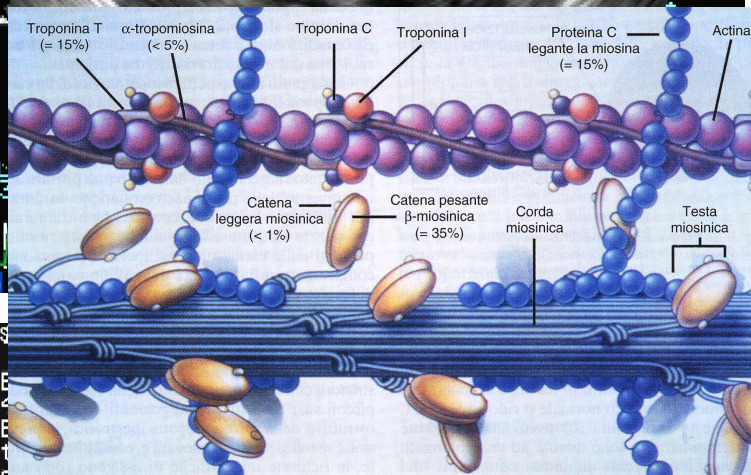
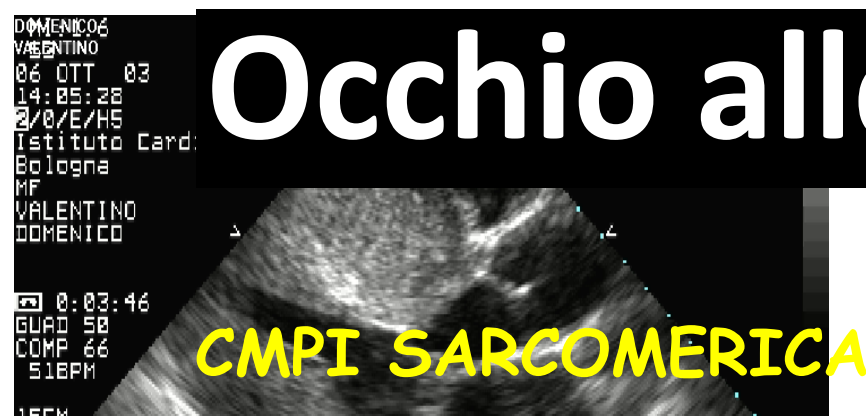


IBILE

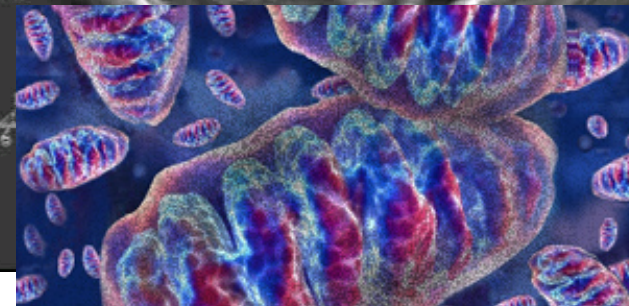
CMPIX



Occhio alle fenocopie

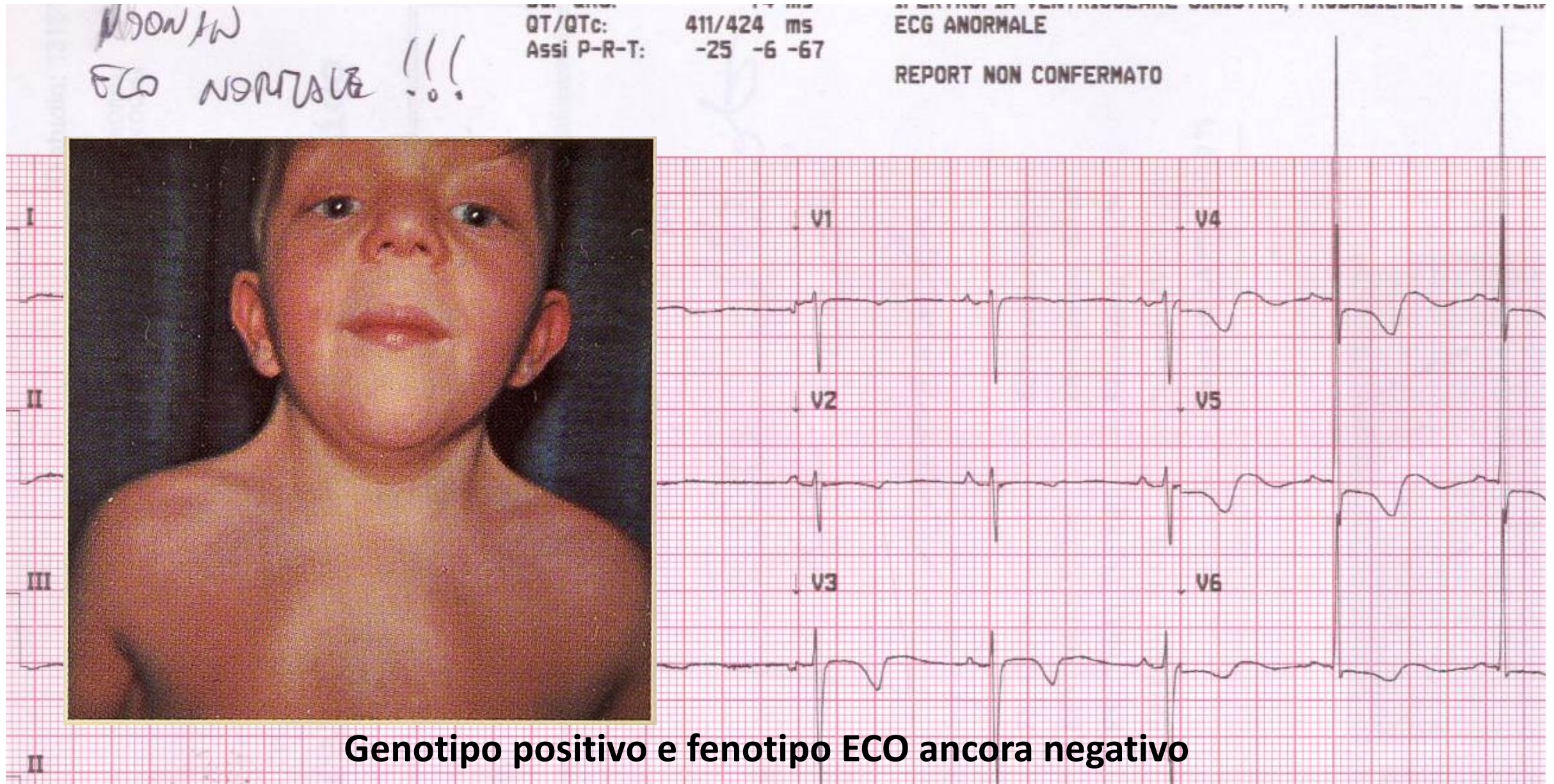


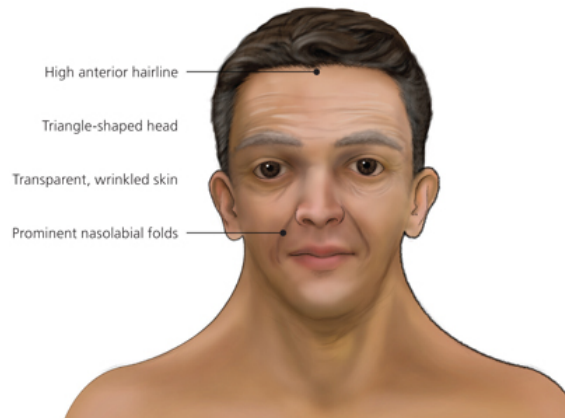
Noonan



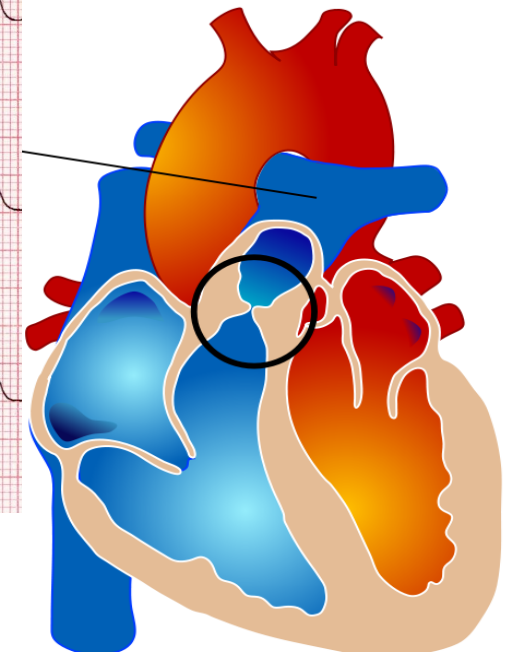
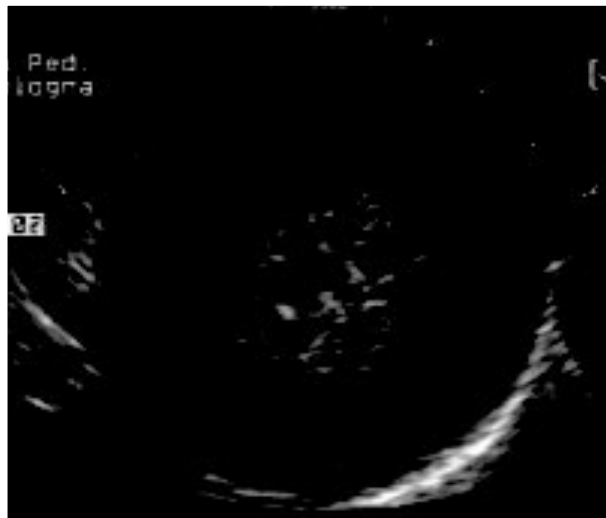
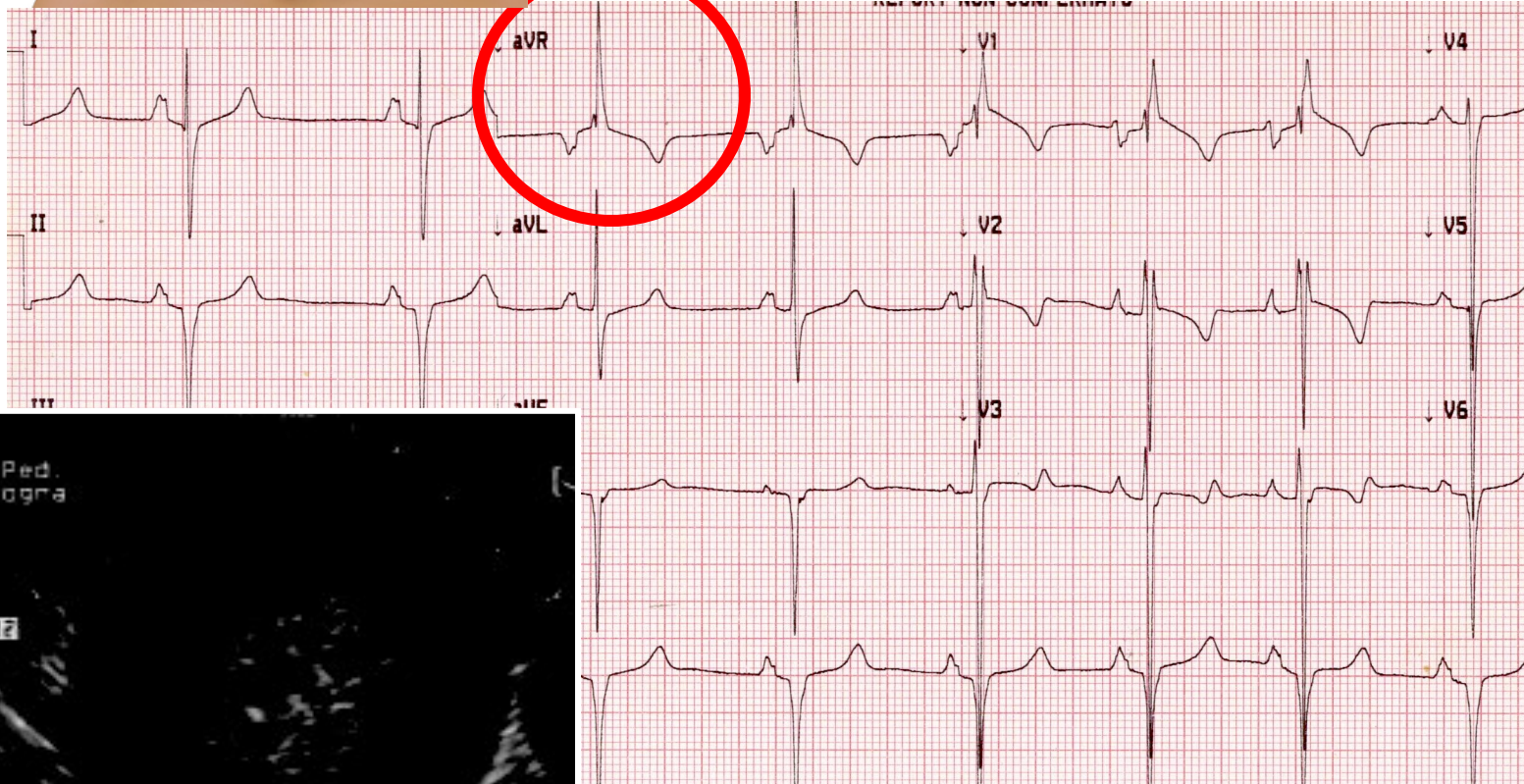
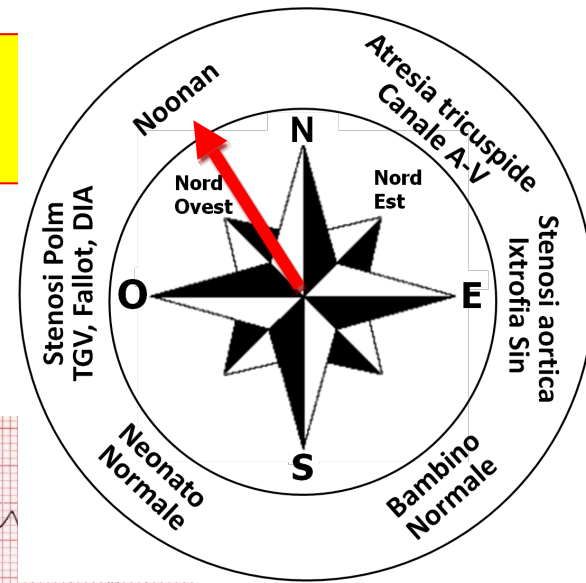
Noonan ECO normale

Non memoria ma ...

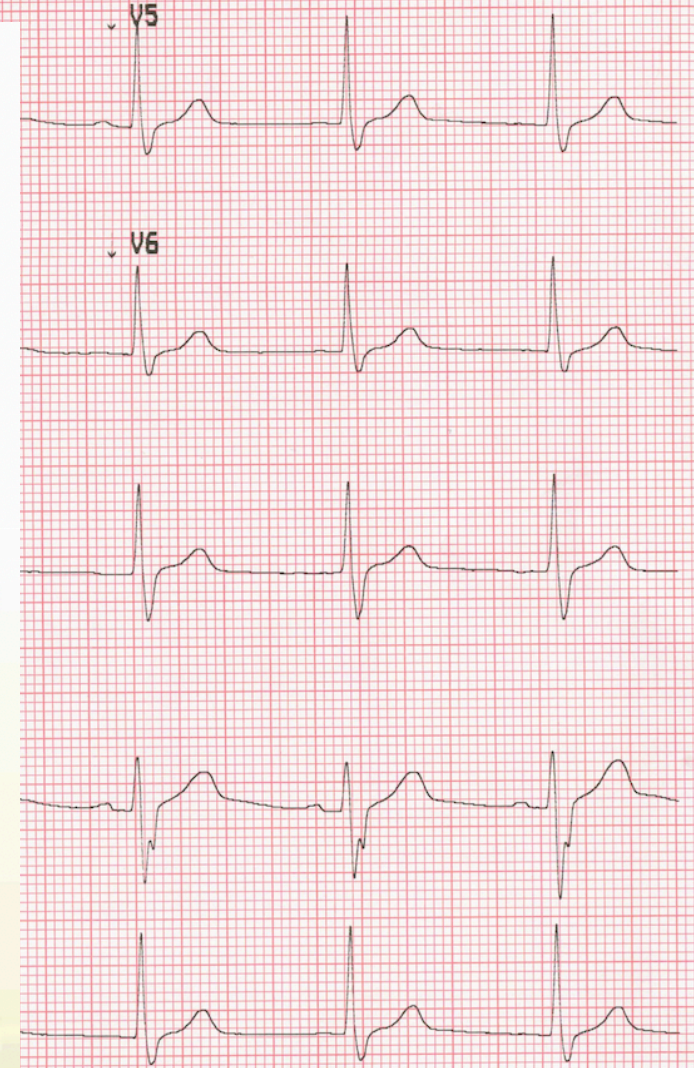
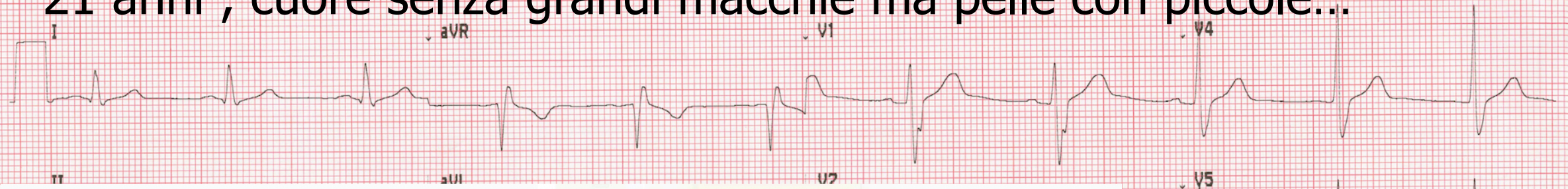




Asse a Nord-Ovest



21 anni , cuore senza grandi macchie ma pelle con piccole...



QRS fragmentation



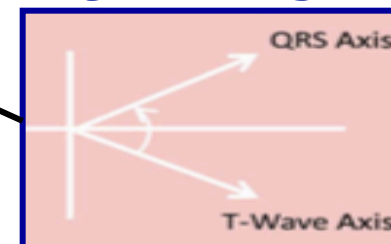
Upstroke S > 55 msec



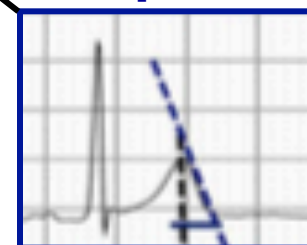
LV hypertrophy



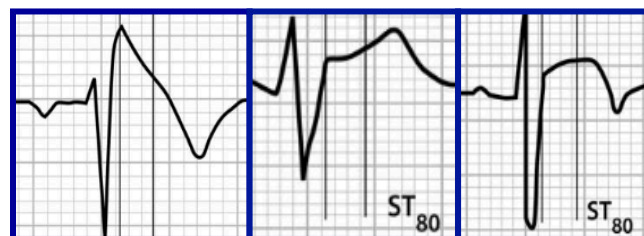
QRS-T angle



↑Tpe



ER pattern



↑QT/QTd



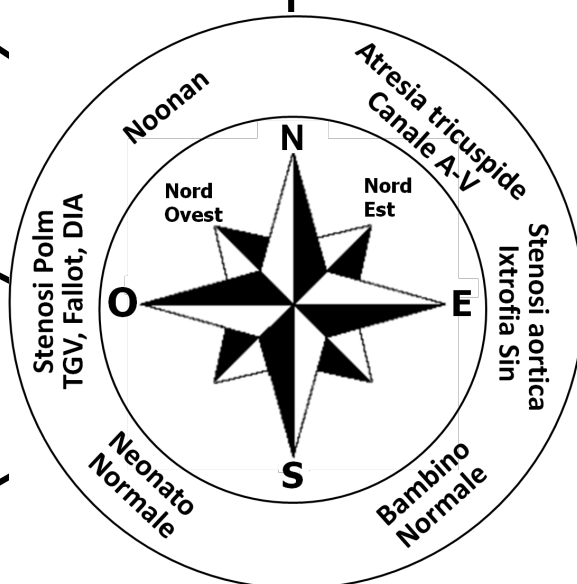
T wave alternance



Low voltage- Q waves

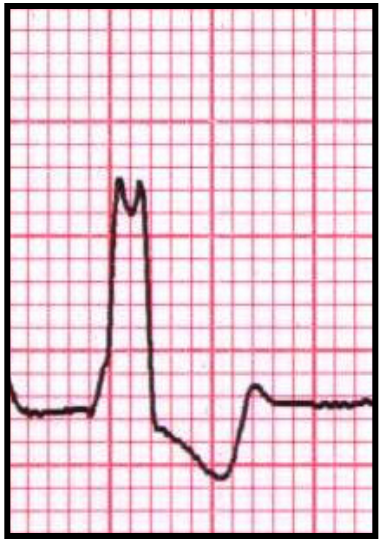


↑QRS > 110 msec

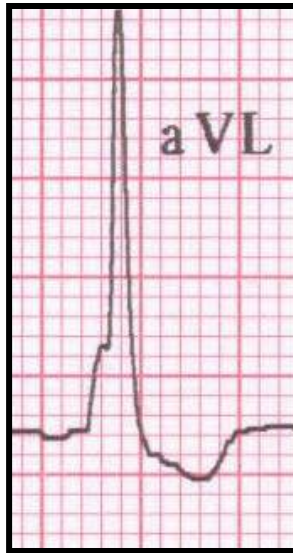


Fat and fatal ?

Obesità anti ST etica



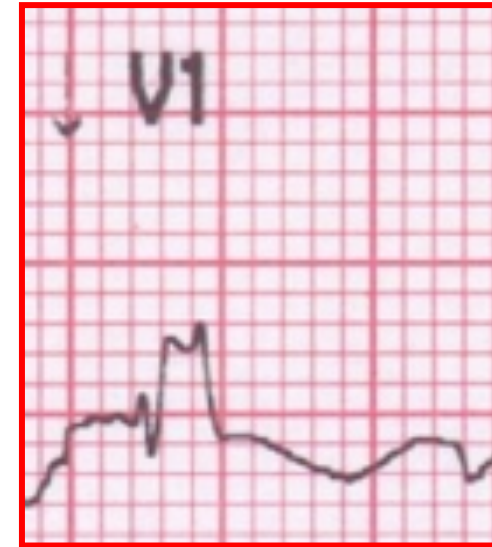
TV



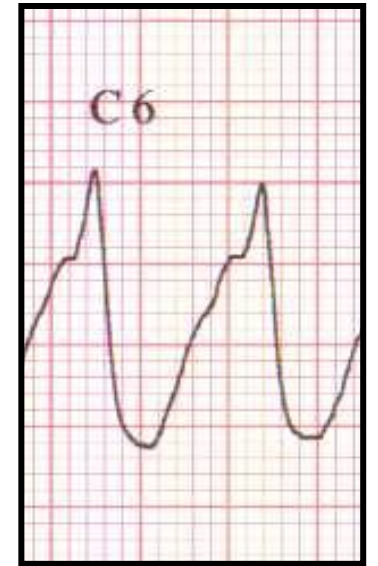
WPW



QT lungo



QRS polifasico



A.A.

Strutturali

HCM

ARVD

Ano Coronarica

Ipert. Polmonare

DCM

DCM+LQTS

Myocarditis

Neuro Muscular

**Restrictive
cardiomyopathy**

Marfan's

PVM

Congenite

SCARRHYTHMIAS



Elettriche

LQTS

Short QT

Brugada

WPW

CPVT

**Andersen
syndrome
(LQTS 7)**

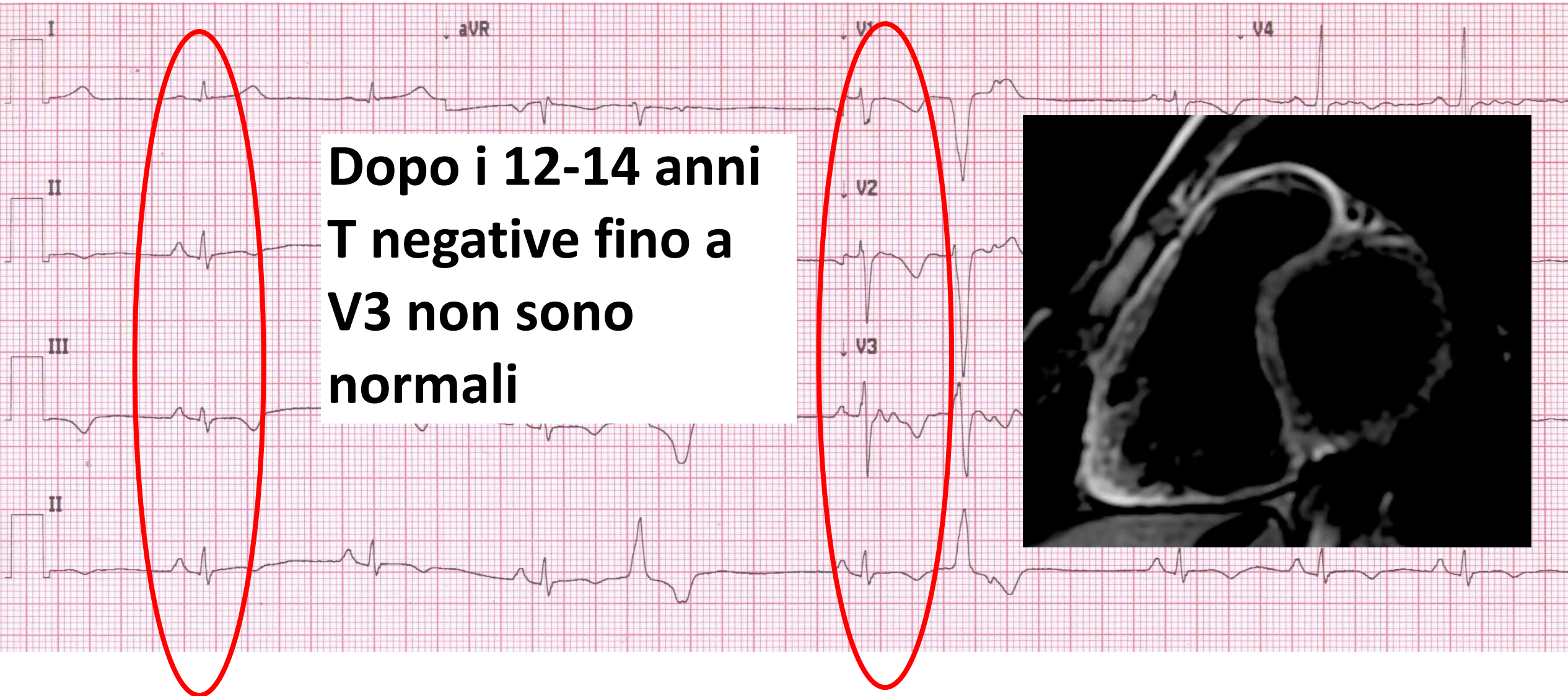
**Timothy
(LQT8)**

Lenegre

**Heart block
(cong or acq)**

Idiopathic VF

ARVC 14 aa



Bassi voltaggi

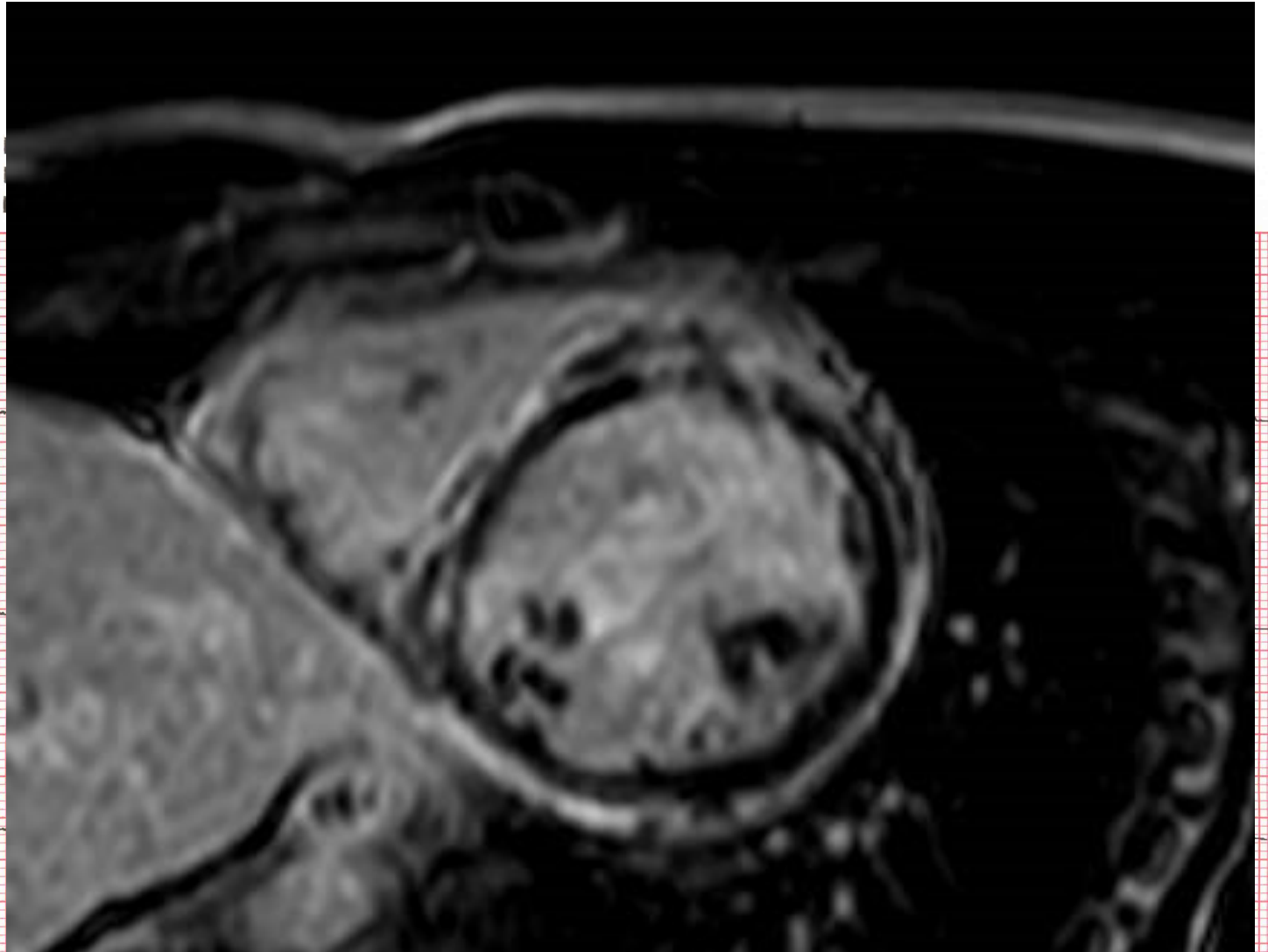
T precor dx negative

V.L. : Post Miocardite neonatale, ero-basale fibrosi post

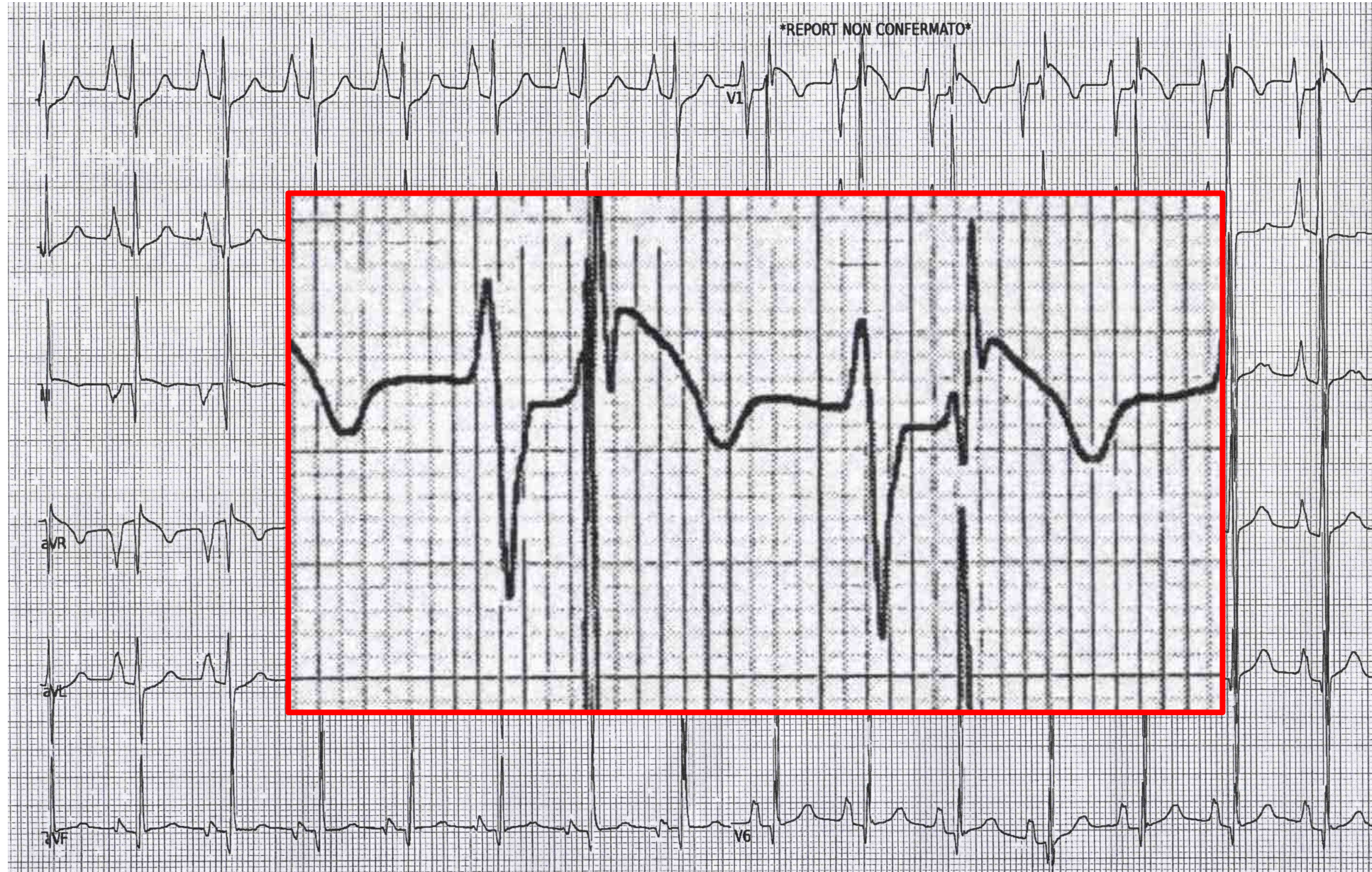


**Samuele 13 aa ,
CMPD , in
pizzeria....**

RR Medio: 968
QTcB: 425
QTcF: 423



Tommaso a scuola, 14 aa, CMP ipertrofica con fisiologia restrittiva- Spot fibrosi settale RMN



Età media 12 aa

Sorbara bimba di 11 anni muore per arresto

Nov 2018

Scegli Tui

Corsi gratuiti

Casa donne



Cronaca / Savena

**Savena: malore a scuola per un 17enne
ricoverato in rianimazione**

Ha chiesto di poter uscire per prendere una boccata
scuola: soccorso dal personale e poi dai

Redazione

16 dic 2018

14 anni, scuole Keynes

- giorni si trova in Sicilia da parenti. Carabinieri. Il Pm di turno disporrà

Cronaca

**15enne con arresto cardiaco in classe: prof,
taxi e sanitari insieme per salvarlo**

Un lavoro in tandem e una corsa disperata in ospedale. Il ragazzo si è accasciato in class

BT

Redazione

30 SETTEMBRE 2018 08:27



97

Condivisioni



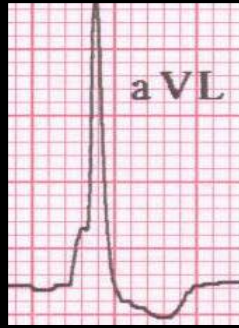
I più letti

**Vicenza, muore a 12 anni mentre
gioca a calcetto. «Stroncato da
infarto»**

Il dramma nel tardo pomeriggio ad Arsiero, durante una partita tra amici in patronato.
Soccorsi inutili. Paese sotto choc. La vittima si chiama Samuele Meneghini

di Redazione Online

Substrate



Koch
Coumel
Einthoven



Trigger

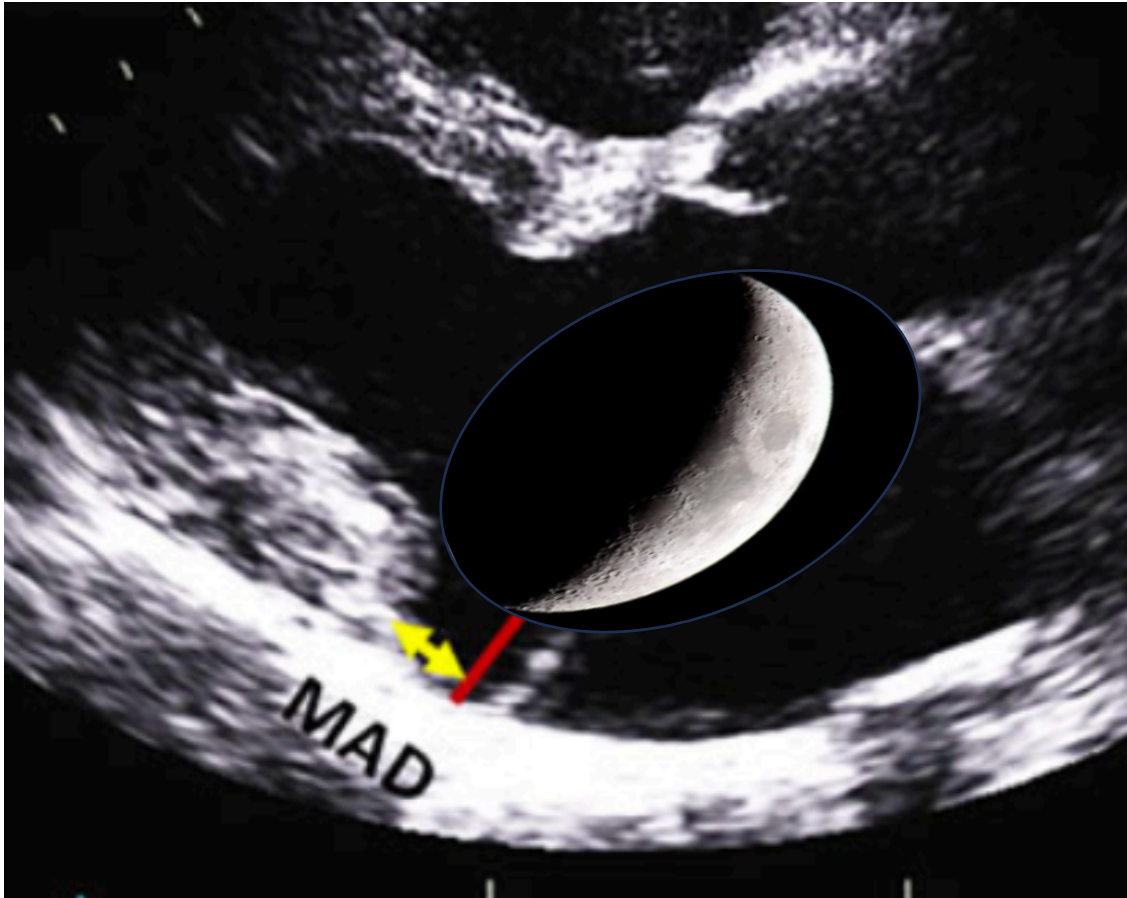
PAC,PAC
PMK
Catheters
Volume Δ

12

Modulators

Inotrop, Fever
Autonomic Δ
Ischemia
Electrolites Δ
Ormons,Drugs

The Dark side of the M...

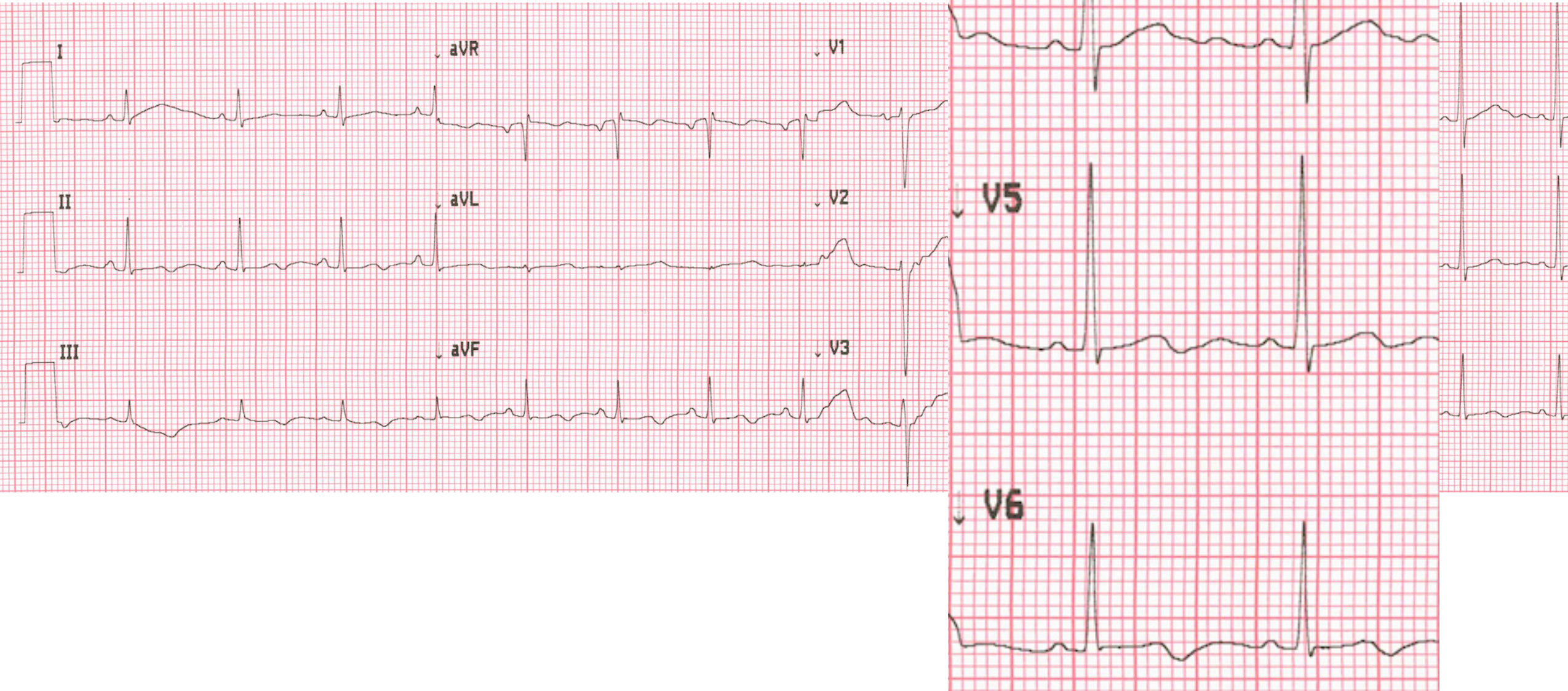


MAD=
Lunatic



Cratere

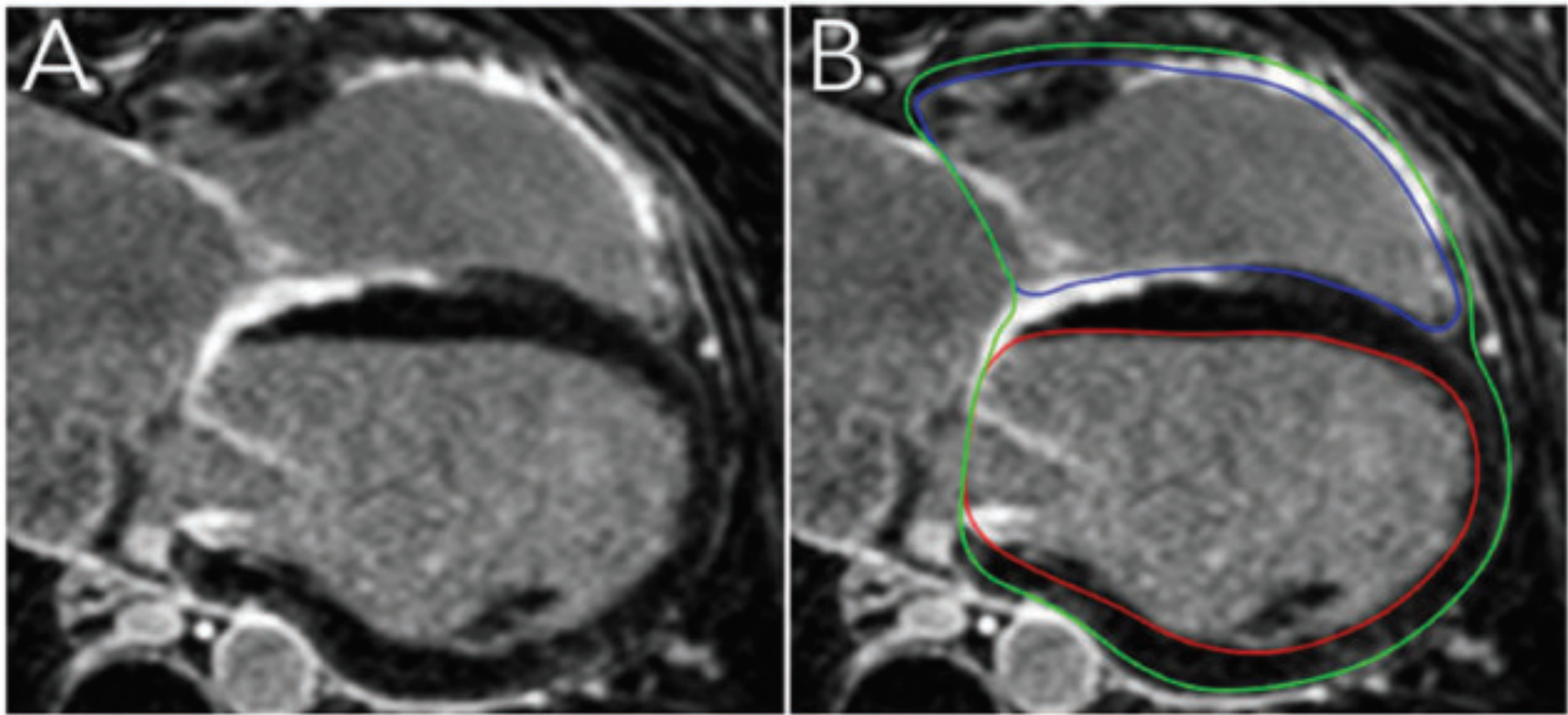
C.A. 11 aa PVM con MAD

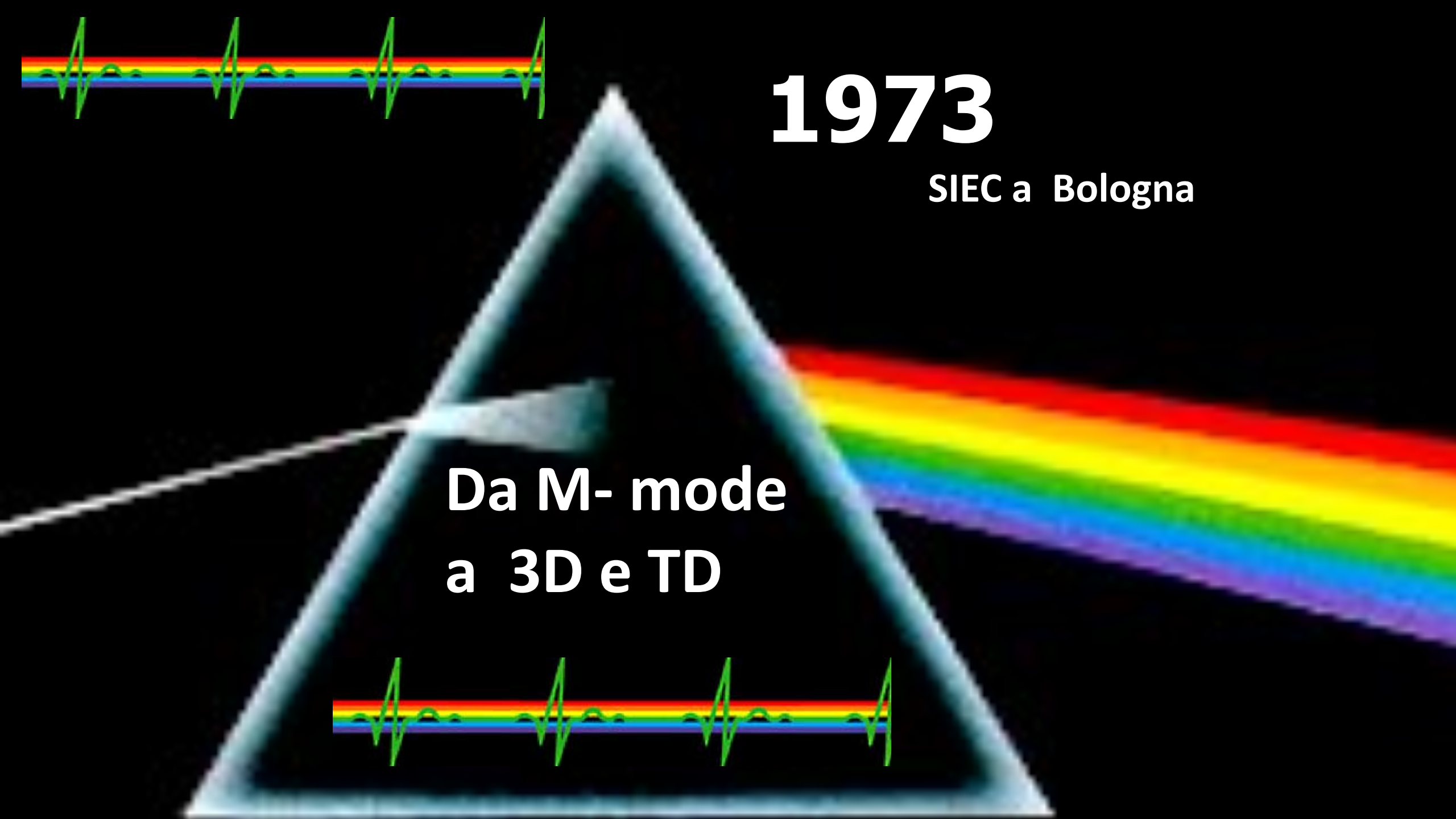


Tempo trasc. 04:05



RMN?





1973

SIEC a Bologna

Da M- mode
a 3D e TD

The “right” side of the moon

Radiologi

Genetisti

ARVD

BrS

RVOT

IxPol

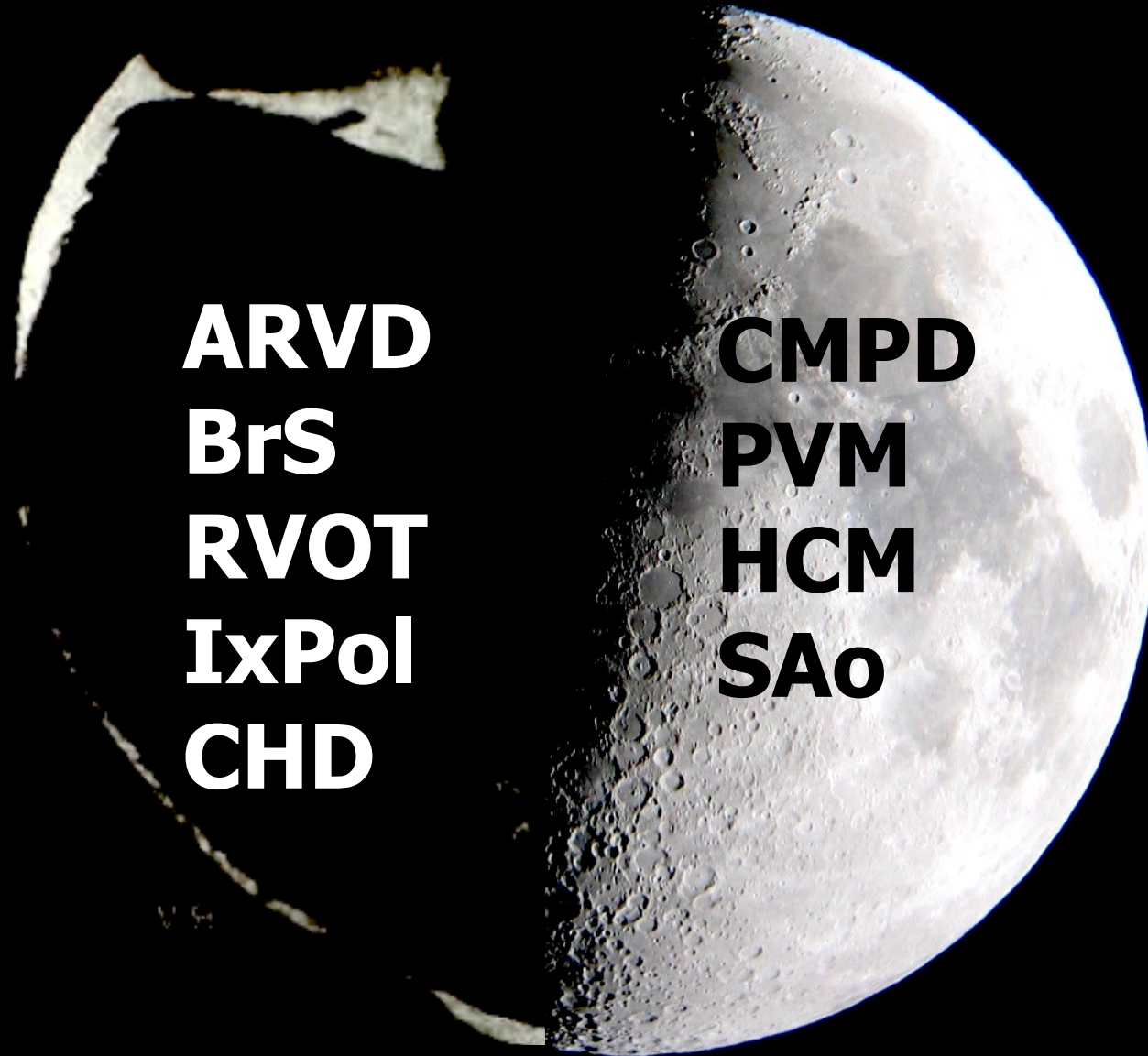
CHD

CMPD

PVM

HCM

SAo



8/8/2019

CRONACA FRANCAVILLA AL MARE

Si accascia durante la partita di calcetto, muore a 15 anni al policlinico

Tragedia in vacanza: Lorenzo Verna, 15 anni di Milano, era a Francavilla al mare con la famiglia. Ieri sera ha avuto un malore improvviso sul campo di calcetto



Redazione

09 agosto 2019 08:52



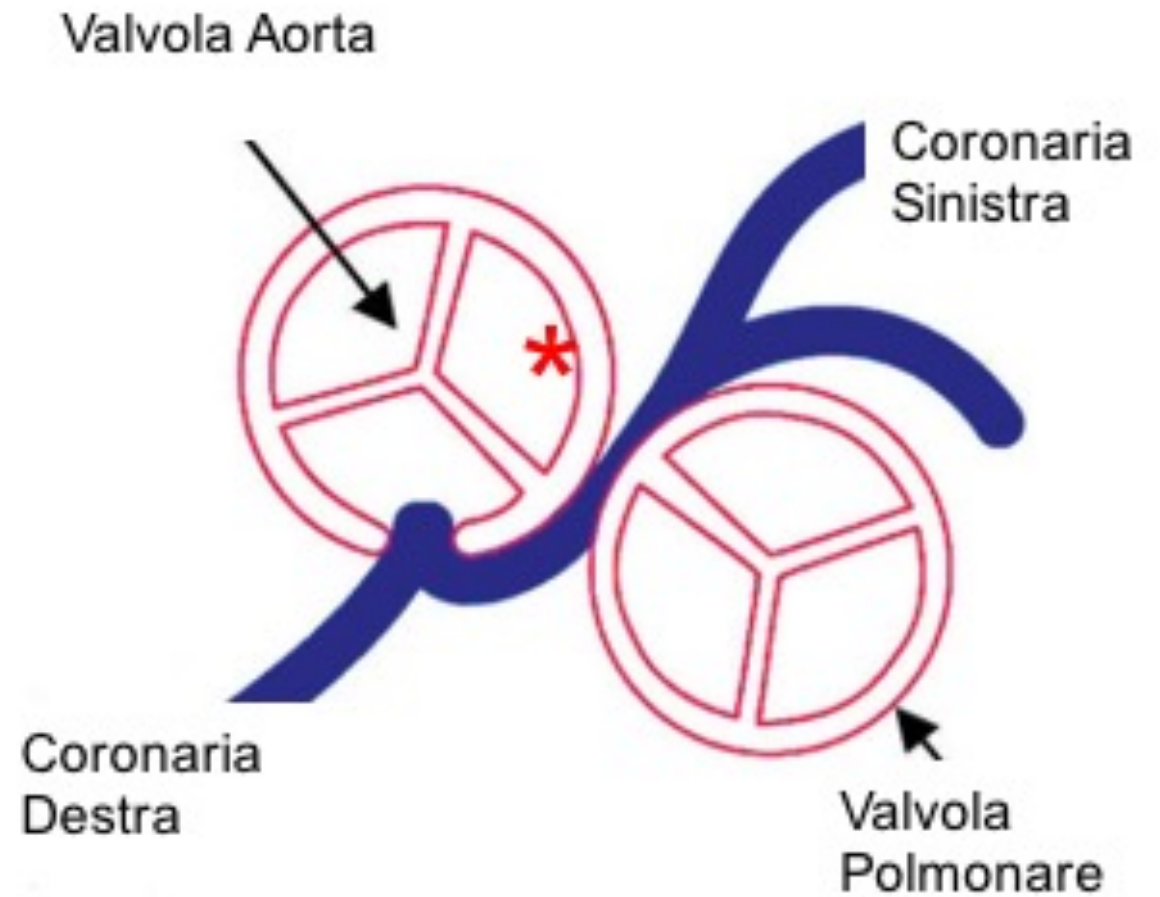
Lorenzo, 14 aa



3 mesi prima:
sincope da sforzo
ECG normale
ECG sforzo normale
Holter normale
Eco normale
Troponina positiva

👍👎❤️ 2574 8 agosto 2019 Commenti: 393 Condivisioni: 1441

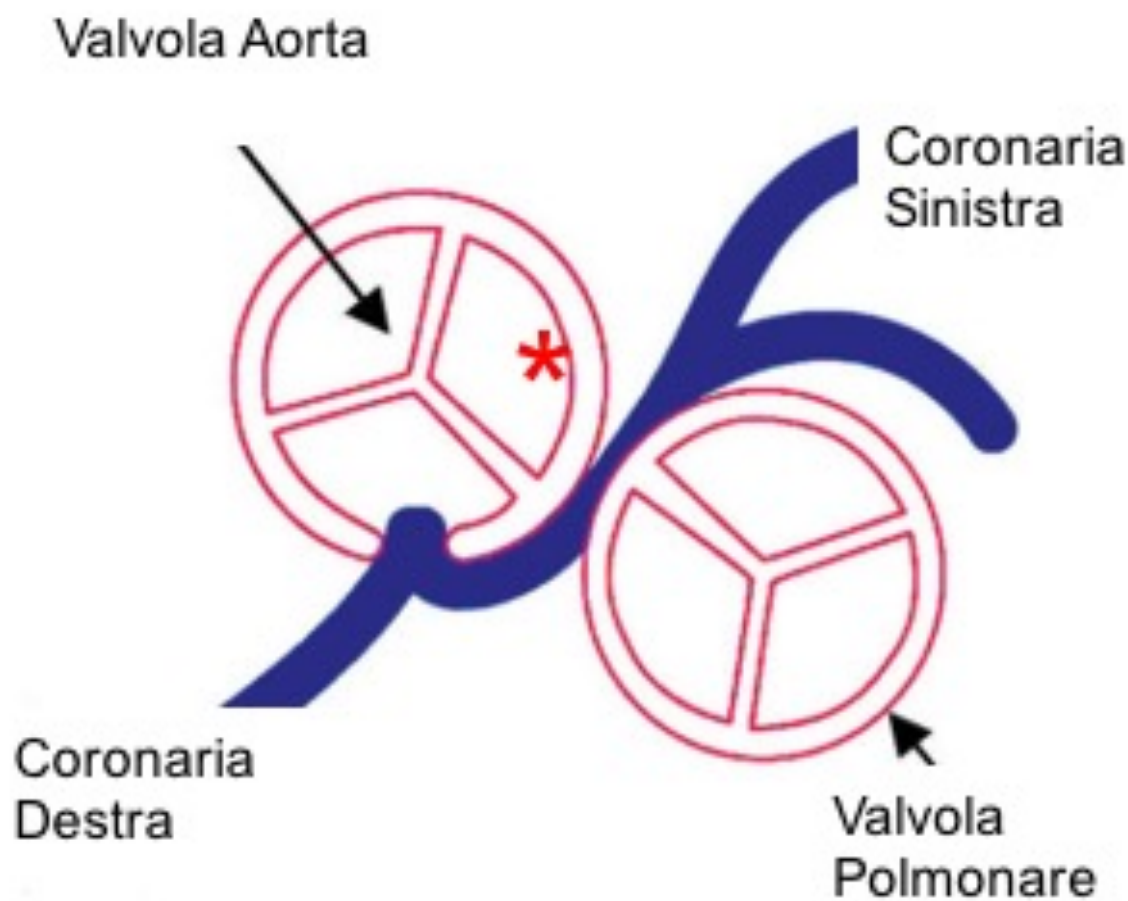
Lorenzo, 14 aa, Sincope sforzo ECG normale



2574

8 agosto 2019

Commenti: 393 Condivisioni: 1441

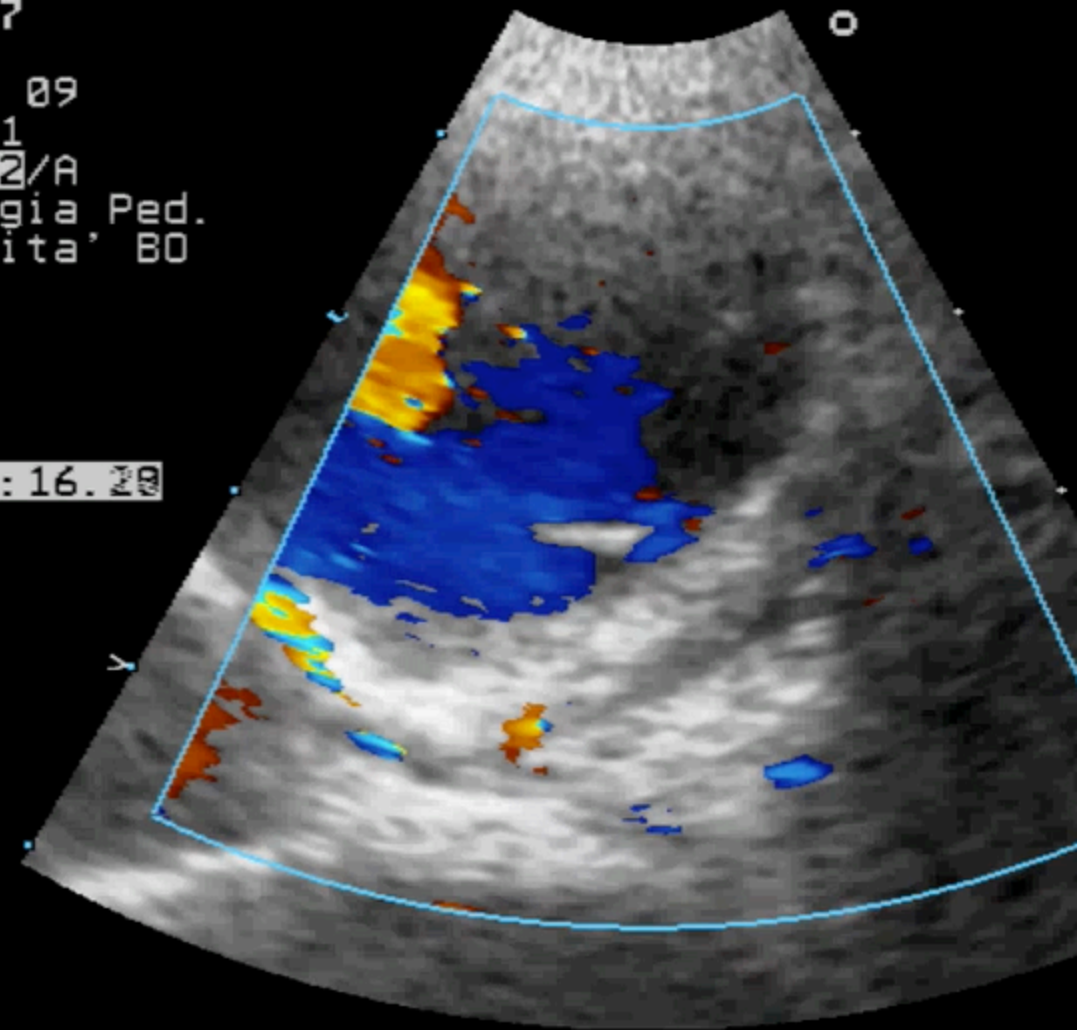


TIS: 1.7
S8
08 GEN 09
13:23:11
2/0/E/M2/A
Cadiologia, Ped.
Universita' BO
TEE
obi
charles
obic

0:27:16.28
GUAD 73
COMP 65

8CM
21HZ

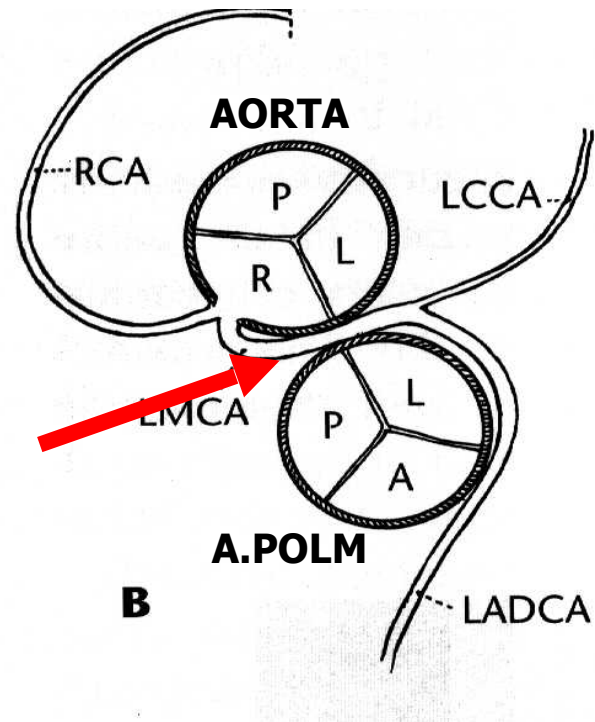
E
P 3 R 8



Lorenzo , 9 anni- **“ Mister ho male qui ”**. Sei mesi prima...

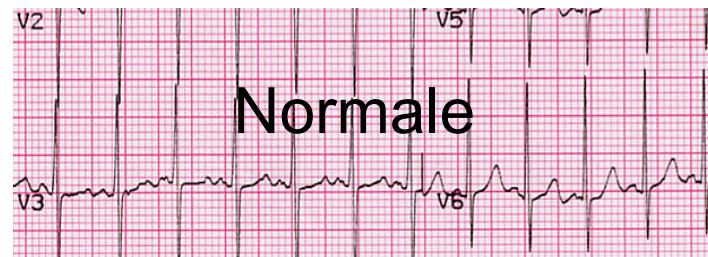


- Si è accasciato . Due allenatori hanno praticato il massaggio e BLSD. C'era il **defibrillatore ma non è stato usato**. Dopo 15 minuti è arrivato il 118.
- Tronco comune: origine dal seno destro con decorso retroaortico; angolo acuto, ipoplasia diffusa.
- Istologico: foci di recente ischemia in stato infiammatorio riparativo ; miocardite linfocitaria multifocale

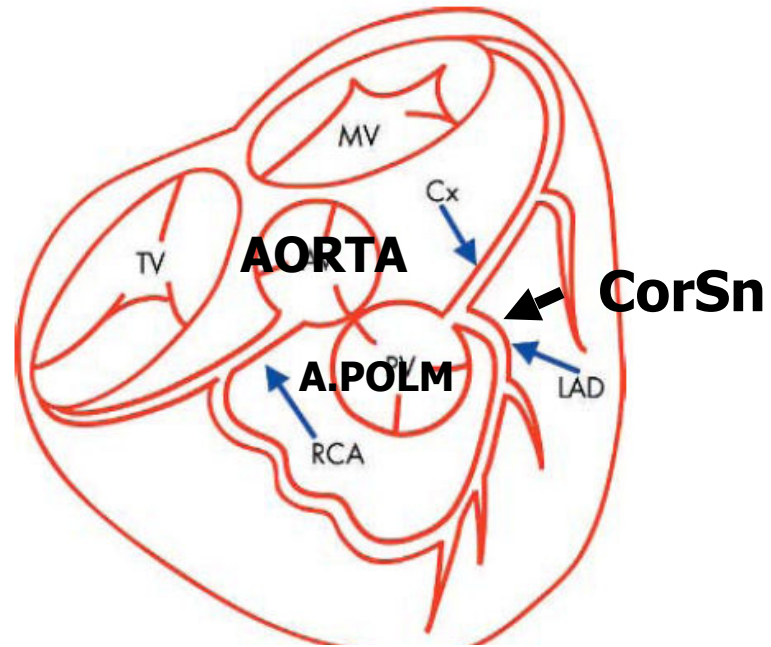


AOCA

Sincope > 10 aa



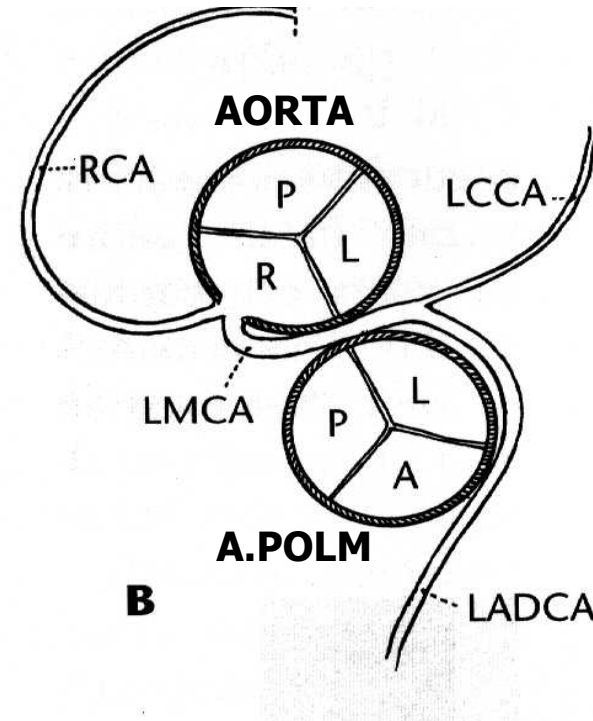
ALCAPA



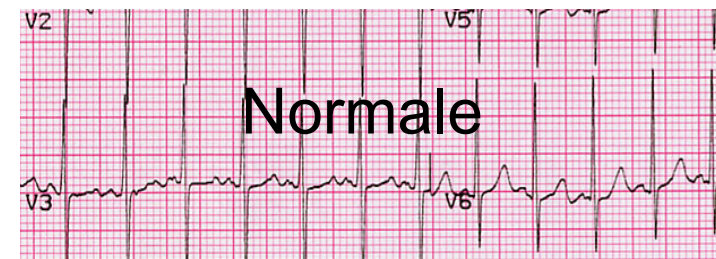
Scompenso < 1 anno



AOCA

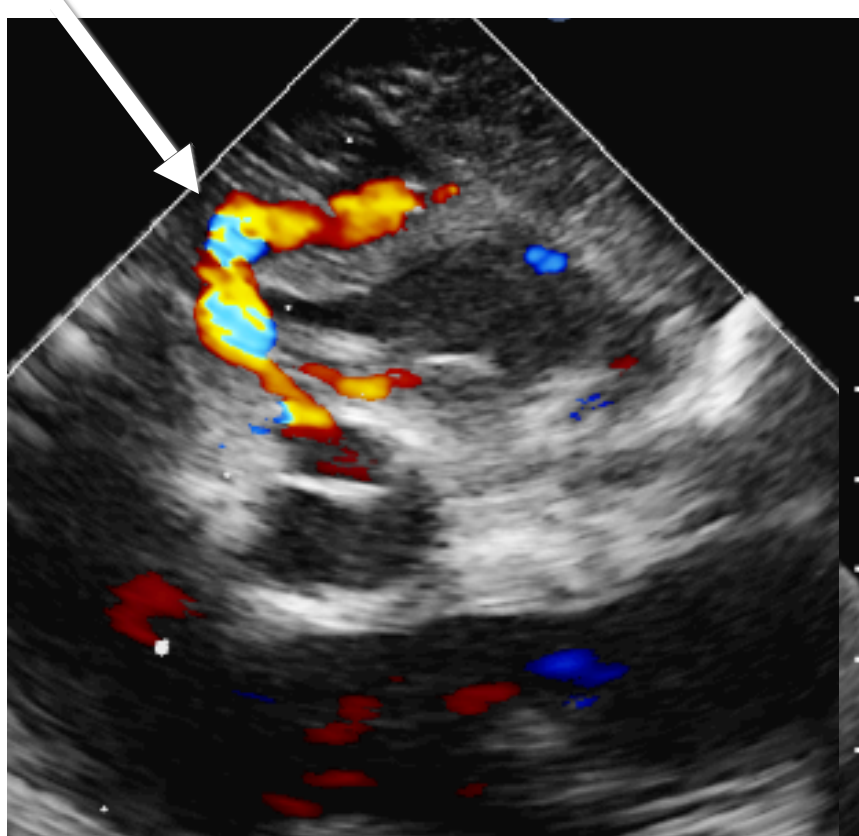


Sincope > 10 aa

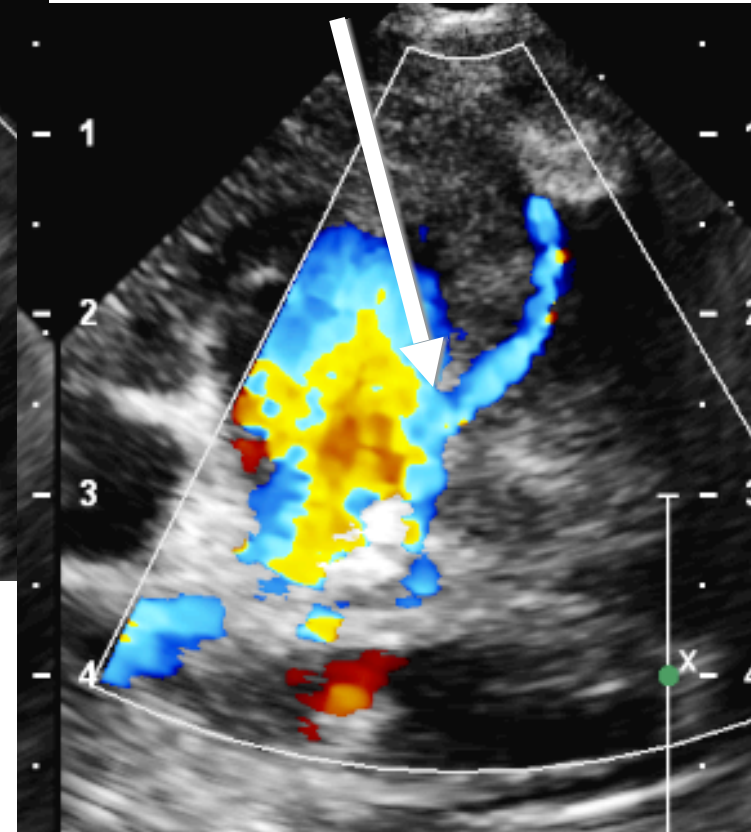


Furto con «destrezza»

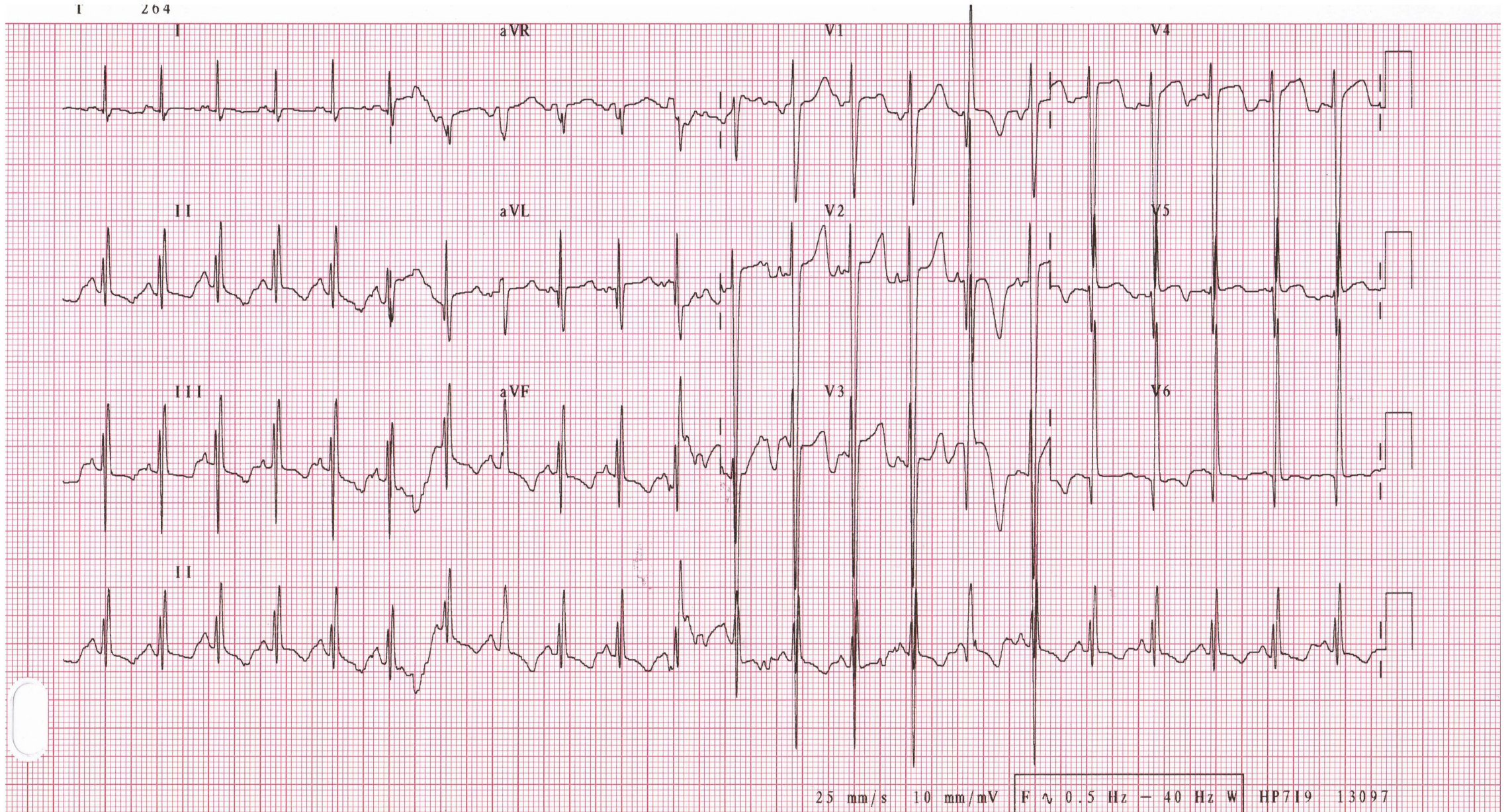
Coronaria destra dilatata



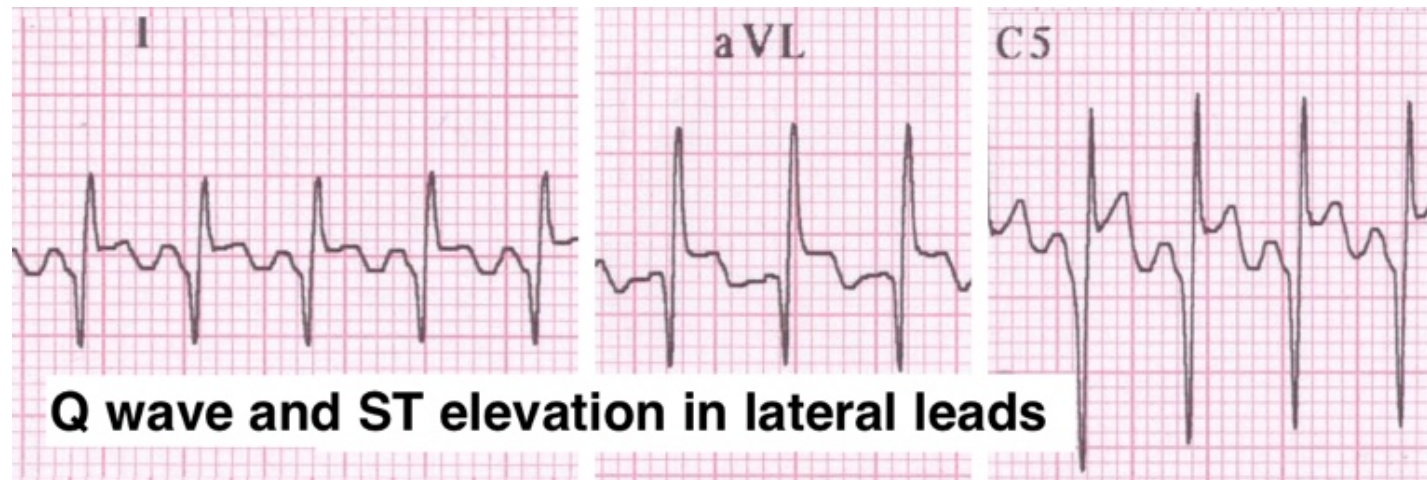
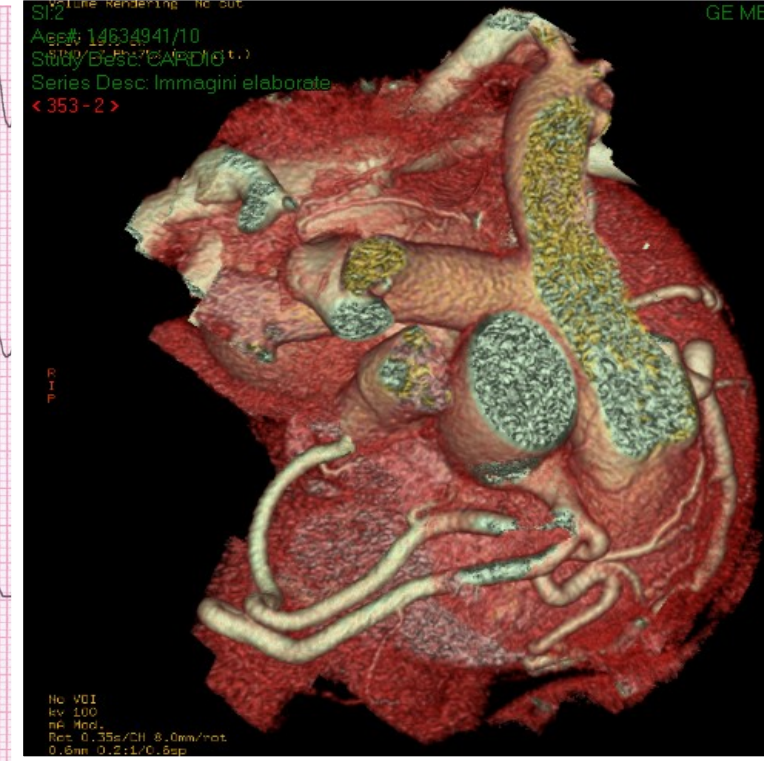
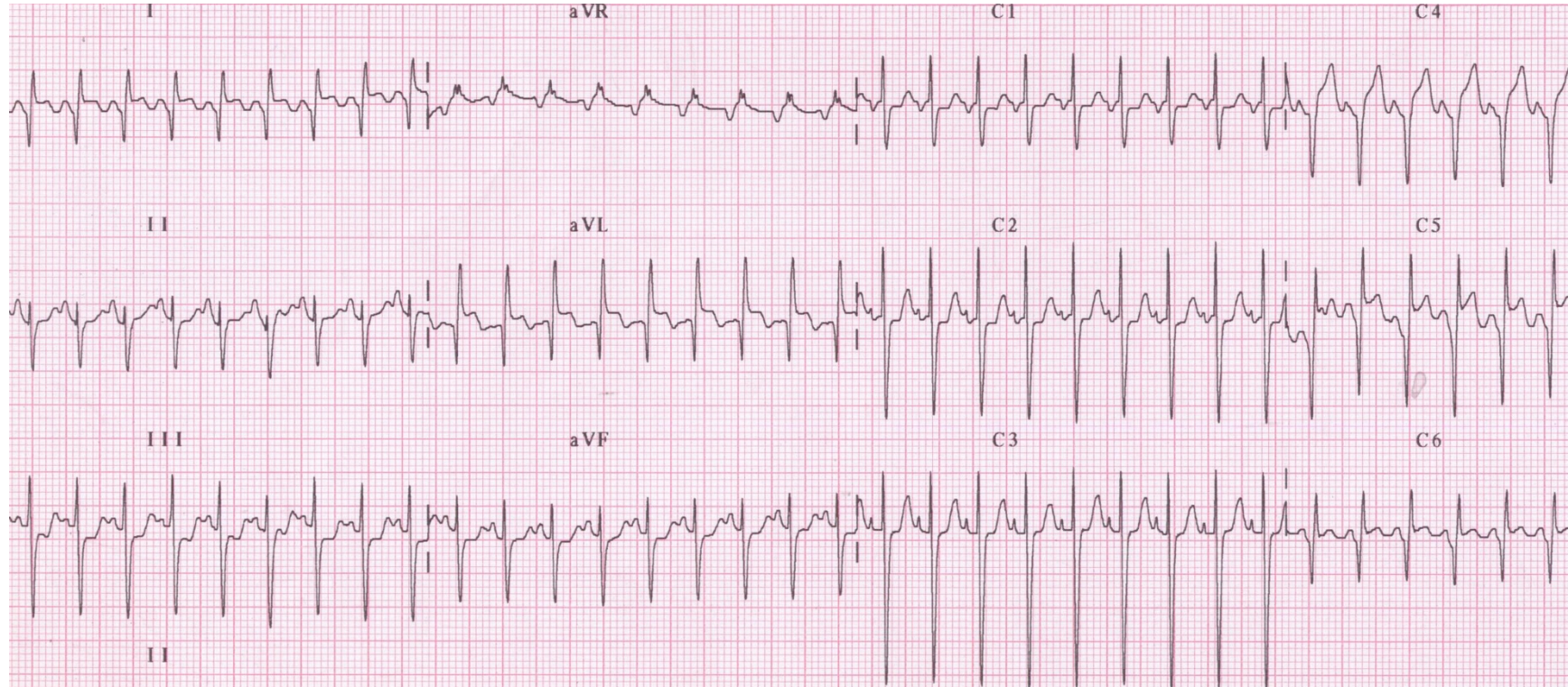
Coronaria sinistra
con origine
Da arteria
polmonare

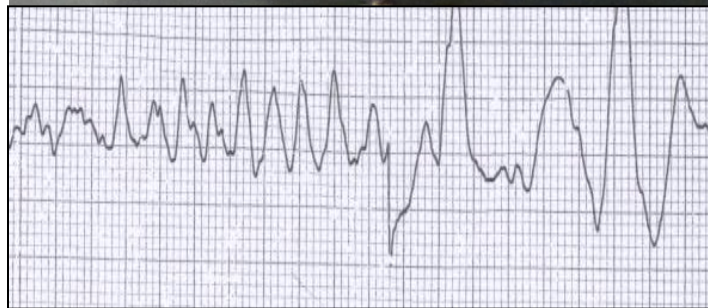
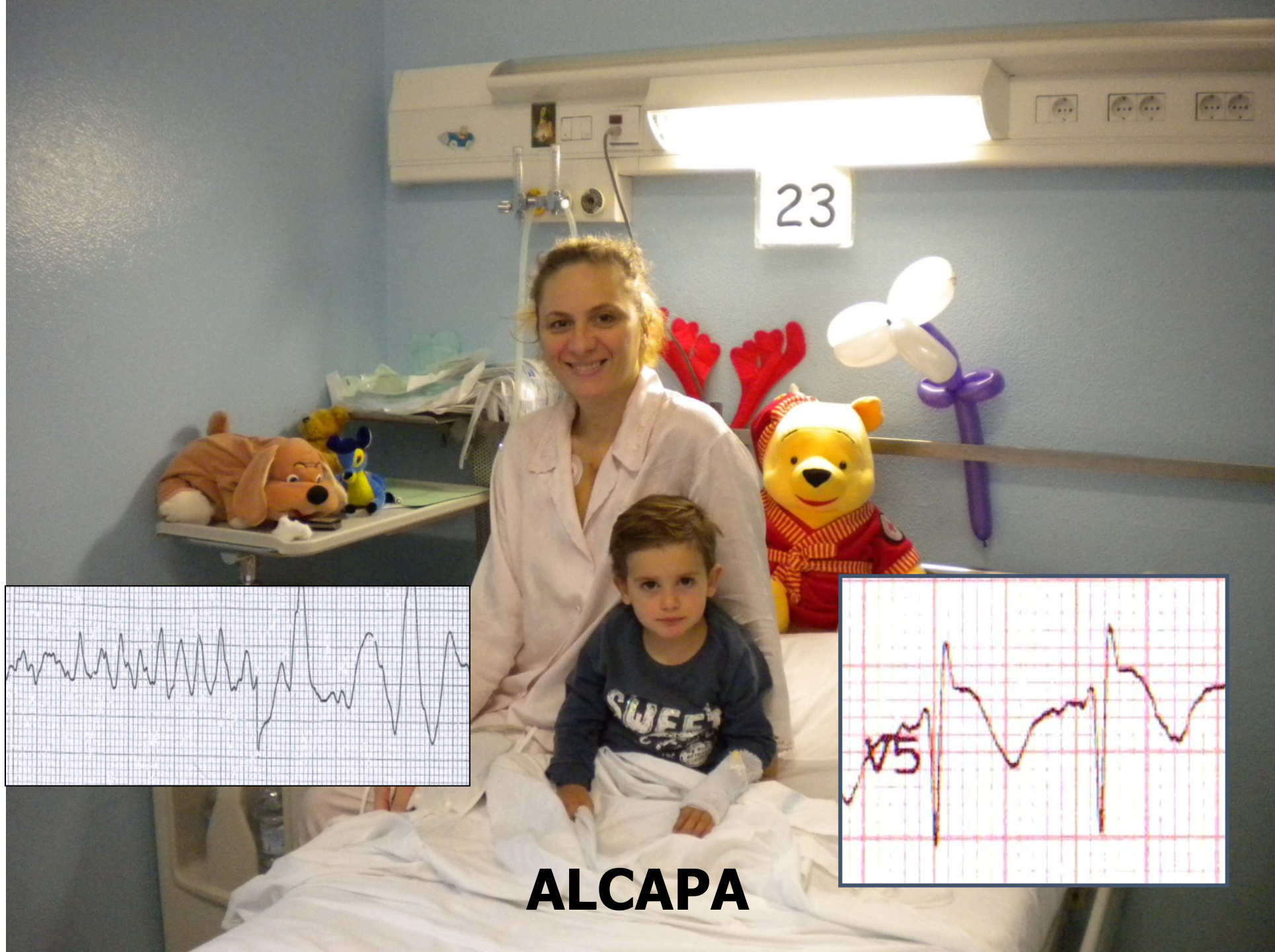


ECG

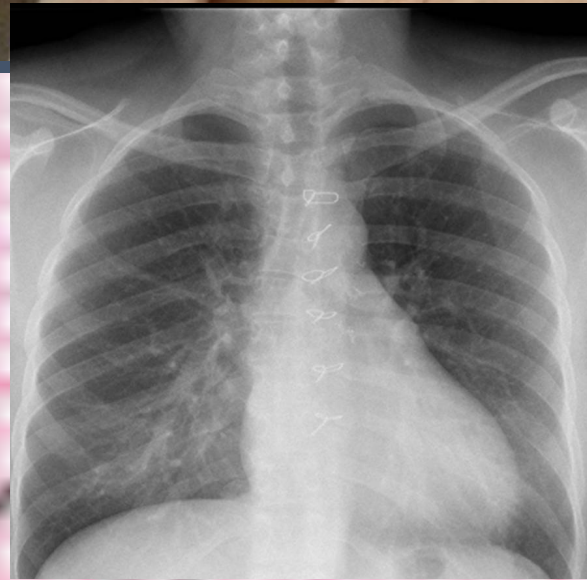
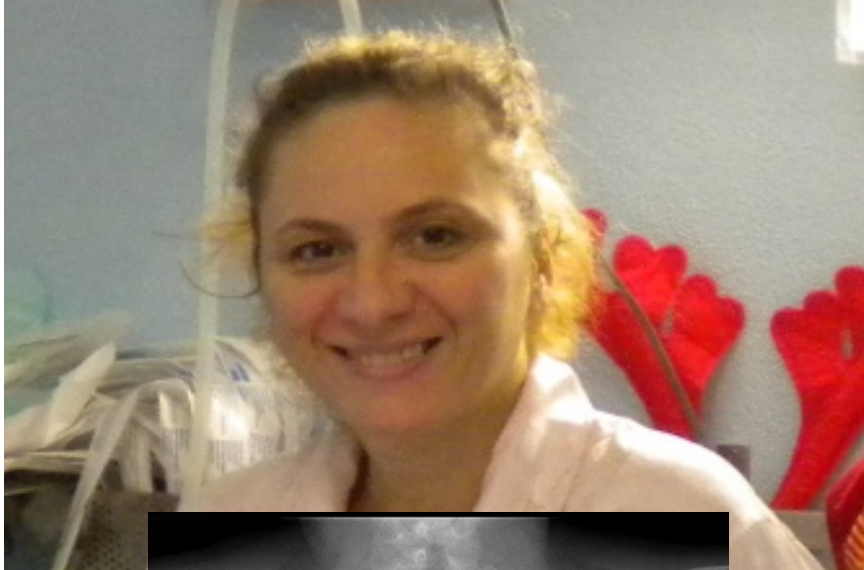


Le Q è meglio averle, c'è un limite a tutto

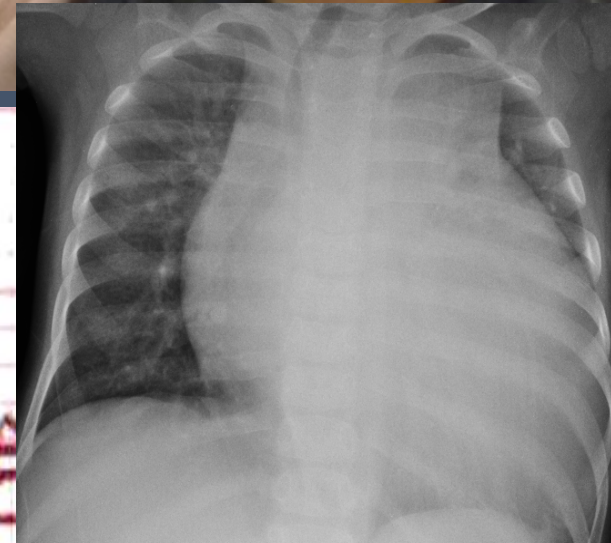


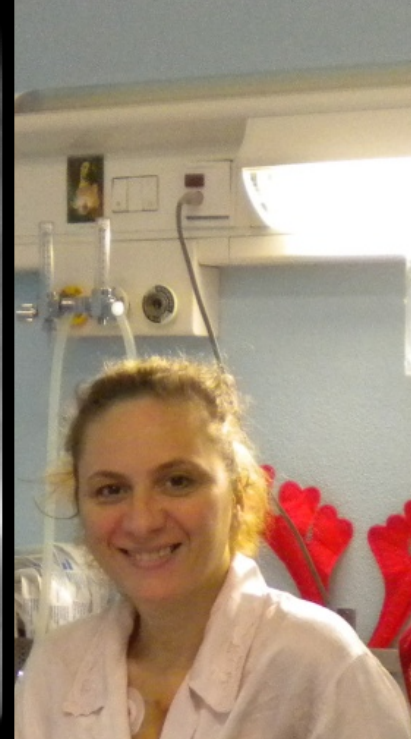
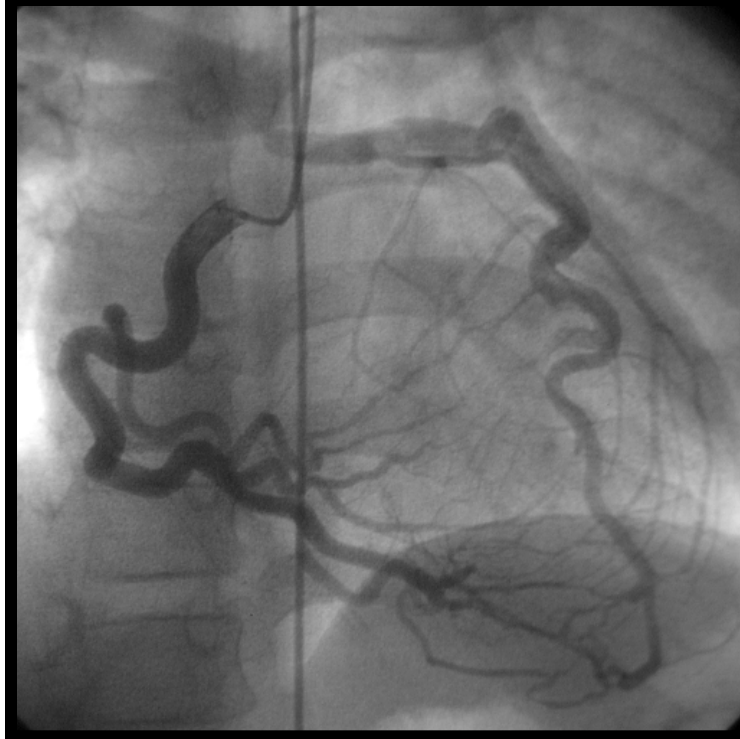


ALCAPA

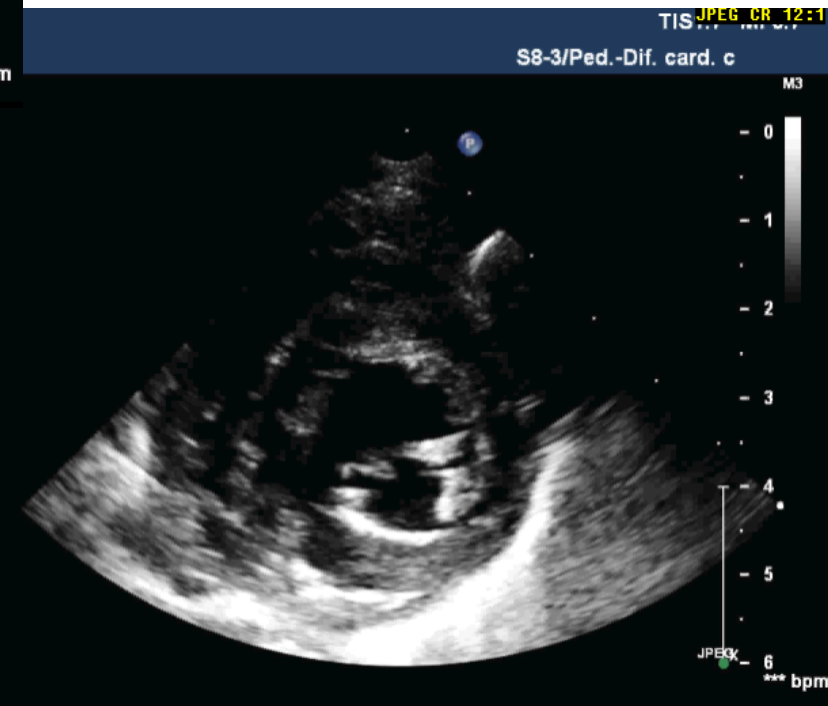
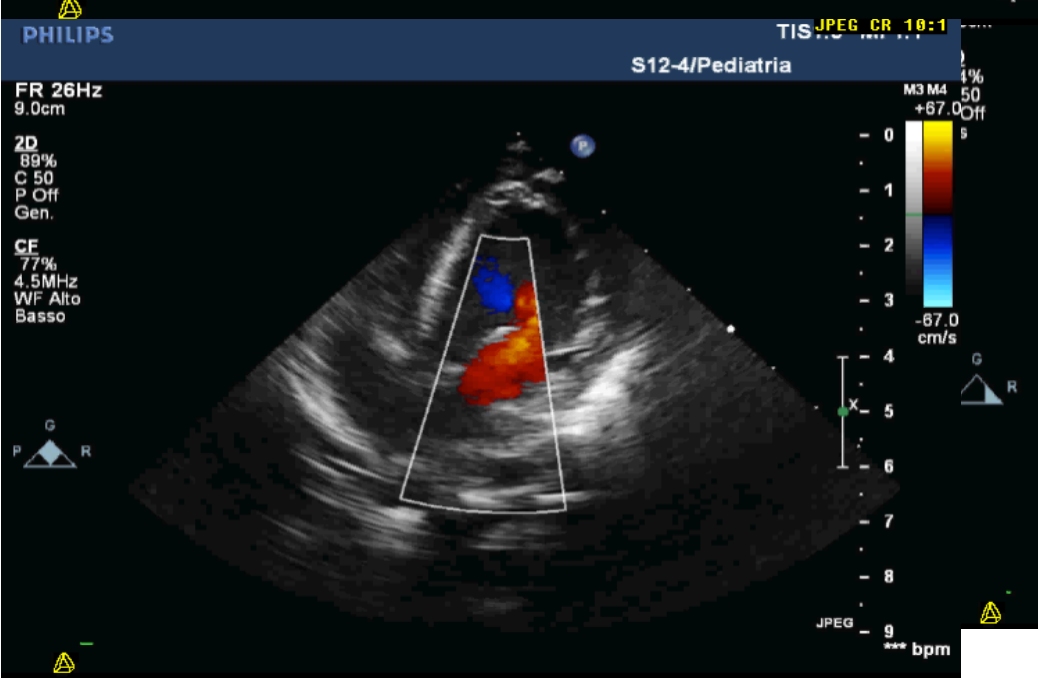
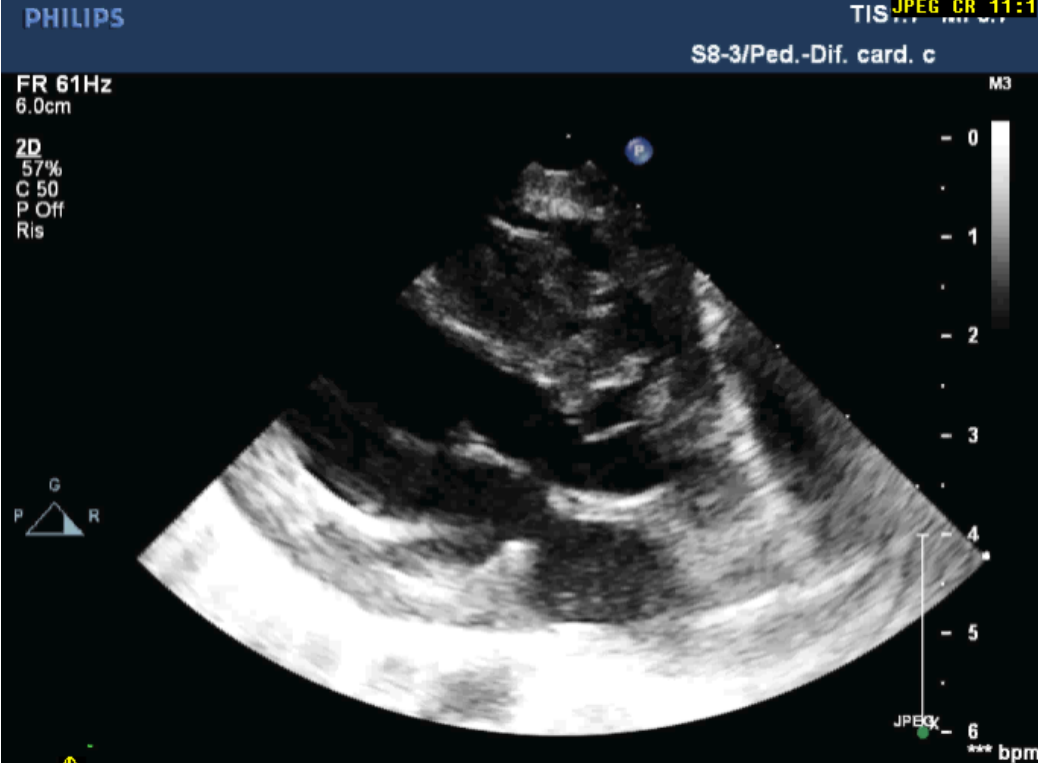


V5

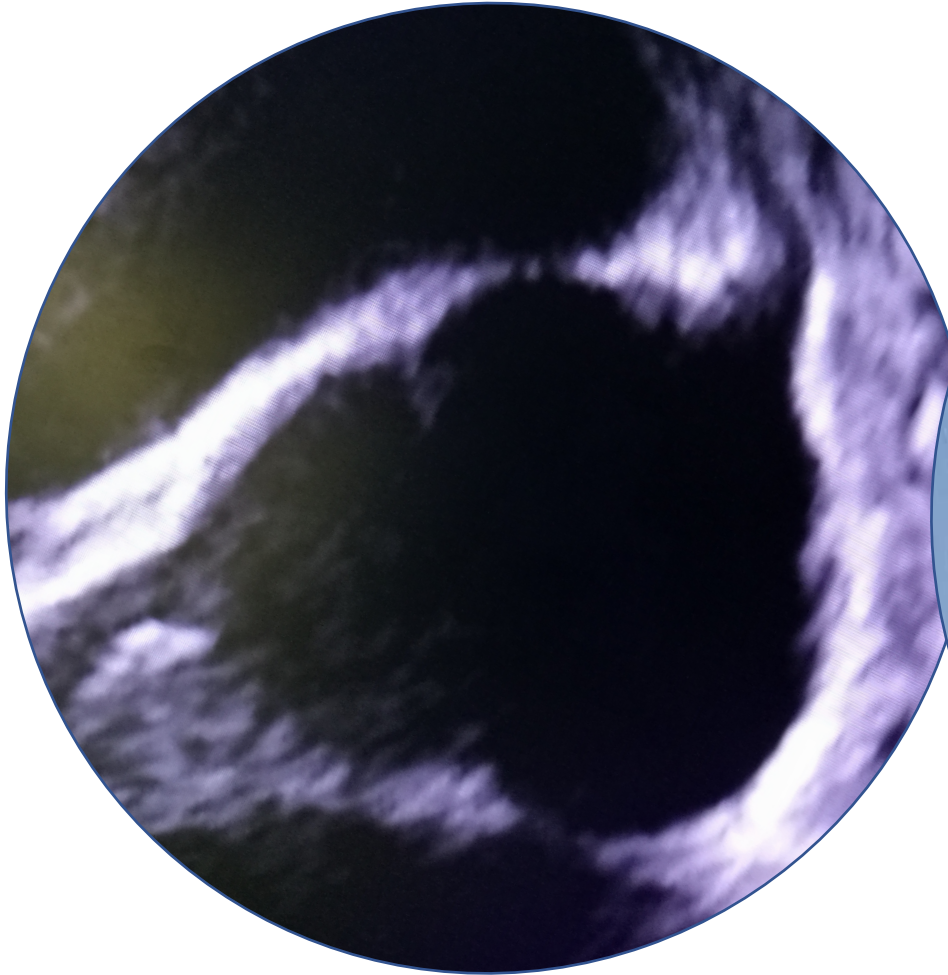




ALCAPA

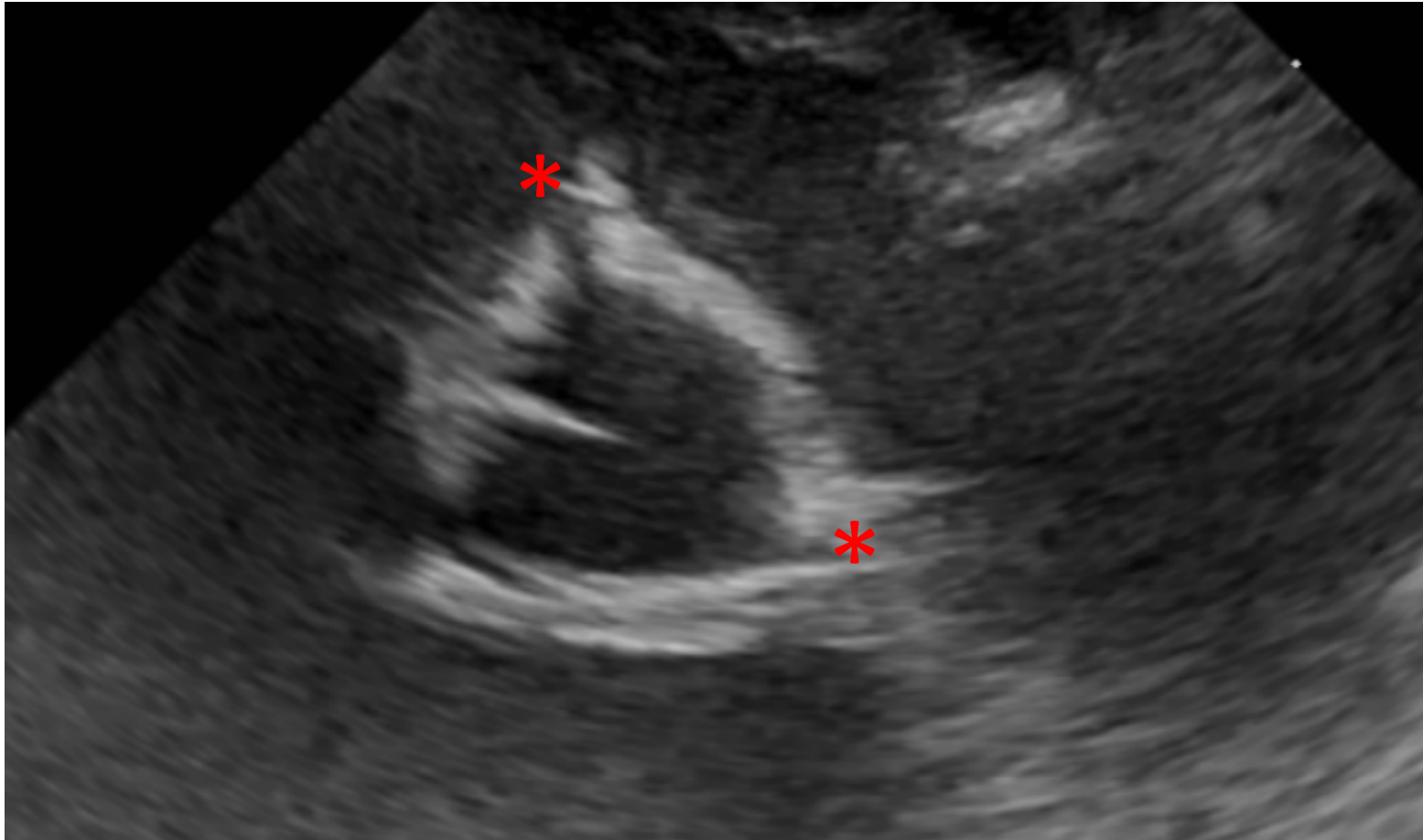


Pippi Calzelunghe



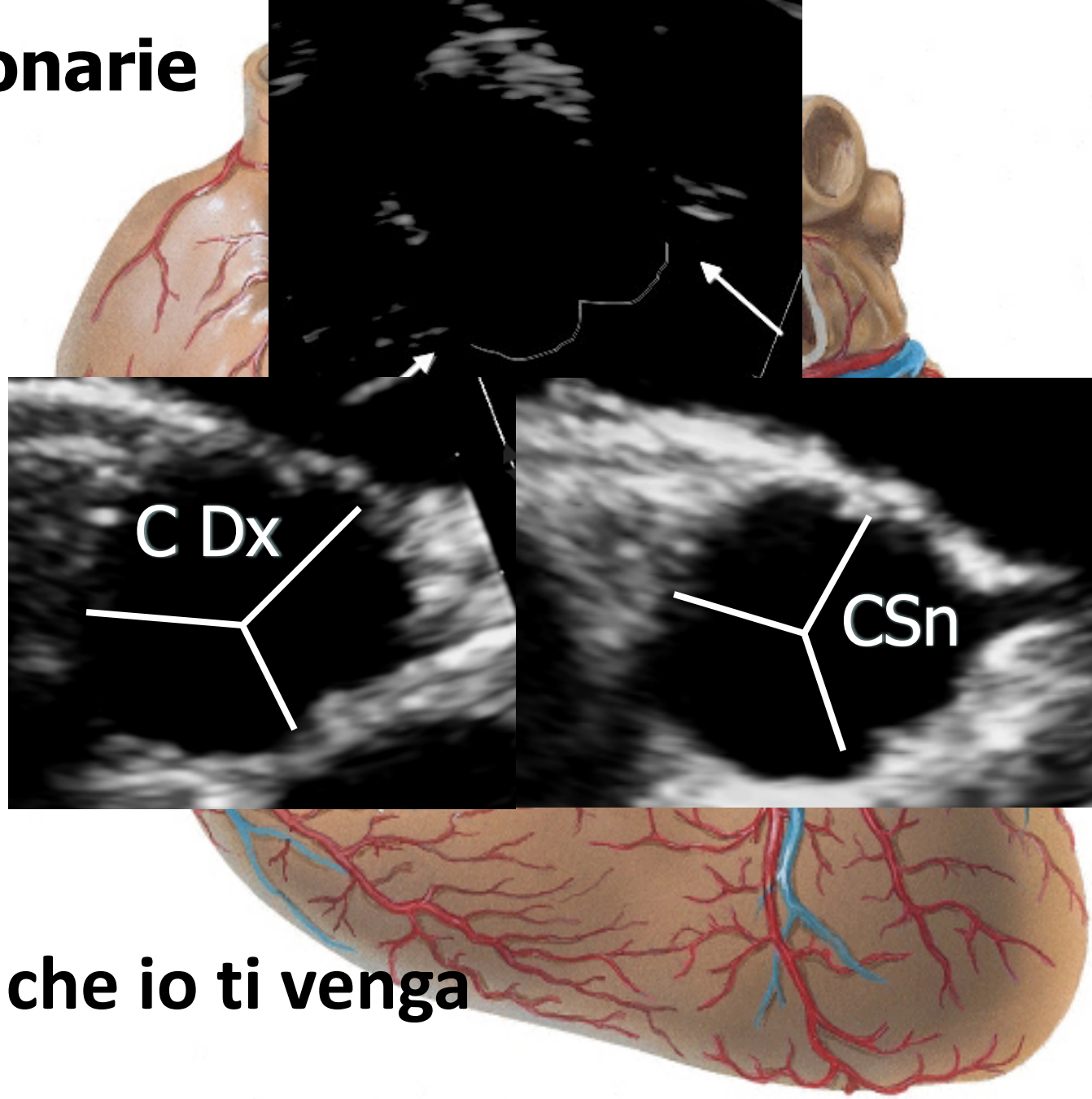
ECOCARDIOMAMMA

Pseudo normalità



L'ECO ronarie

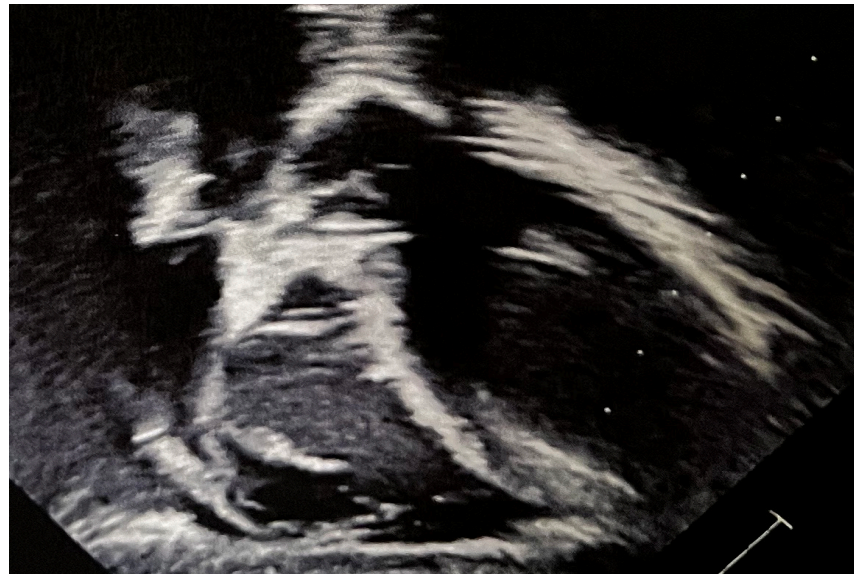
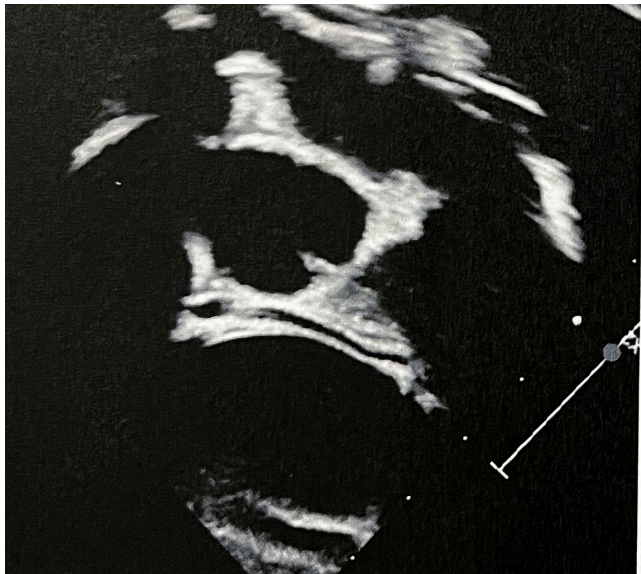
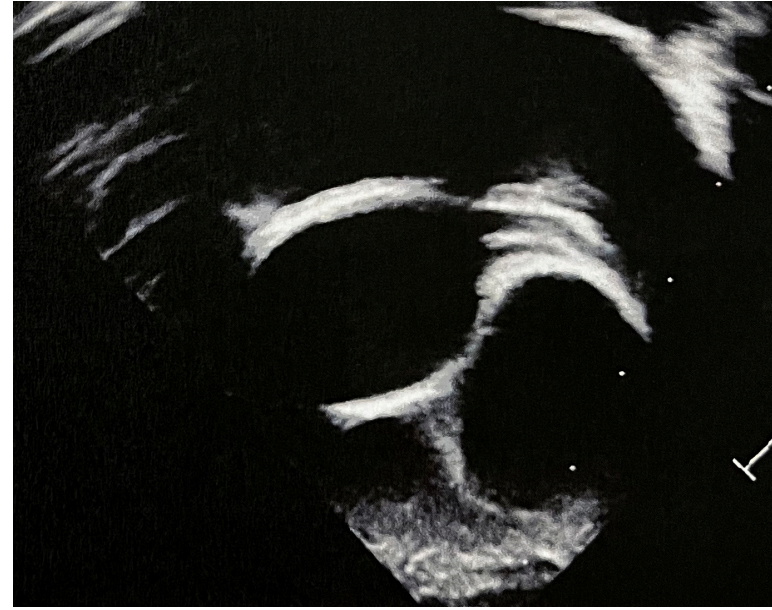
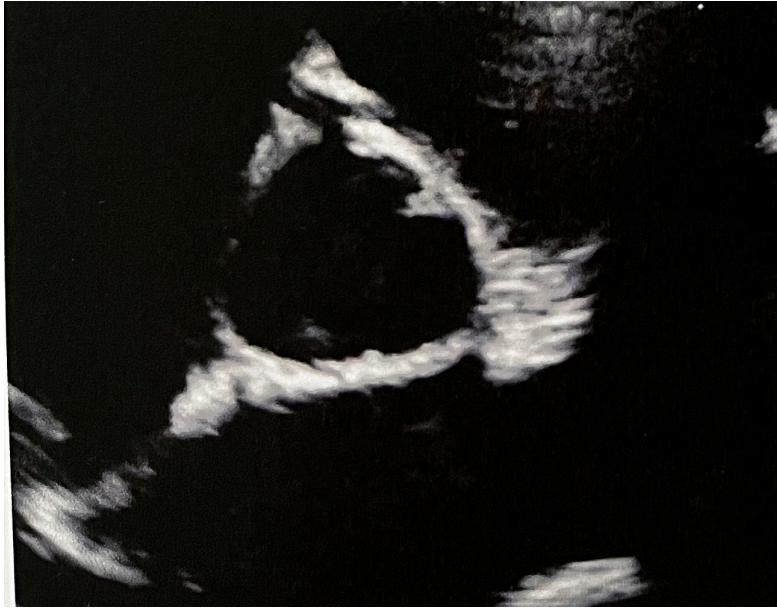
Nasco lì,
o passo da lì?



Cercami , prima che io ti venga
a cercare

Ieri 23 giugno

5 anni , soffio



American dream

ElettroDAEmistico



Conclusioni



6 ore polsi e saturazione
6 anni ECG
8 anni DAE
12 anni ECOCARDIOMAMMA

Ad ogni età qualcuno che ti **ascolti** e che
sappia **a chi fare** ECG da sforzo e RMN
Tutte le famiglie con un evento cardiaco di
aBiLitarSi e tenere un **DAE** al posto del Dyson