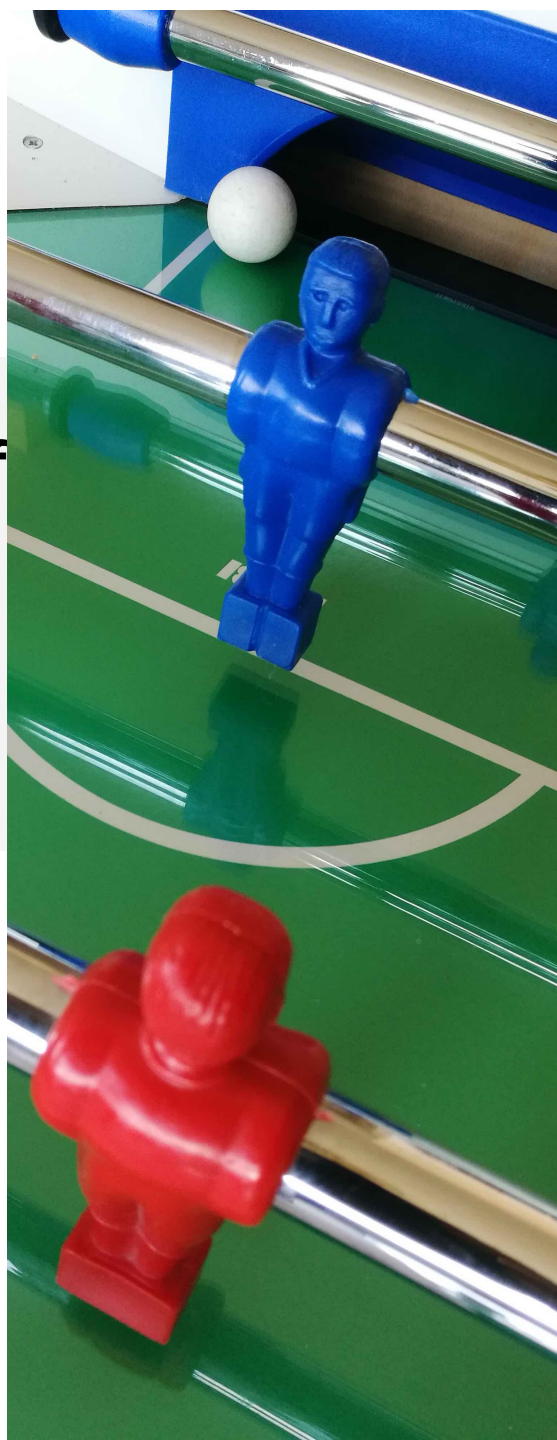


Milano Seminario di Ecocardiochirurgia

Saturazione, polsi, soffi
, ECG.
Come arrivare
all'ecocardiogramma
sapendo cosa cercare

G.Bronzetti
Cardiologia Pediatrica
Bologna



**L' onda prima
della sonda**

VIDEO KILLED THE RADIO STARS

Pictures came and broke your heart...

Video killed the radio star (Buggles 1979)

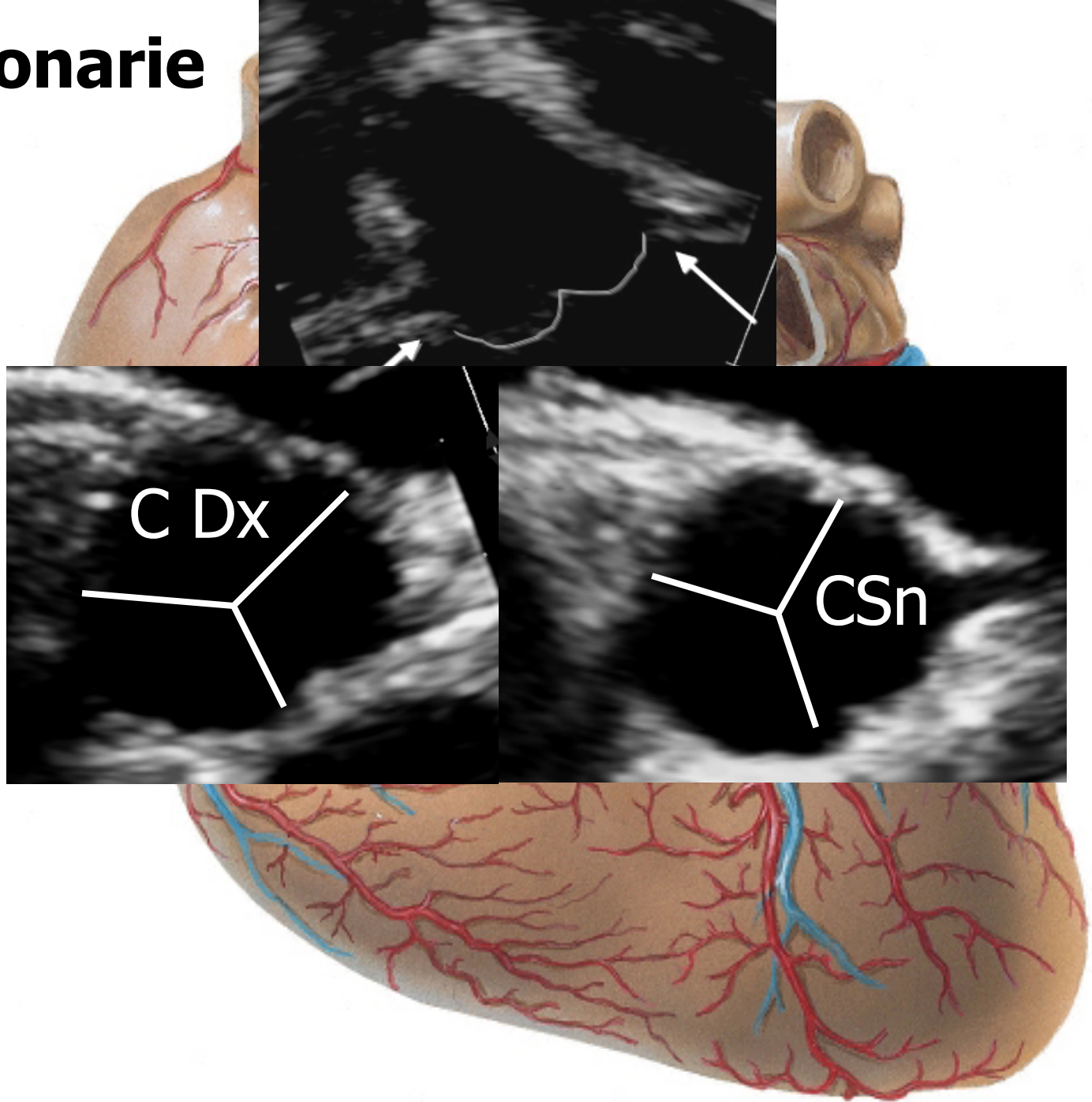


ECO e RMN killed the radio AND ECG stars

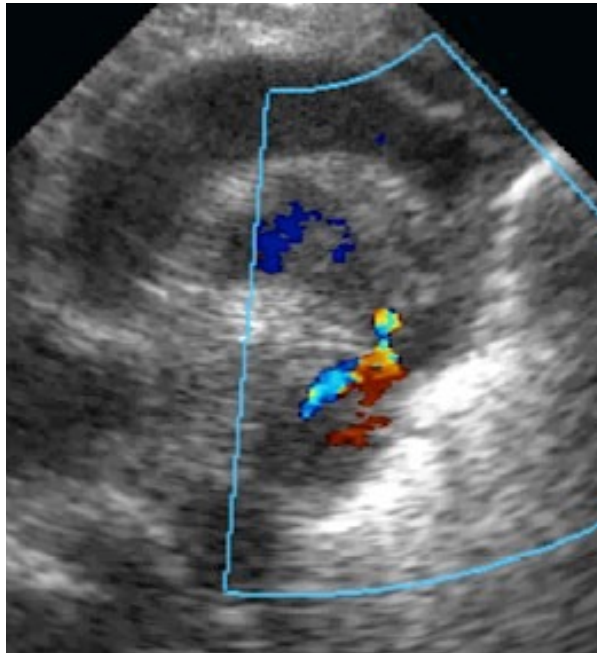
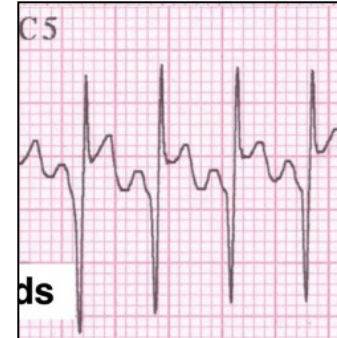
Gin ECO logi



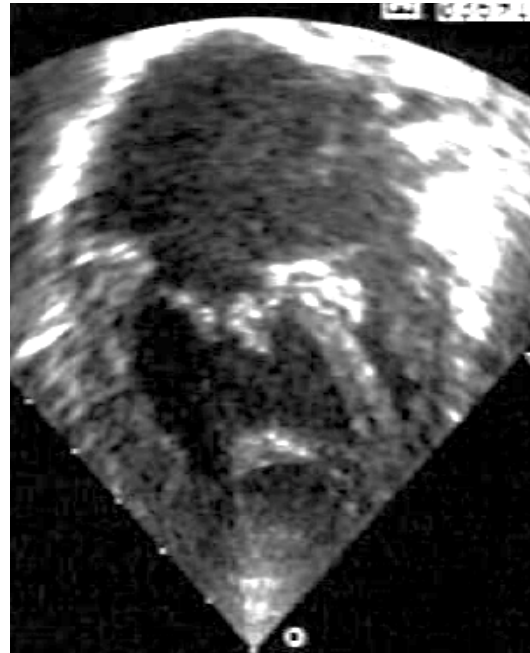
L' ECO ronarie



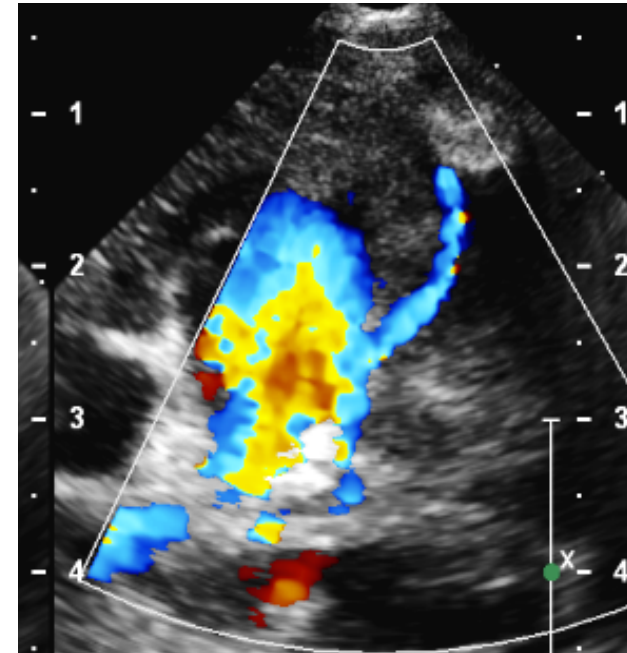
E' COngenita



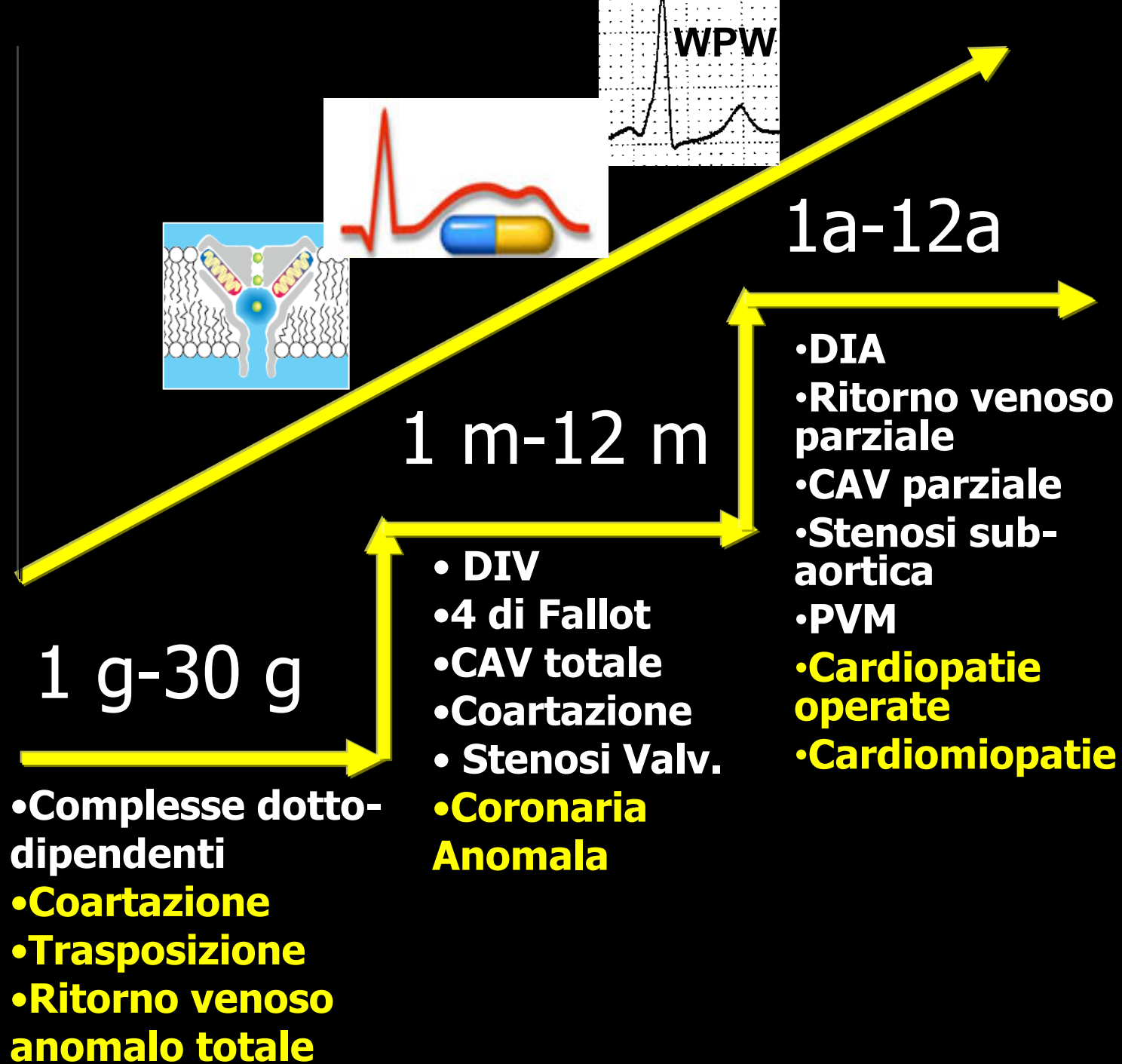
CoAo



**TGA, T4F,
TAPVR, TA,
Truncus (5T)**



**ALCAPA
Myocardite**



CIANOSI**SCOMPENSO****Cardiopatie strutturali**

Trasposizione grandi vasi*	Botallo
Tetralogia di Fallot	DIV
VDDU+SP	Truncus arterioso
Ventricolo unico +/- SP	Finestra aortopolmonare
APSI/SP Critica	Ipoplasia cuore sinistro
Atresia polmonare +DIV*	Coartazione aortica*
Atresia della tricuspide	Canale atrio-ventricolare
Anomalia di Ebstein	Stenosi aortica
RVPAT (ostruito*)	Origine anomala coronaria sin.
Truncus arterioso	Cardiomiopatie

Assenza di cardiopatie strutturali congenite

Ischemia miocardica transitoria	Ischemia miocardica transitoria
IPP	IPP
	Tamponamento cardiaco*
	Aritmie (ipo/ipercinetiche)
	Miocardite*
	Malattie metaboliche
	Trombosi aortica*

*= possibile assenza di soffi

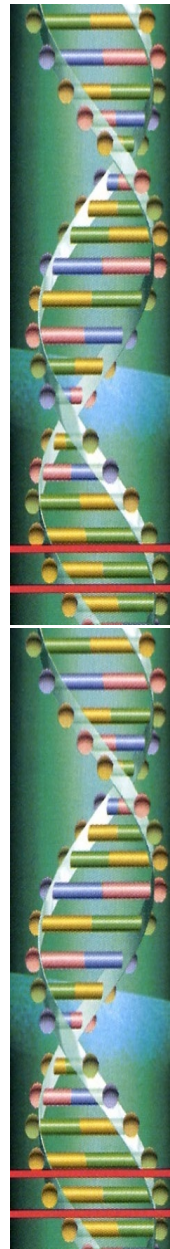


ECG

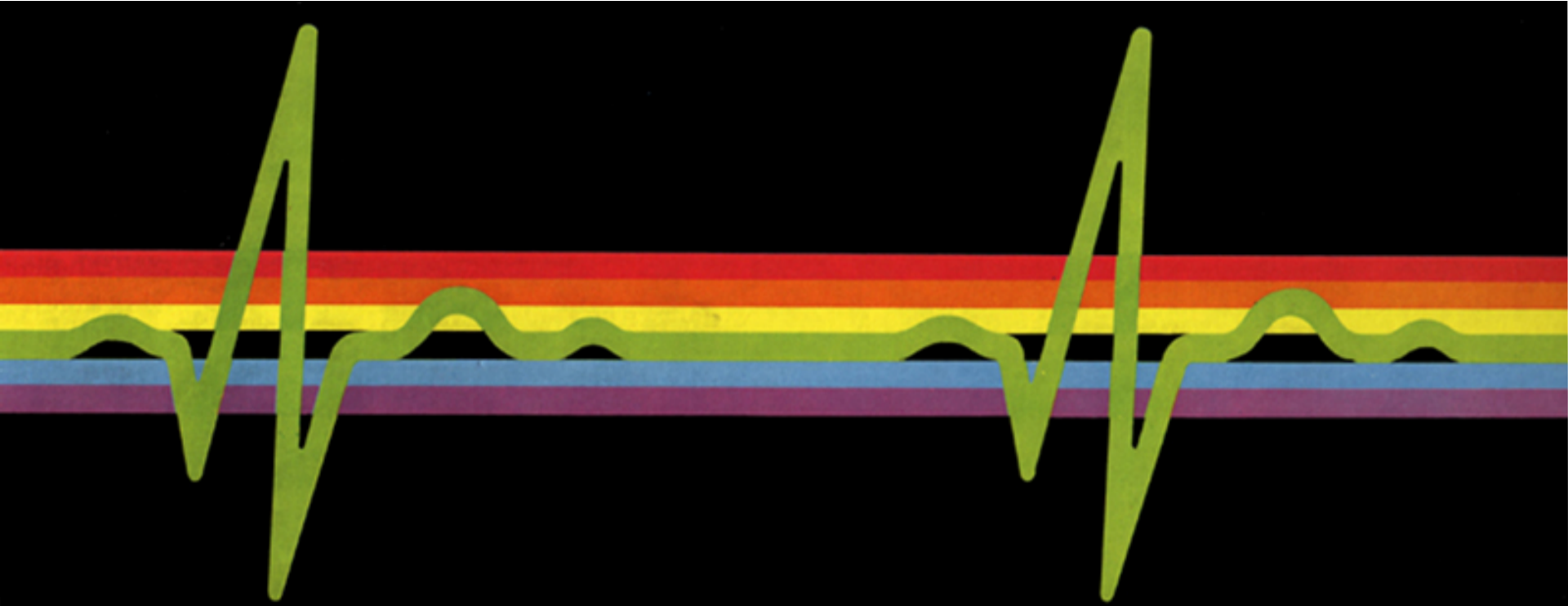
Clinica!

Ossimetro

Trisomia 21	CAV,TDF
Trisomia 18	DIV,PDA
CATCH 22	“Tronco- conali” - TDF, Truncus, Anomalie Arco
CHARGE	Tronco-conali
VACTER	DIV
PHACE	CoAo, ecc
DMD	CMPD
LEOPARD	Spo, CMPIx
ALAGILLE	SPO



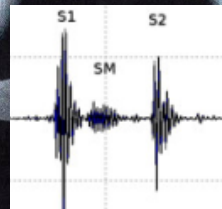
Williams	Sao, Spo
Turner	CoA,AoB
Noonan	Spo, CMPIx
De Lange	DIV
Costello	CMPI, Aritmie
Holt-Oram	DIA, DIV, Arit
Marfan	PVM, AneuAo
Sclerosi Tuberosa	Ra-WPW
Weber-Osler-Rendu	fistola
Timothy	TDF,QT lungo



***Breathe , breathe in the air
don't be afraid to care
leave but don't leave me
look around and choose your own
ground***

SOS PETTO

Systolic
Sensitive
Small
Soft
Sweet
Short
Single



SIDS

Soffie





Zargis® StethAssist™
detailed view.

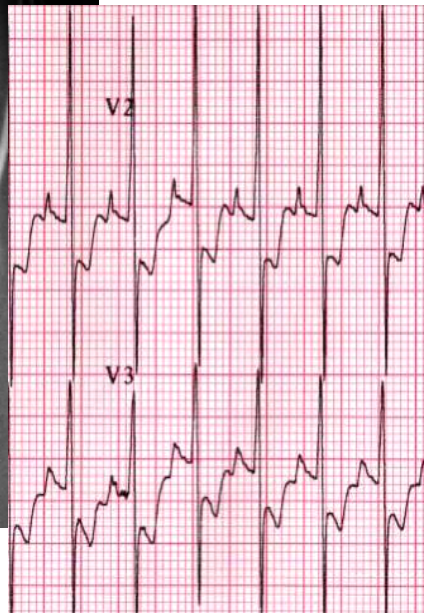
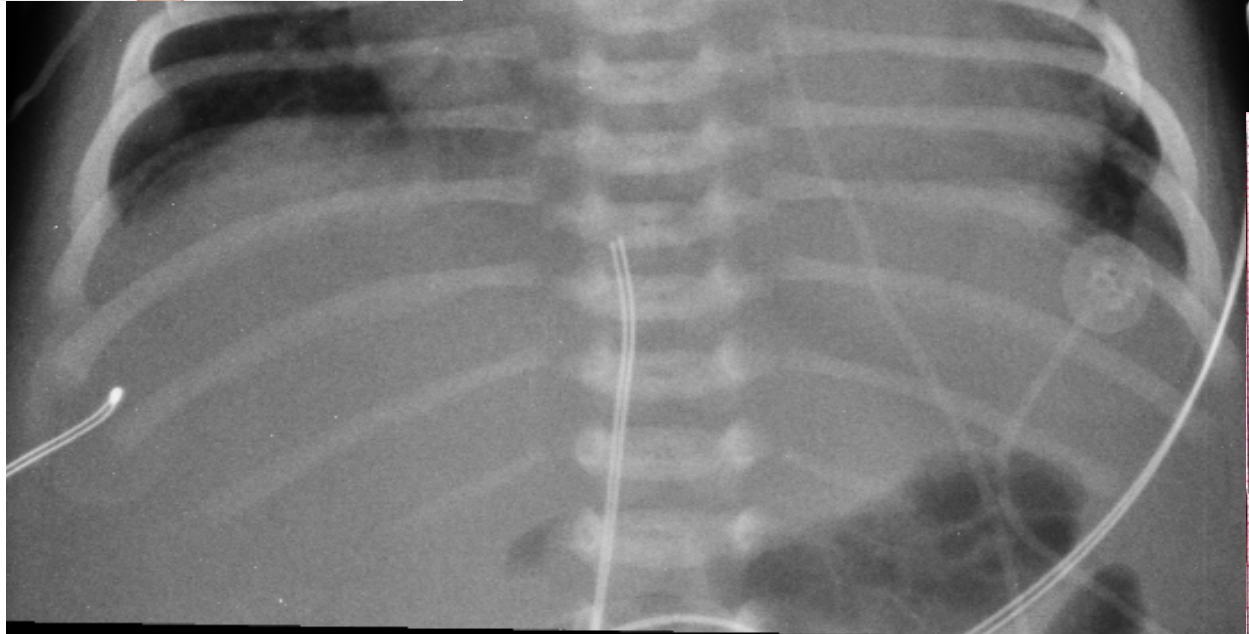
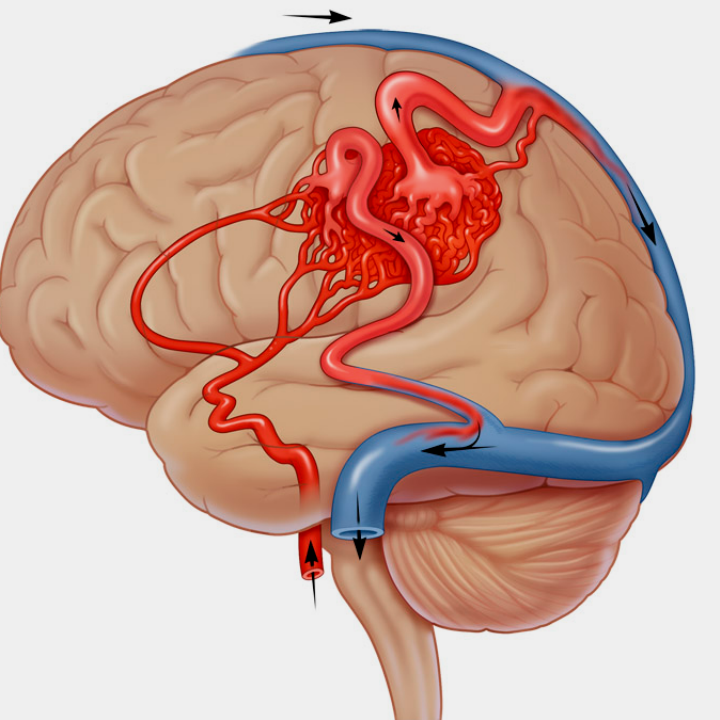
Connect to optional
ZargisTelemed.com
share recordings and findings
online with colleagues across
town or across the globe.

Play recordings at slow
speed to listen more closely.

Multiple view options
for more detailed analysis.

Click on any recording site
to listen to recorded sounds
while viewing graphical
overlay to heart sounds.

DIV, Botallo, Finestra AP, MAV



CI HA, NO , SI ?

- Hb: 20 g/dl (normale per neonato)

visibile per $SaO_2 < 80\%$

- Hb: 10 g/dl visibile per $SaO_2 < 60\%$

- Desaturazione con $80\% > SaO_2 < 90\%$

difficilmente visibile

- Difficile vederla nei neonati esotici (lingua e unghie, please)

Saturimetria cutanea



SATURIMETRIA

Patologica $SaO_2 \leq 95\%$ in aria ambiente

L'arto deve essere caldo (almeno un AI)

L'onda deve essere reale

A pulse oximetry waveform displayed on a black background. The waveform is a regular, rhythmic green line. In the top right corner, the text "SpO2" is visible, and in the bottom right corner, the number "97" is displayed, indicating a saturation level of 97%.

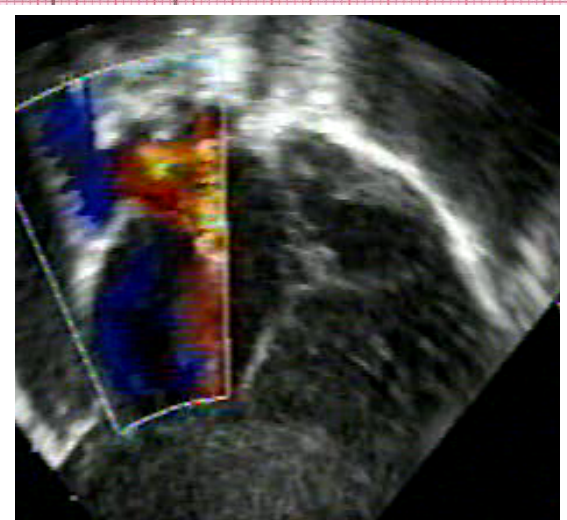
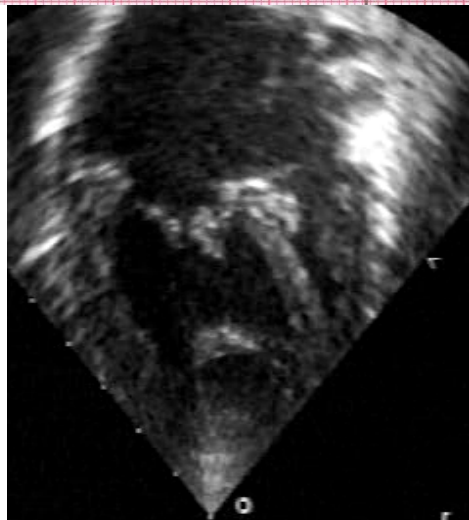
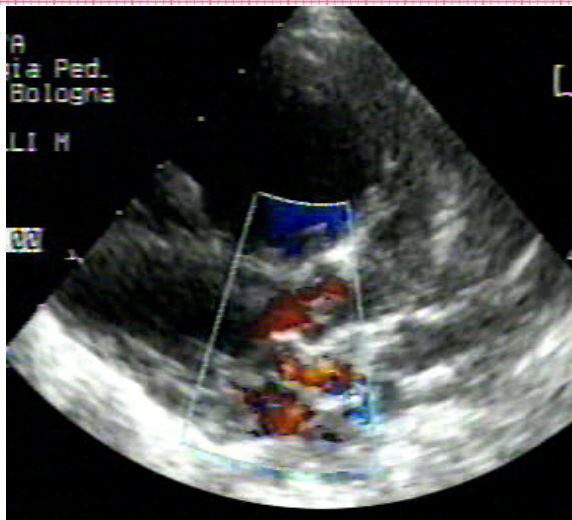
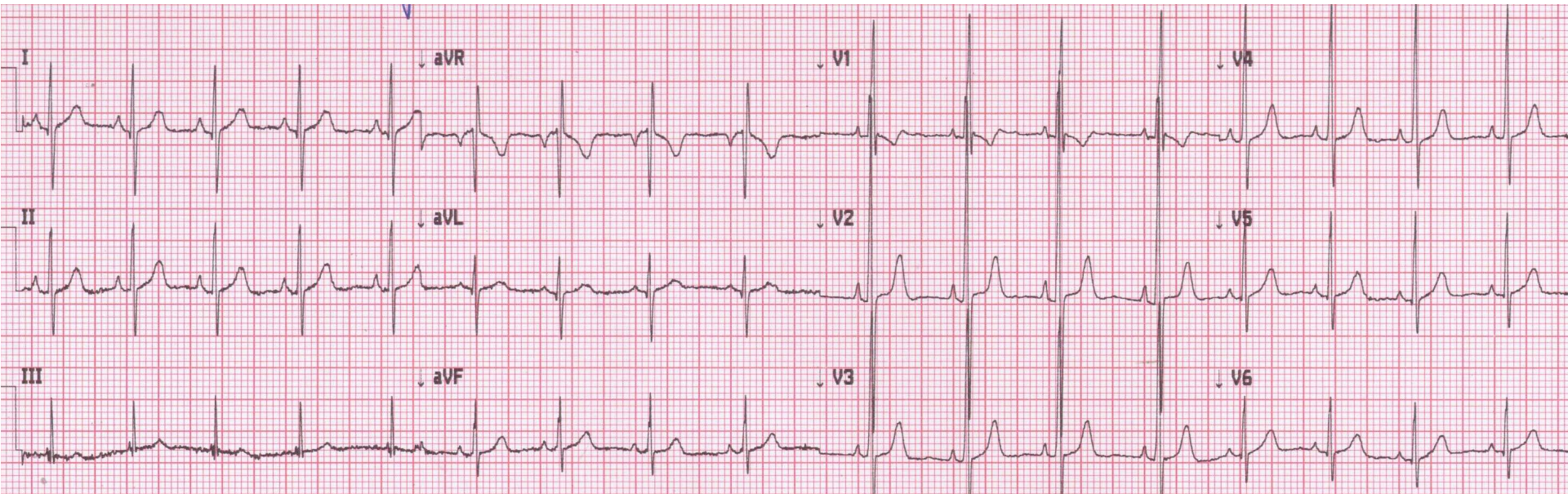
A pulse oximetry waveform displayed on a black background. The waveform is a green line that is irregular and non-rhythmic. In the top right corner, the text "SpO2" is visible, and in the bottom right corner, the number "100" is displayed, indicating a saturation level of 100%. The entire waveform is crossed out with a large red X.

TDF

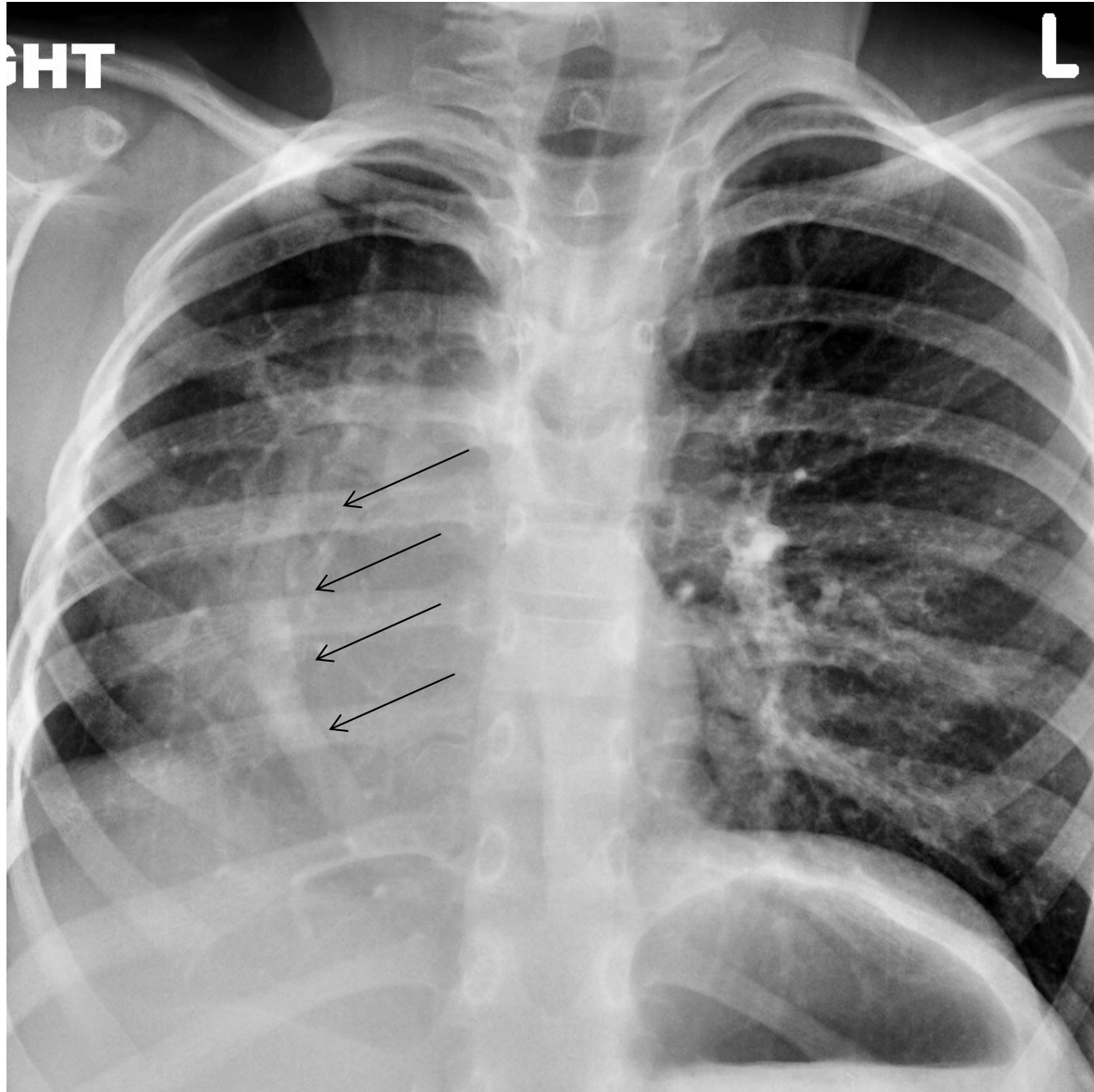


- Lattante di 40 gg, dispnoico
- ECG con sovraccarico dx
- sat.O2 94%

RVPAT

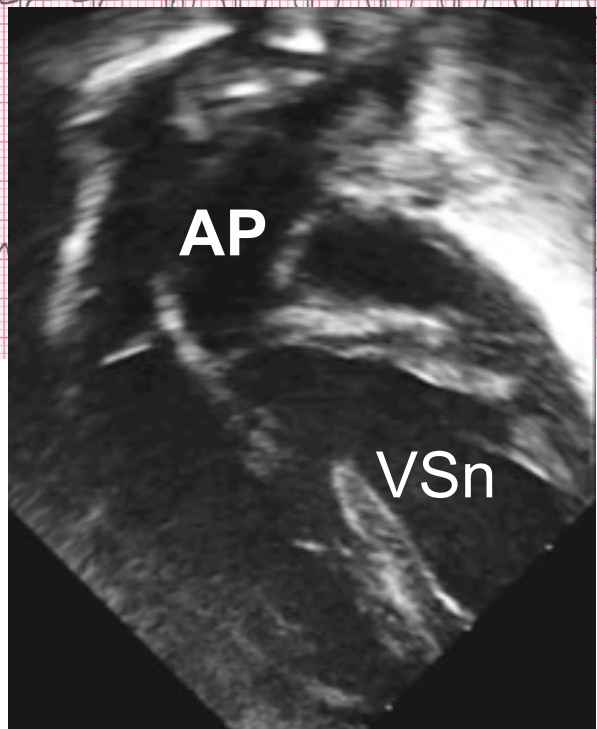
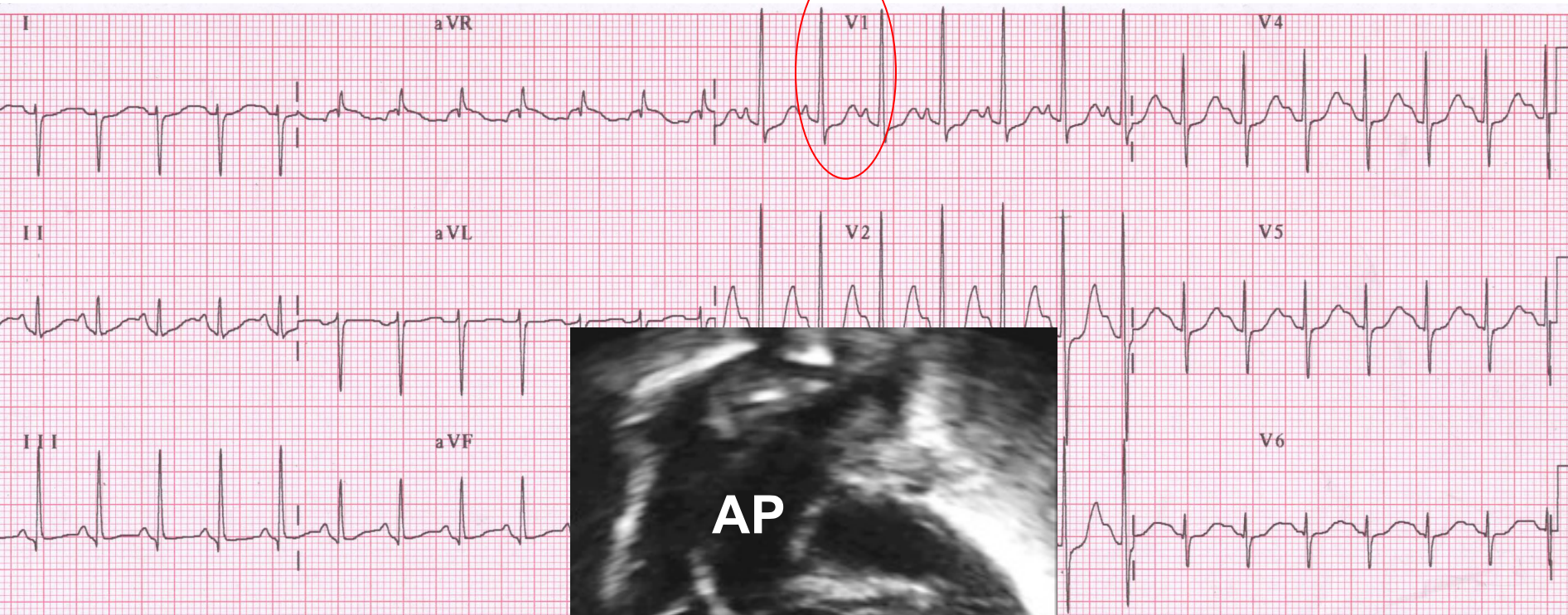


SCIMITARRA



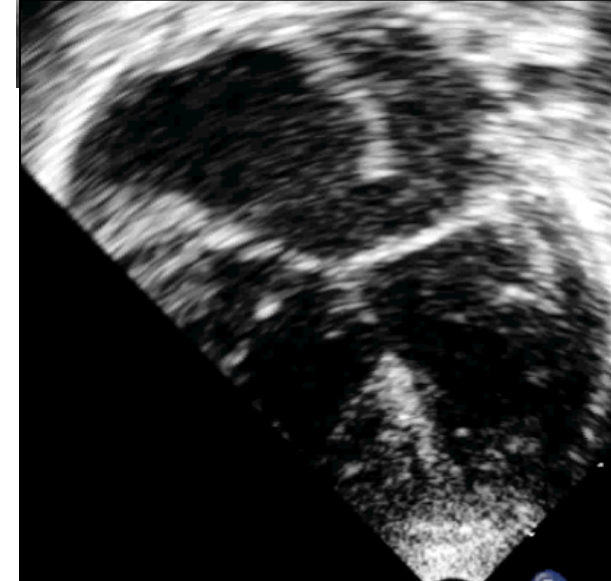
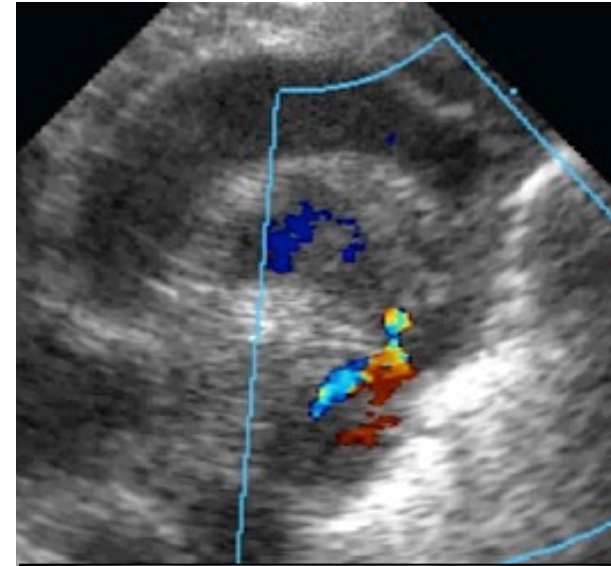
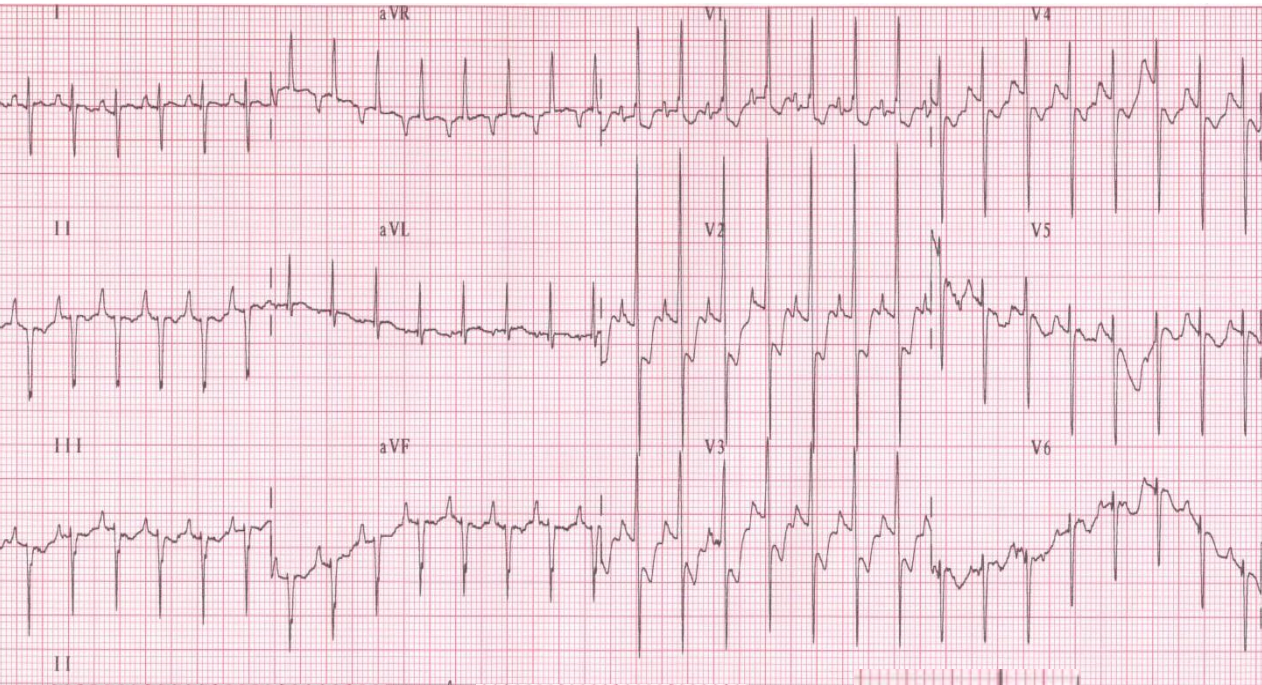
- Lattante di 30 gg, africano, non mangia
- ECG con sovraccarico dx
- sat.O2 88%

TGA



30 gg , shock PS, pH 6.8
Bassa portata, iposfigmica

CAV
CoAo



Il dito di DI...agnosi e i polsi FM oral

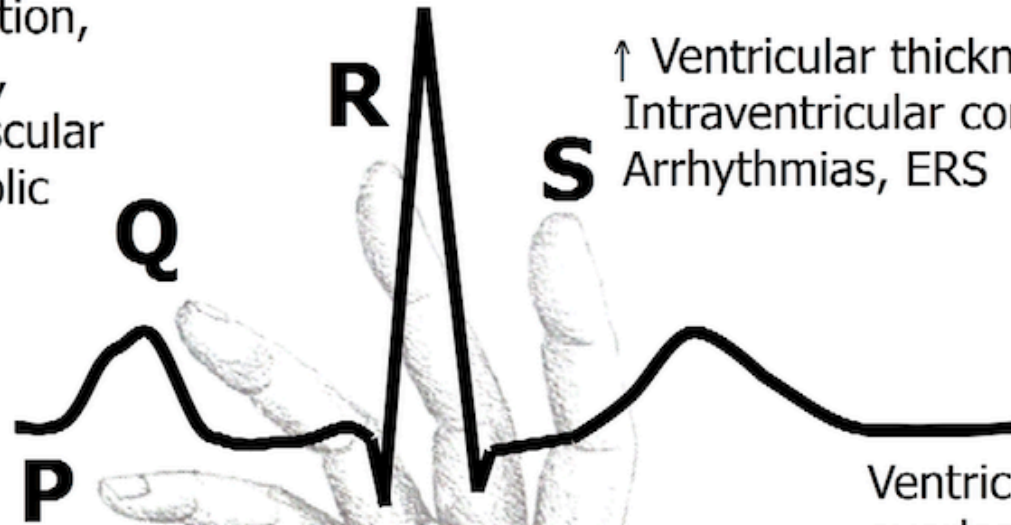


Se discrepanza AS/AI e arco /istmo normale ,
pensare a coartazione distale, trombosi aortica,
arterite

↑ Ventricular volume and thickness ,
QRS axis, Ischemia-necrosis,
Myocarditis, Early Repolarization
Syndrome (ERS)

Ventricular hypertrophy,
IV septum orientation,
Ischemia-necrosis,
Preexcitation, Muscular
dystrophy, Metabolic
diseases

Situs, Rhythm,
Atrial Volume-
Pressure, A-V
conduction



↑ Ventricular thickness,
Intraventricular conduction,
Arrhythmias, ERS

Ventricular
overload,
Ischemia,
Channelopathies,
Pericarditis,
Myocarditis,
Electrolytes
imbalance

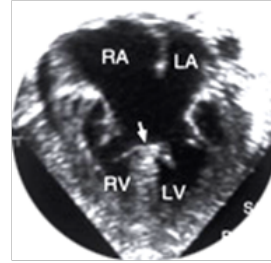
But T & R fly

Tra immaginazione e imaging

Noonan



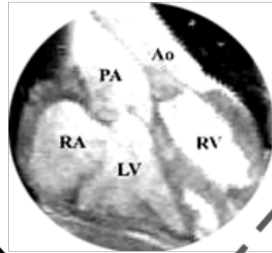
Canale AV



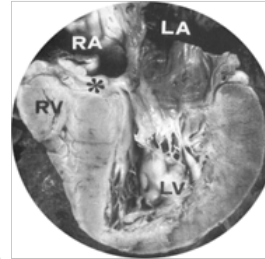
Destrocardia



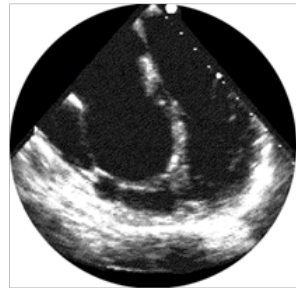
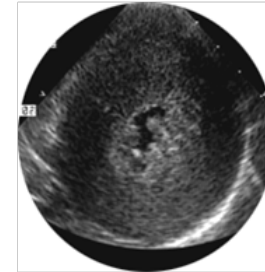
TCCGV



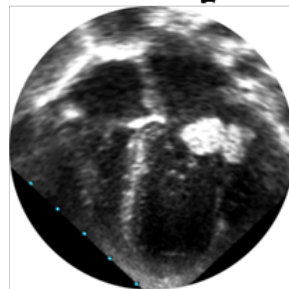
Atresia tricuspide



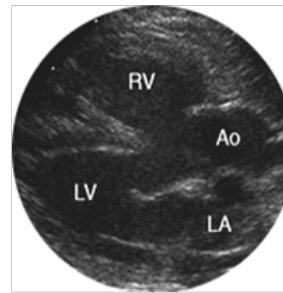
Ipertrofia accumulo



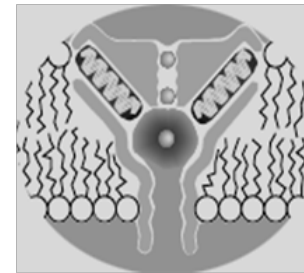
Ebstein



Tumori

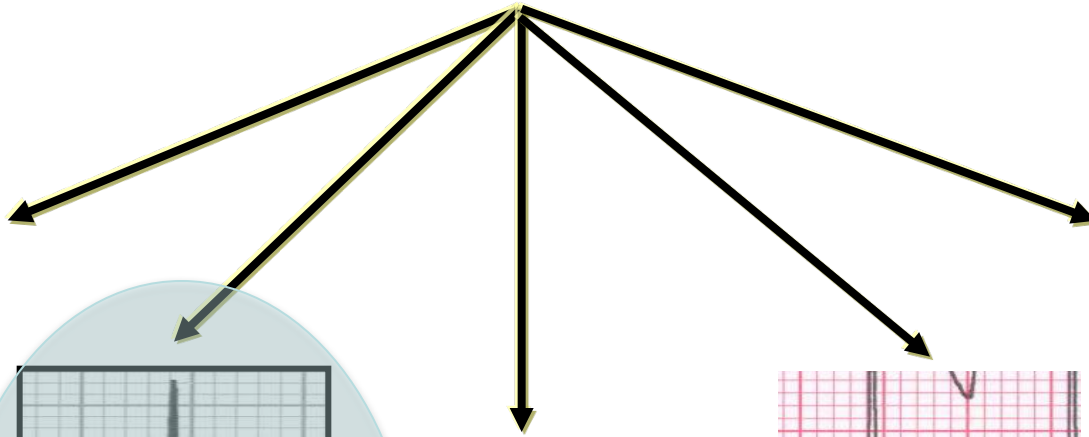


Fallot

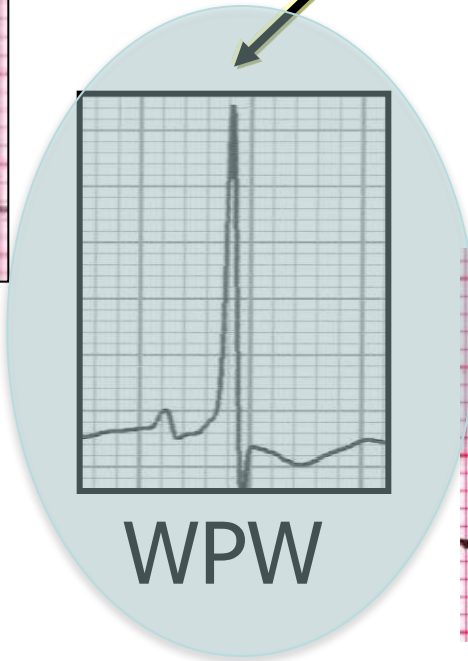


QT lungo

PR breve



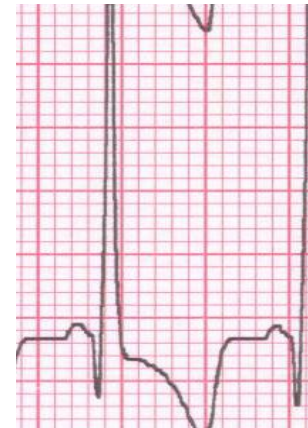
CPVT



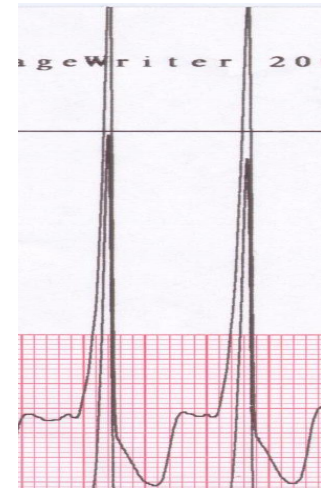
WPW



Duchenne

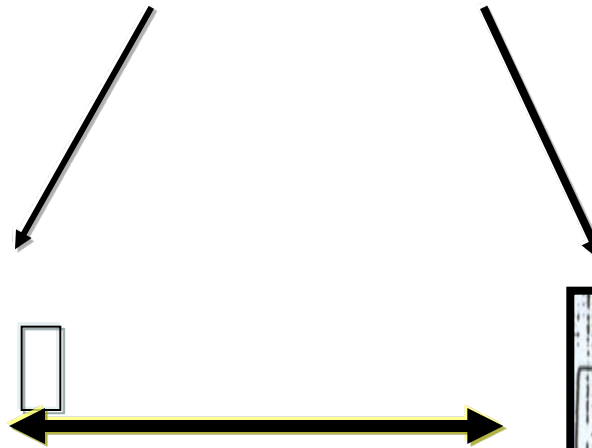
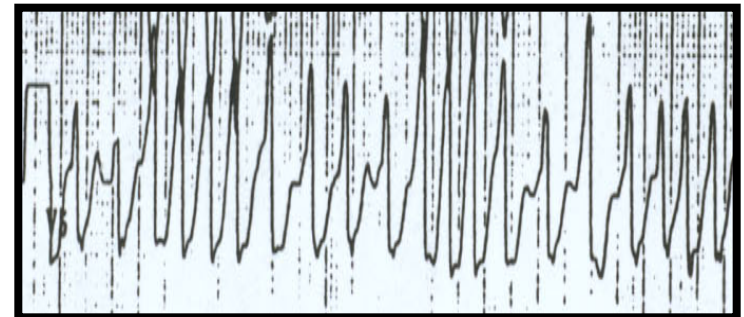
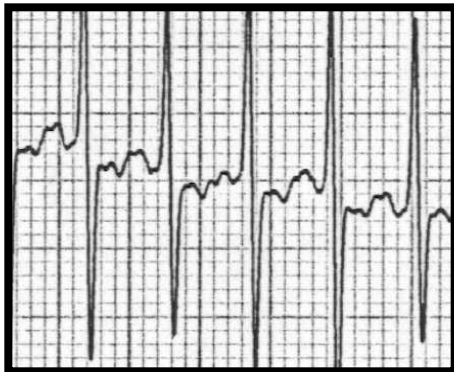
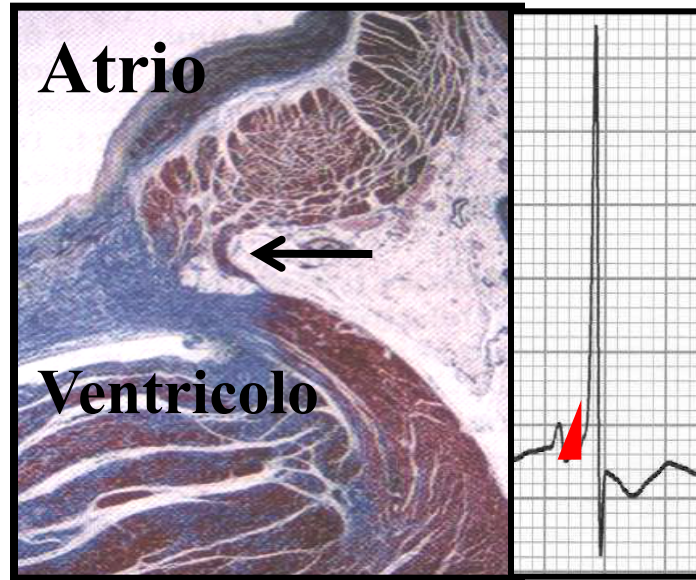


Pompe

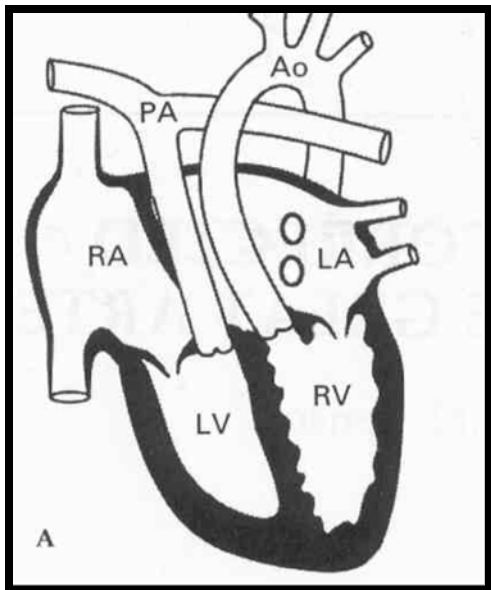


Danon

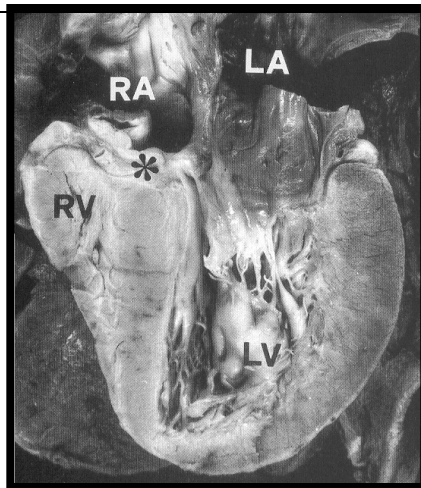
Why When Where What Who P W ?



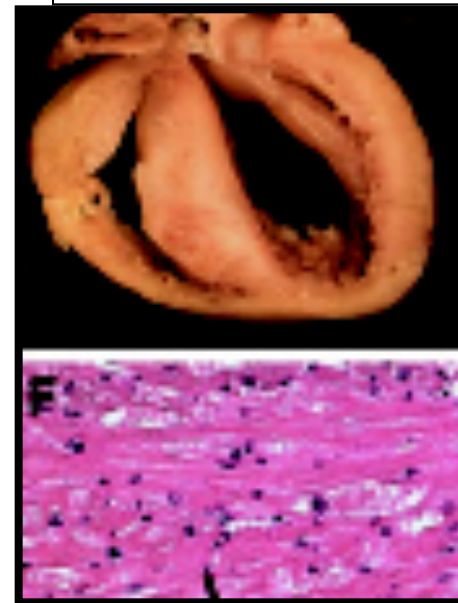
CCTGA



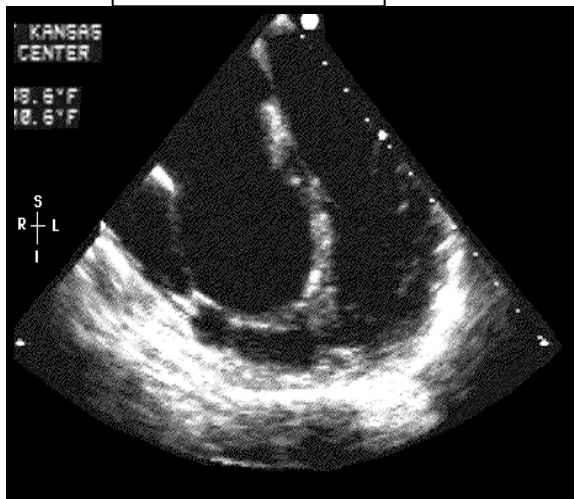
Atresia Tricus.



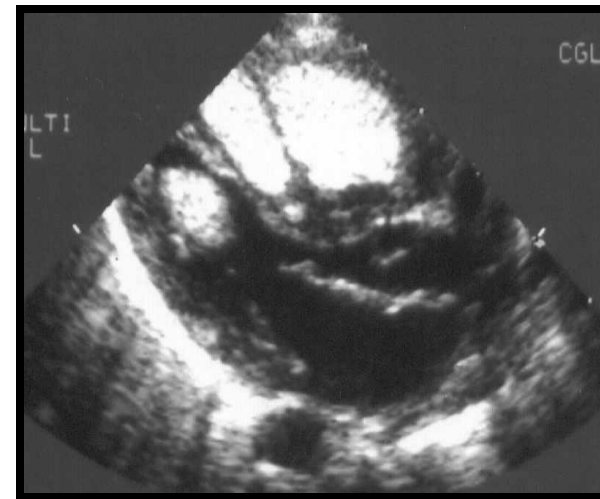
Pompe-Danon



Ebstein



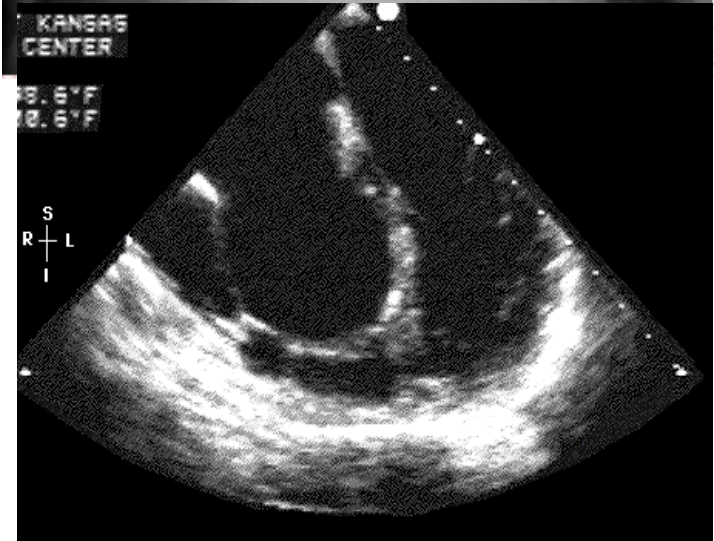
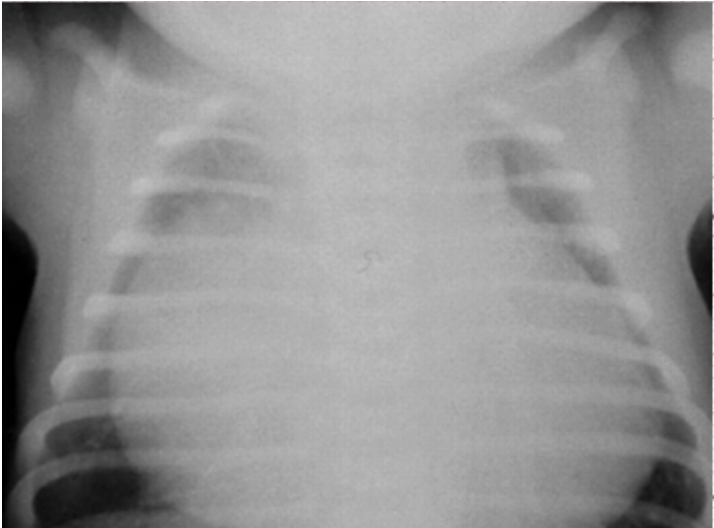
Rabdomiomi S.Tub



3-4 % familiare

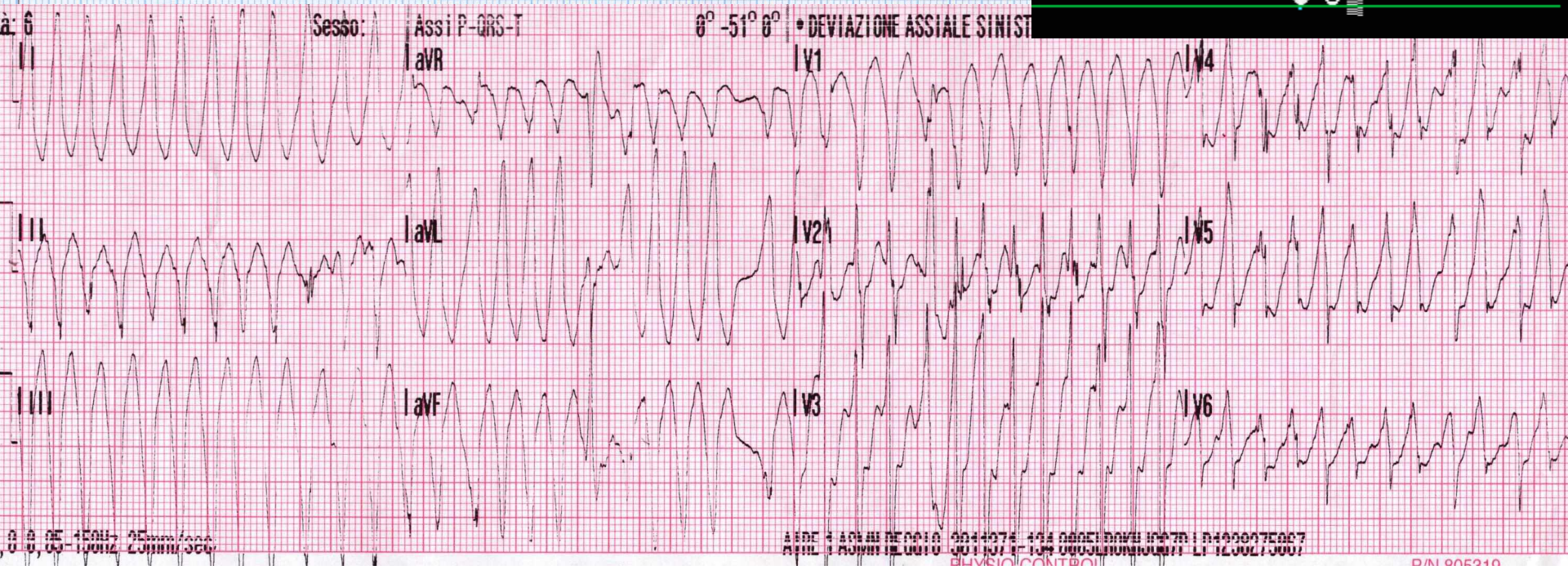
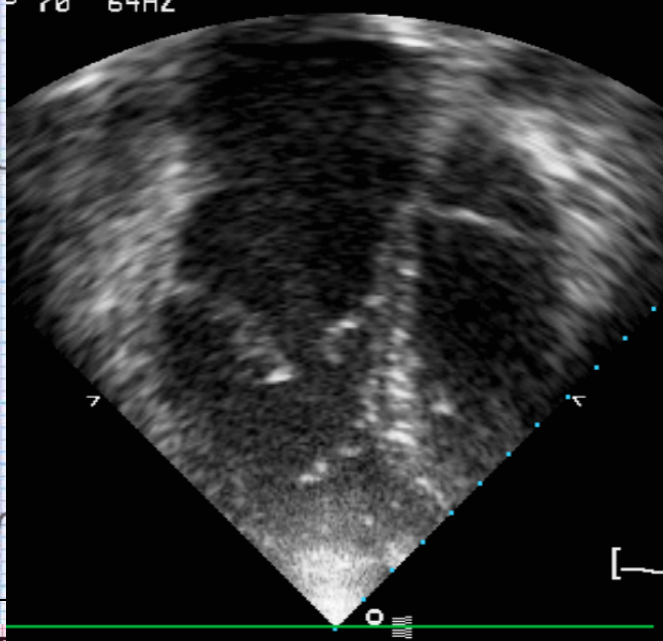
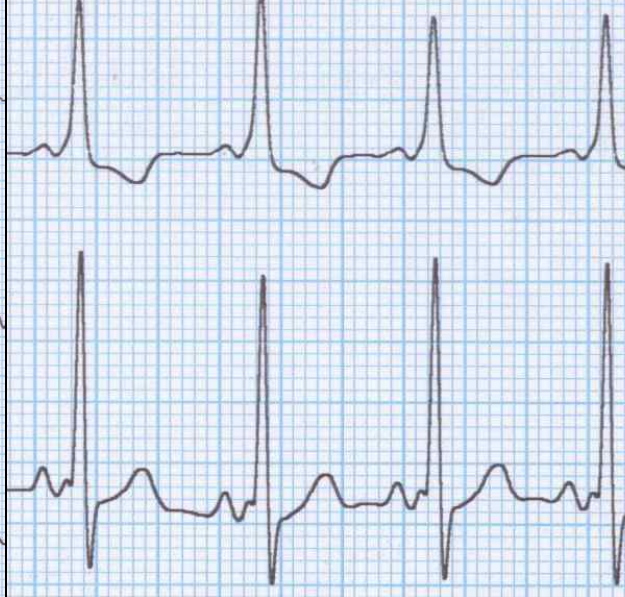
Ebstein

Neonato



Adulto





Sesso: Assi P-QRS-T $0^{\circ} -51^{\circ} 0^{\circ}$ • DEVIAZIONE ASSIALE SINIST

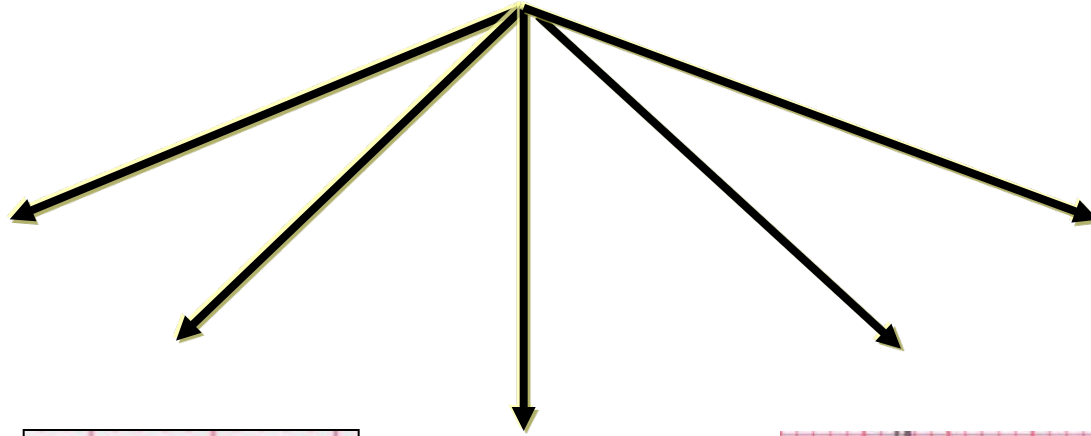
0 0 0E 1500- 25mm/sec
0 0 0E 1500- 25mm/sec

ASDE 1 ACHN RE0010 0044075 404 00001 D0V8 10070 I D100007E007
AHL 1 ACHN RE0010 0044075 404 00001 D0V8 10070 I D100007E007

ELVIS (CONTROL)

D/N 005910

PR lungo



Malattia Reumatica



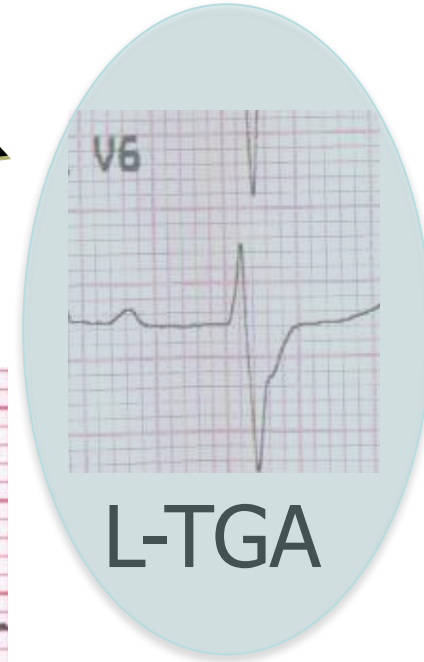
Brugada



Canale AV

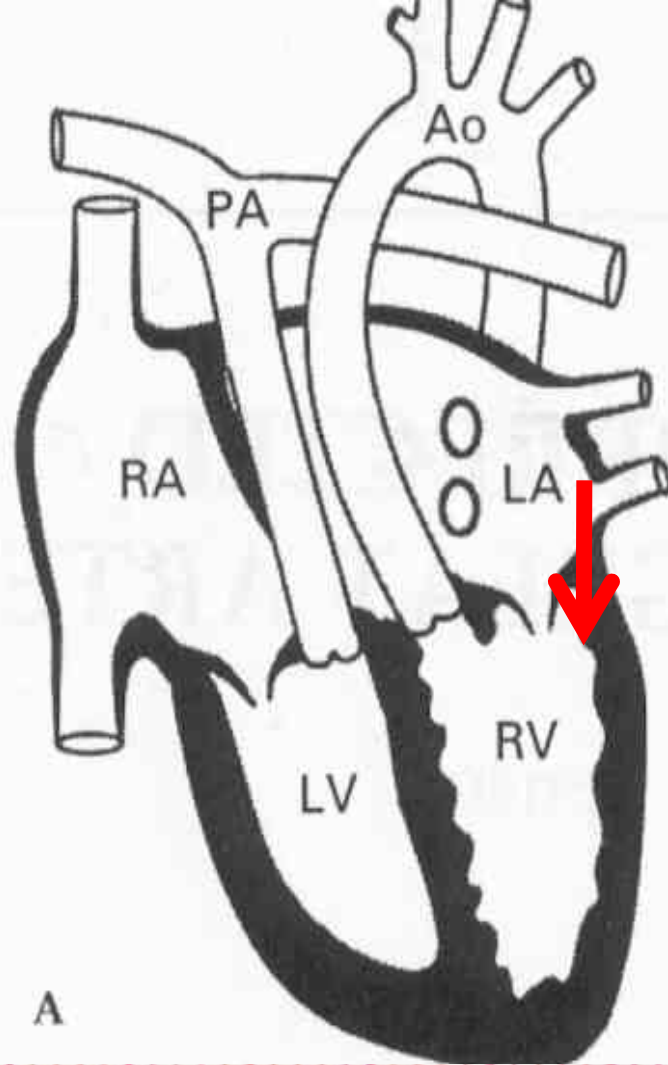


CMPI

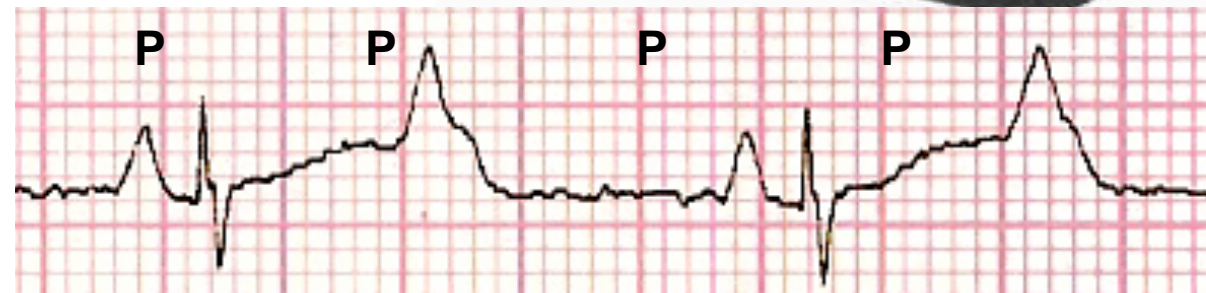


L-TGA

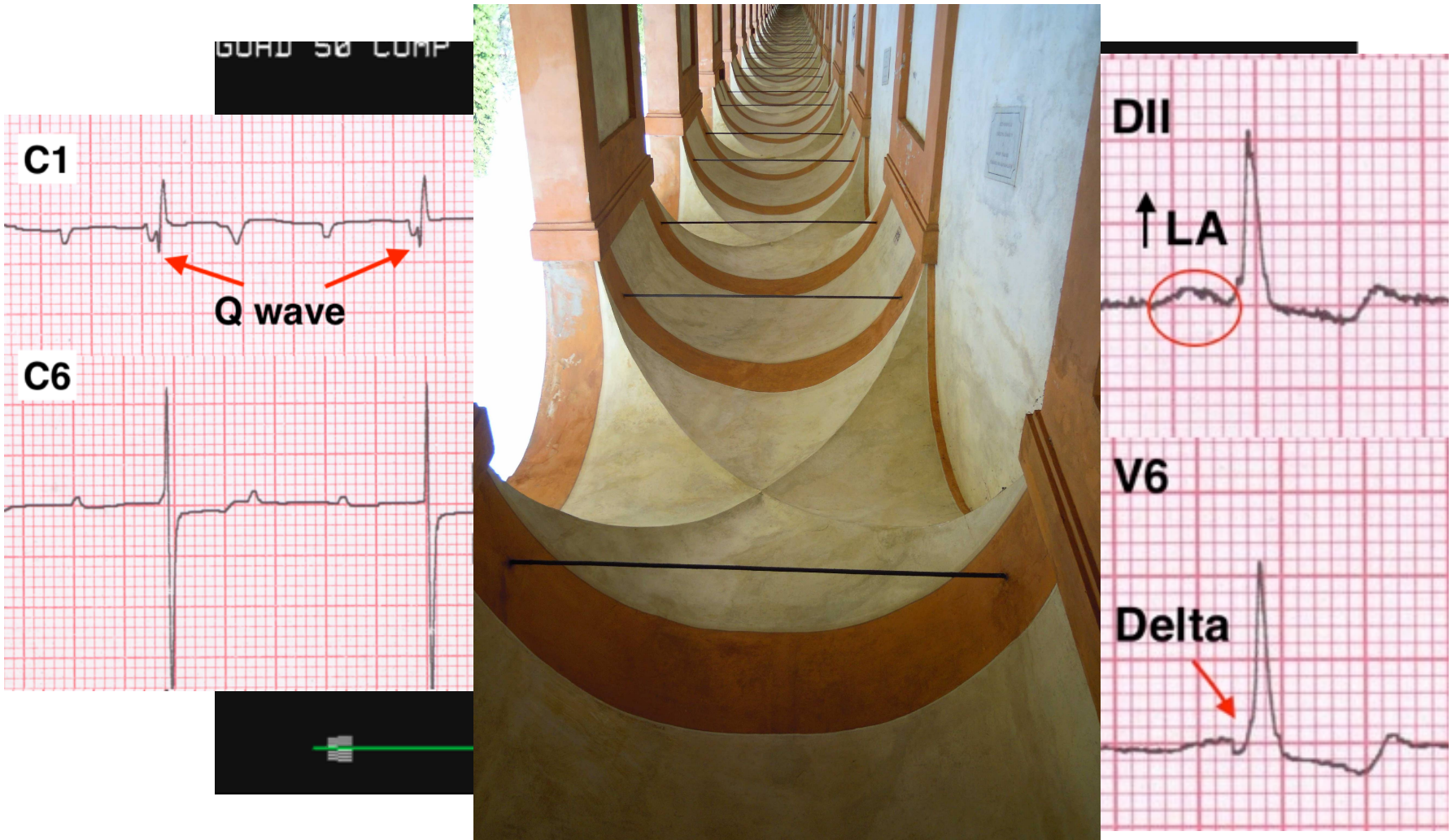
CCTGA



A



CCTGA

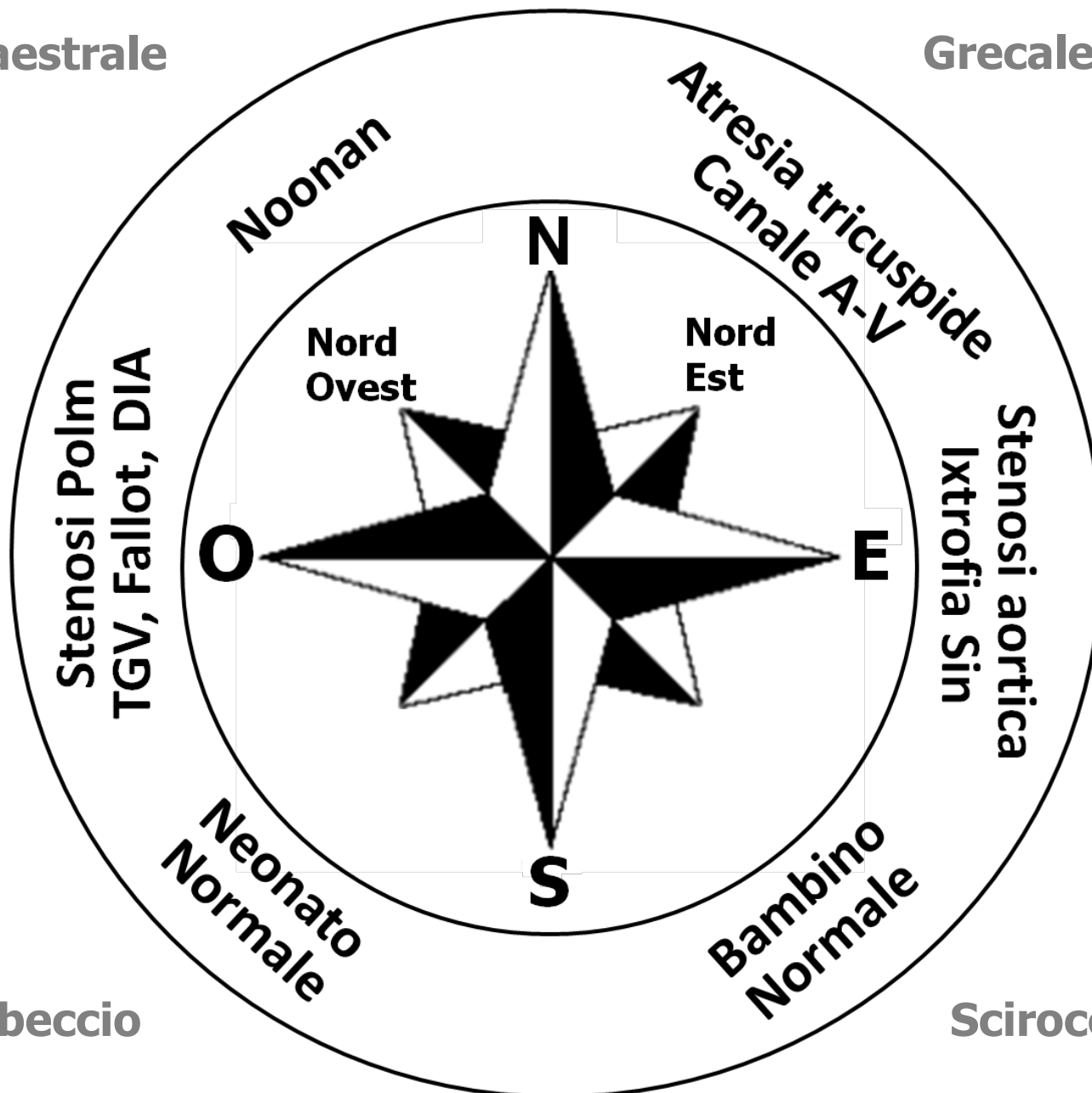


Chi fa solo l'eco, vede una spongiosa

Rosa dei vent...ricoli

Maestrale

Grecale



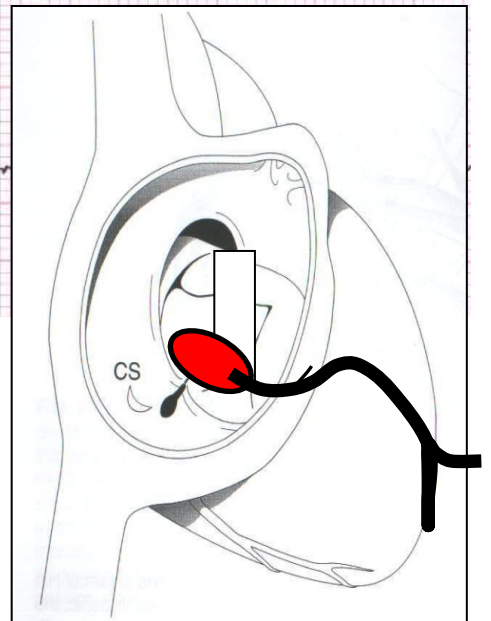
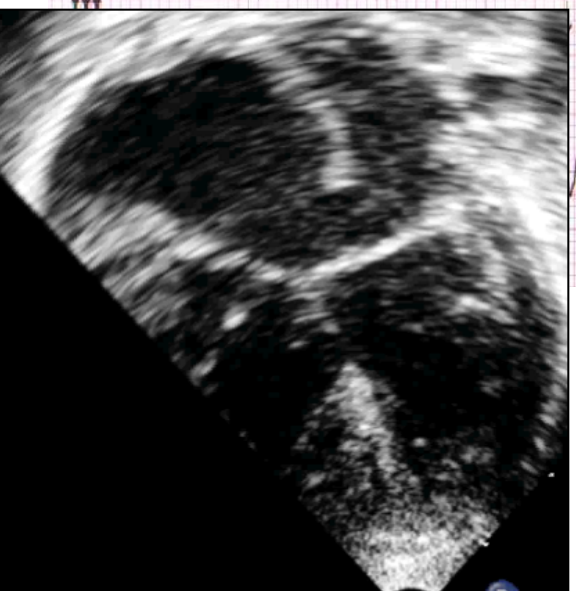
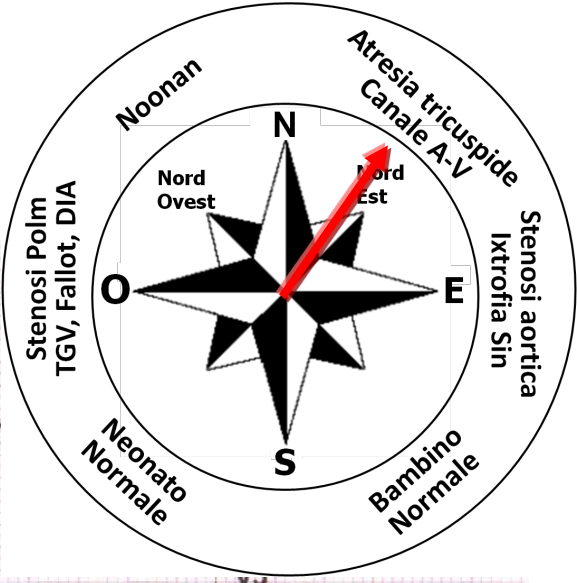
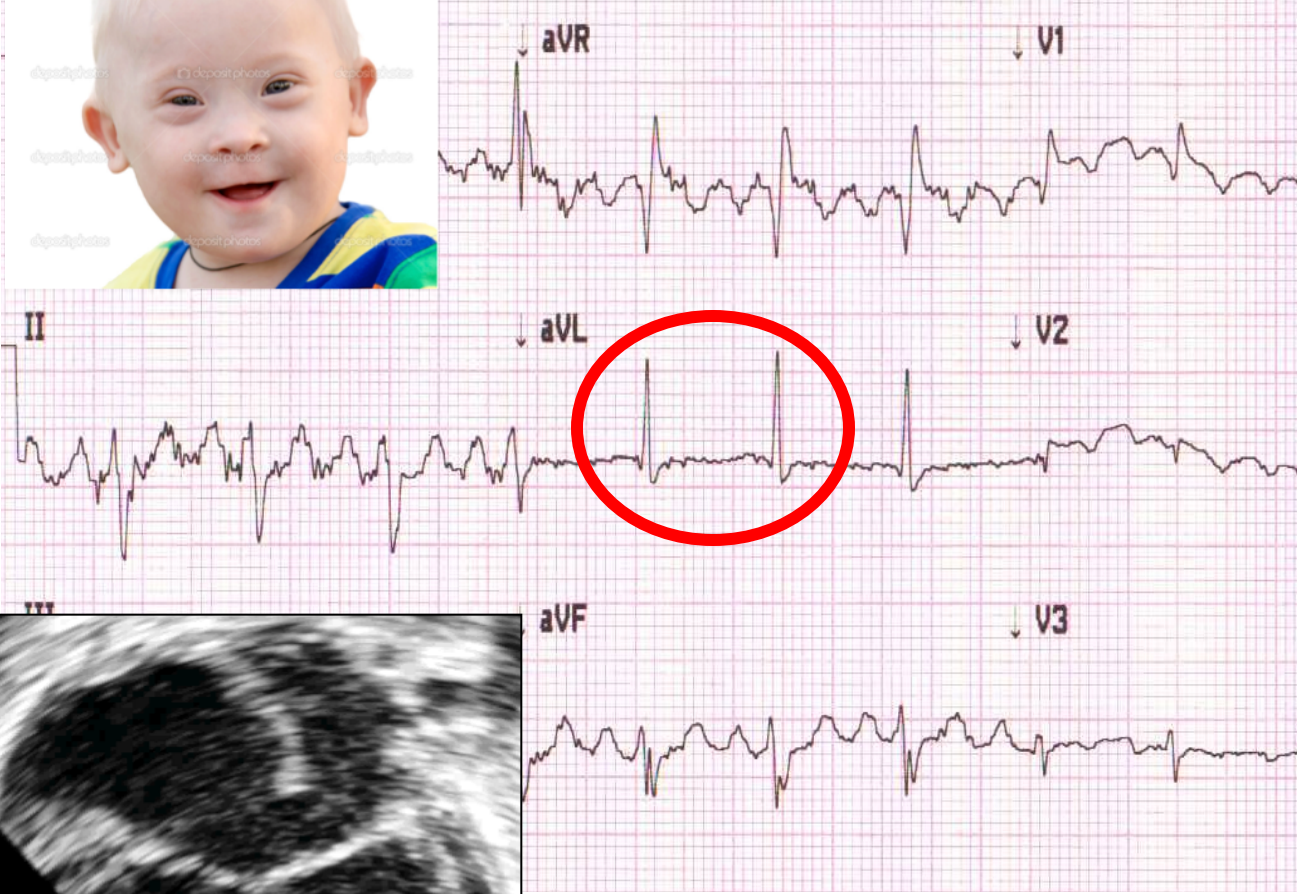
Libeccio

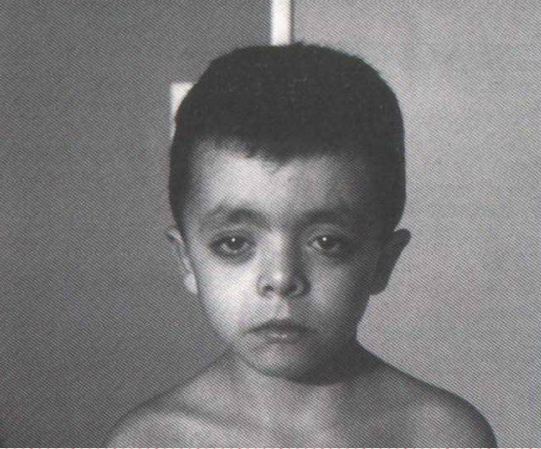
Scirocco

Trisomia 21, canale AV (DIA+ cleft mitralico)



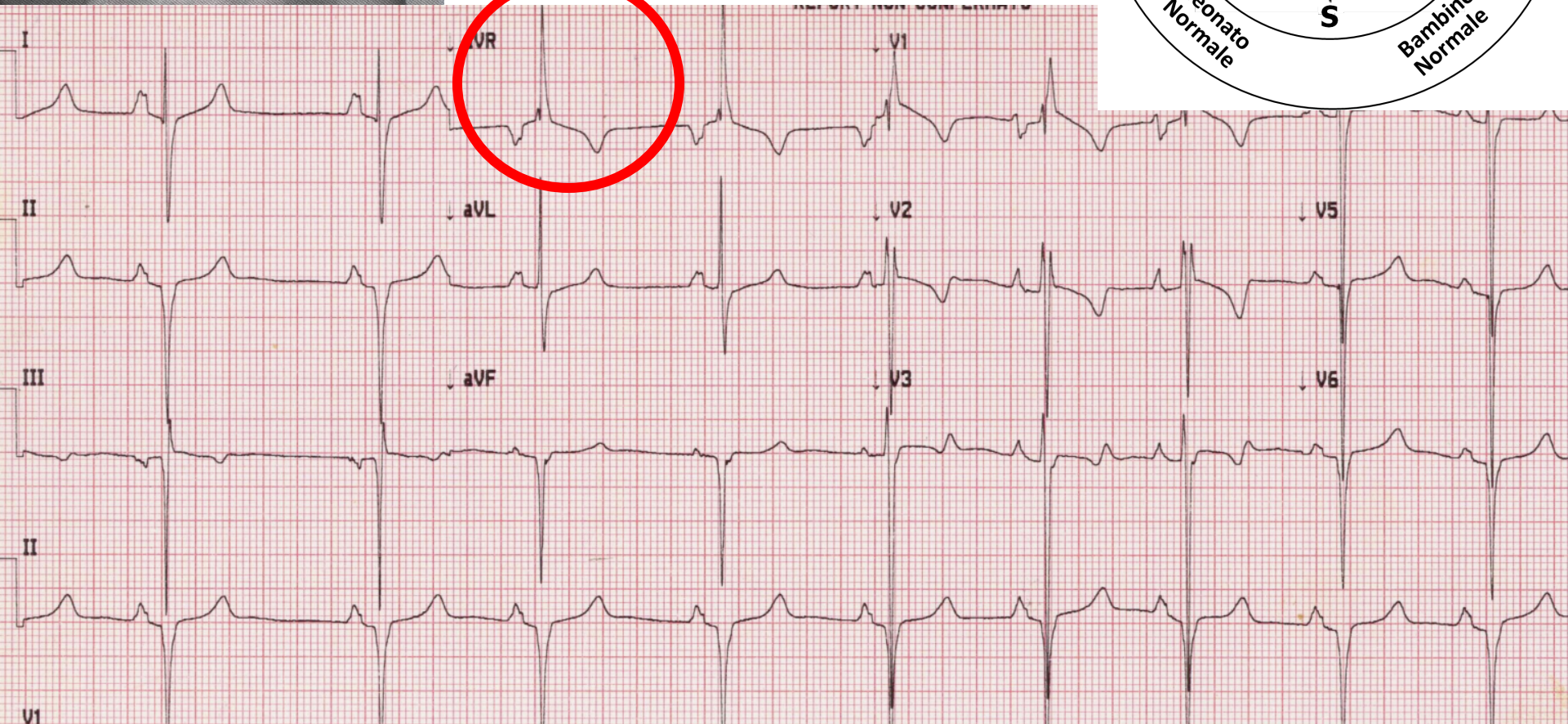
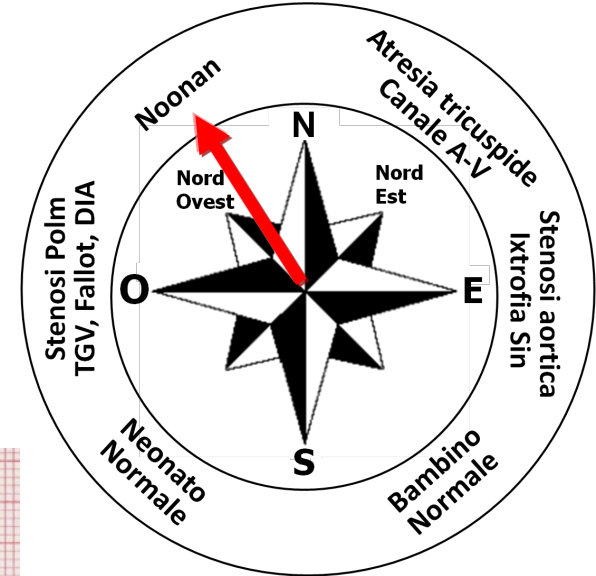
Asse a Nord-Est



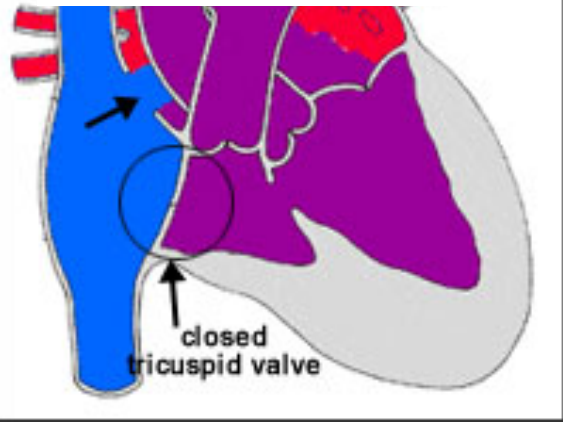


S.Noonan

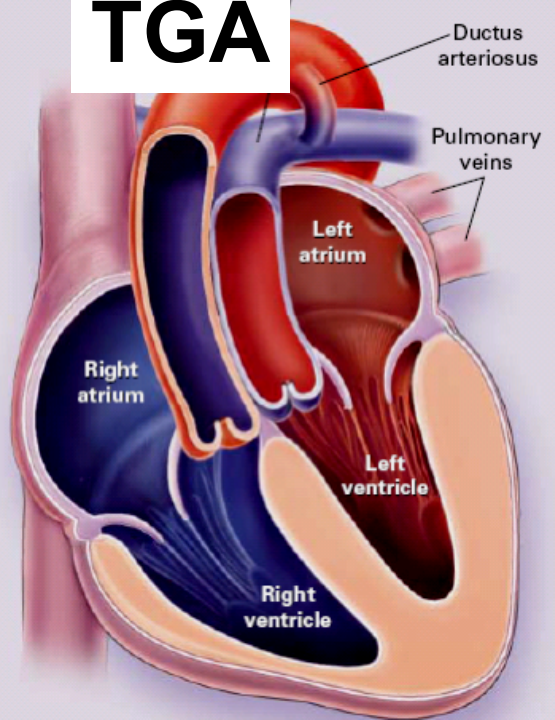
Asse a Nord-Ovest



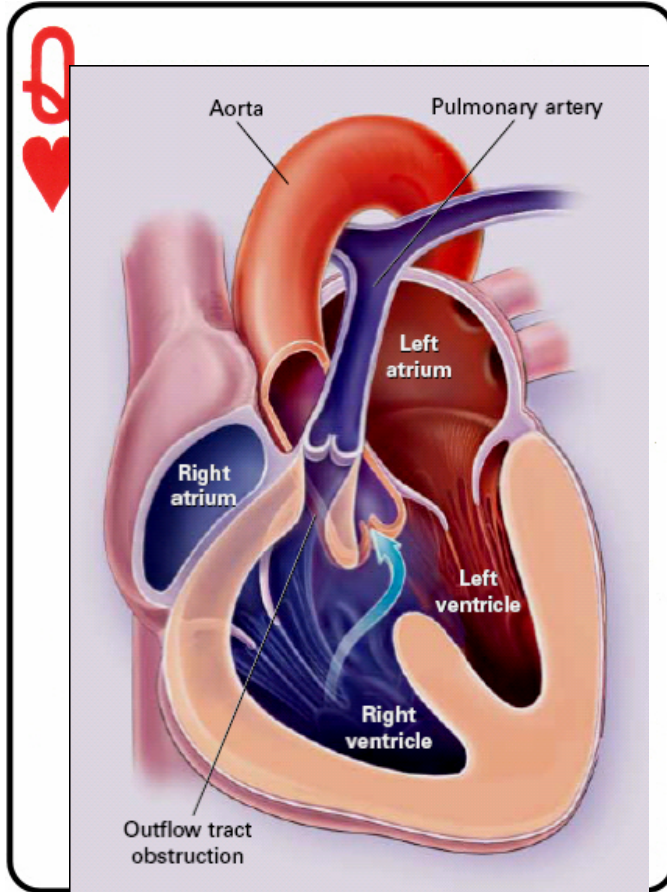
TRICUSPID ATRESIA



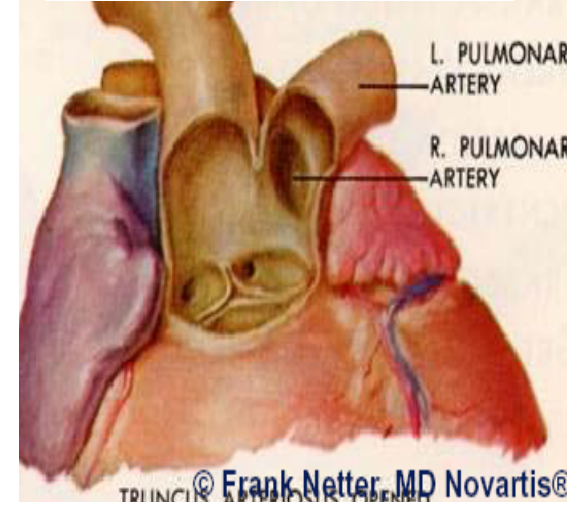
TGA



5 big blue T

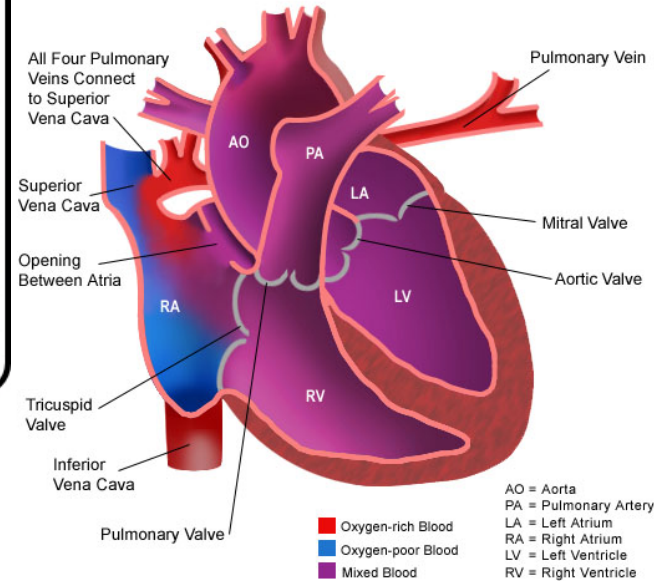


TRUNCUS

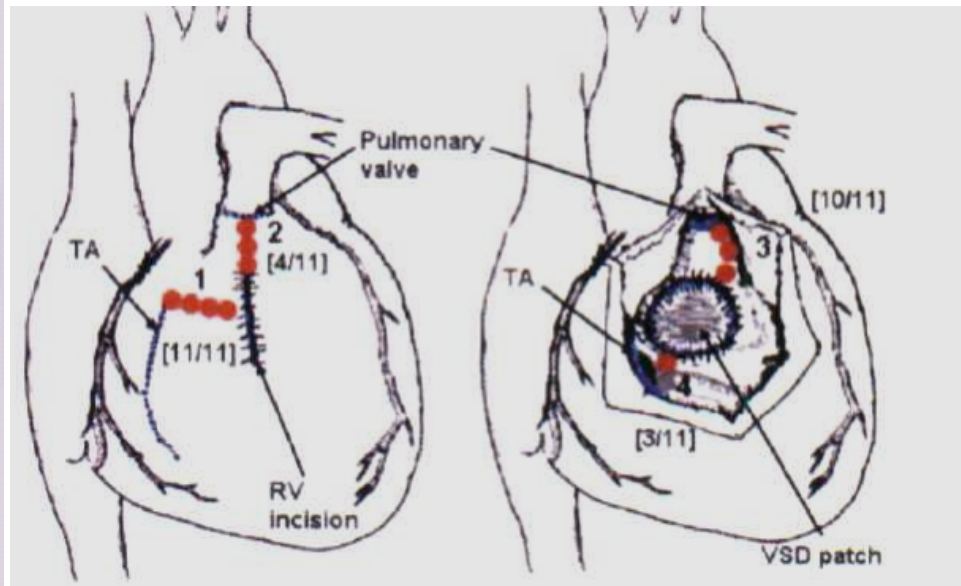
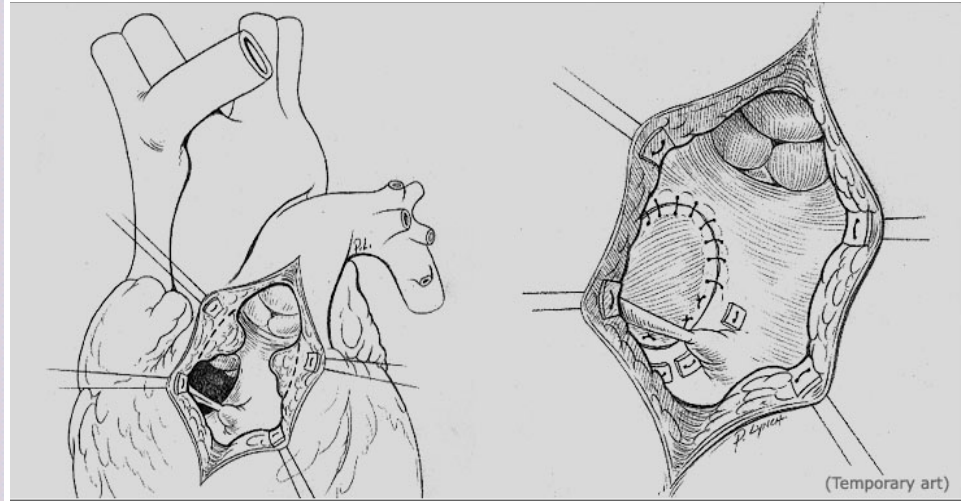
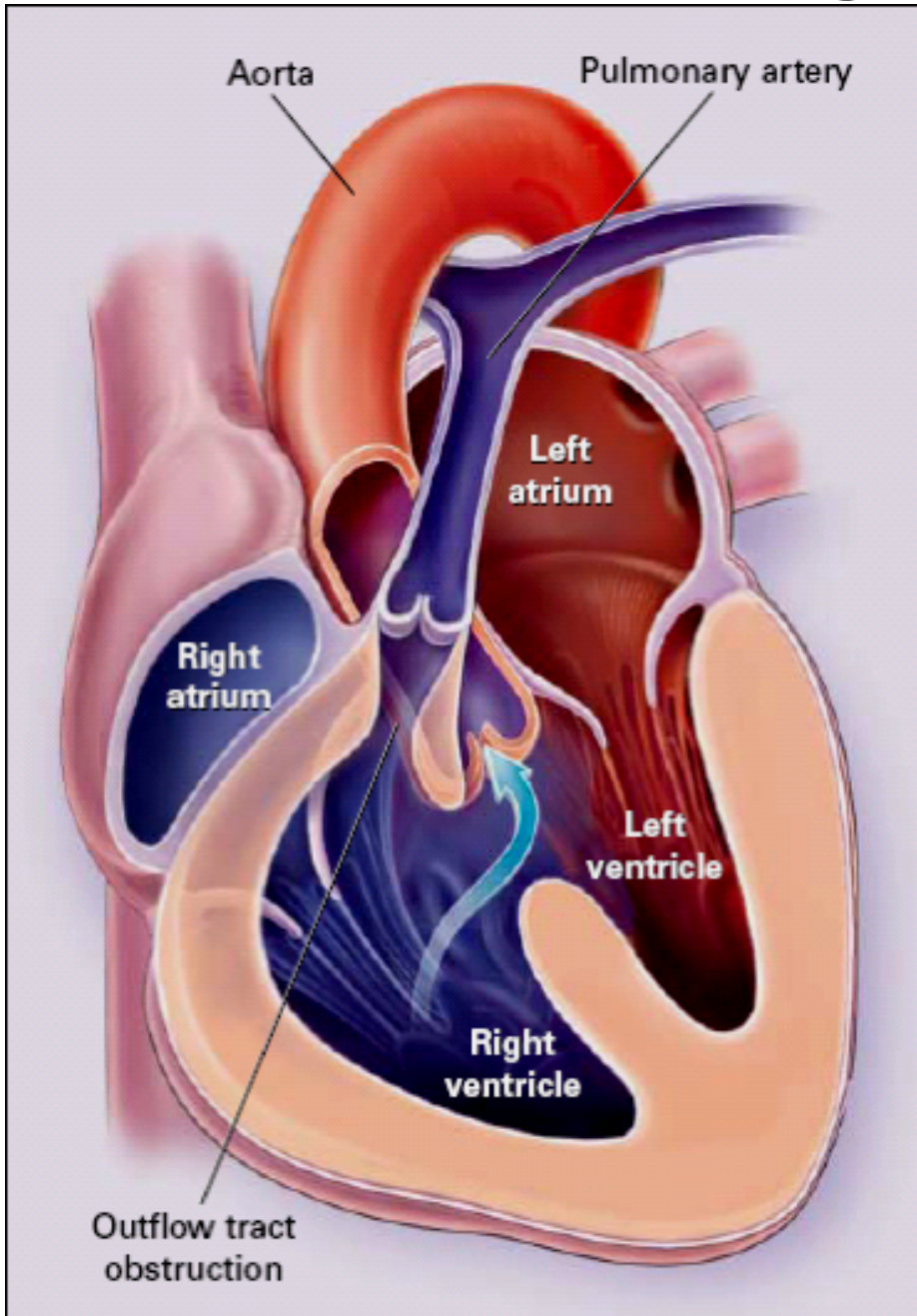


TAPVR

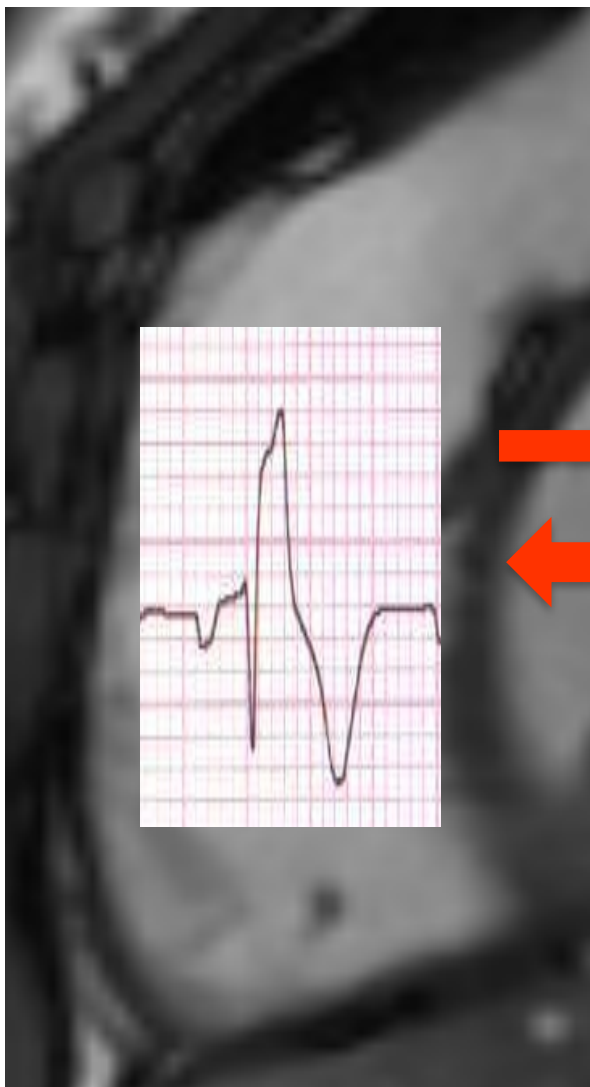
Total Anomalous Pulmonary Venous Return



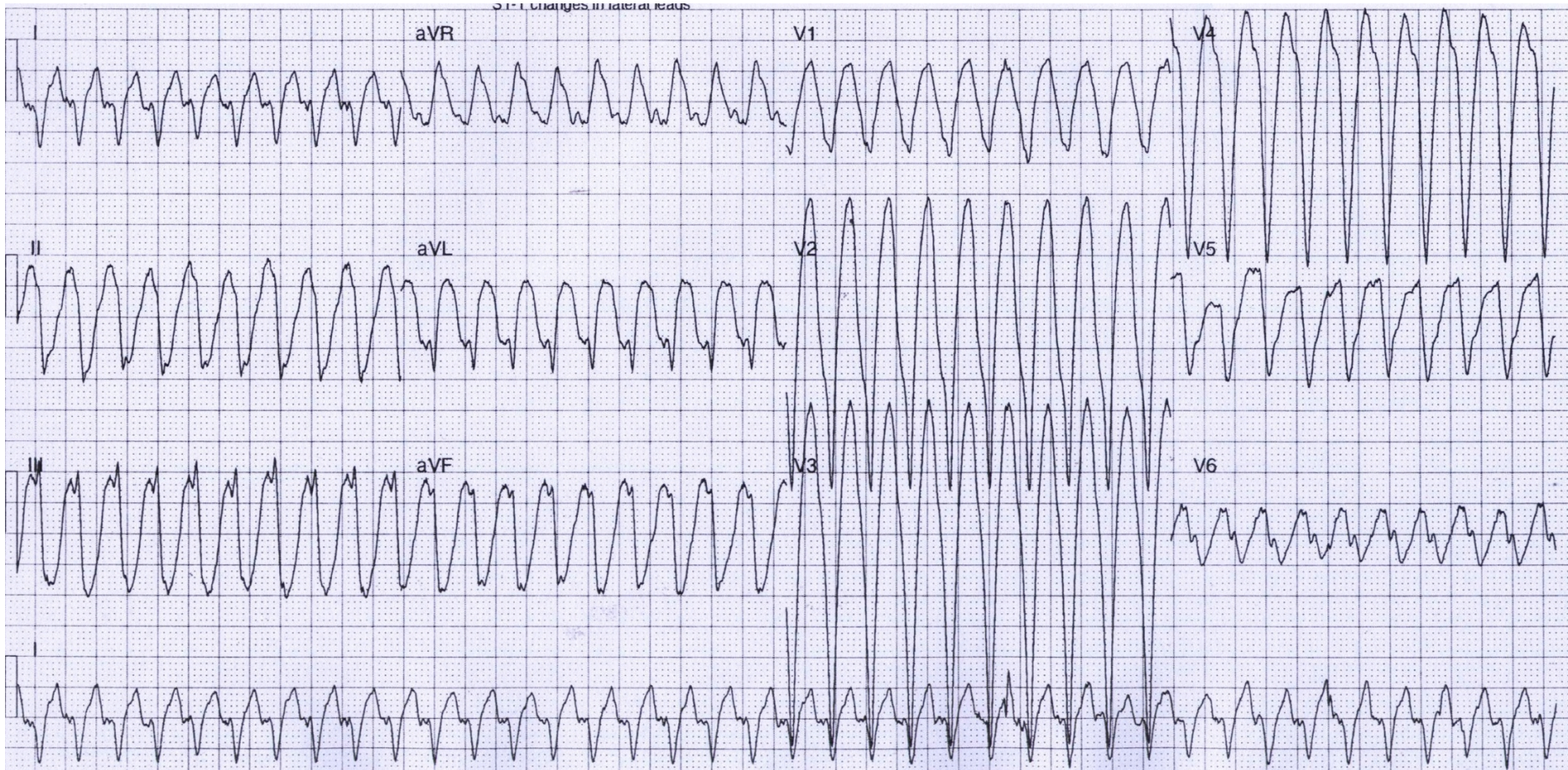
Tetralogia di Fallot



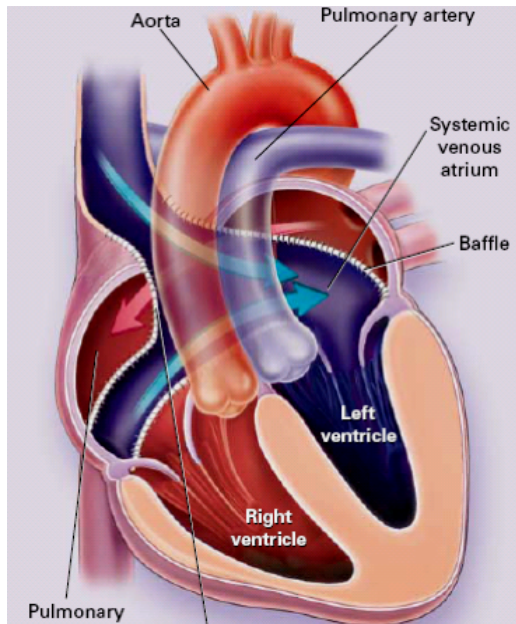
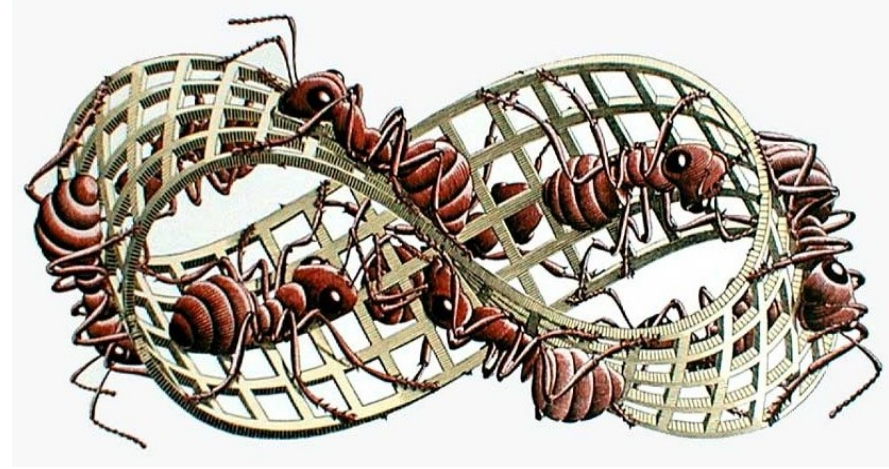
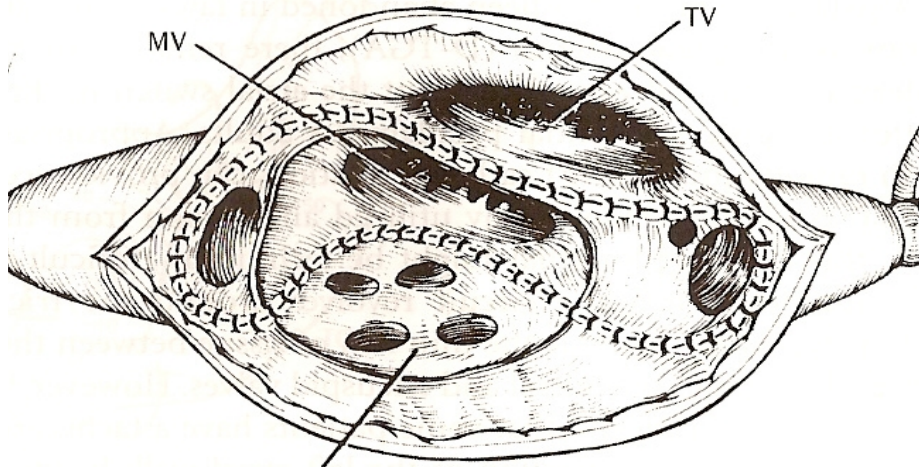
BBDx Interazione elettro/meccanica



Fallot in P.S.

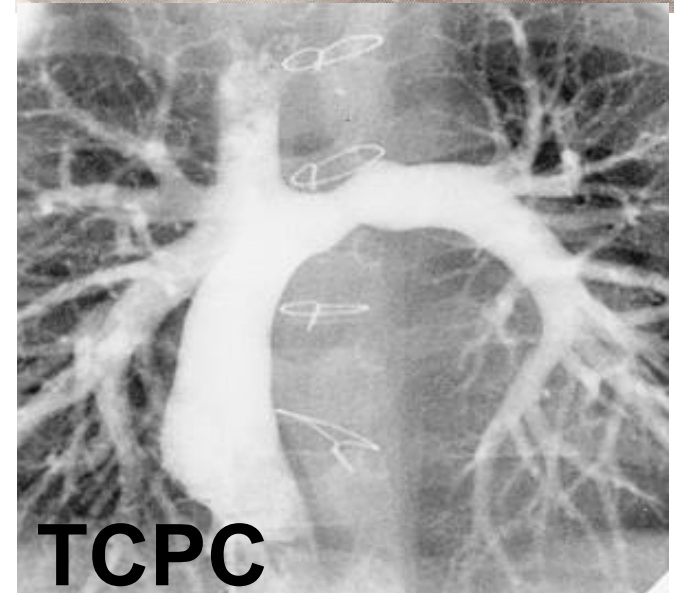
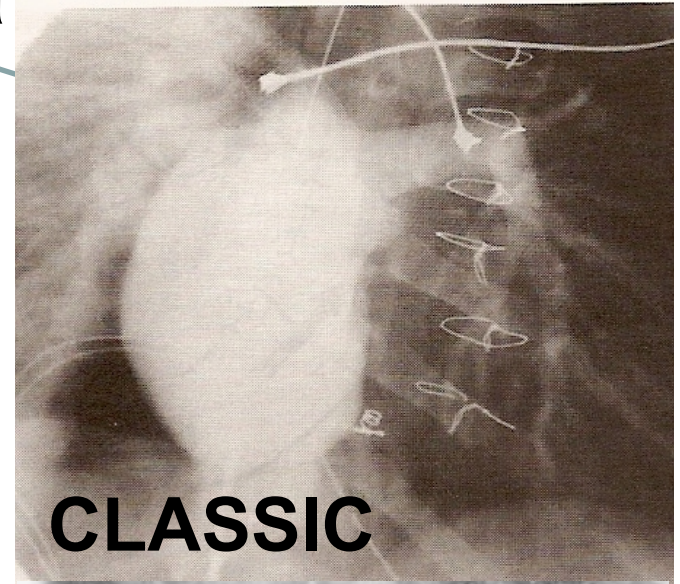
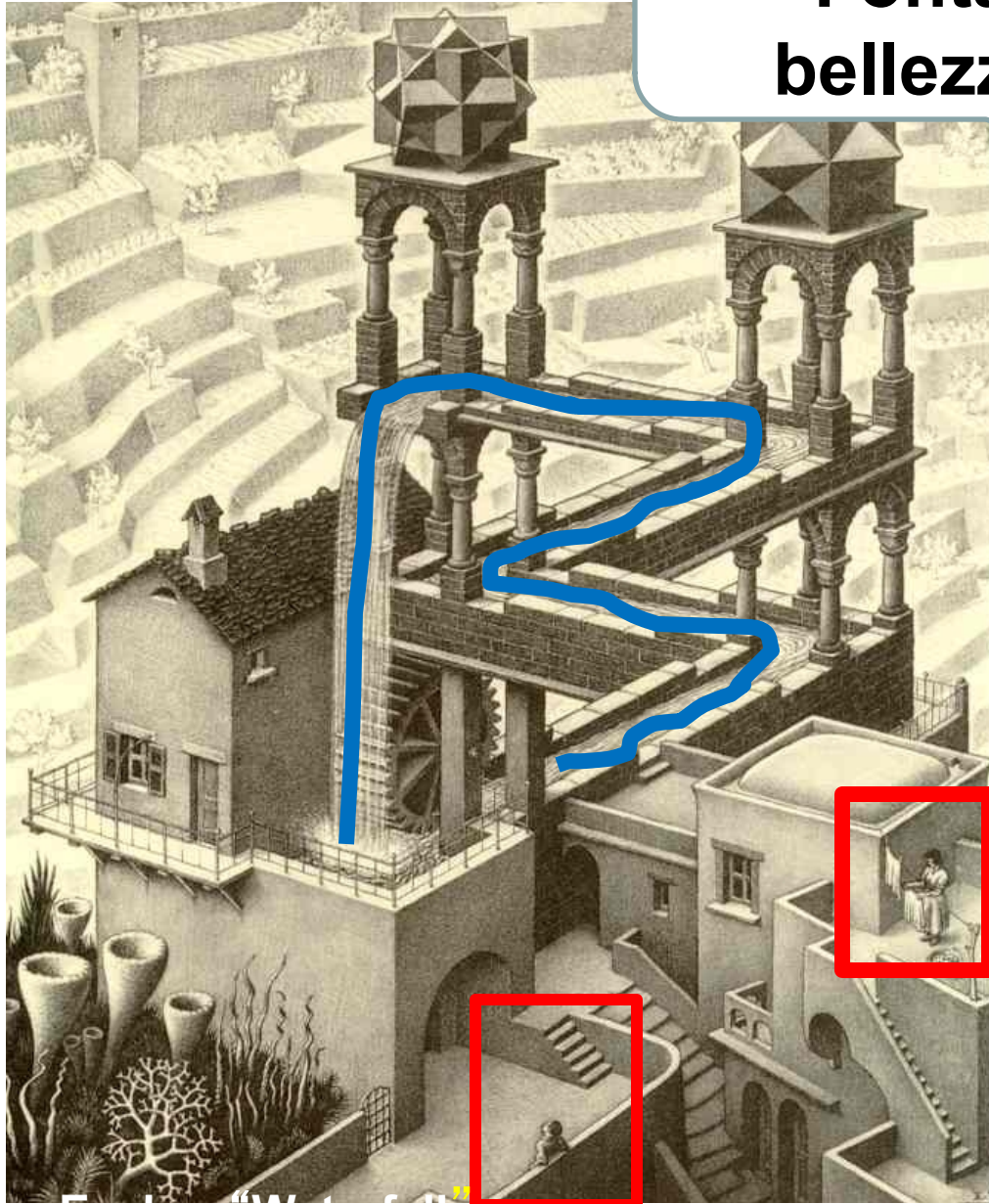


Ventricolo destro sistemico: TGA S/P Mustard-Senning

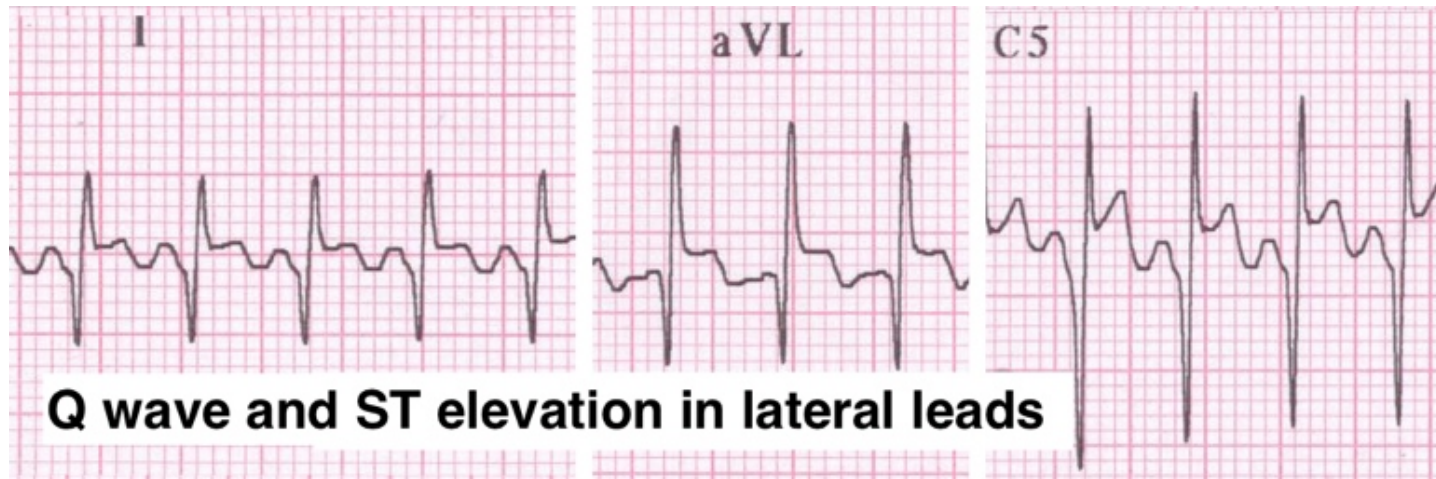
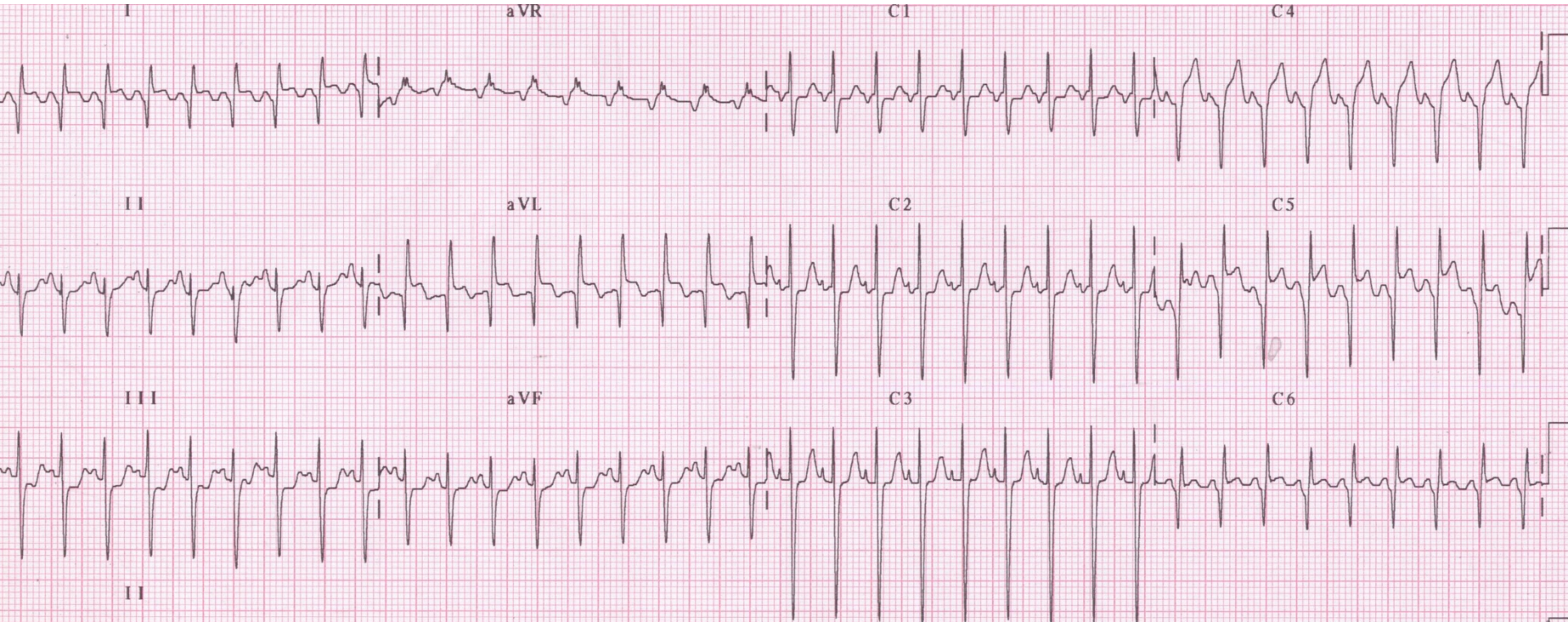


Fontan

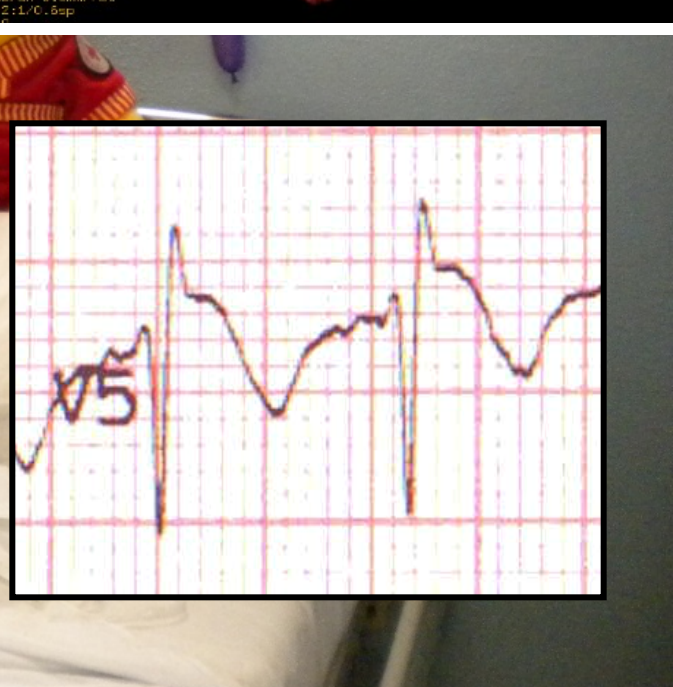
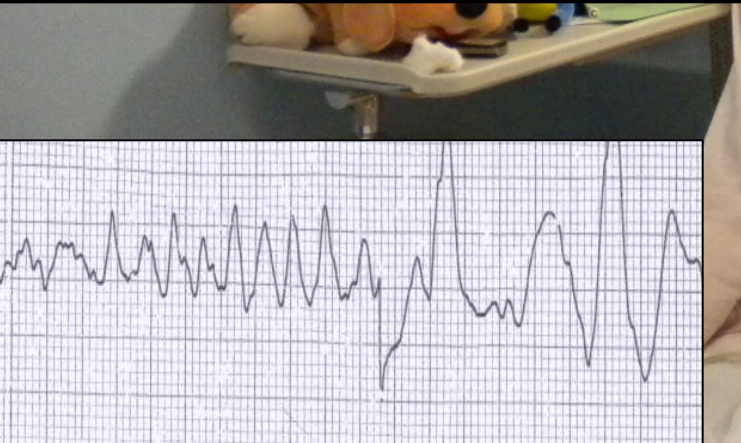
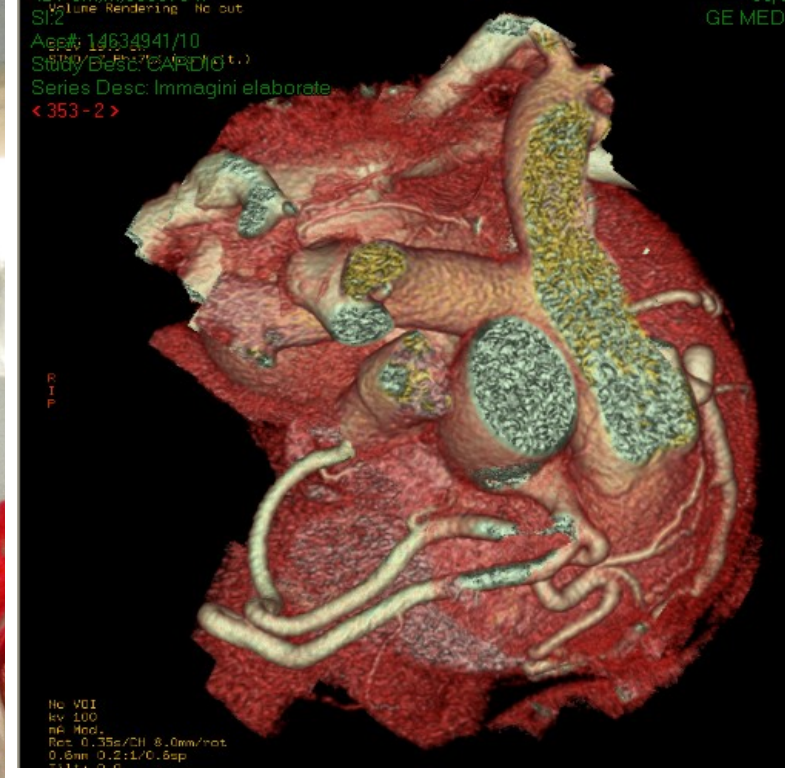
E' il principio
Fontan
bellezza'



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

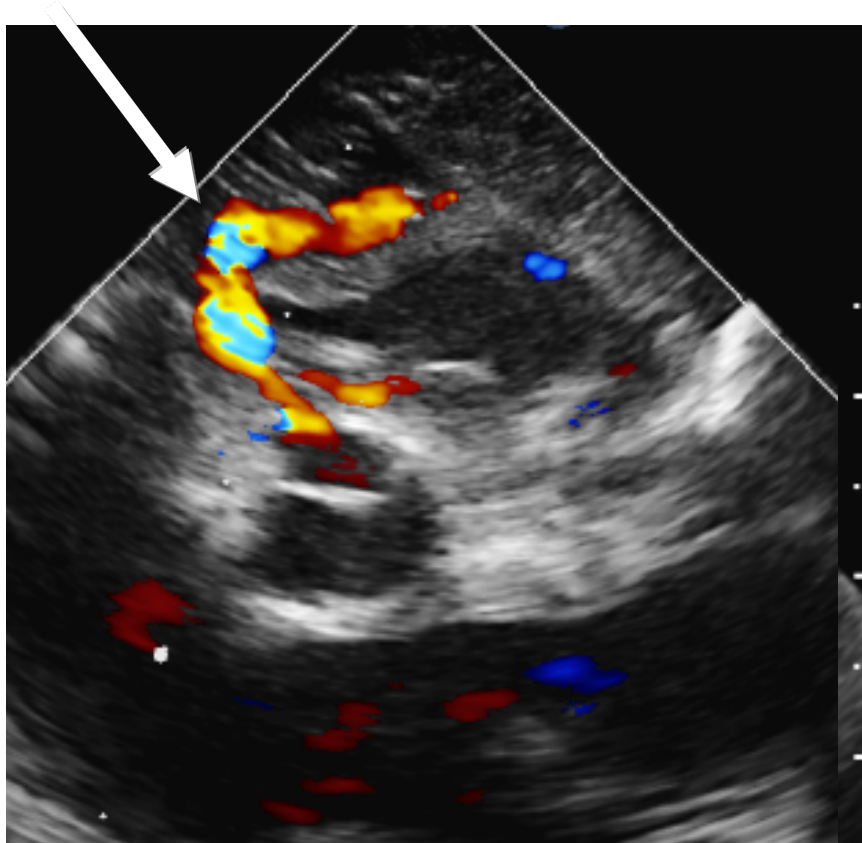


Q wave and ST elevation in lateral leads

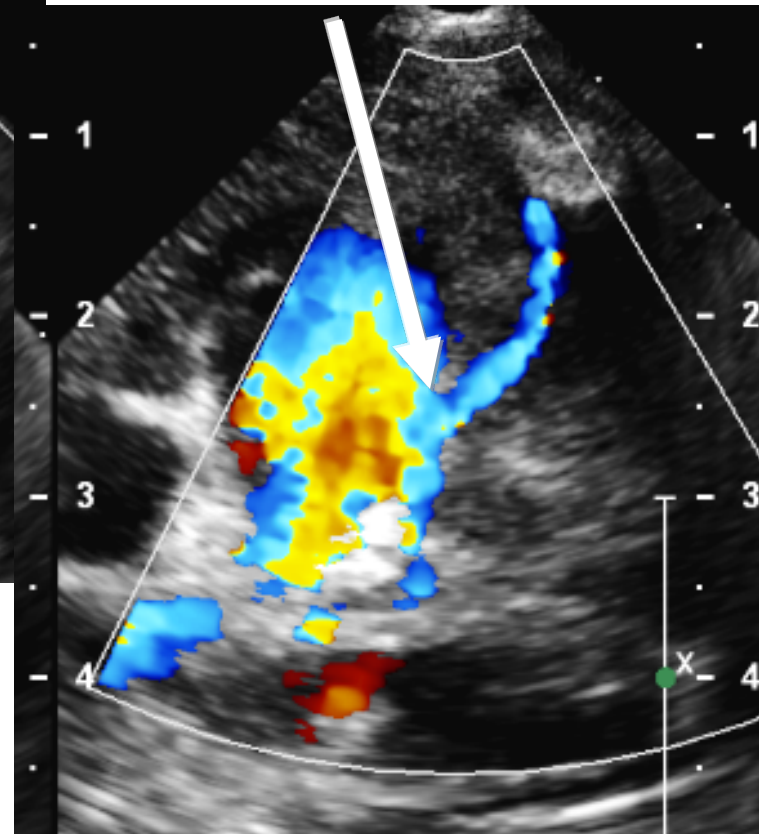


ALCAPA

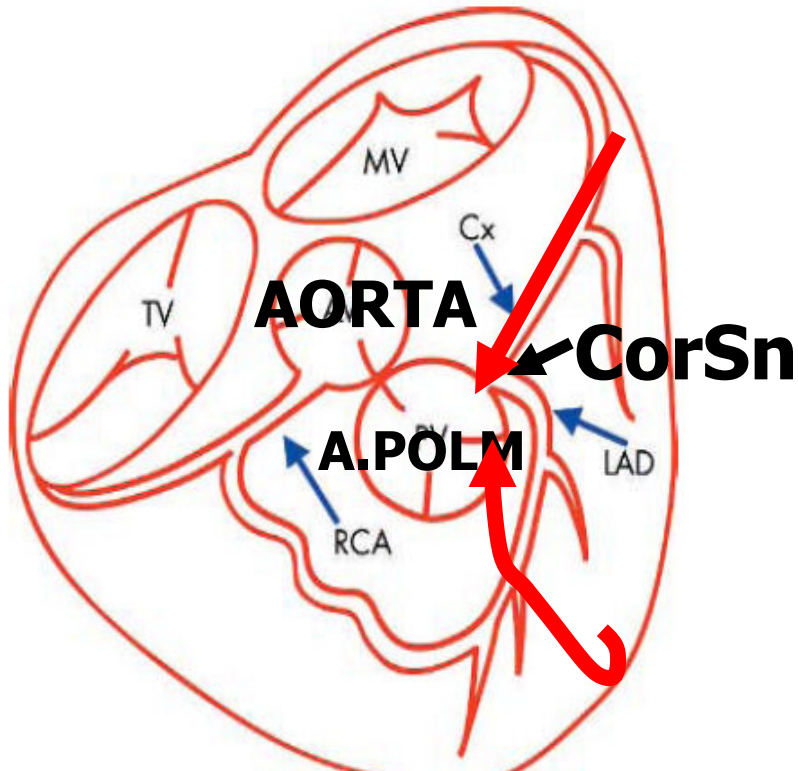
Coronaria destra dilatata



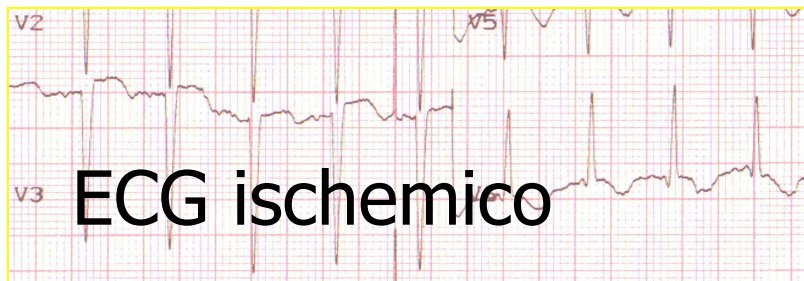
**Coronaria sinistra
con origine
Da arteria
polmonare**



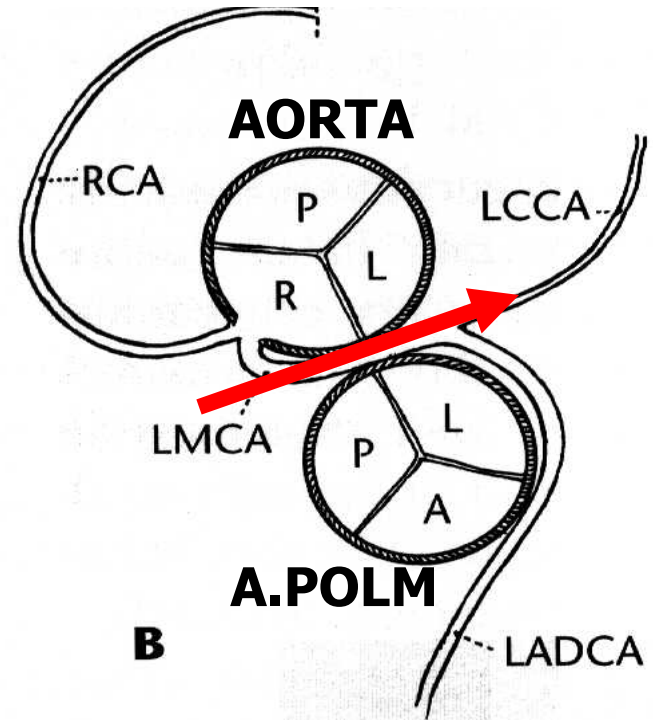
ALCAPA



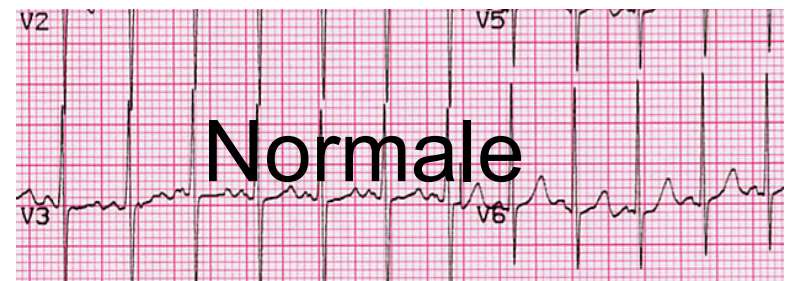
Scompenso < 1 anno

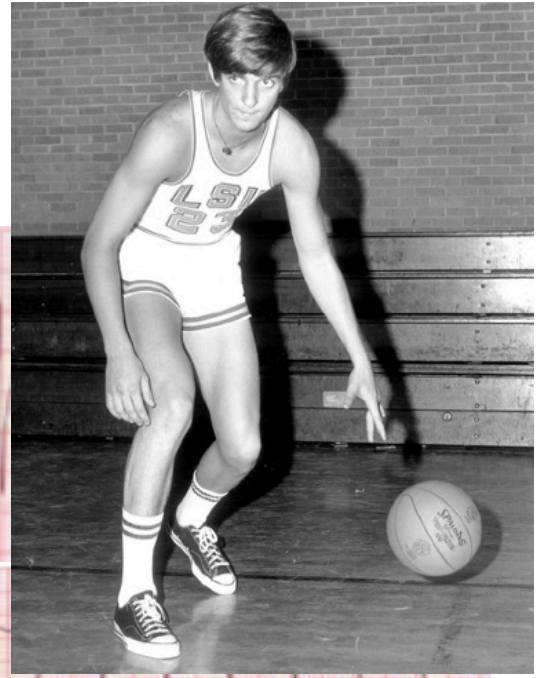
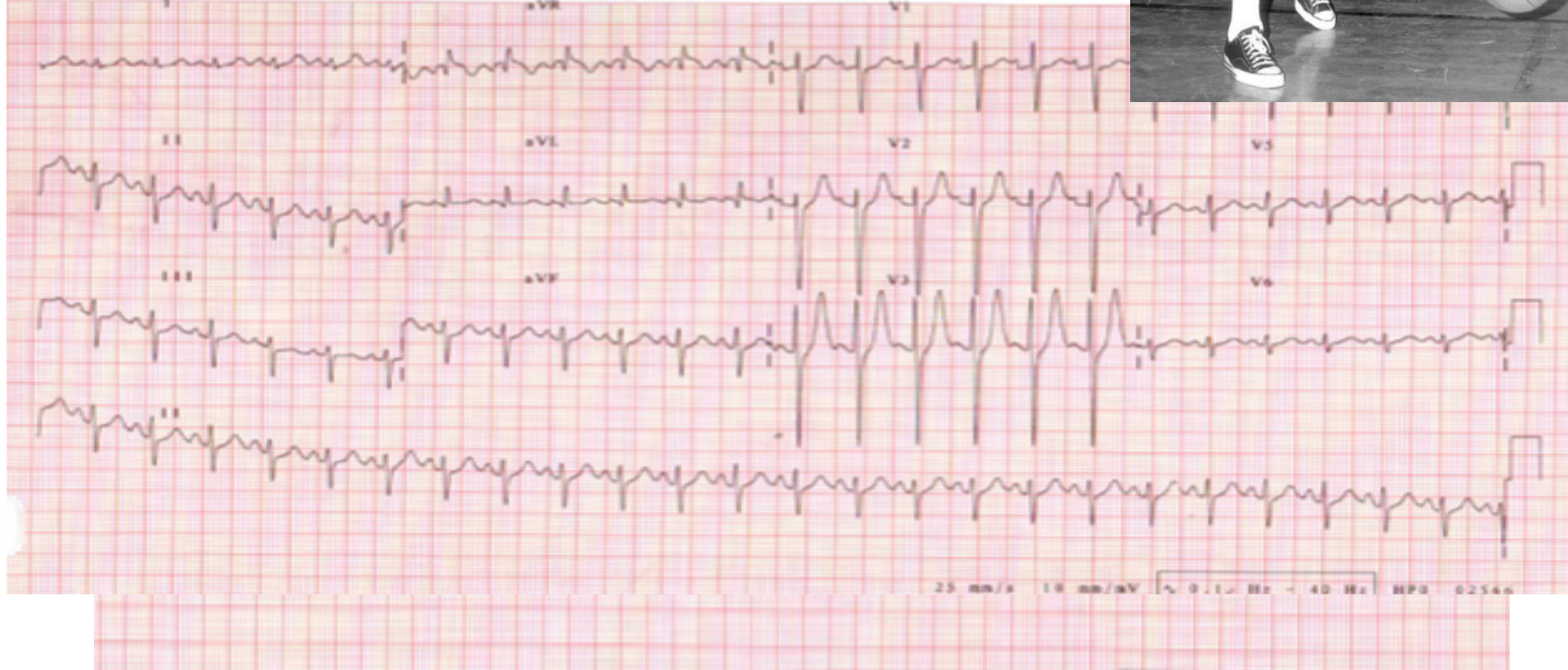


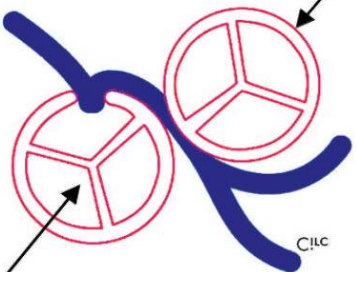
ACAOS



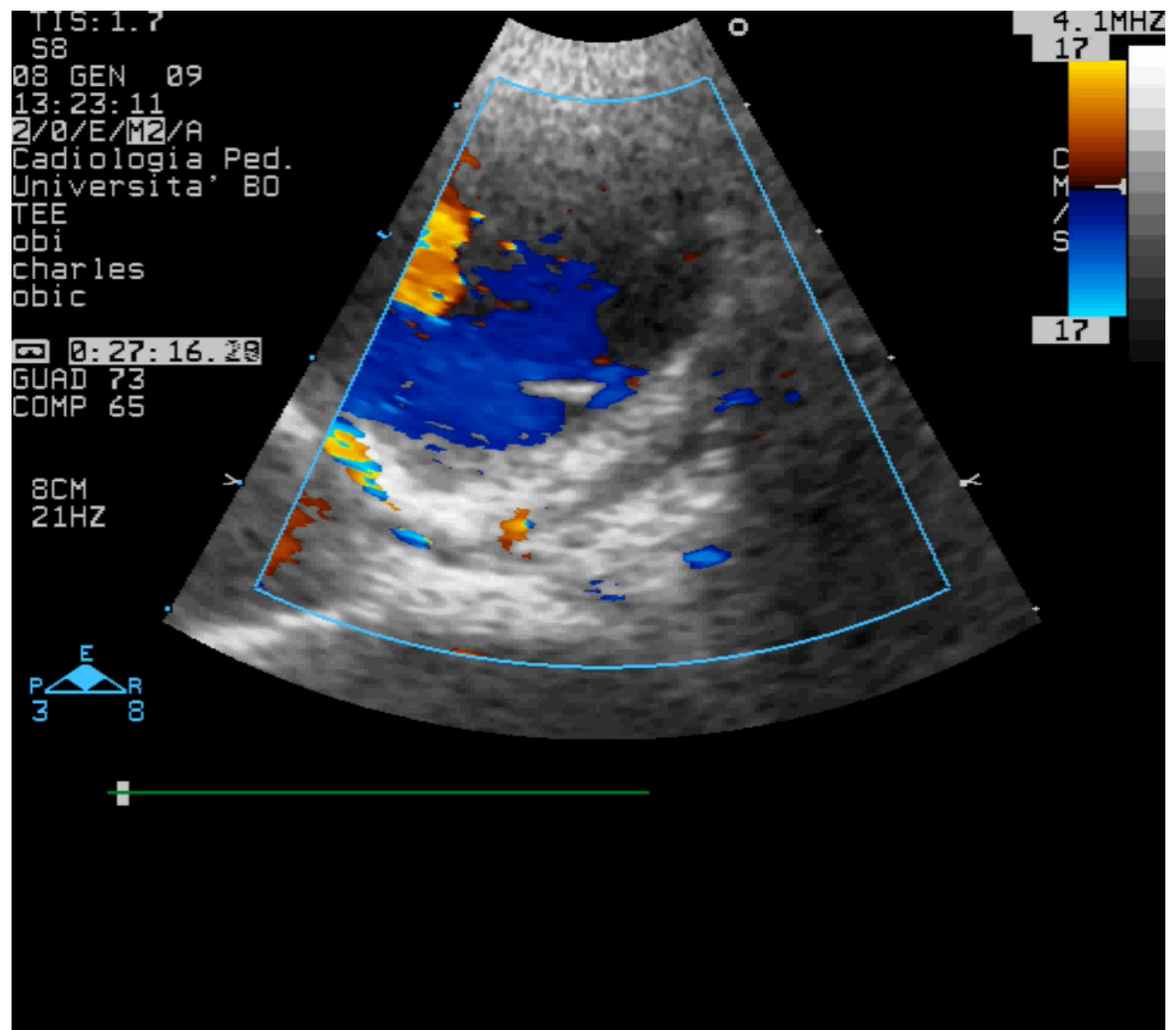
Sincope > 10 aa



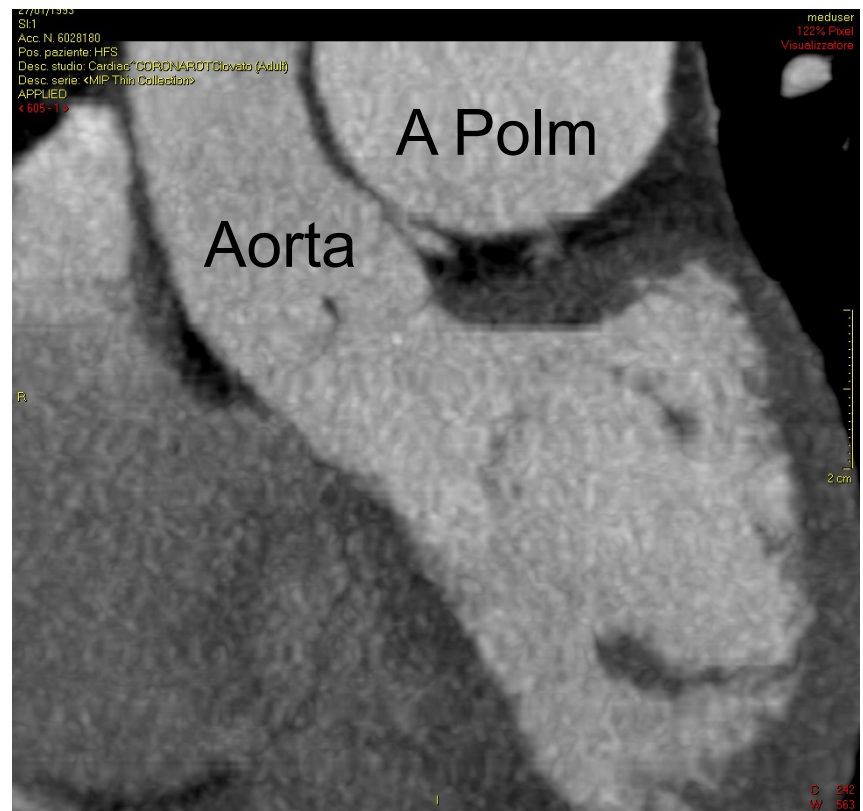
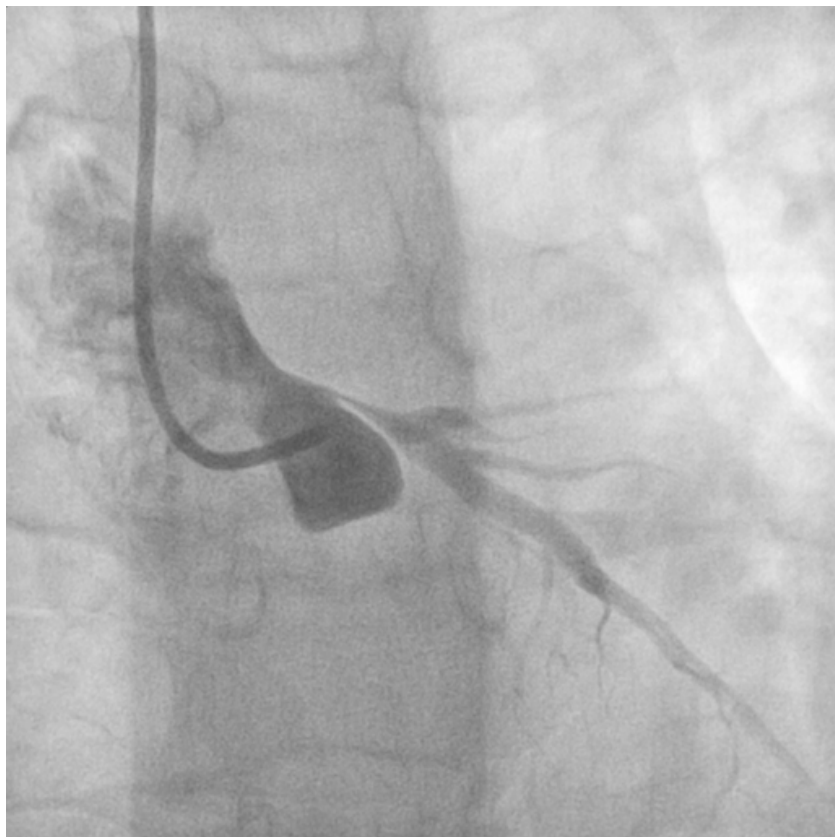
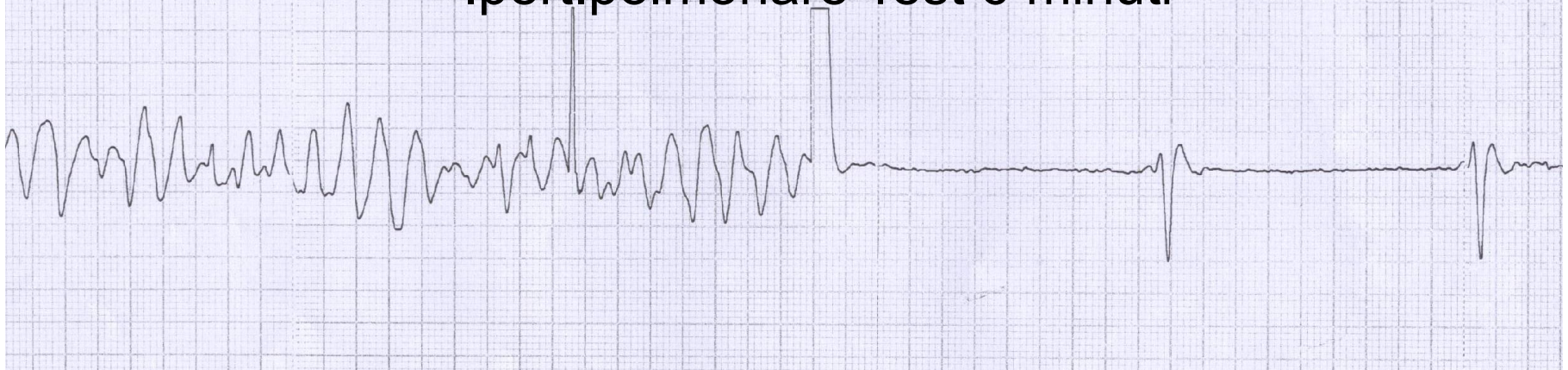




ACAOS



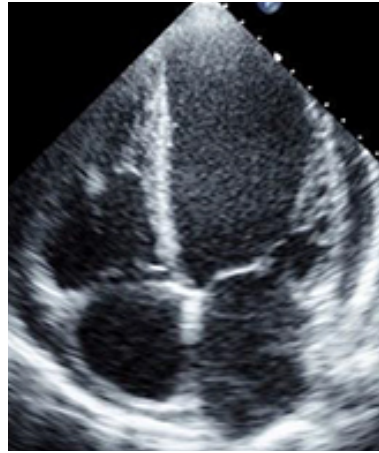
Ipert.polmonare Test 6 minuti



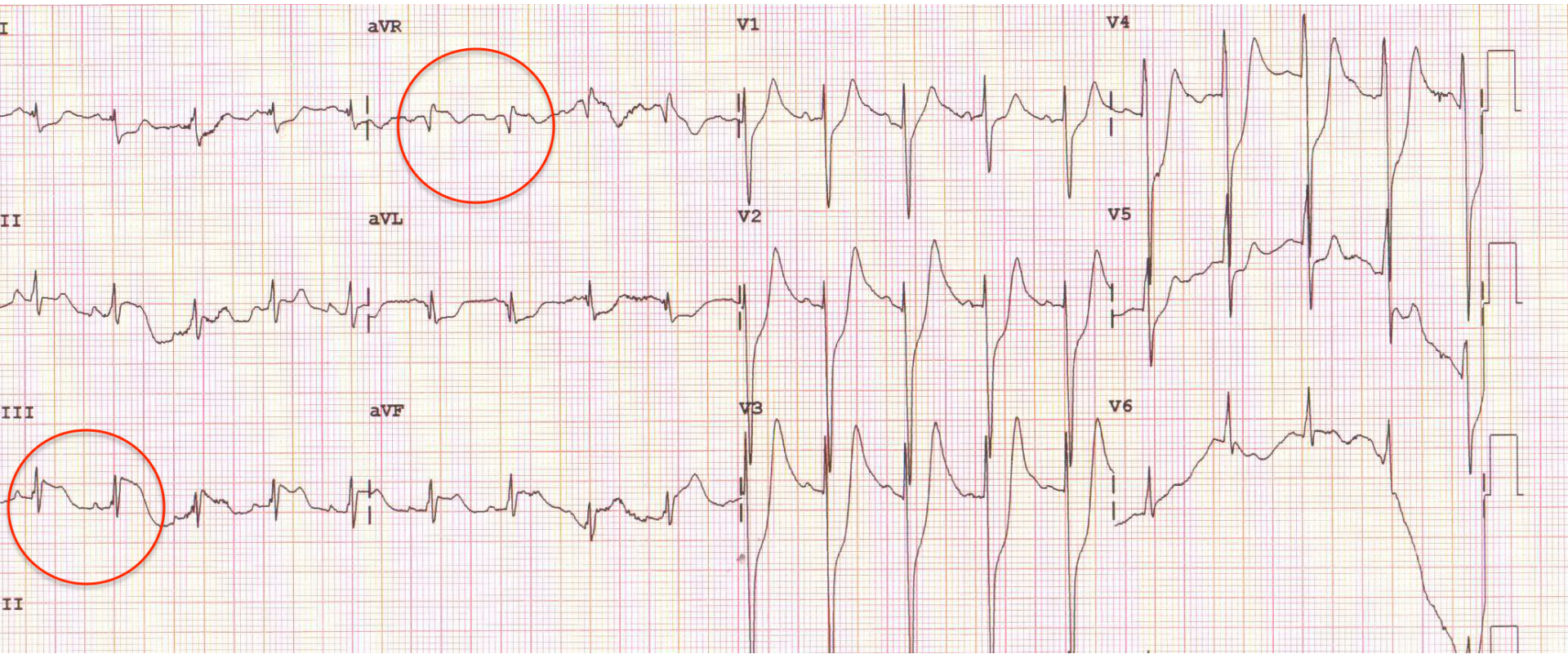
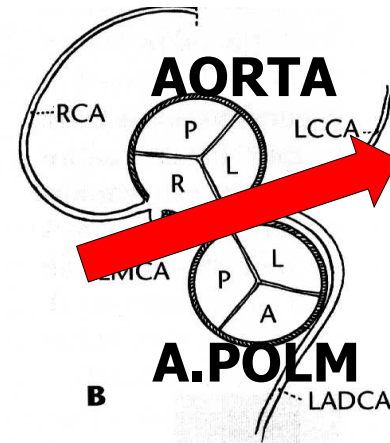
IP.Polm



Miocardite



ACAOS



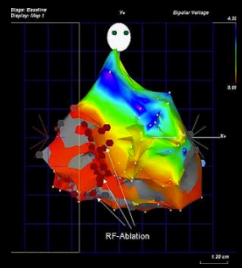
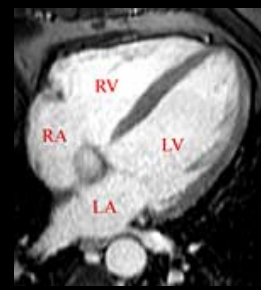
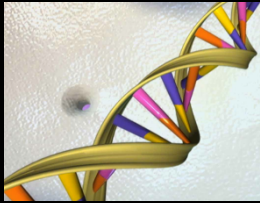
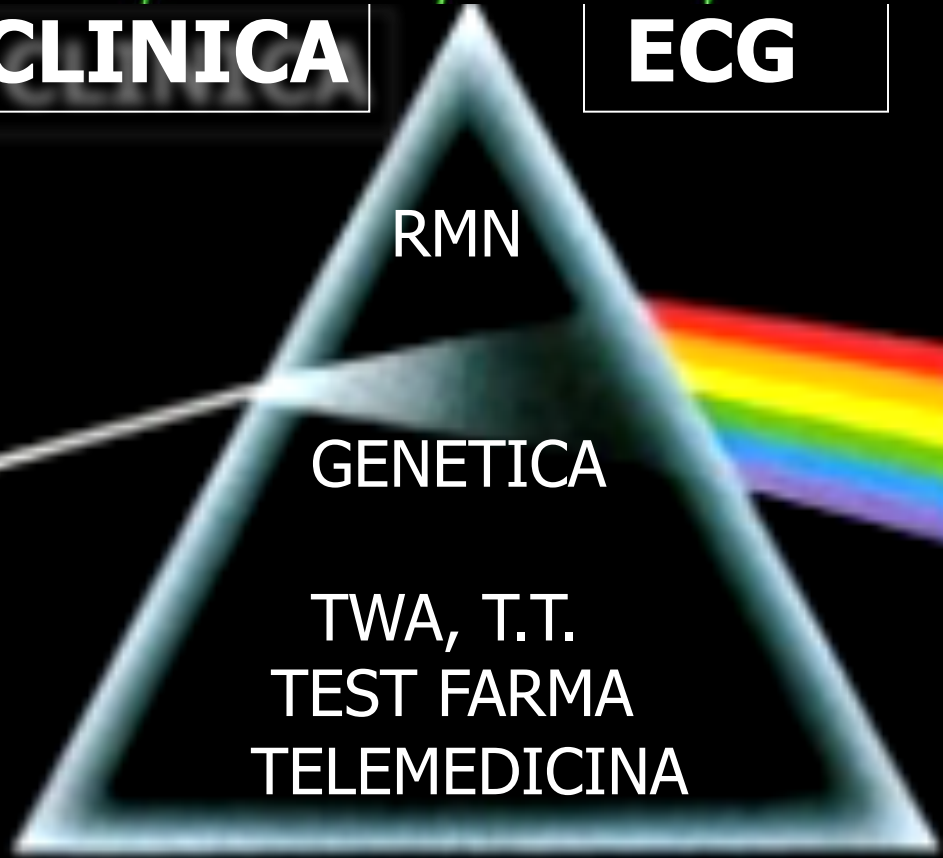
CLINICA

ECG



**SINTOMO
SOSPETTO**

**DIA-
GNOSI
TERAPIA**



CONCLUSIONI

**Si trova quel
che si conosce,
se stessi e la
cultura
respirata**

