

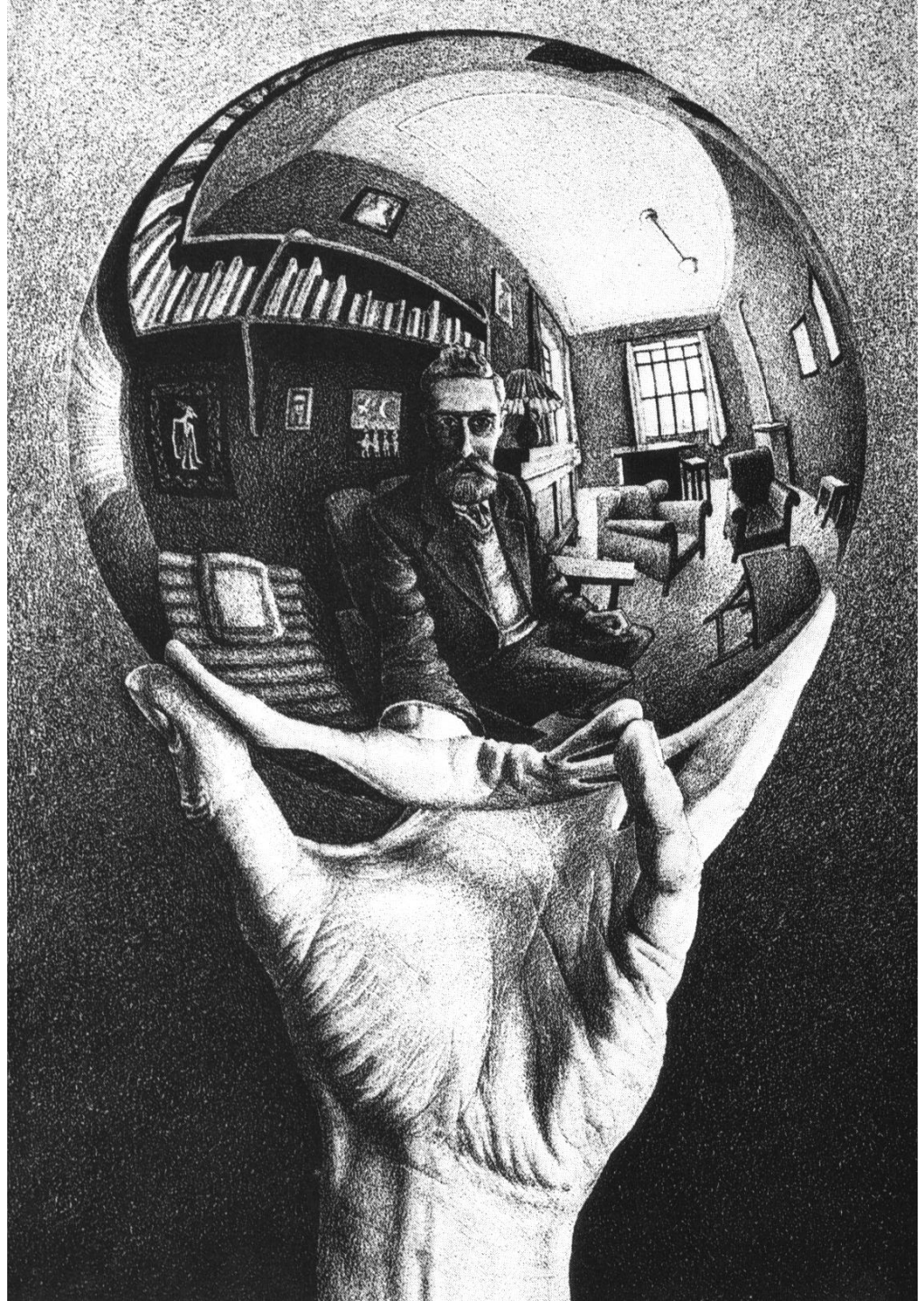
Milano

1 marzo 2013

Seminario di  
Ecocardiochirurgia

L'ECG ed RX  
torace:

L'onda prima  
della sonda



G.Bronzetti- M.Bonvicini  
Cardiologia  
Cardiochirurgia Pediatrica  
Bologna

# ***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**

Difficile, impossibile, o inutile ?

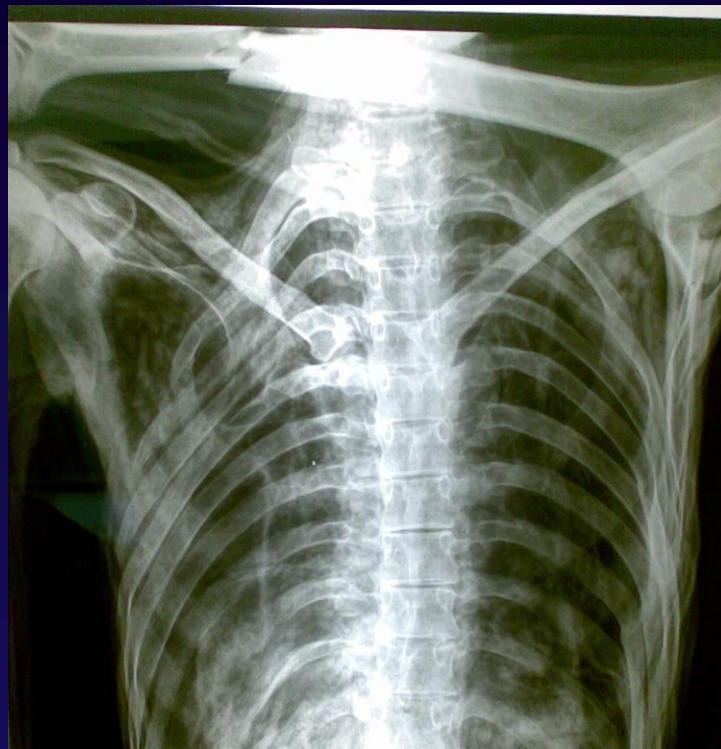




1 giorno (PC)



OTZI, 3200 anni (AC)



INTERPRETAZIONE COMPLETA NON POSSIBILE  
ECG ATIPICO  
ATTENZIONE: LA QUALITA' DEI DATI PUO' INFLUENZARE L'INTERPRETAZIONE  
INTERPRETAZIONE BASATA SULL'ETA' DI 40 ANNI

Refertato da \_\_\_\_\_



INTERPRETAZIONE BASATA SULL'ETA' DI 40 ANNI

Refertato da \_\_\_\_\_

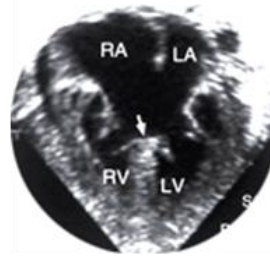


# Tra immaginazione e imaging

**Noonan**



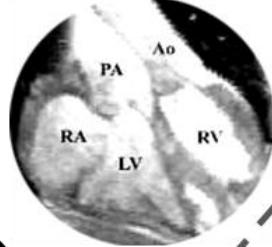
**Canale AV**



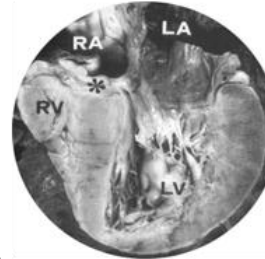
**Destrocardia**



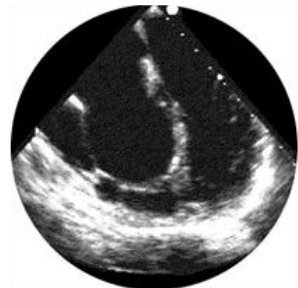
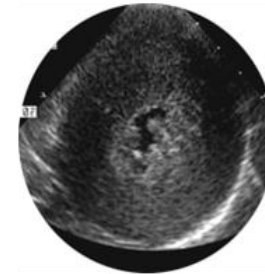
**TCCGV**



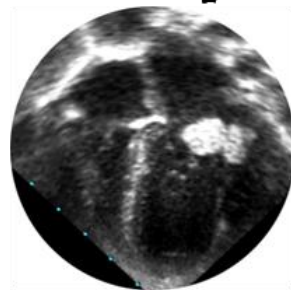
**Atresia tricuspide**



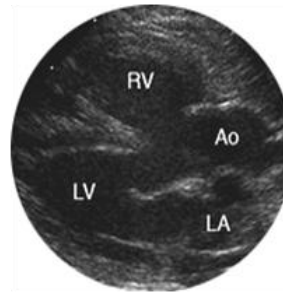
**Ipertrofia accumulo**



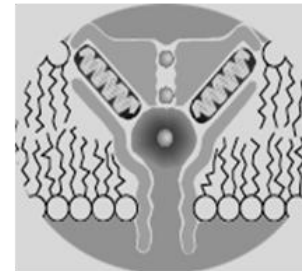
**Ebstein**



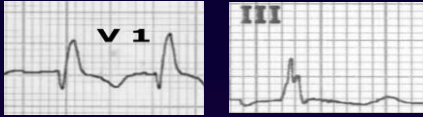
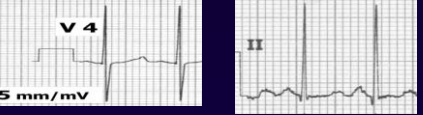
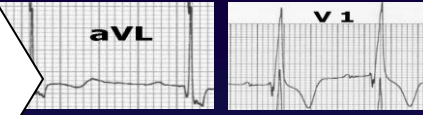
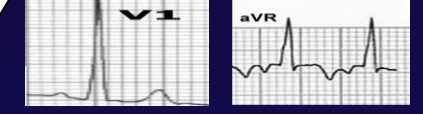


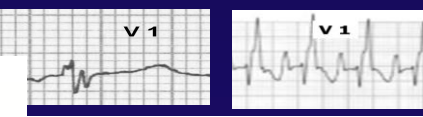
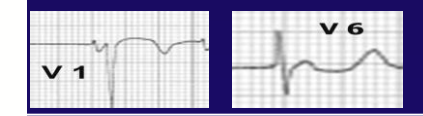
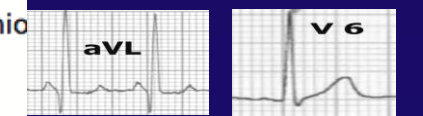
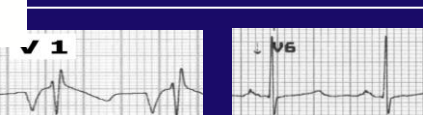
**Tumori**



**Fallot**



**QT lungo**

	Anatomia	ECG CLOU
<b>DIA</b>	Dilatazione VDX	
<b>DIV-PDA</b>	Iperbolico	
<b>CAV</b>	S	
<b>SPO</b>	Iperbolico	
<b>SAo-CoAo</b>	Iperbolico	
<b>Fallot TGV AP-DIV</b>	Iperbolico VDX	
<b>Ebstein</b>	ADx-VDX abnormi- Vie	
<b>TCCGV</b>		
<b>Atresia tricuspidale</b>		
<b>APSI</b>	Ipoplasia VDX, atriomegalia Dx	

**INFINITE  
 VARIANTI...  
 SPO, DIV,  
 CONNESSIONI,  
 COLLATERALI...  
 E poi il tempo...**

**L'ECG in età pediatrica:  
 cosa deve sapere il cardiologo dell'adulto**

Gabriele Bronzetti, Elisabetta Mariucci, Marco Bonvicini, Fernando Maria Picchio  
*Cardiologia, Cardiochirurgia Pediatrica e dell'Età Evolutiva, Centro Regionale per la Diagnosi  
 e la Cura del Cardiopatico Congenito Adulto, Università degli Studi, Bologna*

- BBDx polifasico
- Delta

- Scarso R precordiali Dx
- Impegno ADx
- Prevalenza Sn



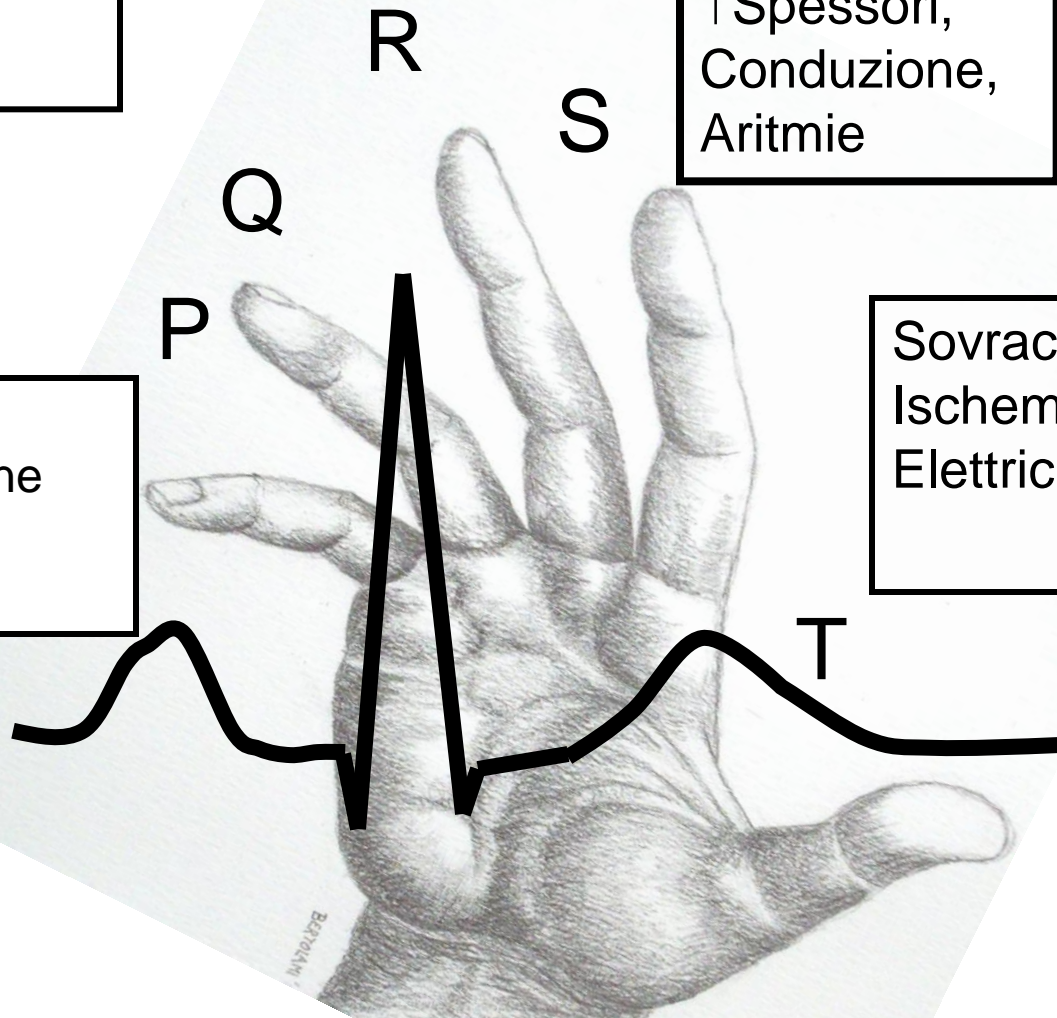
Spessori,  
orientamento  
SIV, Ischemia,  
Preeccitazione,  
Distrofia,  
Metaboliche

↑Volume e  
spessori,asse,  
Ischemia,  
Miocardite

↑Spessori,  
Conduzione,  
Aritmie

Ritmo, Situs,  
, volume - pressione  
atriale,  
conduzione

Sovraccarico,  
Ischemia, Malattie  
Elettriche, disionie



↑↓Flusso polm  
↑ Pressioni polm

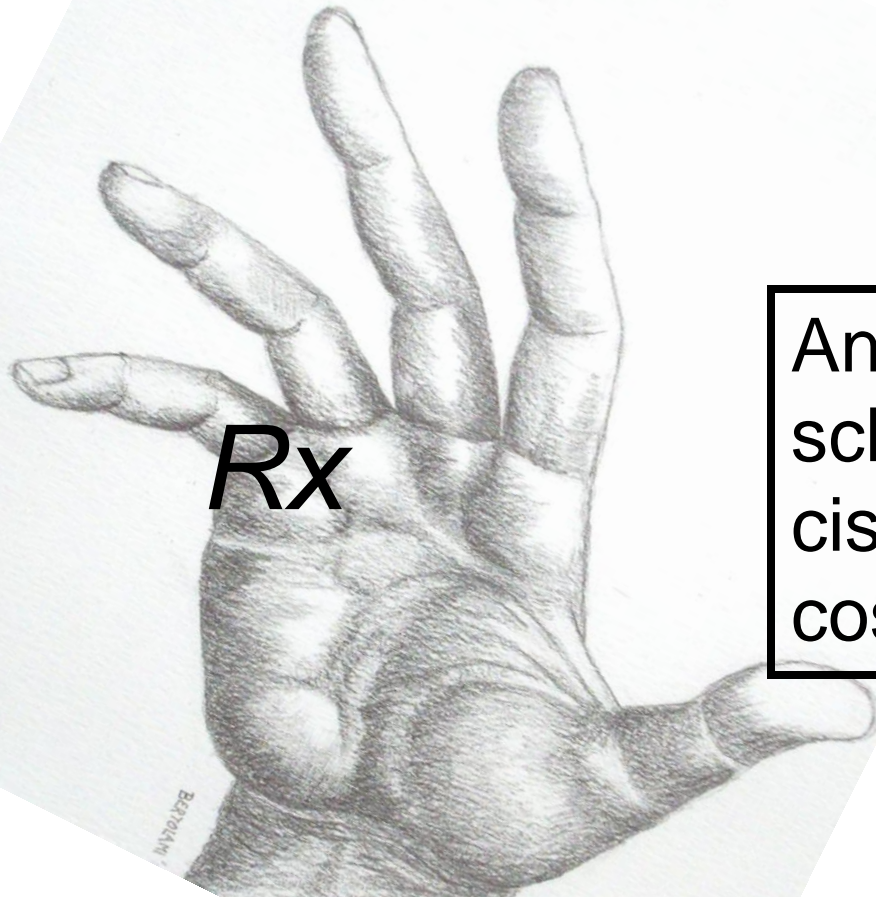
↑ADx  
↑A Sin

↑ICT

↑Ao, Pos Ao  
↑↓AP, AP pos  
Situs

Rx

Anomalia  
scheletroIn  
cisure  
costali

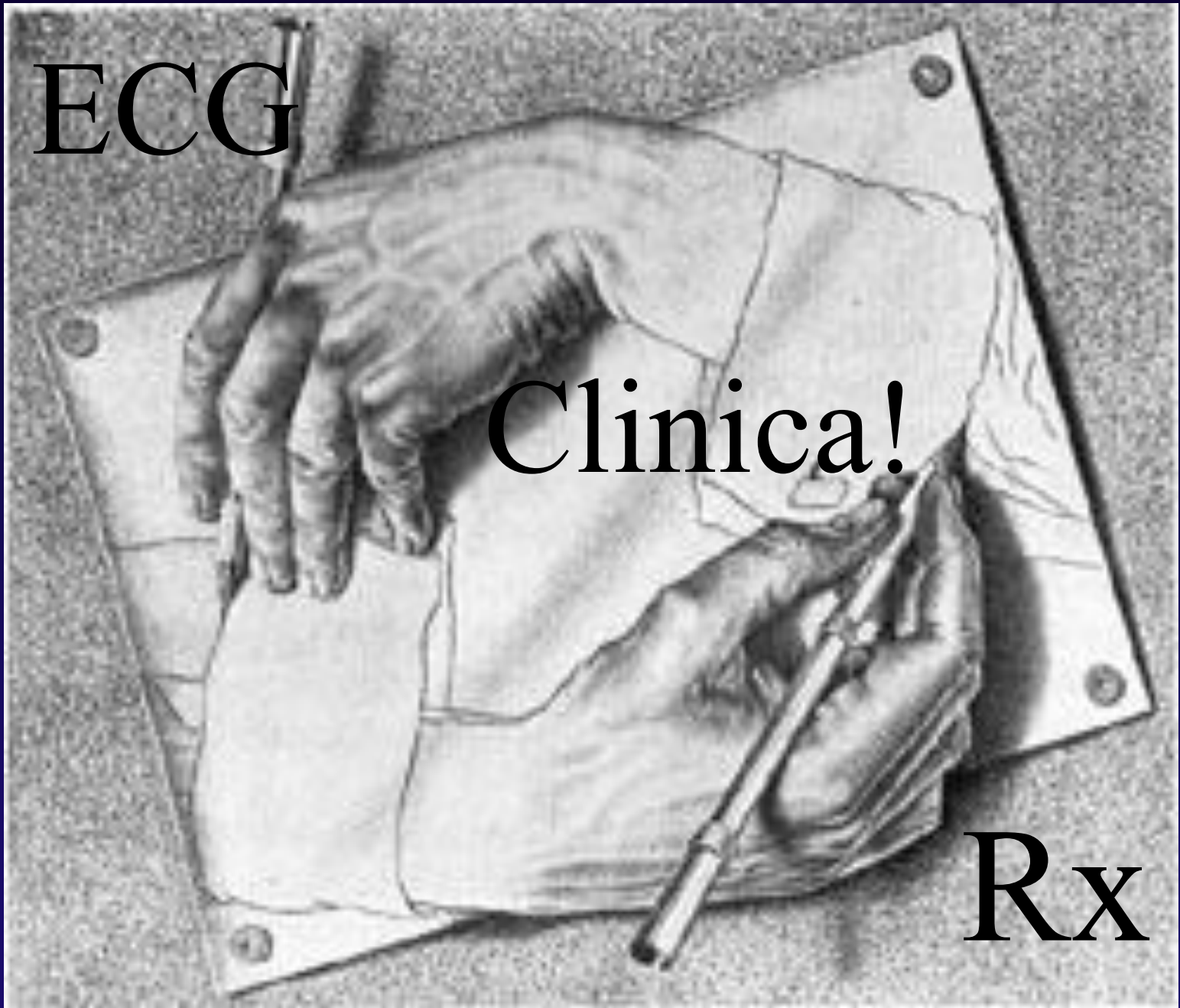




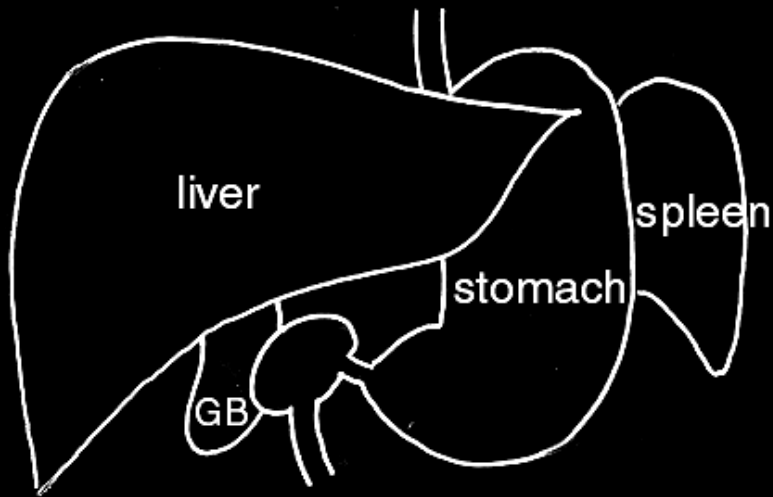
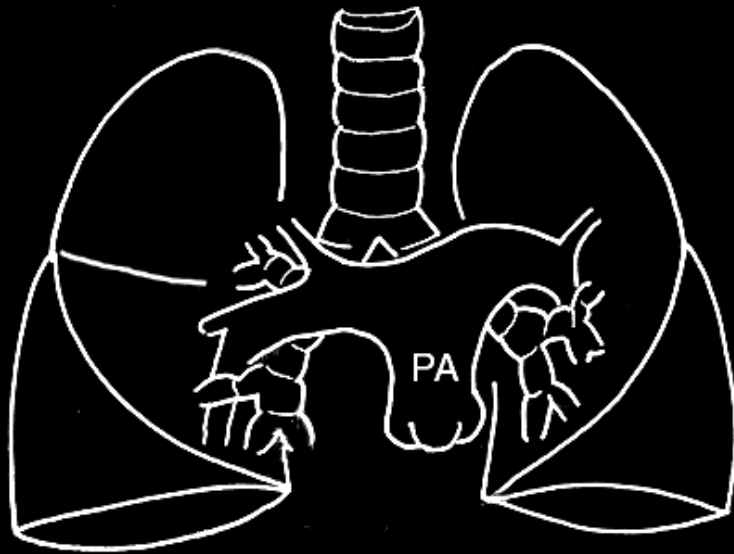
ECG

Clinica!

Rx



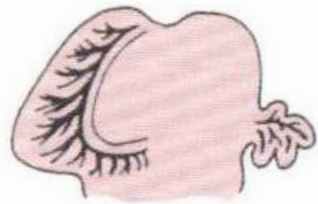
# SITUS



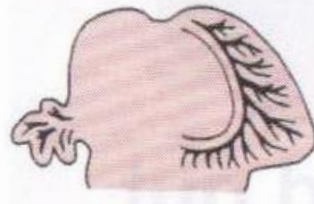
- Disposizione degli organi rispetto alla linea mediana
- Indifferente alla posizione del cuore



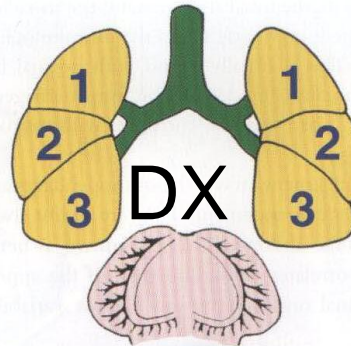
# SITUS



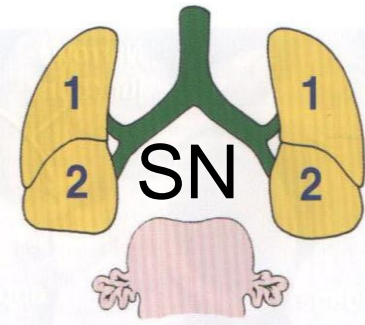
Usual



Mirror-imaged



Midline liver  
Malrotated gut



Midline liver  
Malrotated gut  
Spleens

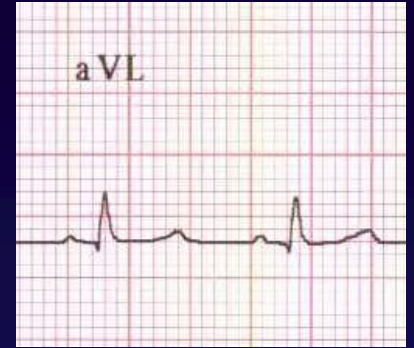
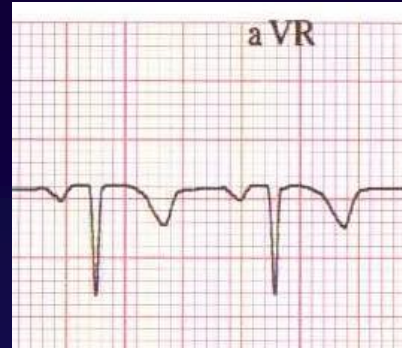
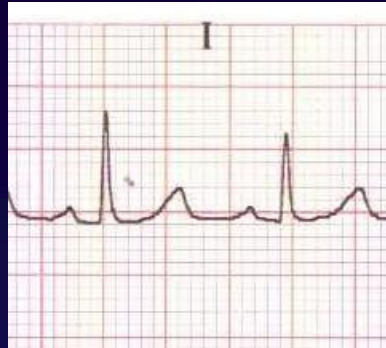
*E' meglio essere rossi o neri ? A Milano rossoneri....*

- Asplenia
- Isomerismo dx toracico
- Isomerismo destro atriale
- Cardiopatia nel 100%

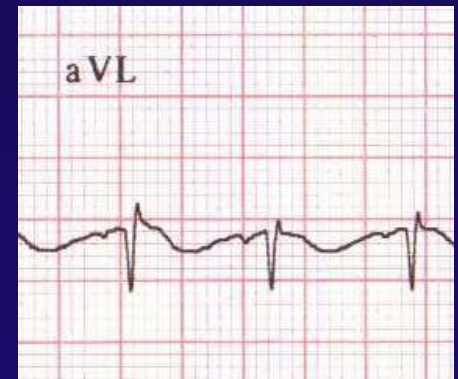
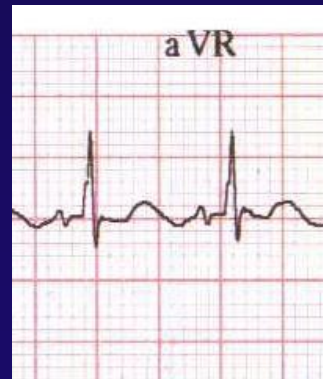
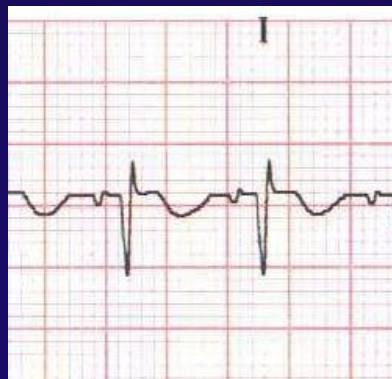
- Polisplenia
- Isomerismo sin toracico
- Isomerismo sin atriale
- Cardiopatie frequenti



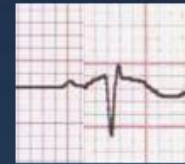
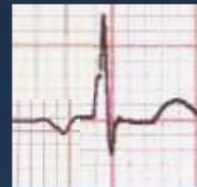
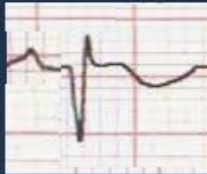
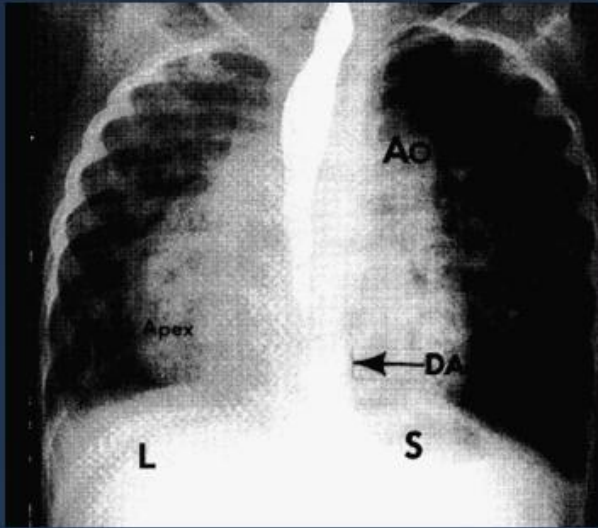
Normale



Dx cardia mirror



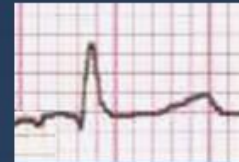
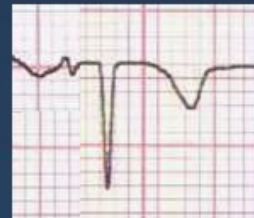
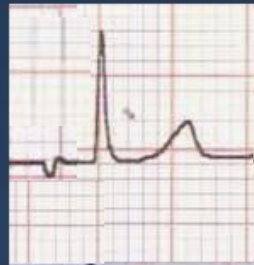
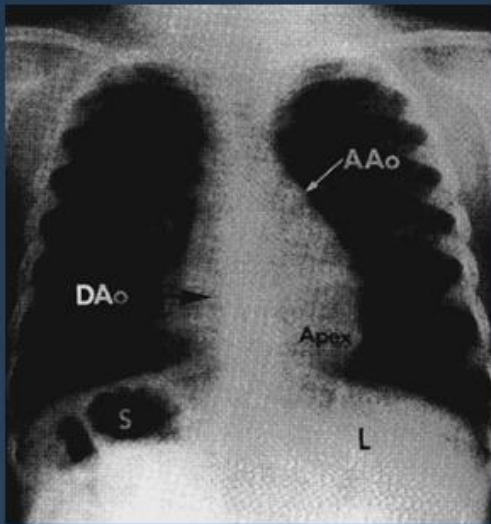
# DISCORDANZE SITUS/APICE CARDIACO



I

aVR

aVL



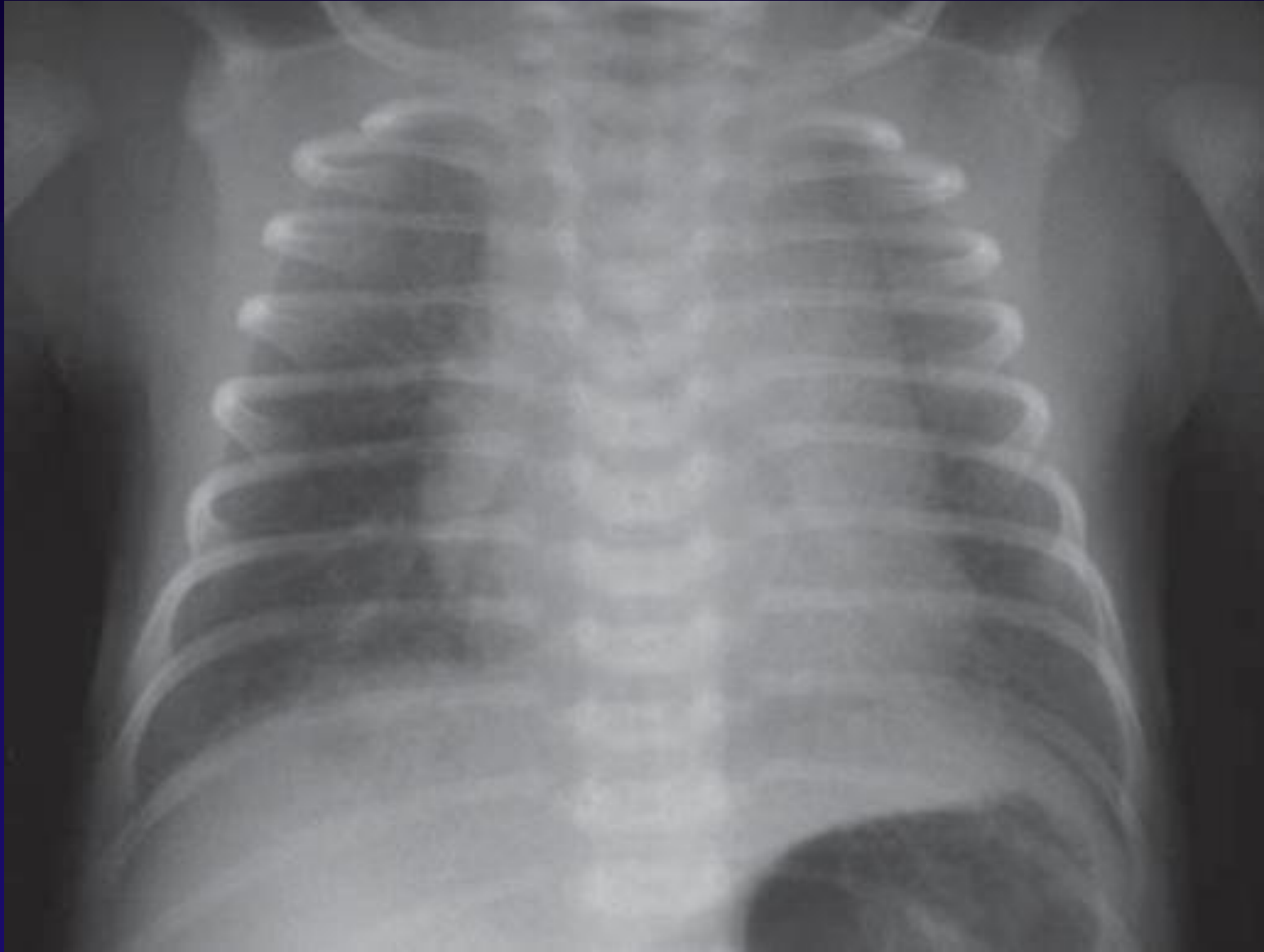
I

aVR

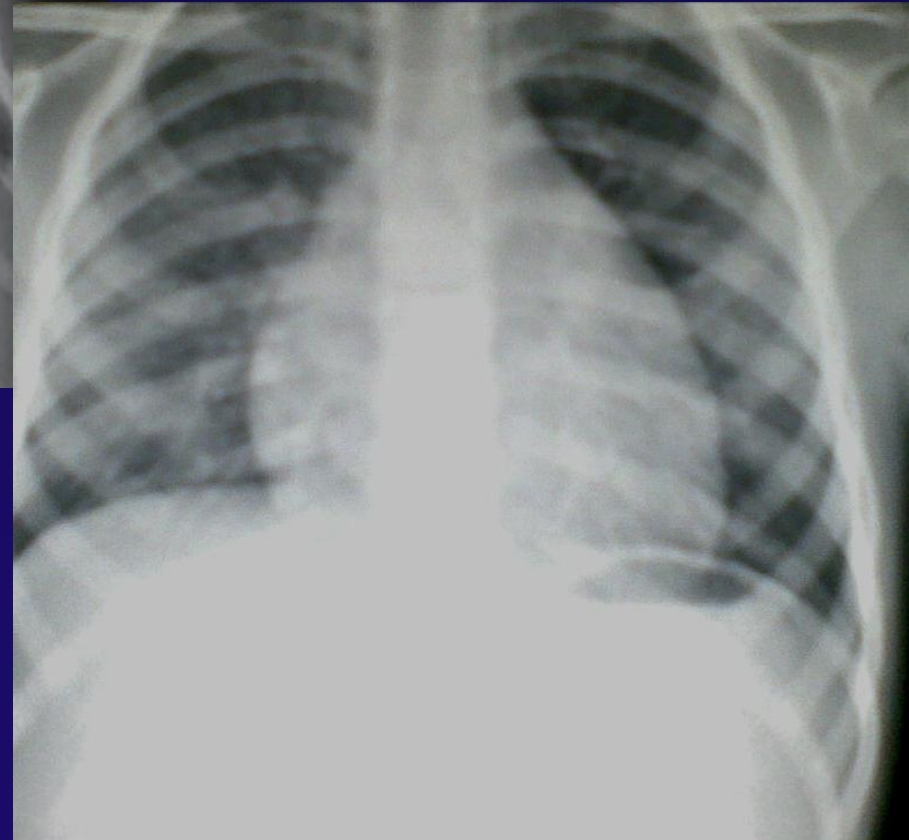
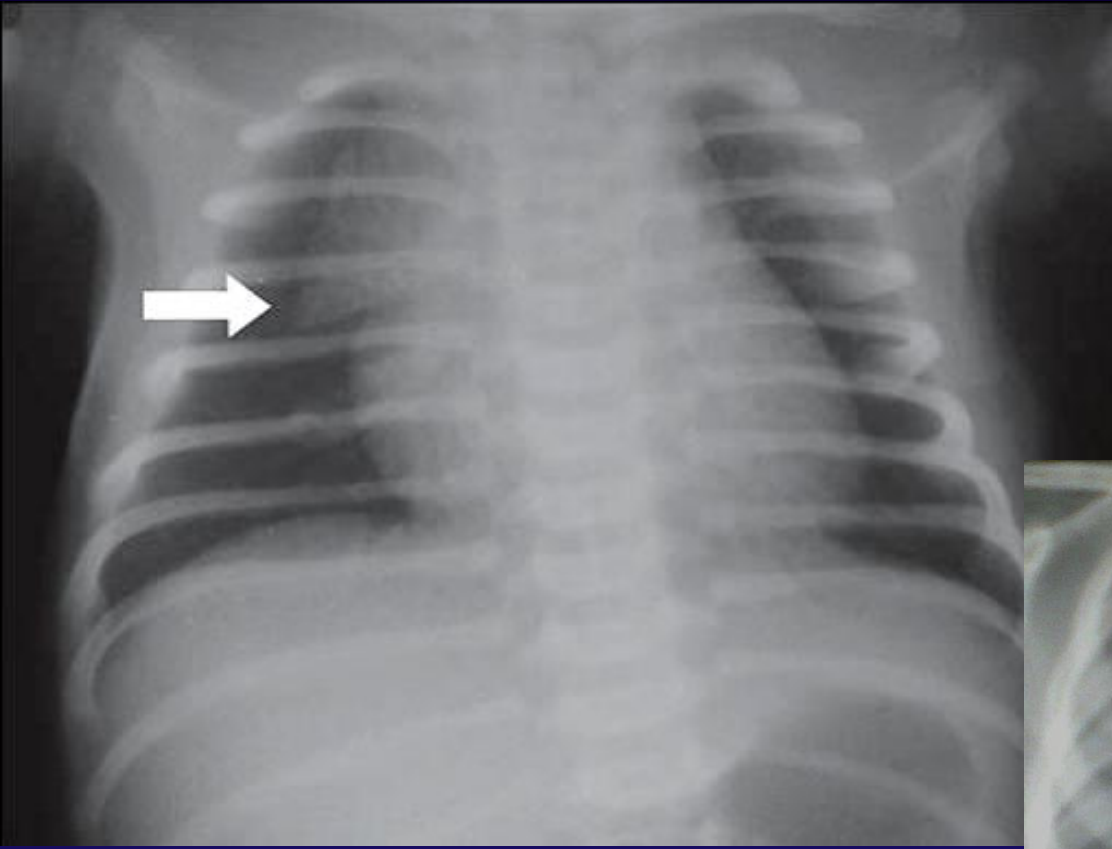
aVL



# Neonato normale



# Timone...e vele

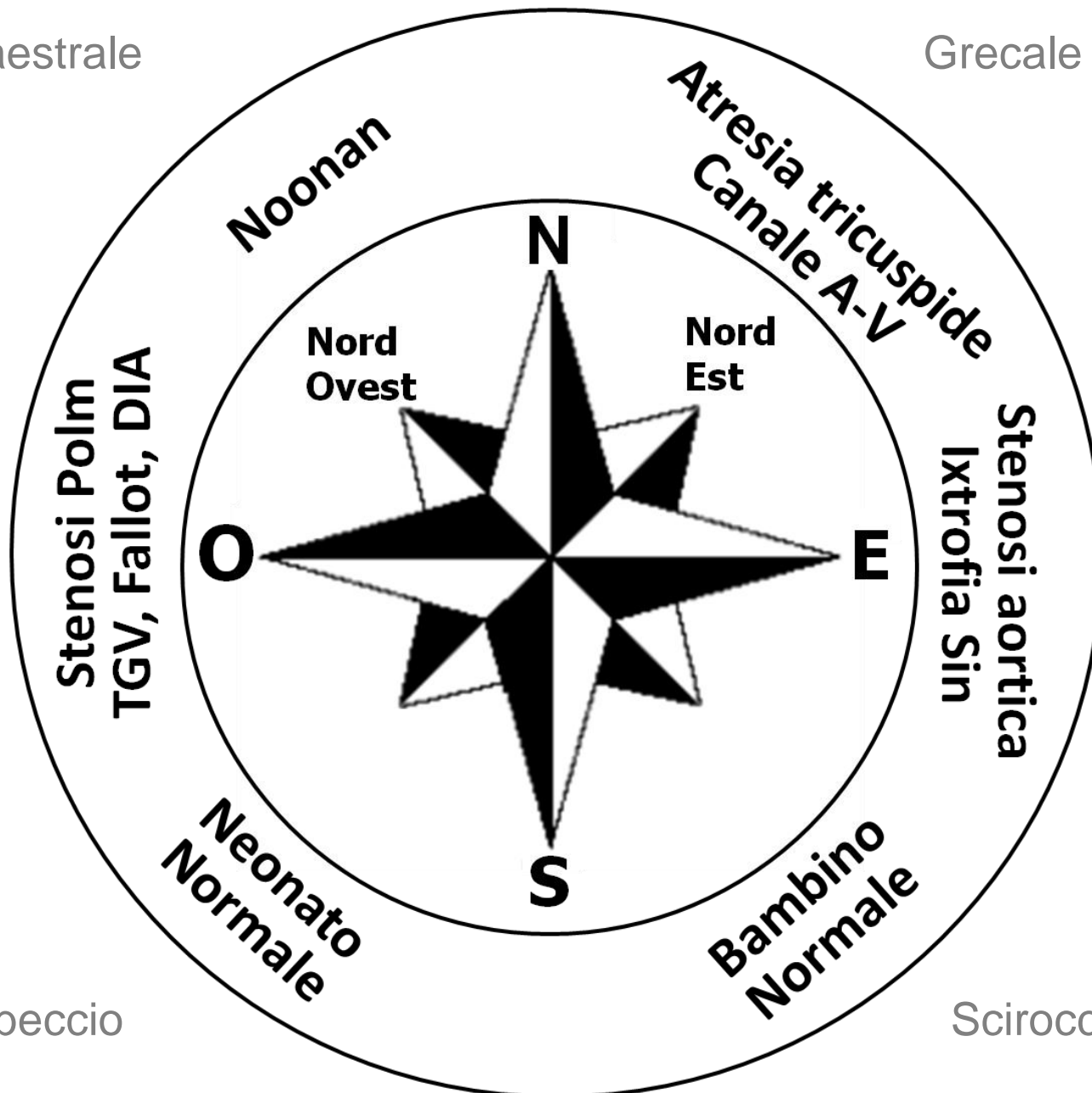


*Questo bel mare di Lombardia...  
I. Fossati*

# Rosa dei vent...ricoli

Maestrale

Grecale





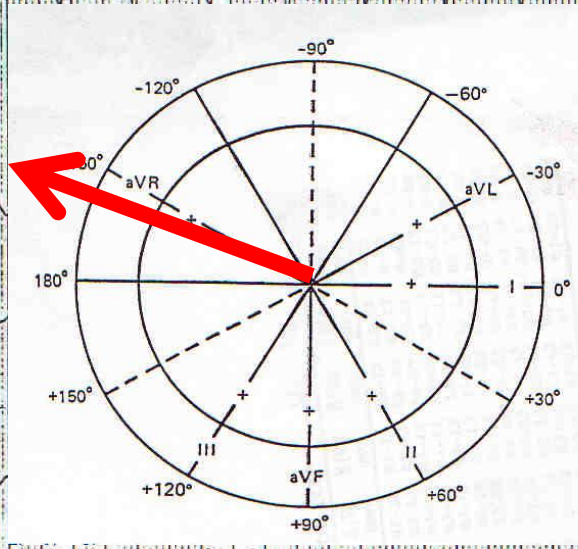
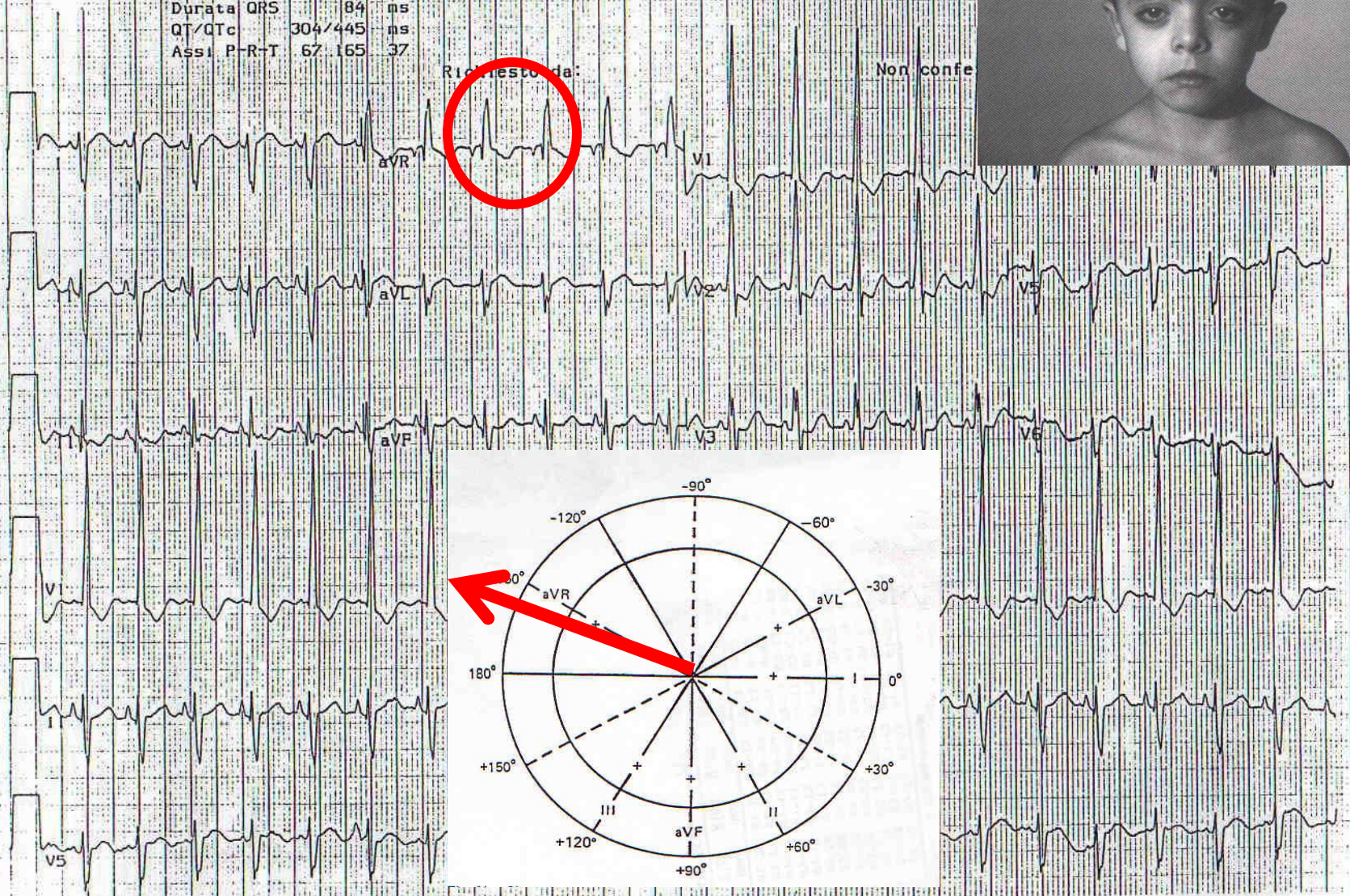
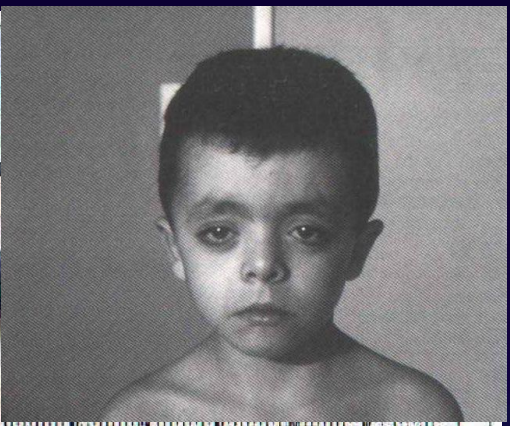
# Asse a Nord-Ovest

25mm/s  
10mm/mV  
40Hz  
Pgm 005AA  
v206

Farm.:  
Età: Alt.:  
Sesso: Razza:  
Loc: Cam:

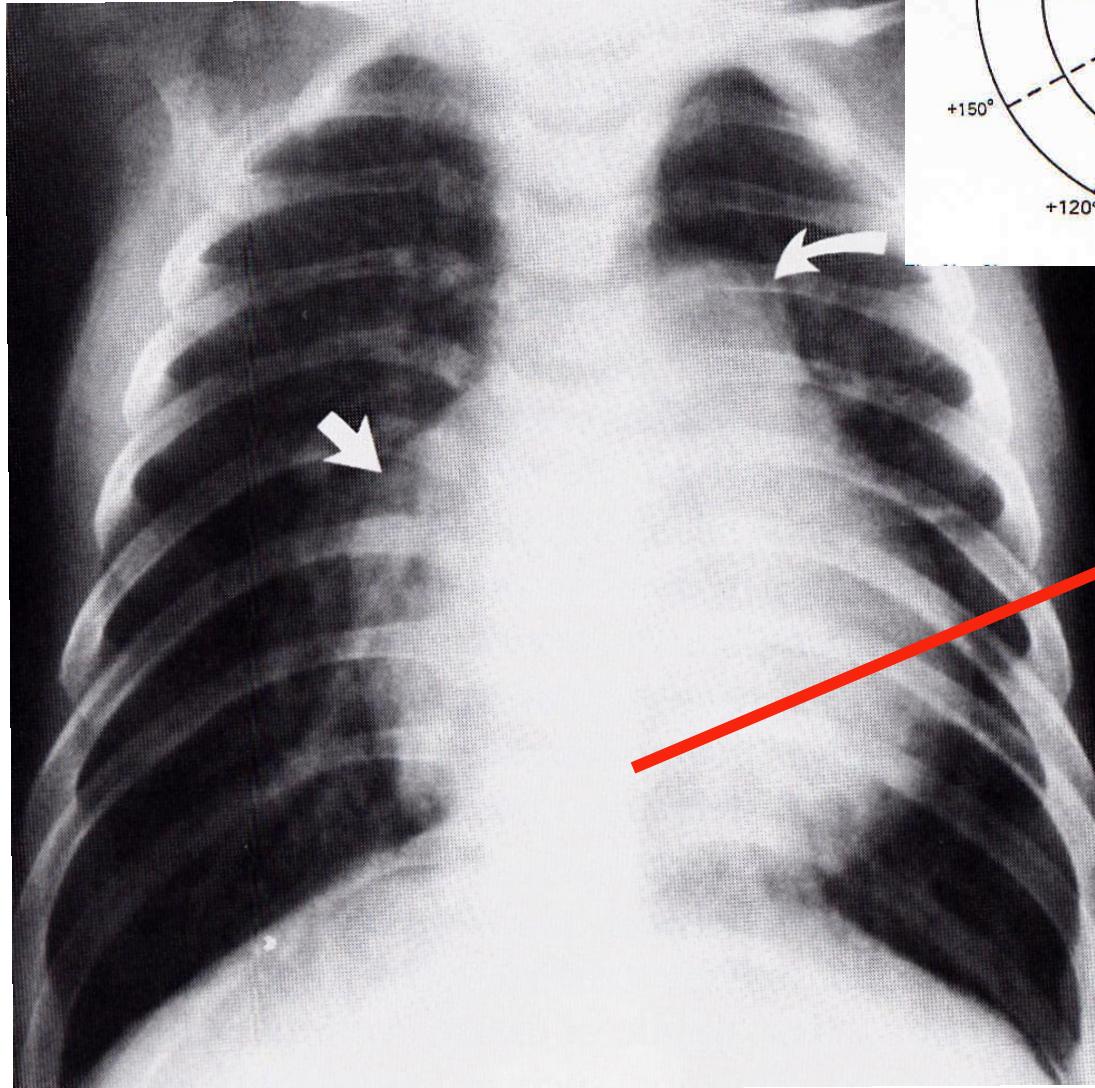
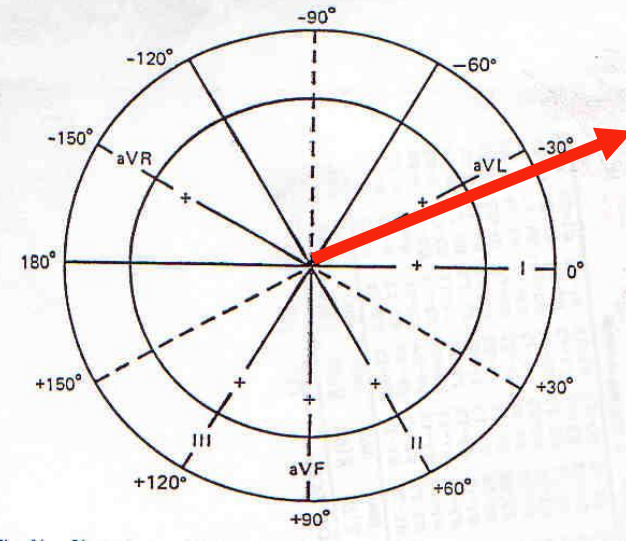
Frequenza 130 BPM  
Intervallo PR 132 ms  
Durata QRS 84 ms  
QT/QTc 304/445 ms  
Assi P-R-T 67 165 37

TRACCIATO DA CUORE POLMONARE  
IPERTROFIA VENTRICOLARE DESTRA CON ANORMALITÀ  
ECG ANORMALE

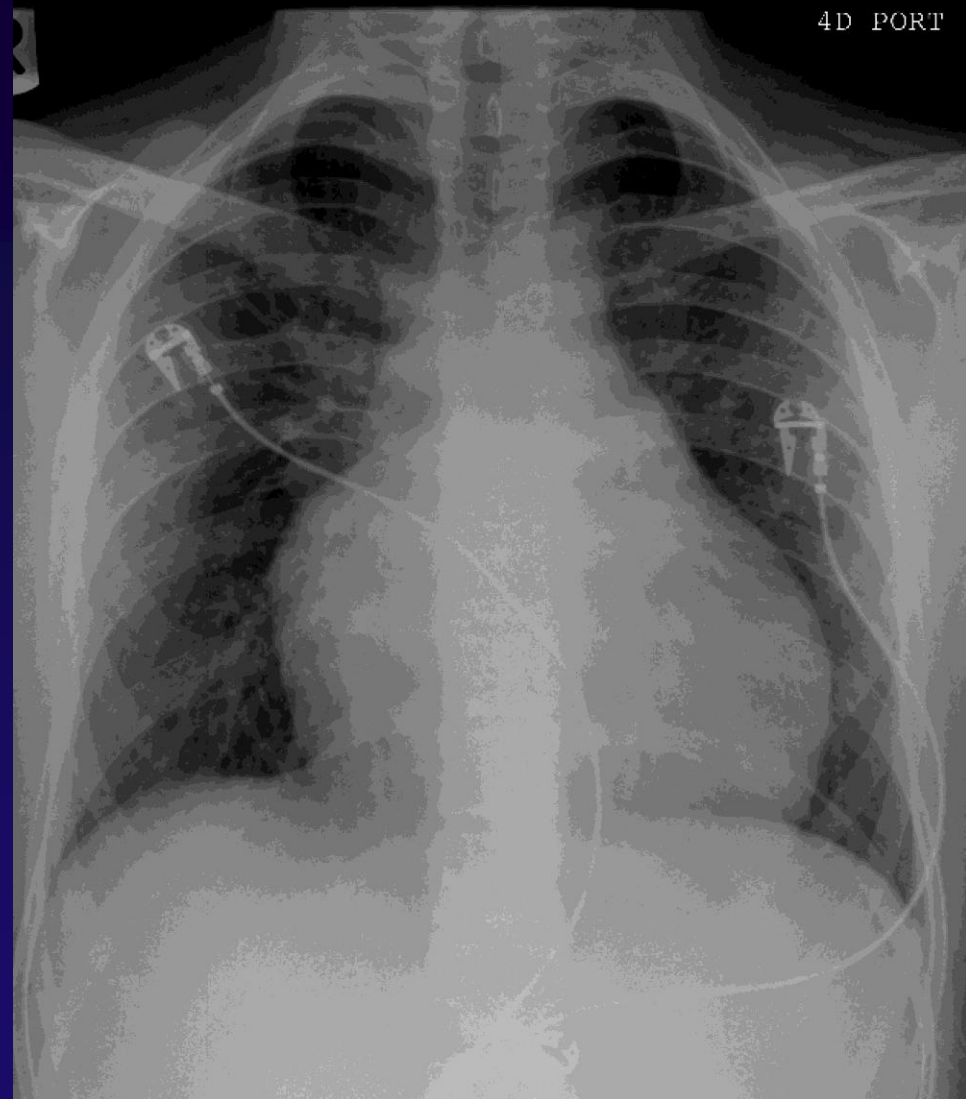




# DIA CANALE

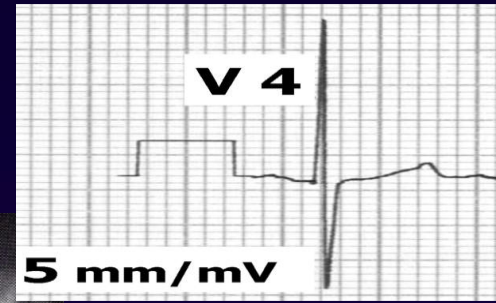
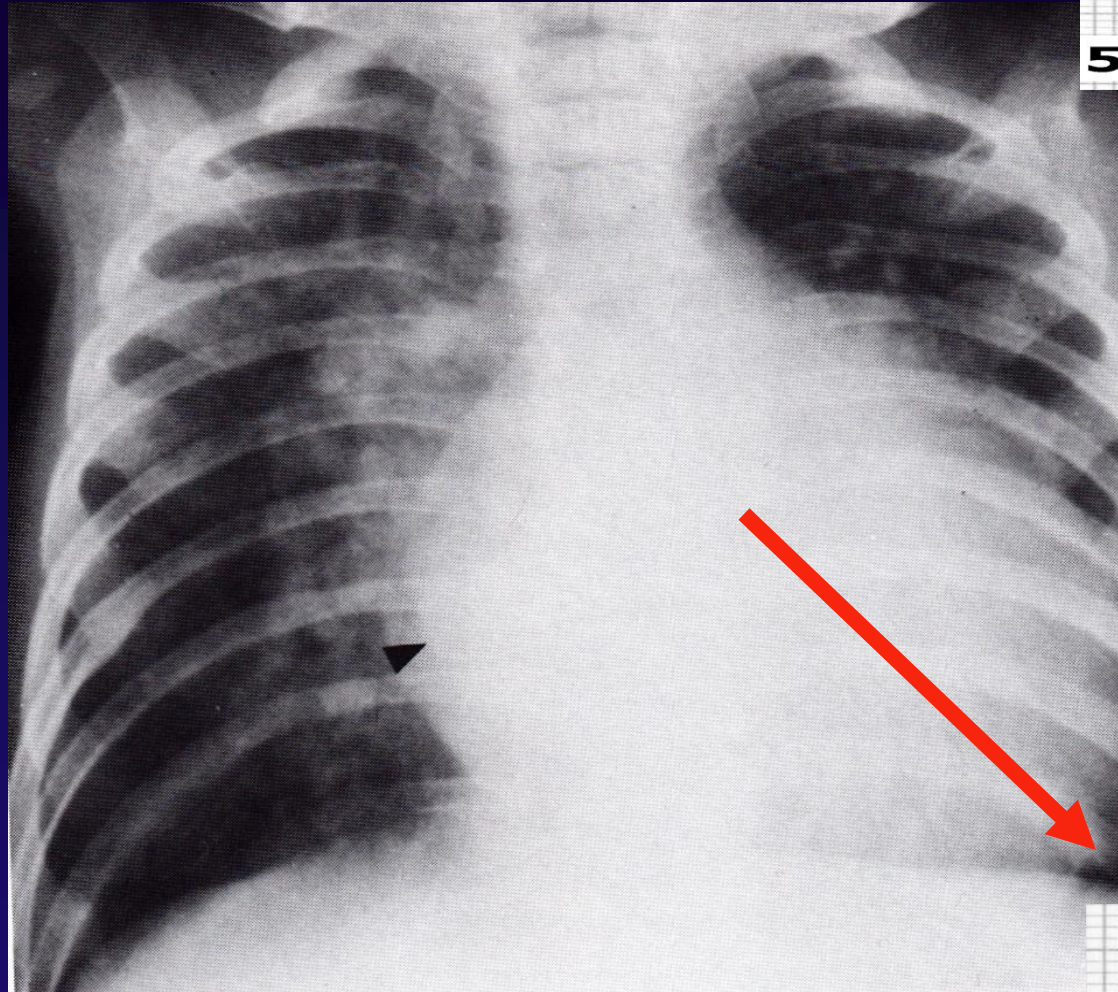


# HEART-HAND SYNDROME ( HOLT- ORAM, FA, CMPD)





# DIV



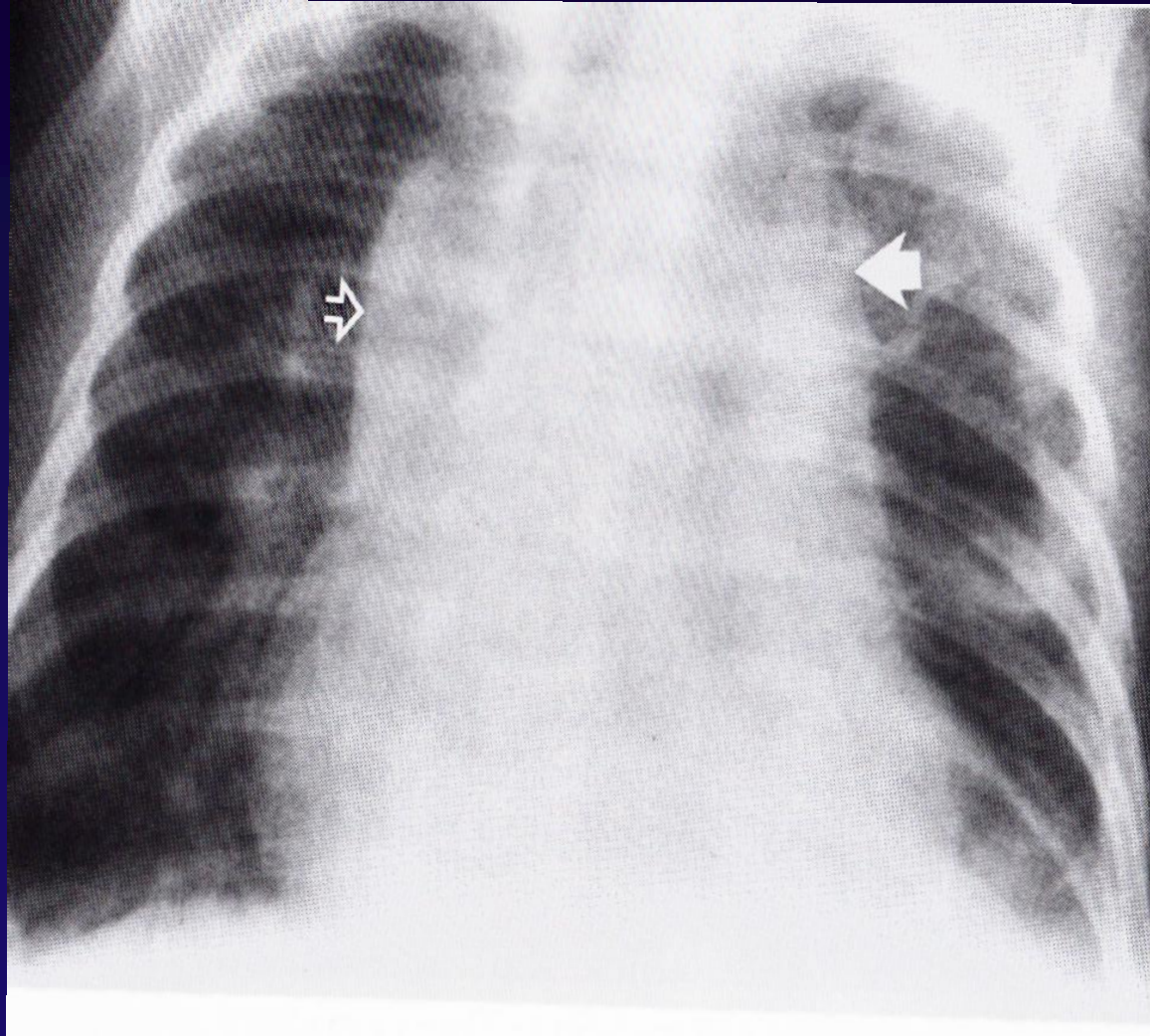
# Botallo



Arco posteriore  
Doppia densità atriale  
Vsn vettore  
Iperafflusso



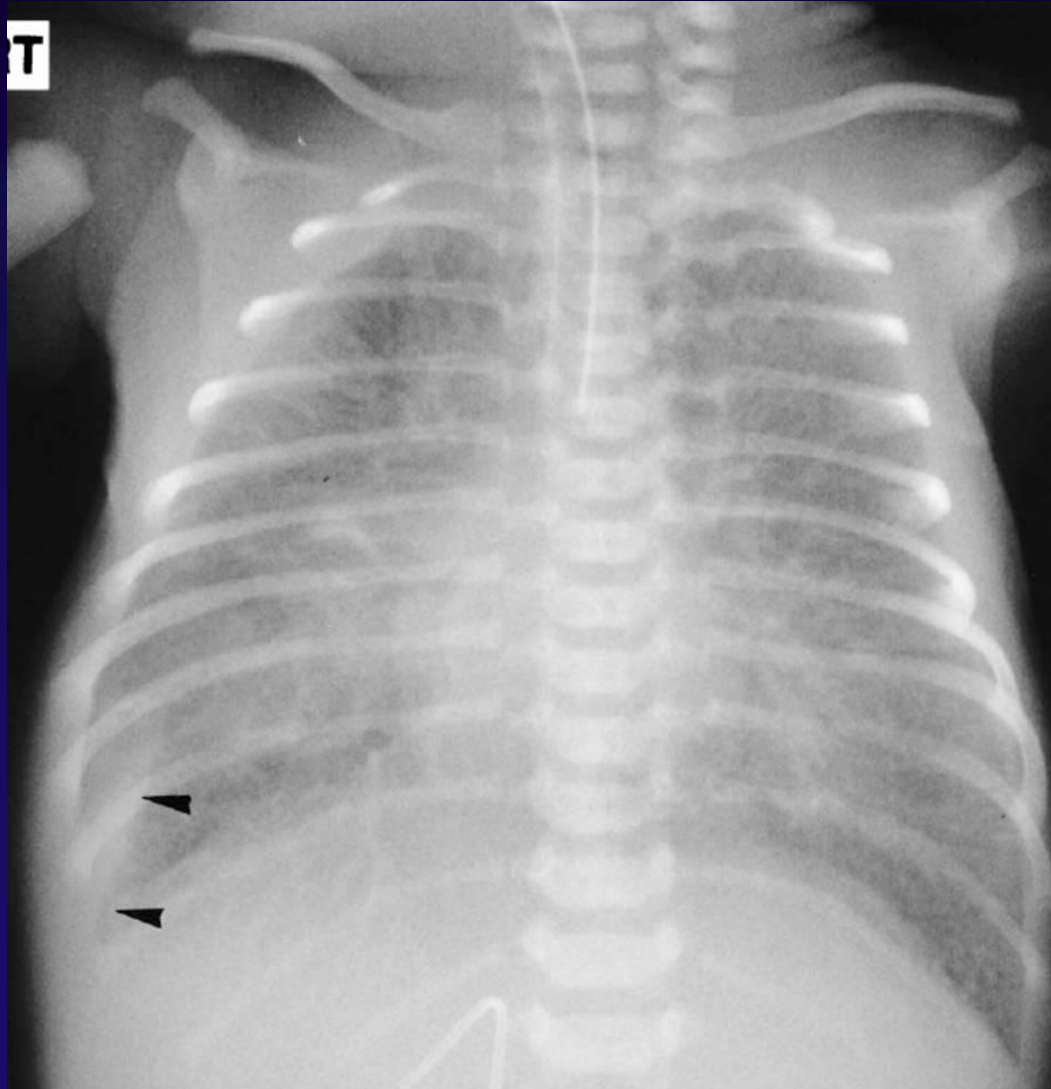
# Ritorno venoso superiore



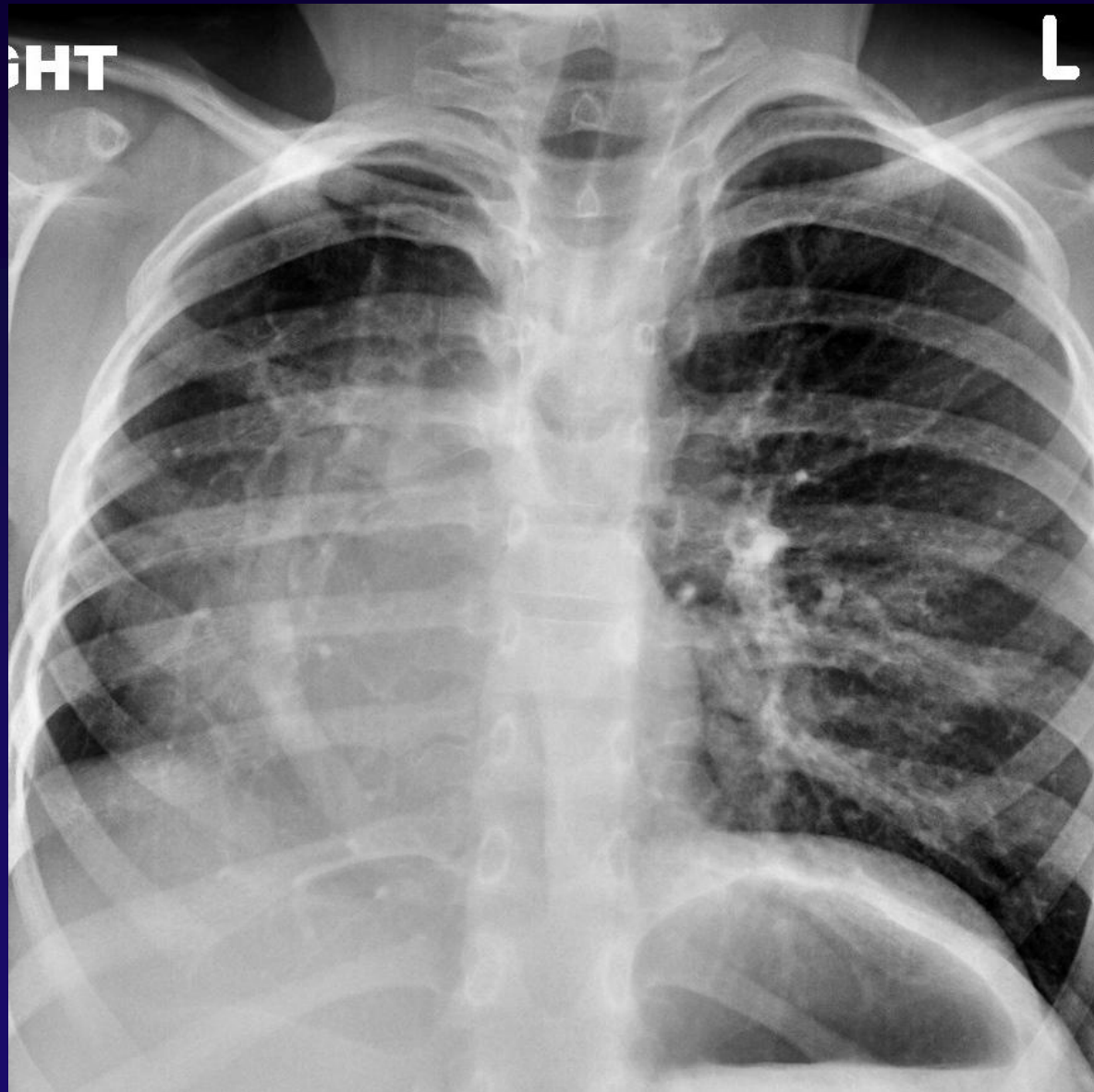
Snow man

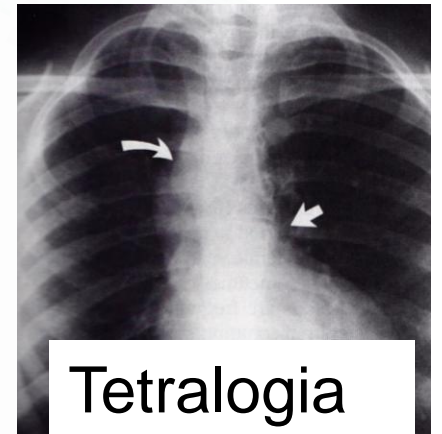
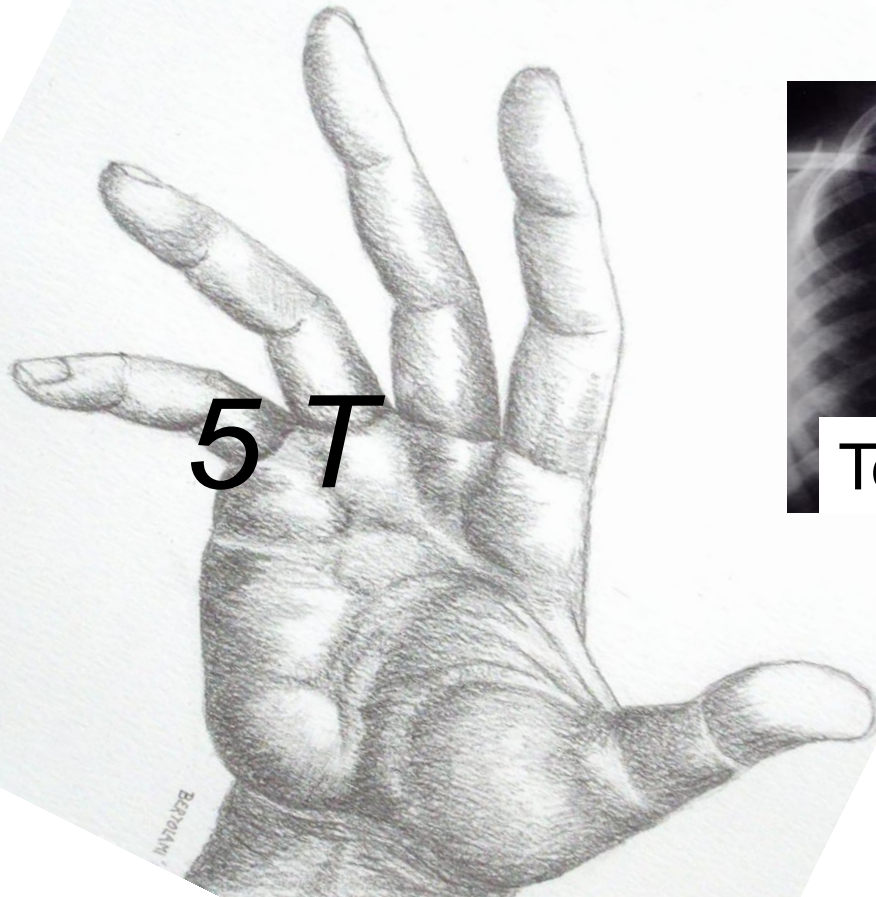
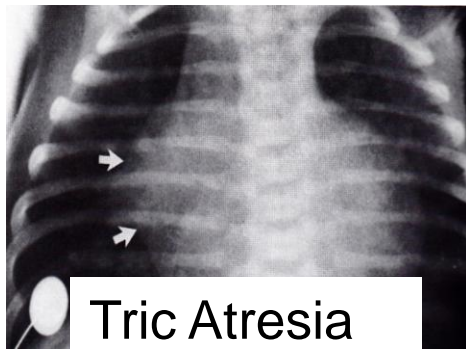
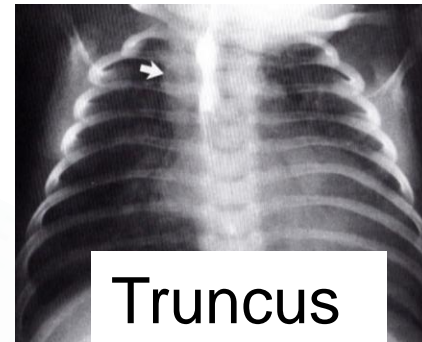
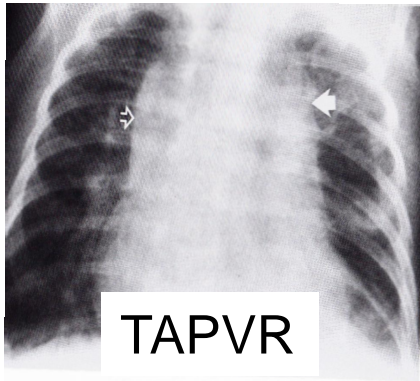


# Ritorno venoso ostruito



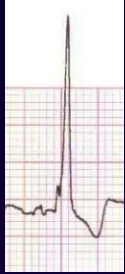
# Scimitarra







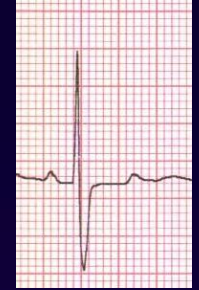
V1



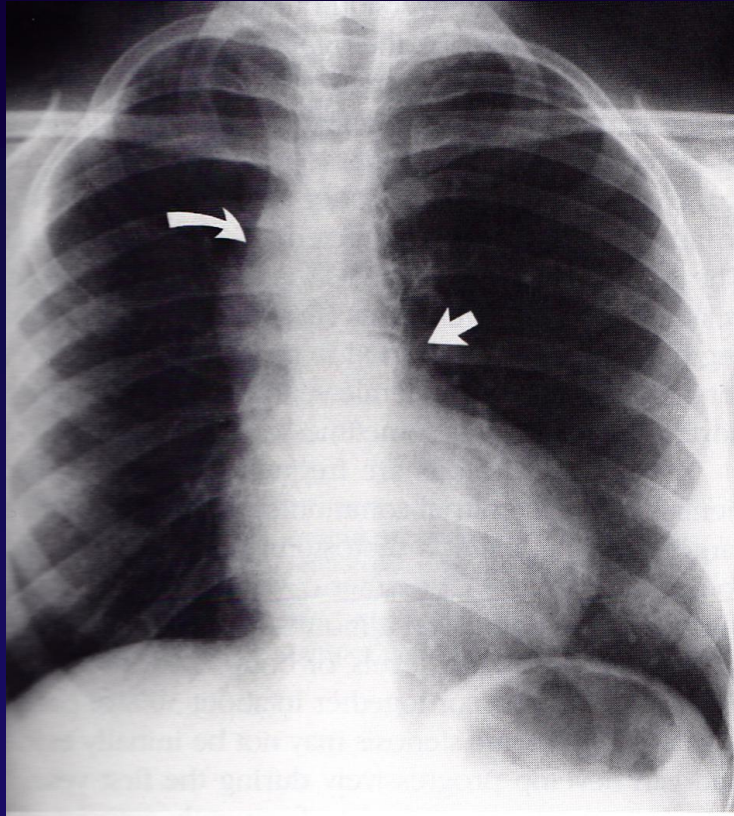
V6

# Fallot

V1

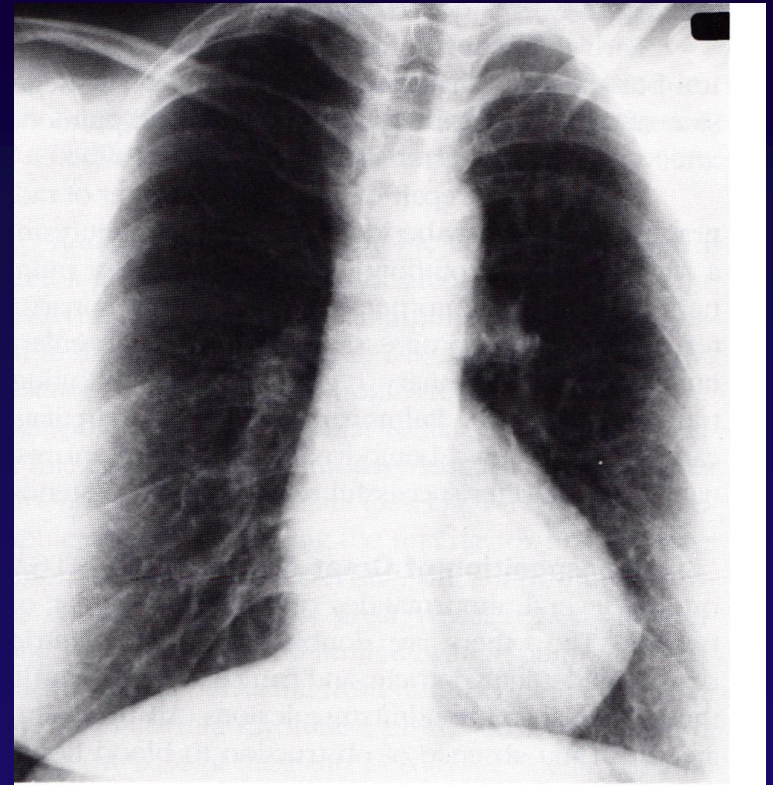


V6



BLU

Arco destro  
 Concavità AP  
 Ipoafflusso

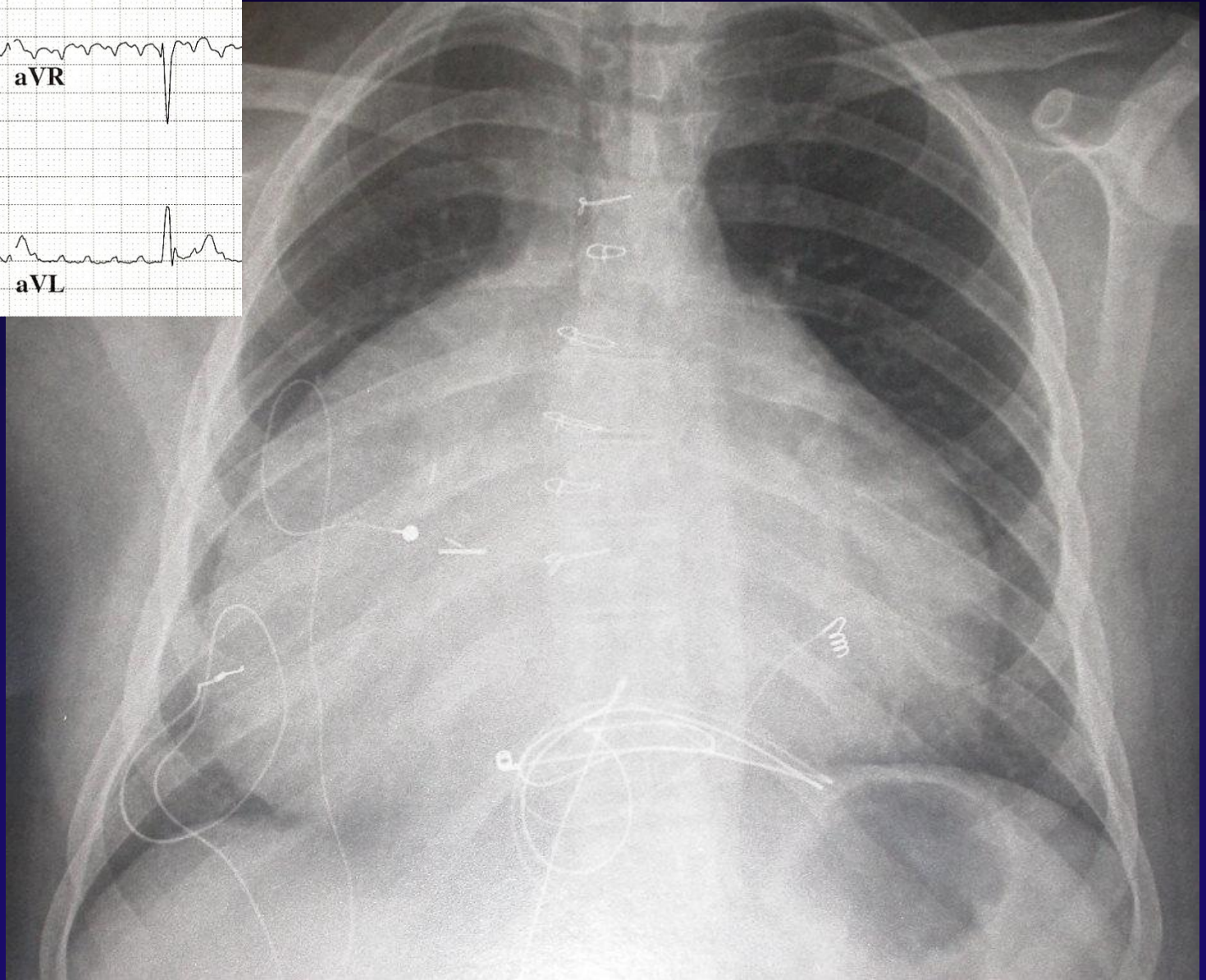
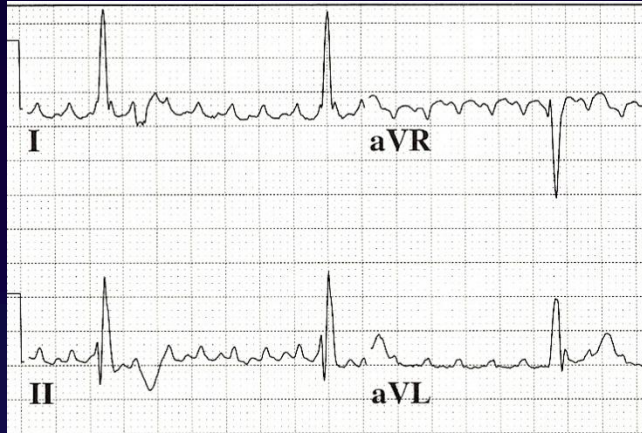


ROSA

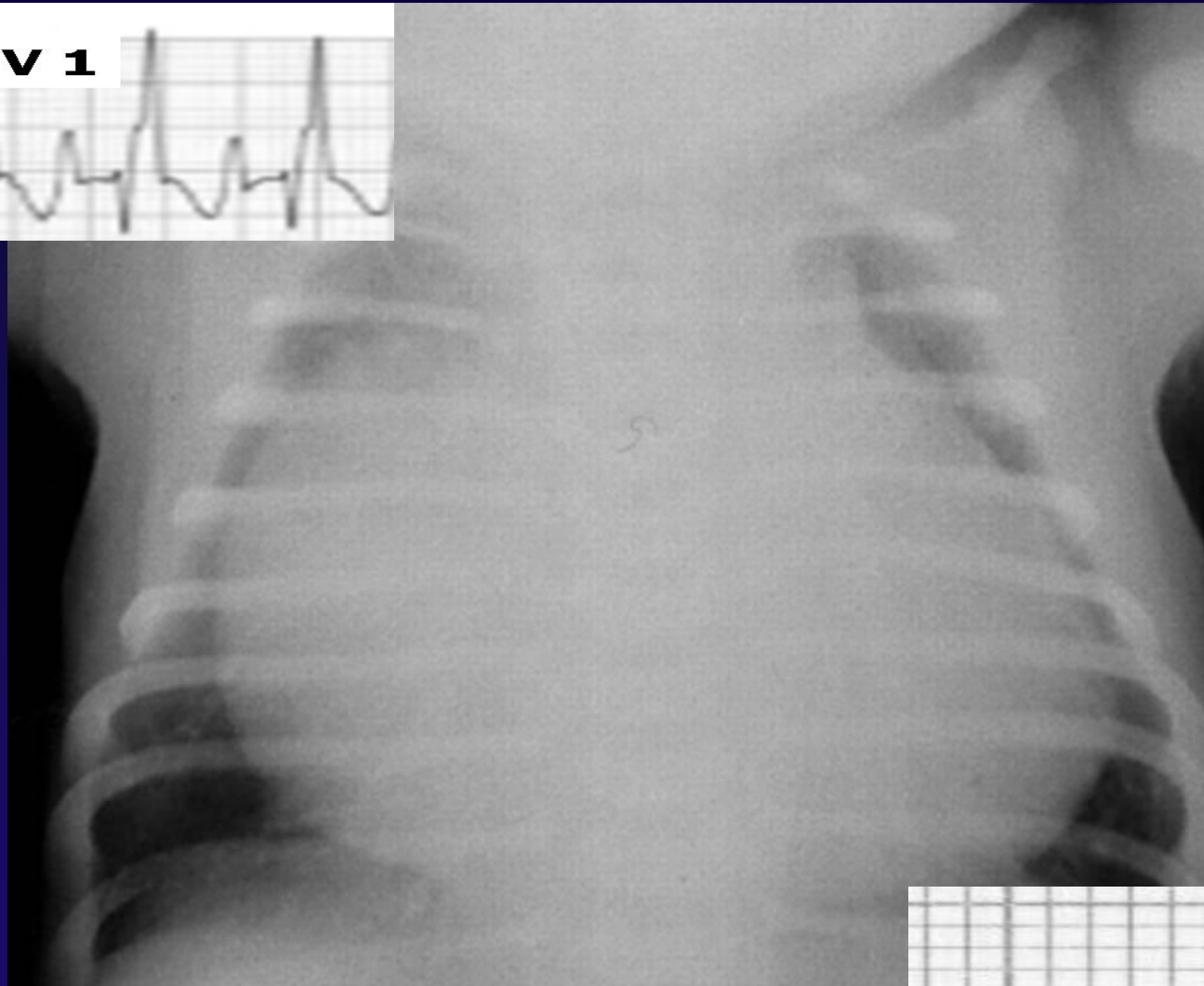
Concavità polmonare  
 Normoafflusso



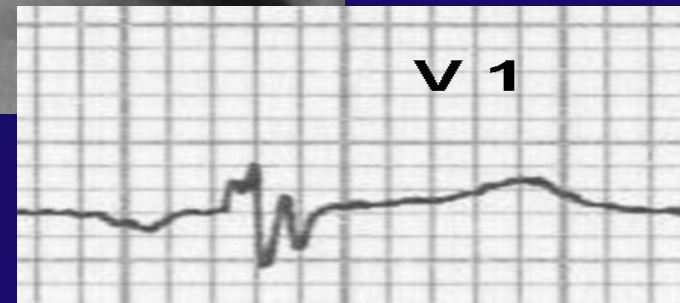
# 15 ANNI , riparazione tipo Fontan



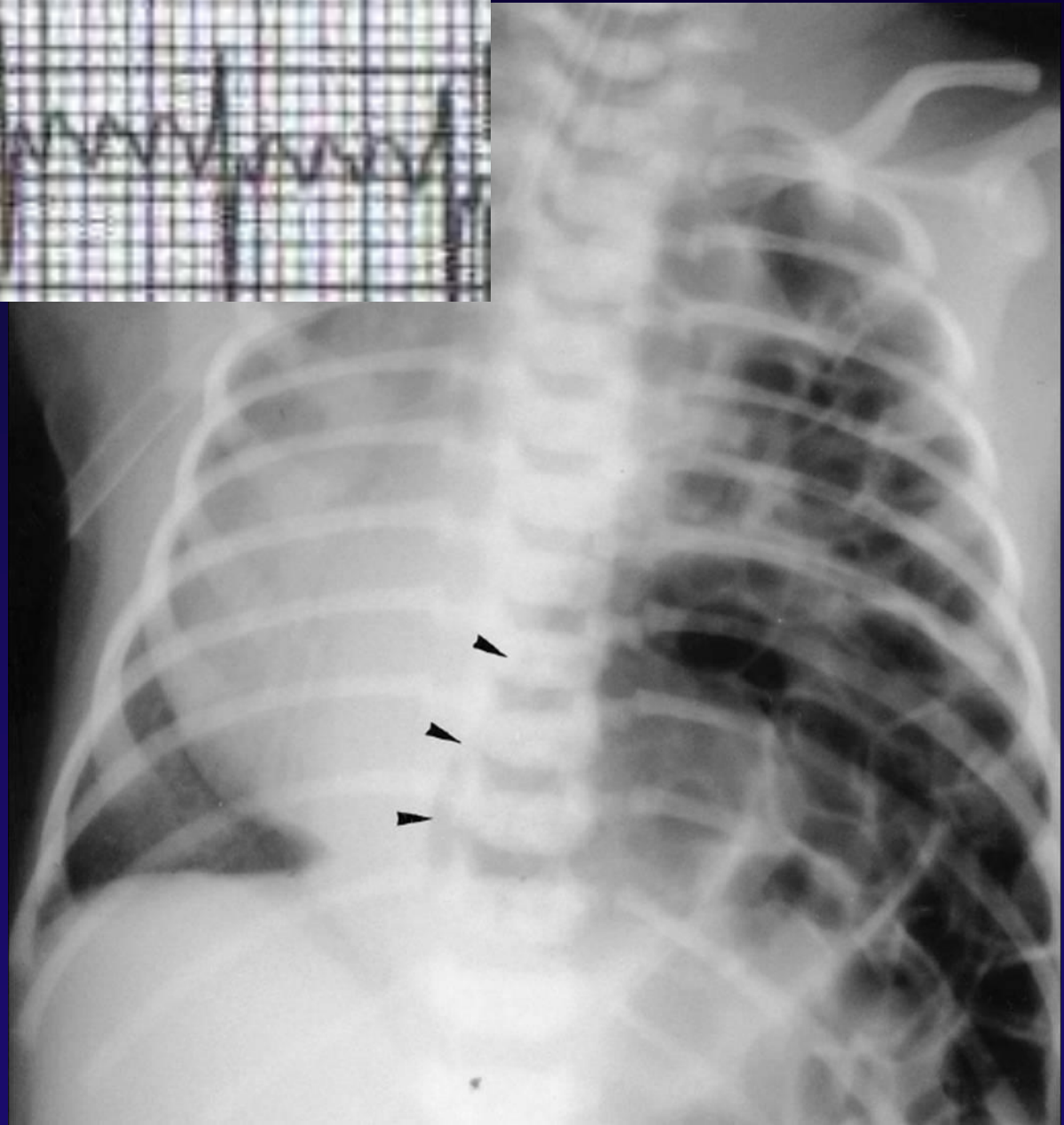
# Anomalia di Ebstein



Neonato



# ERNIA DIAFRAMMATICA

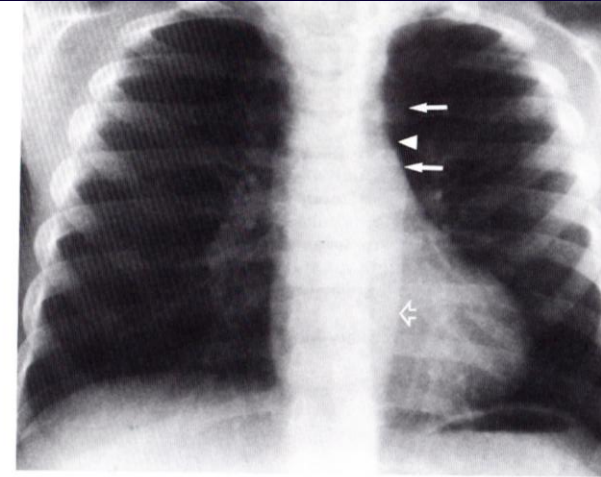




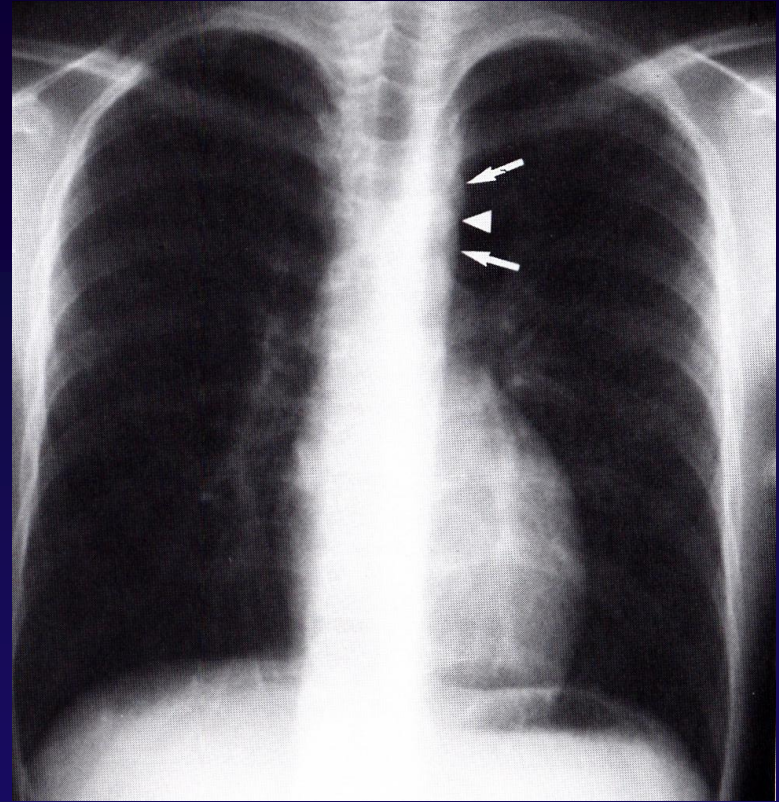
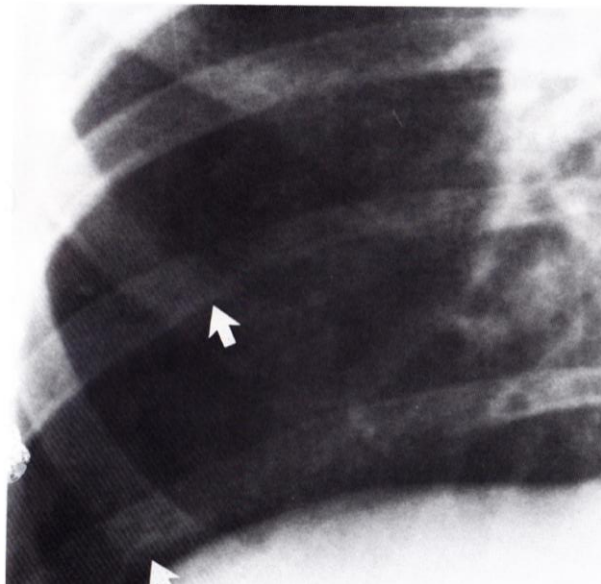
# Il dito di Di...agnosi



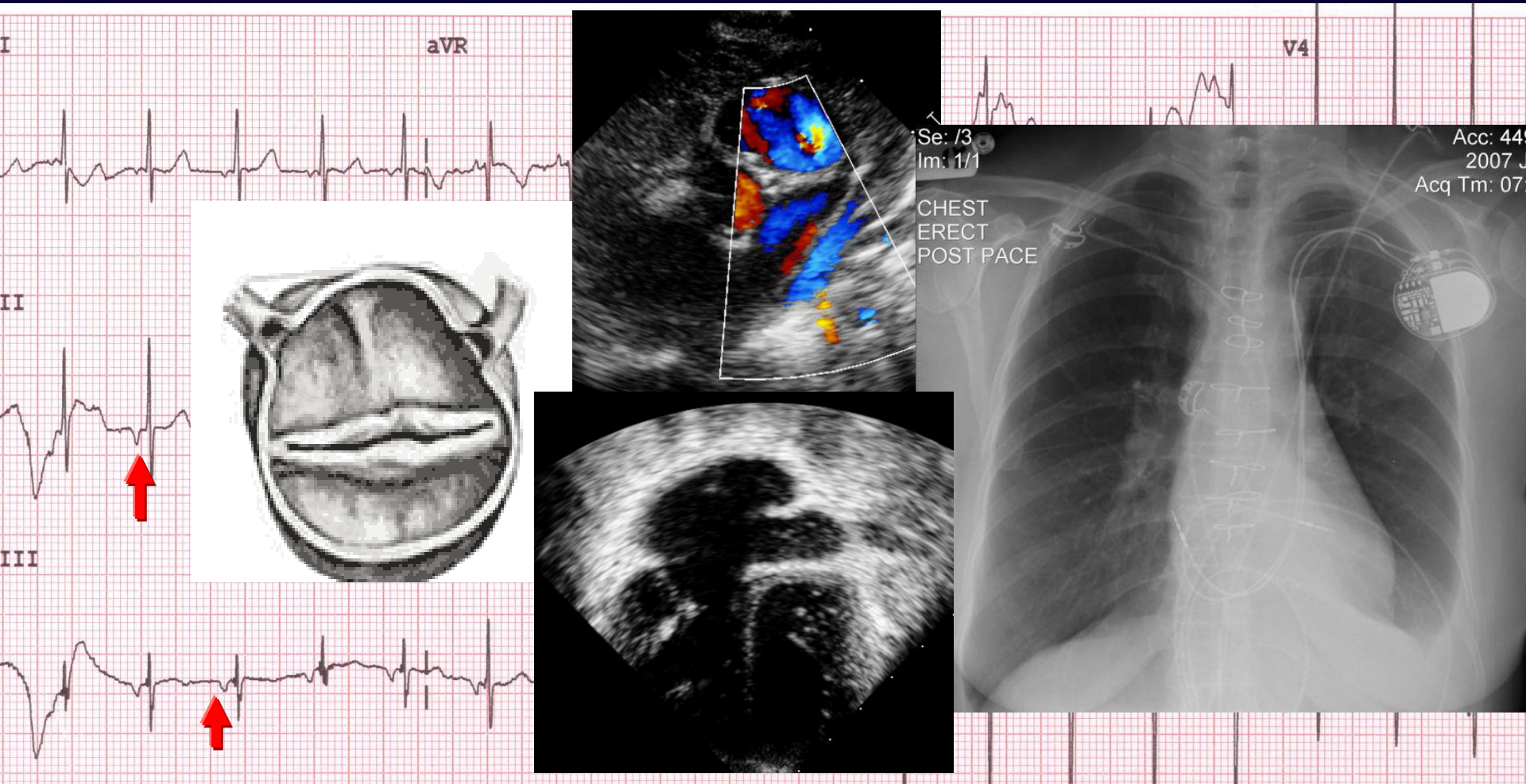
# Coartazione



A

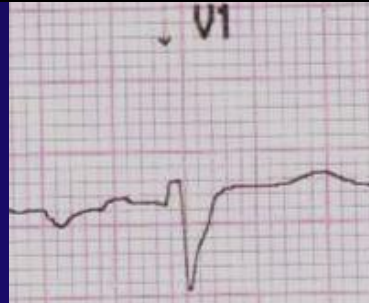
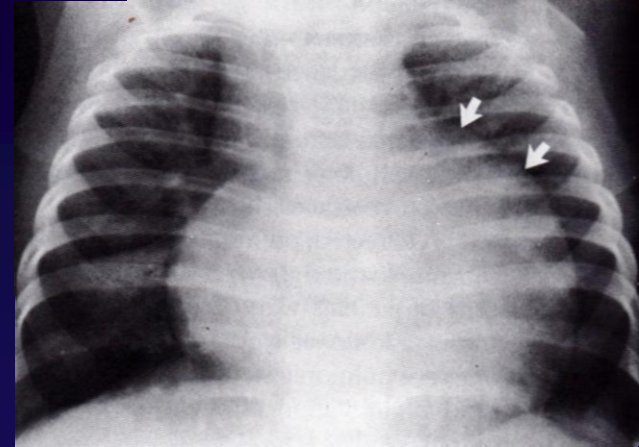
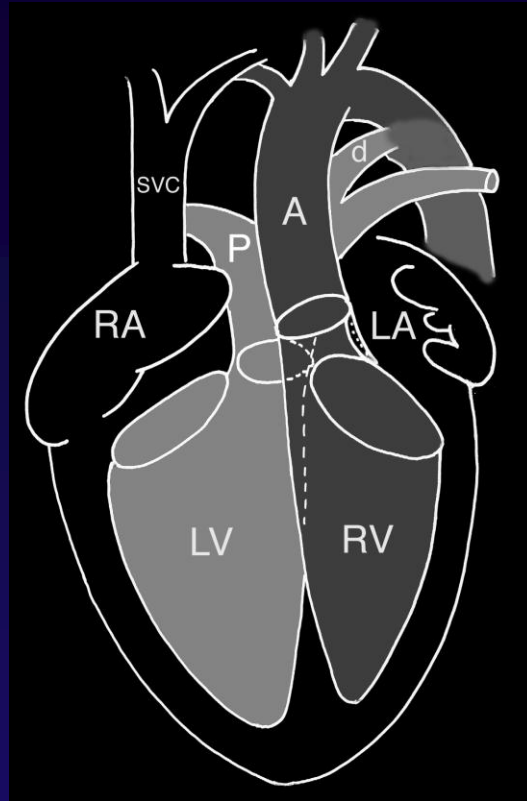
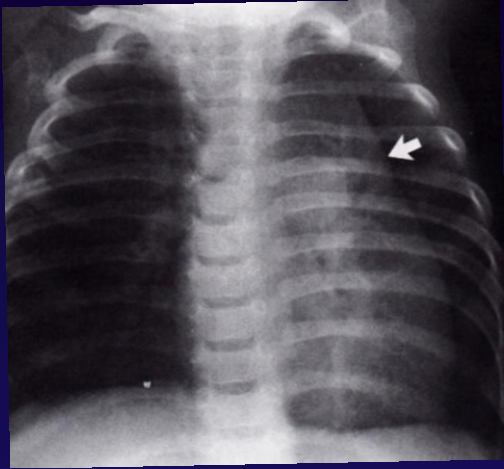


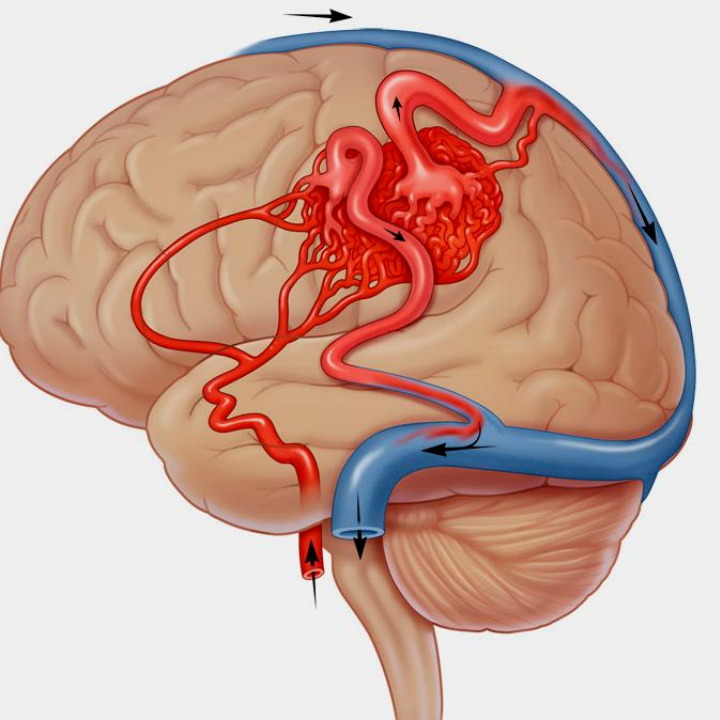
# Ritmo atriale basso



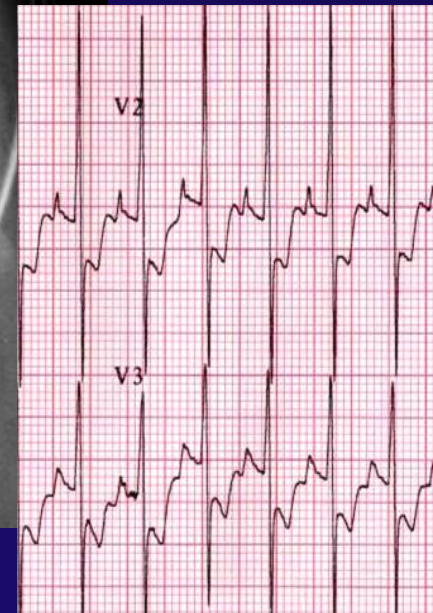


# TGA CC



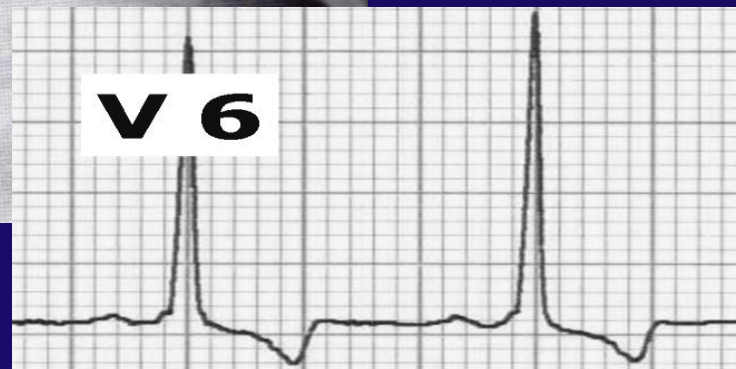
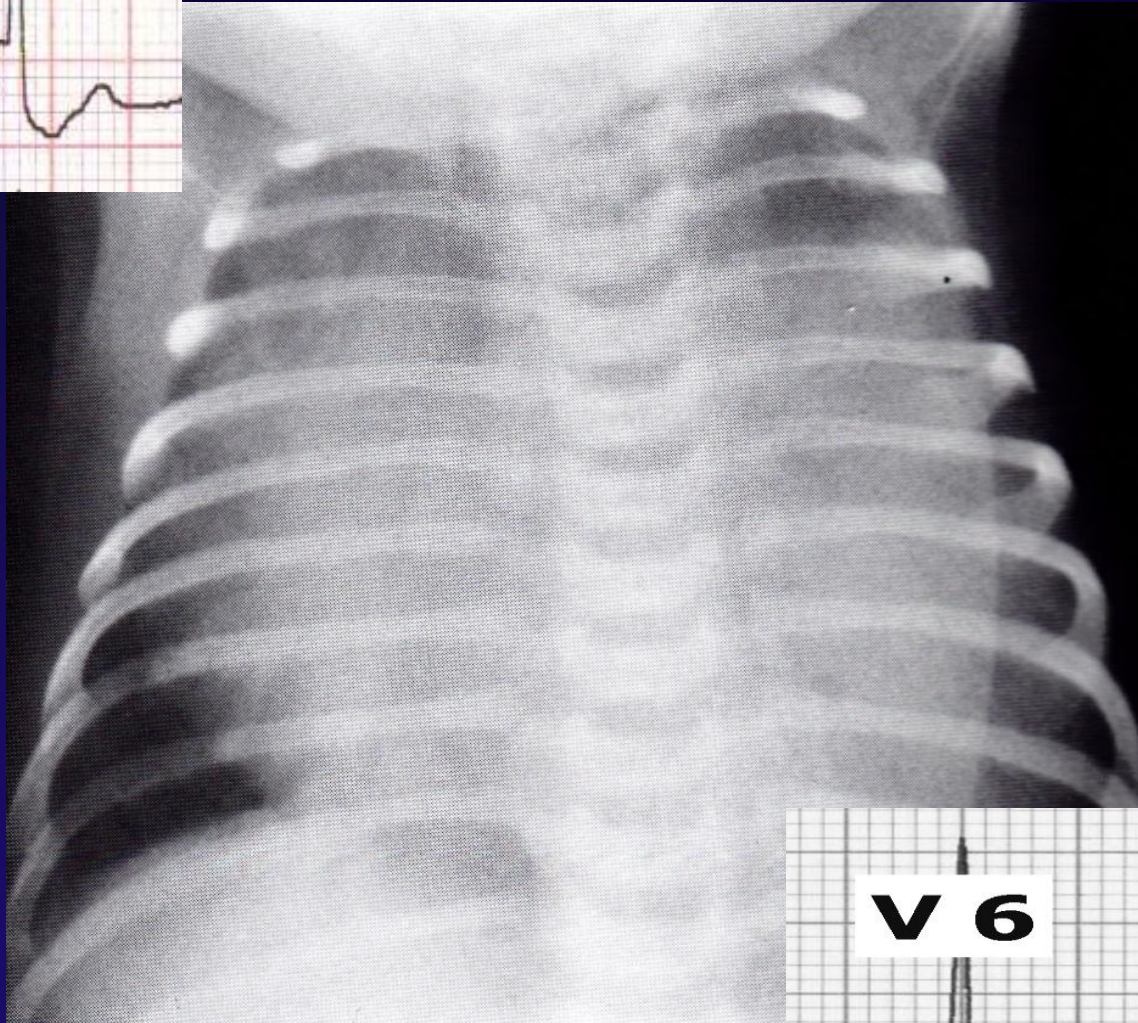
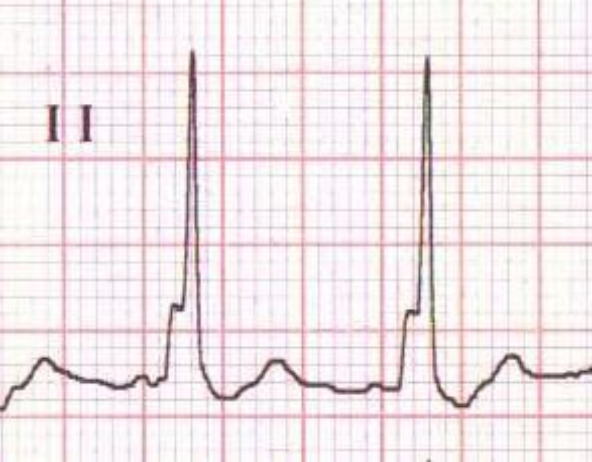


J.T. 2 gg Clinica !!!  
SUI





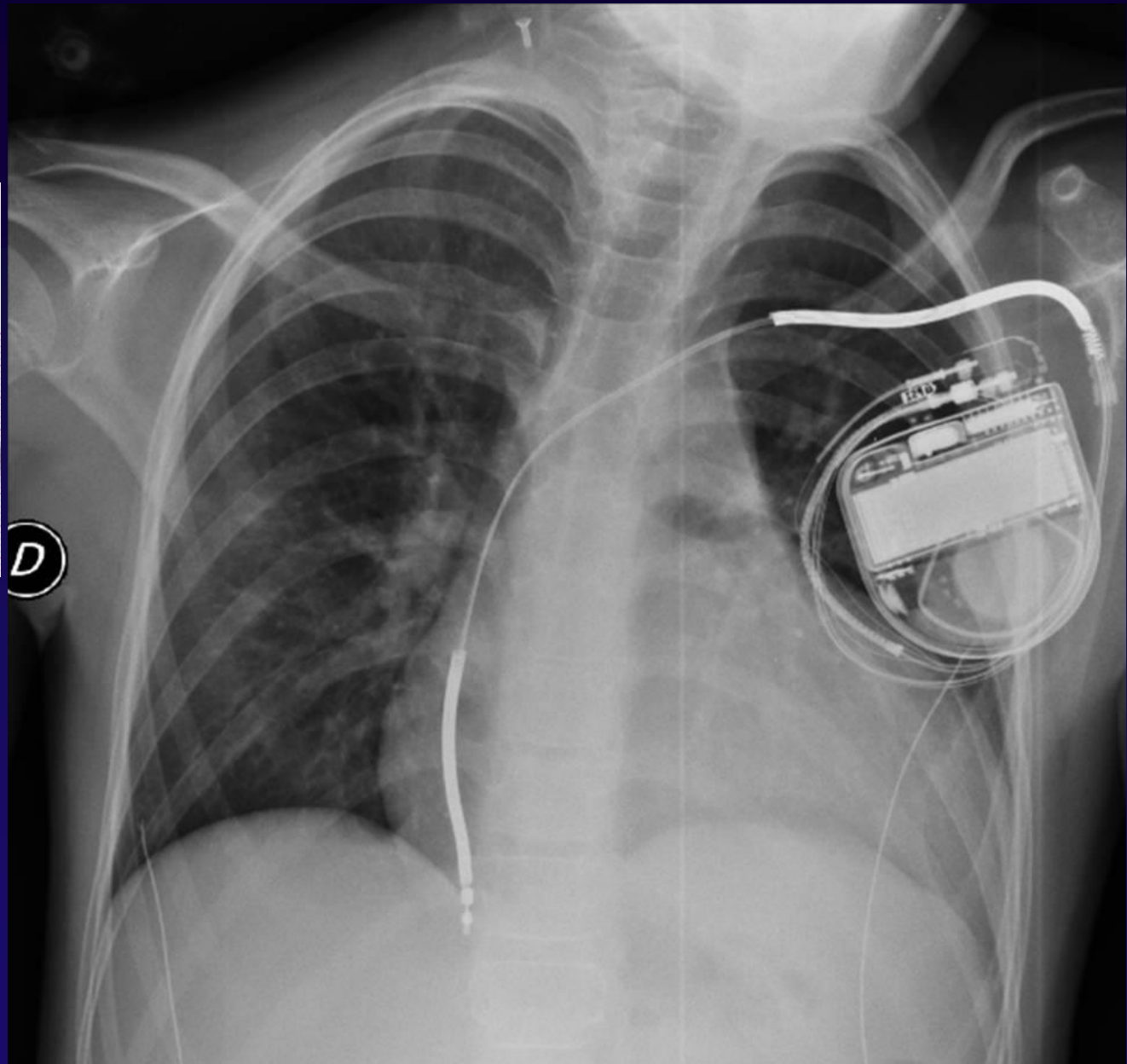
# Pompe

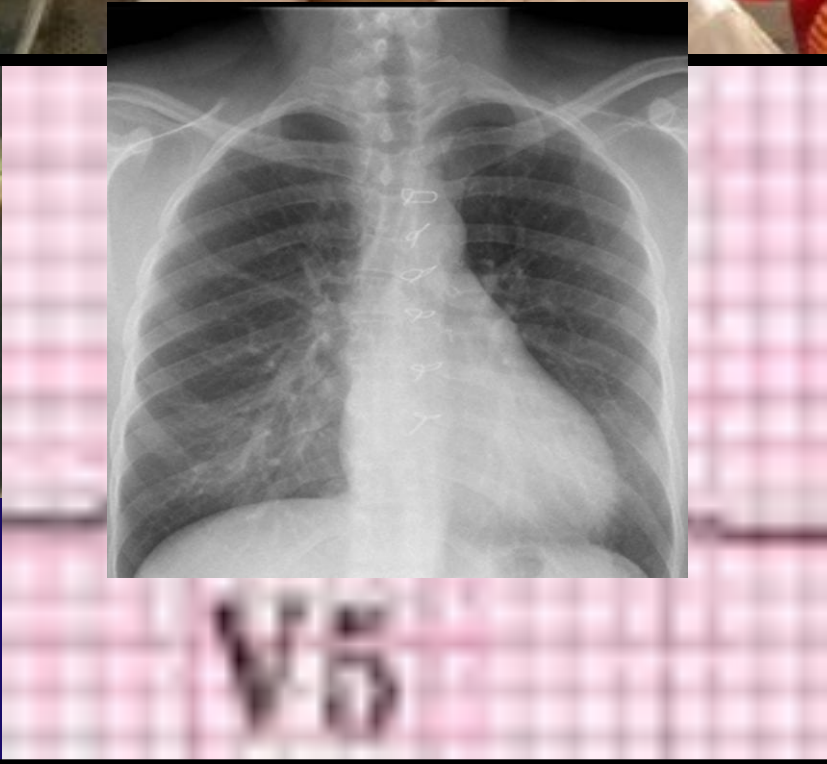
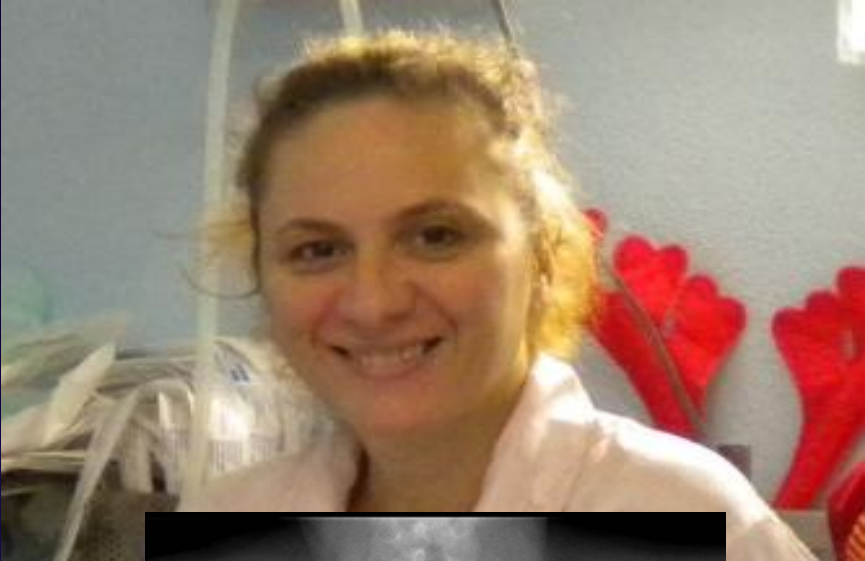




# Danon

PageWriter 20





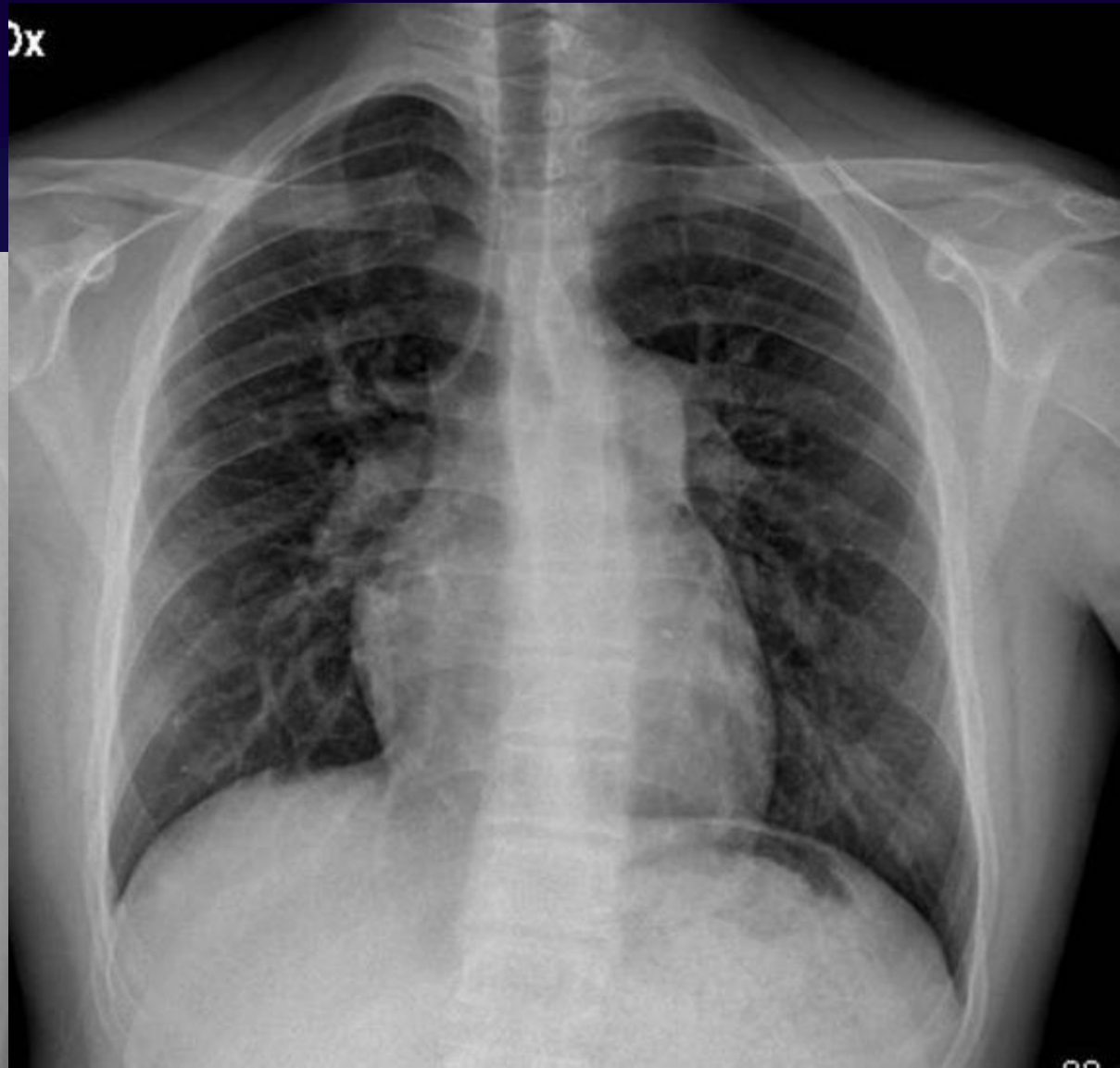
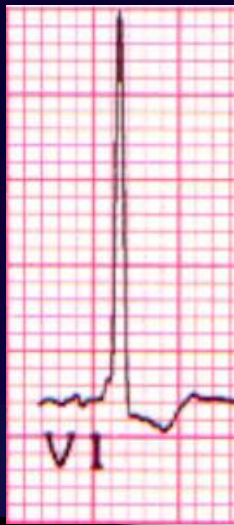




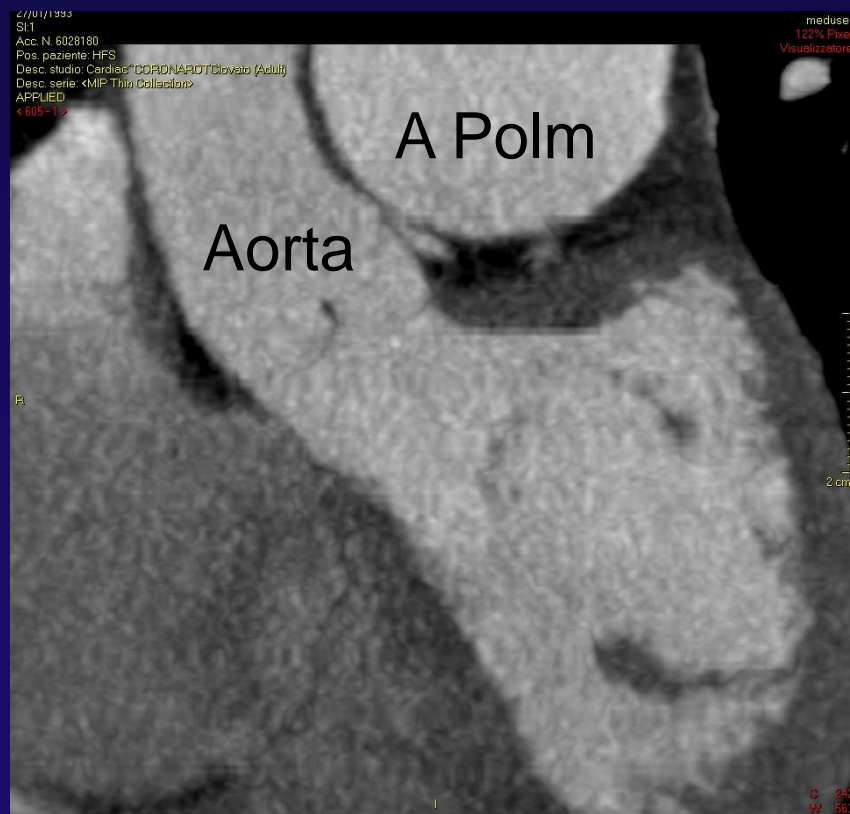
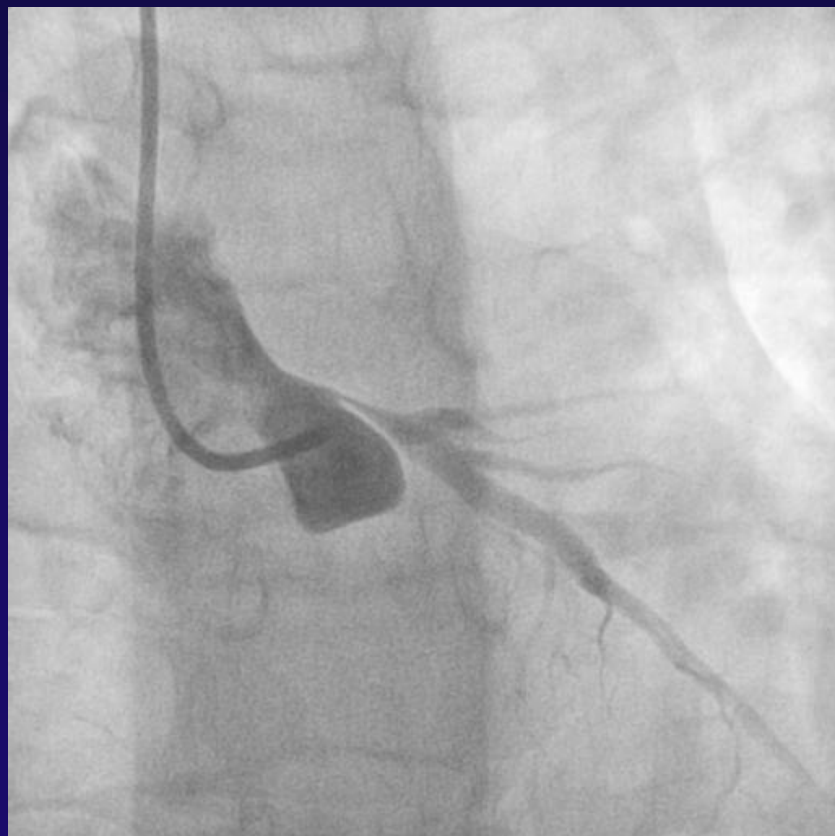
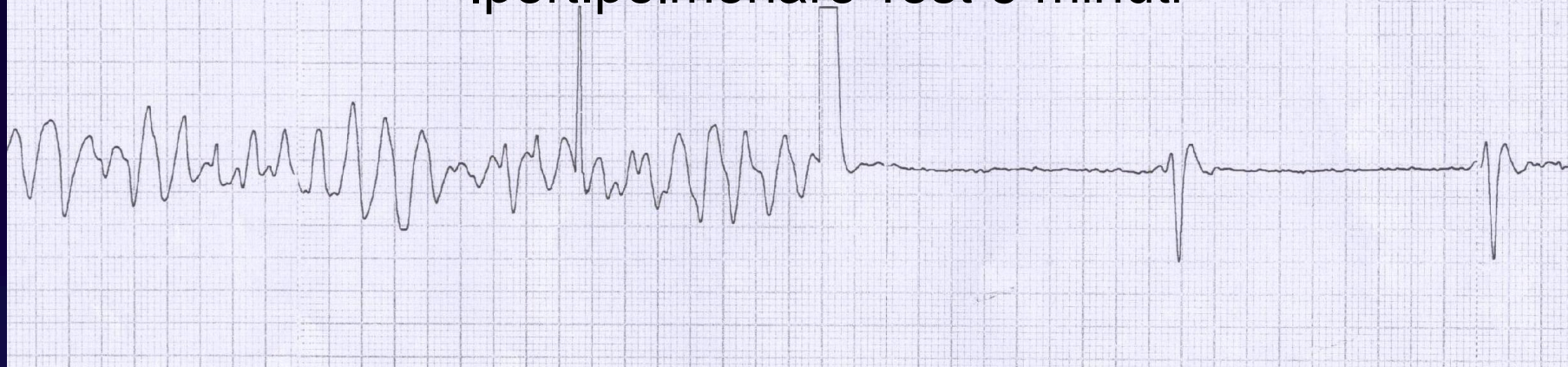
**ALCAPA**



# IPP

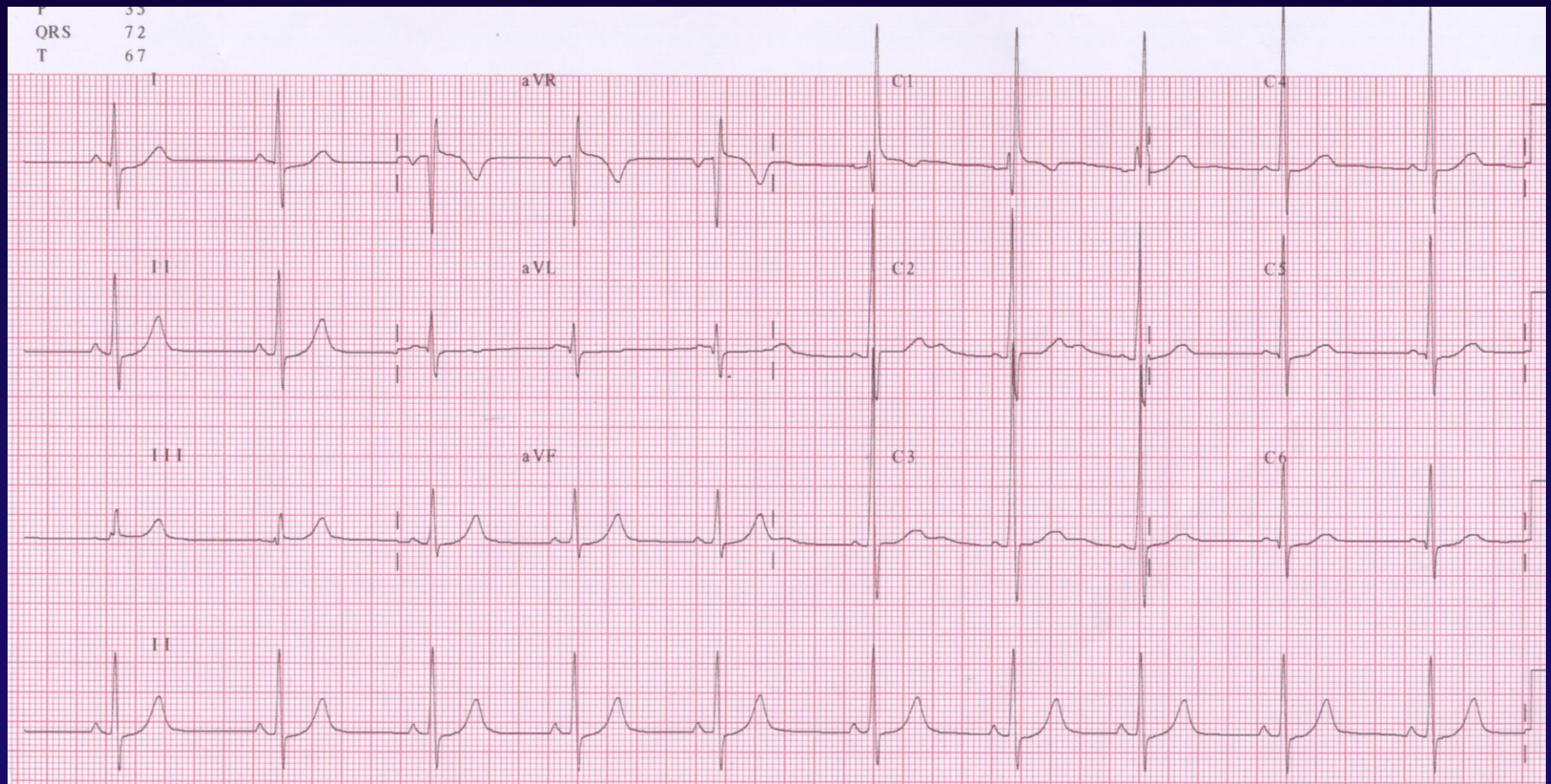


# Ipert.polmonare Test 6 minuti



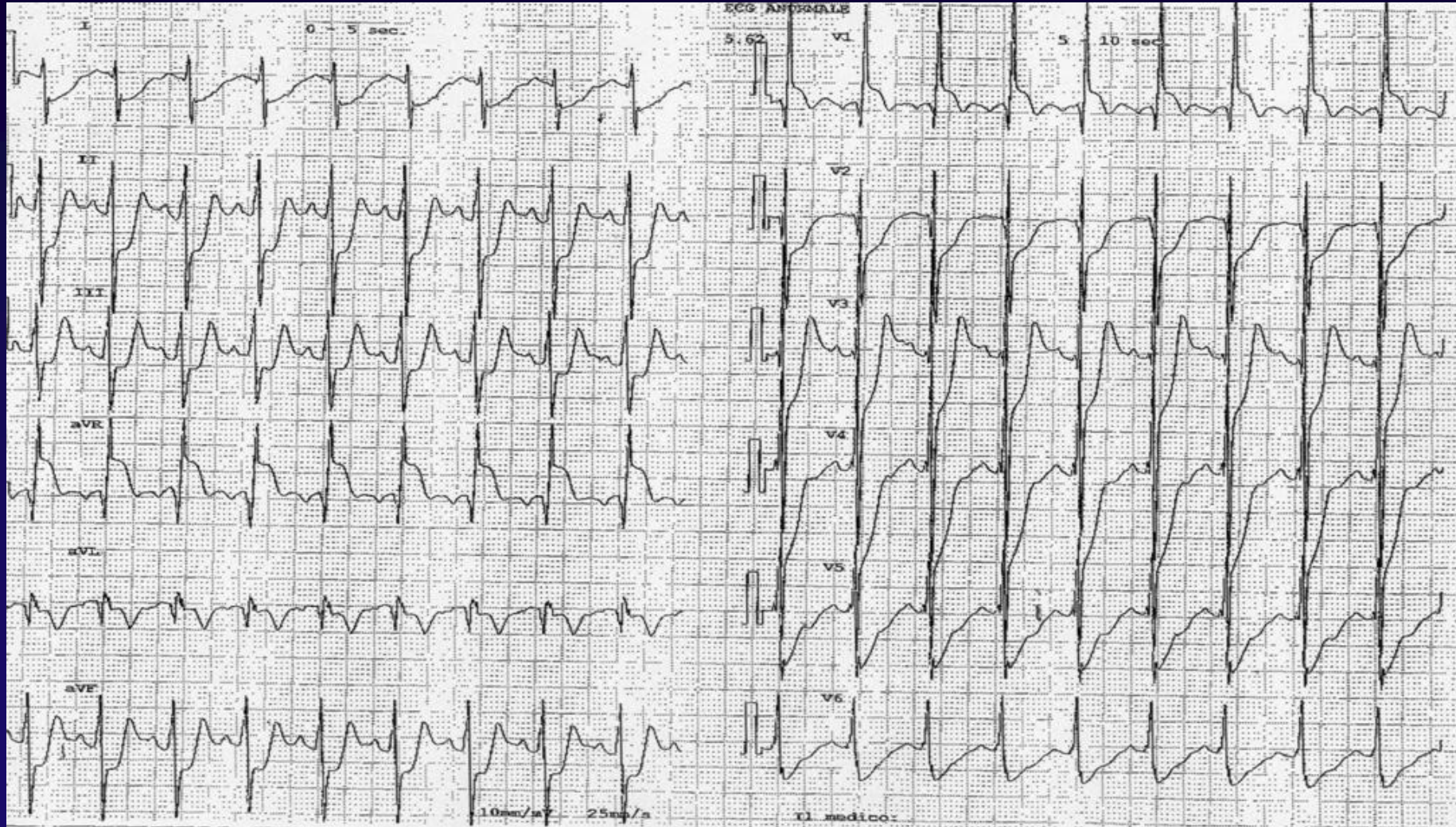


# S. Marco





# S. Marco p.s.



7-104

13-nov-2012 15.0

-128 mm

120kV, 355r

APPLIED

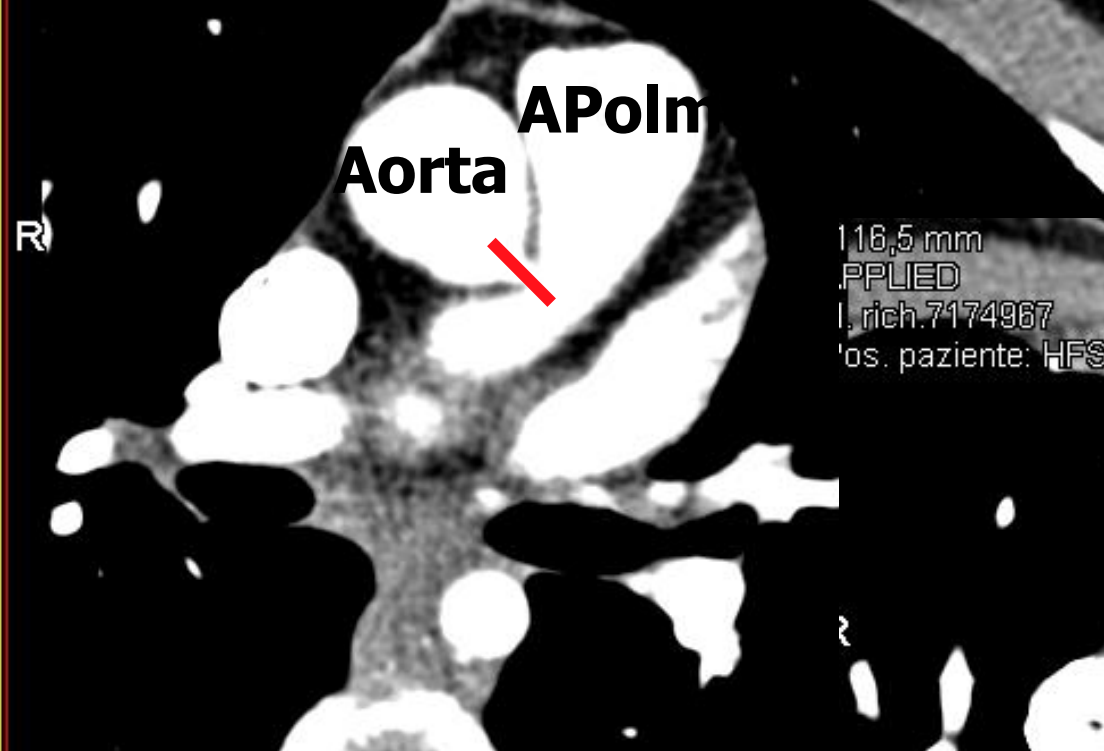
SC 500

N. rich.7174967

SW 1.0

Pos. paziente: HFS

Desc. studio: Vascular^AORTA\_T



R)

116,5 mm

120kV, 355r

APPLIED

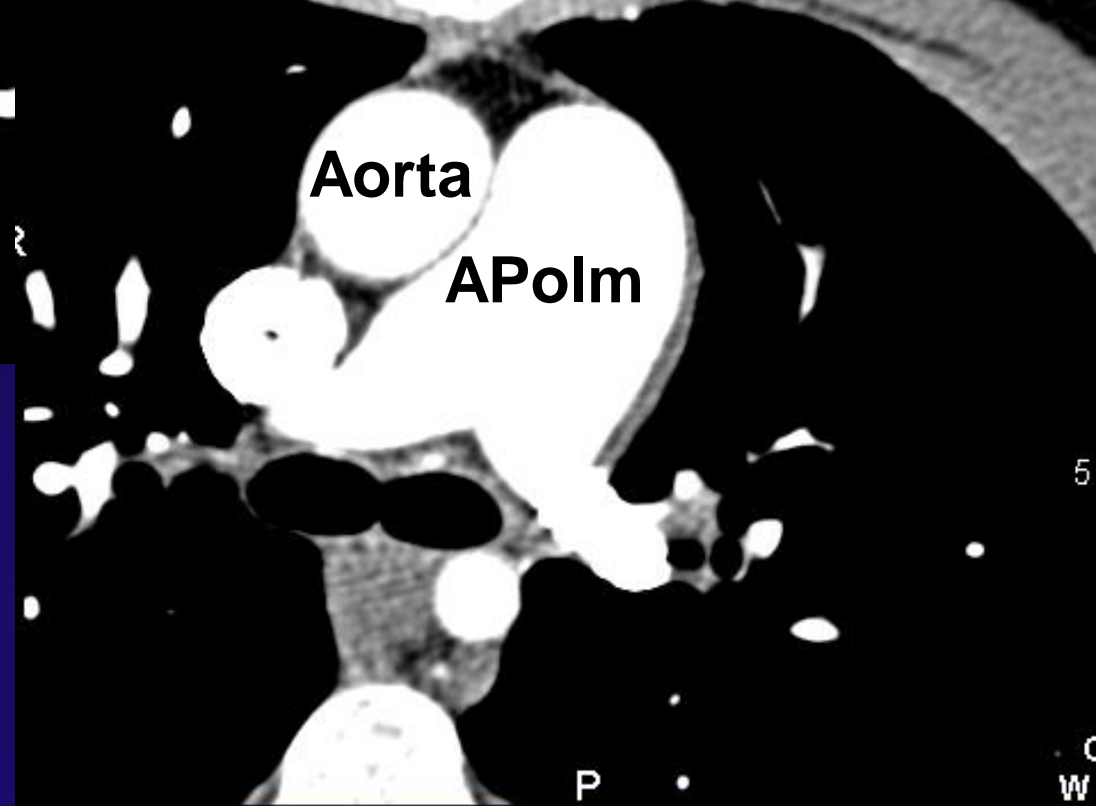
SC 500

N. rich.7174967

SW 1.0

Pos. paziente: HFS

Desc. studio: Vascular^AORTA\_T



R)

5

P

C  
W



## CONCLUSIONI

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

