

# *La diagnostica strumentale nel cardiopatico congenito adulto*

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Cardiologia e Cardiochirurgia Pediatrica

Bologna

*MILANO, 16 ottobre 2012*



# Necessità di integrazione tra le varie metodiche

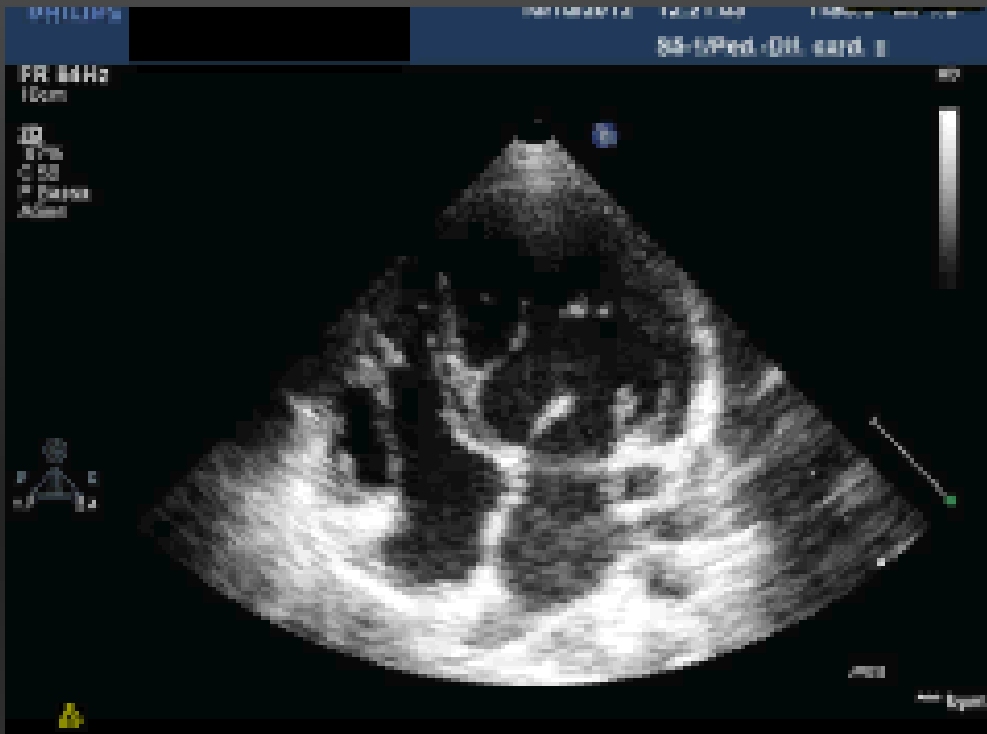
L'Imaging  
dei punti critici



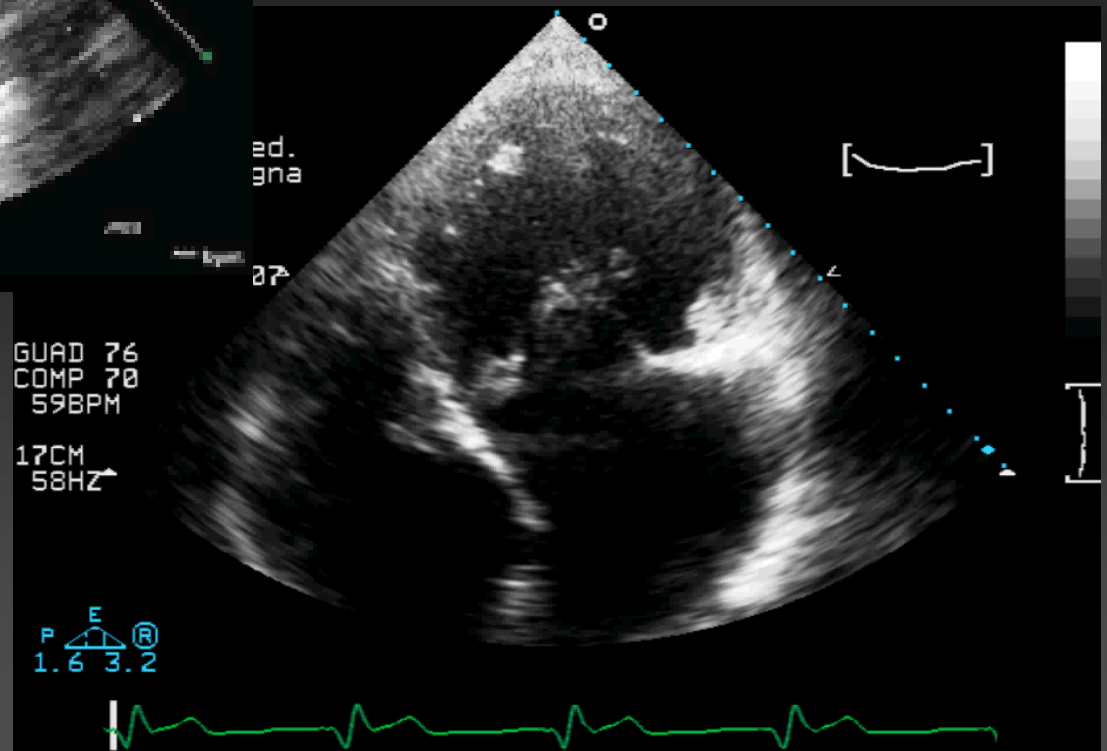
I punti critici  
dell' Imaging

Necessità di interpretazione critica

# What is what?

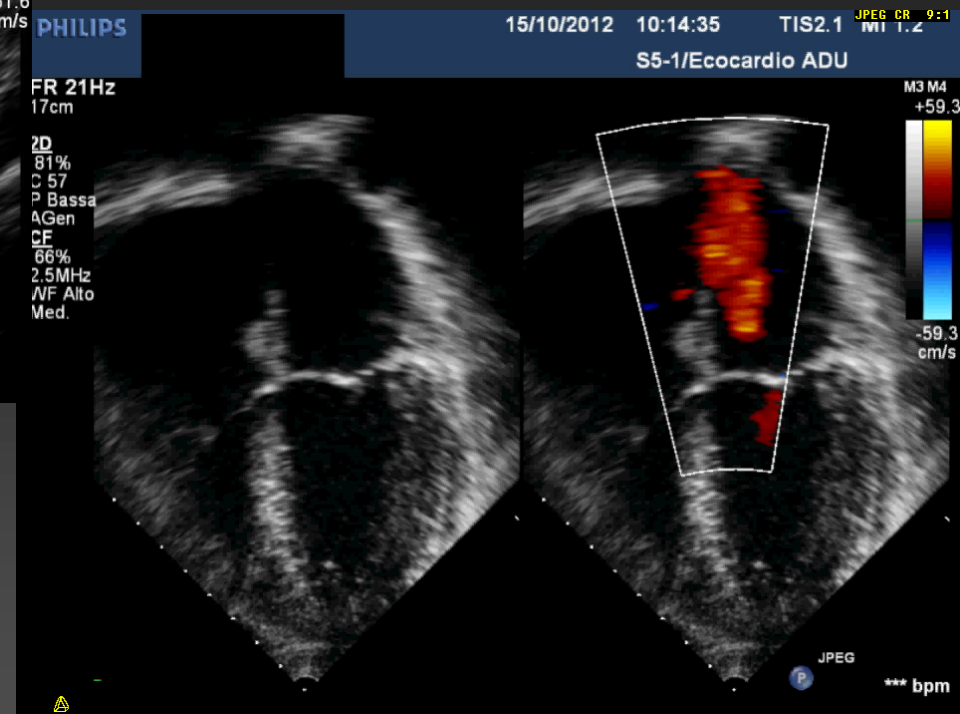
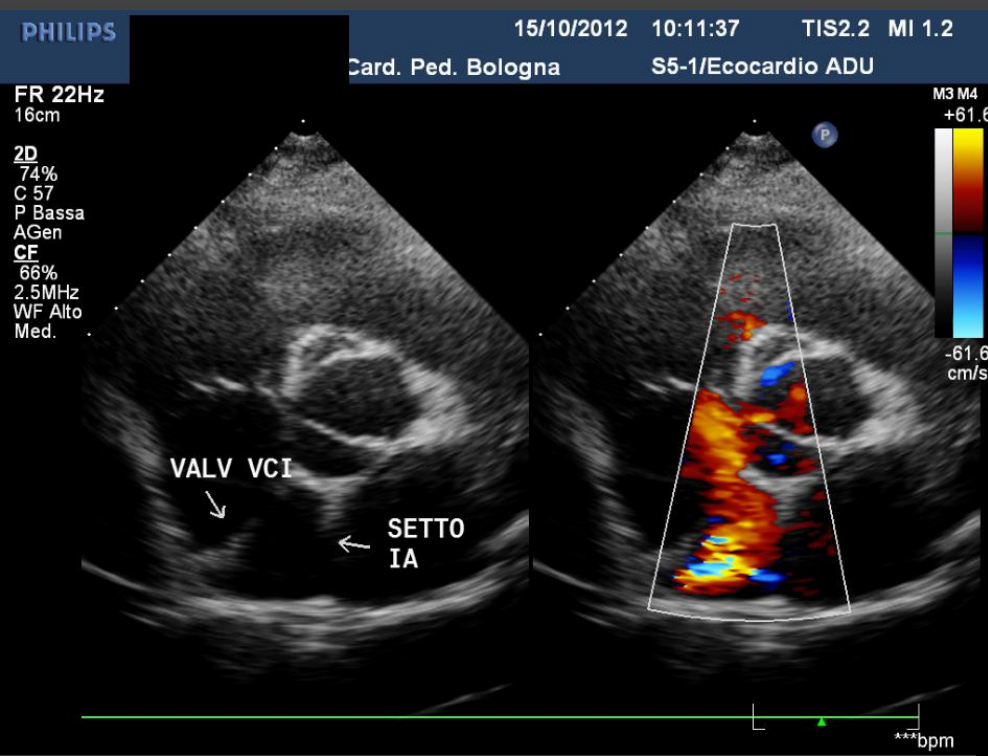


CMP non compaction



TGAc

# DIA II...falso!



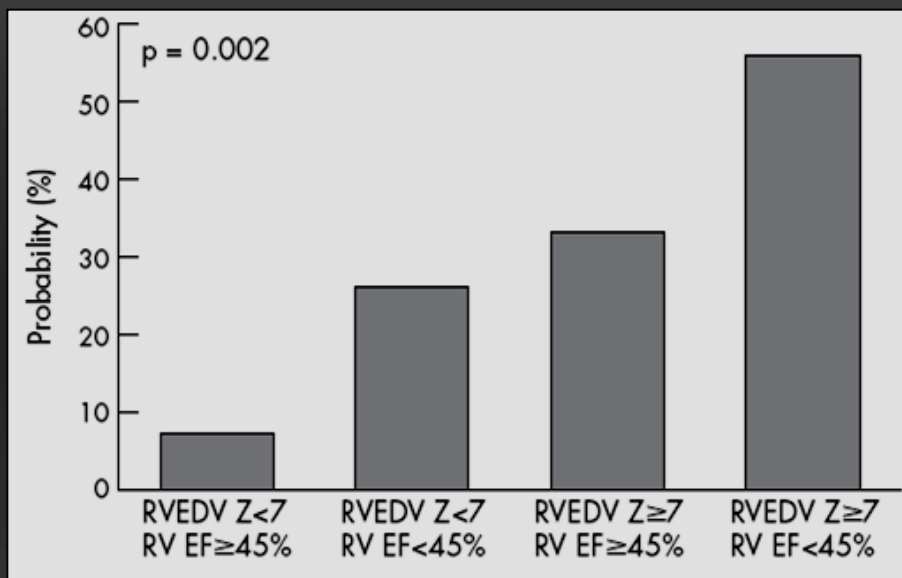
# *Imaging diagnostico nell'indicazione alla chirurgia*

- Vdx
- Strutture anatomiche difficili  
ritorni venosi, anelli vascolari



# Ventricular size and function assessed by cardiac MRI predict major adverse clinical outcomes late after tetralogy of Fallot repair

A L Knauth,<sup>1,2</sup> K Gauvreau,<sup>1</sup> A J Powell,<sup>1</sup> M J Landzberg,<sup>1,2</sup> E P Walsh,<sup>1</sup> J E Lock,<sup>1</sup> P J del Nido,<sup>3</sup> T Geva<sup>1</sup>



*Multivariate analysis (controlling for time from baseline evaluation to most recent follow-up)*

#### Model 1

LV ejection fraction < 55%	8.05 (2.14 to 30.2)
RV end-diastolic volume $Z \geq 7$	4.55 (1.10 to 18.8)

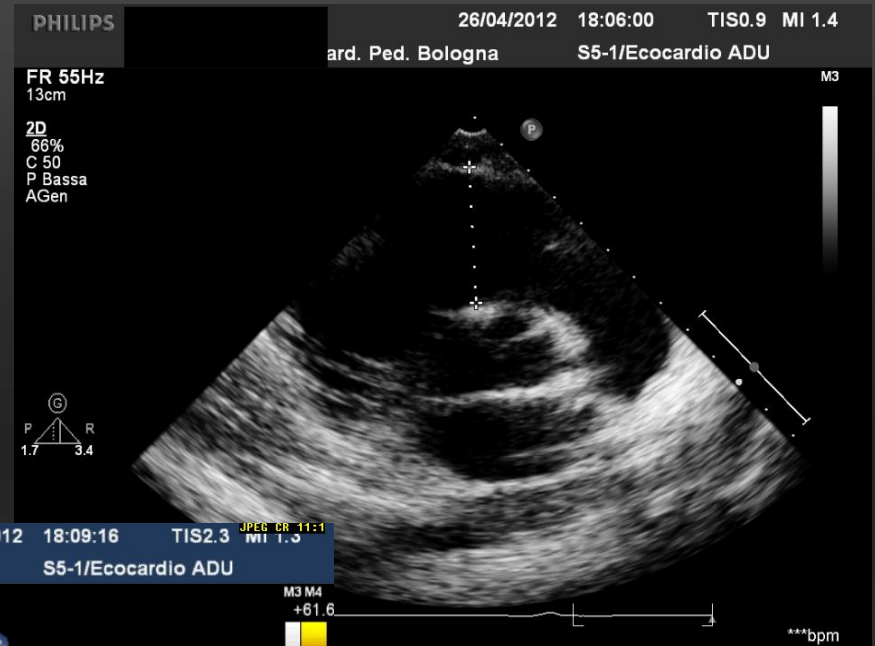
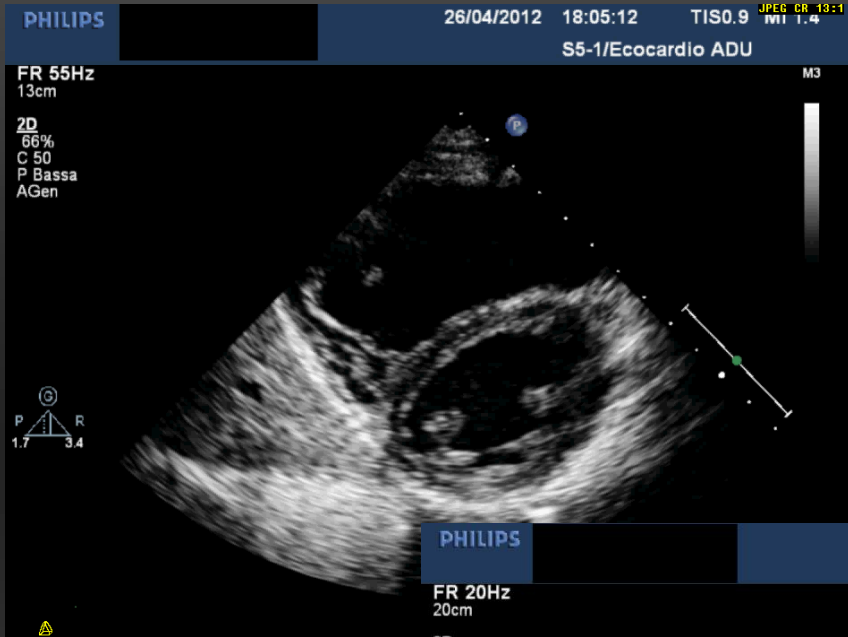
Area under ROC curve for the model: 0.850

#### Model 2

RV ejection fraction < 45%	5.60 (1.47 to 21.2)
RV end-diastolic volume $Z \geq 7$	4.00 (1.10 to 14.6)

Area under ROC curve for the model: 0.807

# Sovraccarico dx ...





# DIA seno venoso e RVPAP

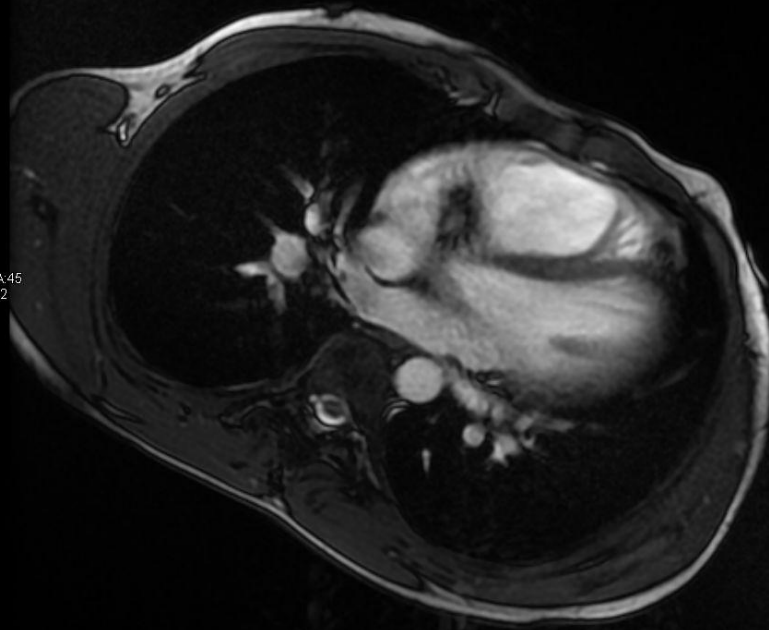
RANDAZZINI LUCA  
1-gen-1999,013Y,M,1482522  
Scansione: 9-213  
SI:213  
Pos:73,329  
N. rich:7099144  
Dbl Obl  
Ec: 1  
Pos. paziente: FFS

Con perdita

Az Osp S ORSOLA BOLOGNA  
BONVICINIMARCO

10-set-2012 14.06.55

Desc. studio: RM Cuore con Studio Flussimetrico e Studio Funzione Ventricola



RPH

4/0/2  
Et: 1 TA:45  
512x512  
8mm  
Enc: >  
1nex

10 cm

C 1151  
W 2302

PL

Cardio 2011/48CARDIAC

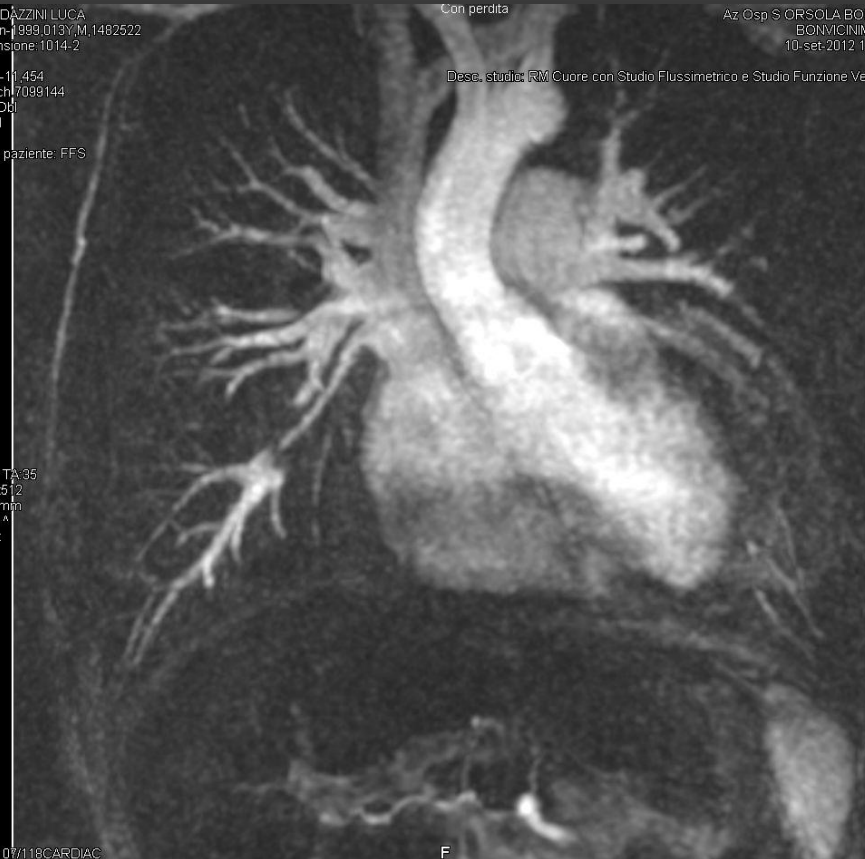
RANDAZZINI LUCA  
1-gen-1999,013Y,M,1482522  
Scansione: 1014-2  
SI:2  
Pos:-10,454  
N. rich:7099144  
Dbl Obl  
Ec: 1  
Fr:5  
Pos. paziente: FFS

Con perdita

Az Osp S ORSOLA BOLOGNA  
BONVICINIMARCO

10-set-2012 14.32.08

Desc. studio: RM Cuore con Studio Flussimetrico e Studio Funzione Ventricola



R

3/1  
Et: 1 TA:35  
512x512  
24.2mm  
Enc: A  
1nex

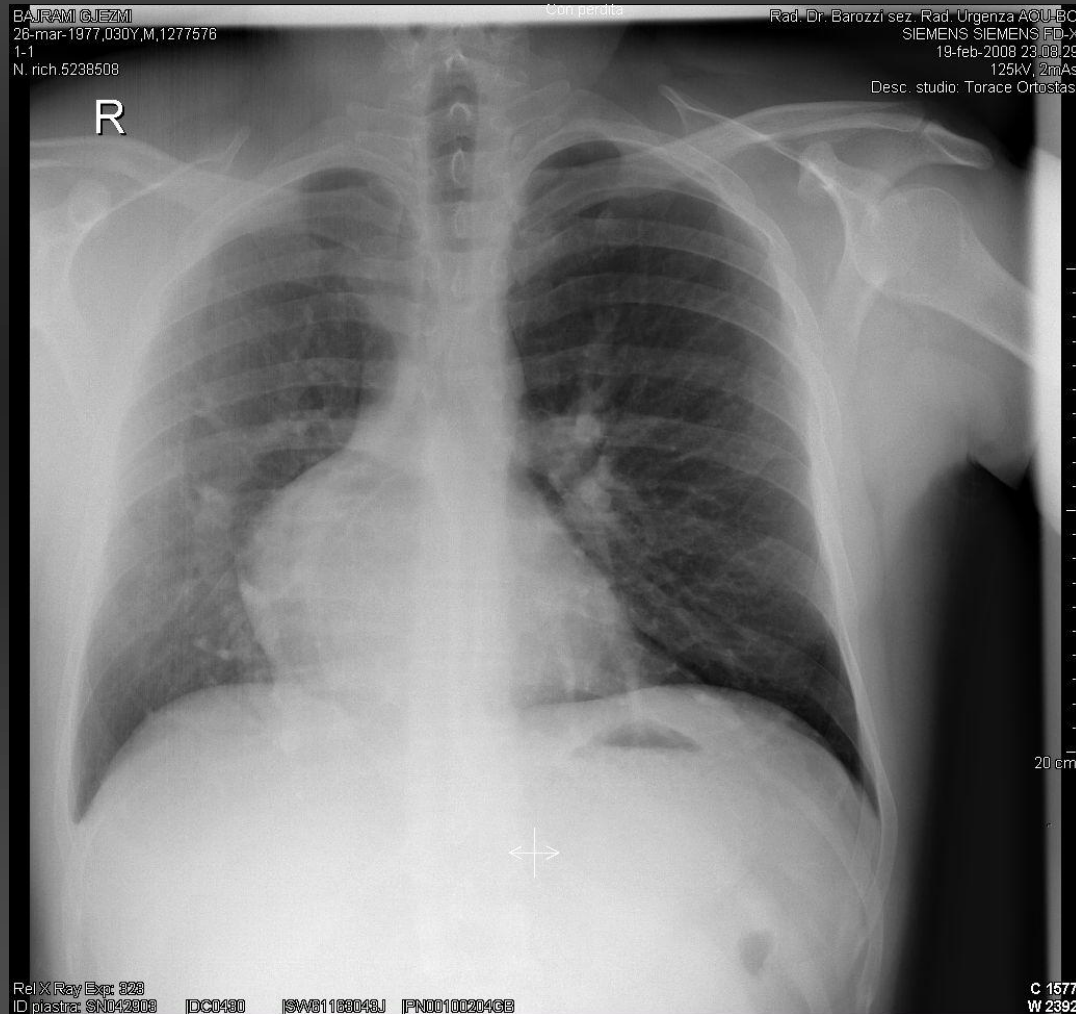
10 cm

TDF 01/118CARDIAC

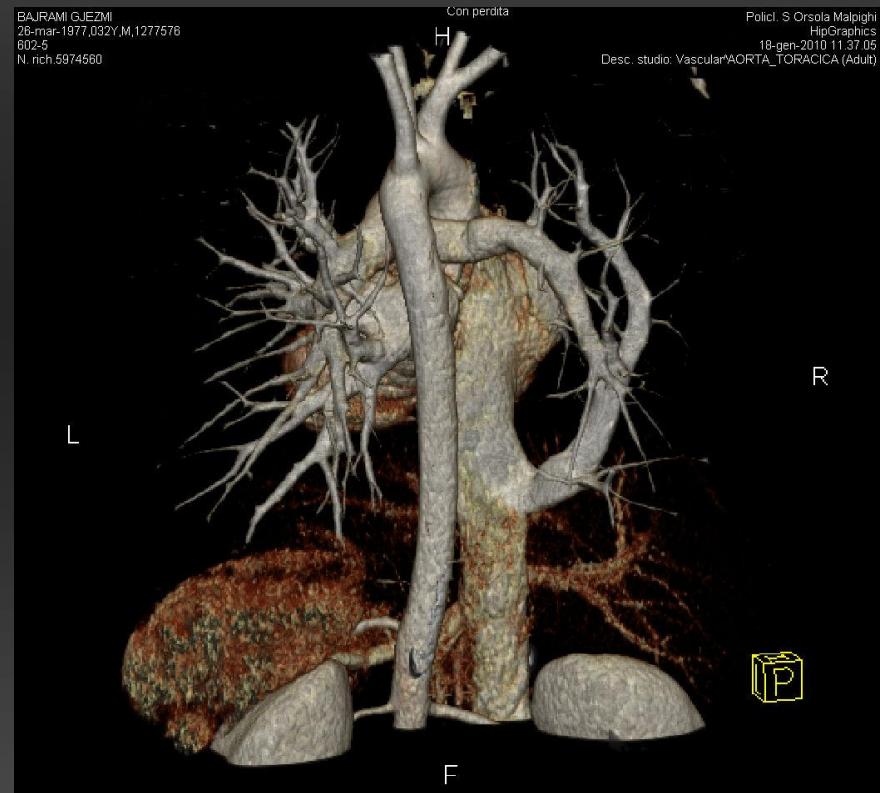
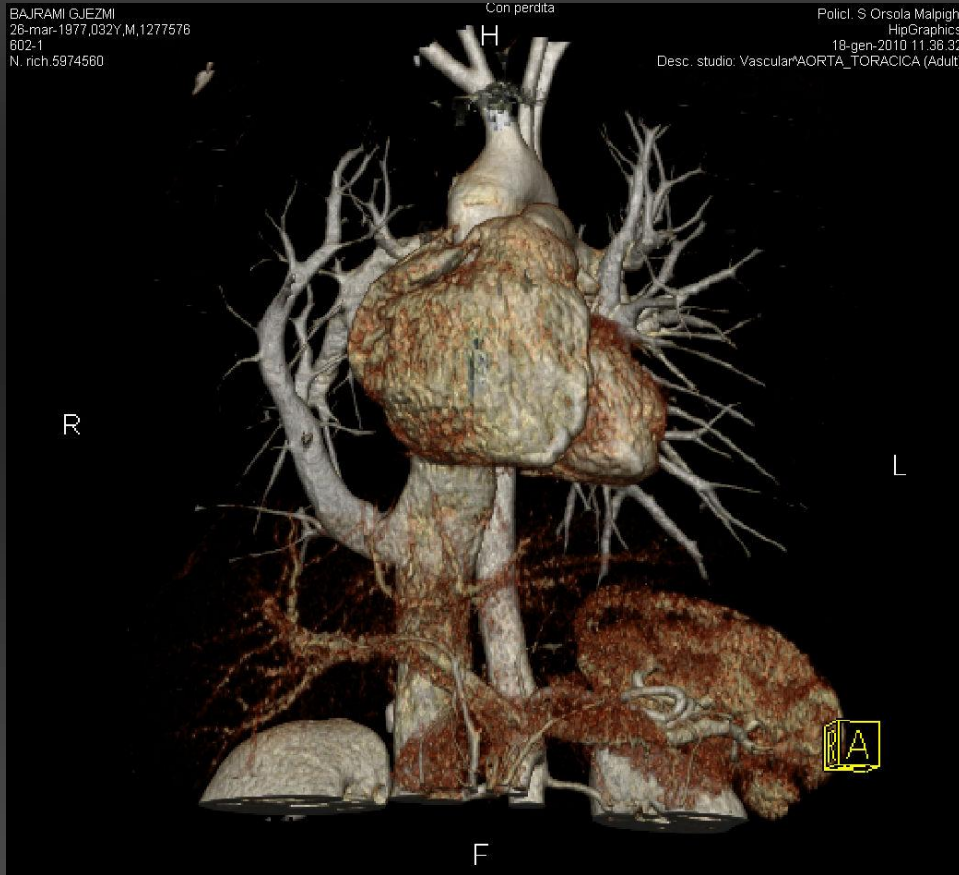
F

C 279  
W 597

# Sovraccarico destro e...



# scimitarra



# la coartazione ingannatrice

KAJO ZAMIRA  
11-apr-1967,043Y,F,1374644  
602-1  
N. rich.6122230

Con perdita

Policl. S Orsola Malpighi  
HipGraphics  
28-apr-2010 13.35.09  
Desc: studio: Vascular\*AORTA\_TORACICA\_GATED (Adult)

H

A

P

AL

F

KAJO ZAMIRA  
11-apr-1967,043Y,F,1374644  
602-4  
N. rich.6122230

Con perdita

Policl. S Orsola Malpighi  
HipGraphics  
28-apr-2010 13.36.01  
Desc: studio: Vascular\*AORTA\_TORACICA\_GATED (Adult)

H

R

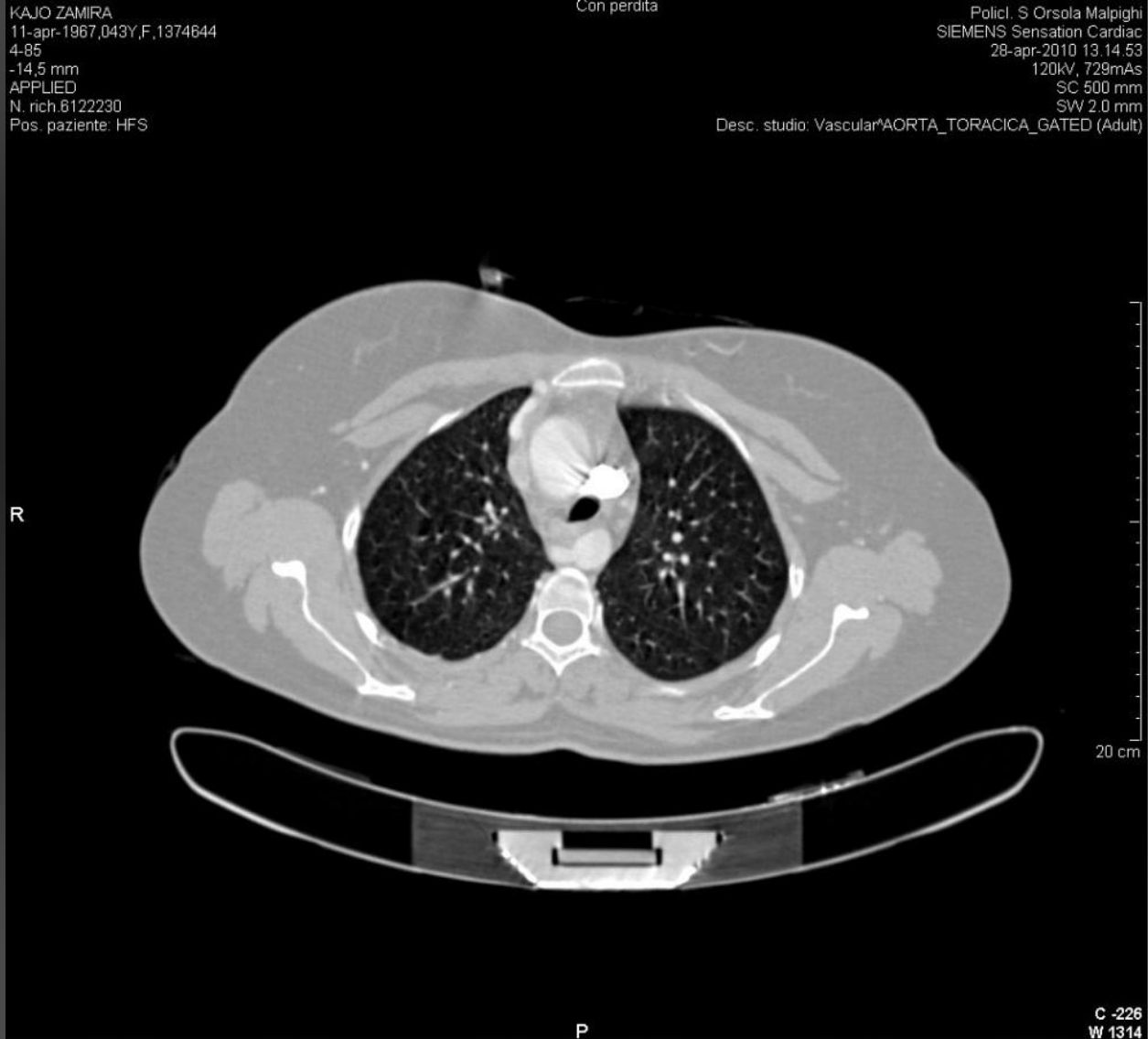
L

AL

F



# la coartazione ingannatrice



# la coartazione ingannatrice



**Correzione chirurgica**

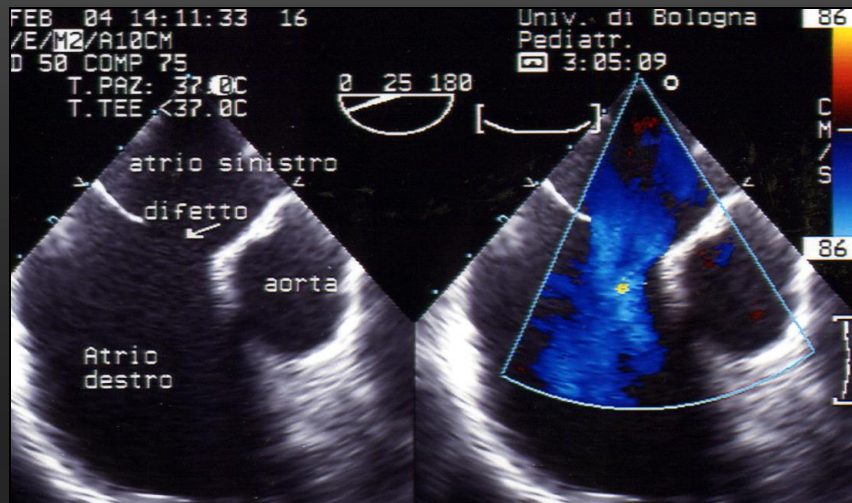
**Condotto  
extracardiaco**

# Imaging guida procedure interventistiche percutanee

- Setto interatriale
- Rami polmonari / coartazione
- Embolizzazione Fistole, ecc.

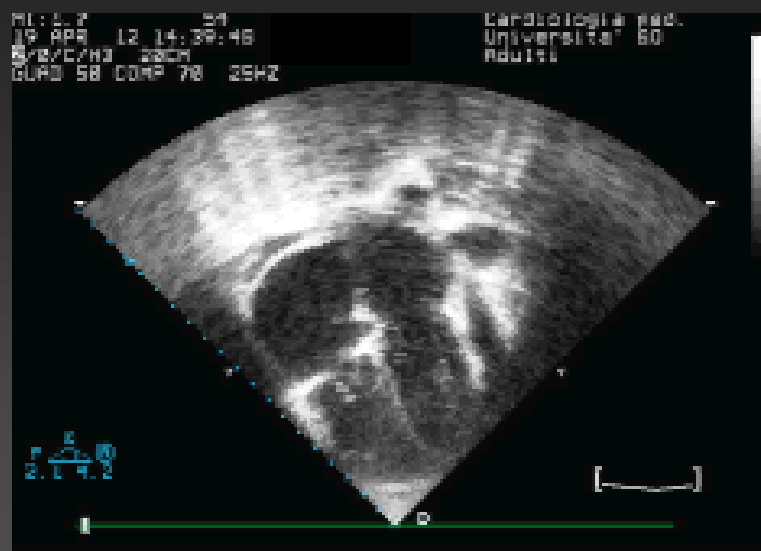
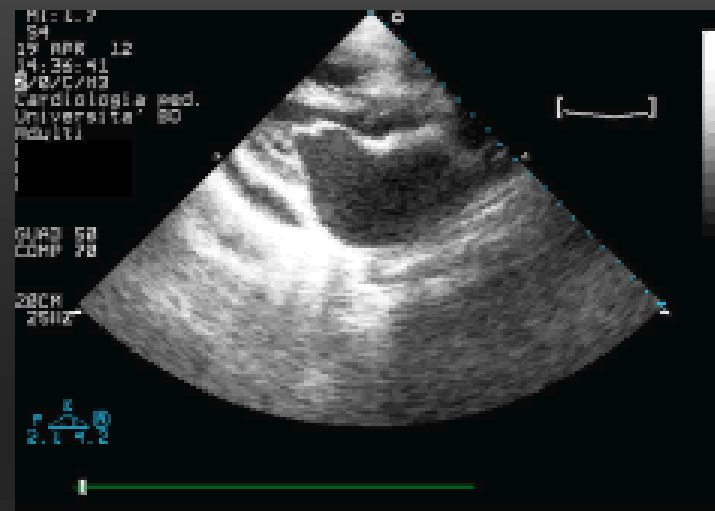
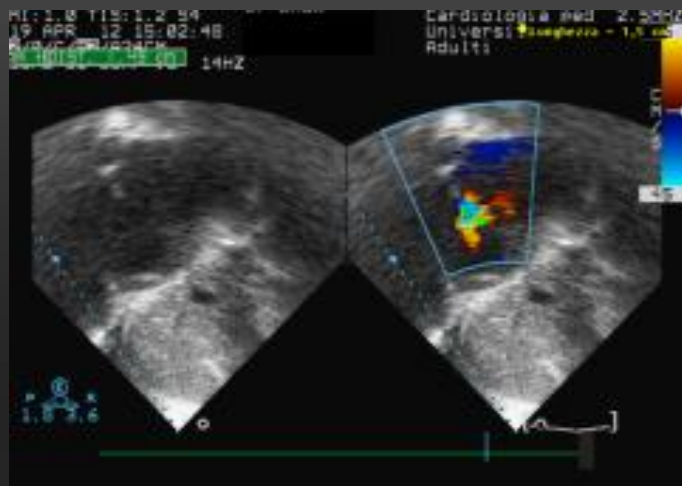
# Chiusura transcateretere DIA II

≈70-80% dei DIA II

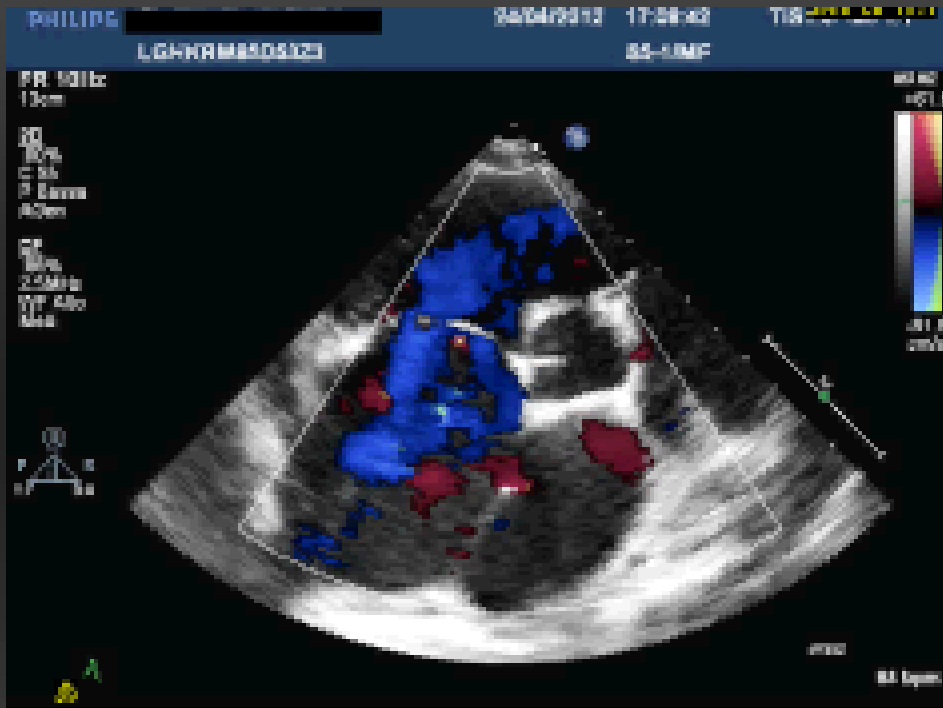




# DIA II e scompenso



# DIA II e scompenso



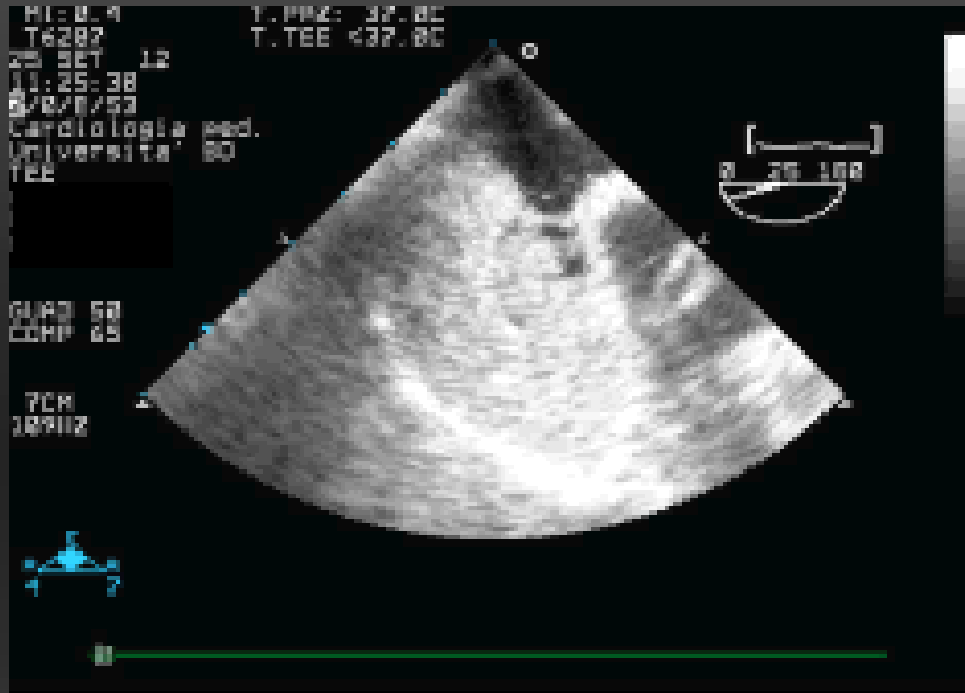
**Adx 19 mmHg**

**VsnTd 18mmHg**

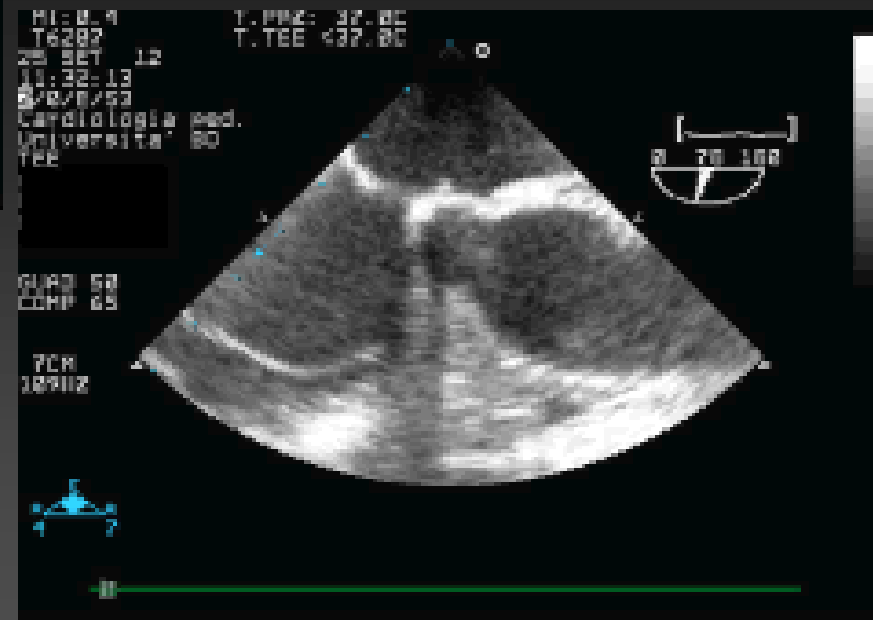
**CP 18mmHg**

**Pericardite  
costrittiva**

# PFO? Oppure.....

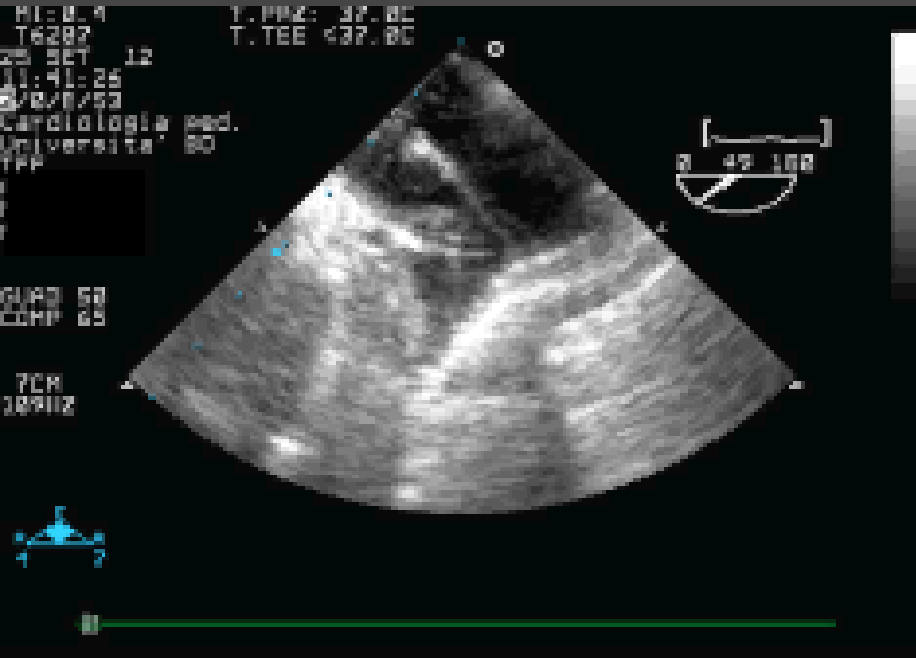


**Dubbio PFO**

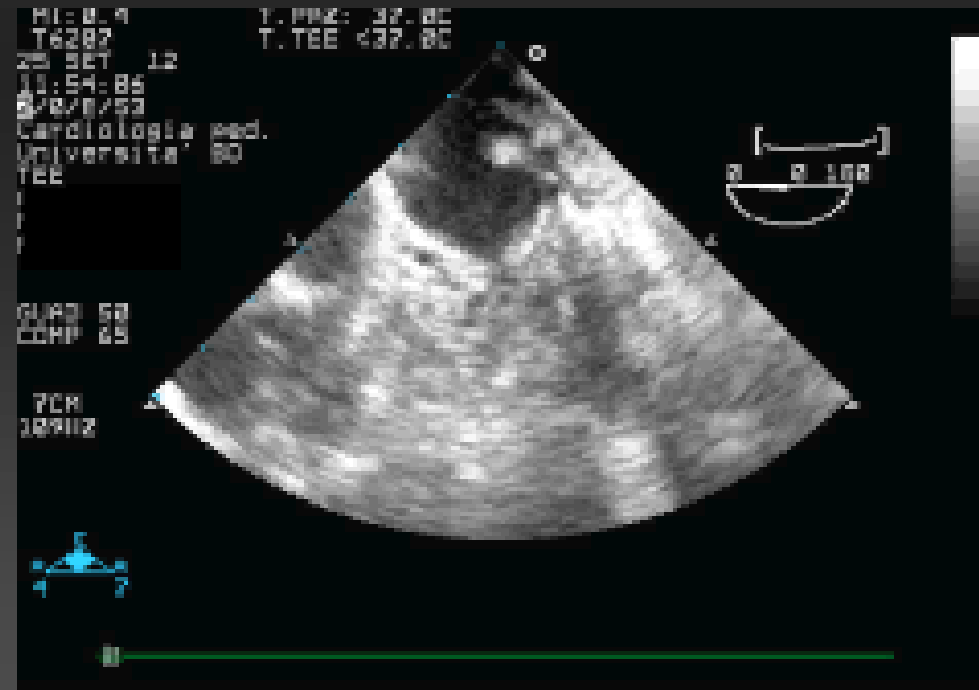


**No PFO**

# PFO? Oppure.....

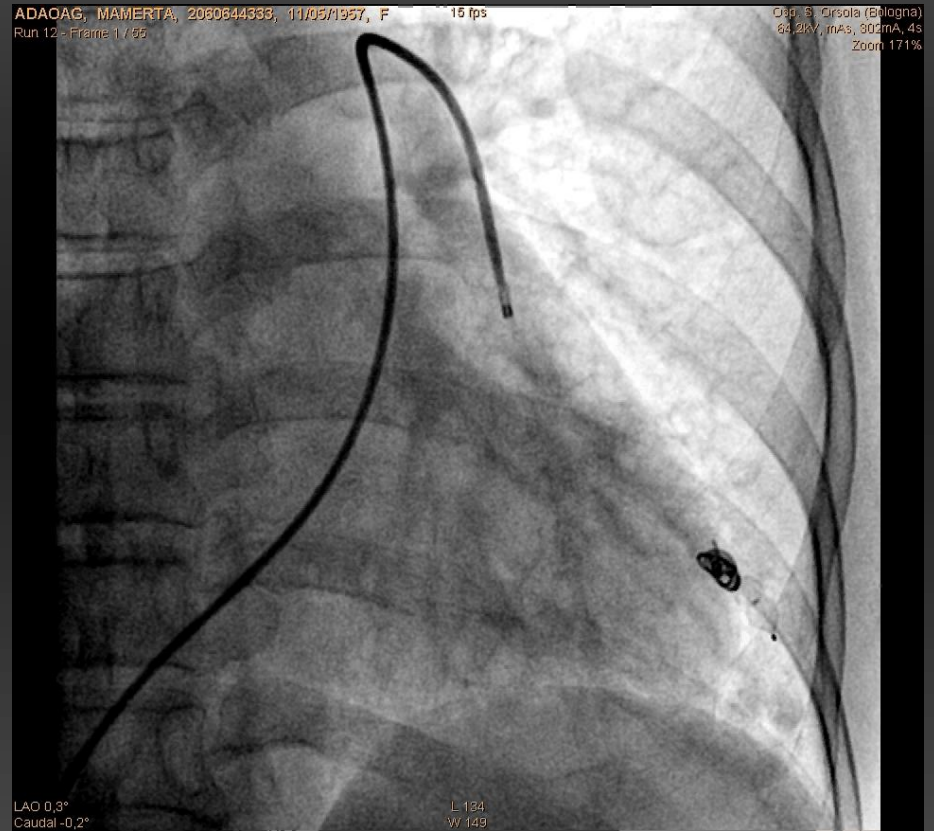
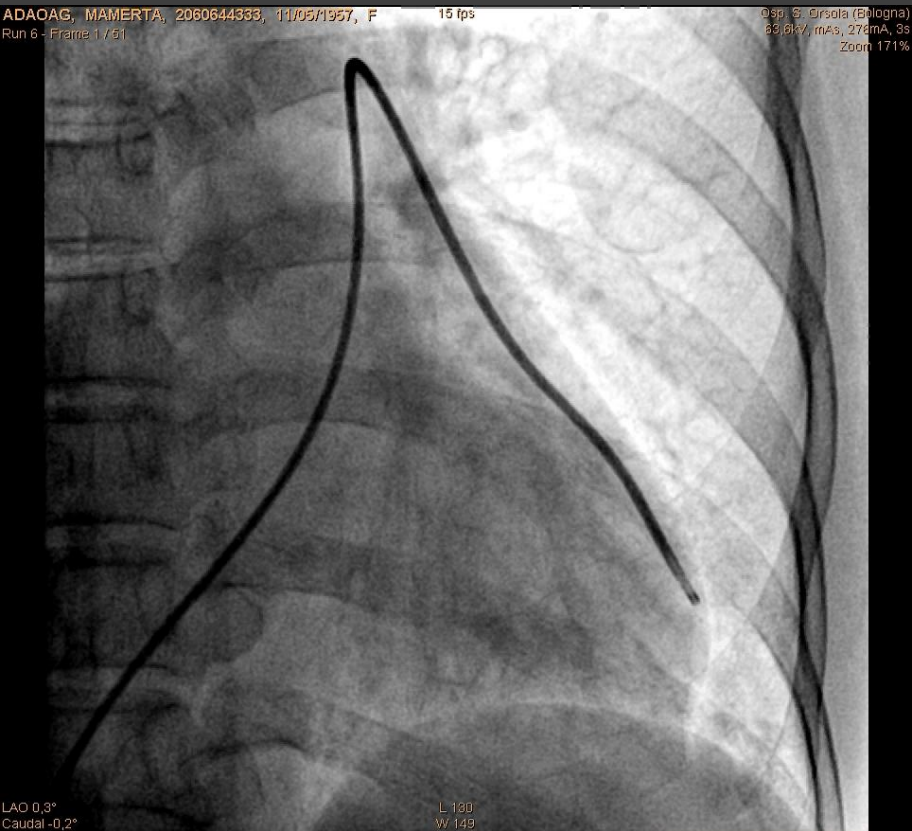


Vena polm sup. sn

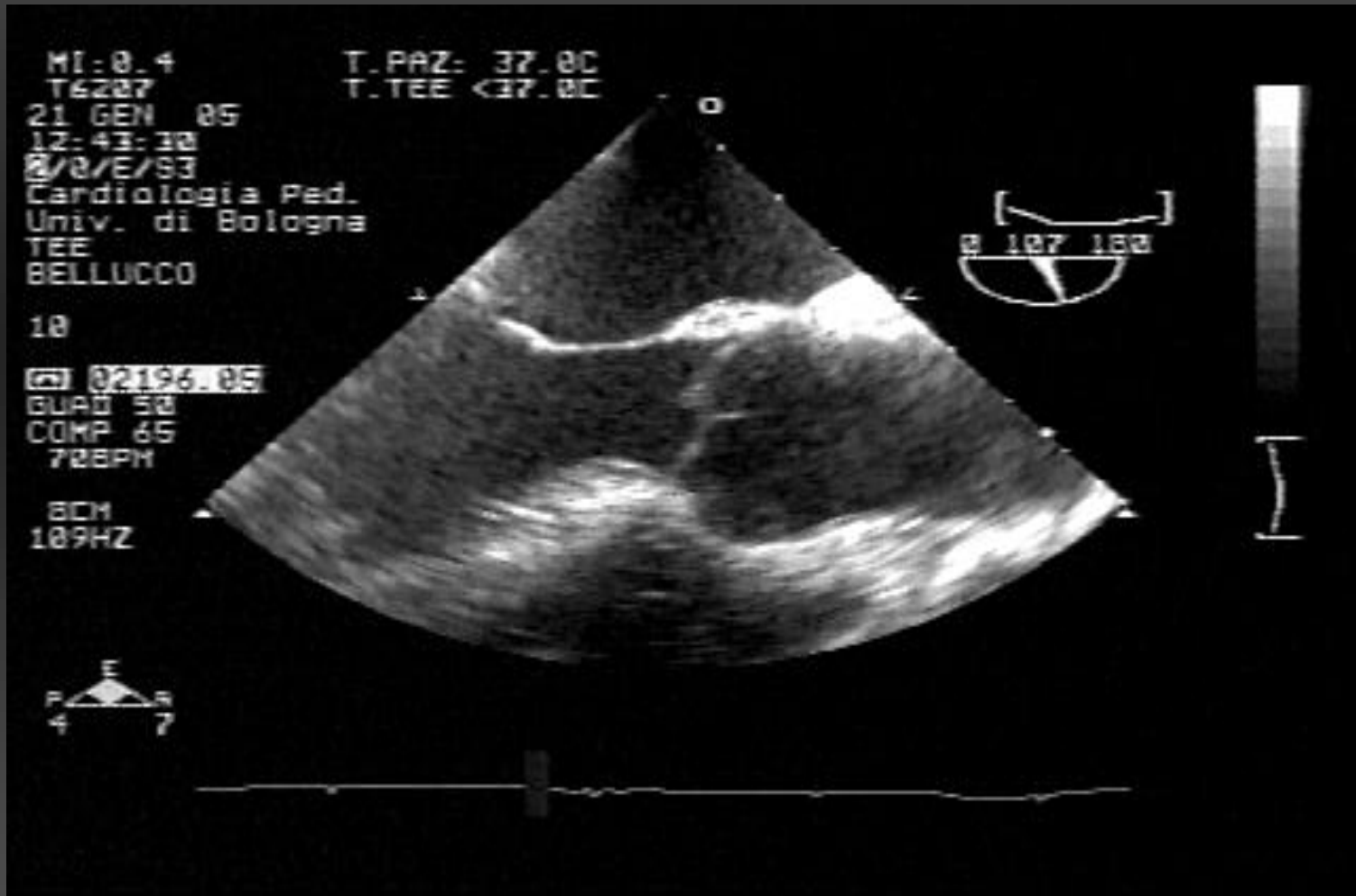


Vena polm inf. sn

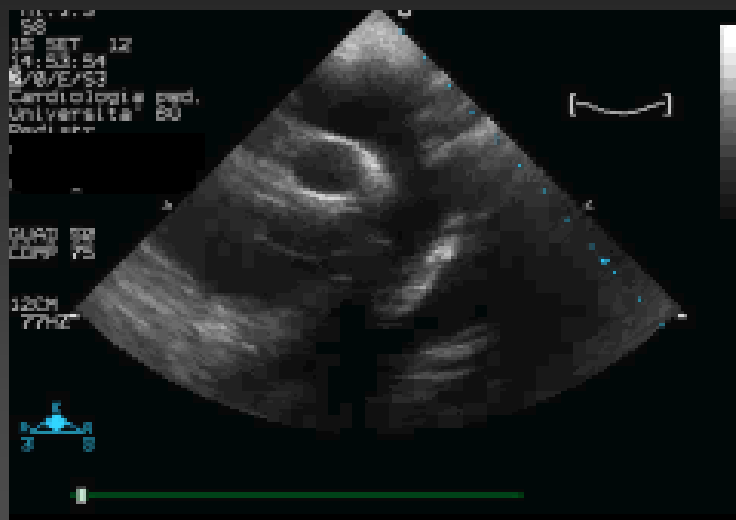
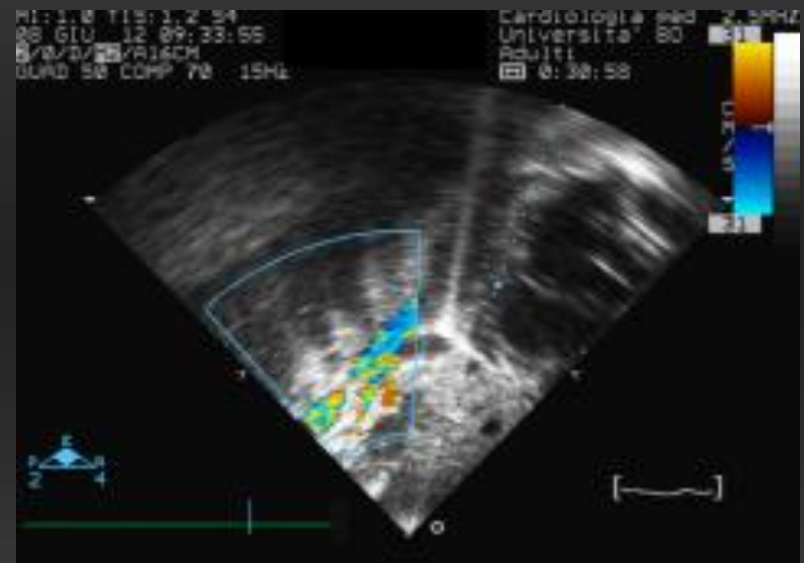
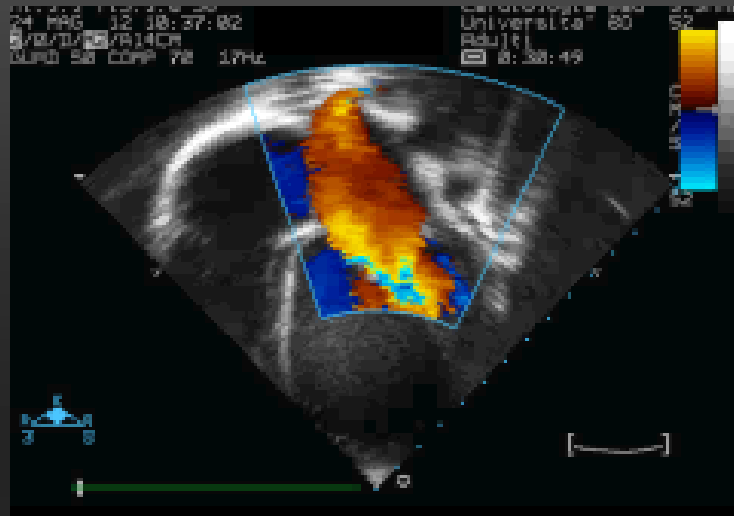
# ...Fistole A-V polmonari



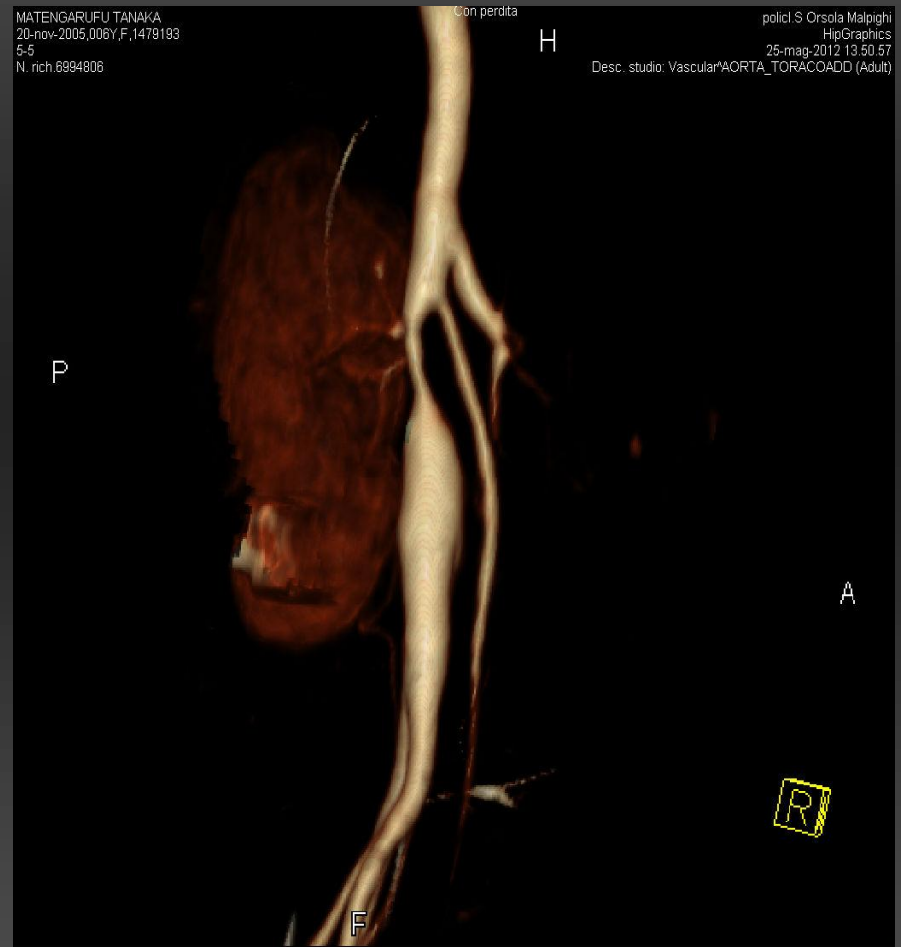
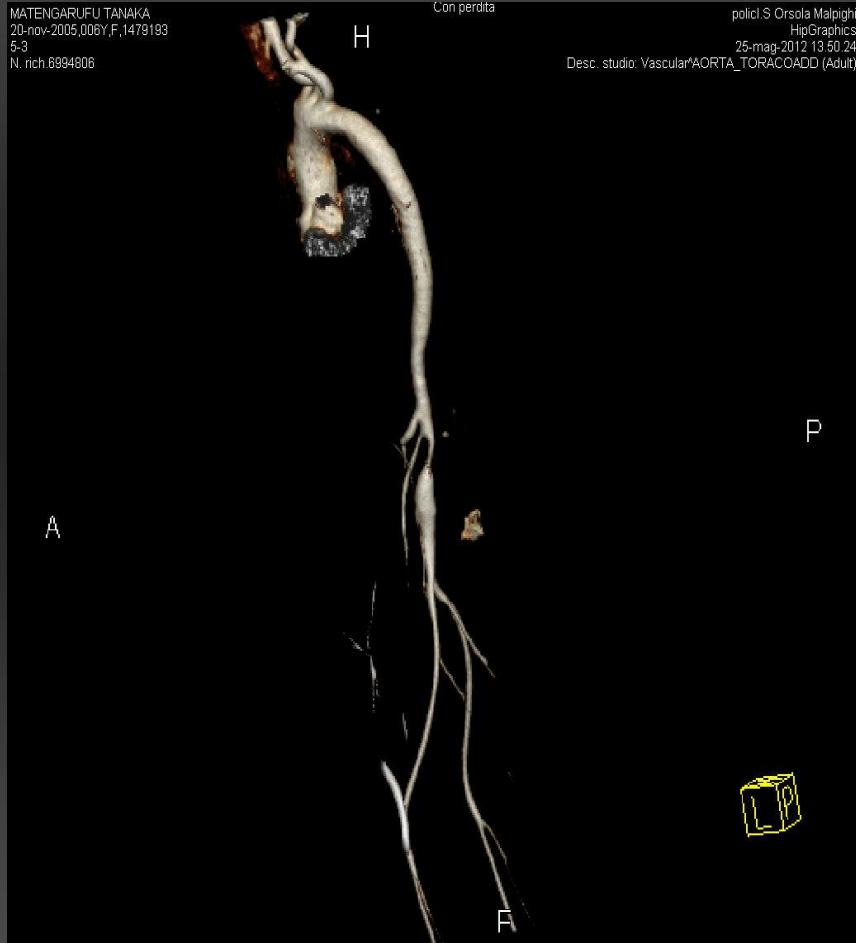
# ...Fibroelastoma aortico



# la coartazione ingannatrice



# la coartazione ingannatrice





# la coartazione ingannatrice

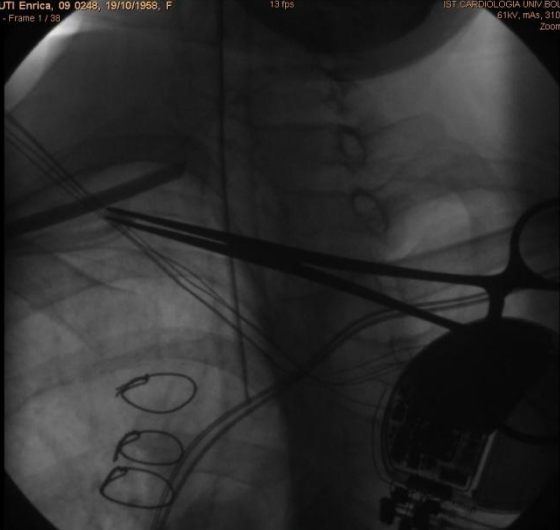


# la coartazione “normale”



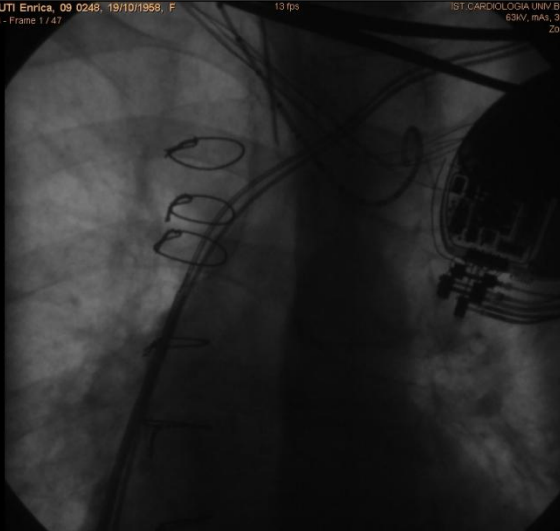
# la coartazione “normale”

PIZZUTI Enrica, 09 0248, 19/10/1958, F  
Run 1 - Frame 1 / 38  
13 fps  
IST. CARDIOLOGIA UNIV. BOLOGNA  
61kV, mA, 310mA, 5s  
Zoom 171%



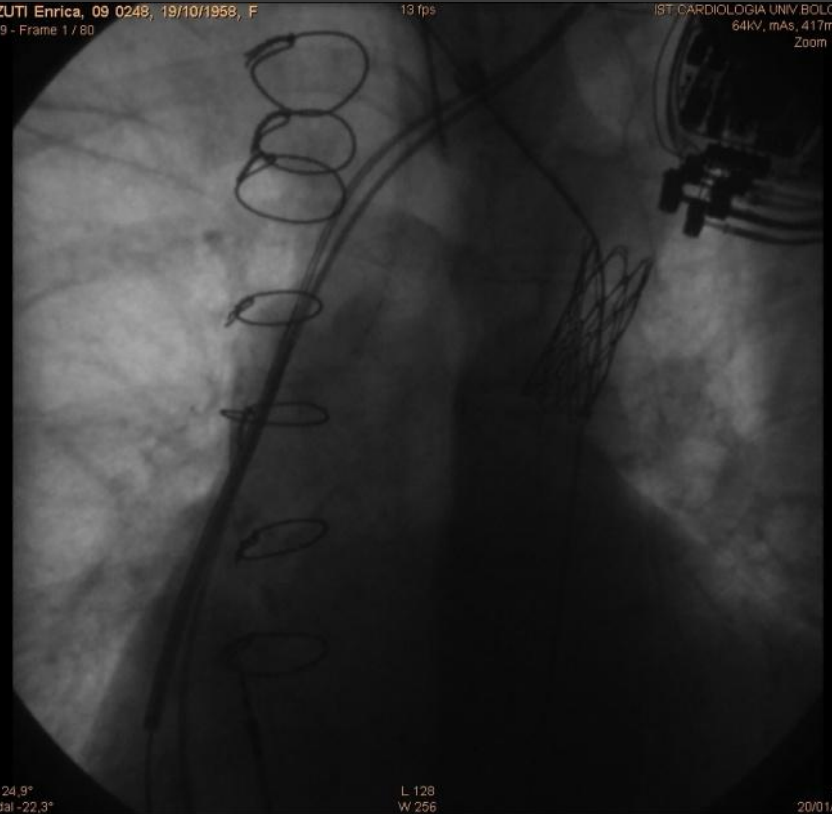
LAO 31,2°  
Caudal -0,7°  
L 128  
W 256  
16.22  
20/01/2009

PIZZUTI Enrica, 09 0248, 19/10/1958, F  
Run 4 - Frame 1 / 47  
13 fps  
IST. CARDIOLOGIA UNIV. BOLOGNA  
63kV, mA, 369mA, 4s  
Zoom 171%



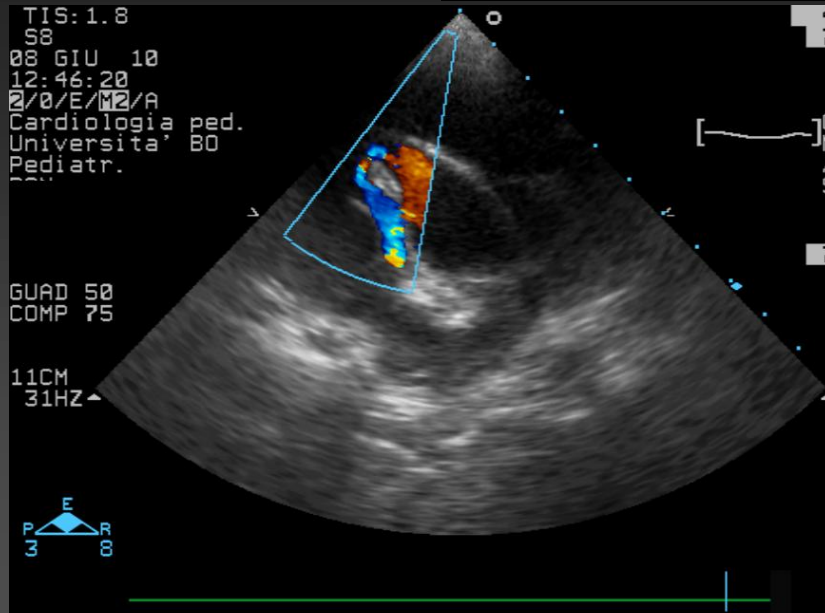
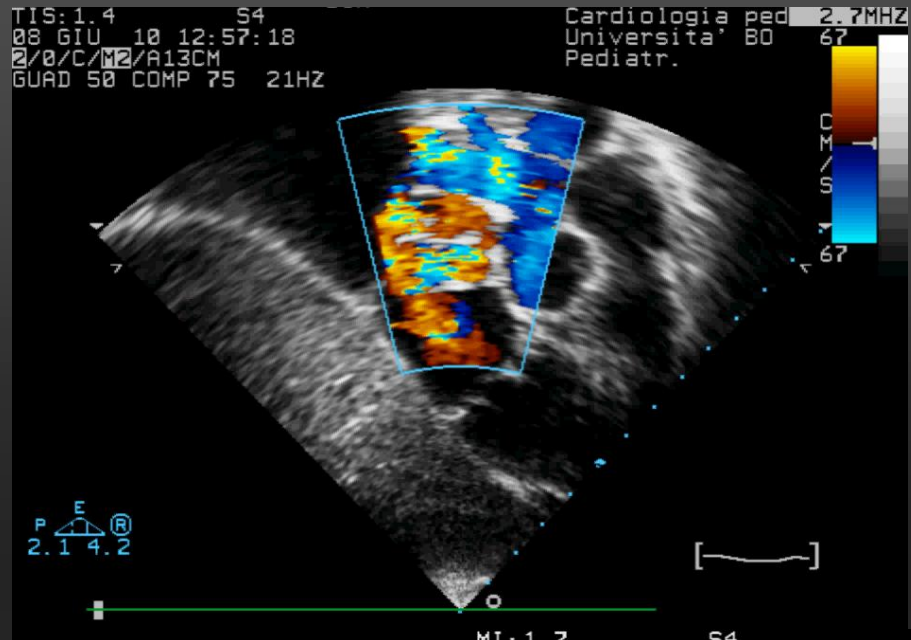
LAO 24,9°  
Cranial 0,6°  
L 128  
W 256  
16.37  
20/01/2009

PIZZUTI Enrica, 09 0248, 19/10/1958, F  
Run 9 - Frame 1 / 80  
13 fps  
IST. CARDIOLOGIA UNIV. BOLOGNA  
64kV, mA, 417mA, 5s  
Zoom 171%



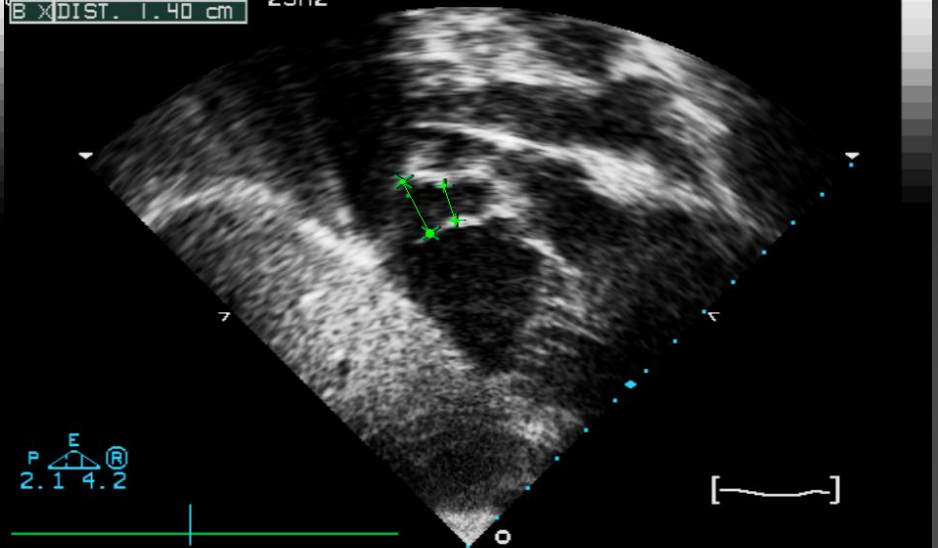
LAO 24,9°  
Caudal -22,3°  
L 128  
W 256  
17.46  
20/01/2009

# DIA o...



MI: 1.7 S4  
08 GIU 10 12:54:37  
2/0/C/M/A 17CM  
25HZ

A DIST. .881 cm  
B DIST. 1.40 cm

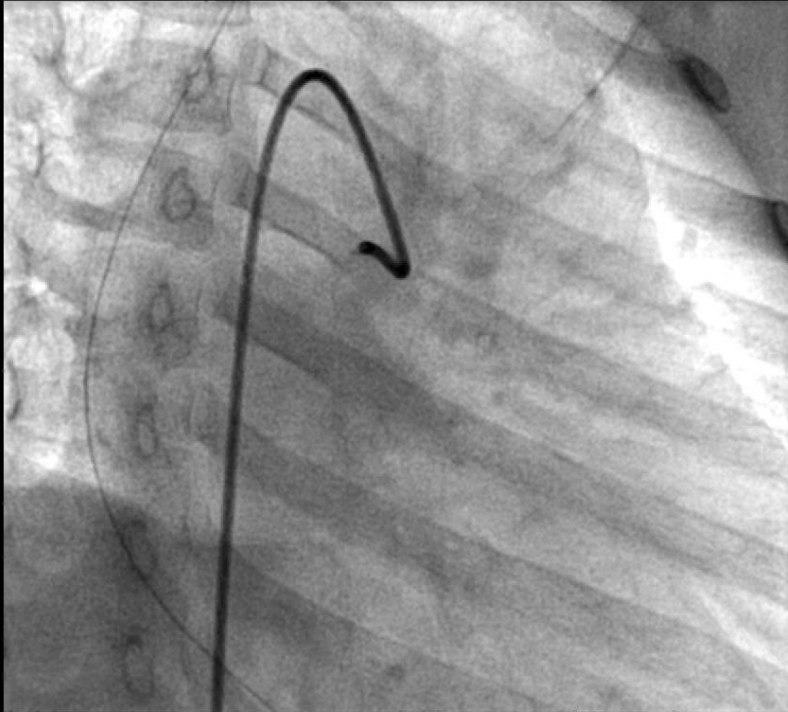


# Fistola coronarica

BON, CHIARA, 2060637409, 27/05/2006, F  
Run 4 - Frame 1 / 49

15 fps

Osp. S. Orsola (Bologna)  
67,4kV, mAs, 459mA, 4s  
Zoom 170%



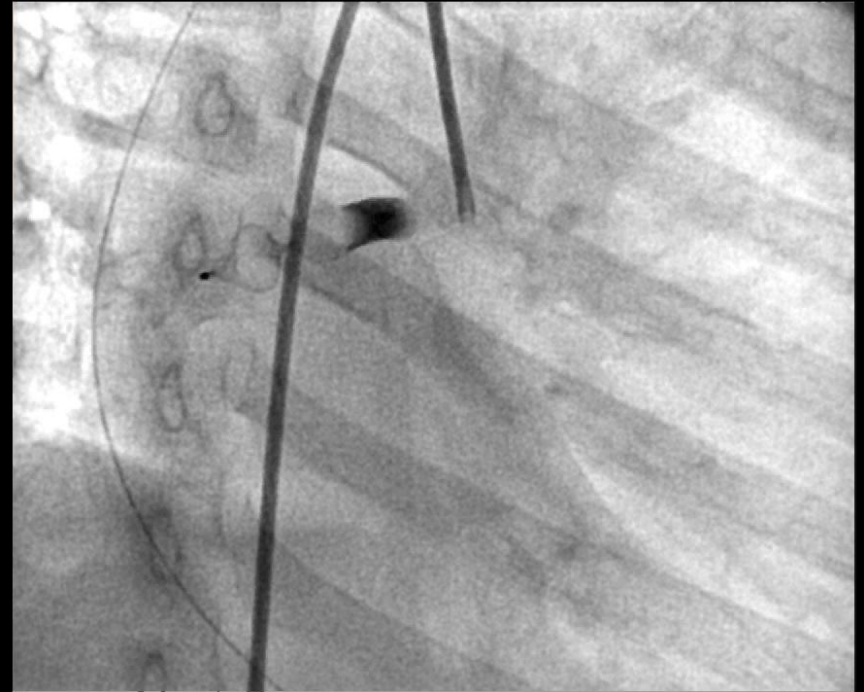
RAO -23,4°  
Caudal -20,0°

L 87  
W 156

BON, CHIARA, 2060637409, 27/05/2006, F  
Run 10 - Frame 1 / 57

15 fps

Osp. S. Orsola (Bologna)  
68,5kV, mAs, 512mA, 4s  
Zoom 170%



RAO -23,5°  
Caudal -19,4°

L 77  
W 140

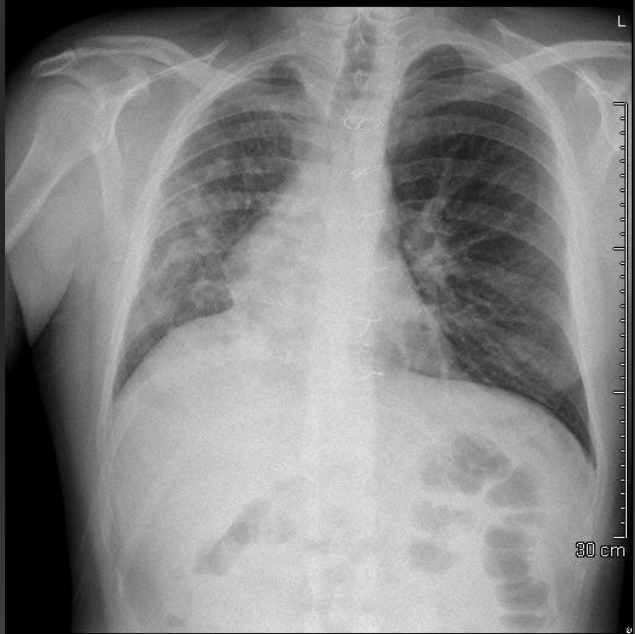
# Imaging nel follow up post chirurgico e interventistico

- Vdx post homograft/valvole percutanee
- Angio TAC post stent
- Post occlusione DIA/DIV/Fistole
- ecc.

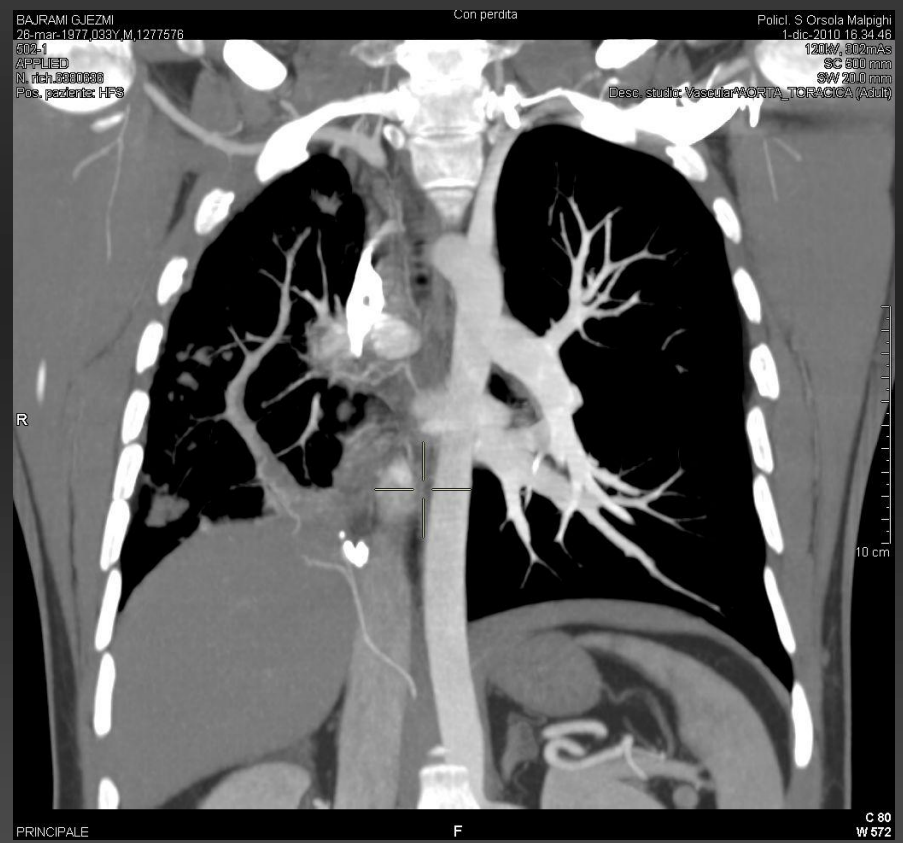
# Scimitarra post op: 2 mesi dopo...

BAJRAMI GJEZMI  
26-mar-1977, M, 1277576  
1-2  
N. rich 6375916  
Visualizza pos.: PA  
Priorità proc.: R

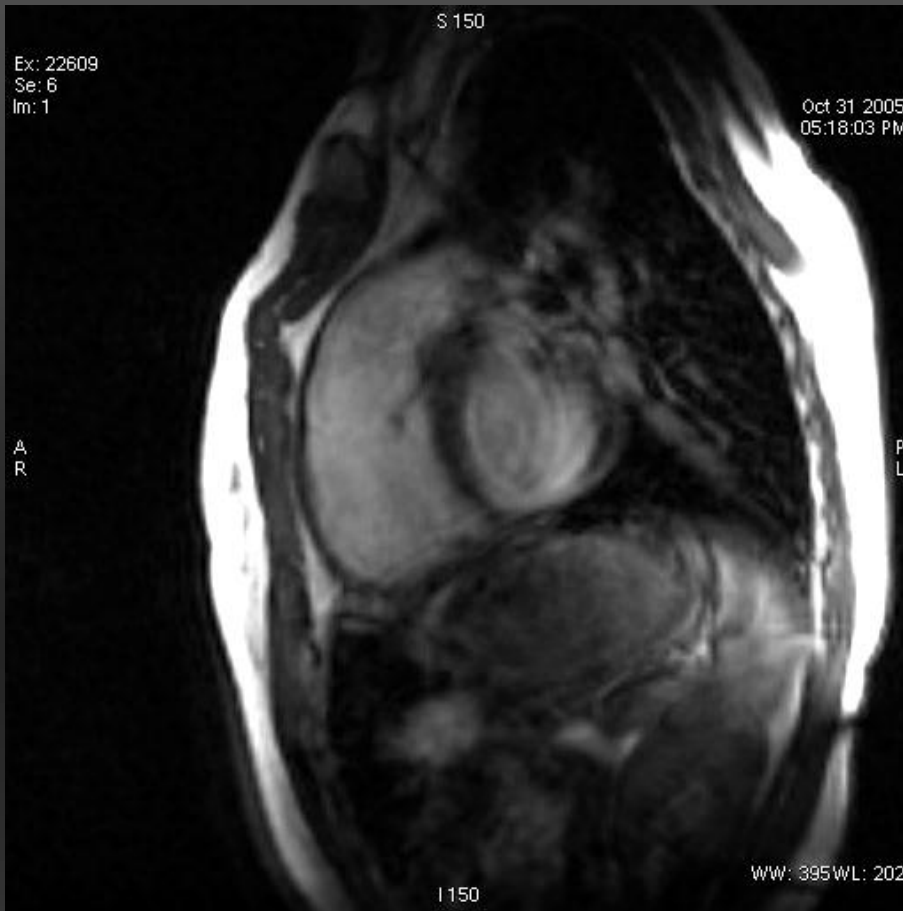
ASL FROSINONE  
AZIENDA OSPED S.ORSOLA MALPIGHI  
Philips Medical Systems DigitalDiagno  
27-nov-2010 5.33.42  
125kV, 1mAs  
Desc. studio: Torace



Rel X Ray Exp: 221  
C 2047  
W 4095



PRINCIPALE  
C 80  
W 572



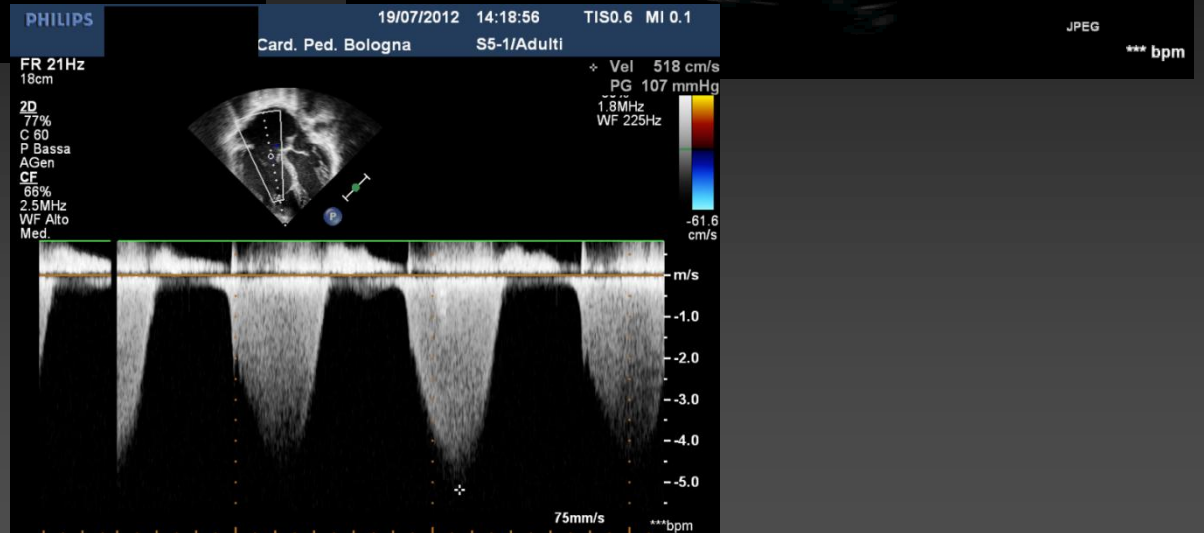
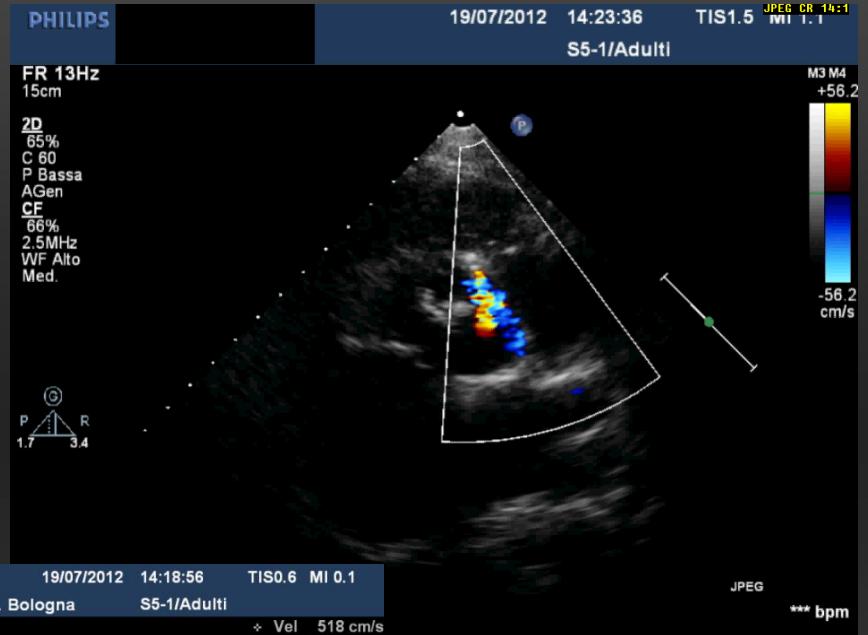
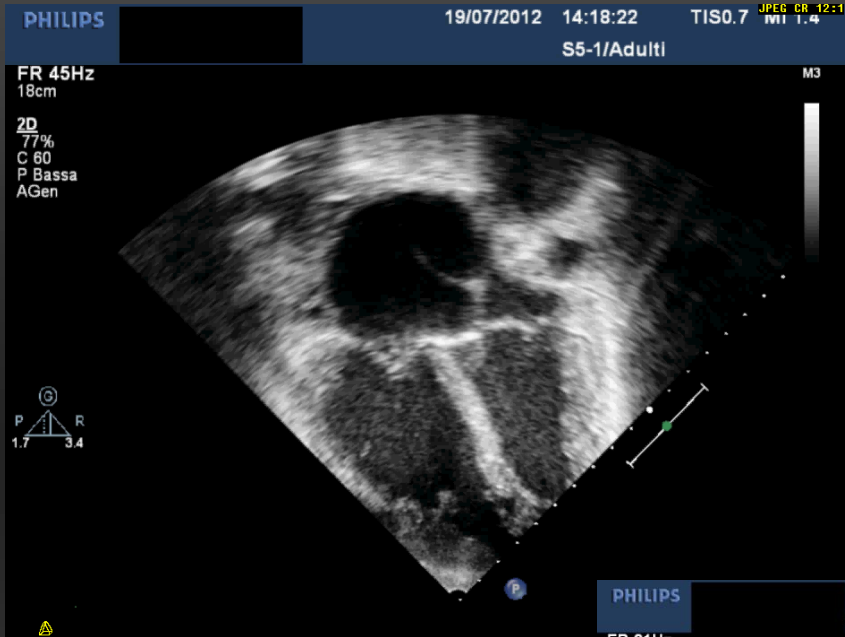
## Fallot : dopo homograft



## Fallot : patch transannulare



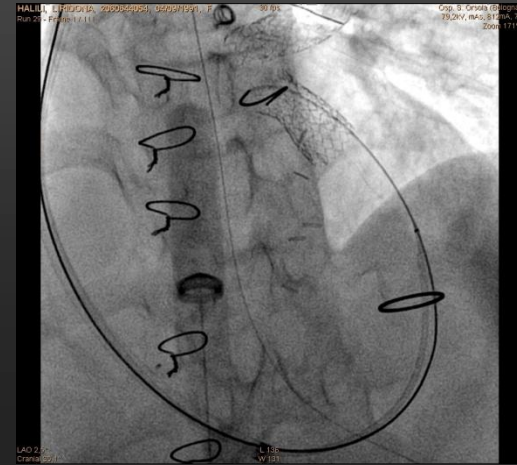
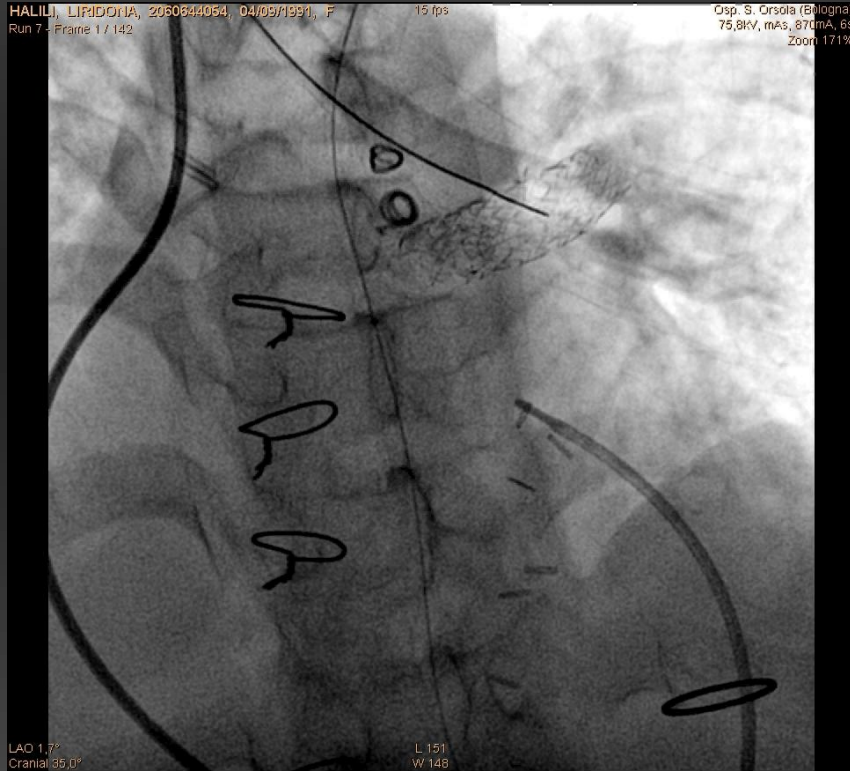
# l'imaging del Vdx



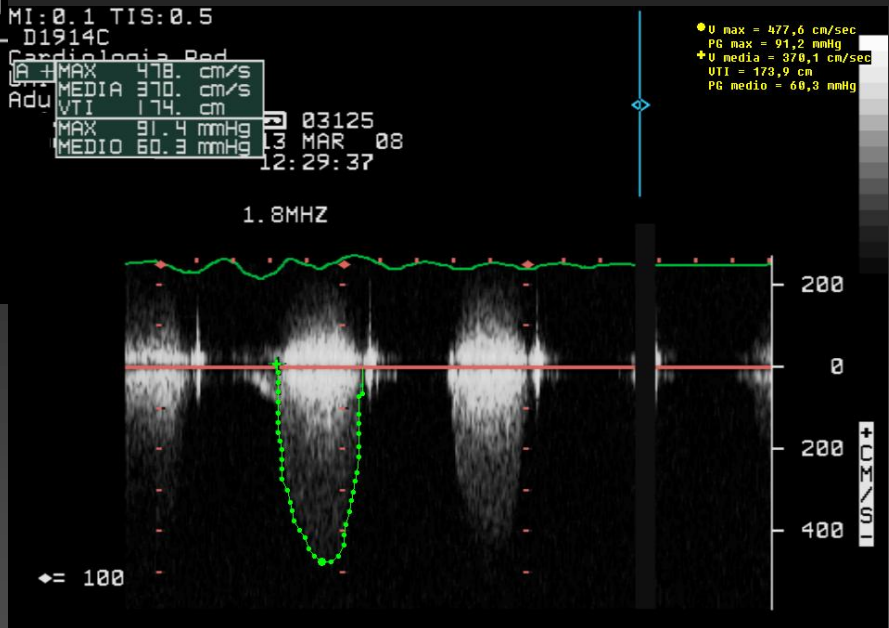
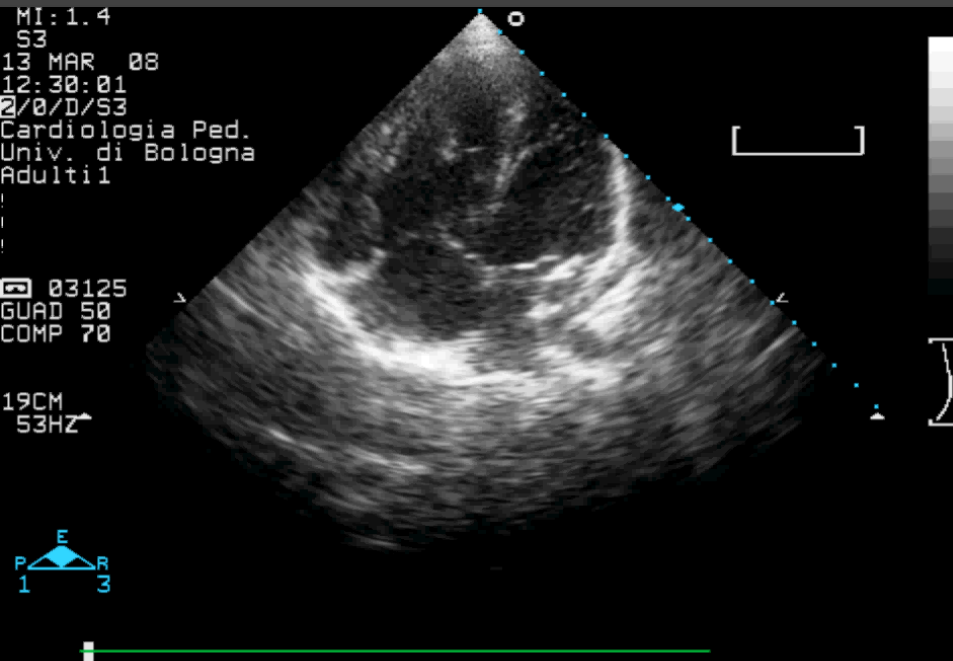
# l'imaging del Vdx



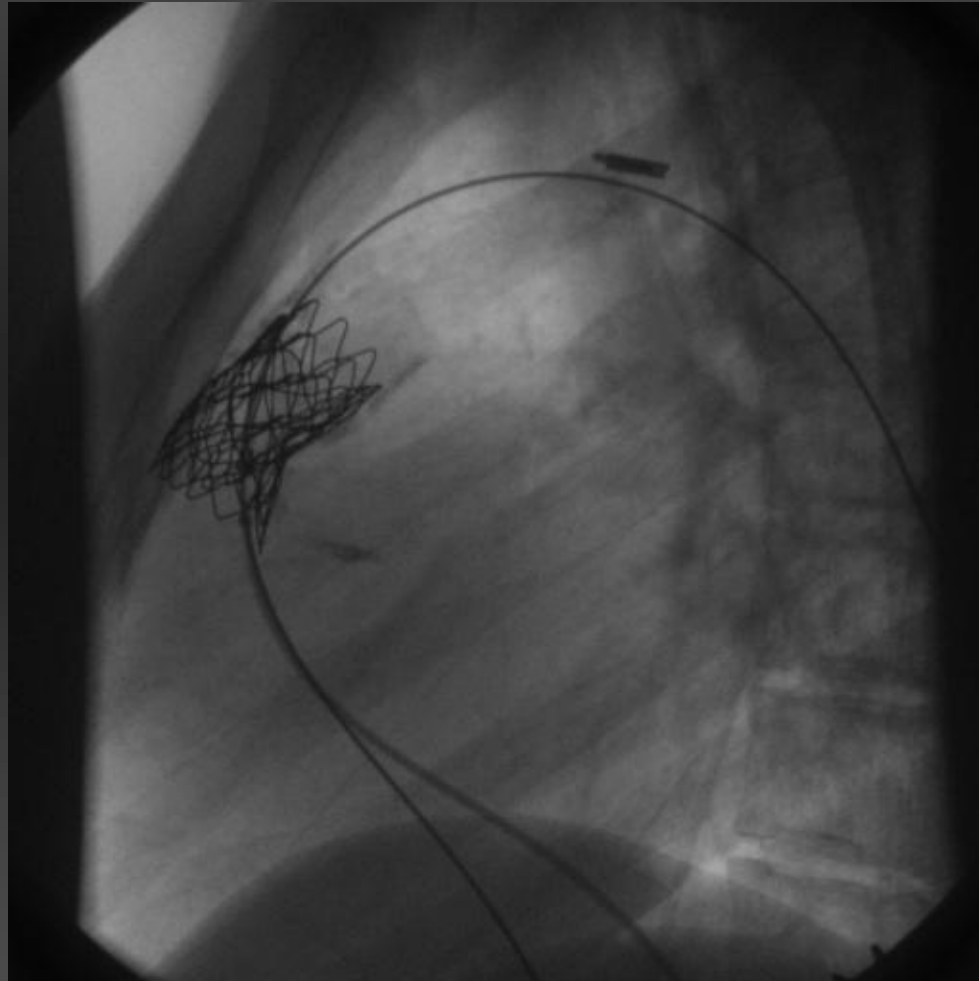
# l'imaging del Vdx



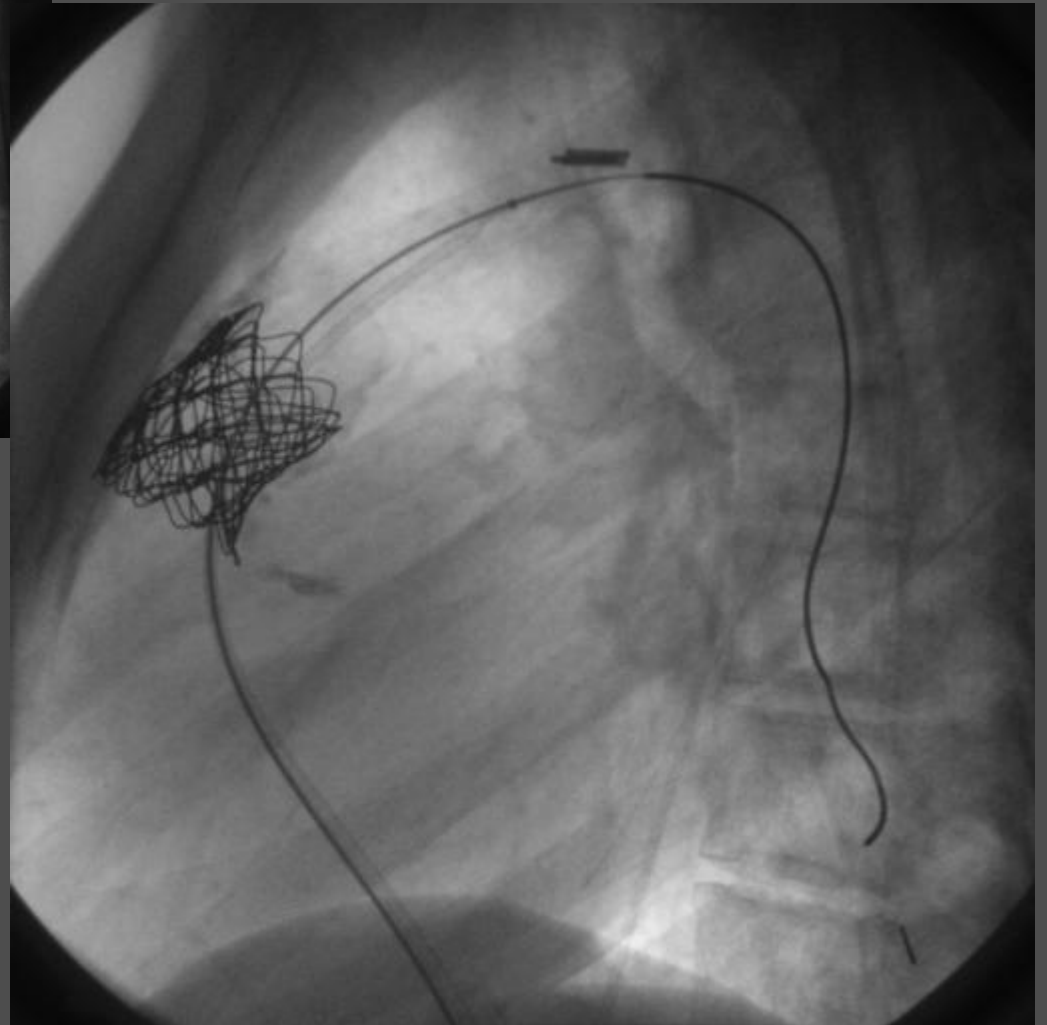
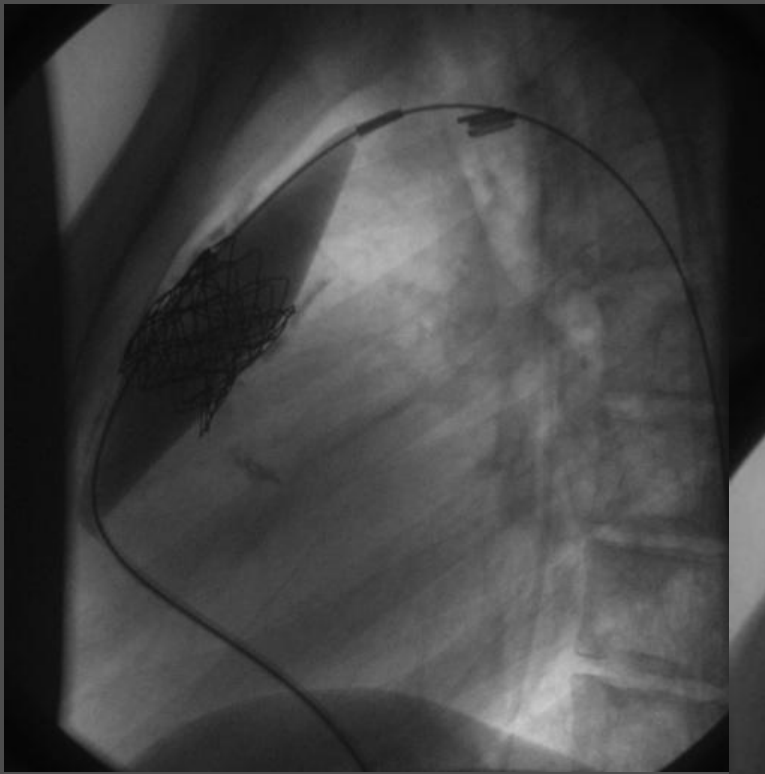
# Malfunzione di valvola polmonare *MELODY*



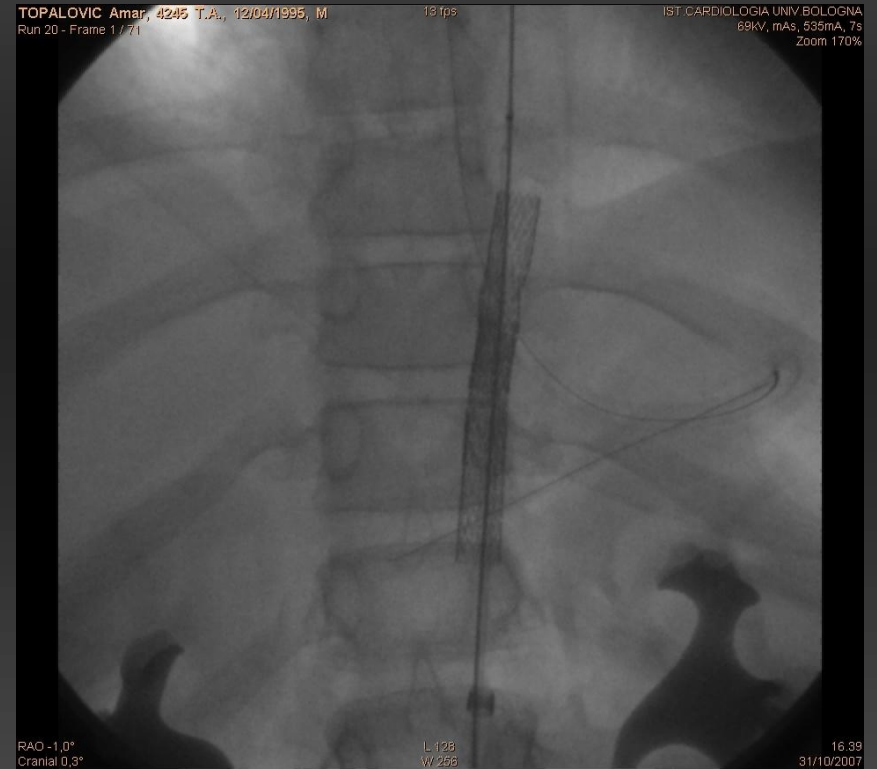
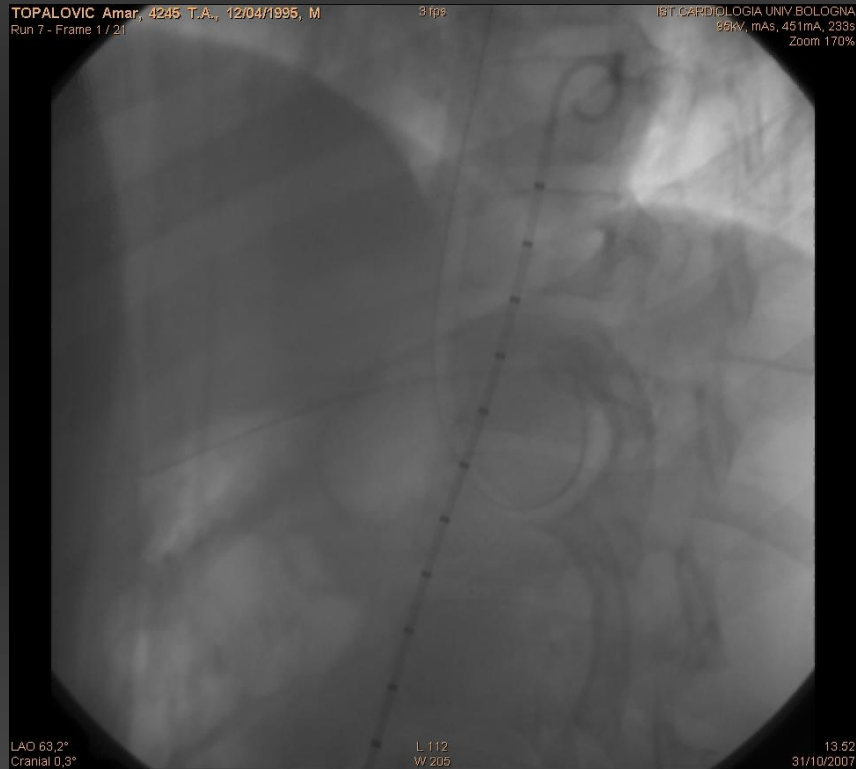
*Malfunzione di valvola polmonare*  
**MELODY**



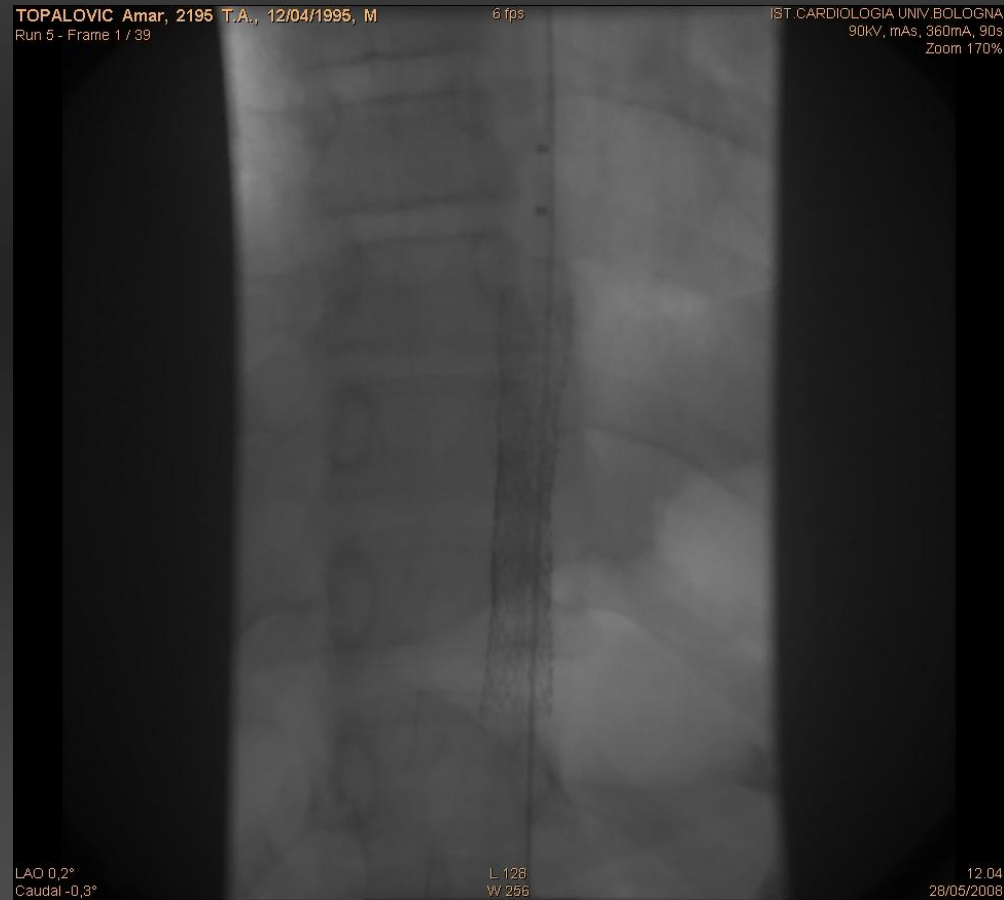
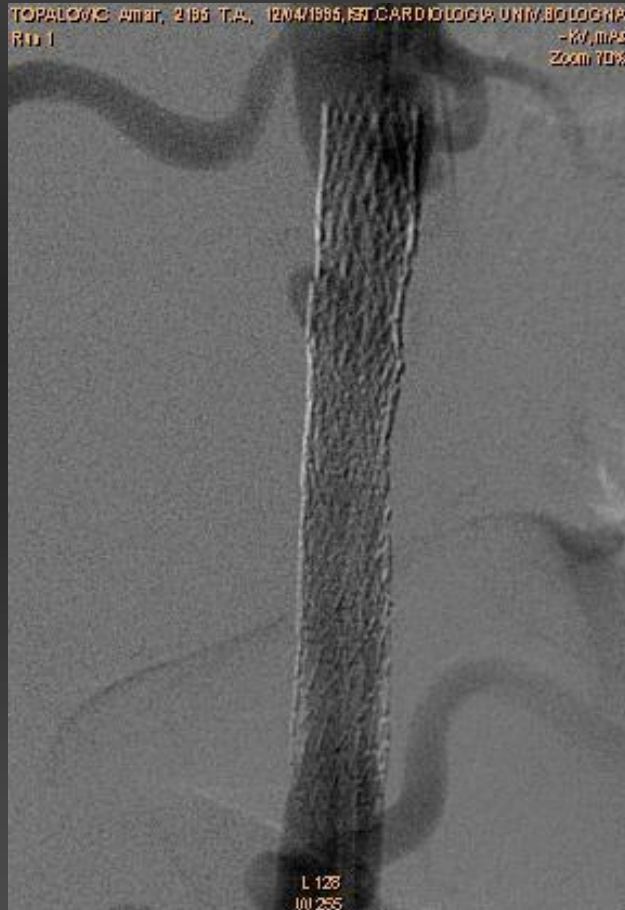
***Posizionamento di seconda  
valvola polmonare MELODY***



# CoAo complessa 1

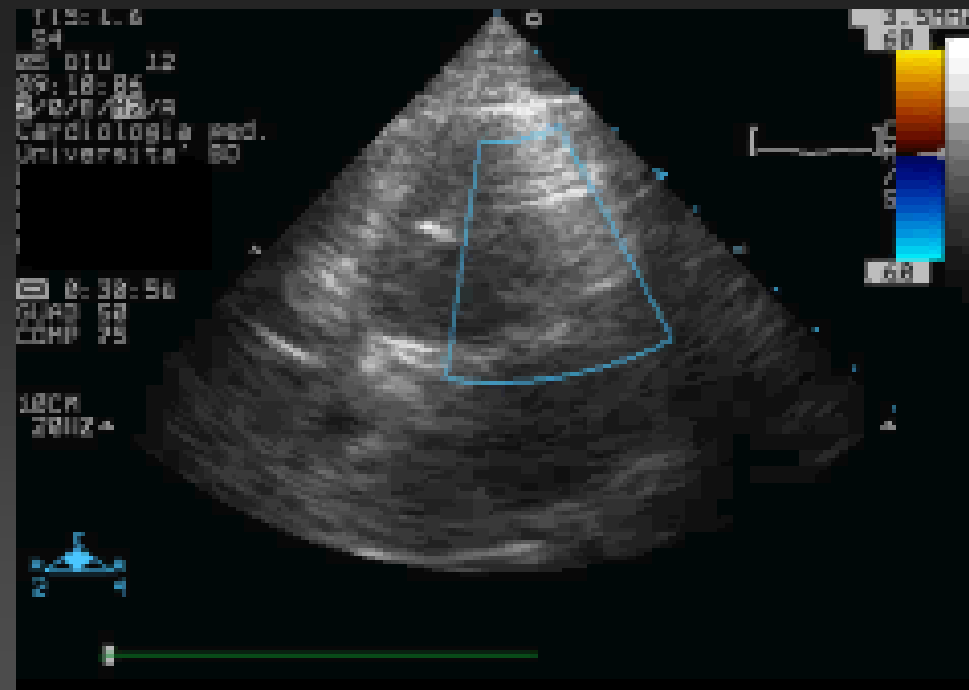
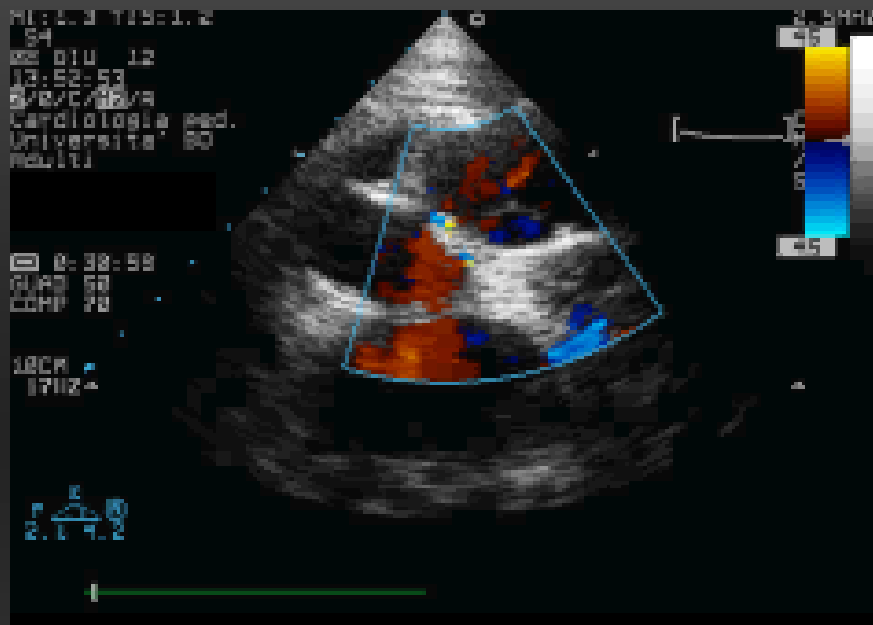


# CoAo complessa 2

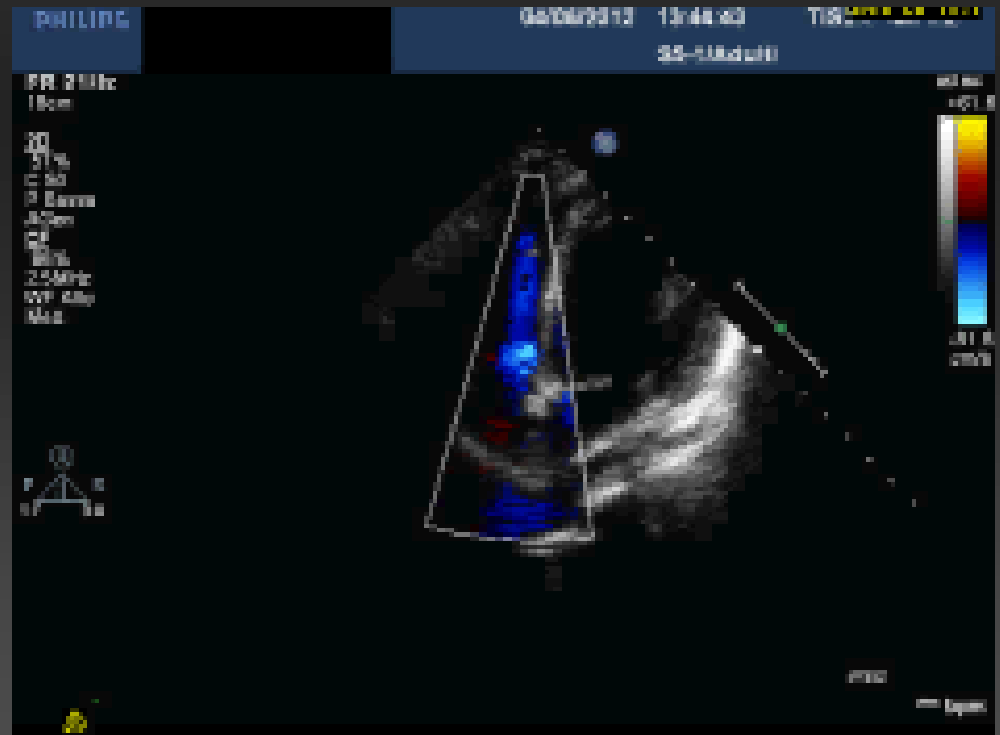




# Anomalia coronarica di decorso



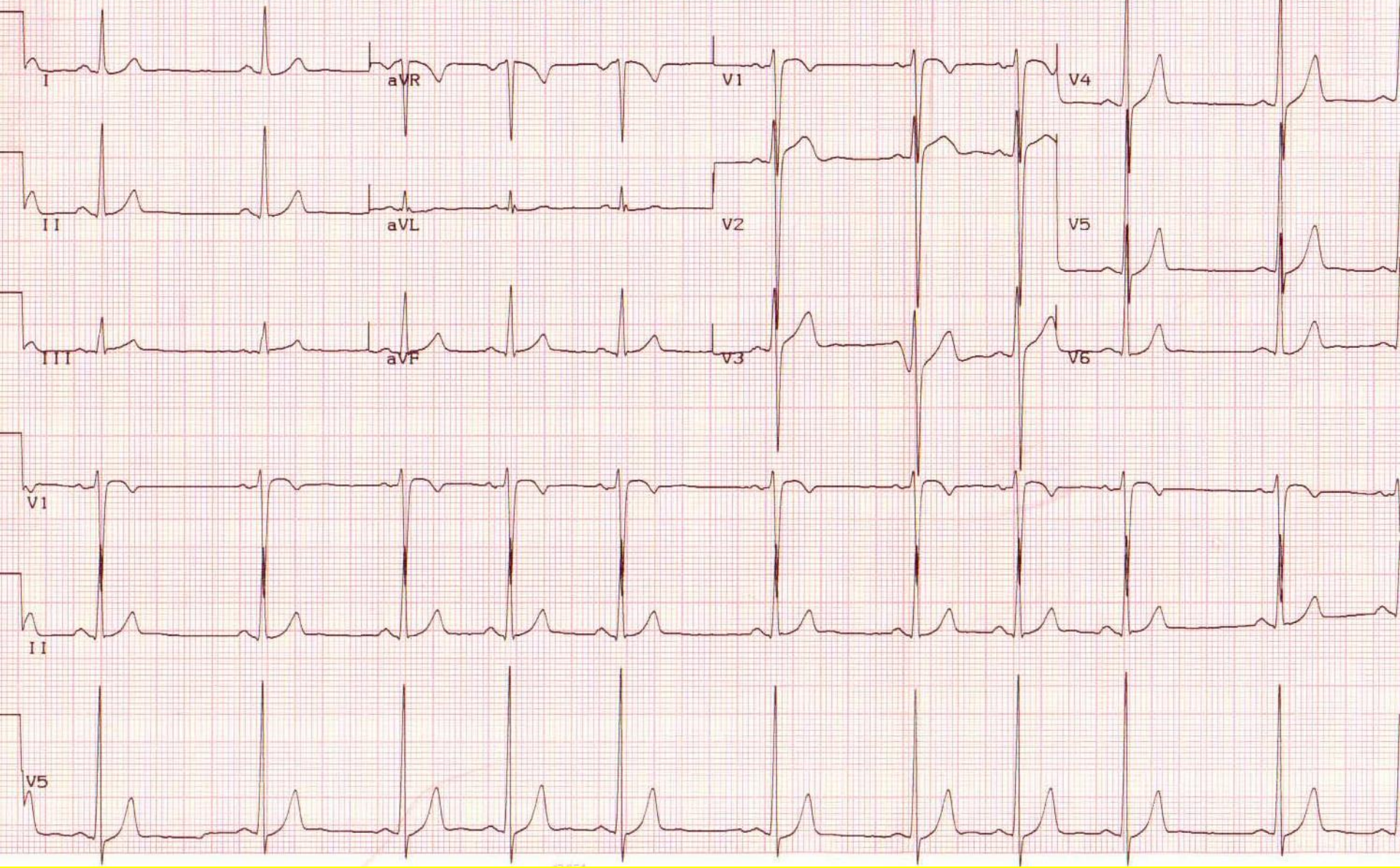
# Anomalia coronarica di decorso



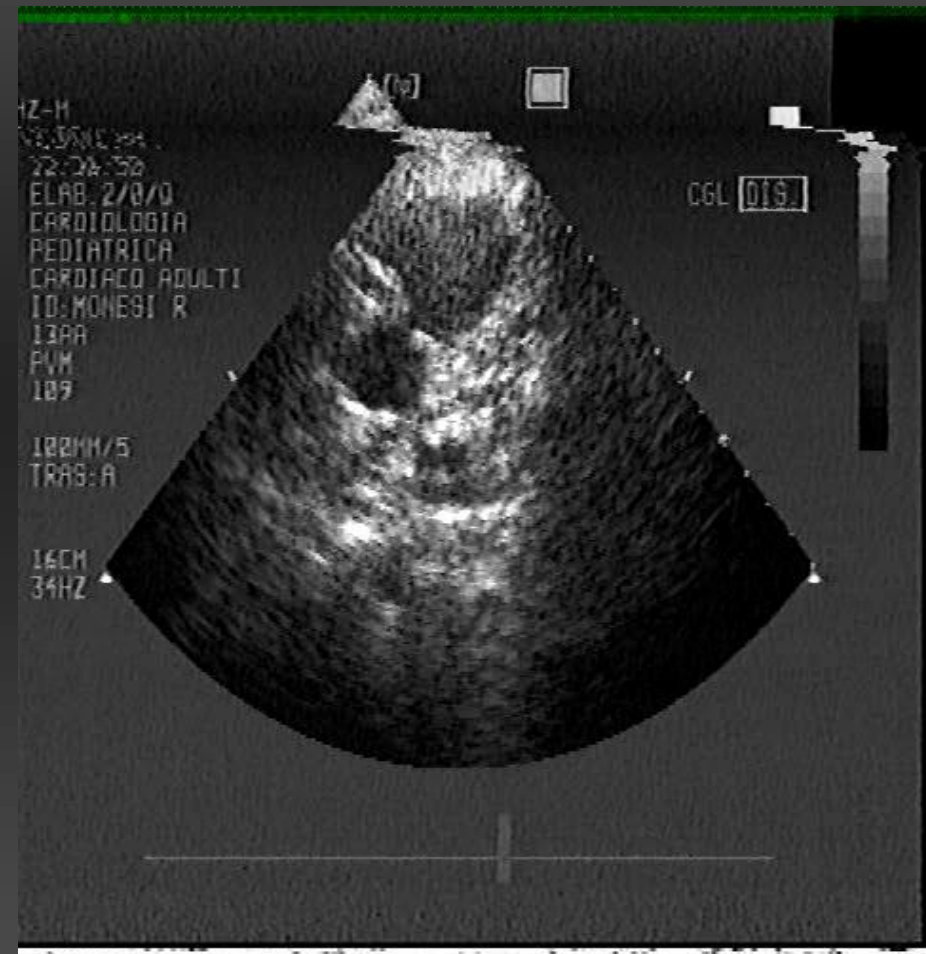
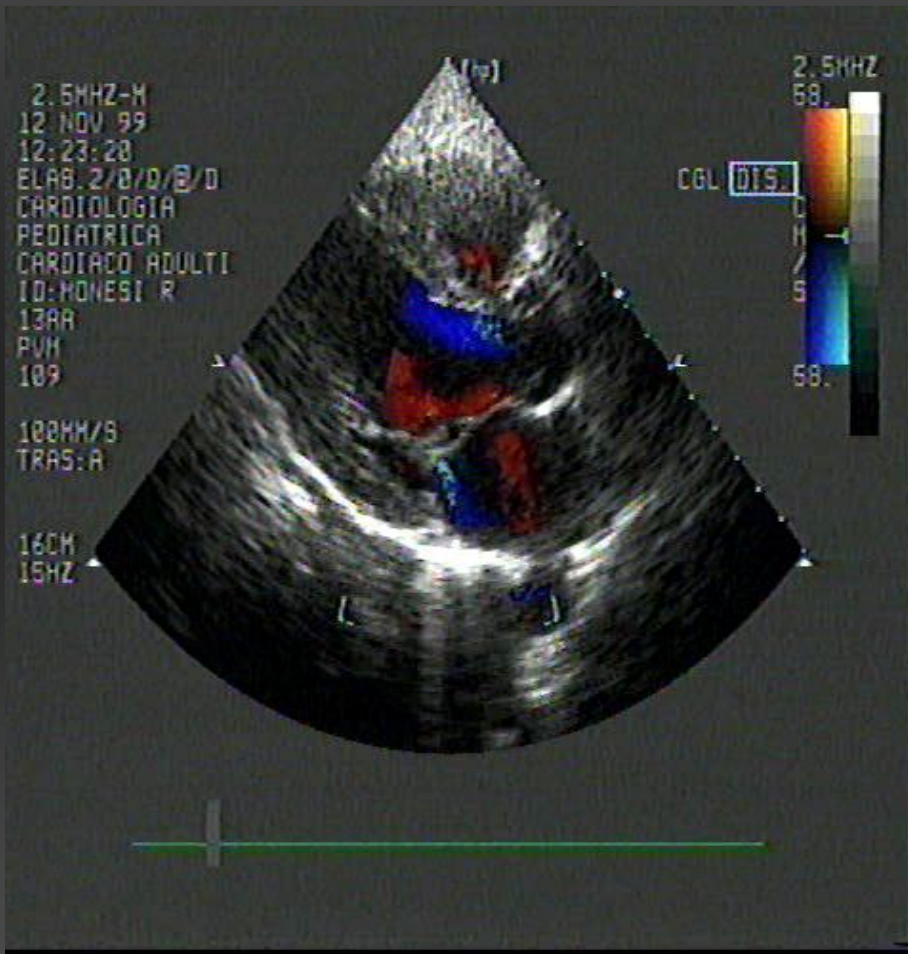
Assi P-R-T 40 49 55

Richiesto da:

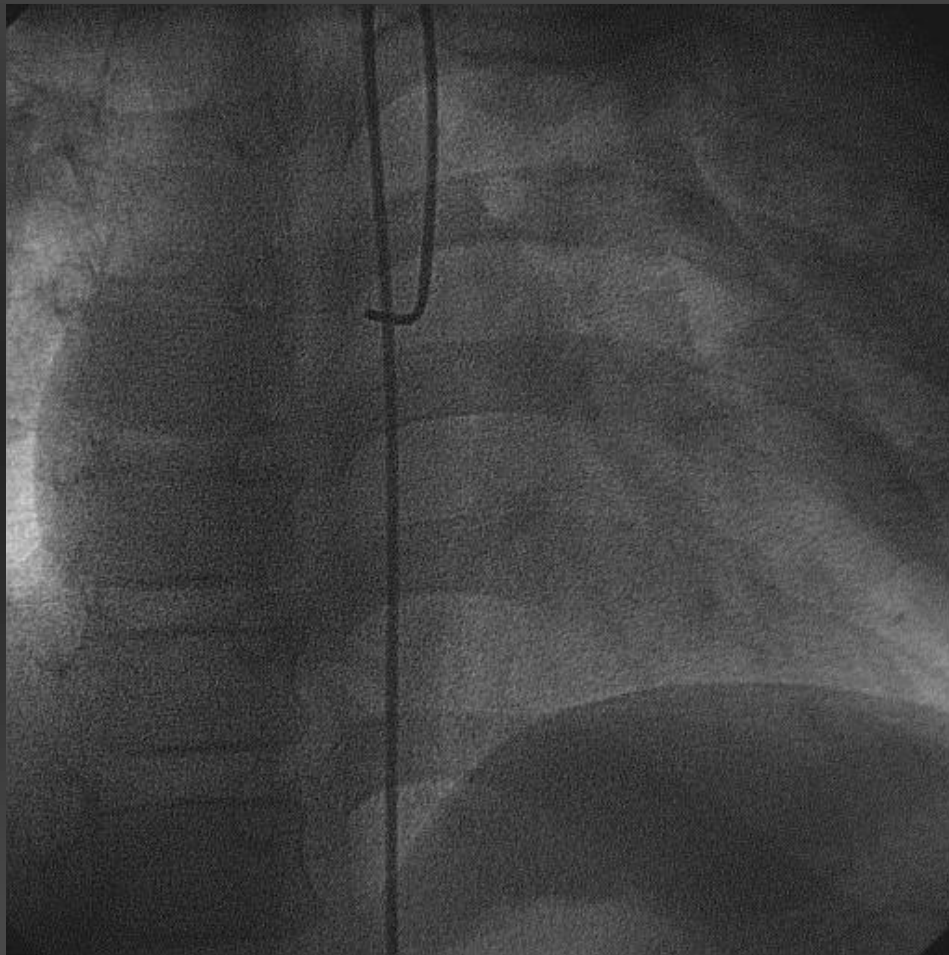
Non confermato



# Anomalia coronarica di origine



# Anomalia coronarica di origine



grazie

