Embolized ASD Device: What a Nightmare!!

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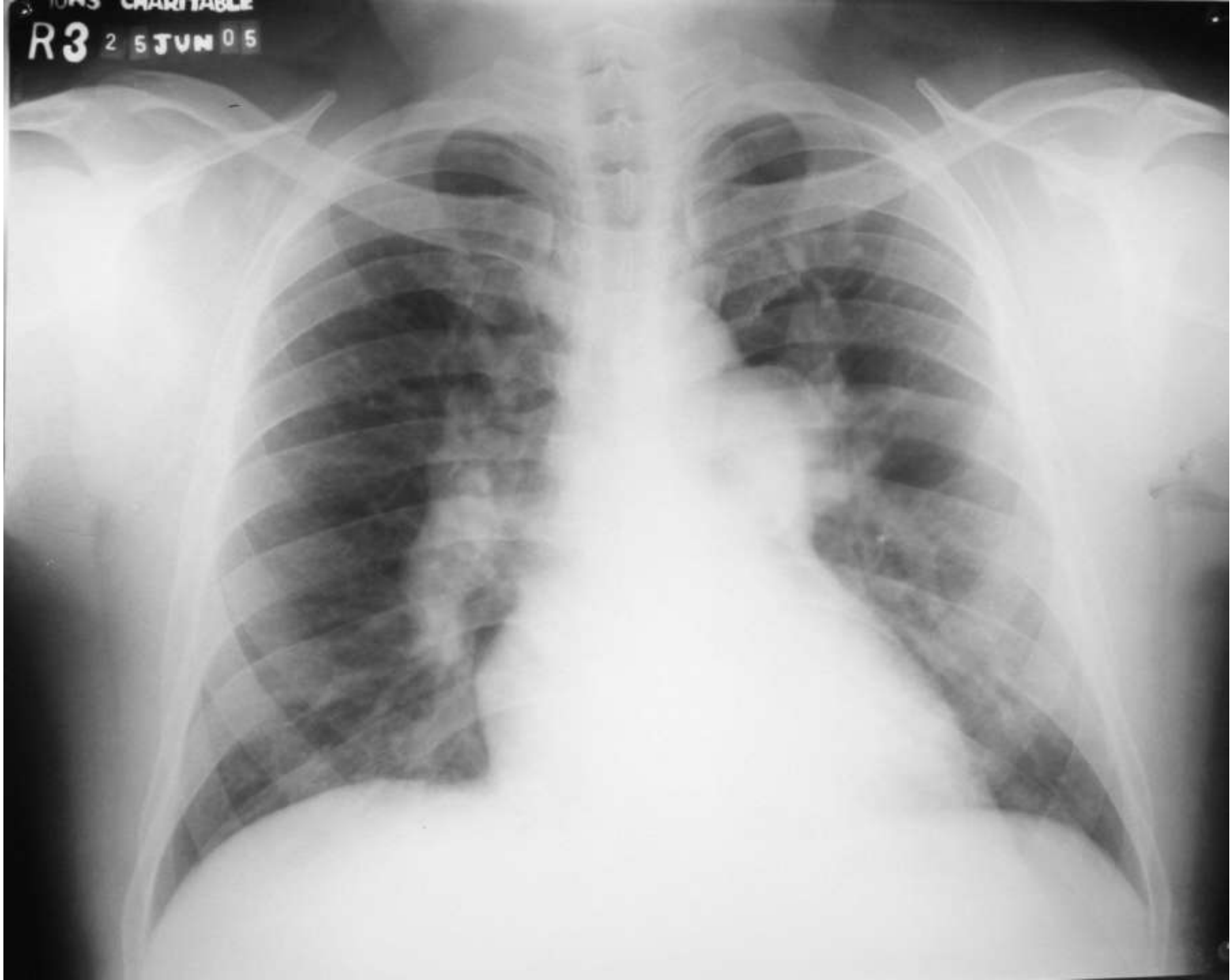
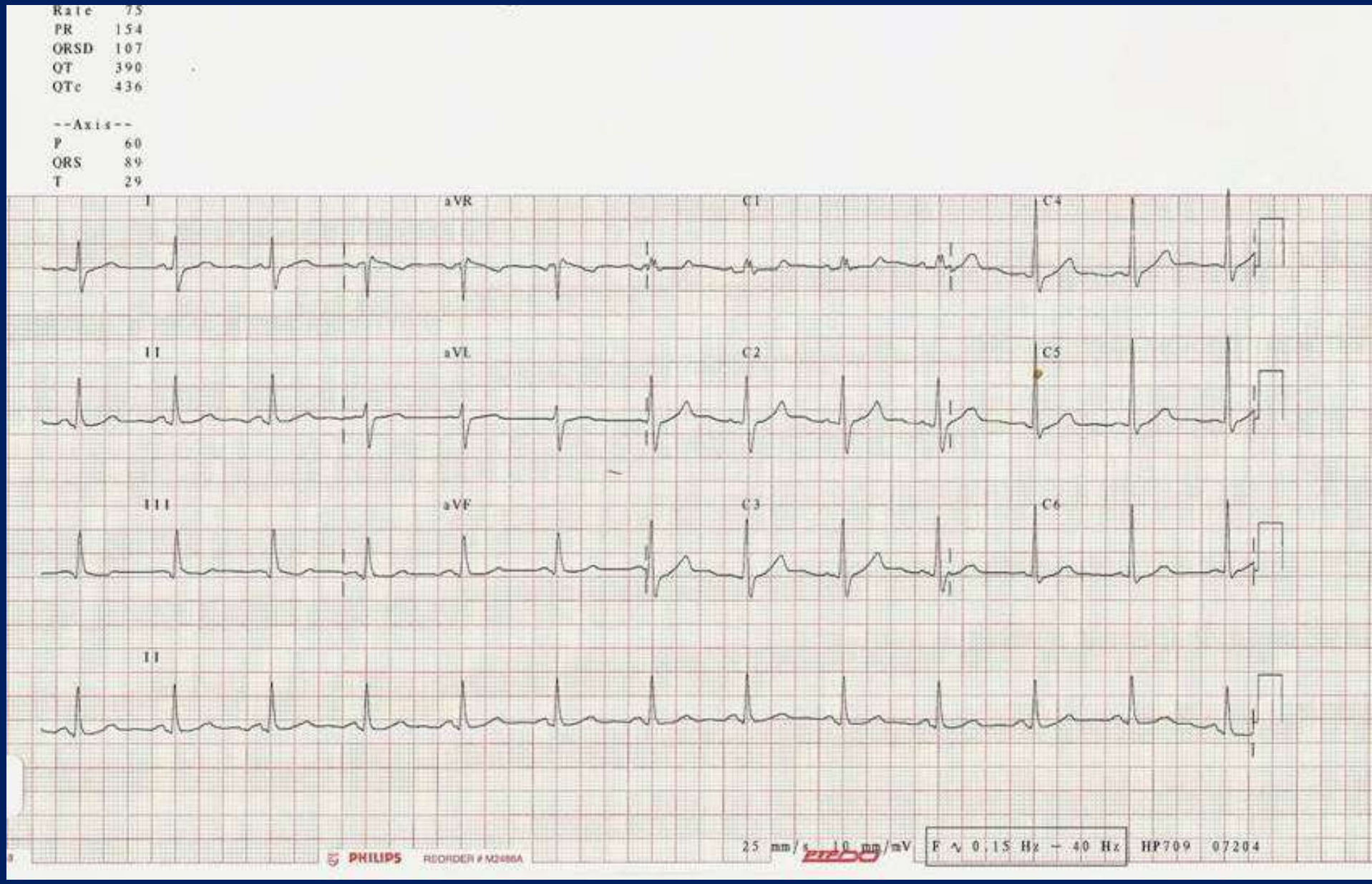
Case Scenario

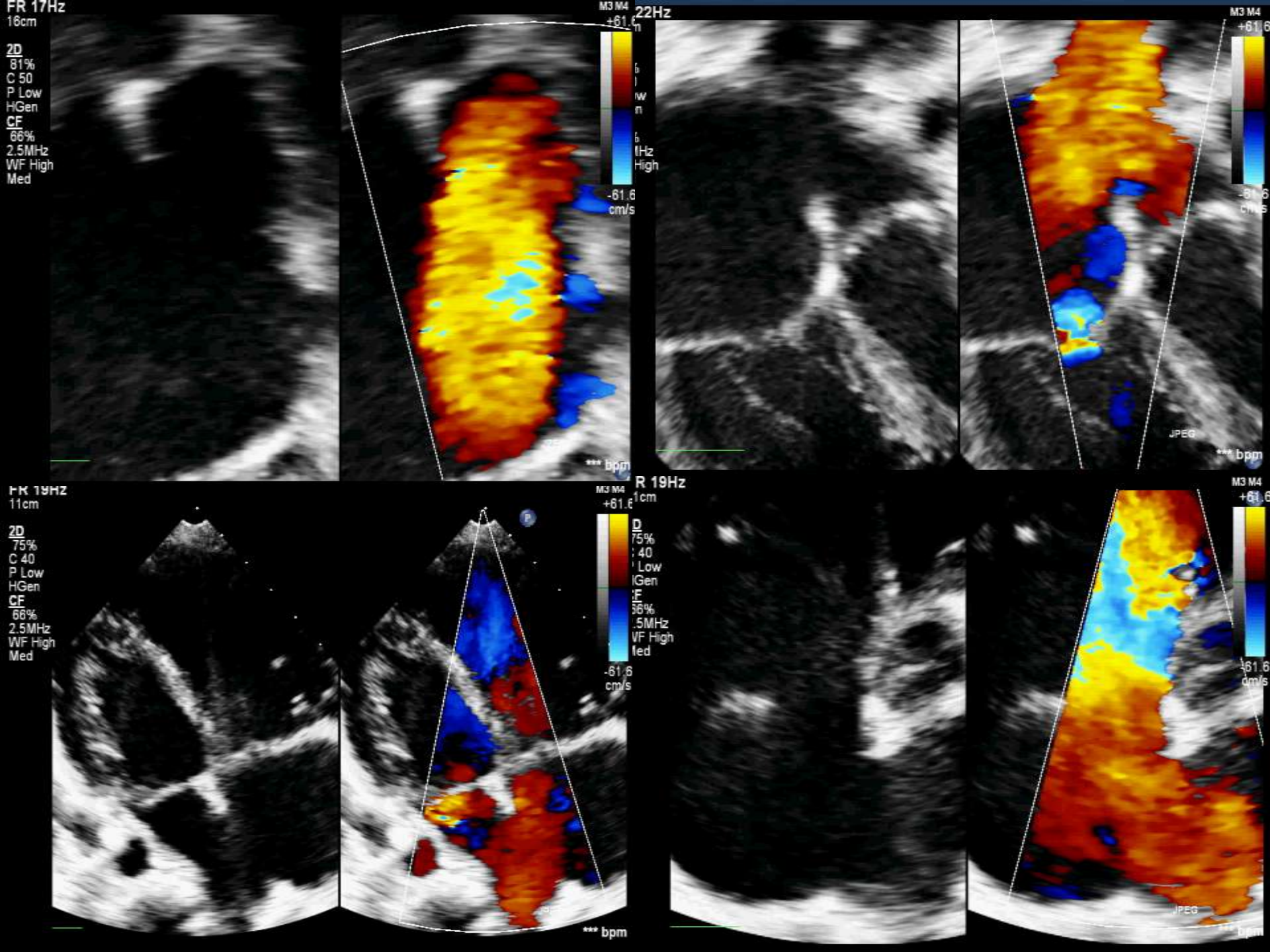
- 37 year old lady
- SOB, palpitations and easy fatiguability
- Vitals were normal
- No evidence of CCF
- Precordial activity
- 3/6 ESM in the PA
- 2/6 MDM across the TV
- A2P2 wide and fixed


CHARITABLE
R3 25 JUN 05


Rate 75
PR 154
QRSD 107
QT 390
QTc 436
--Axis--
P 60
QRS 89
T 29
I
aVR
C1
C4
II
aVL
C2
C5
III
aVF
C3
C6
II
PHILIPS
25 mm/s 10 mm/mV
F ∿ 0.15 Hz – 40 Hz
HP709 07204

2DE and CD – TTE and TEE

- Large secundum ASD measuring 28 mm
- RA and RVVO
- Mild TR. Estimated RV pressure of 55 mm Hg
- SVC rim 11 mm, AV valve rim 9 mm, atrial rim 6 mm, Aortic rim 5 mm, IVC rim was not well seen on TTE but measured 6 mm on TEE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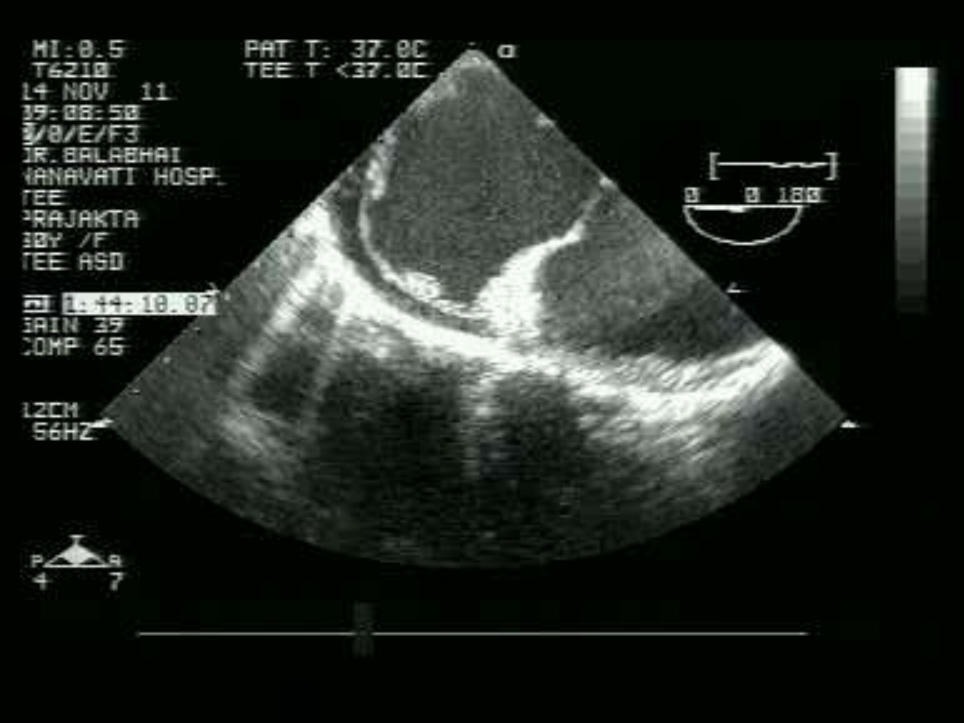
16cm
2D
81%
C 50
P Low
HGen
CF
66%
2.5MHz
WF High
Med
M3 M4
-61.6
cm/s
*** bpm
22Hz
M3 M4
JPEG
*** bpm
FR 19Hz
11cm
2D
75%
C 40
P Low
HGen
CF
66%
2.5MHz
WF High
Med
M3 M4
-61.6
cm/s
*** bpm
R 19Hz
M3 M4
JPEG

- Taken up for device closure under GA
- TEE showed large ASD measuring 27-28 mm Hg
- Surrounding rims appeared adequate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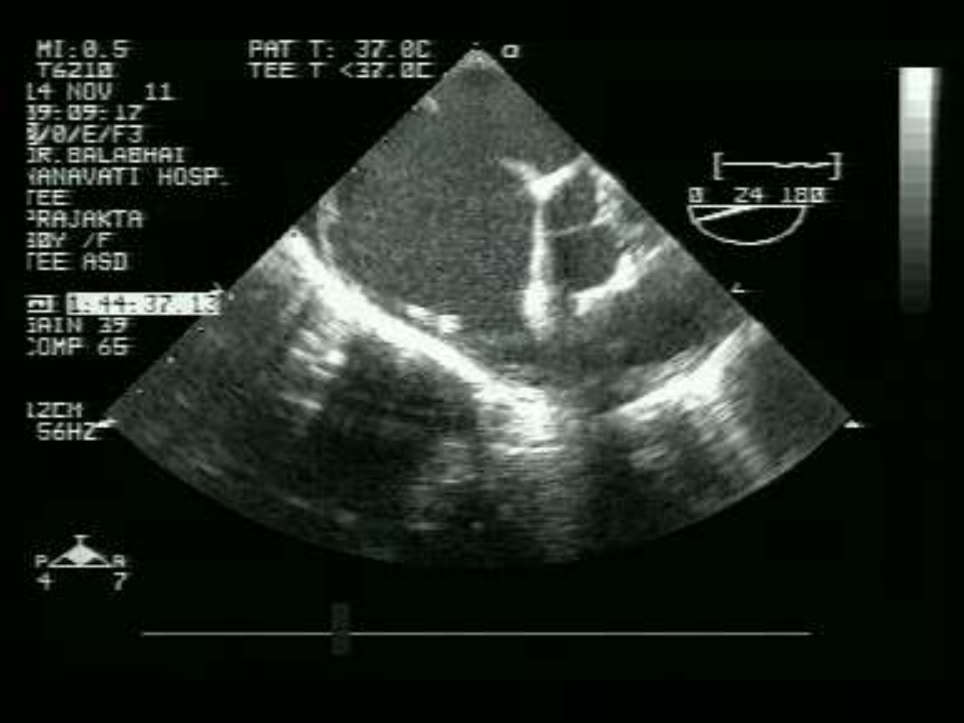
T6210
14 NOV 11
PAT T: 37.0C
TEE T <37.0C
0 0 180
12CM
56HZ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T6210
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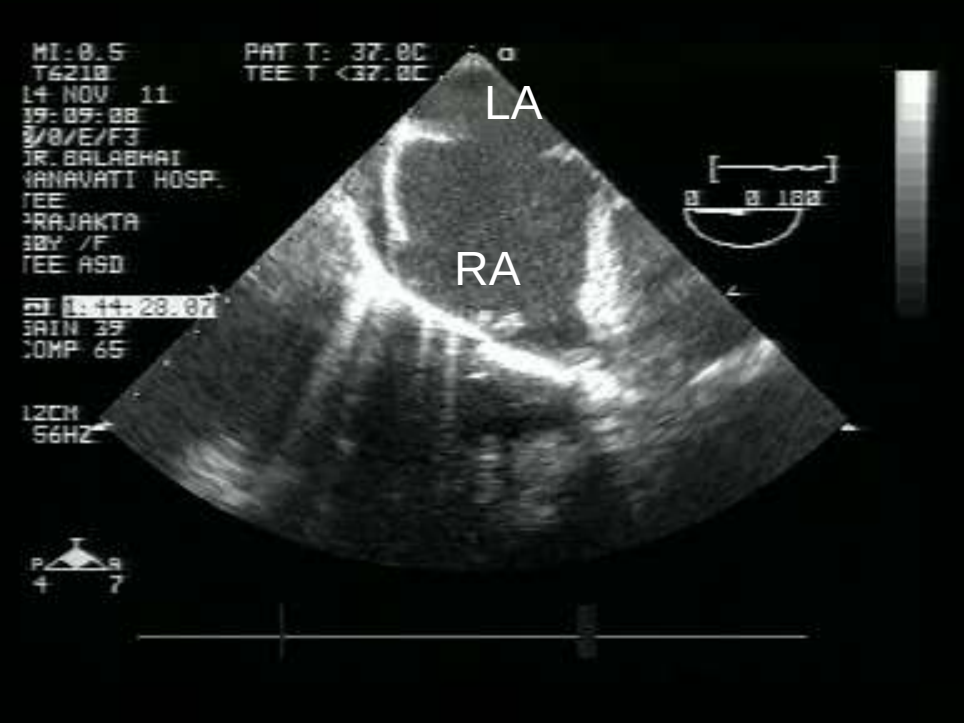
PAT T: 37.0C
TEE T <37.0C
0 24 180
12CM
56HZ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T6210
14 NOV 11
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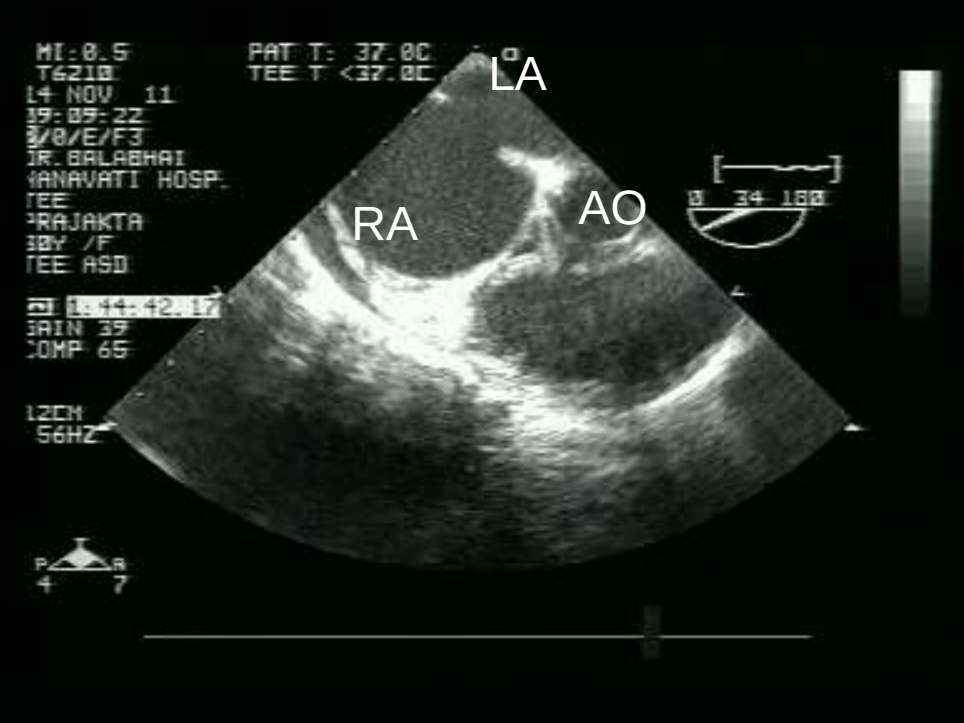
TEE T <37.0C
LA
RA
0 0 180
12CM
56HZ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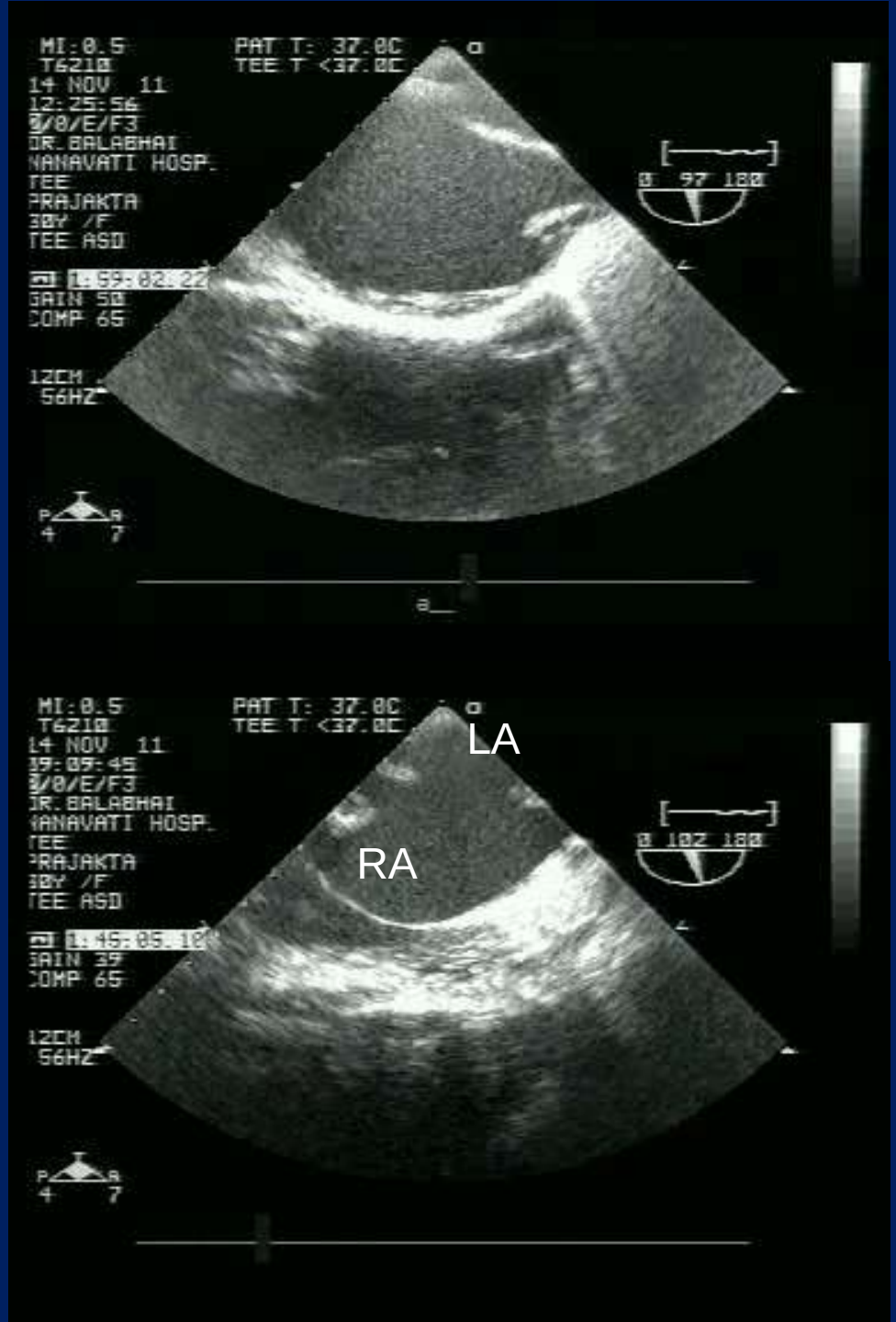
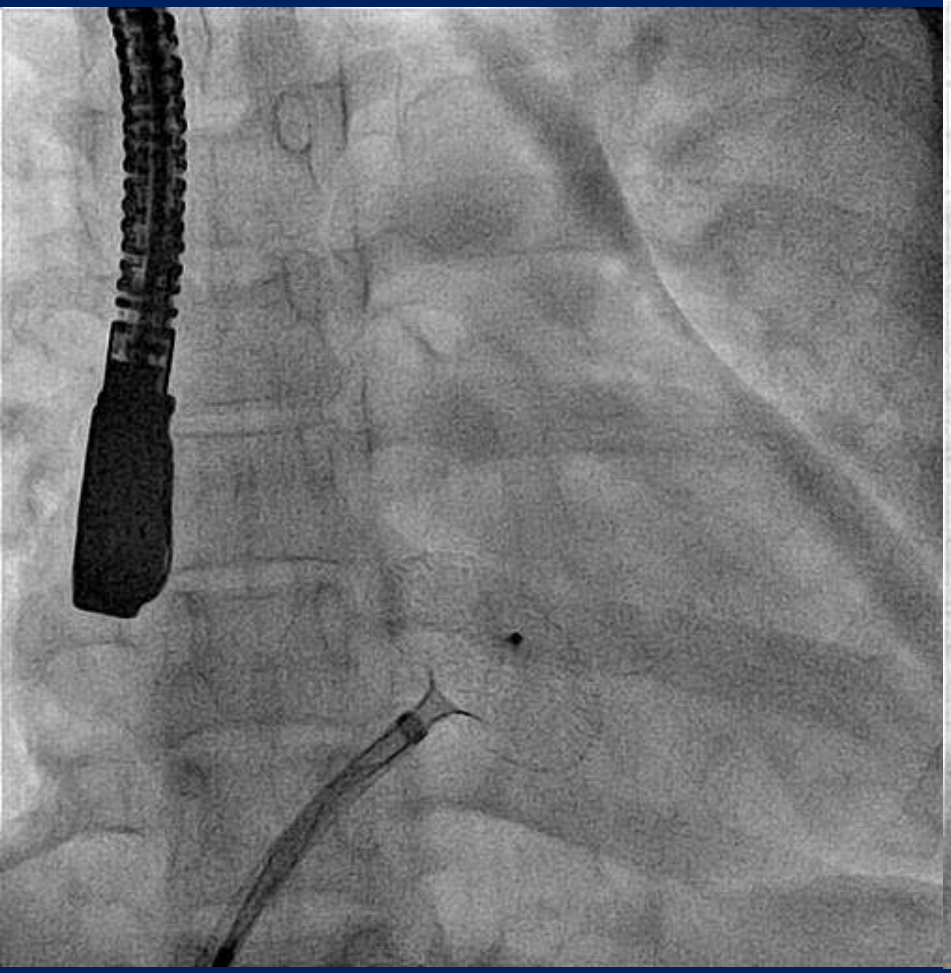
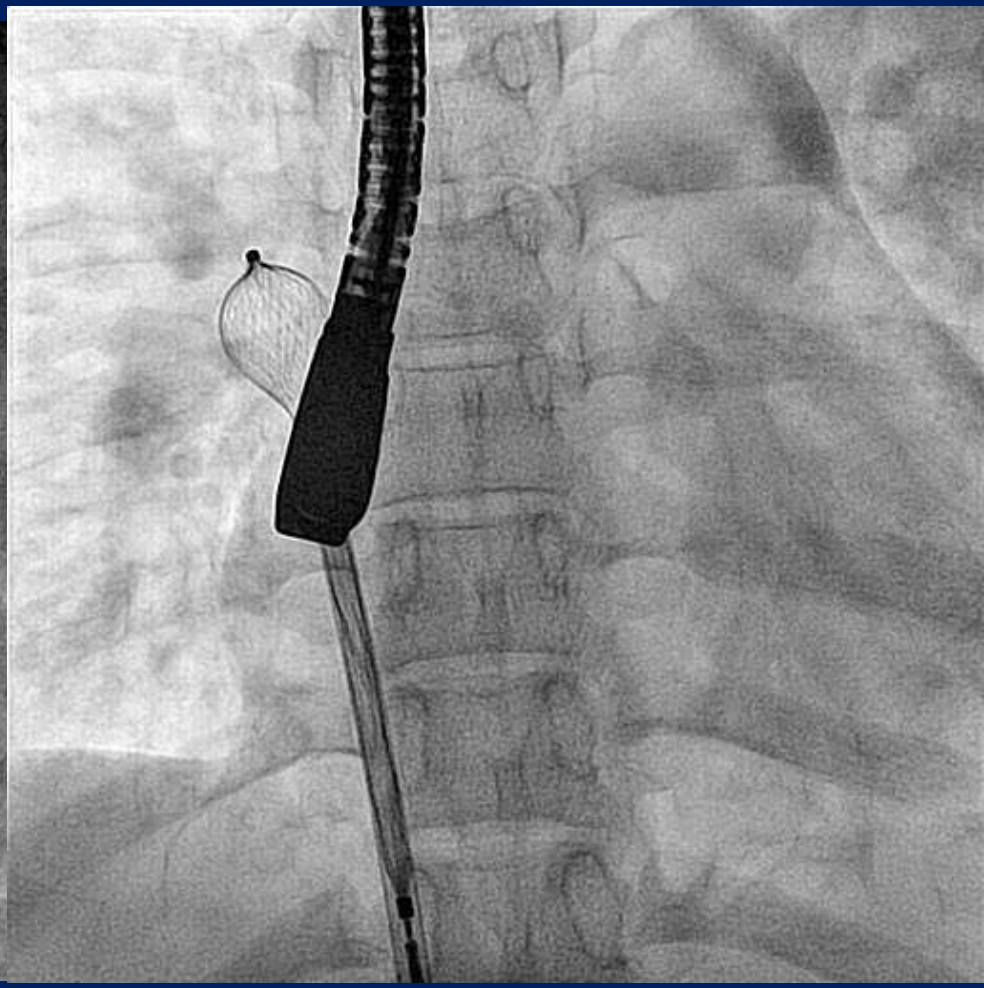
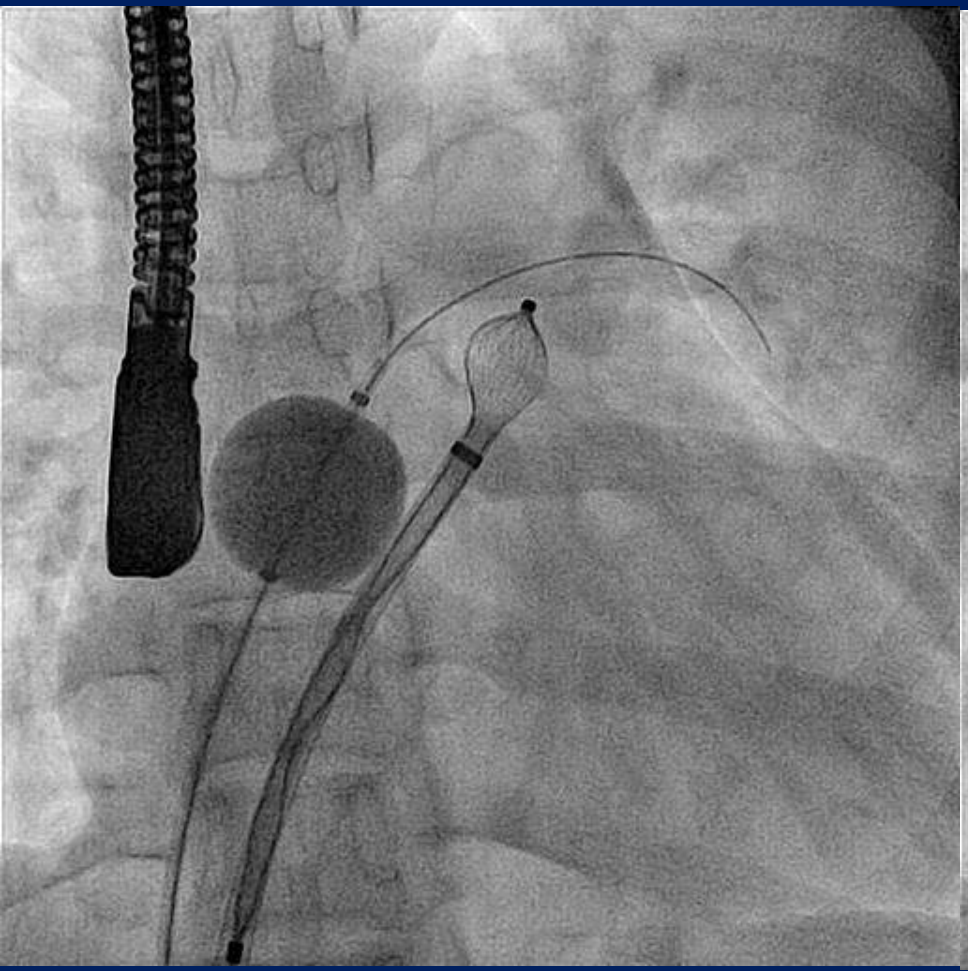
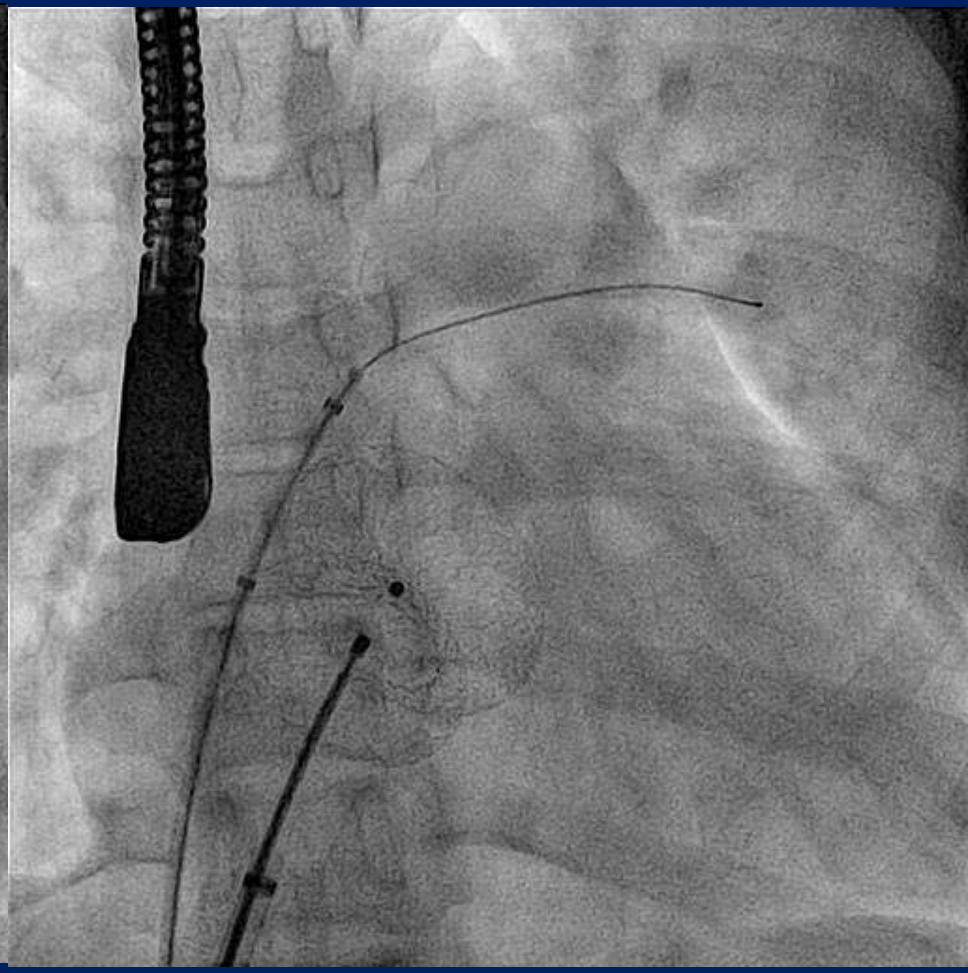
14 NOV 11
PAT T: 37.0C
TEE T <37.0C
LA
RA
AO
0 34 180
12CM
56HZ

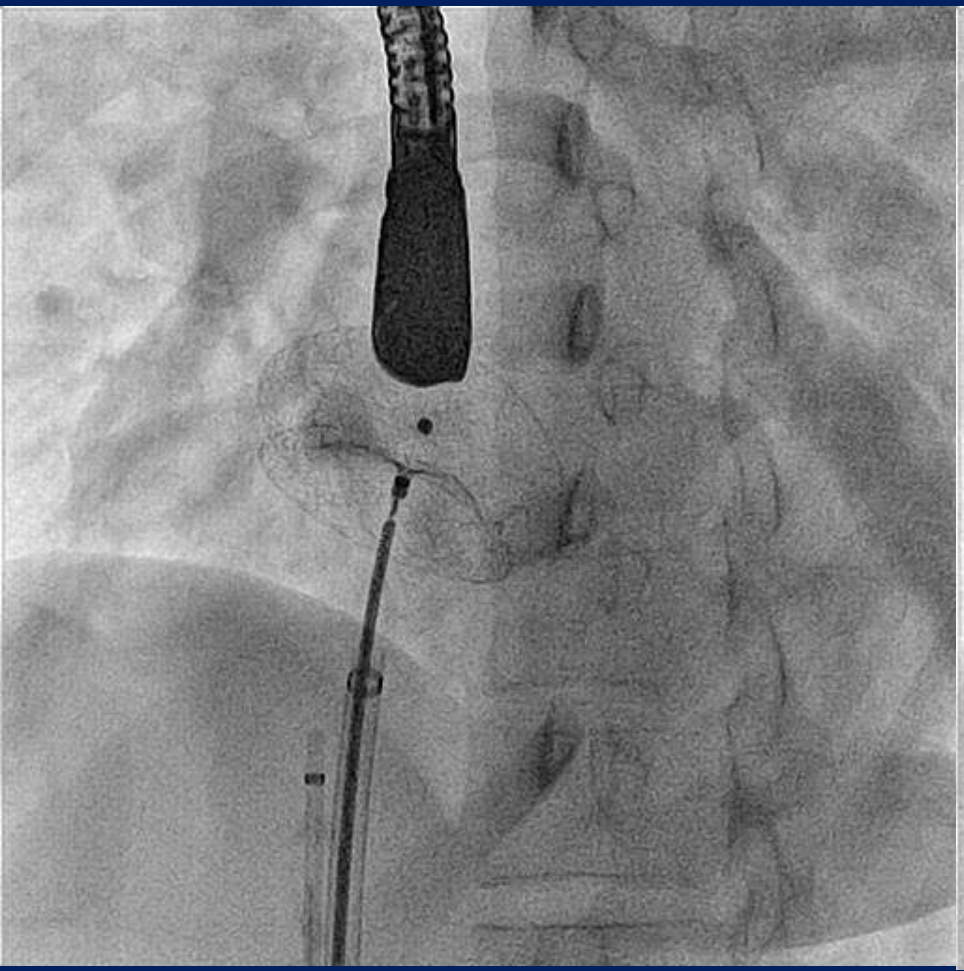
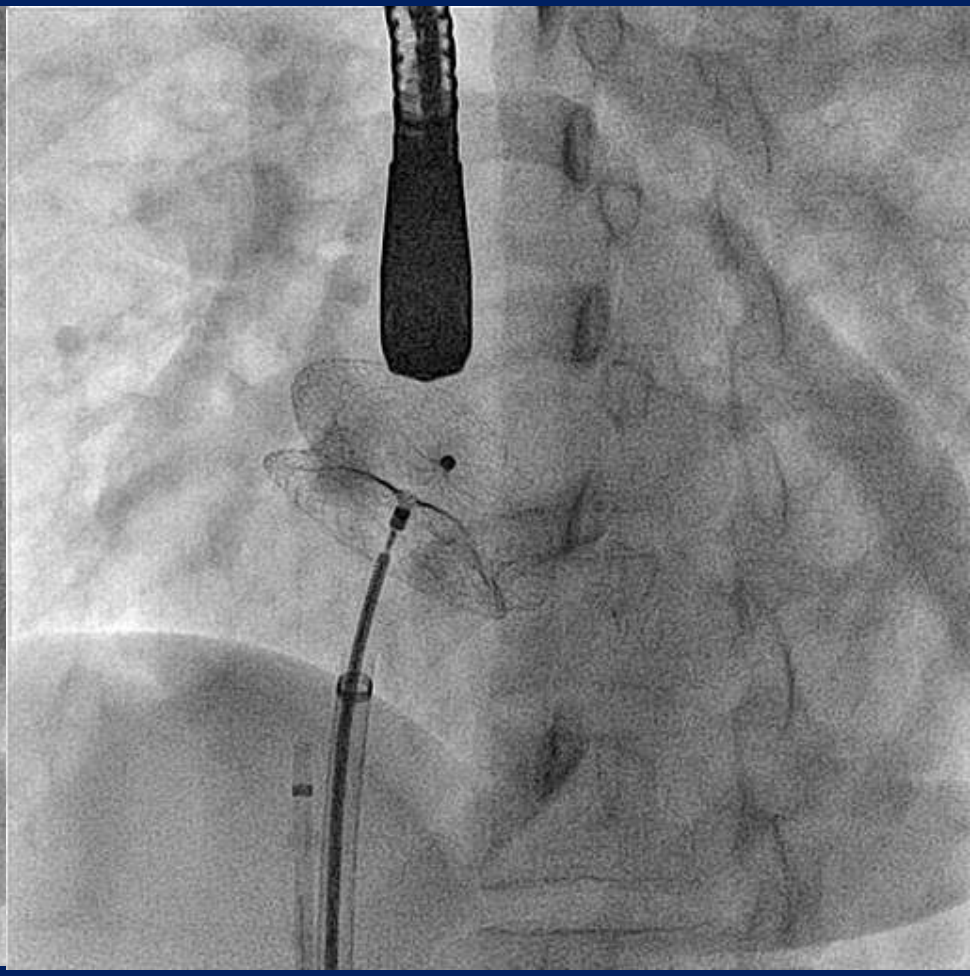

LA
RA

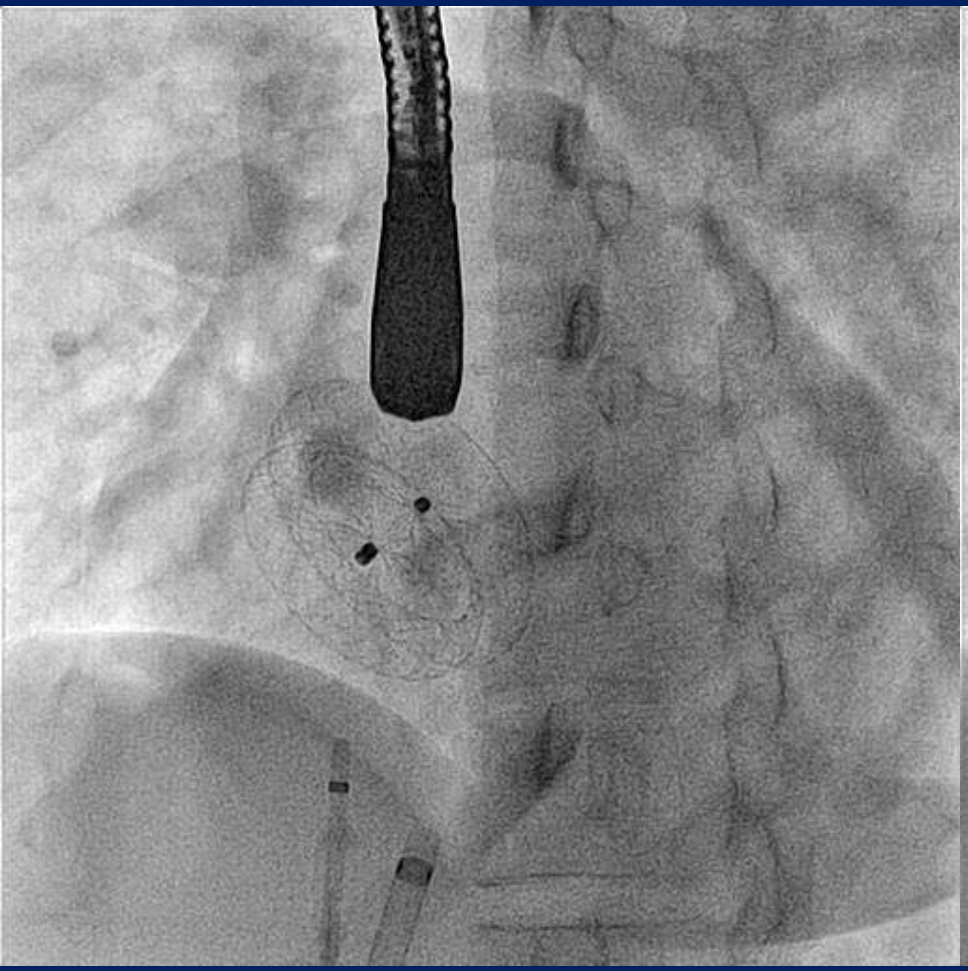


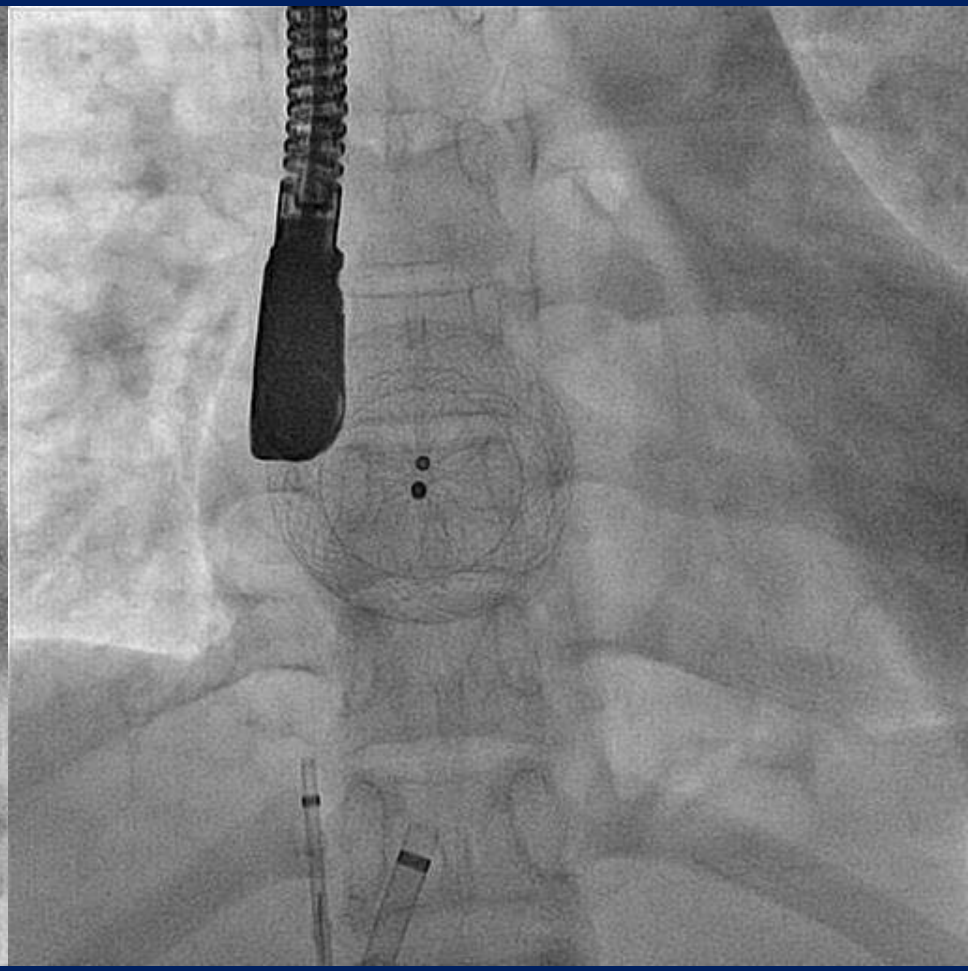


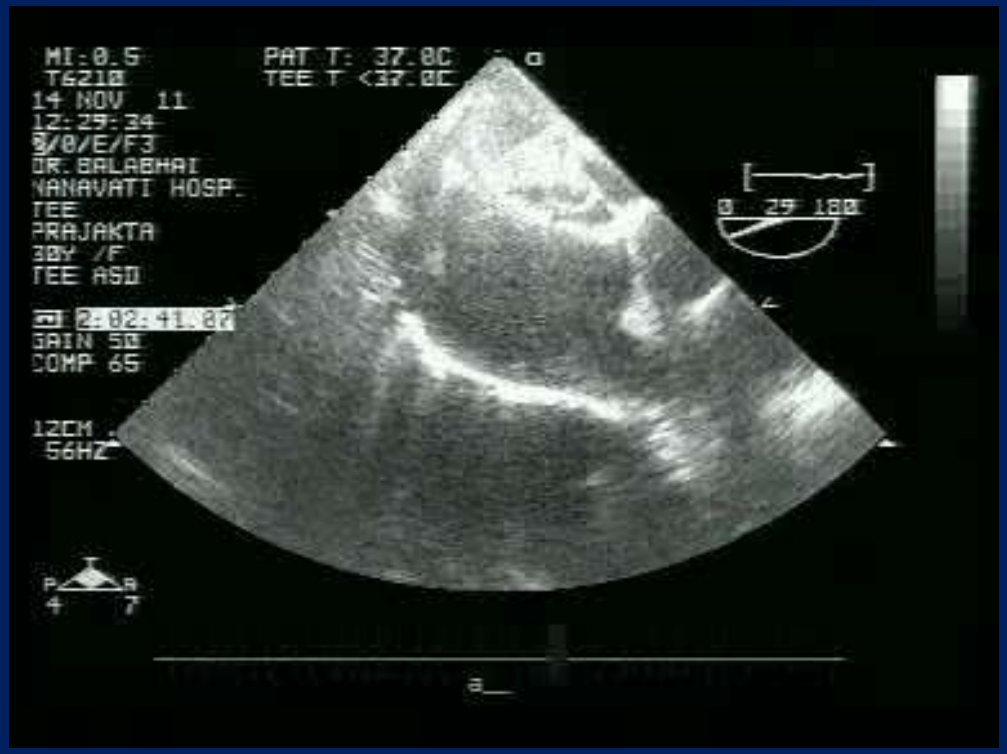






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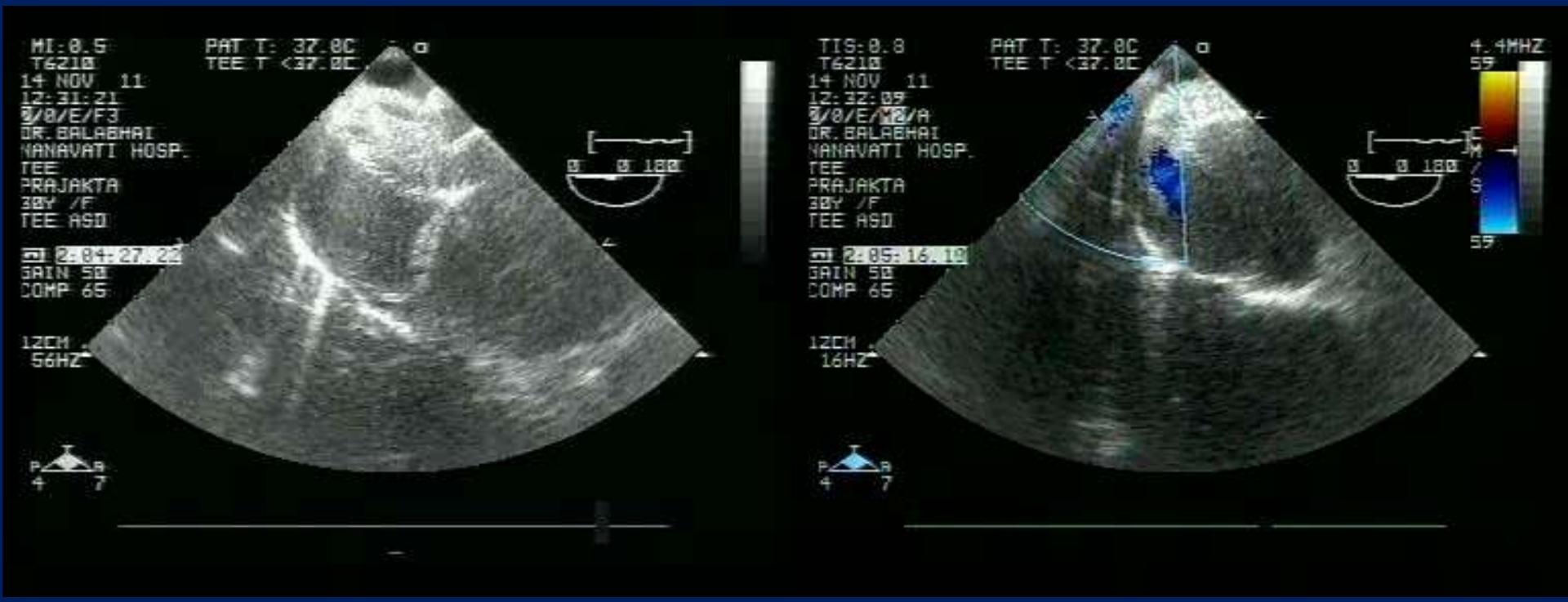
T6210
14 NOV 11
12:29:34
3/0/E/F3
DR.BALABHAI
NANAVATI HOSP.
TEE
PRAJAKTA
40Y /F
TEE ASD
2:02:41.07
GAIN 50
COMP 65
12CM
56HZ
PAT T: 37.0C
TEE T <37.0C
0 29 180
P
A
4
7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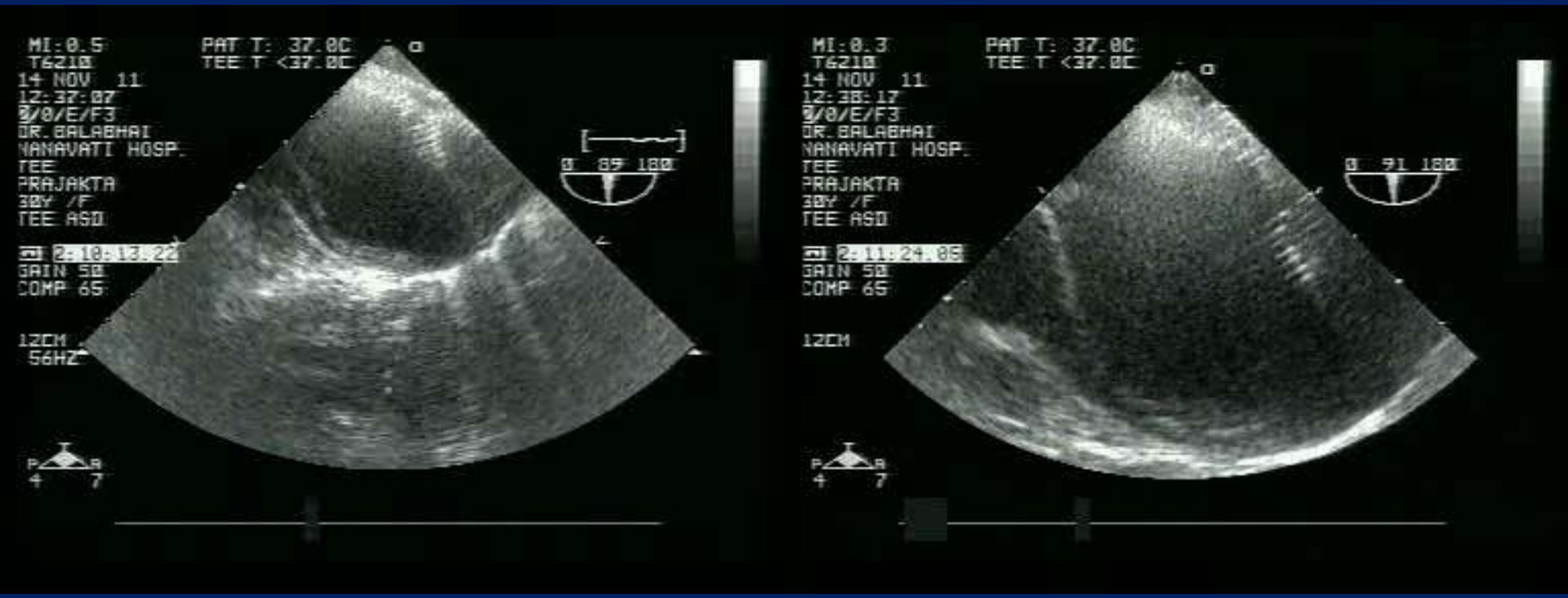
14 NOV 11
12:31:21
0/0/E/F3
DR.BALABHAI
NANAVATI HOSP.
TEE
PRAJAKTA
30Y /F
TEE ASD
2:04:27.22
GAIN 50
COMP 65
12CM
56HZ
PAT T: 37.0C
TEE T <37.0C
TIS:0.8
T6210
14 NOV 11
12:32:09
0/0/E/M2/A
DR.BALABHAI
NANAVATI HOSP.
TEE
PRAJAKTA
30Y /F
TEE ASD
2:05:16.10
GAIN 50
COMP 65
12CM
16HZ
PAT T: 37.0C
TEE T <37.0C
4.4MHZ
59
59


MI:0.5
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14 NOV 11
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0/0/E/F3
DR.BALABHAI
NANAVATI HOSP.
TEE
PRAJAKTA
30Y /F
TEE ASD
GAIN 50
COMP 65
12CM
56HZ
PAT T: 37.0C
TEE T <37.0C
0 89 180
P A
4 7
MI:0.3
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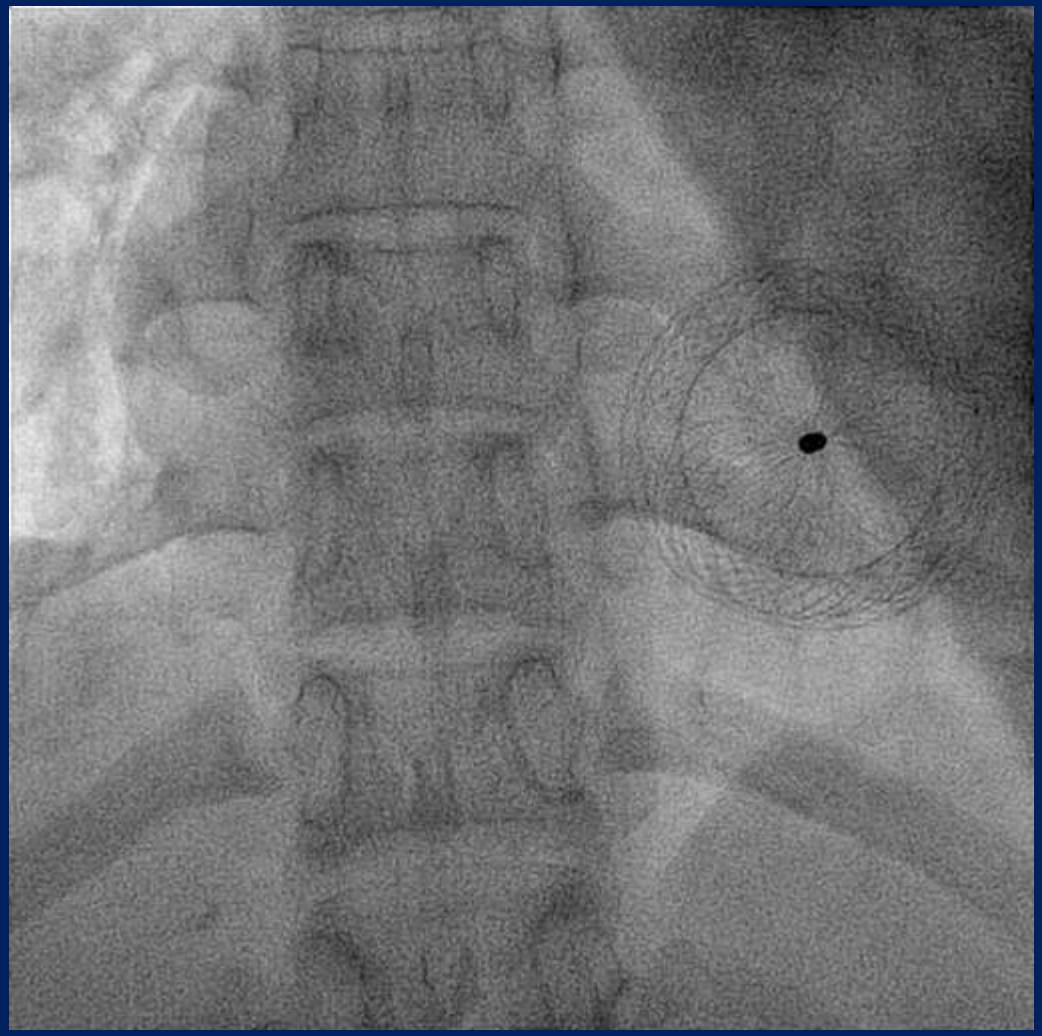
14 NOV 11
12:38:17
0/0/E/F3
DR.BALABHAI
NANAVATI HOSP.
TEE
PRAJAKTA
30Y /F
TEE ASD
GAIN 50
COMP 65
12CM
PAT T: 37.0C
TEE T <37.0C
0 91 180
P A
4 7

Most important step in large ASD closure

- EXTUBATION
- Retching and coughing
- More retching
- Scope showing VPBS!!!!!!!!!!!!



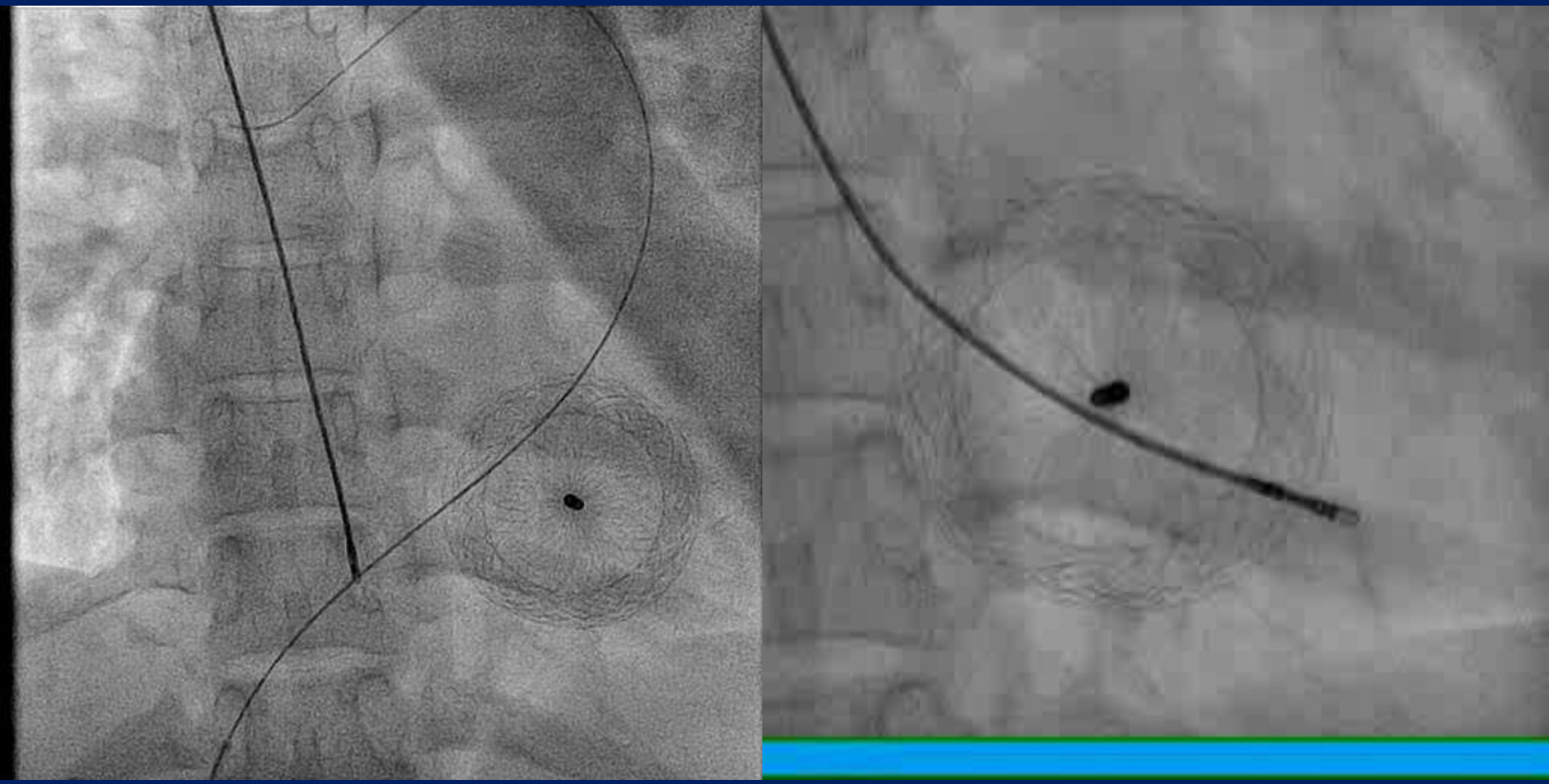
Actions Taken

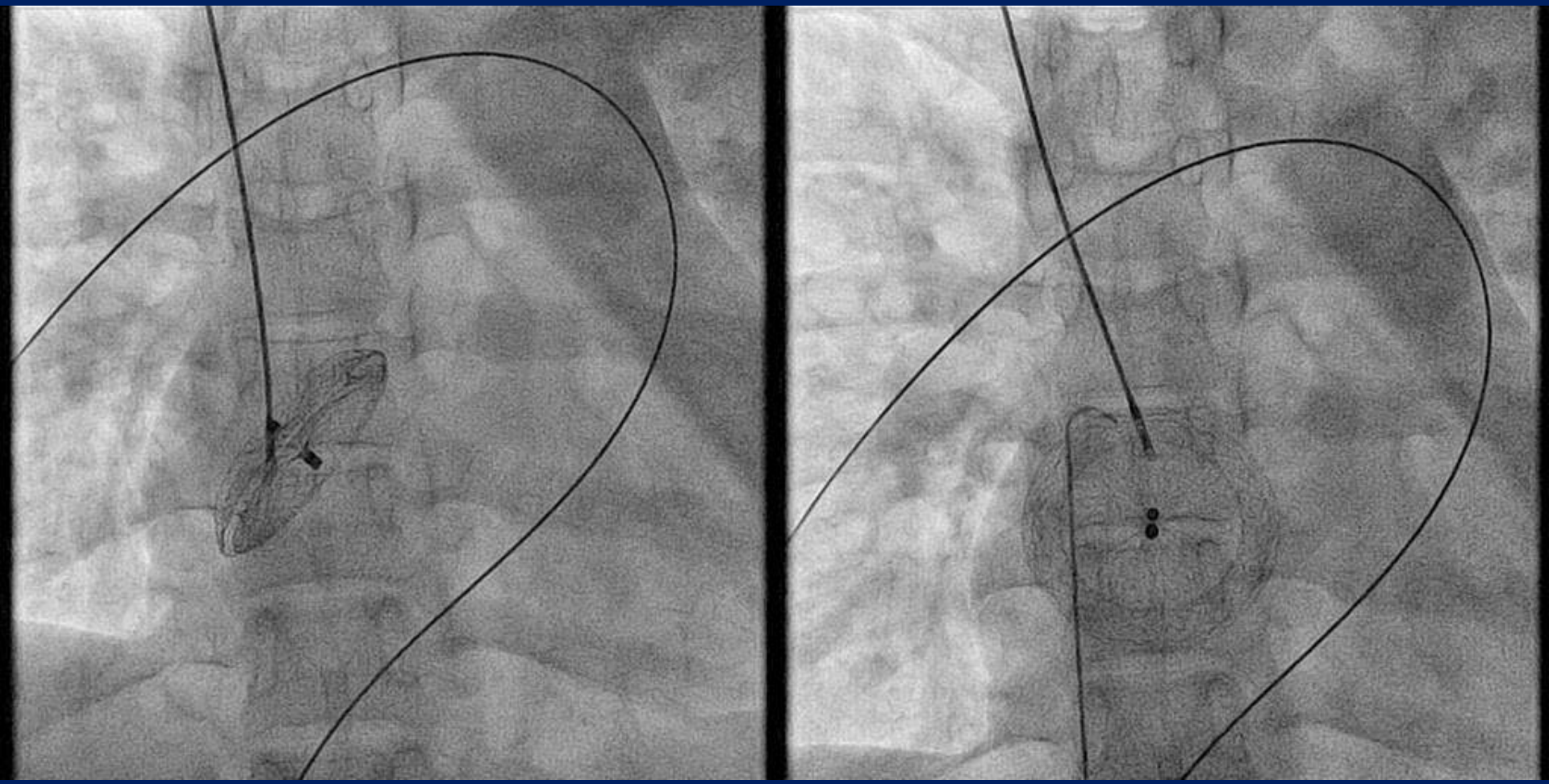
- Family informed
- Surgical team informed
- OR informed
- Decision to attempt retrieval
- Put under GA and intubated

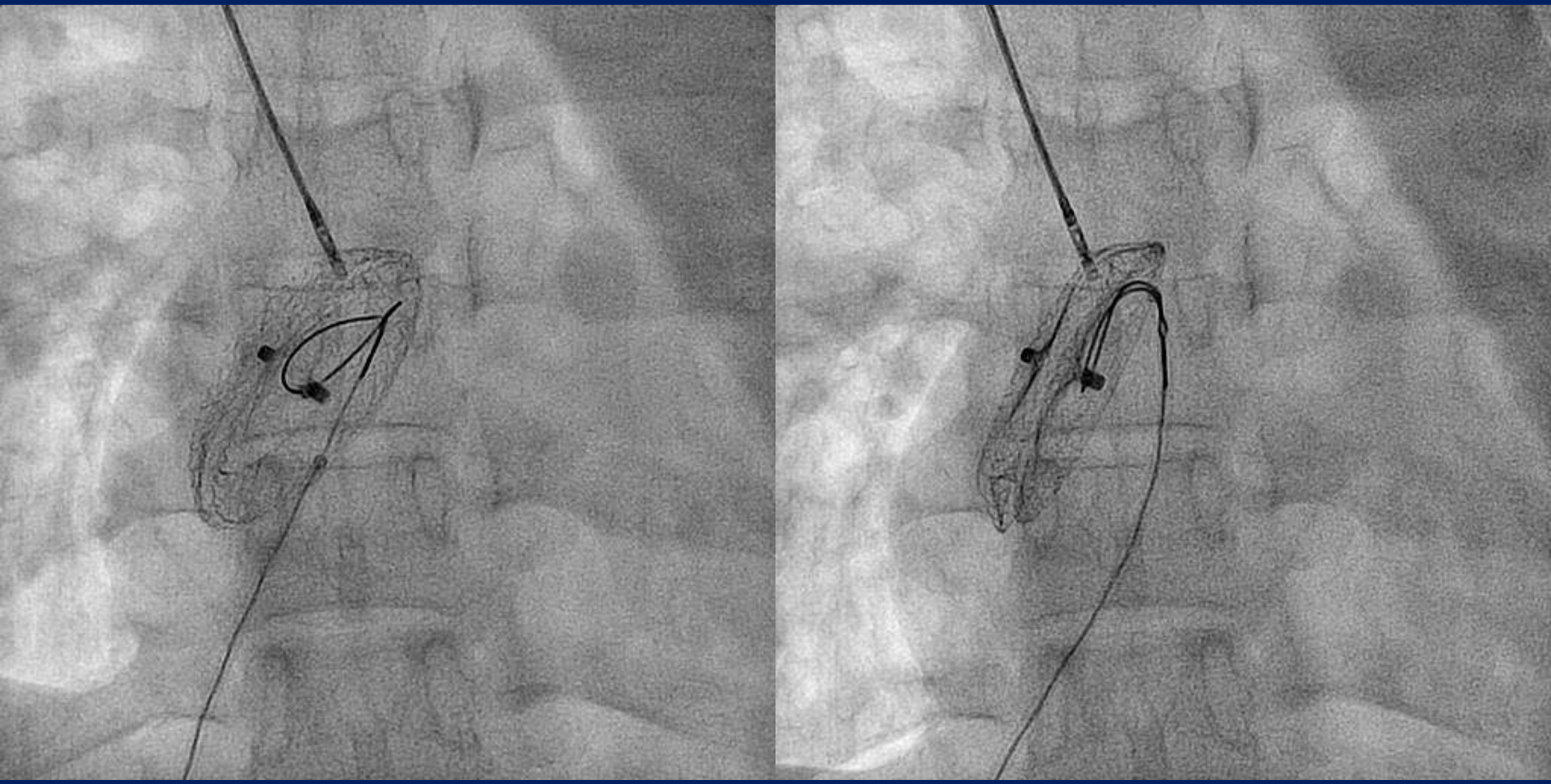
Issues

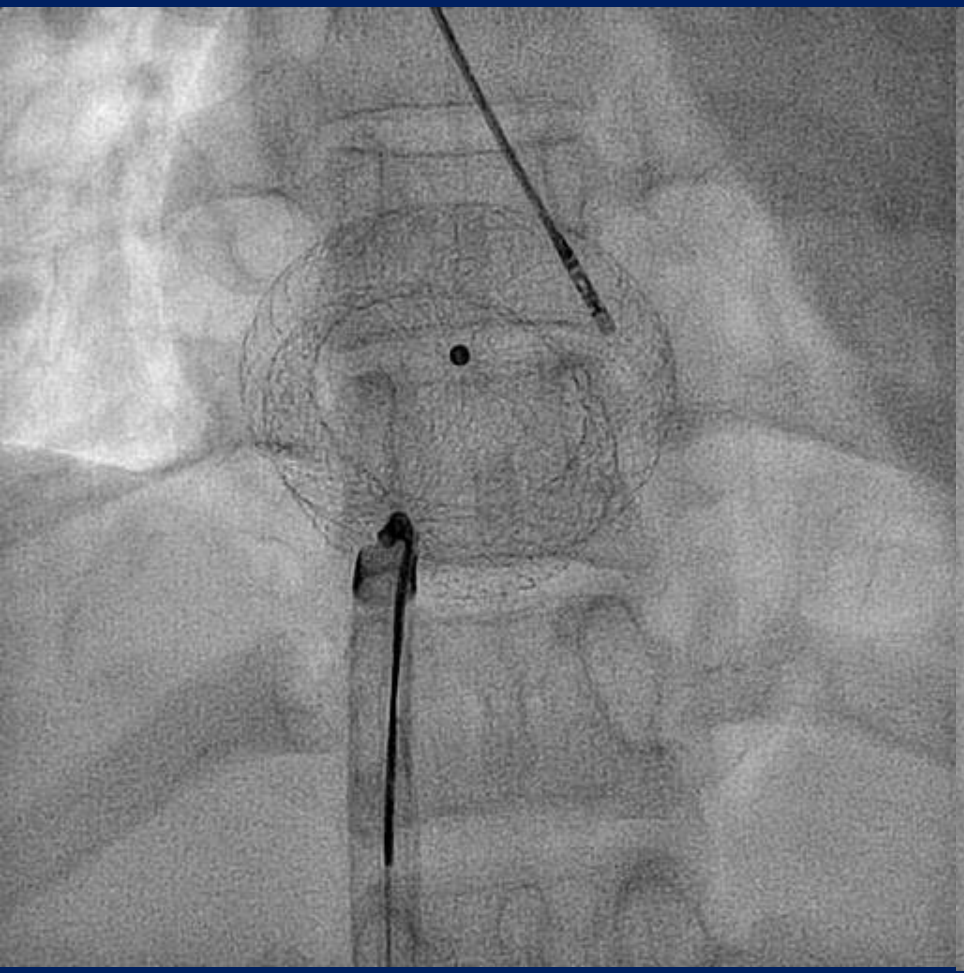
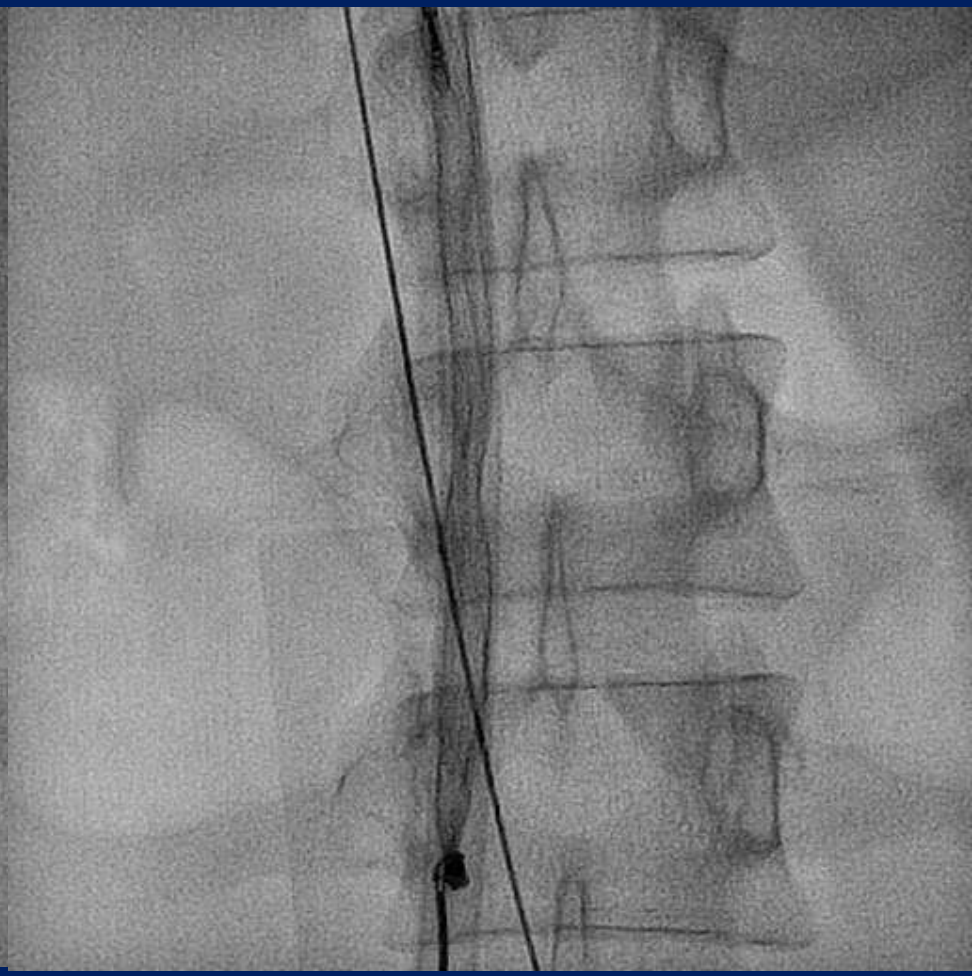
- What size sheath is needed to retrieve a 34 mm device
- Can it be retrieved by holding the RA screw alone or will need to be held at both ends
- How safe is it to retrieve the device from RV?
- What is an alternative?

- 16F sheath
- Holding the device at two ends – Good strategy : Right jugular access and a bioptome
- Dislodging the device from the RV would be helpful.
  - Put a wire and then a catheter through the other groin across the TV – Prevent it from coapting
  - VPBs to produce AV dissociation



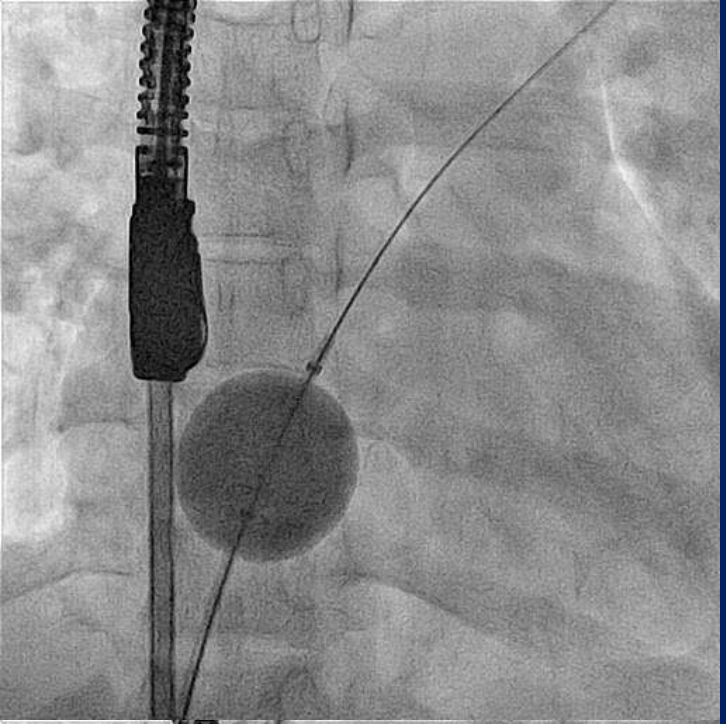
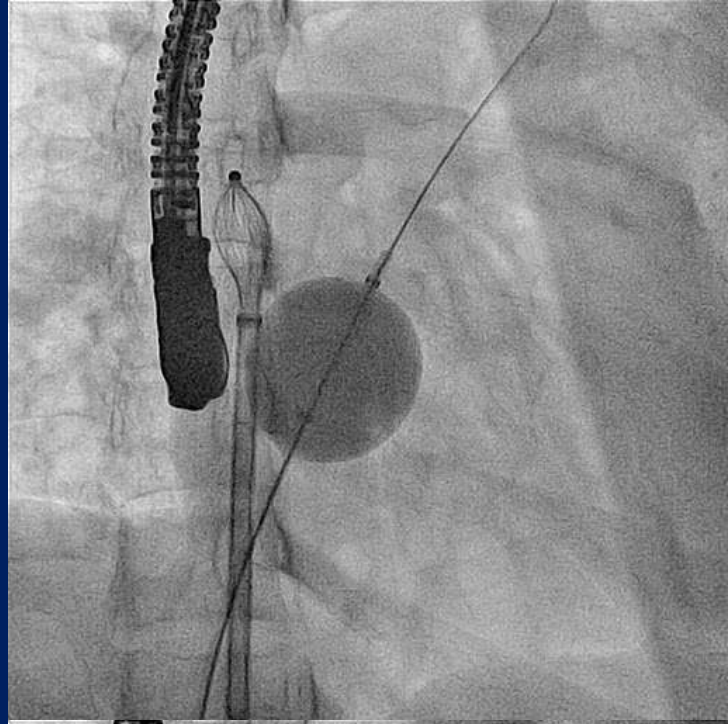
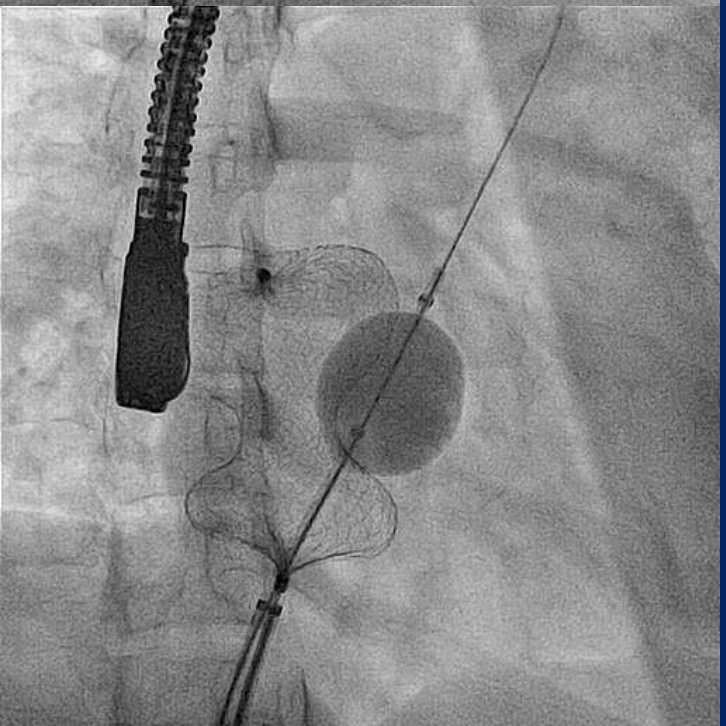
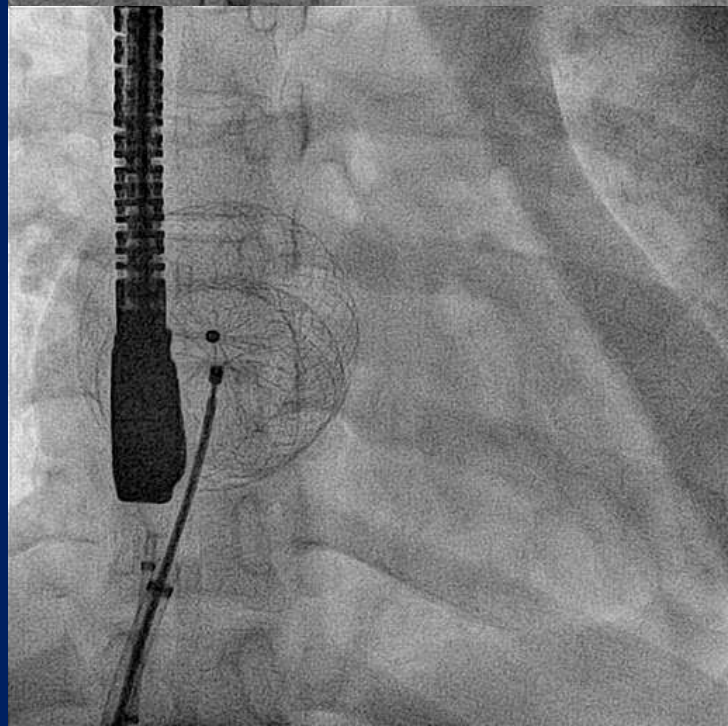


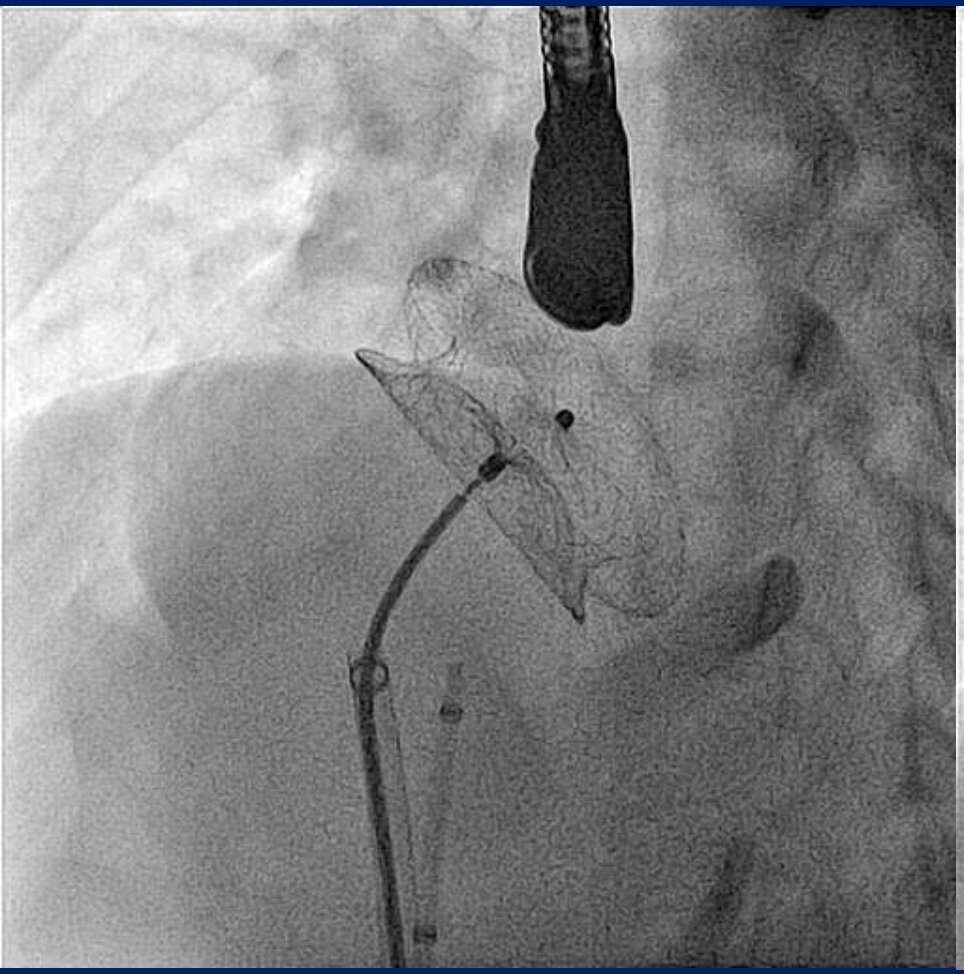


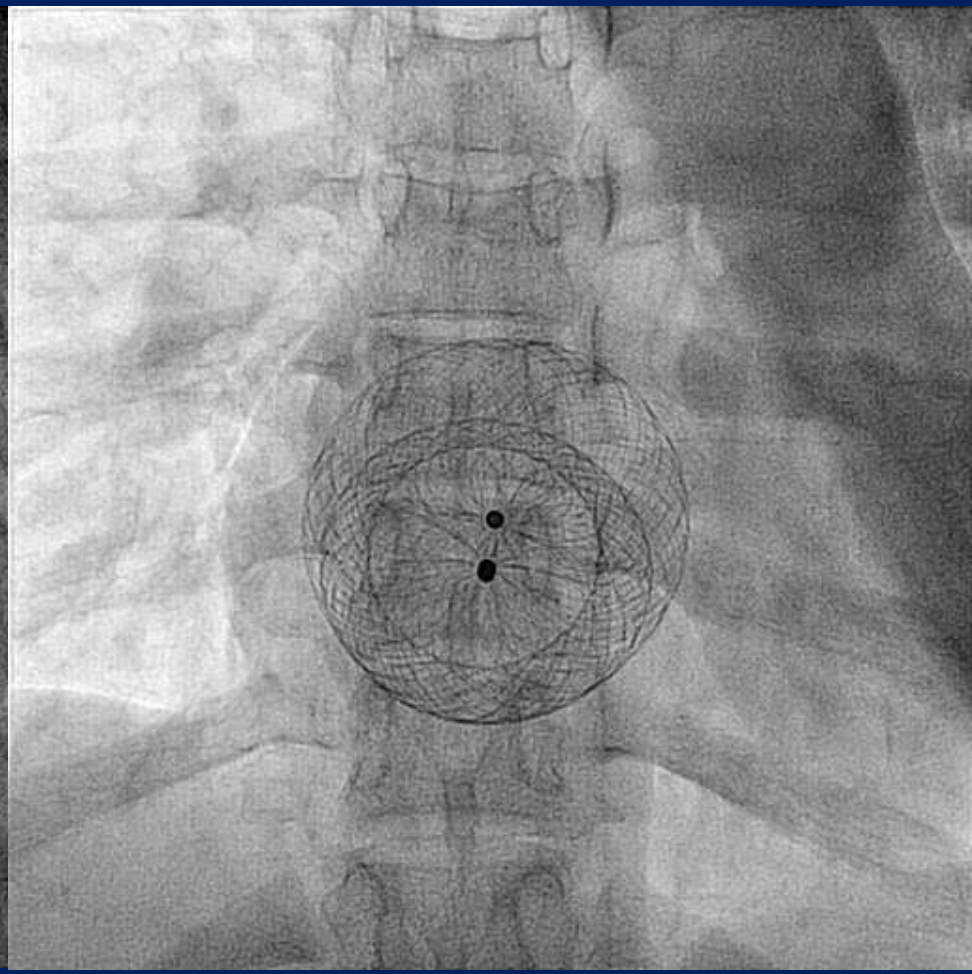



What Next?

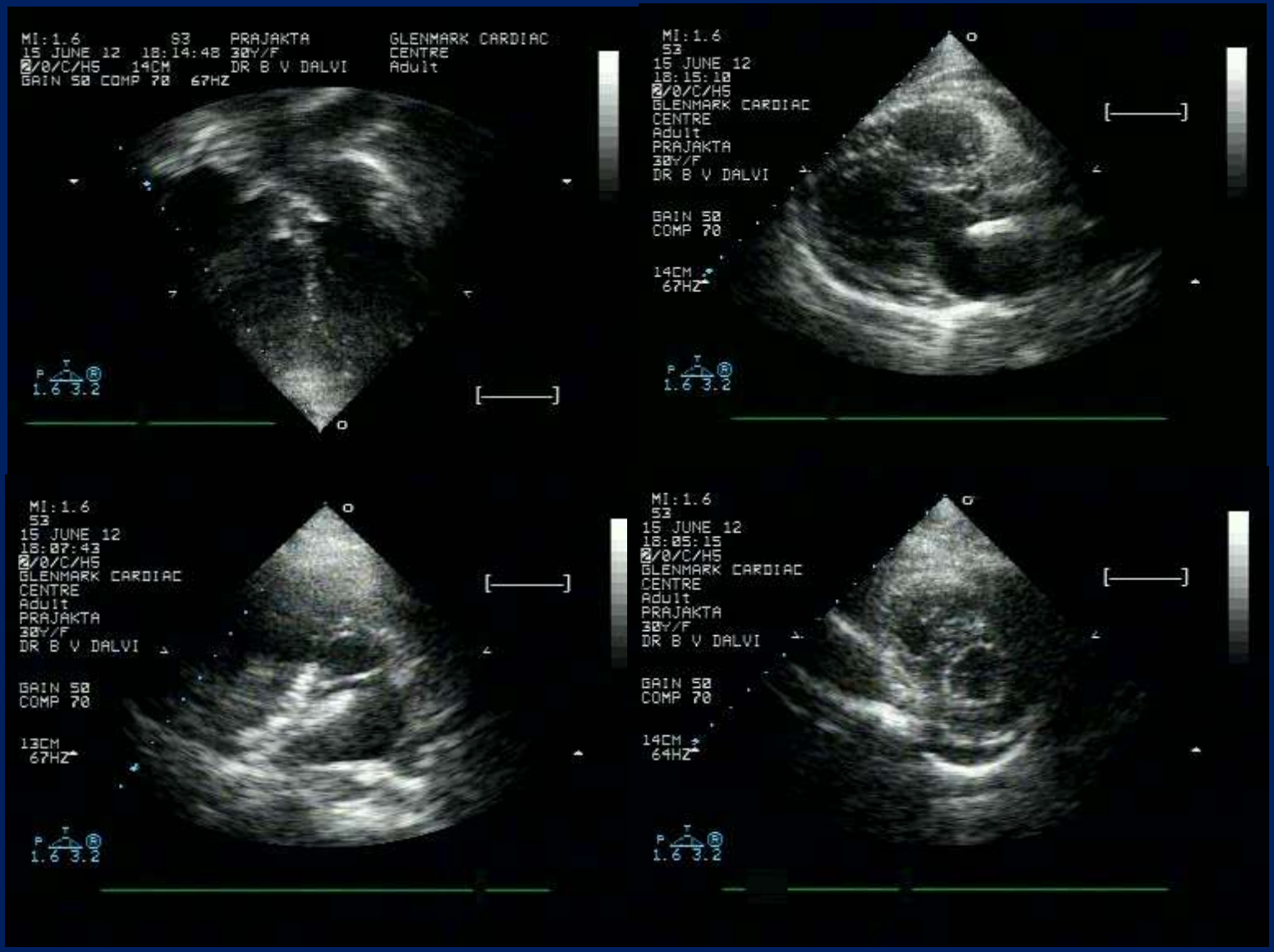
- Surgery?
- Device?
- What size device? 36, 38, 40???



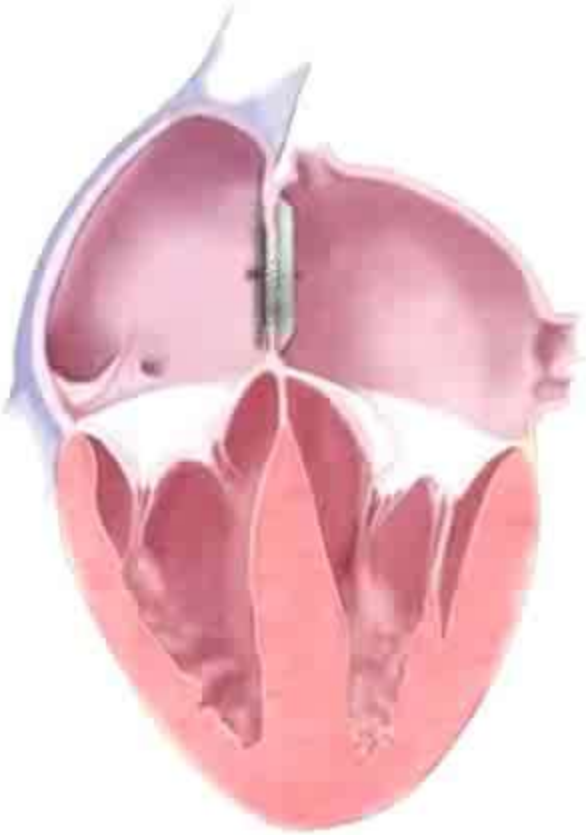


Seven month Follow Up



Lessons learnt

- Embolization remains a problem despite “experience”
- Undersizing is probably the commonest cause
- The exact mechanism remains unknown so also its relation to retching and coughing



Lessons learnt

- There needs to be a plan in place
- Large sheaths, snare and bioptome are essential
- This technique almost always works (3)
- Whether to proceed with larger device ????
- If you are confident that the rims are adequate in length as well as in strength – another try may be worthwhile

“No intervention is a slam dunk”