

ROSLI Mohd Ali

Department of Cardiology



INSTITUT JANTUNG NEGARA
National Heart Institute

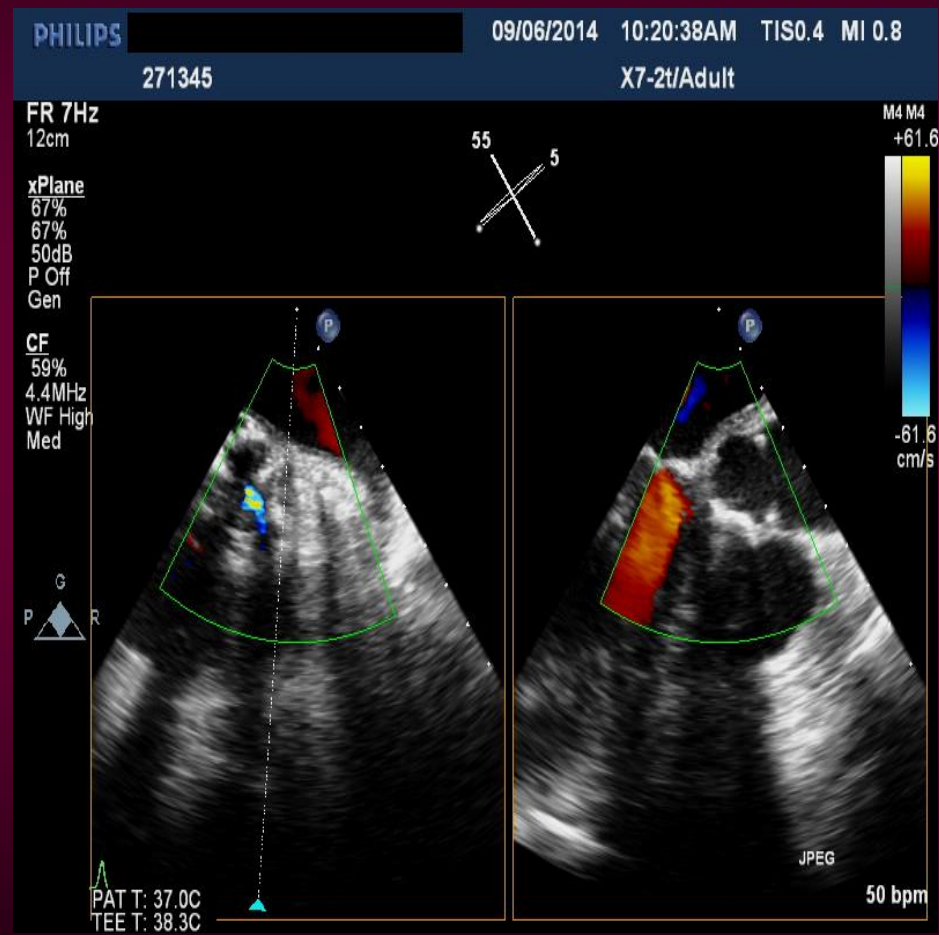
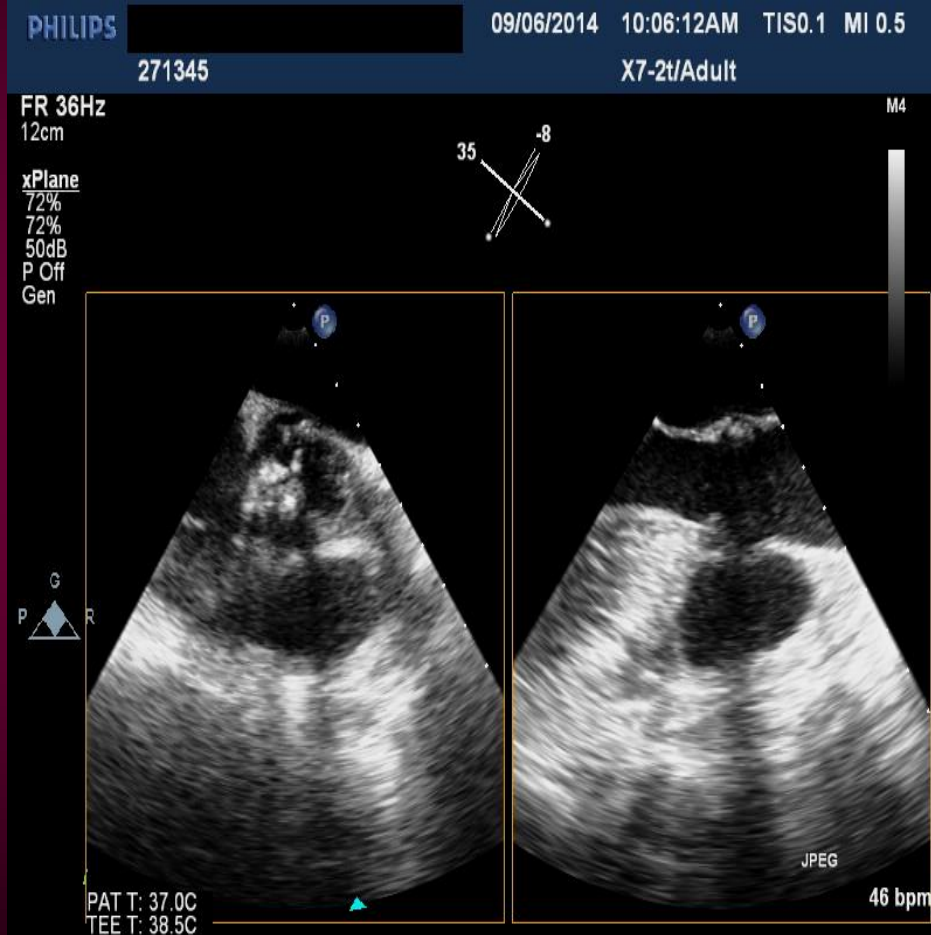


TAVI Complication

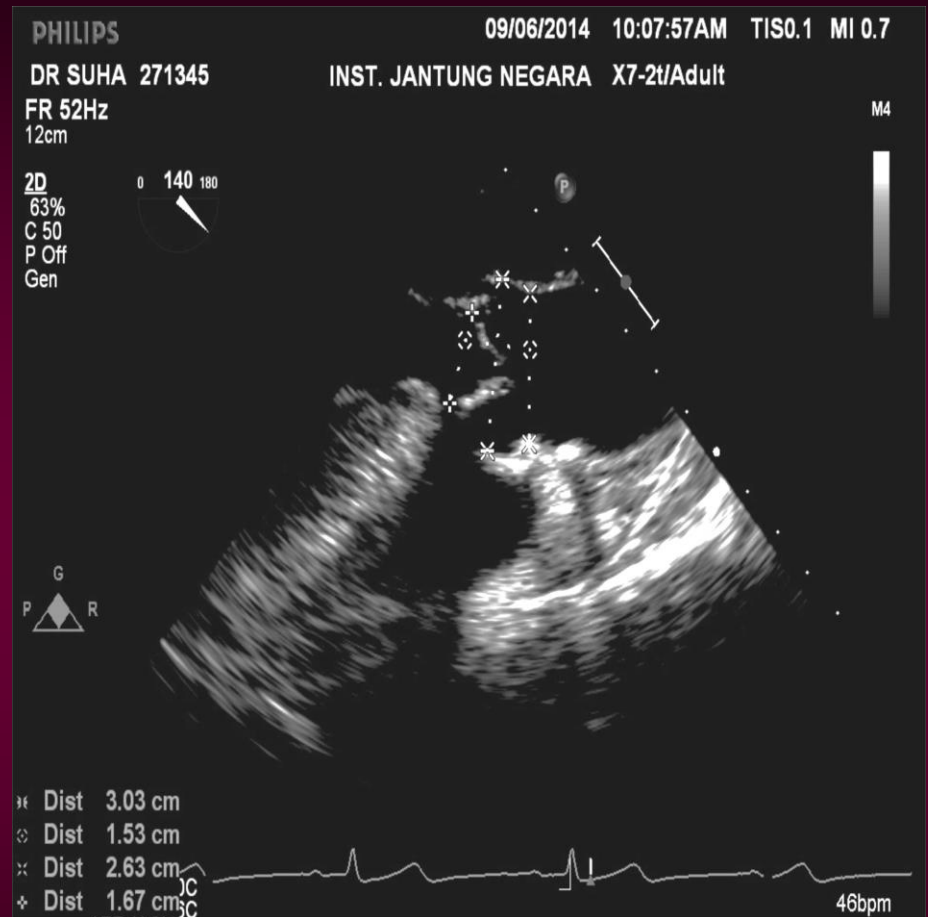
83 yr old man

1. Severe aortic stenosis & mild/moderate AR
presented with heart failure symptoms in April 2014
FC II on treatment
AVA – 0.66 cm², mean gradient 50 mmHg, peak 80
LVEF 63%
2. CAD
distal LAD stenosis, occluded OM br.
3. Hypertension
4. Diabetes mellitus type 2

Pre Procedure TEE



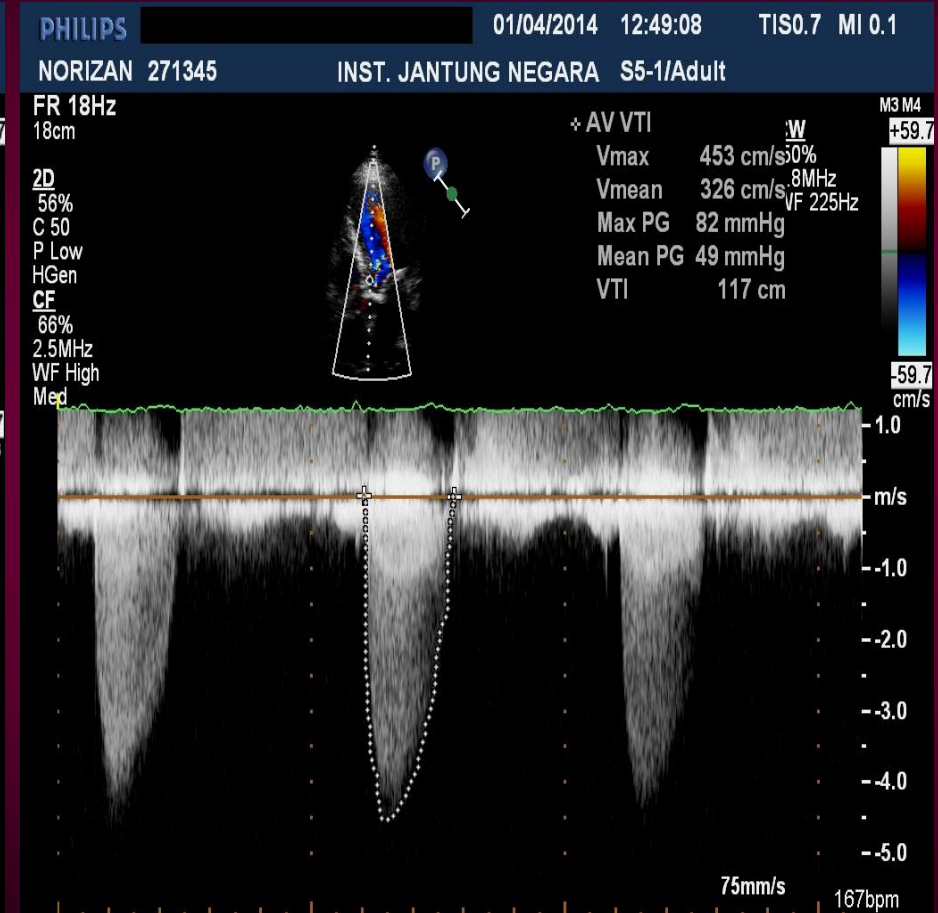
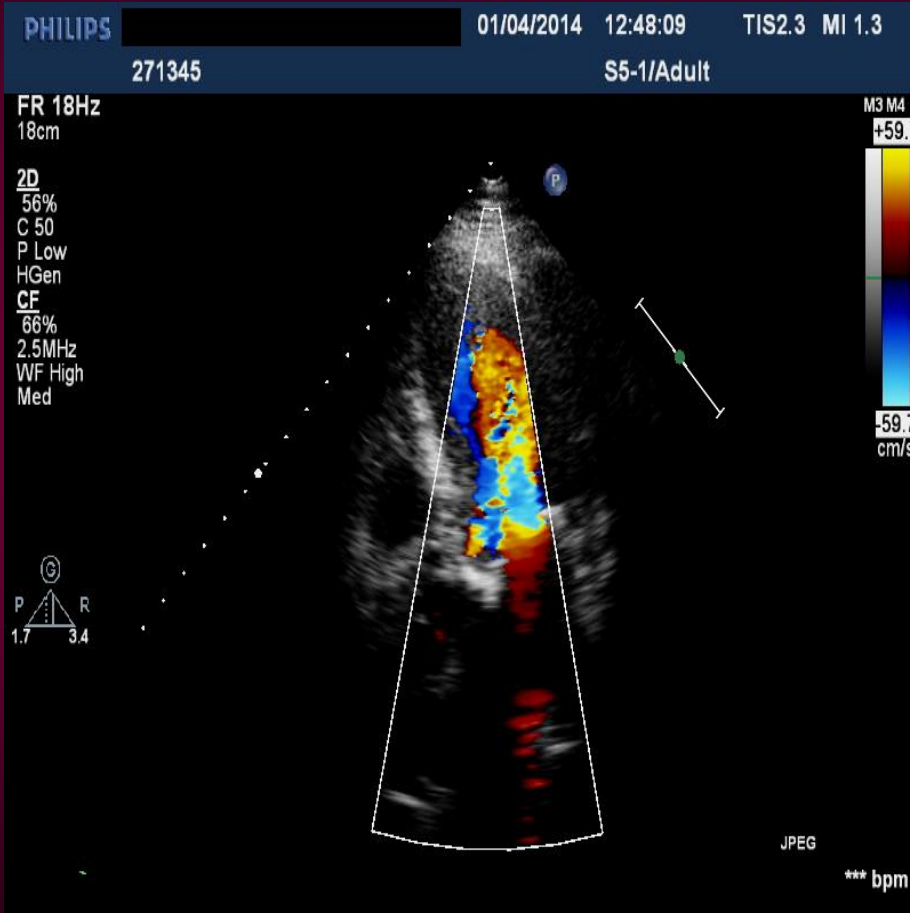
Aortic Root Measurement



Aortic Annulus 2.0 cm
Sinus of Valsalva 3.3 cm
Sinotubular junction 2.4 cm

Aortic Annulus 1.67 cm
Sinus of Valsalva 3.03 cm
Sinotubular junction 2.63 cm

PG mean 49 mmHg
peak 82 mmHg

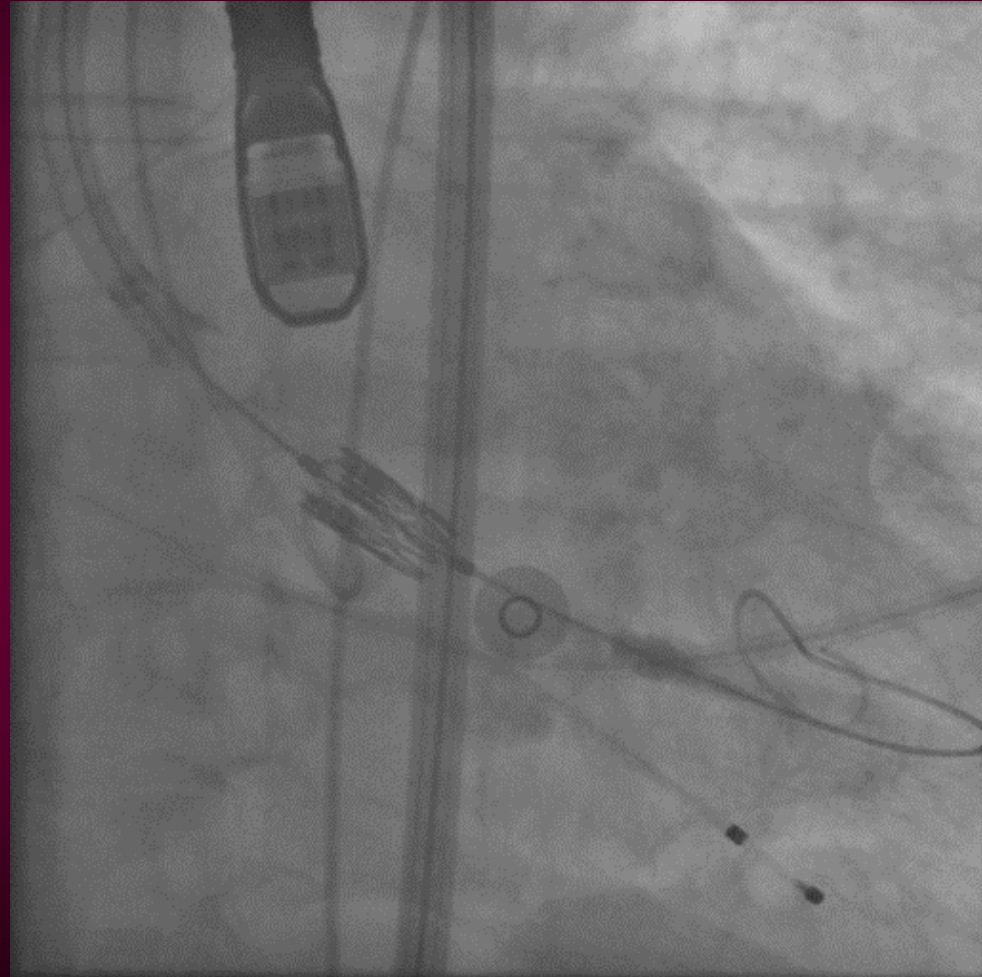
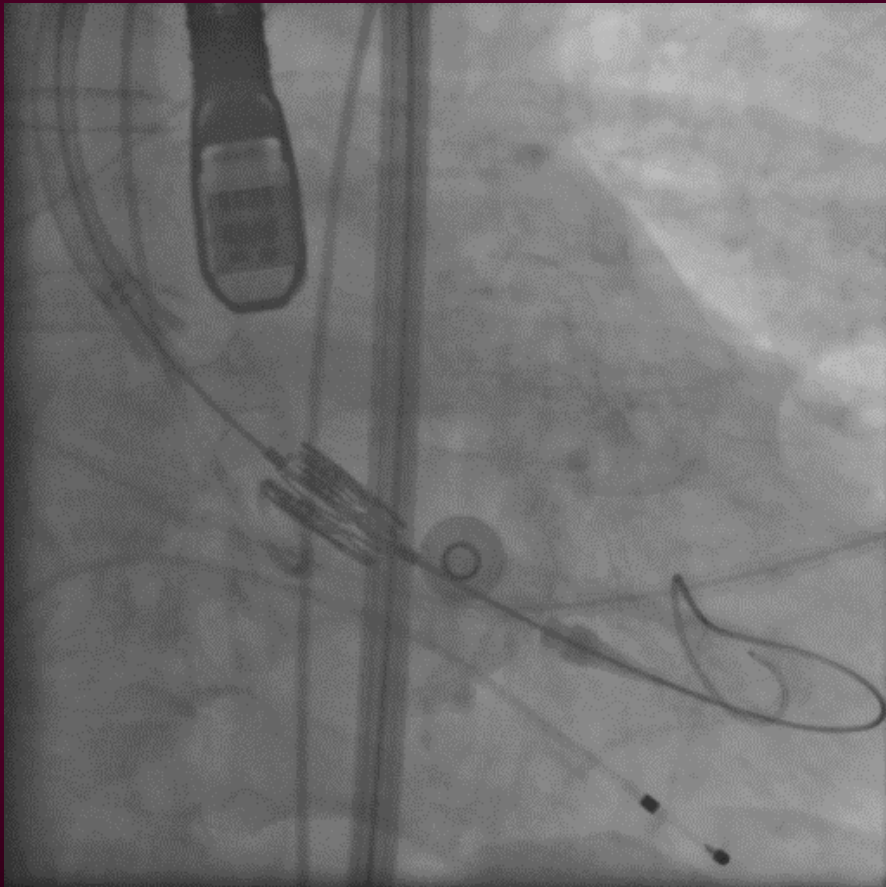


9 June 2014

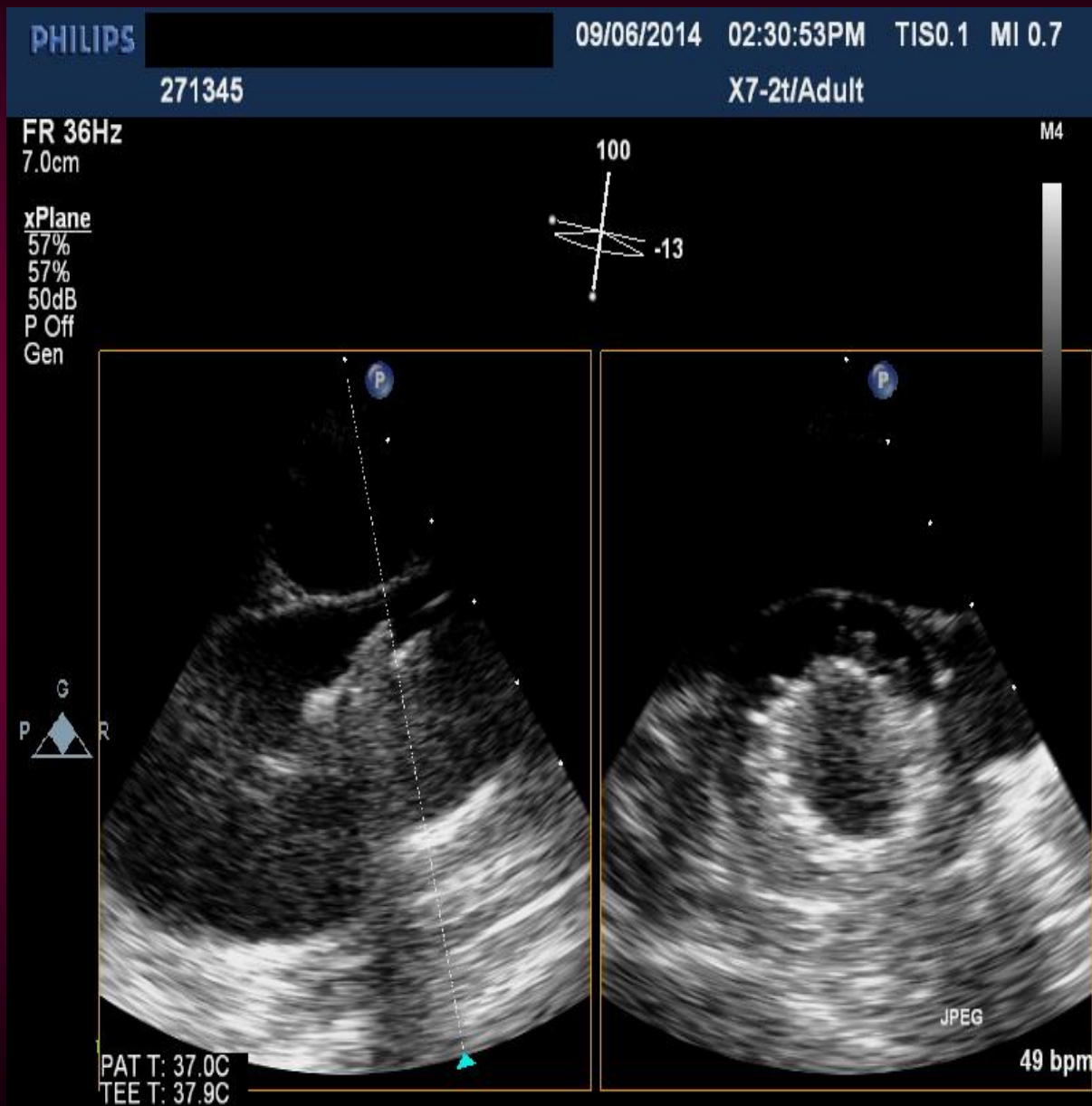
Edwards Sapien XT 23 mm valve



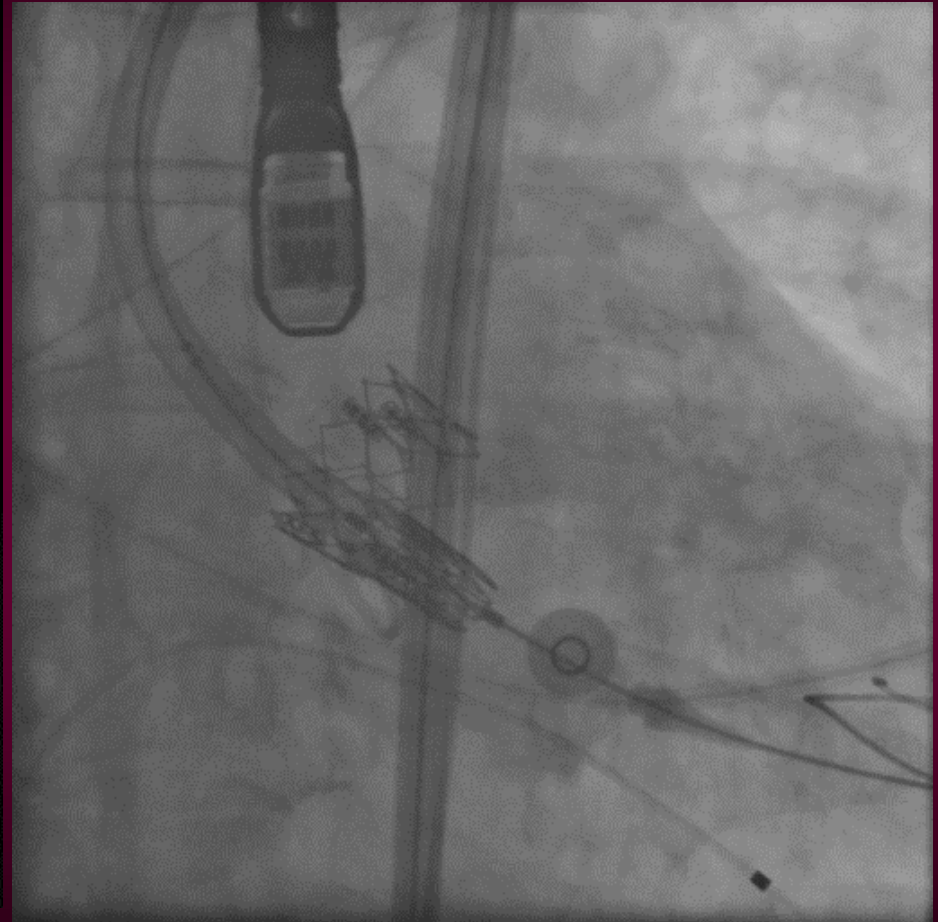
Valve Deployment Pacing at 180 bpm



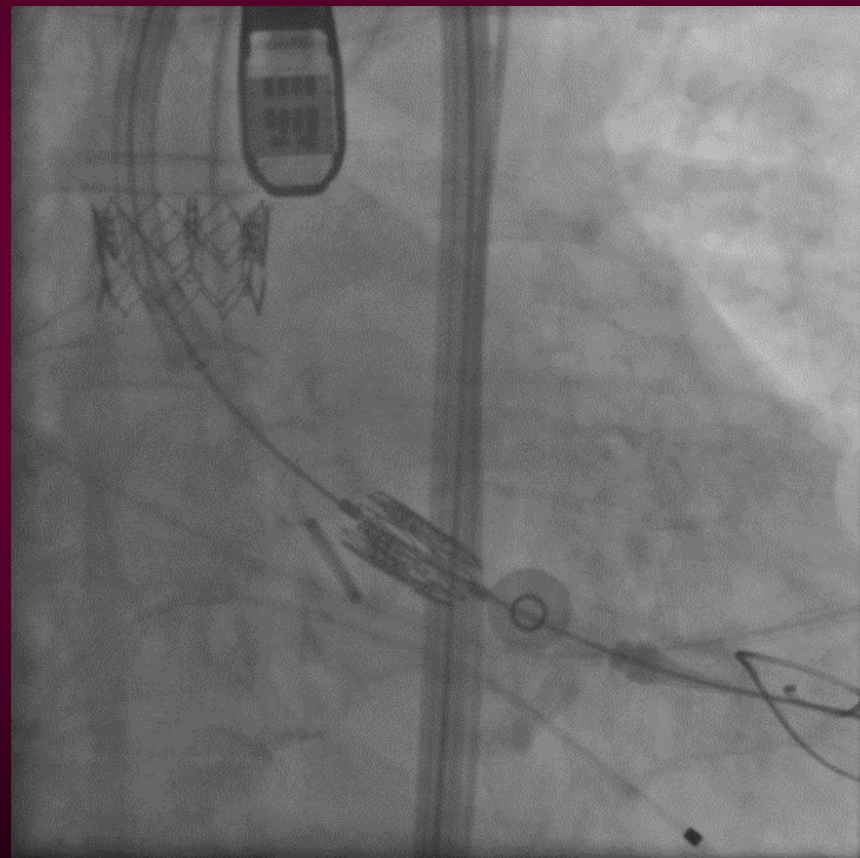
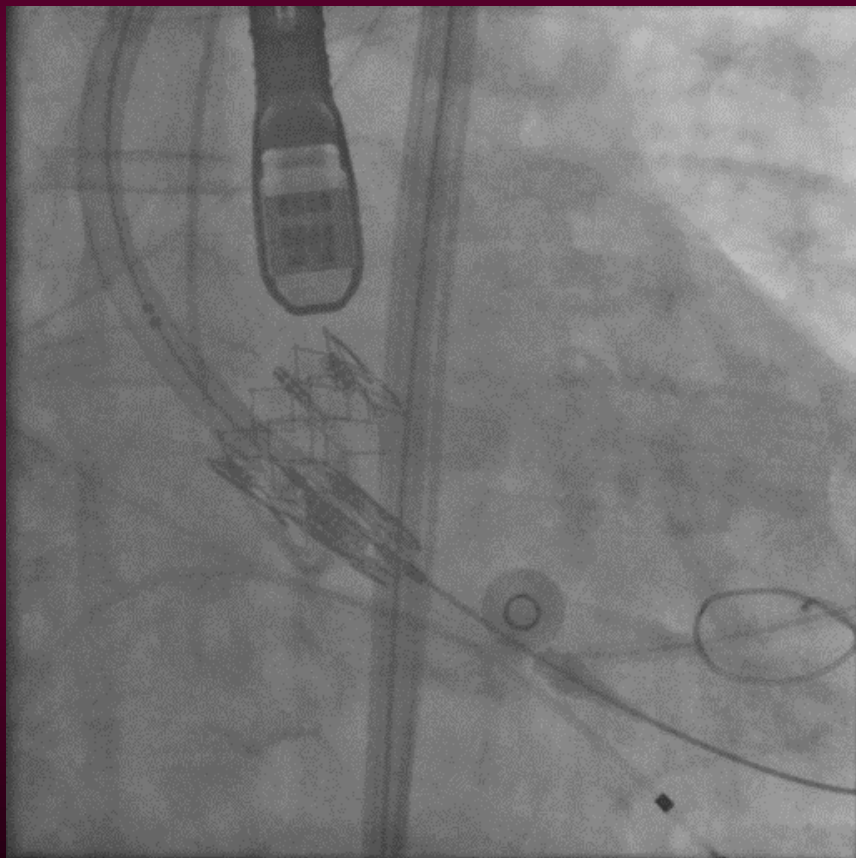
Dislodged Valve

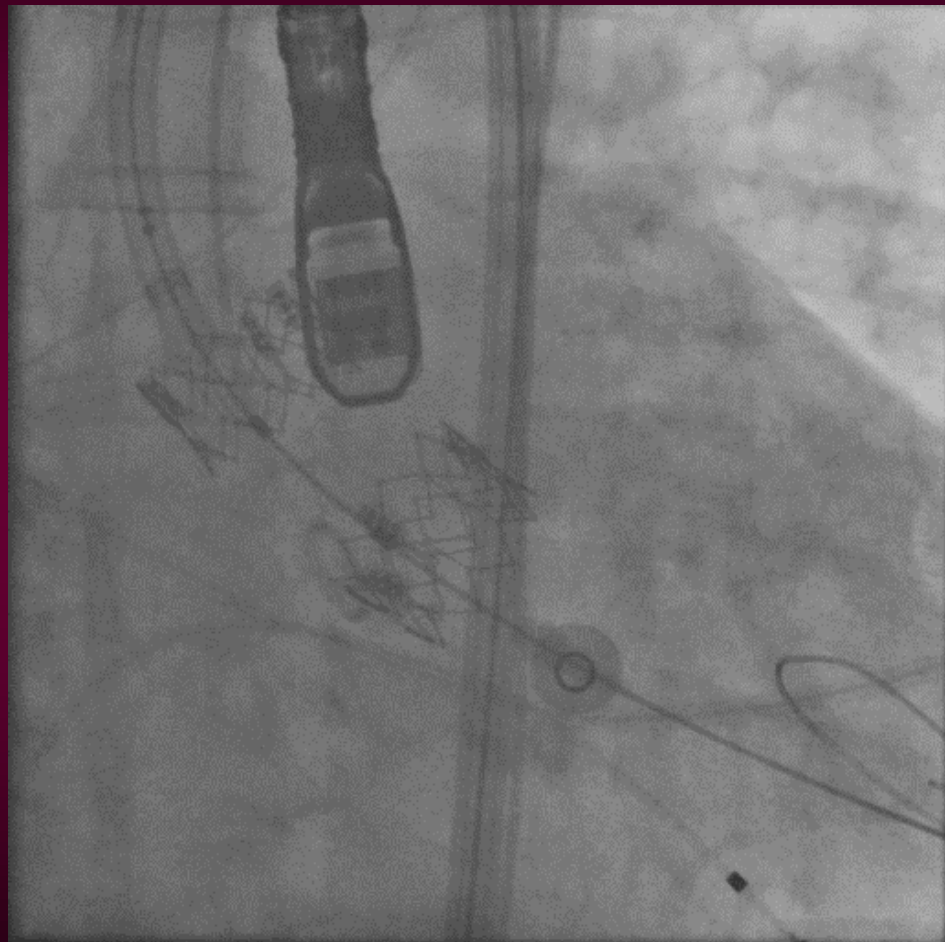
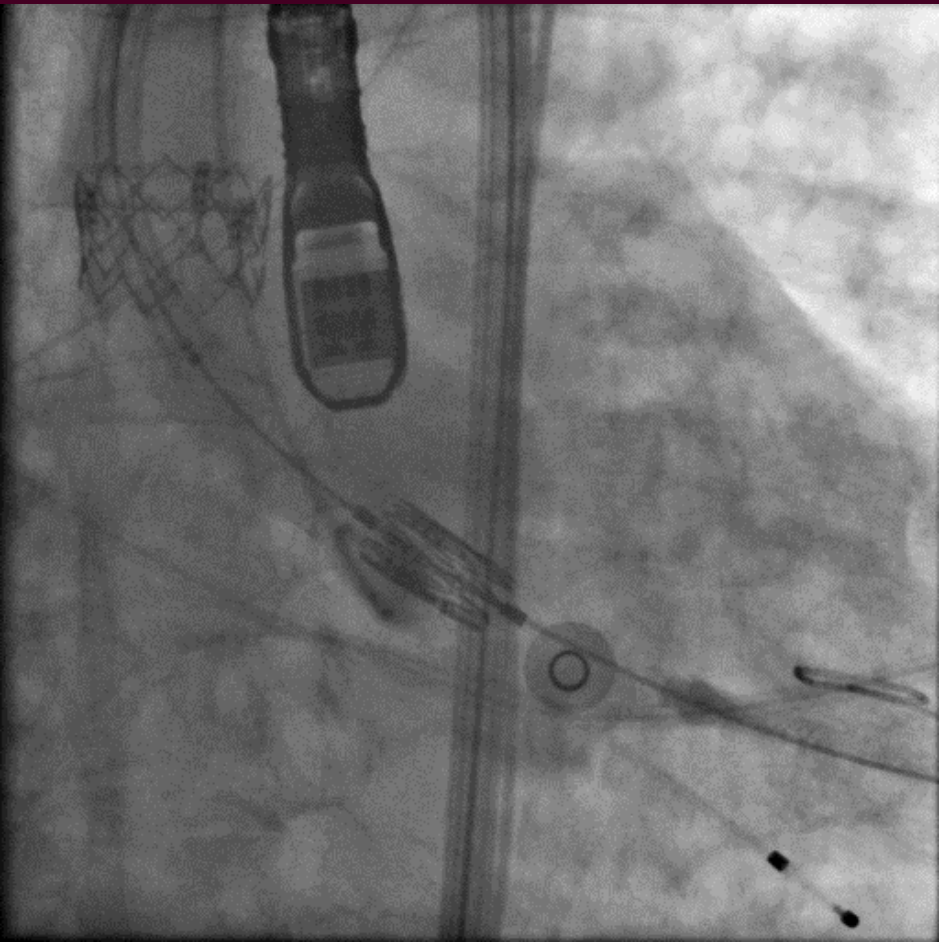


2nd Valve 23 mm

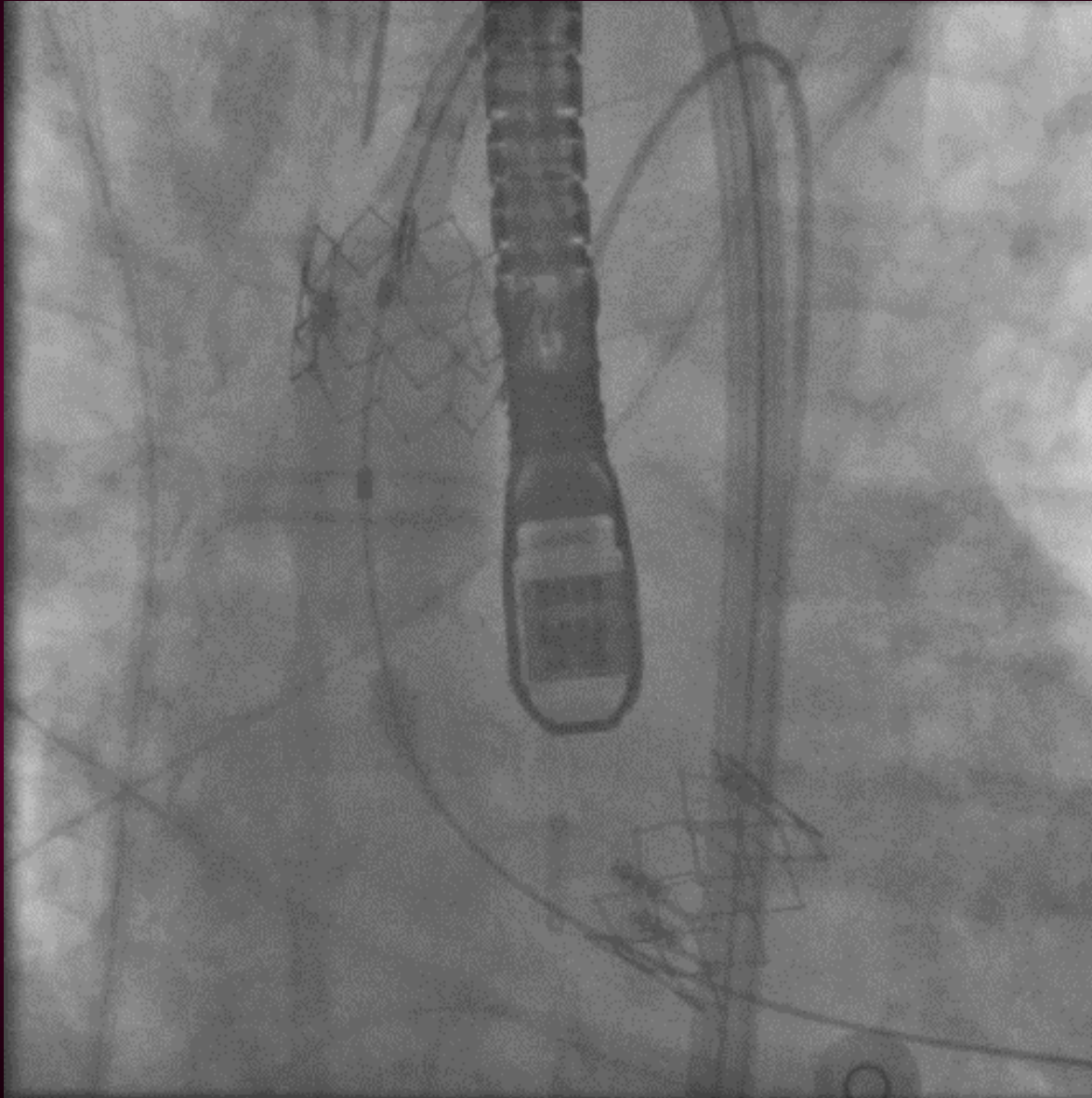


Positioning of 2nd Valve





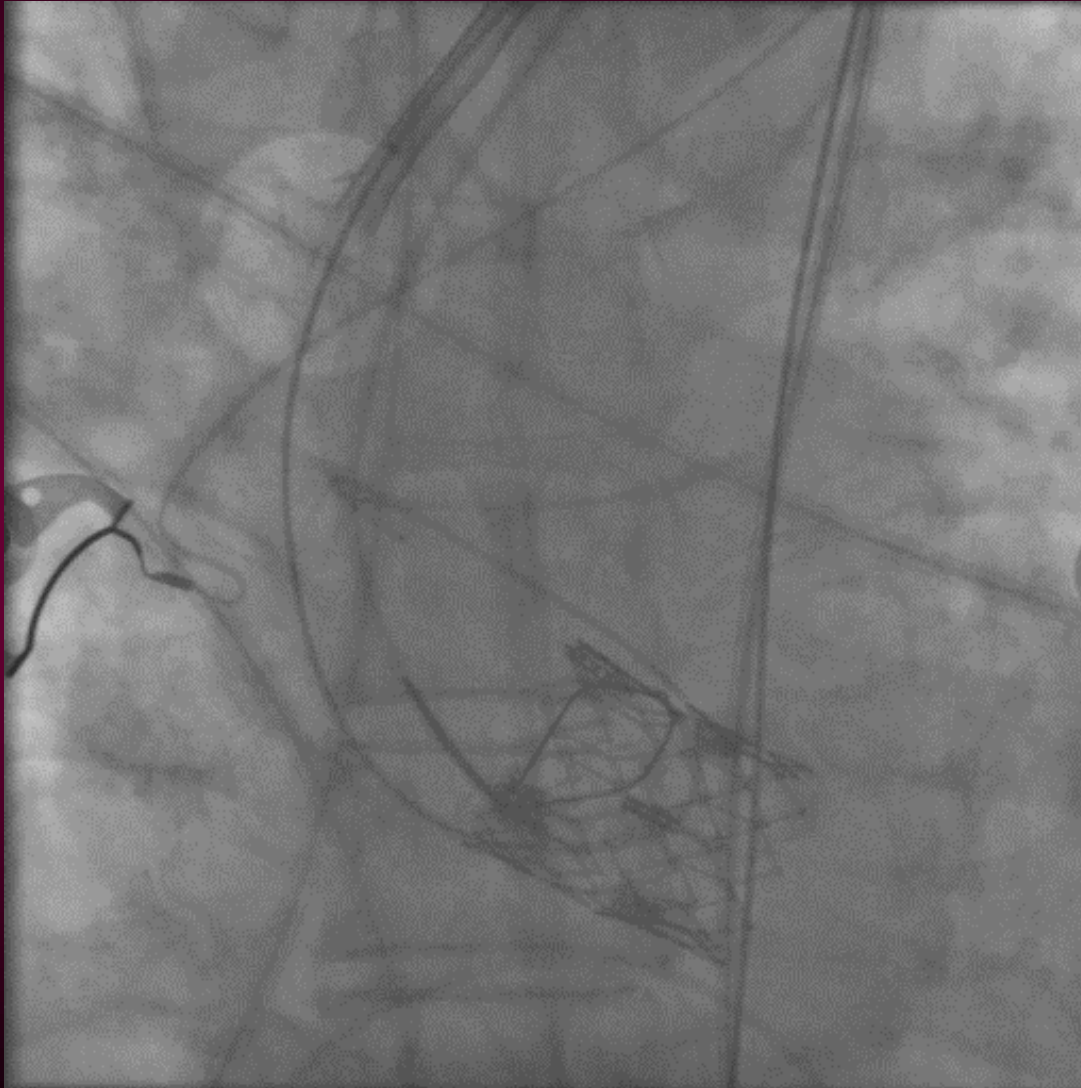
Attempted to bring valve to desc. aorta



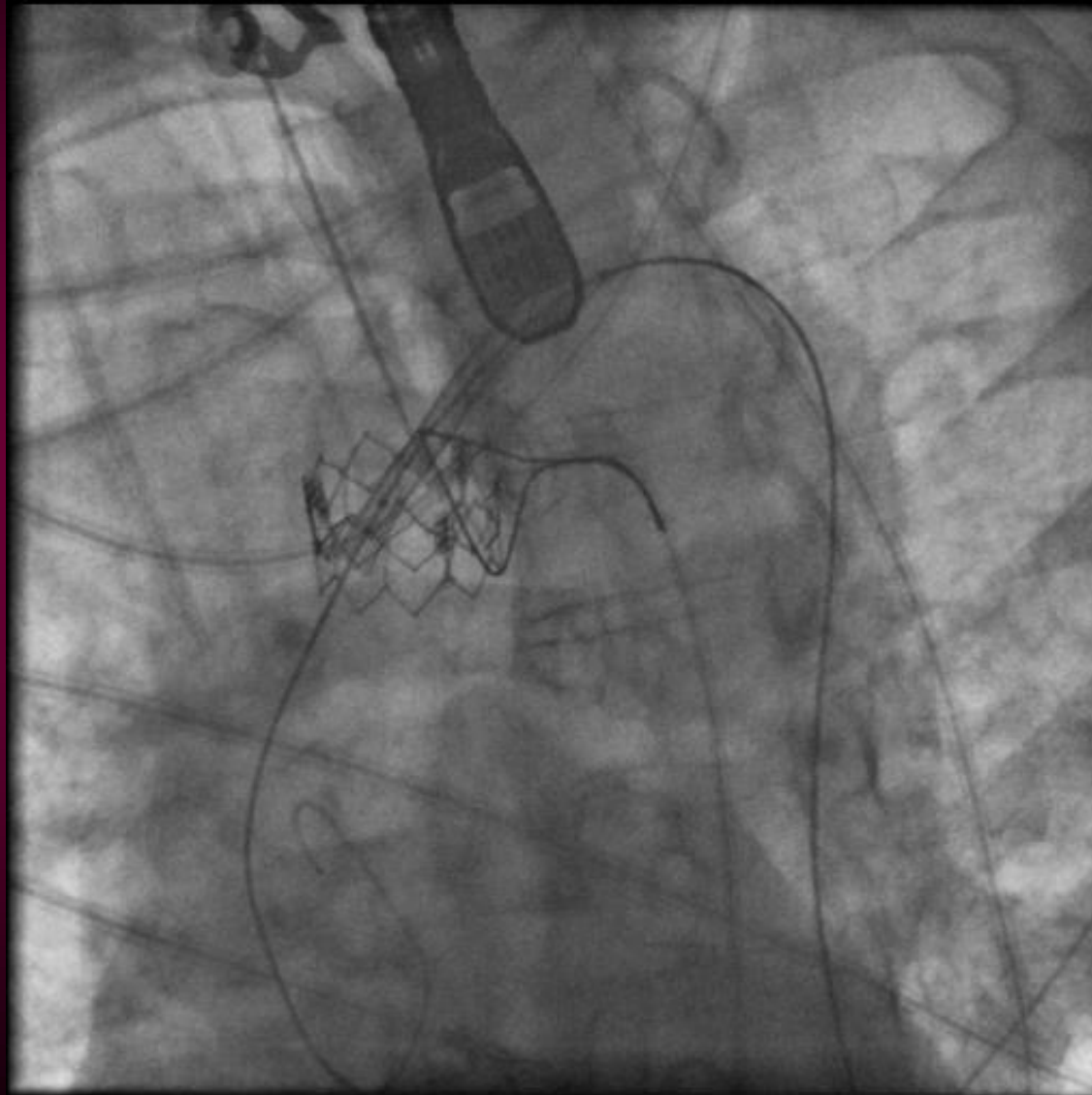
Palmaz stent 40 mm length mounted on Nucleus 28 mm balloon



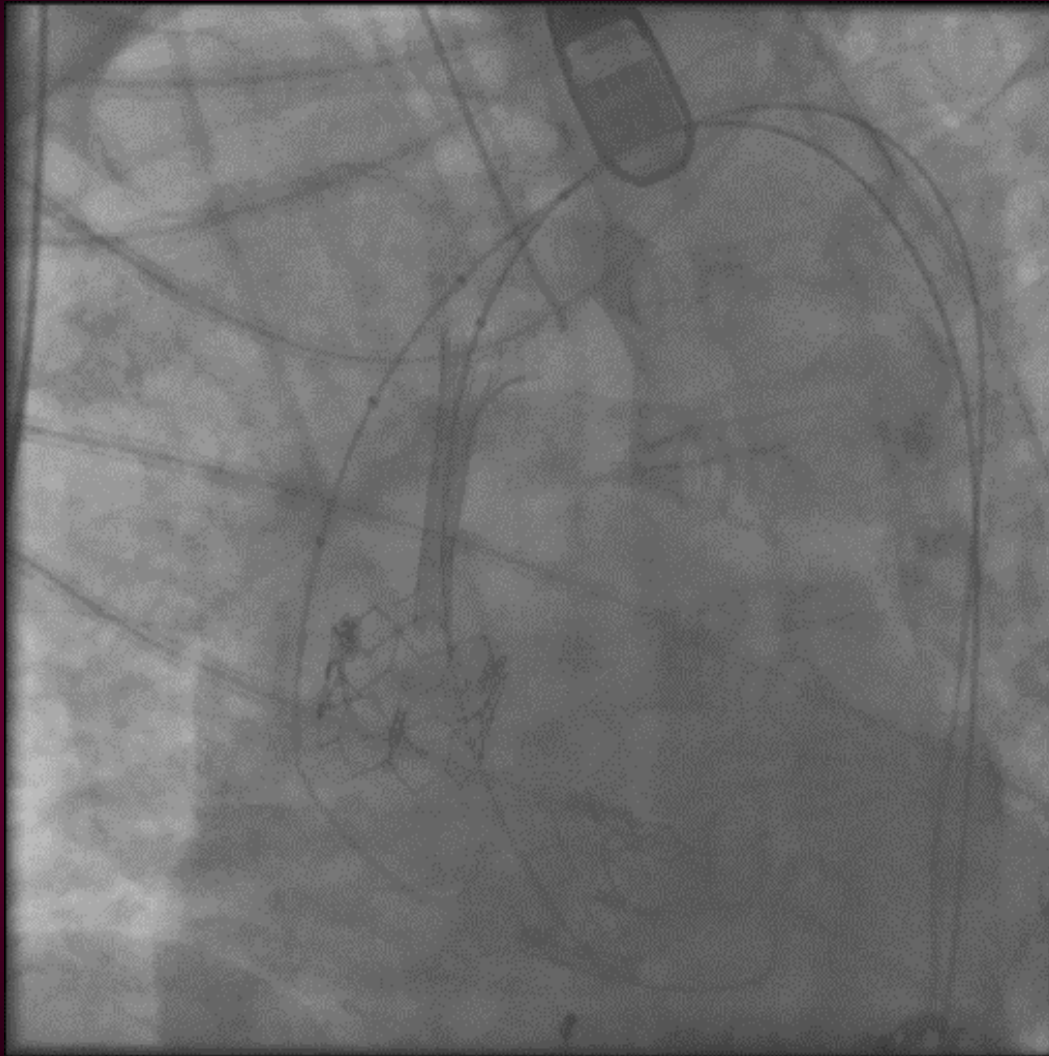
Snare to keep valve steady &
pull it up to Palmaz stent



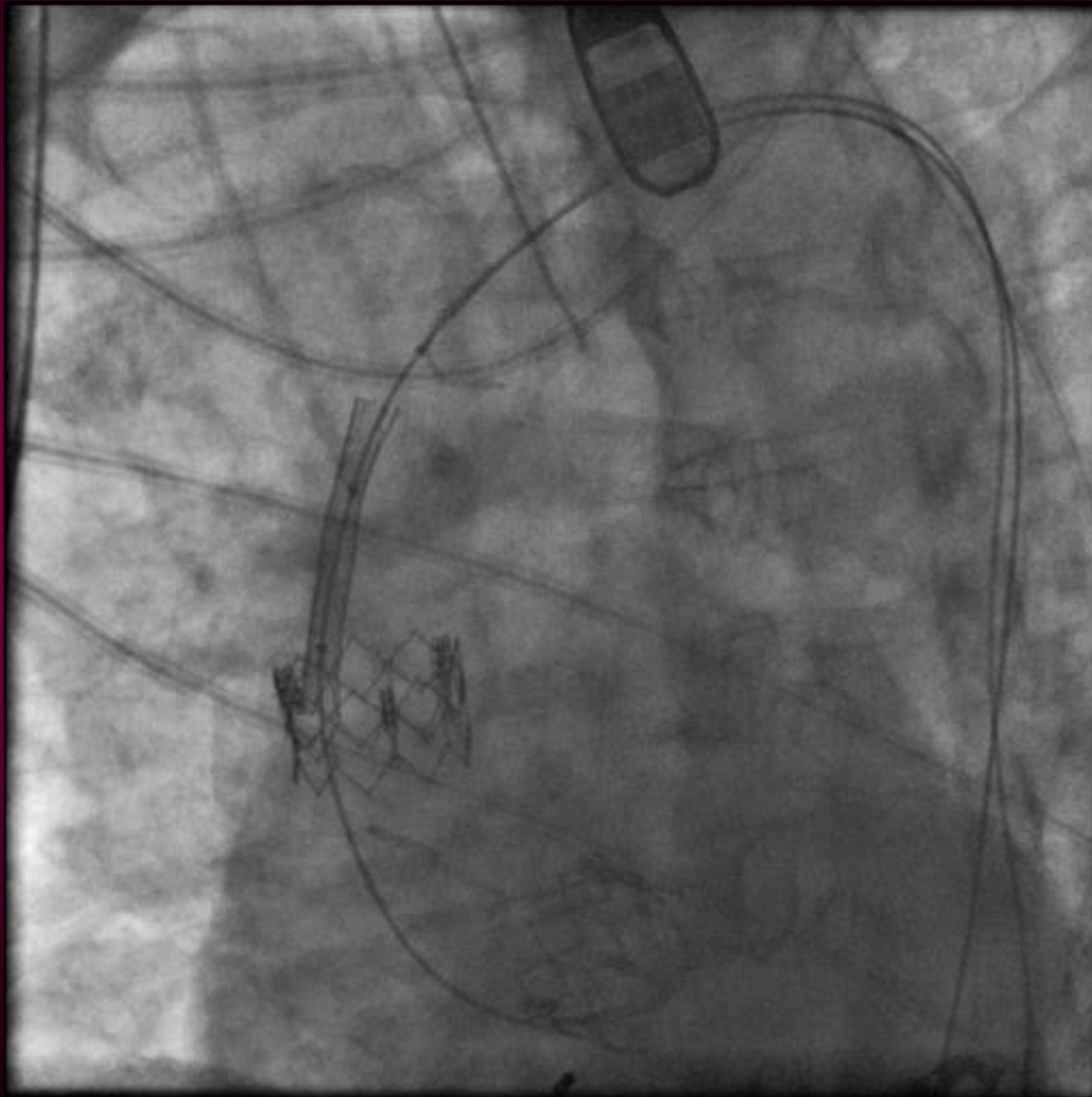
Could not push Palmaz lower (edge flair)
Position at ostium brachiocephalic artery

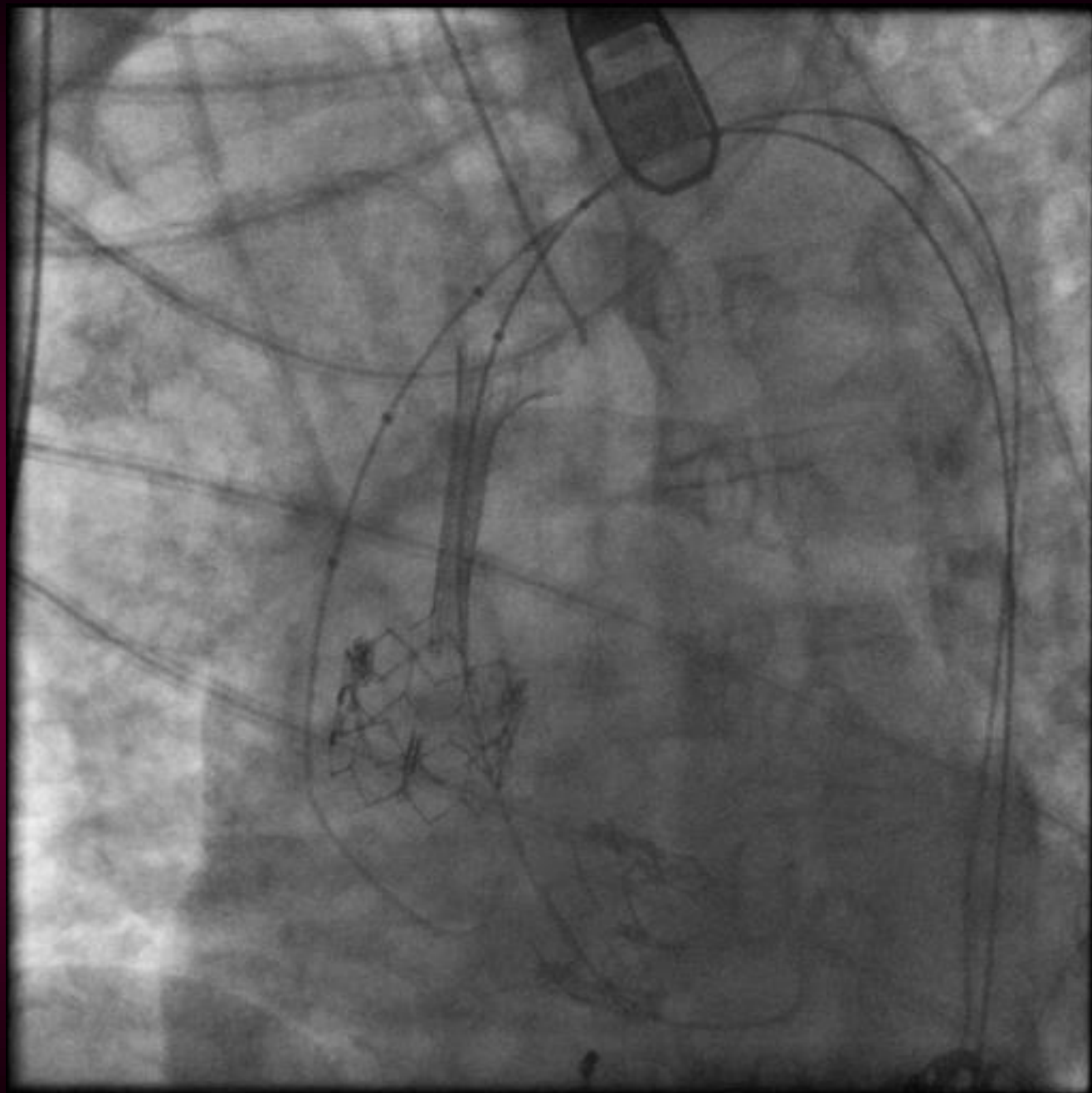


Dislodged as push Palmaz lower

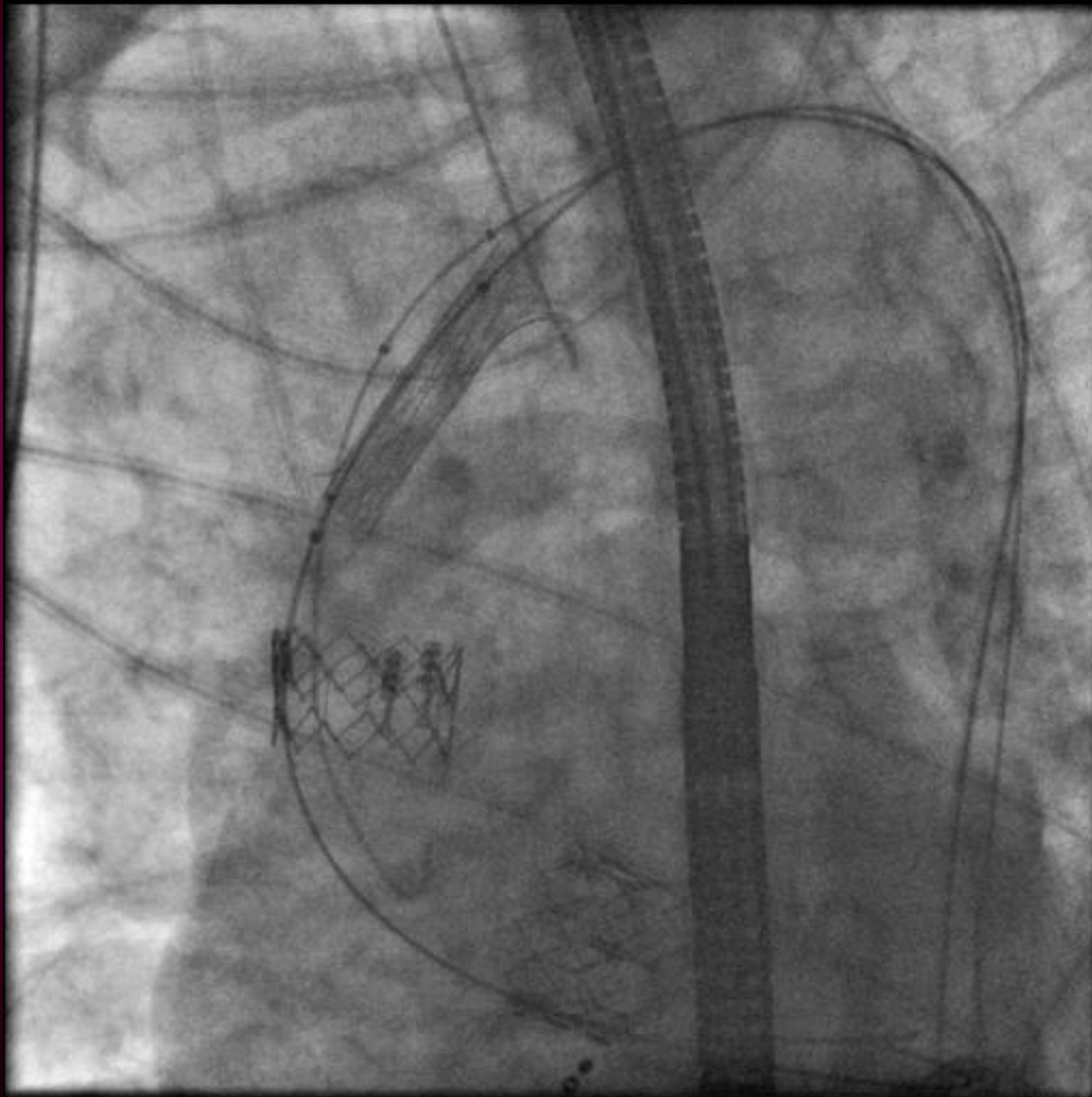


Wire through valve & getting
Balloon down to pull up valve to stent

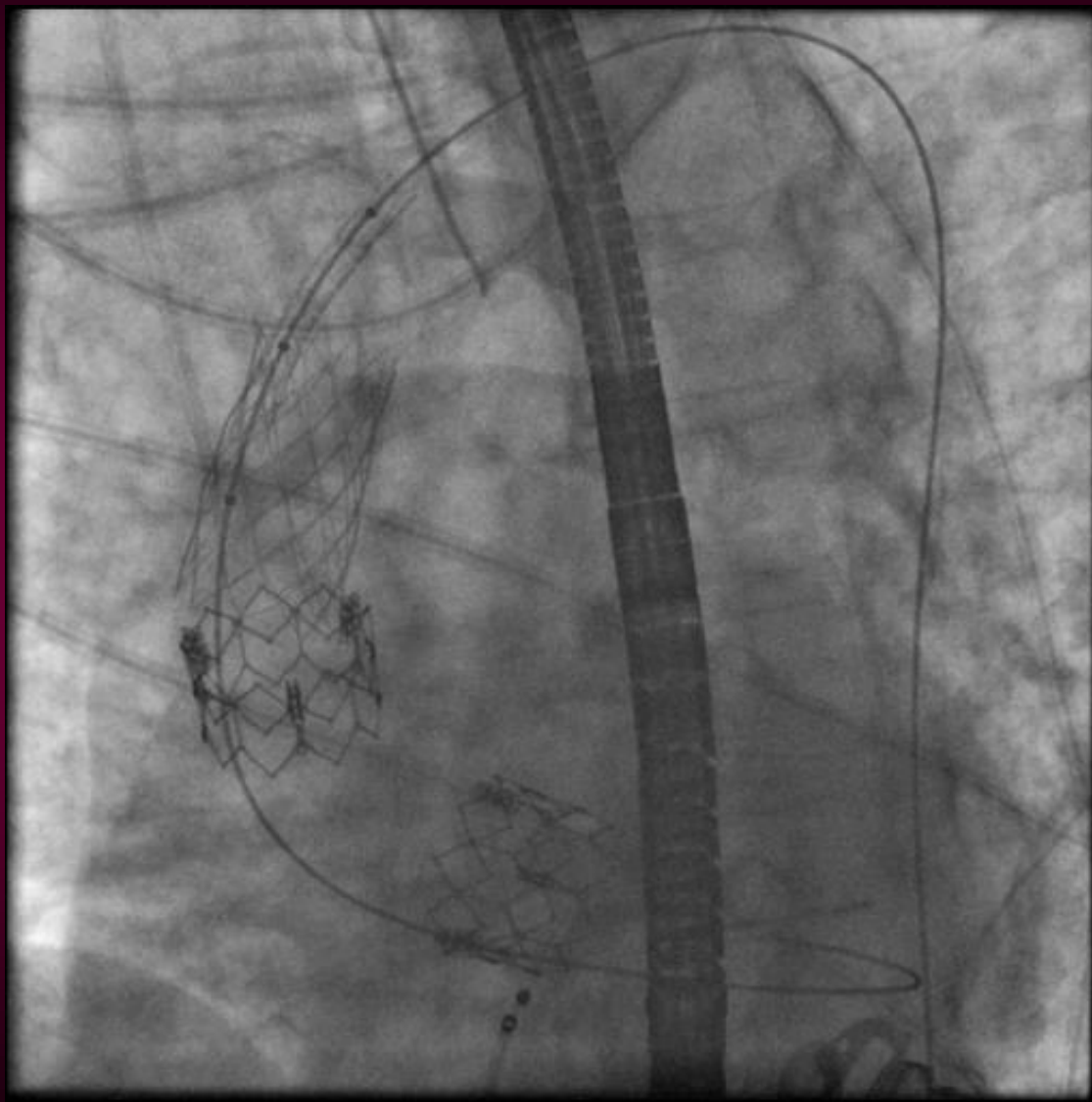


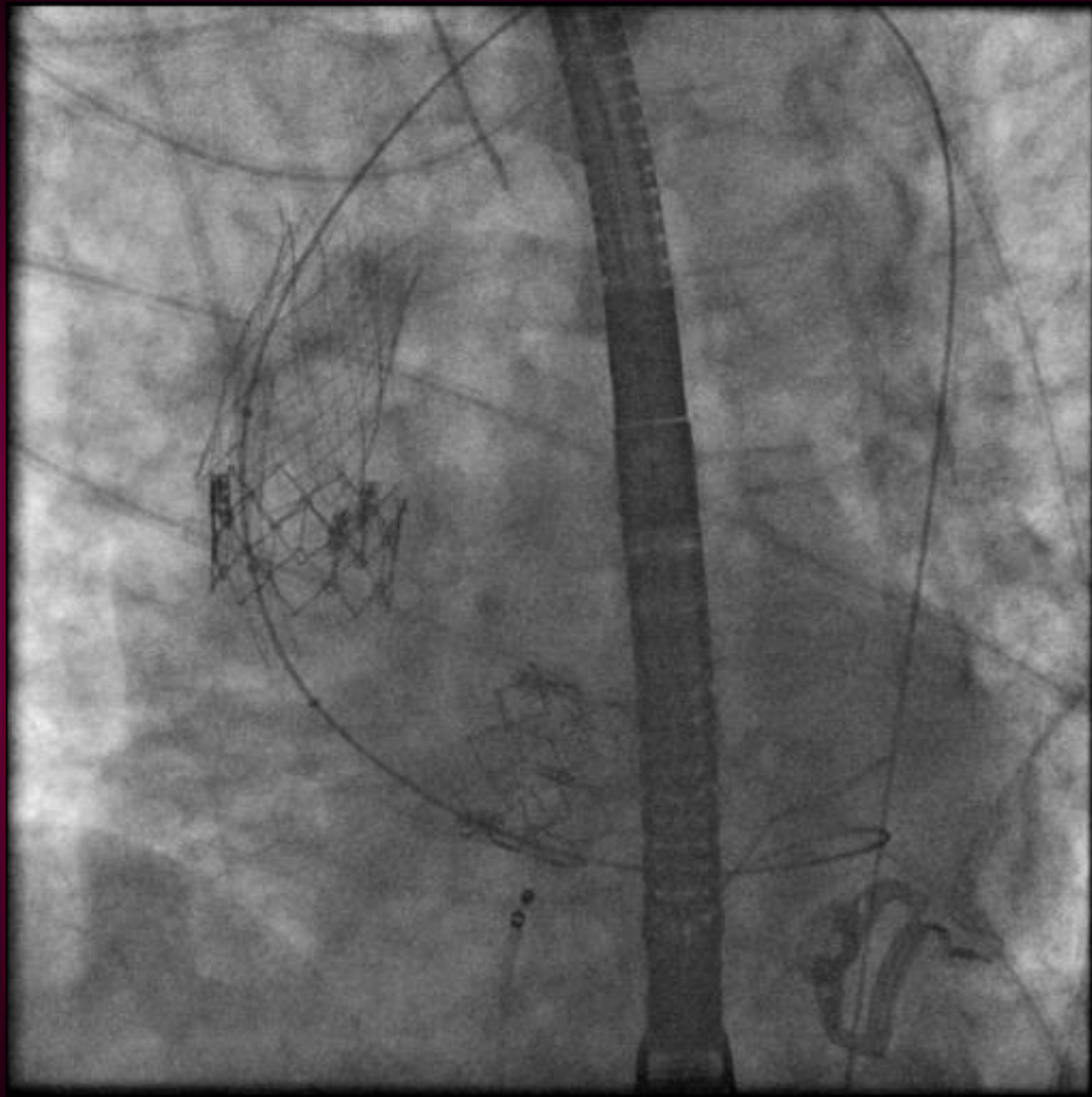


Deploy Palmaz Stent



Palmaz Genesis 10 x 40 mm



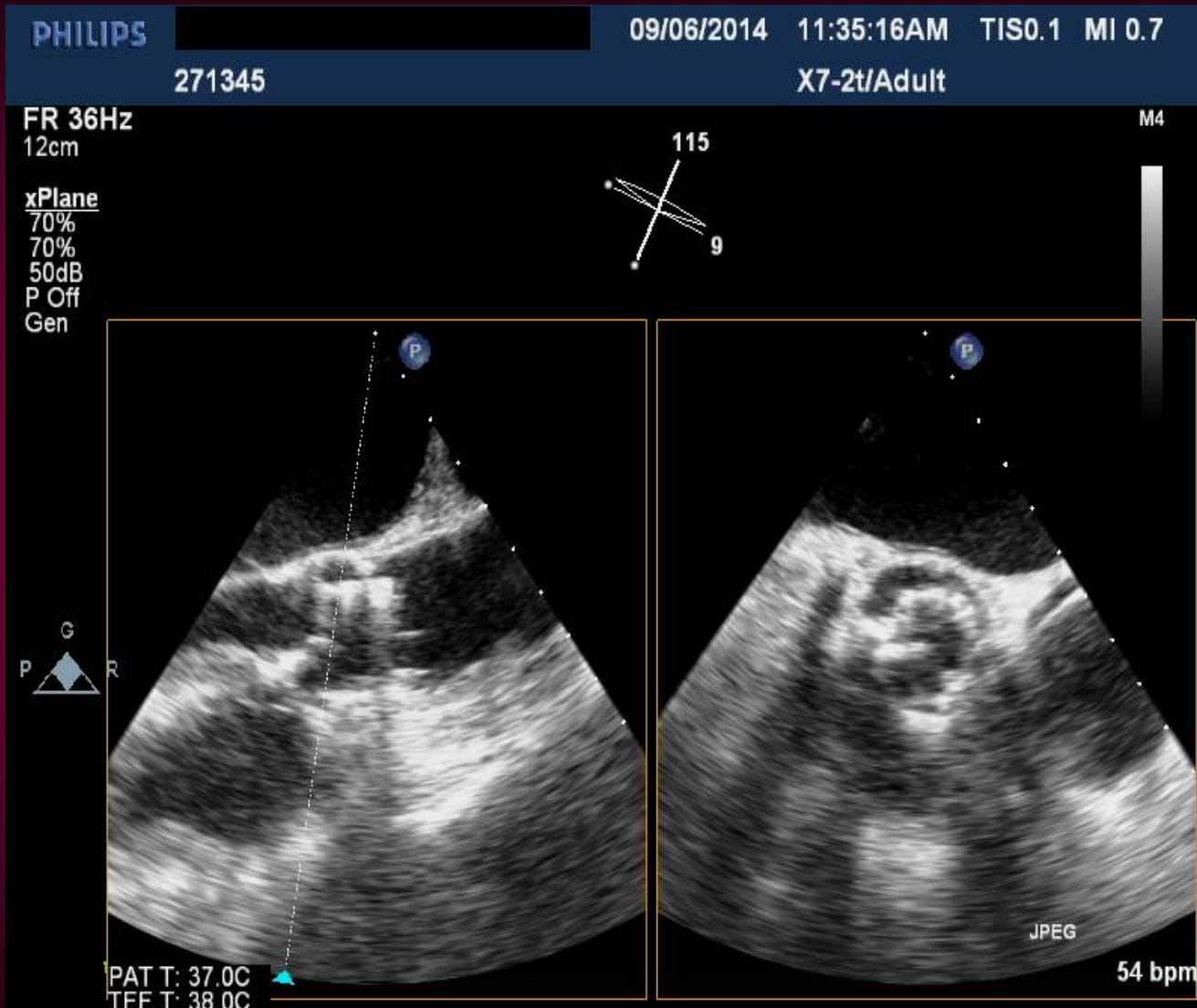


Reliant compliant balloon

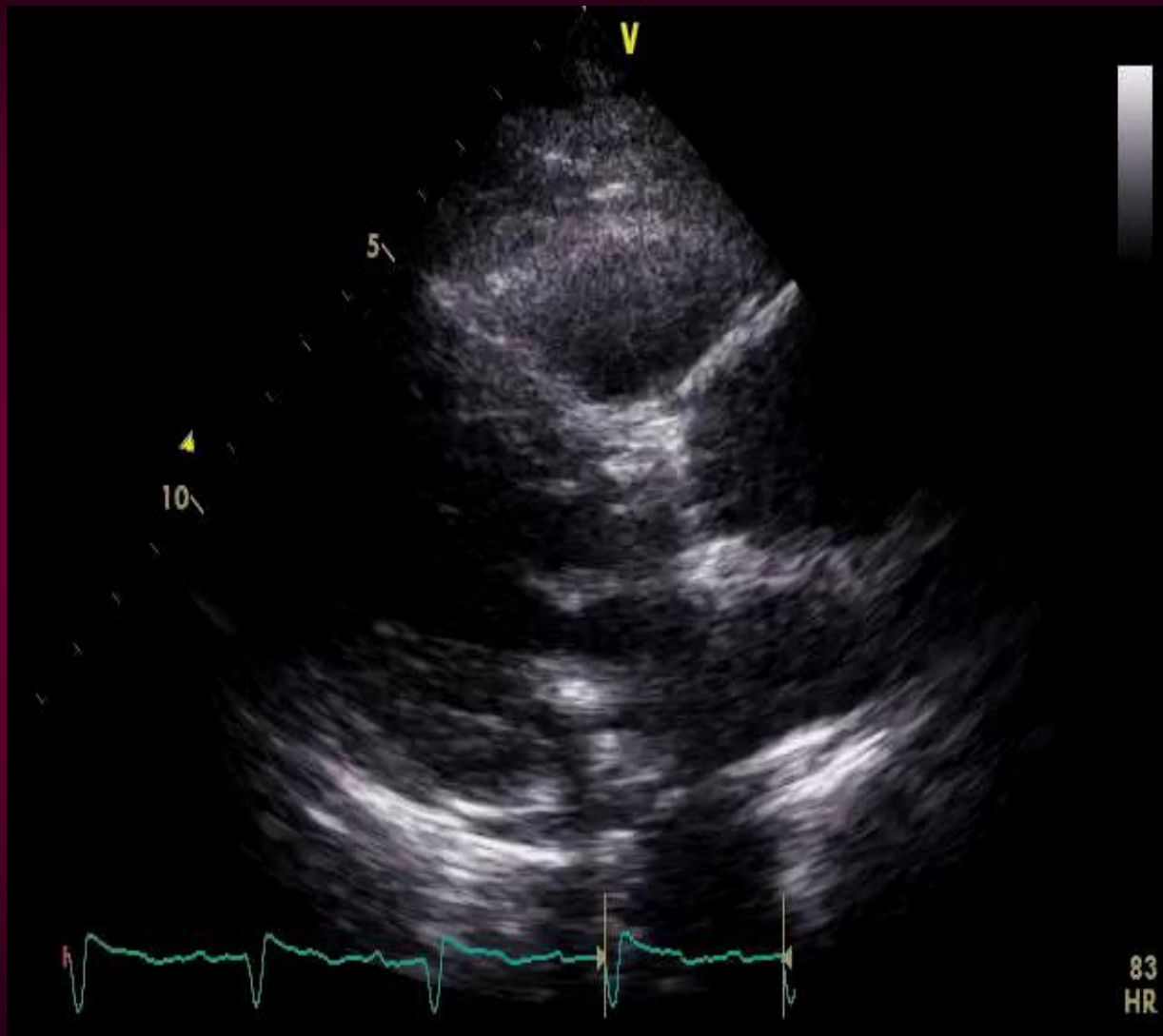




Post Procedure

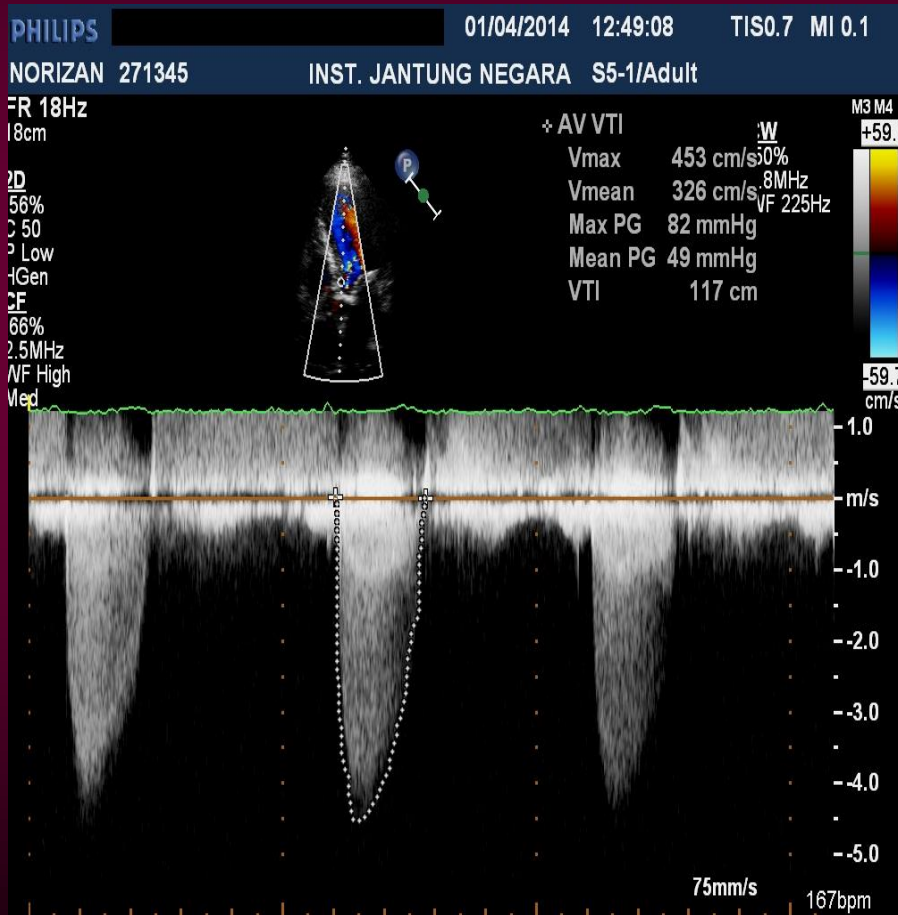


Post Procedure

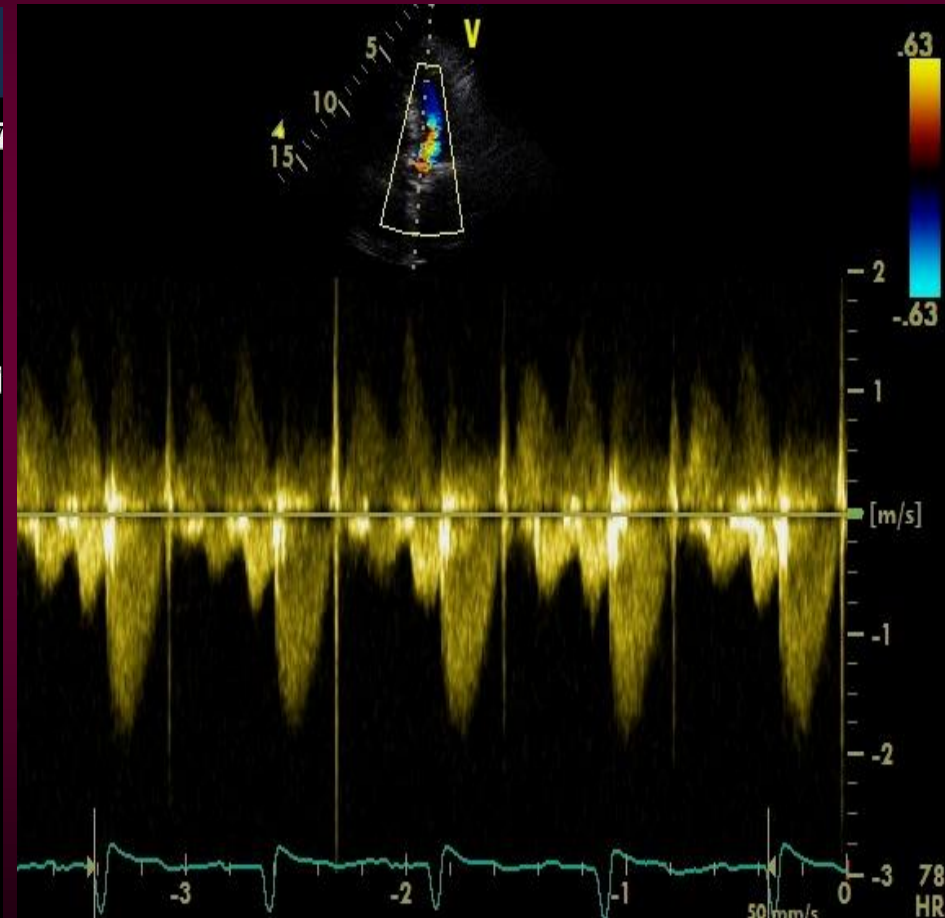


AV PG peak

Pre – 80 mmHg



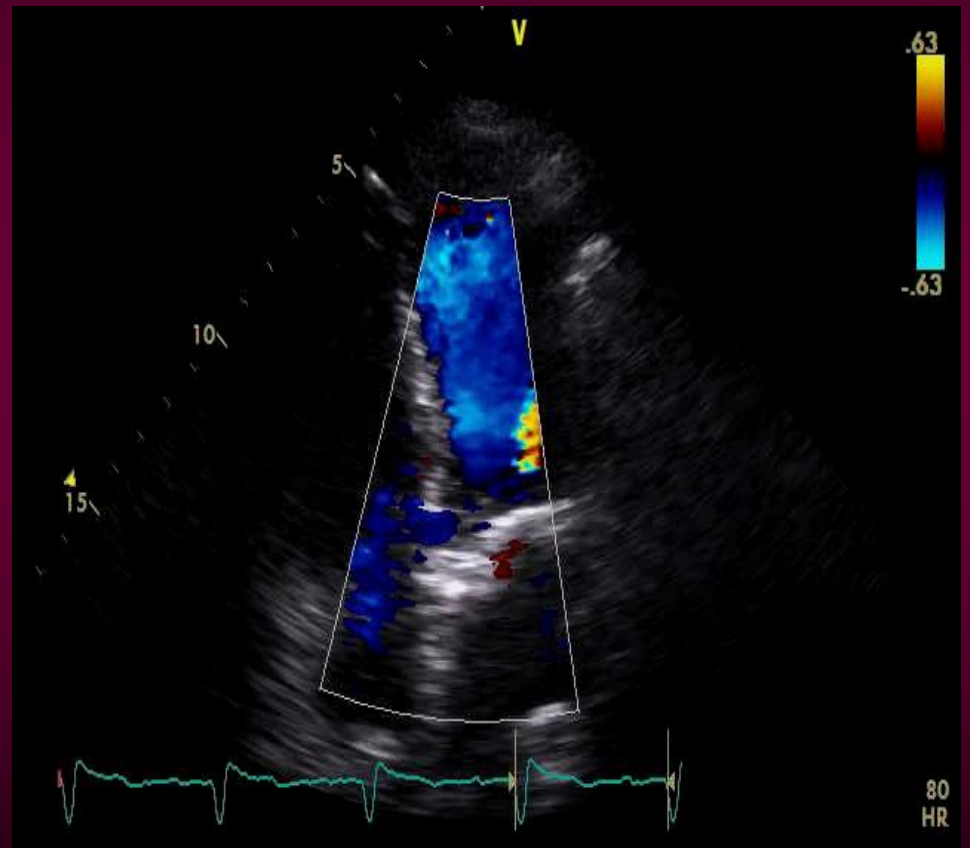
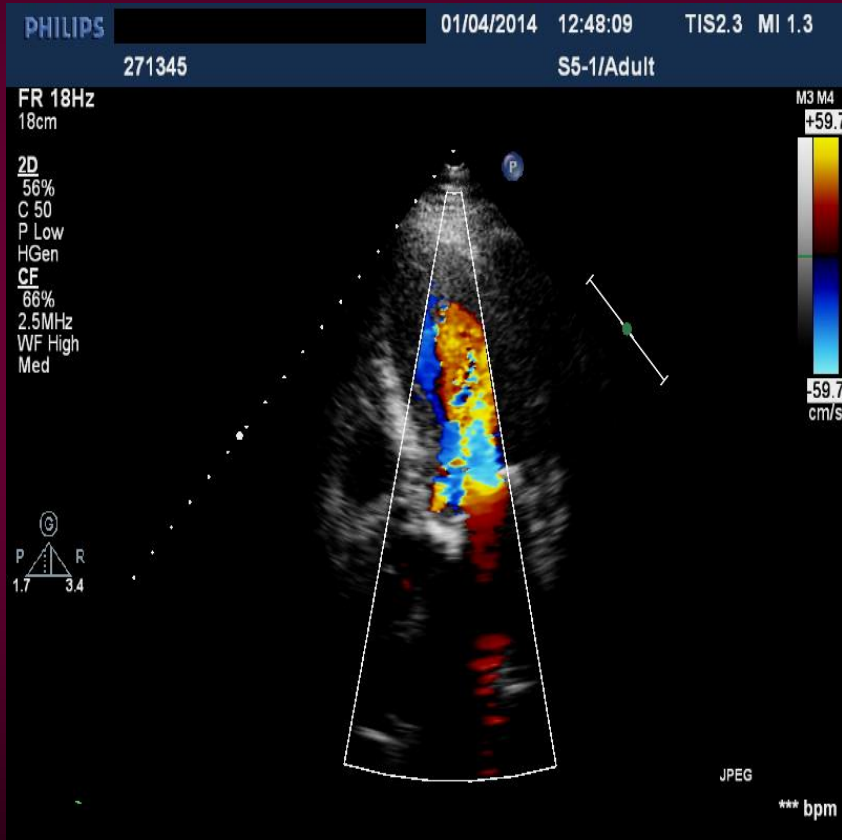
Pre – 14 mmHg



AR

Pre

Post



CCU for three days

1 pint pack cells given

	9 June	11 June	13 June
Hb (gm%)	11.1	9.2 (1 pint PC)	10.6

Creatinine umol/L	95	187	144
----------------------	----	-----	-----

Discharge well day 5

Definition

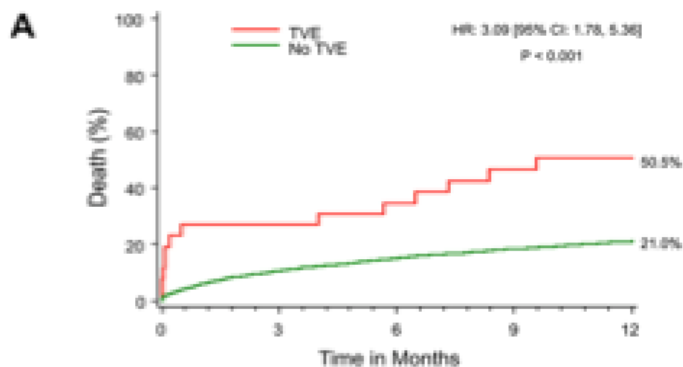
- Dislocation – Medtronic CoreValve THV
 - A valve position outside the native aortic annulus
- Embolization – Edwards Sapien(XT) THV
 - A THV became freely mobile in the aorta after attempted implantation in the aortic annulus

Causes of embolization

- Malpositioning
- Annulus/aortic valvular complex anatomy
- Co-axiality not achieved during deployment
- Inadequate ventricular pacing
- Prior mitral valve replacement surgery
- Direct valve implantation
- Post dilatation

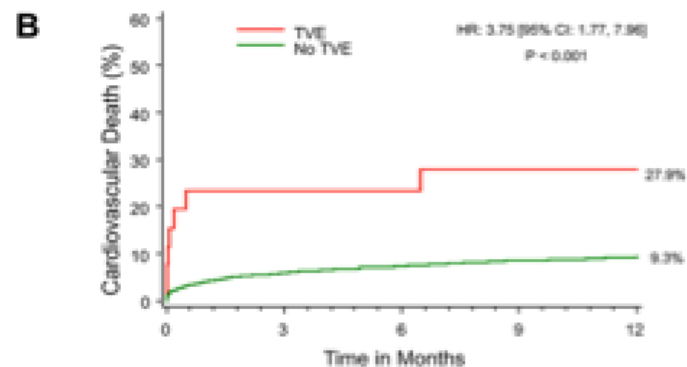
Tay et.al. Outcome of patients after transcatheter Aortic Valve Embolization. JACC, 2011, 4: 228-34

Impact of Transcatheter Valve Embolization on Outcome



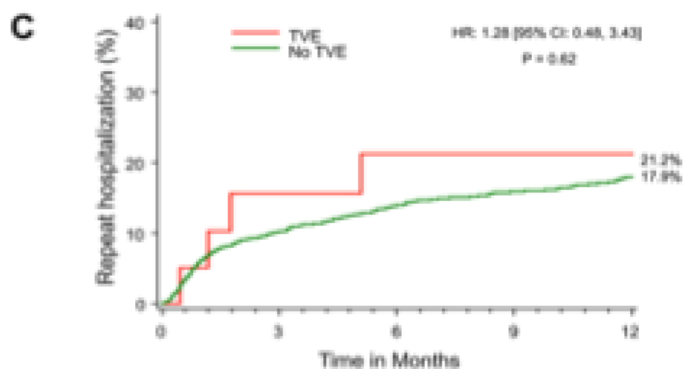
Number at risk:

	0	3	6	9	12
TVE	26	19	17	13	11
No TVE	2528	2218	1961	1751	1330



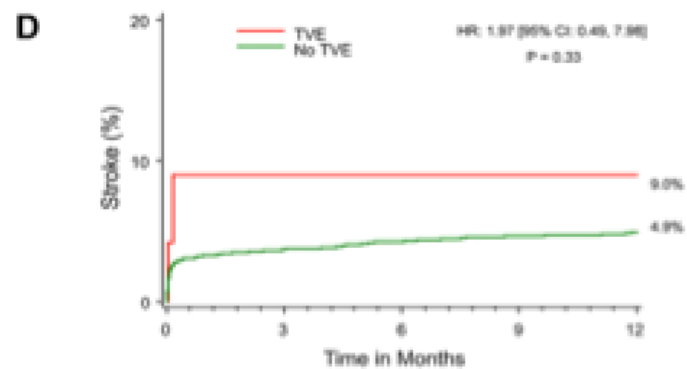
Number at risk:

	0	3	6	9	12
TVE	26	19	17	13	11
No TVE	2528	2218	1961	1751	1330



Number at risk:

	0	3	6	9	12
TVE	26	16	13	12	10
No TVE	2528	2011	1729	1524	1127



Number at risk:

	0	3	6	9	12
TVE	26	16	16	12	10
No TVE	2528	2149	1905	1696	1280

Dislodged Valve

Occurred during deployment & pacing
Secondary to ventricular ectopic

Always maintain wire

Bring it back to descending Ao

If cannot, ensure valve is stable in Asc. Ao.