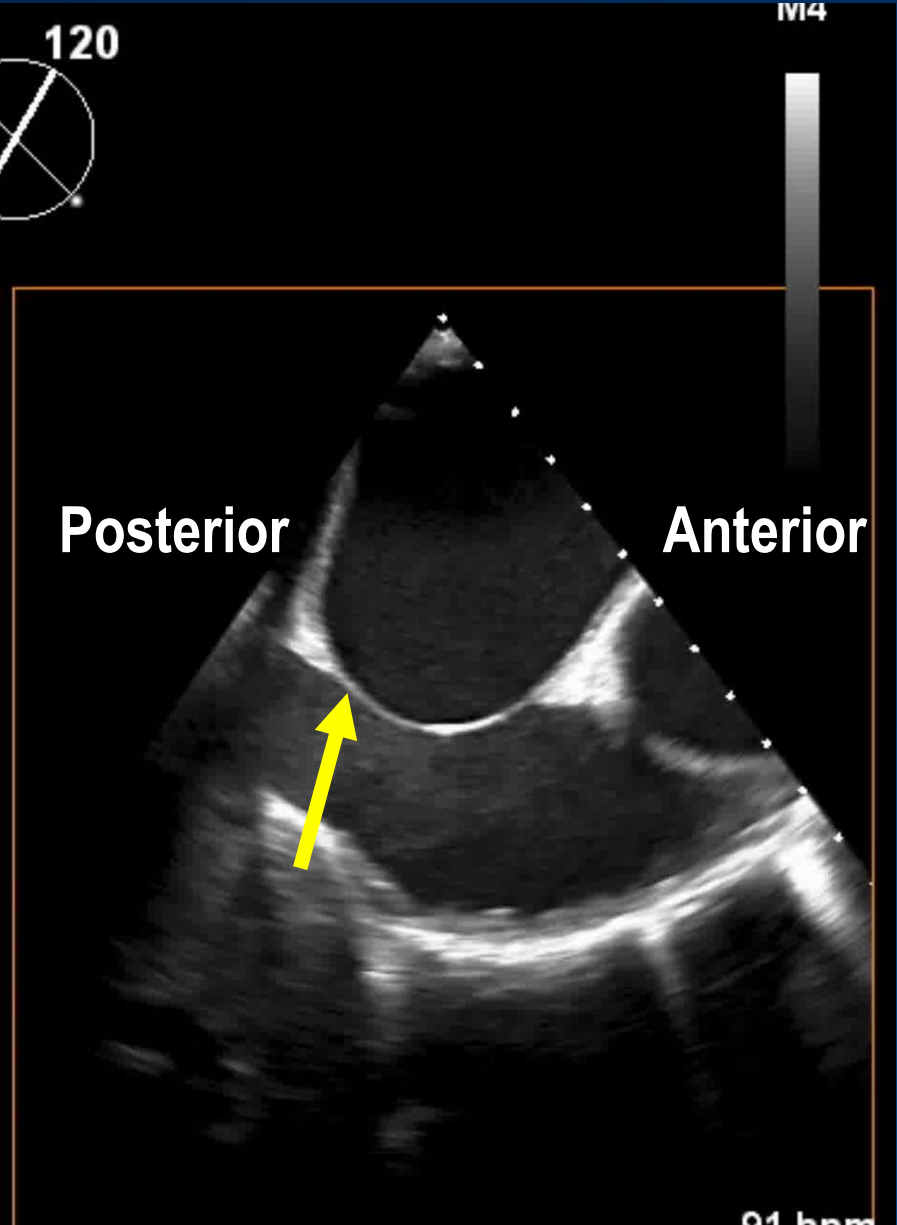
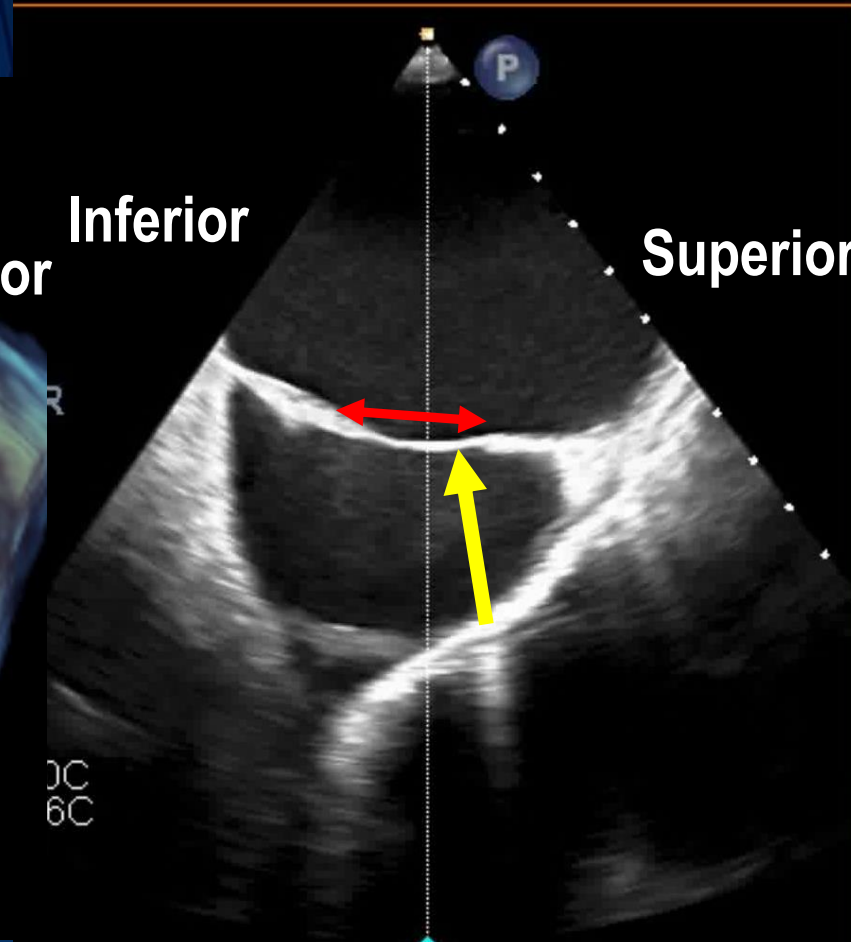
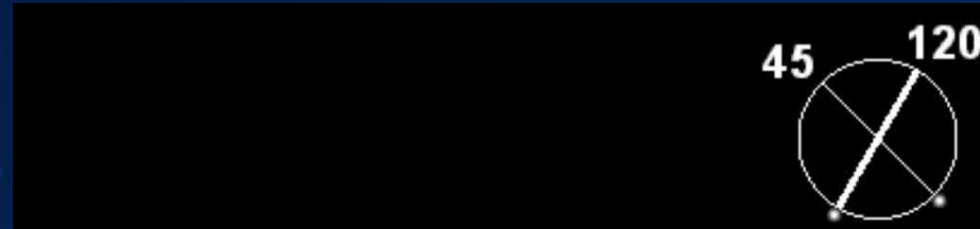
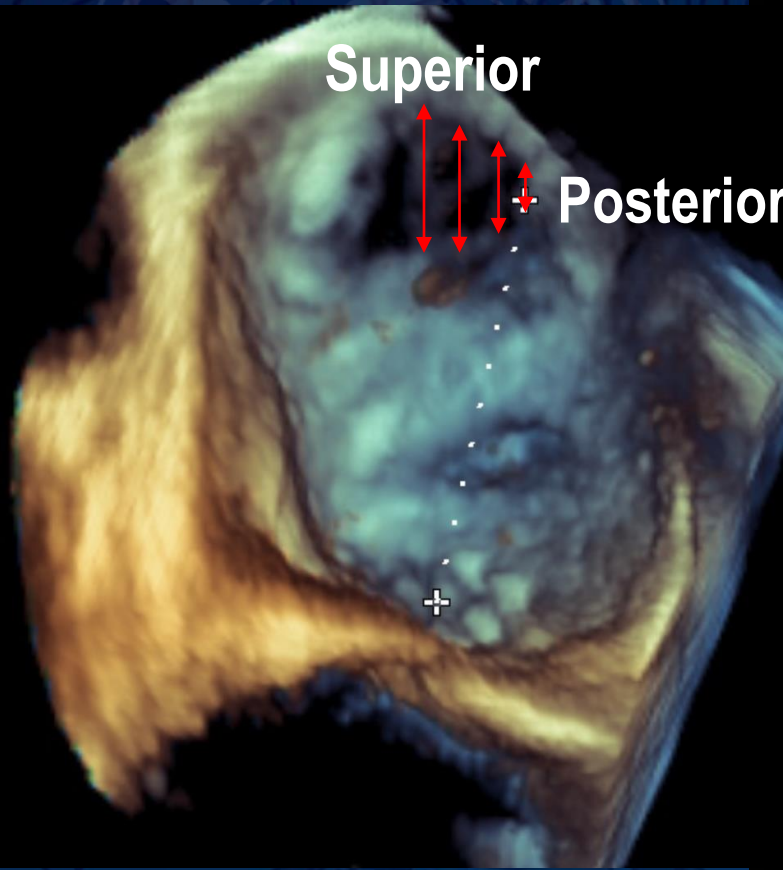


Advanced Procedural Guidance for Mitral Transcatheter Edge-to-Edge Repair

Dae-Hee Kim
Asan Medical Center
Ulsan College of Medicine

Trans septal puncture

To posterior 

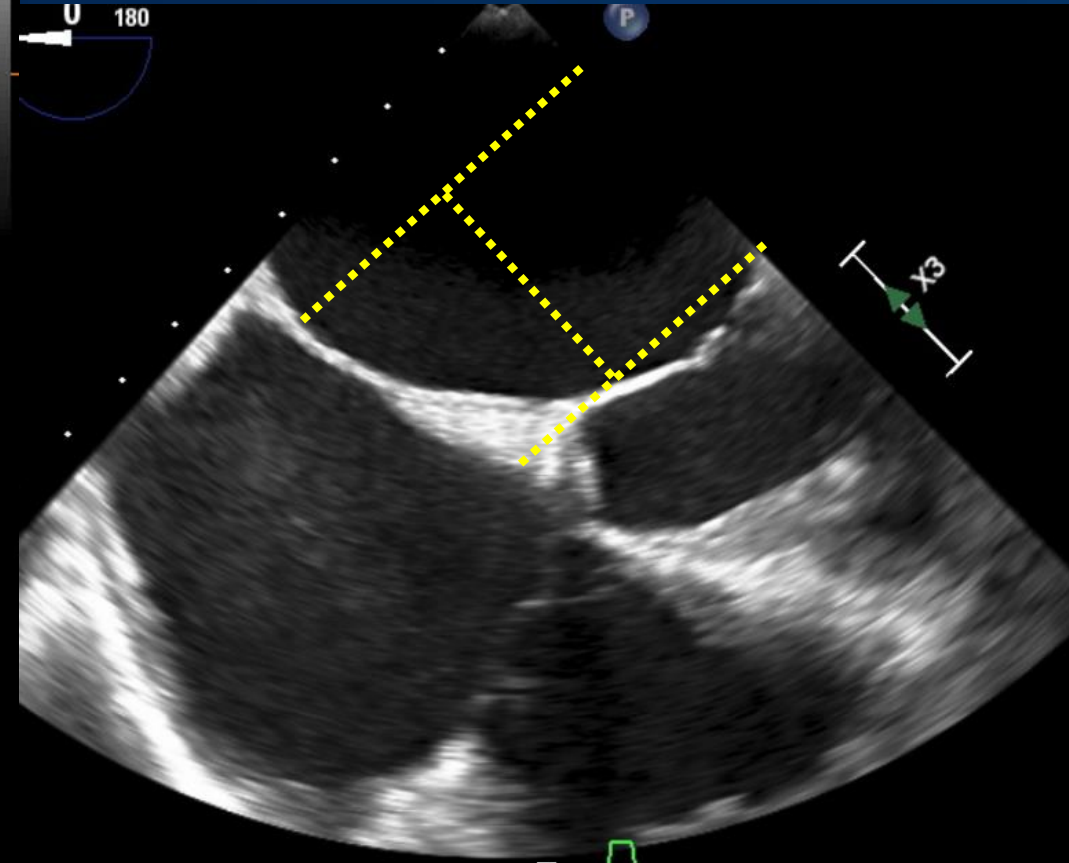
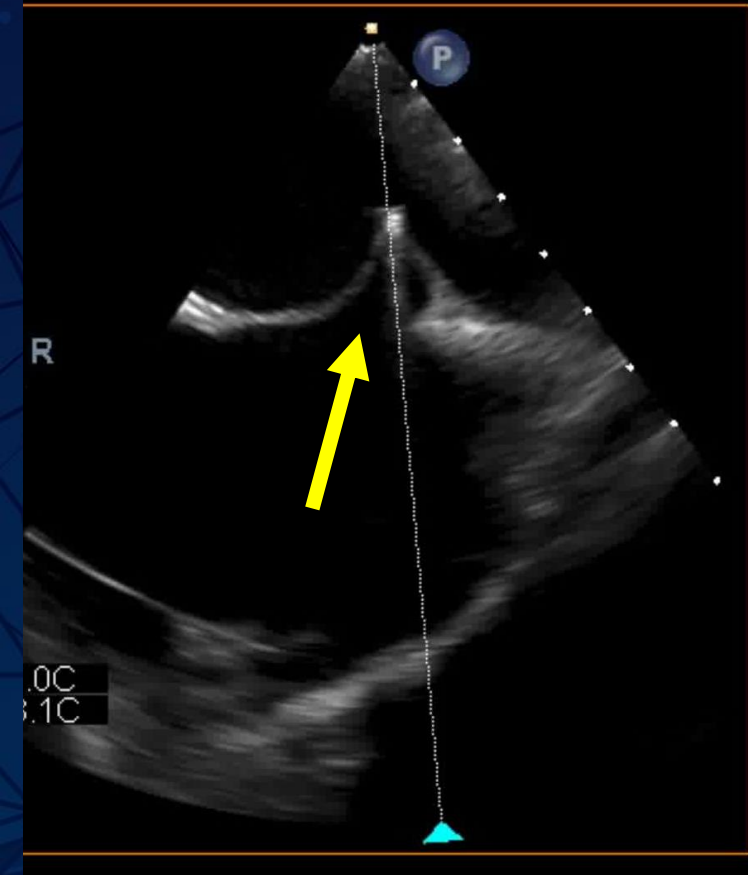


Transseptal puncture – Mid-Posterior

Bicaval

120
-5

SAX

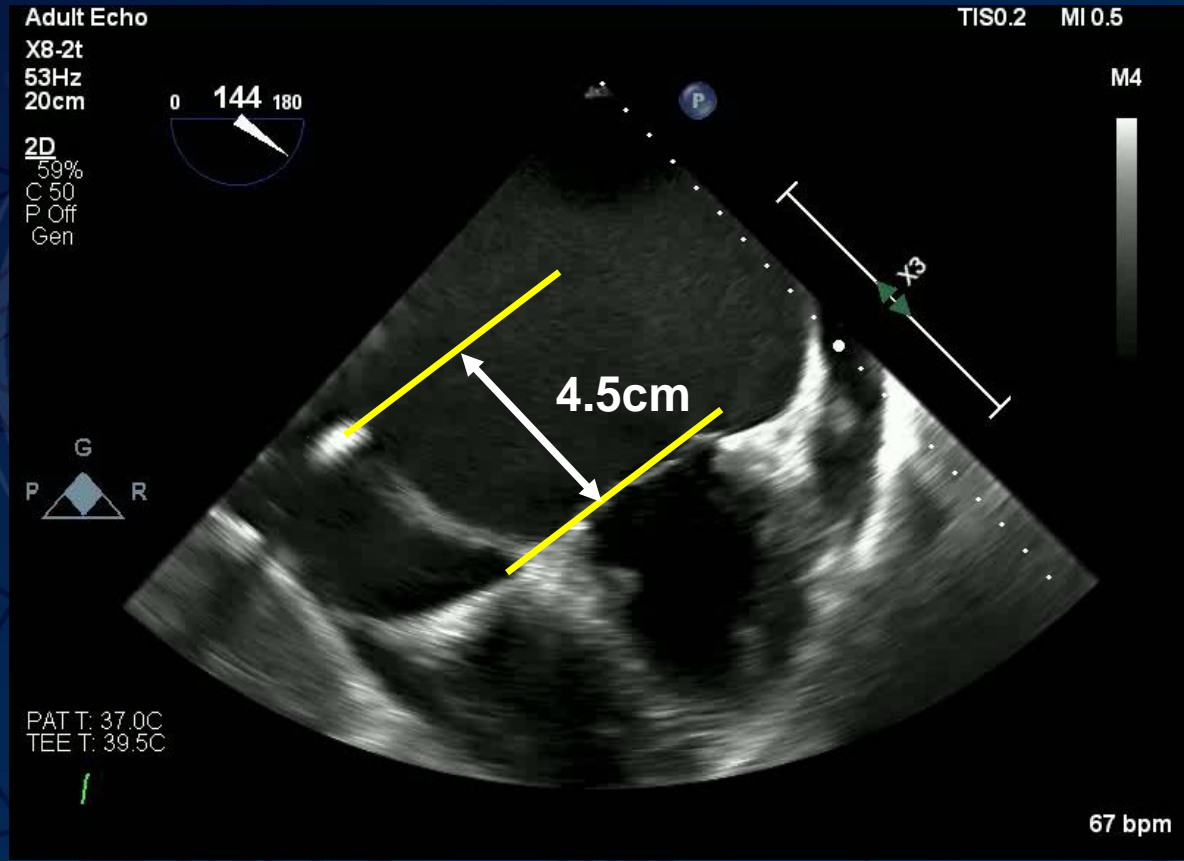


Suitable TSP height is 4.0-4.5 cm

3D location of puncture site



3D location of puncture site



Very severe atrial FMR
Hugely dilated LA

Clip maneuver in LA

3D en face

Anterior



Lateral

Lateral

Anterior



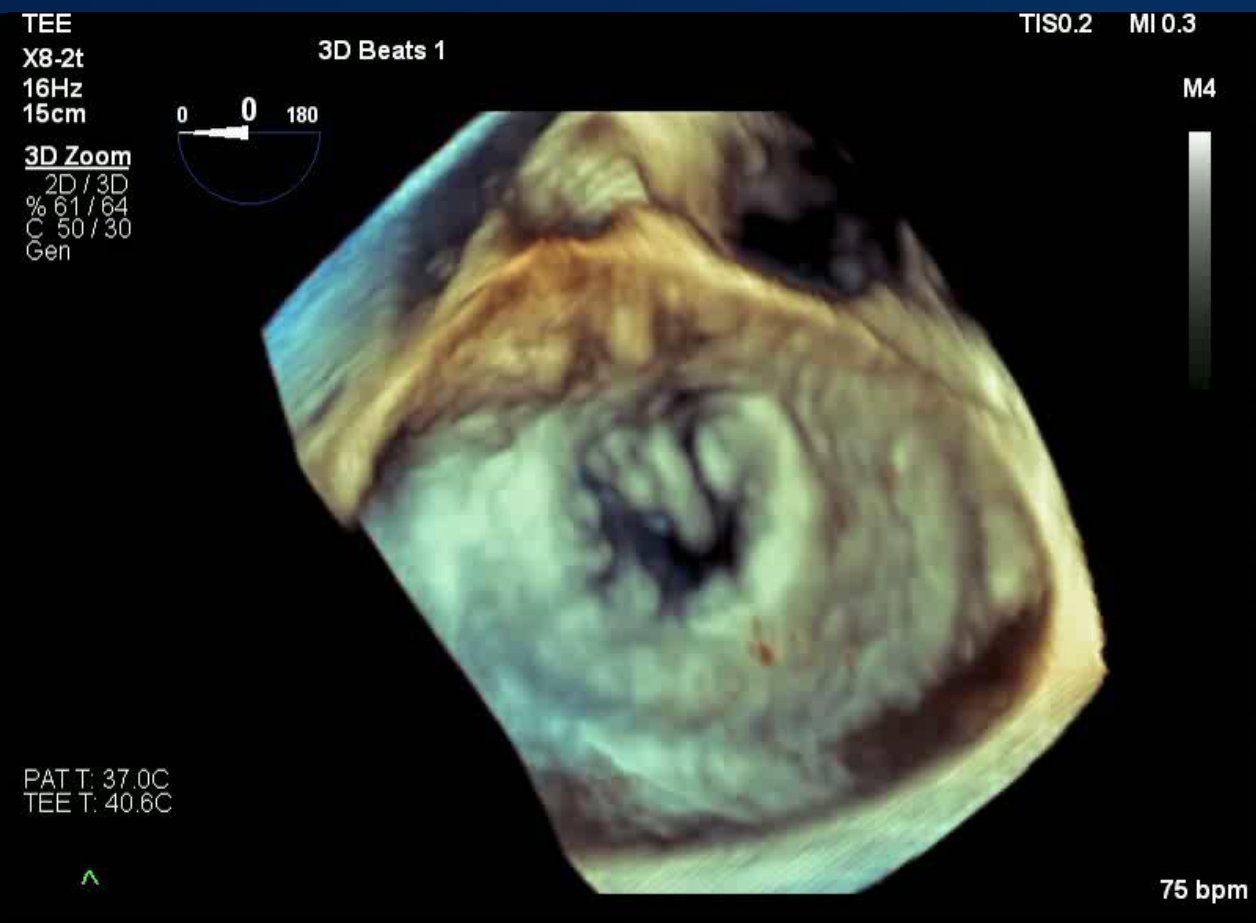
Adult Echo X8-2t 11Hz 8.4cm 3D Beats 1 TISO.2 MI 0.3 M4

0 55 180

3D Zoom 2D / 3D % 56 / 33 C 50 / 30 Gen

PAT T: 37.0C TEE T: 38.8C

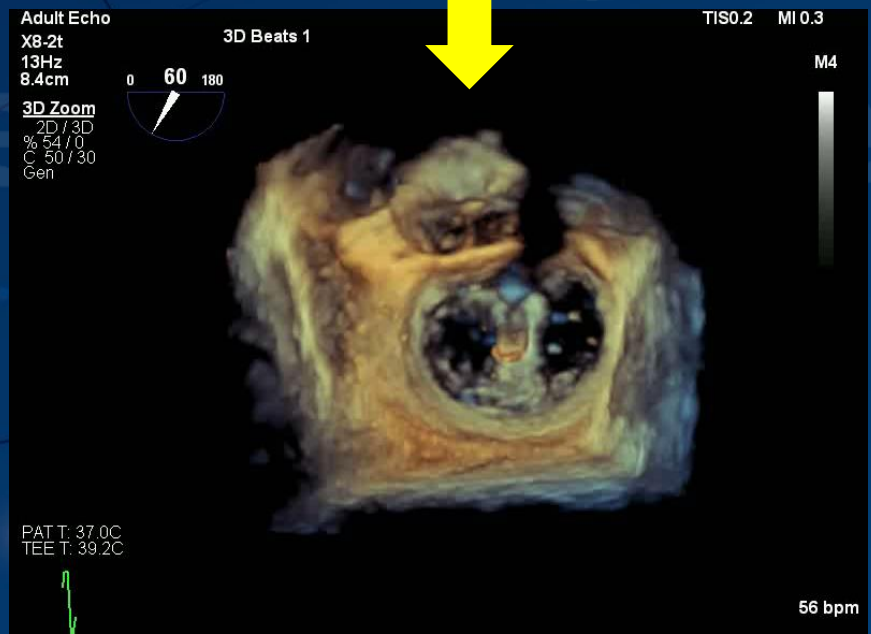
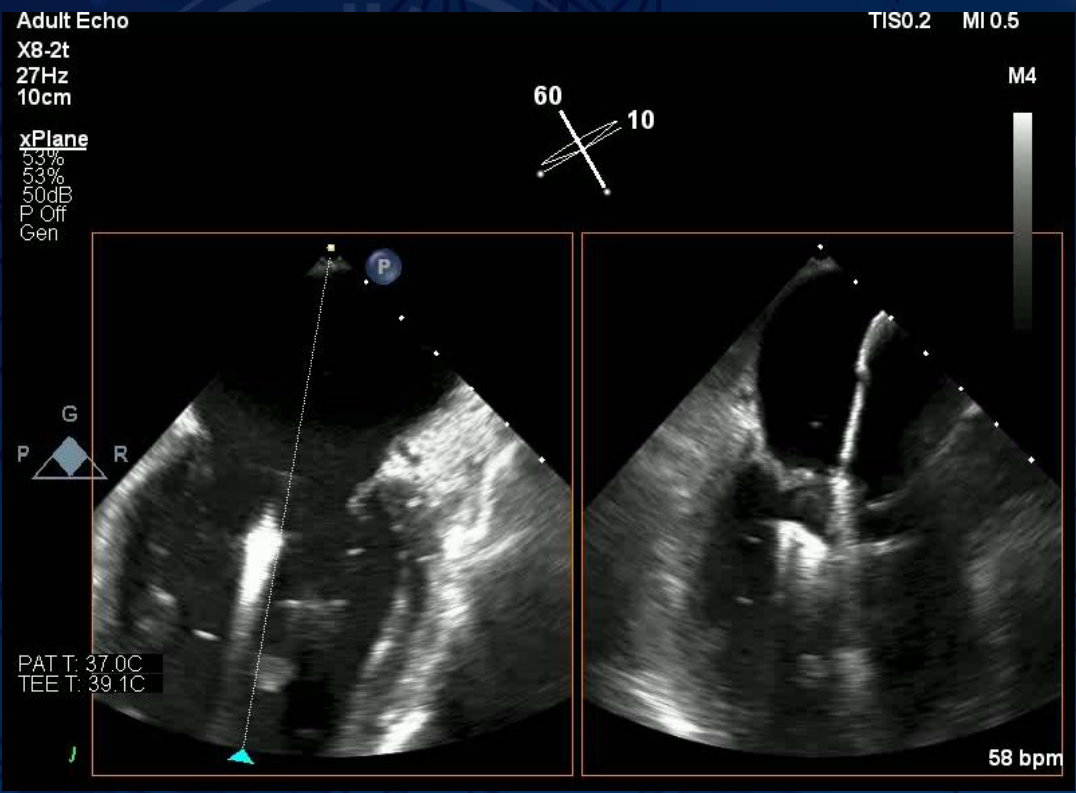
96 bpm



Sphericity index=0.81
NPA=132°

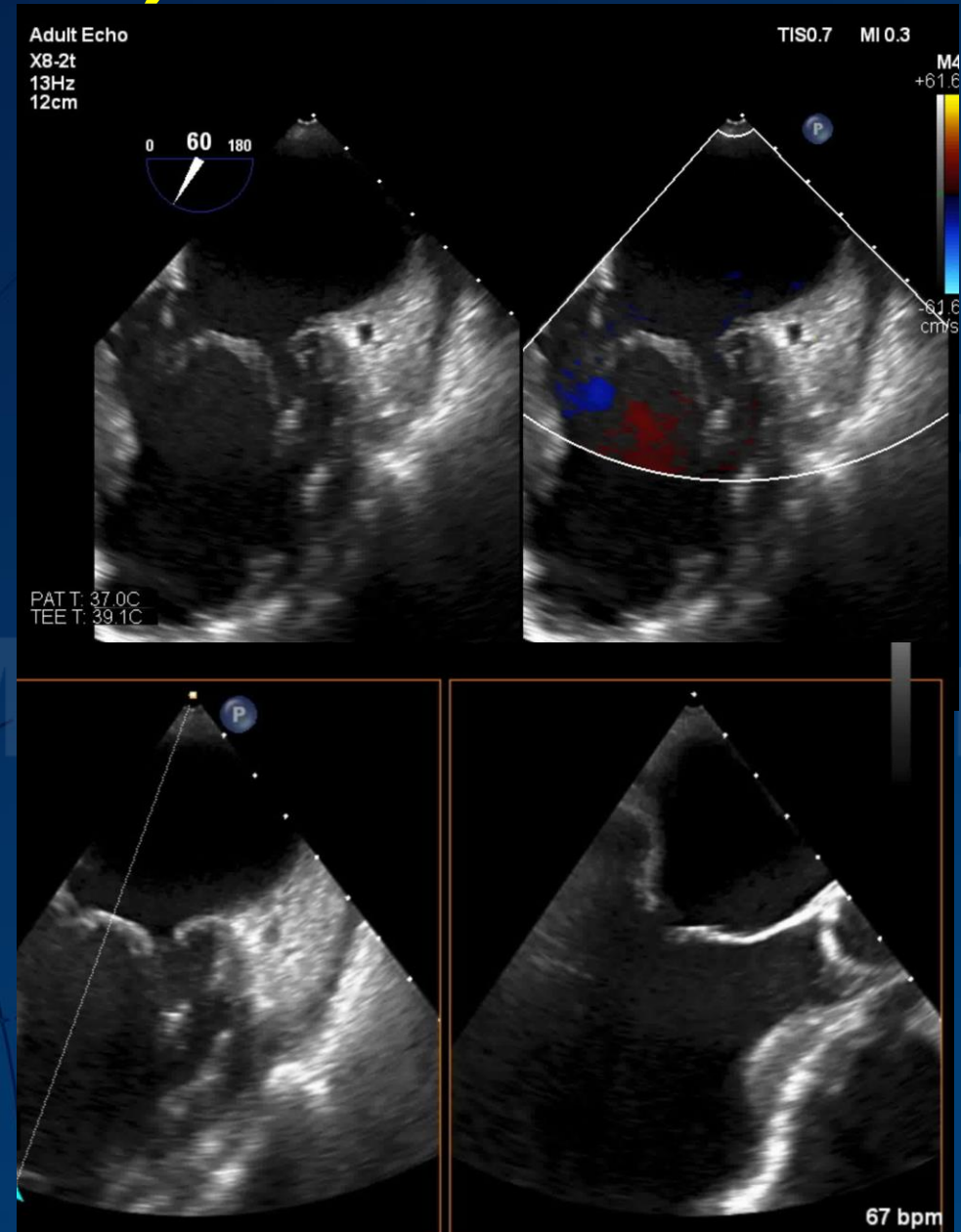
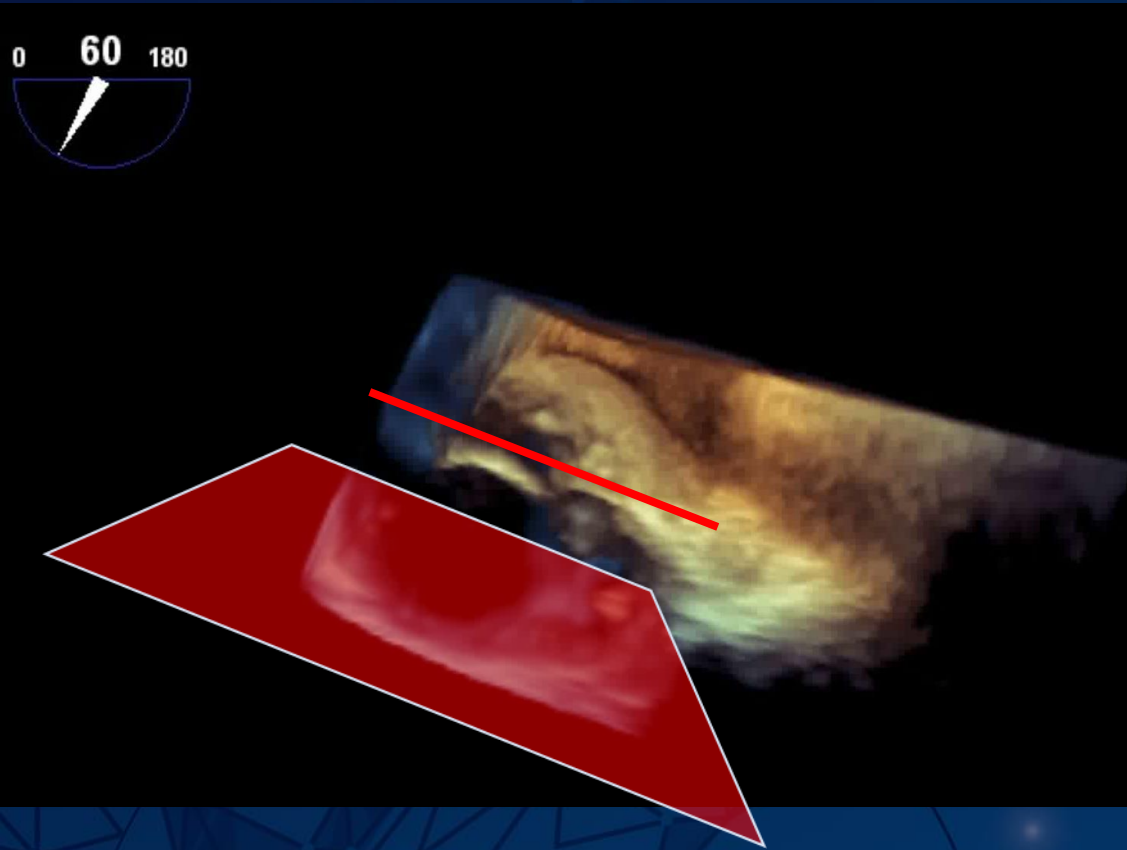
Sphericity index=0.98
NPA=150°

Clip orientation LA 3D en face

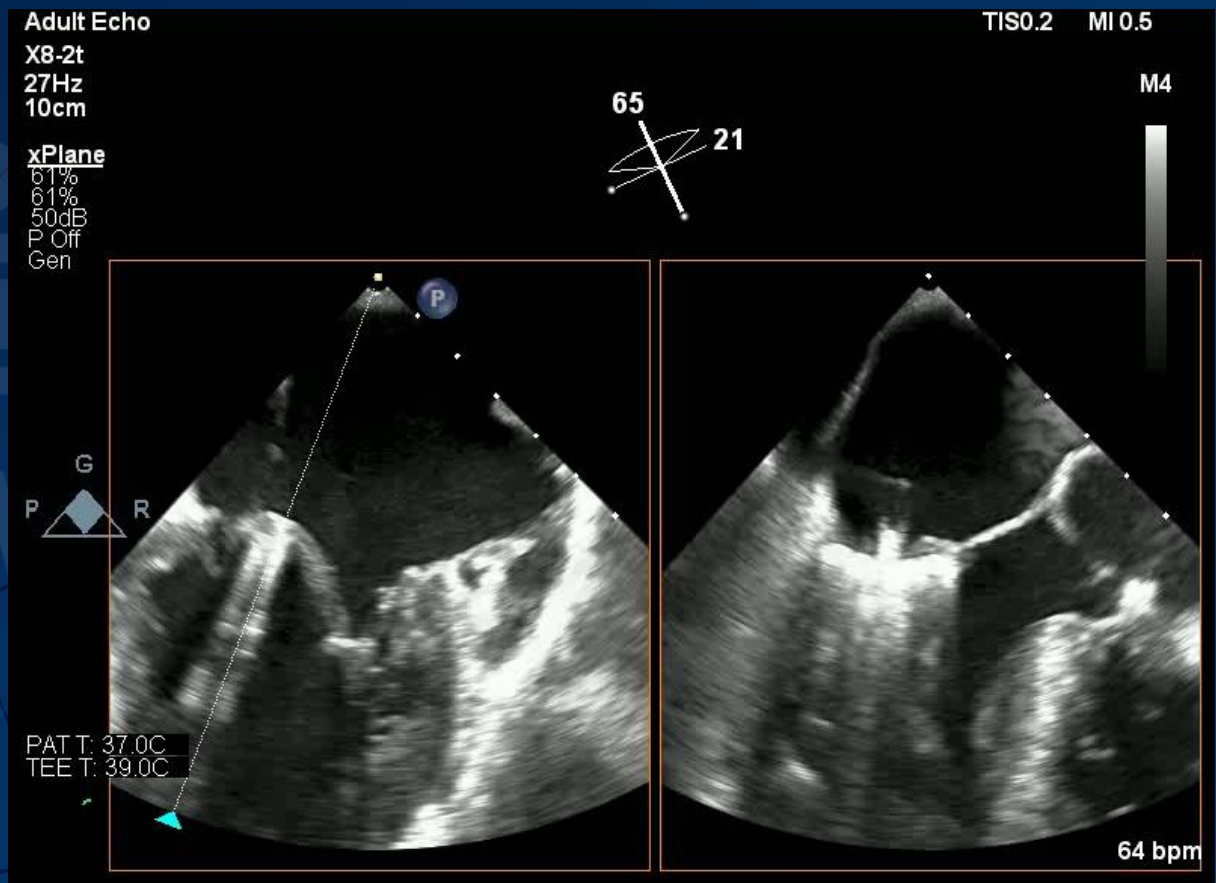
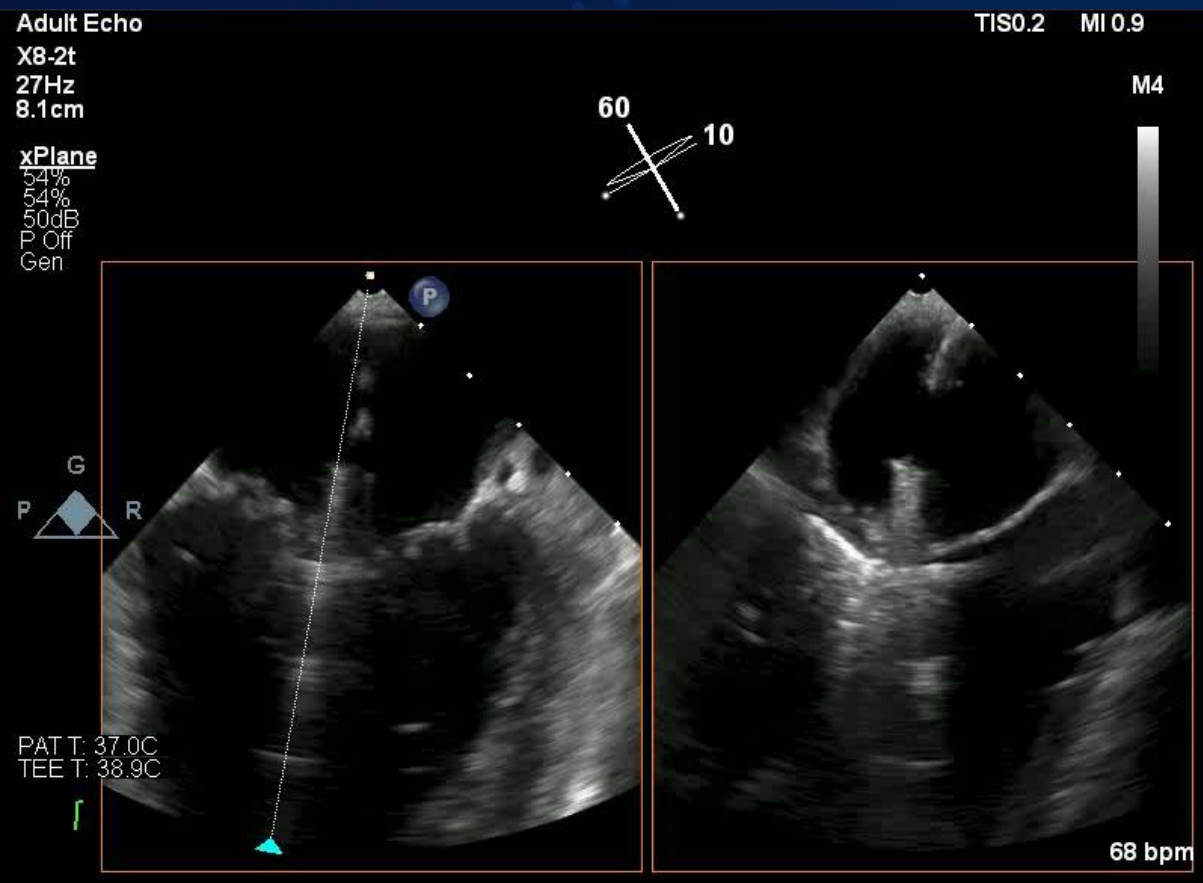


XTW for P2 prolapse lesion

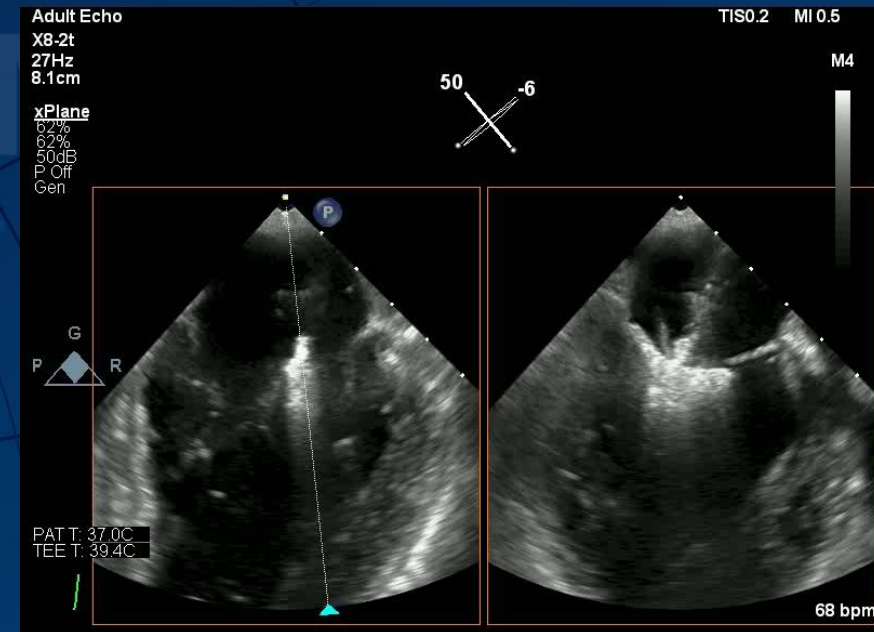
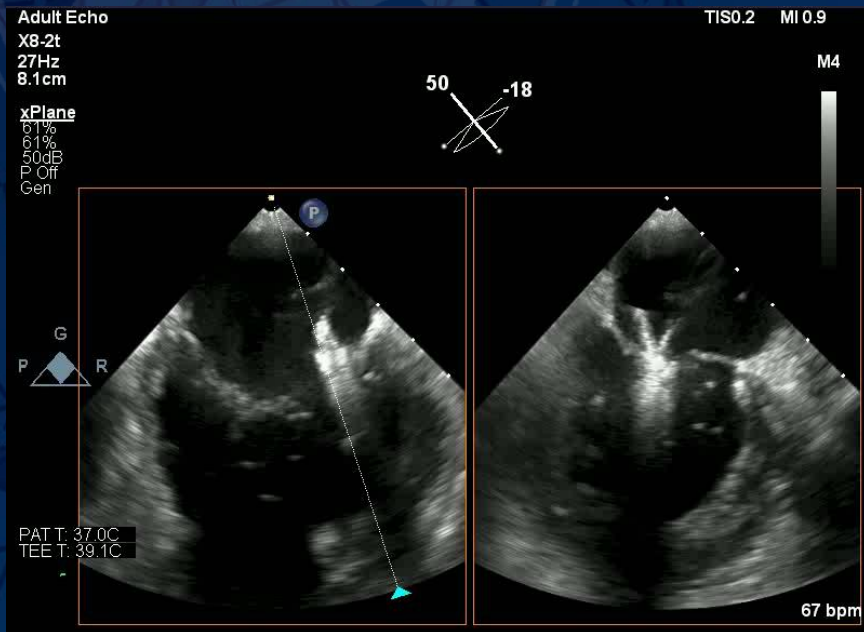
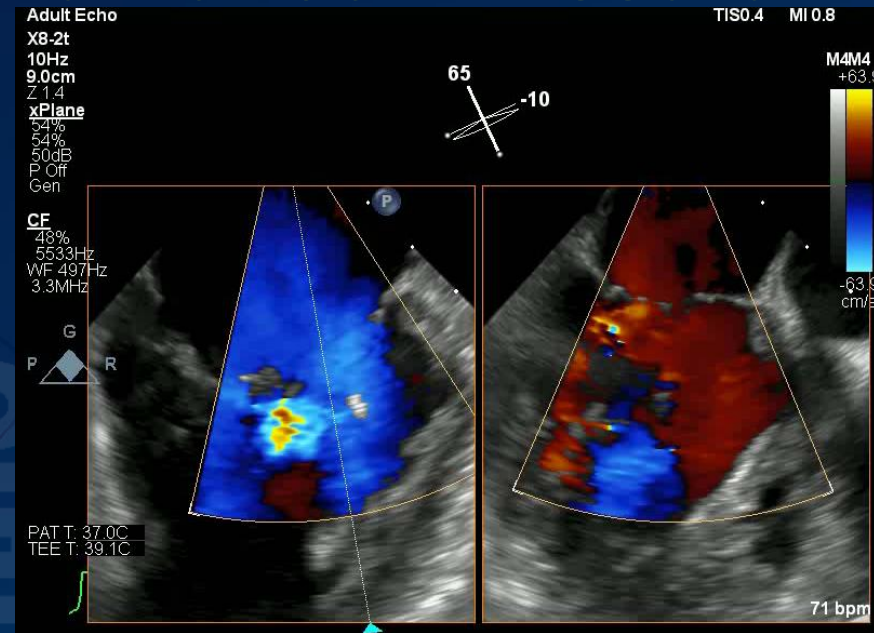
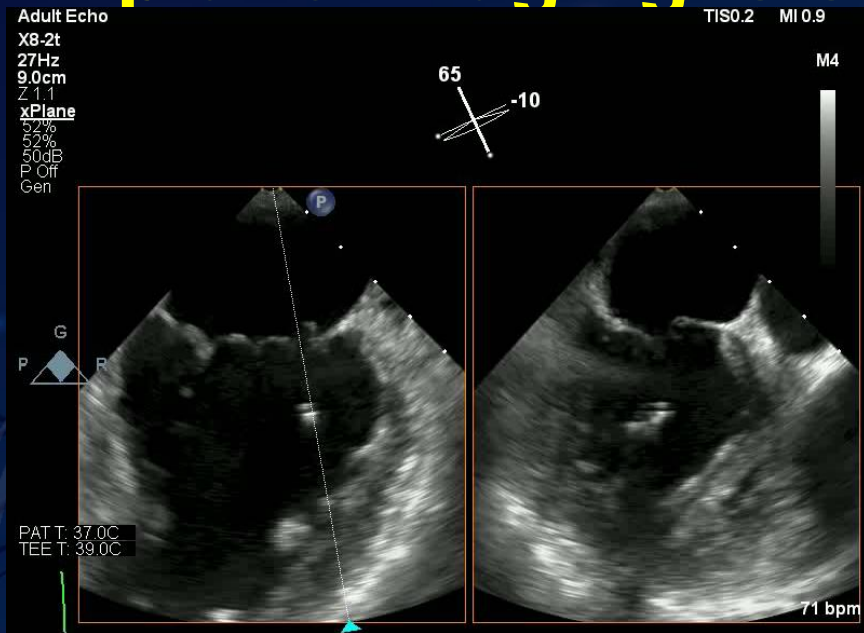
True bi-commissural (BC) view



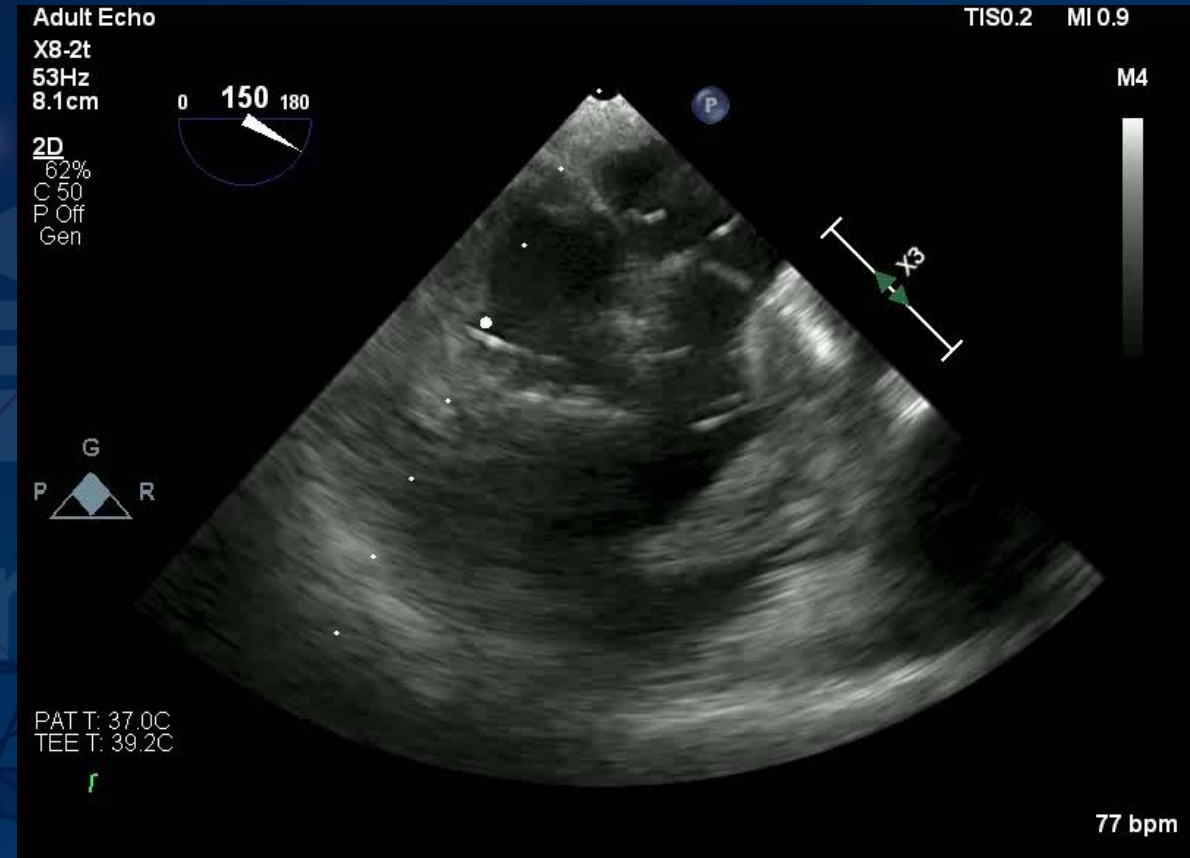
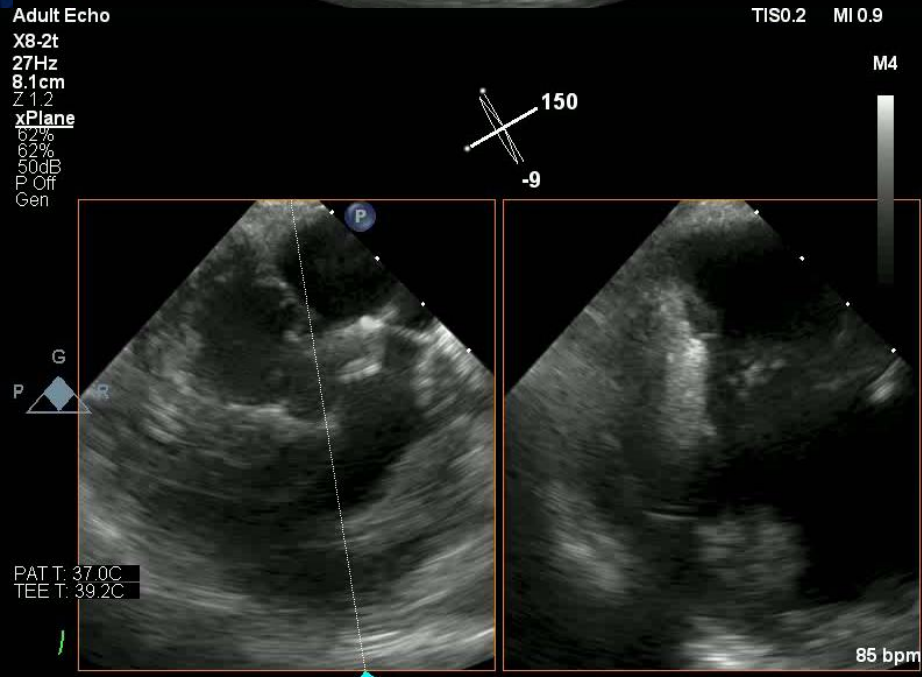
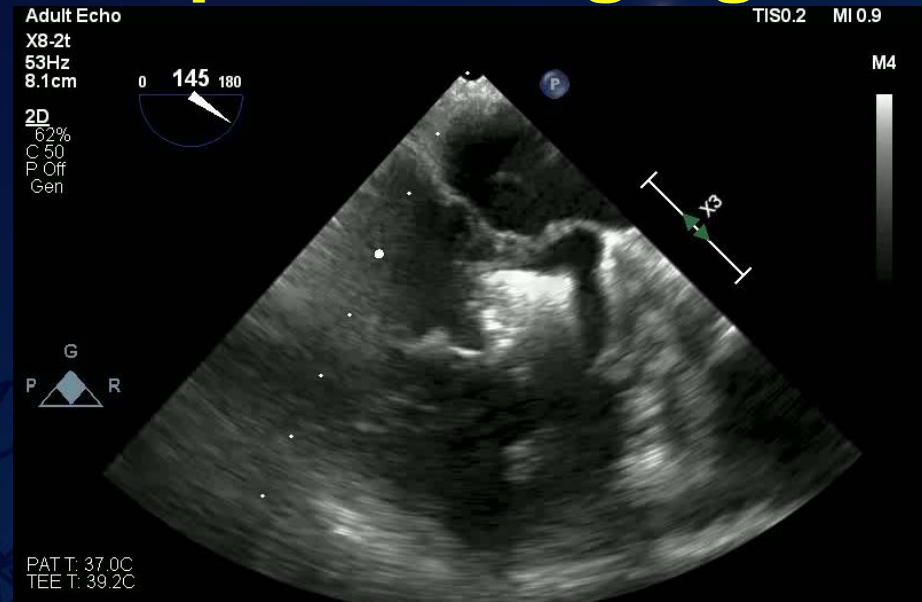
Biplane imaging for central lesions



Biplane imaging is suboptimal for commissural lesions

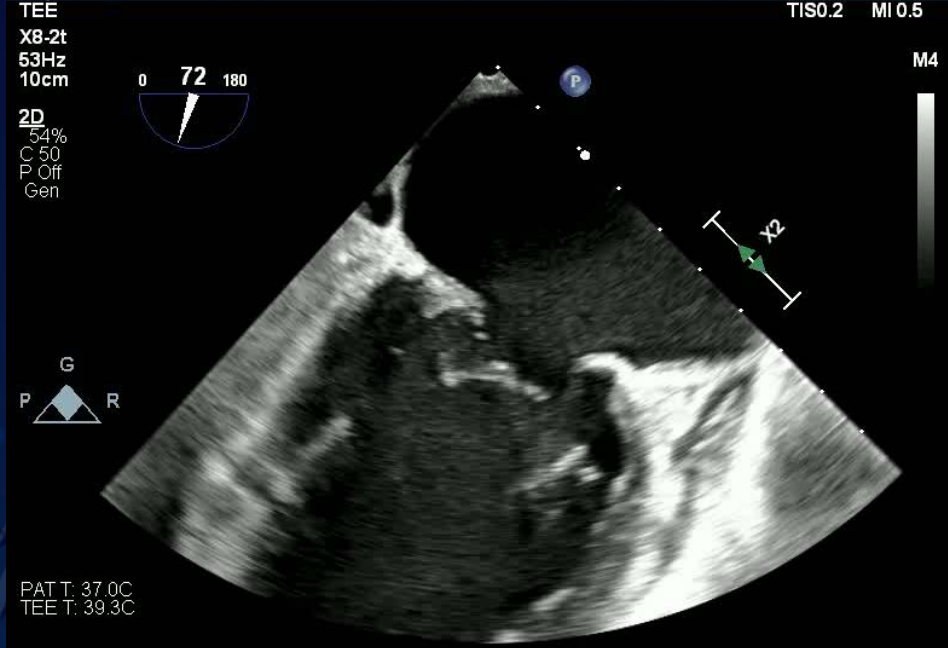


Biplane imaging is suboptimal for commissural lesions



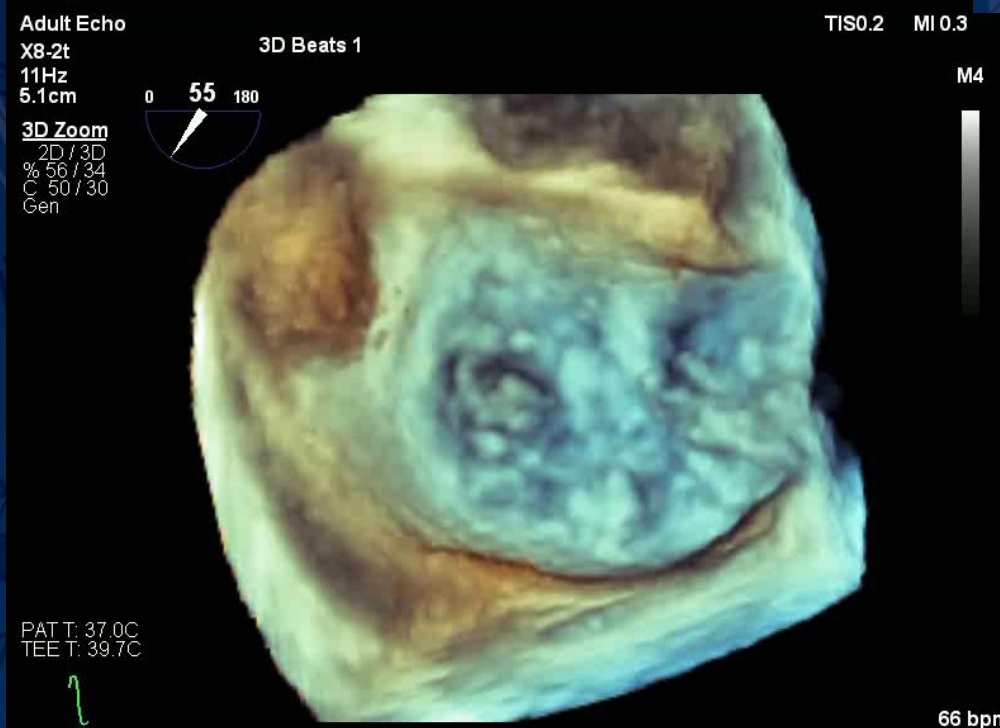
80/M KJM

서울아산병원
center

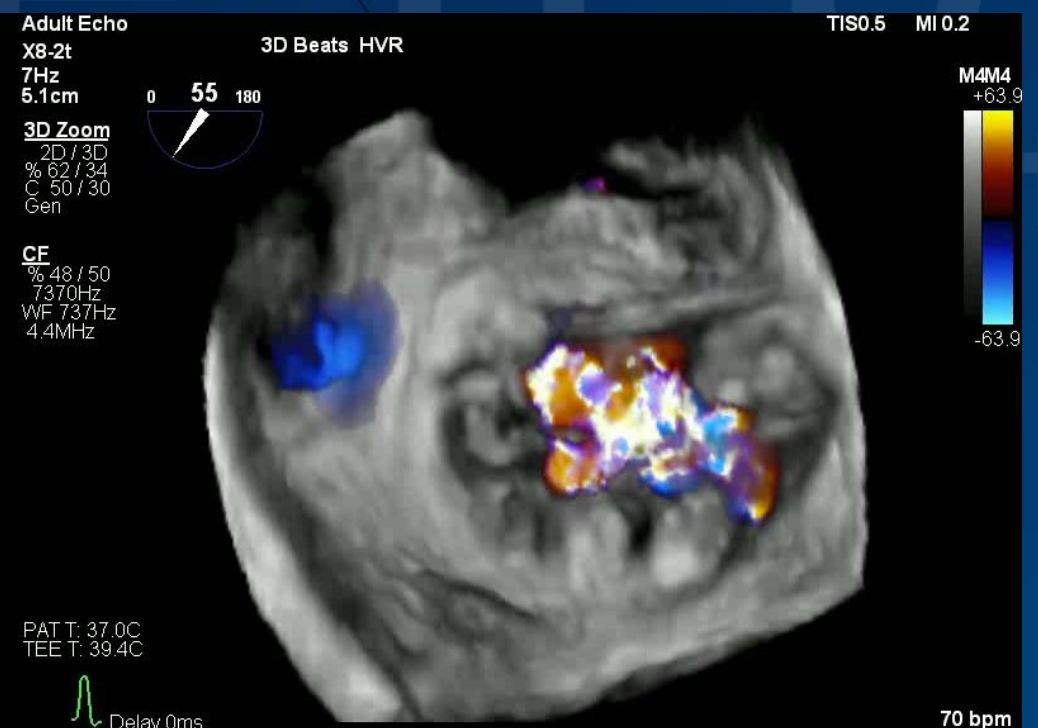


PAT T: 37.0C
TEE T: 39.3C

62 bpm

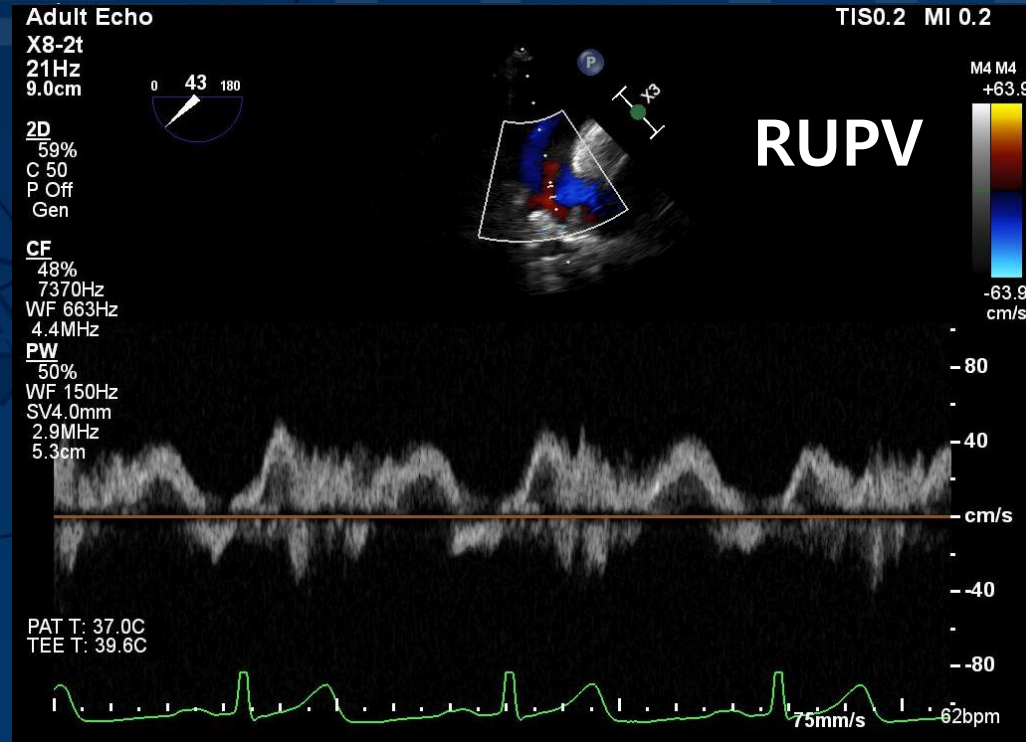
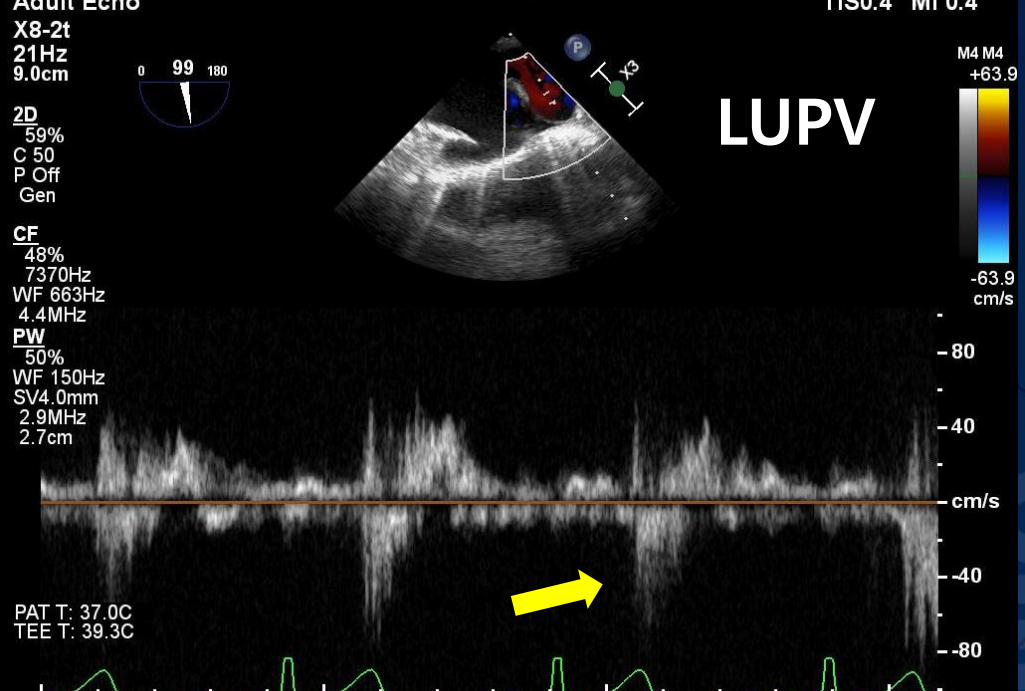


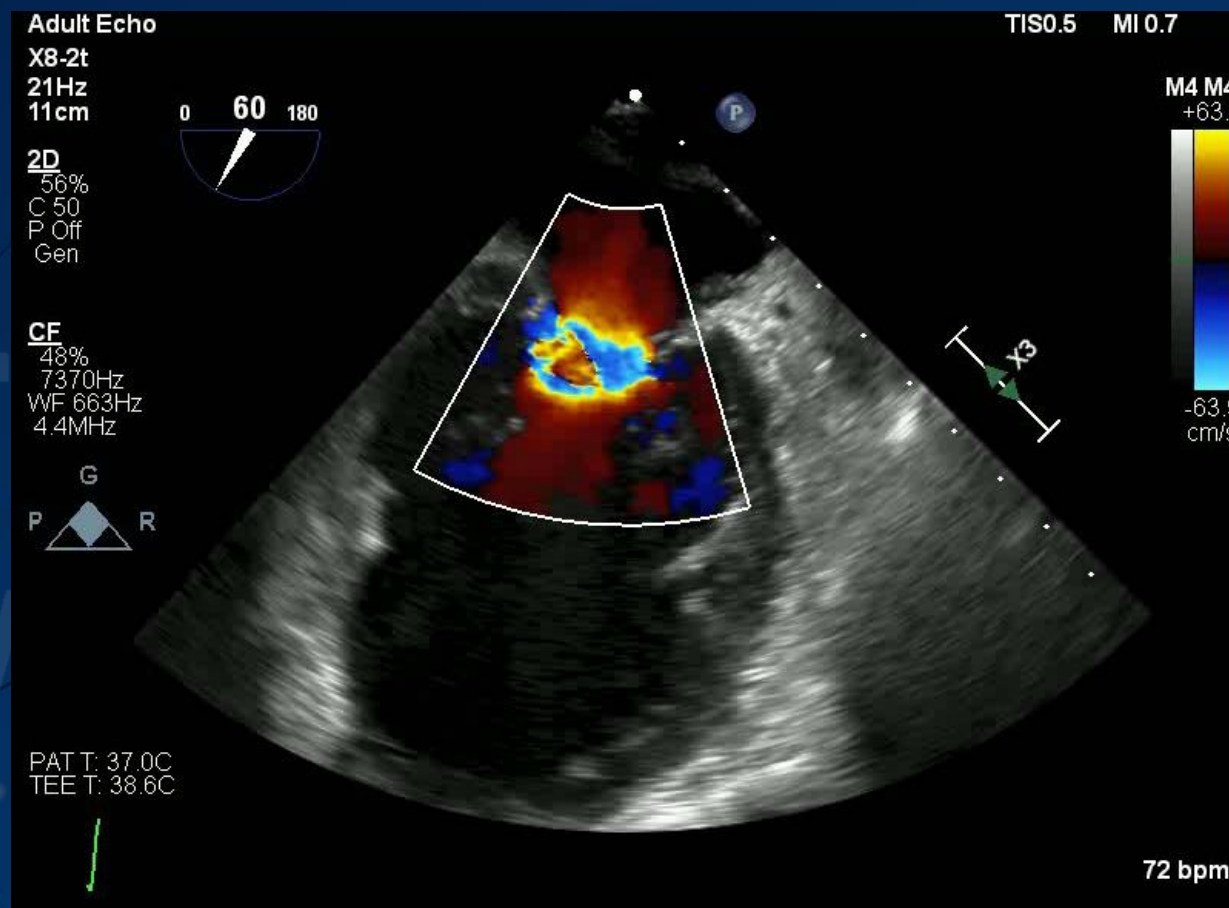
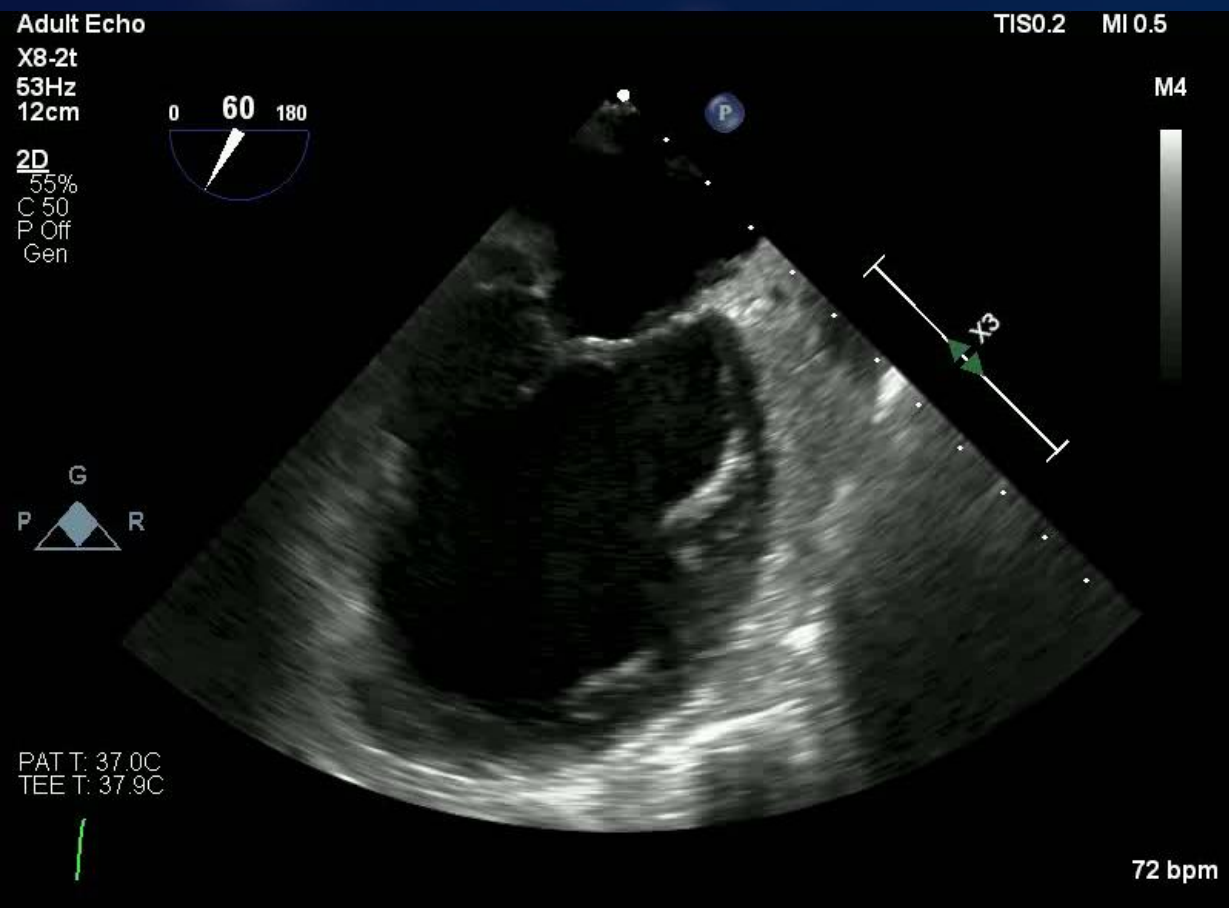
66 bpm

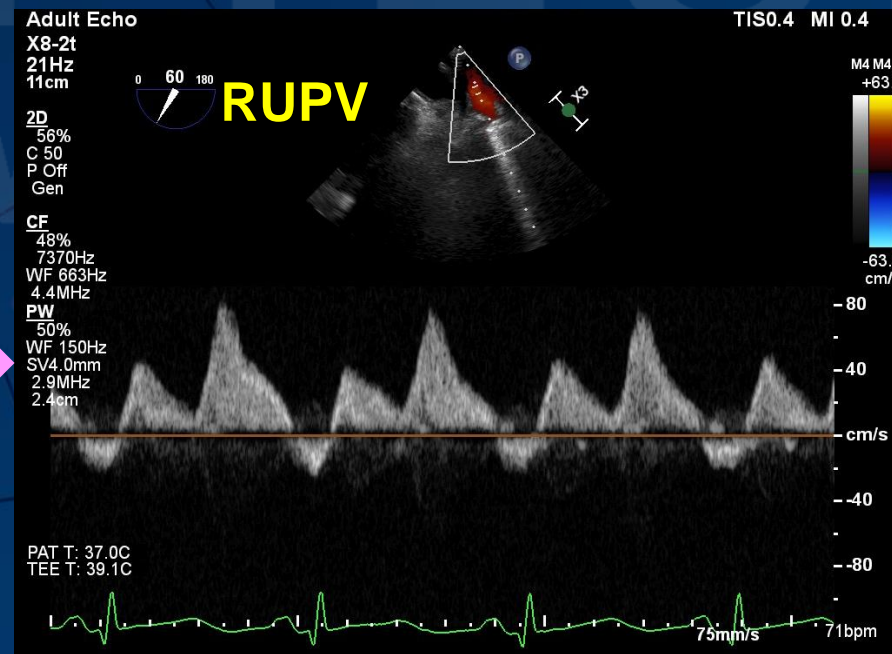
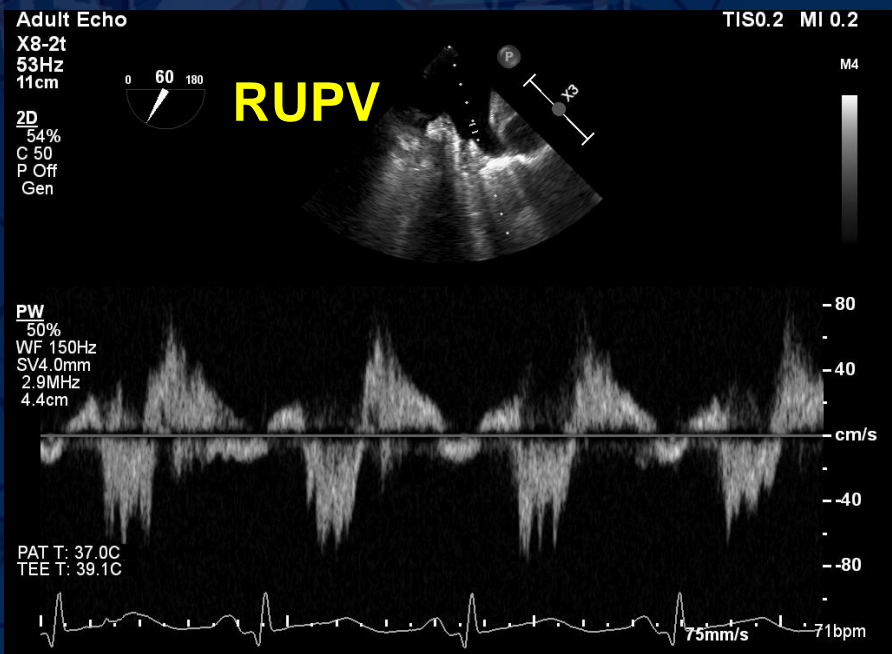
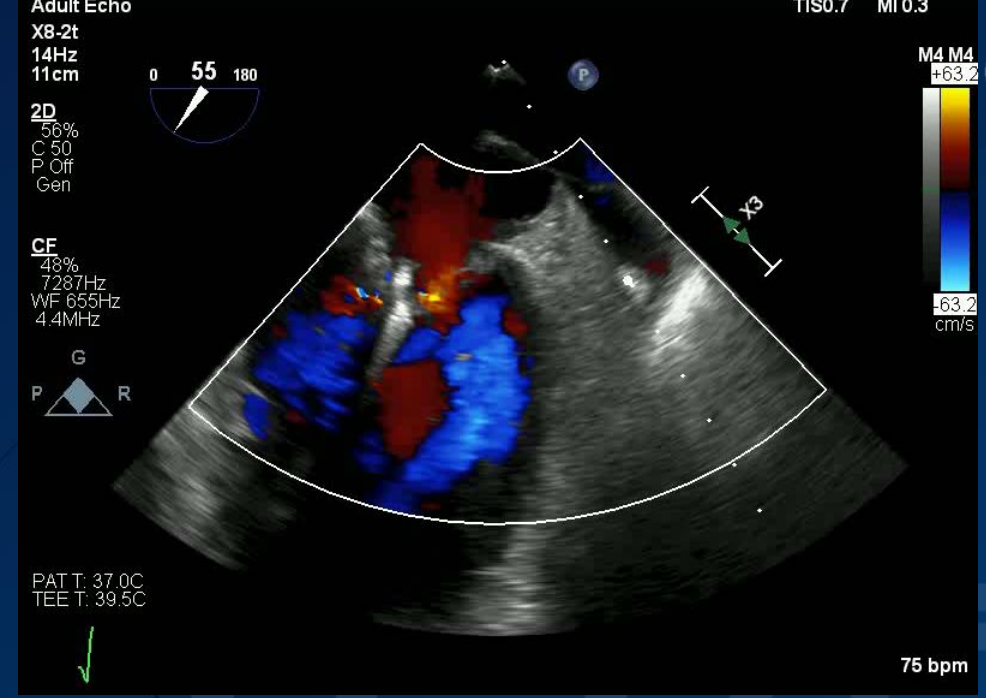
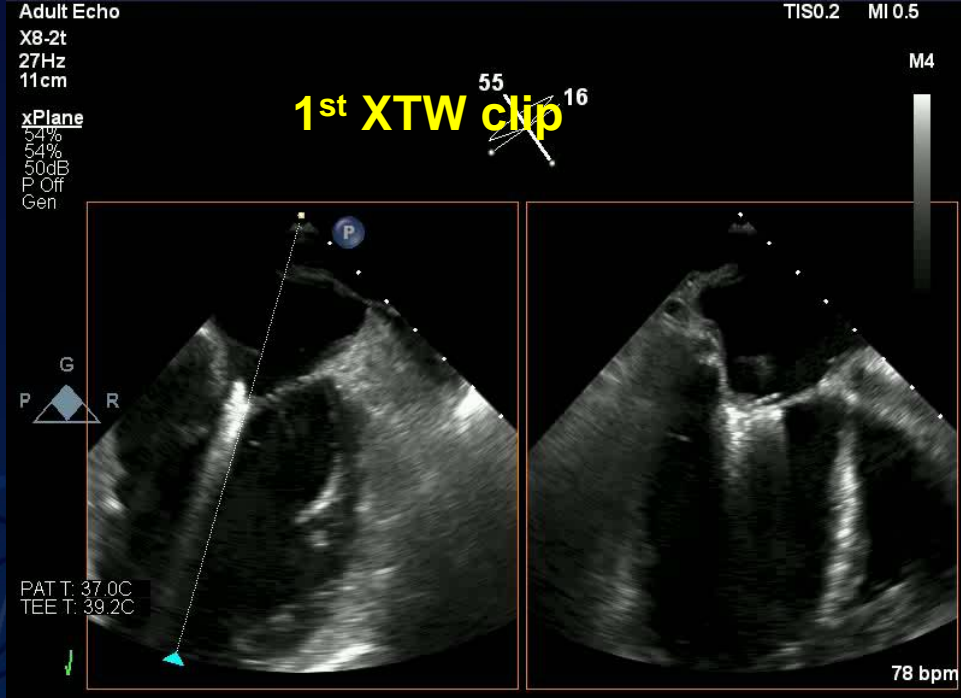


70 bpm

80/M KJM

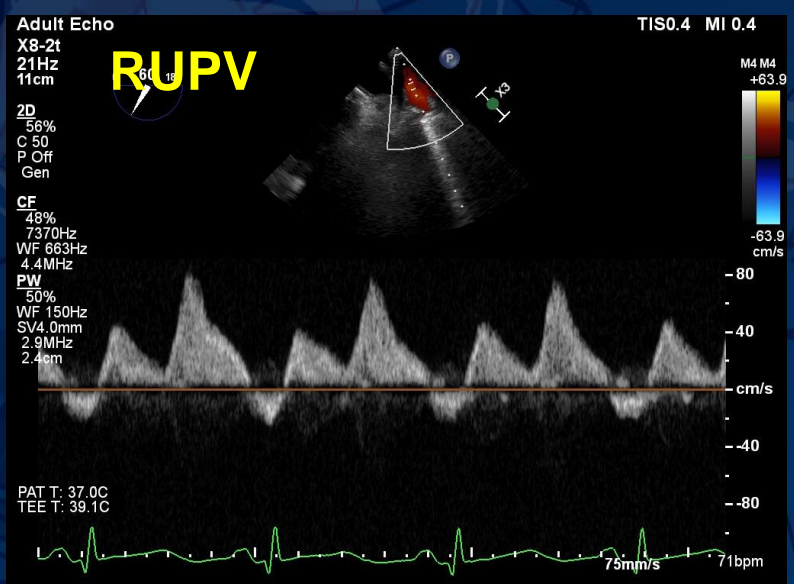




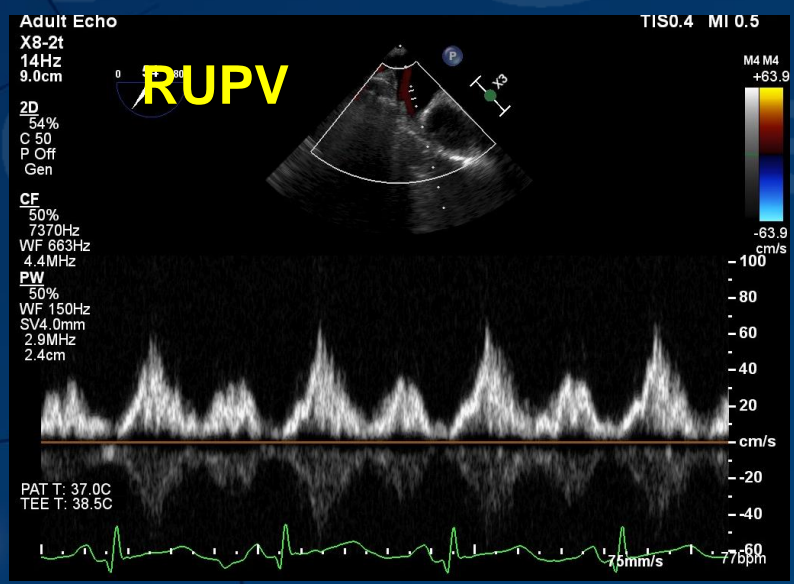


Baseline

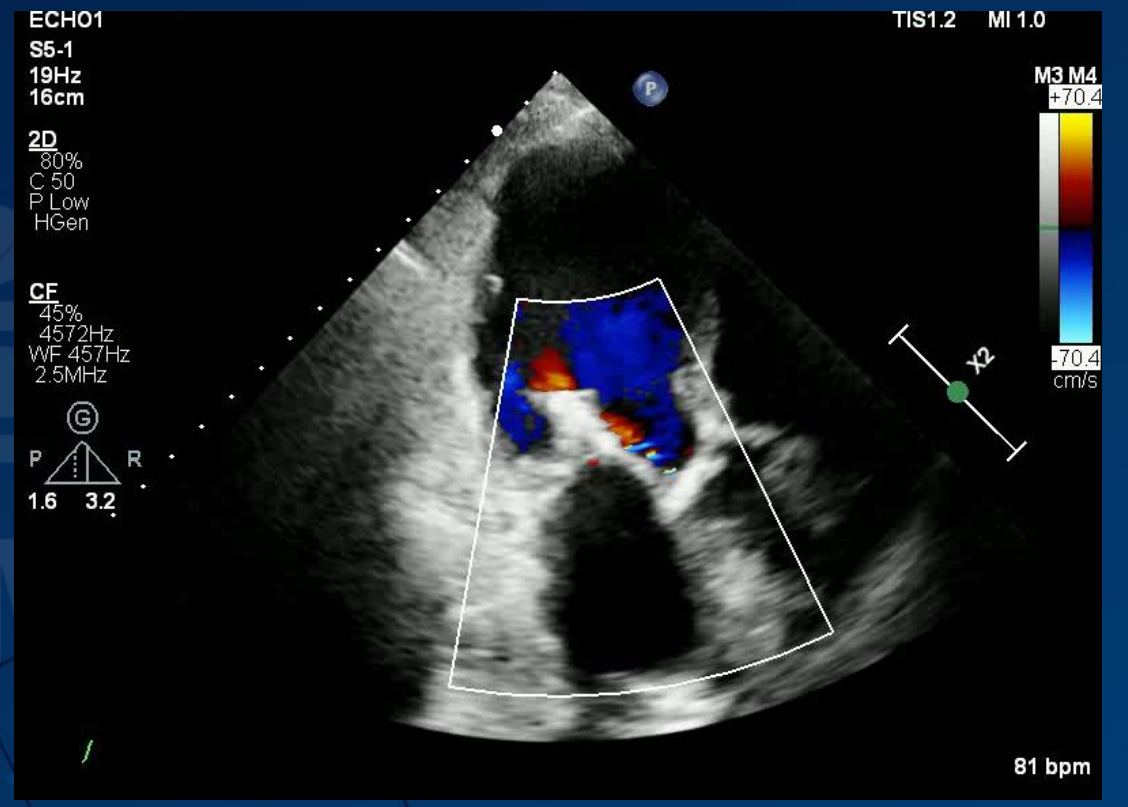
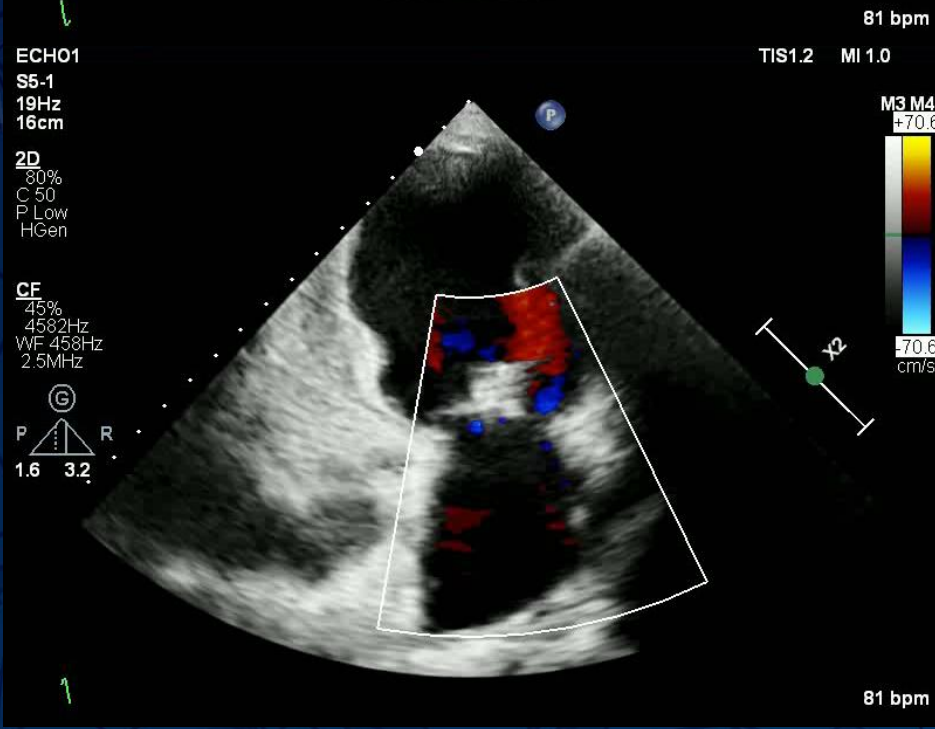
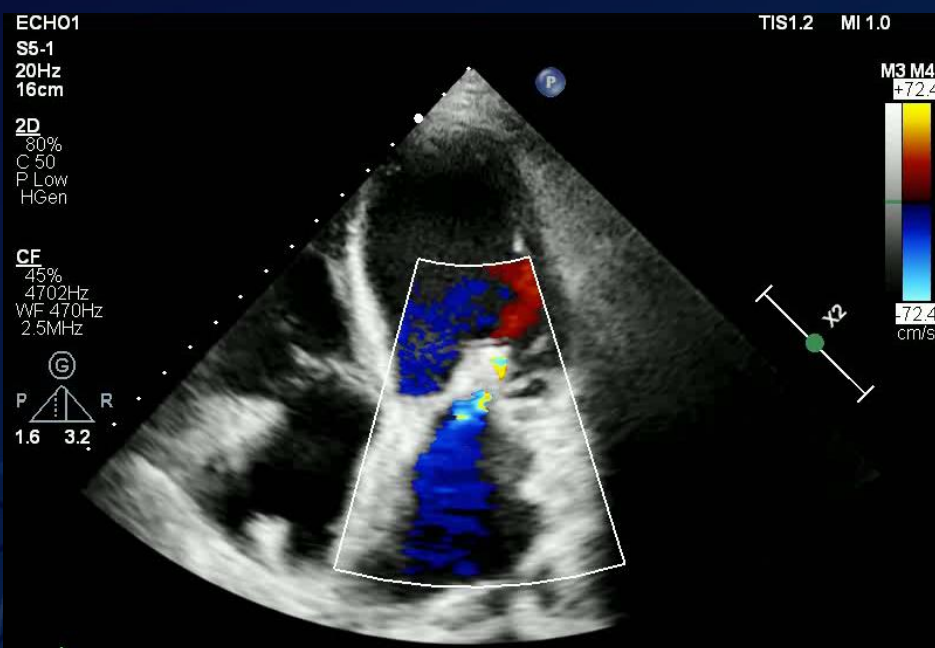
After 1st XTW clip implantation

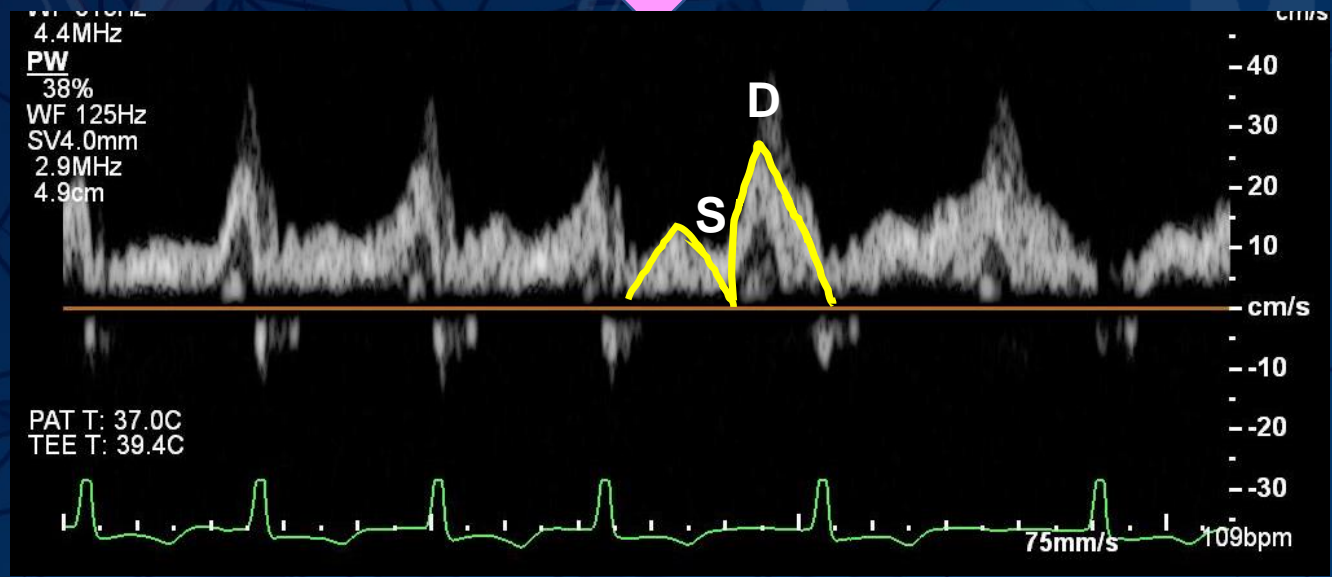


After 1st XTW clip implantation



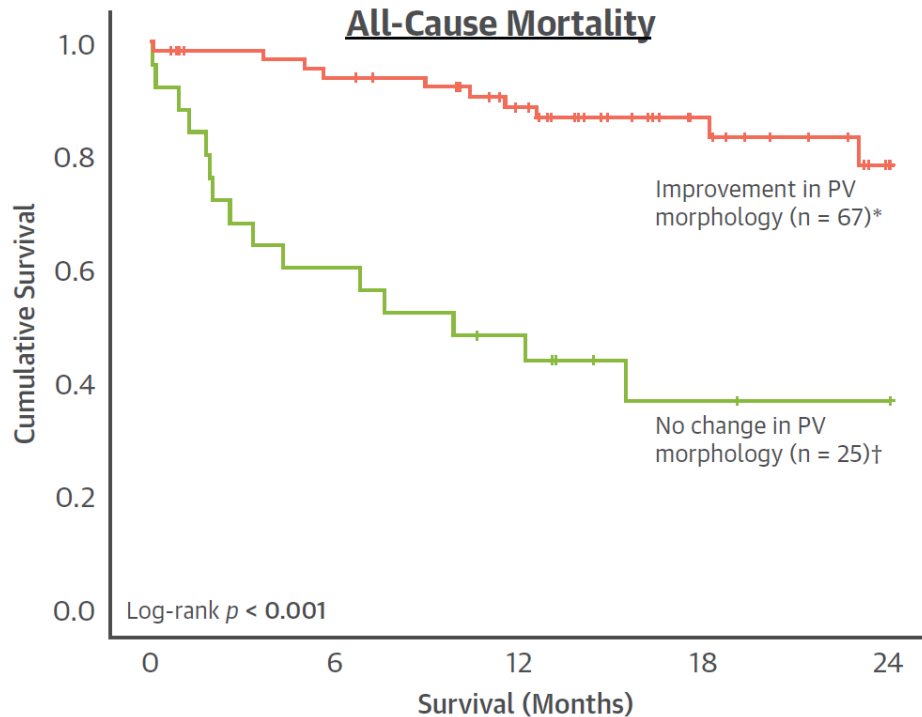
After 2nd XT clip implantation





Improvement in PV waveform
Change in S-wave velocity
Change in S/D velocity ratio
Change in S/D TVI ratio

Improvement in PV morphology



Patients	67	58	48	25	13
	25	15	11	5	4

Intraprocedural predictor of <u>two-year survival</u>	Area Under Curve (95% CI)	<i>p</i>
<u>Invasive:</u>		
Final LA pressure	0.39 (0.25-0.53)	0.136
Change in LA pressure	0.46 (0.32-0.61)	0.607
Change in V-wave	0.46 (0.32-0.67)	0.619
<u>Echocardiographic:</u>		
Final MR grade	0.52 (0.37-0.67)	0.837
Change in MR grade	0.46 (0.31-0.61)	0.615
Final transmitral gradient ≥ 5	0.44 (0.29-0.59)	0.447
<u>PV assessment:</u>		
Change in S-wave velocity	0.80 (0.69-0.92)	< 0.001
Change in S/D velocity ratio	0.78 (0.66-0.91)	< 0.001
Improvement in PV waveform	0.74 (0.60-0.87)	0.001

PV Wave form change

TABLE 2 Adjusted Proportional Hazards Models of the Primary Endpoints by Intraoperative Predictors of Outcomes

	All-Cause Mortality		Composite Endpoint*	
	HR (95% CI)	p Value	HR (95% CI)	p Value
Invasive				
Final left atrial pressure	1.05 (0.99-1.11)	0.138	1.04 (0.98-1.09)	0.197
Change in left atrial pressure	1.05 (0.98-1.13)	0.181	1.02 (0.95-1.09)	0.609
Change in V-wave	1.05 (1.01-1.10)	0.013	1.04 (1.00-1.08)	0.028
Echocardiographic				
Final MR grade	1.28 (0.79-2.08)	0.323	1.42 (0.90-2.24)	0.131
Change in MR grade	1.54 (0.94-2.54)	0.088	1.71 (1.06-2.76)	0.029
Final transmitral gradient ≥ 5 mm Hg	2.19 (1.05-4.55)	0.037	1.92 (0.94-3.96)	0.075
PV assessment				
Change in S-wave velocity	0.28 (0.07-1.12)	0.072	0.30 (0.09-1.05)	0.059
Change in S/D velocity ratio	0.36 (0.15-0.84)	0.019	0.36 (0.16-0.79)	0.011
Improvement in PV waveform	0.28 (0.08-0.93)	0.038	0.30 (0.10-0.90)	0.032

Composite endpoint: all-cause mortality, LVAD implantation, MV surgery, and repeat TEER in prolonged follow-up

Summary

Advanced guidance for TEER

- Septal puncture
- Clip orientation with 3D images
- Biplane imaging with modification
- PV evaluation
- PV wave form changes