Troubleshooting in Treating Left Sided Obstructions

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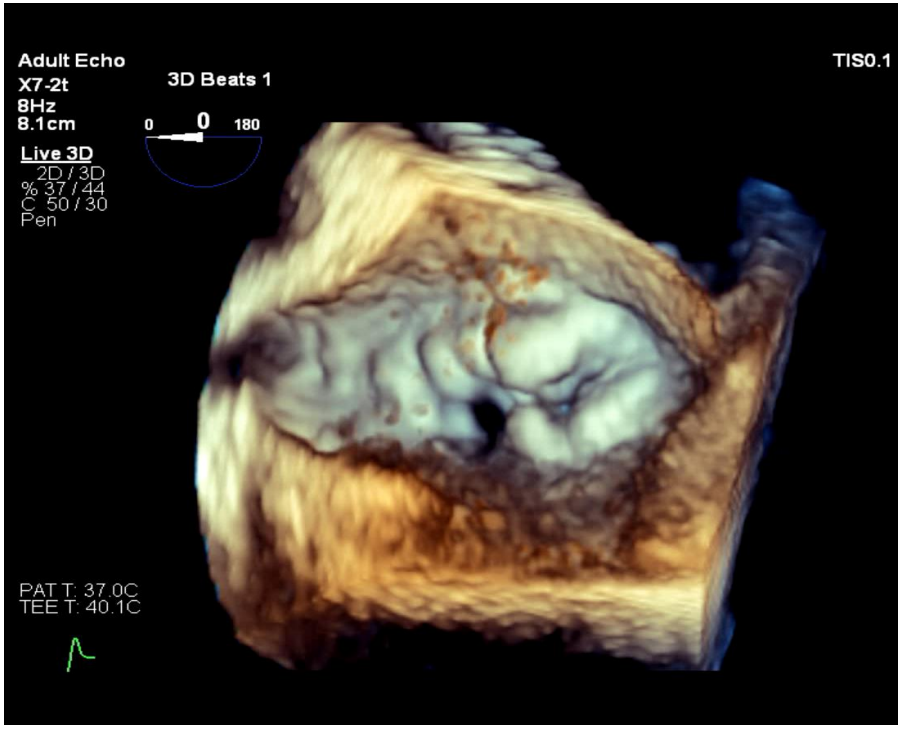
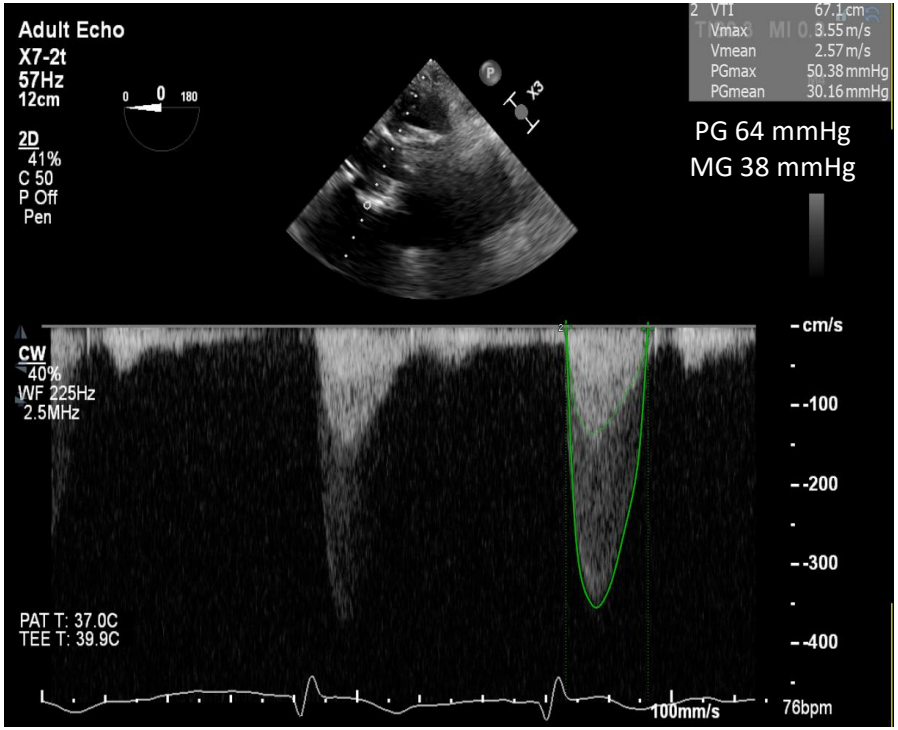
History

- 85 year old female patient known to have:
- ViV-TAVI 5 years ago with Evolut-R 23 mm
- Severe mitral stenosis
- Severe pHTN
- ICD 1 year ago
- DMII
- Atrial fibrillation
- Recurrent admissions for CHF exacerbations
- Prior right femoral cut down
- Euroscore II 23.13%, STS Score 20.348%

Presented to the ER on 11/12/2020 for shortness of breath and fatigue

TTE Gradients



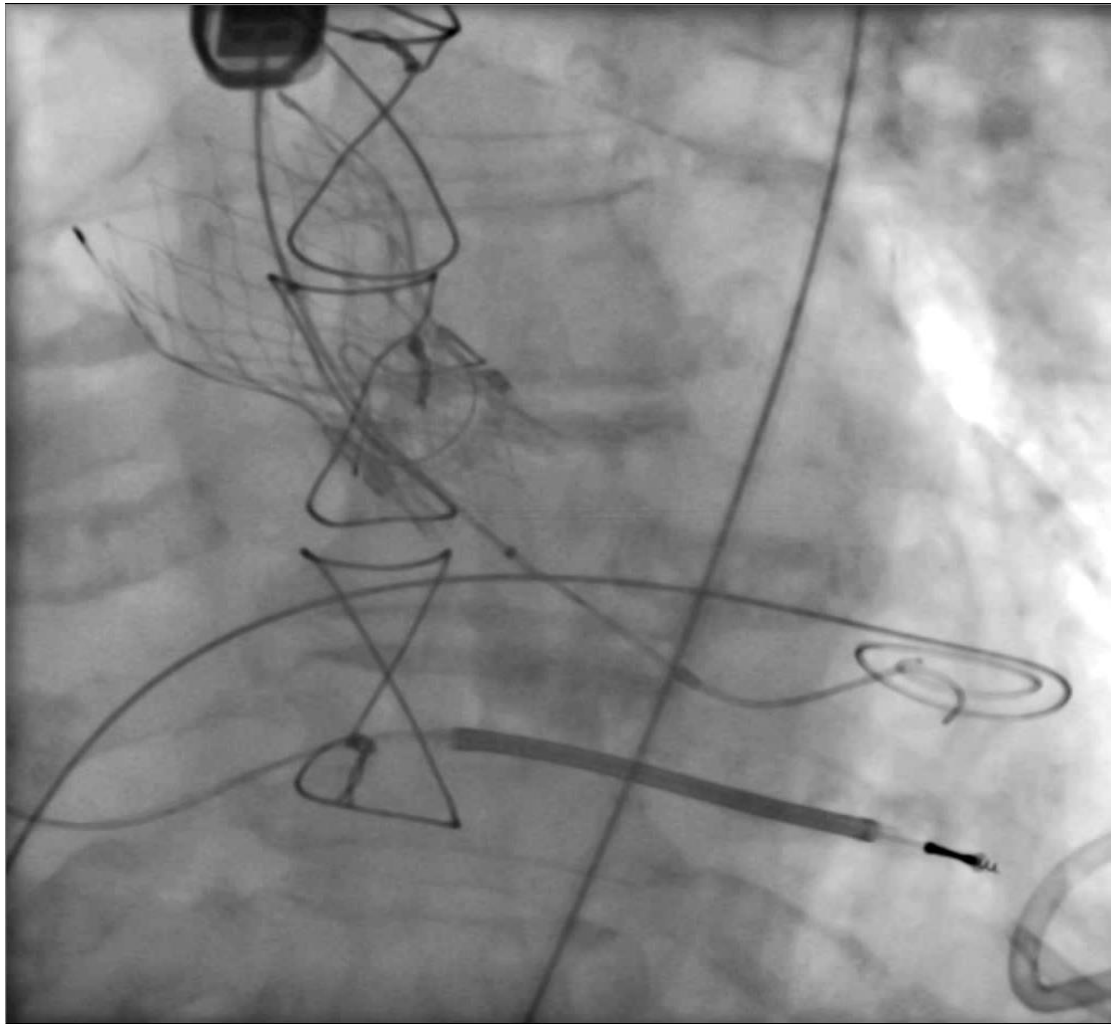


Severe **mitral stenosis**, PG/MG 22/12 mmHg at HR 85bpm, moderate MR

s/p TAVI with PG/MG 64/38 mmHg- **patient prosthesis mismatch**

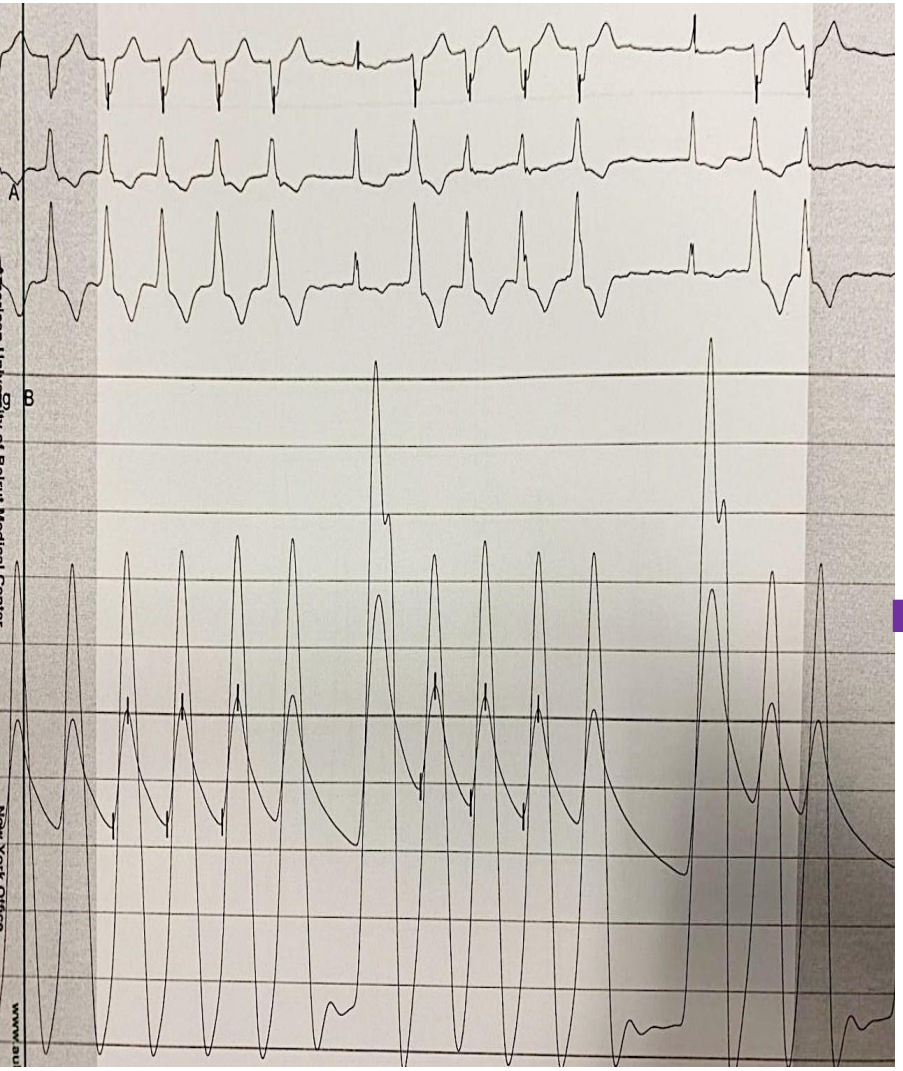
Severe **tricuspid regurgitation**, severe **pulmonary HTN**, sPAP 76 mmHg

Procedure Step-by-Step

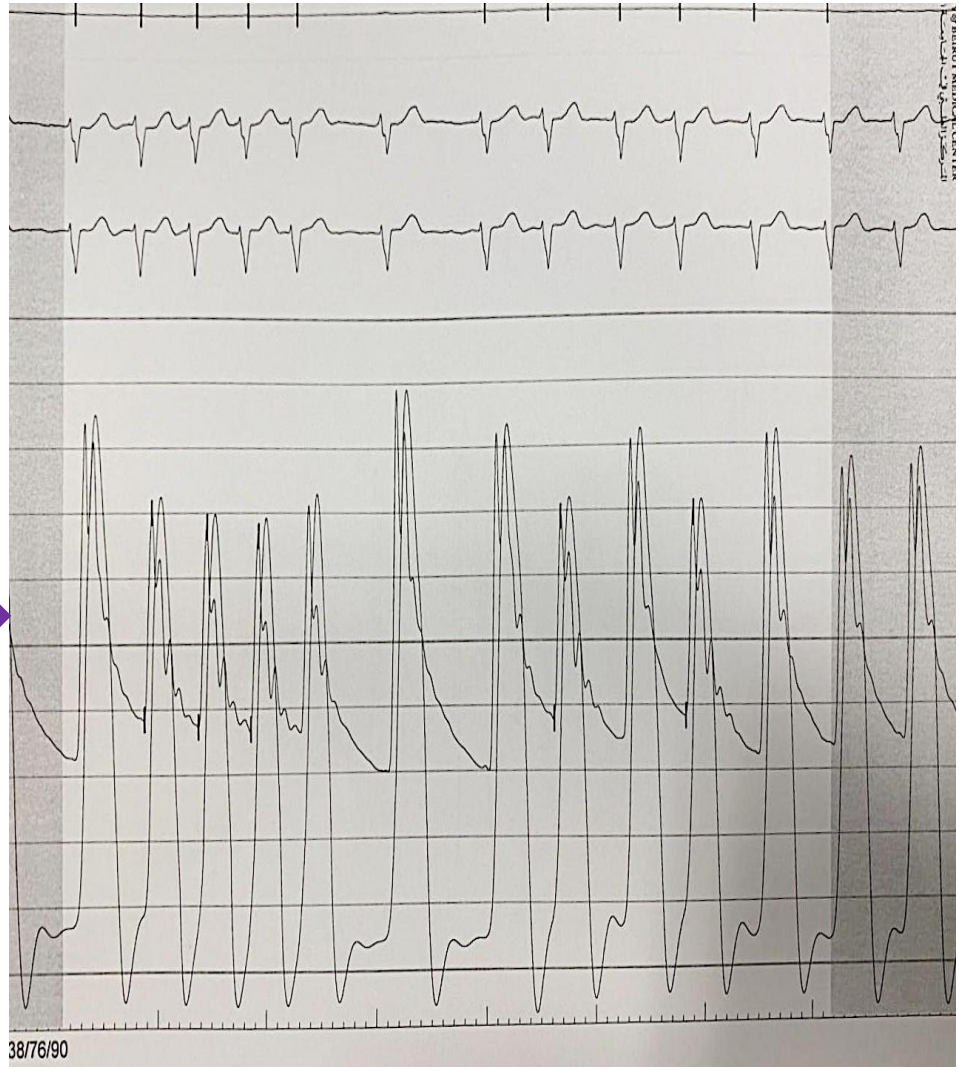


TAVI Valve fracture with 20 mm Atlas balloon at 18 atm

Gradients pre/post valve fracture



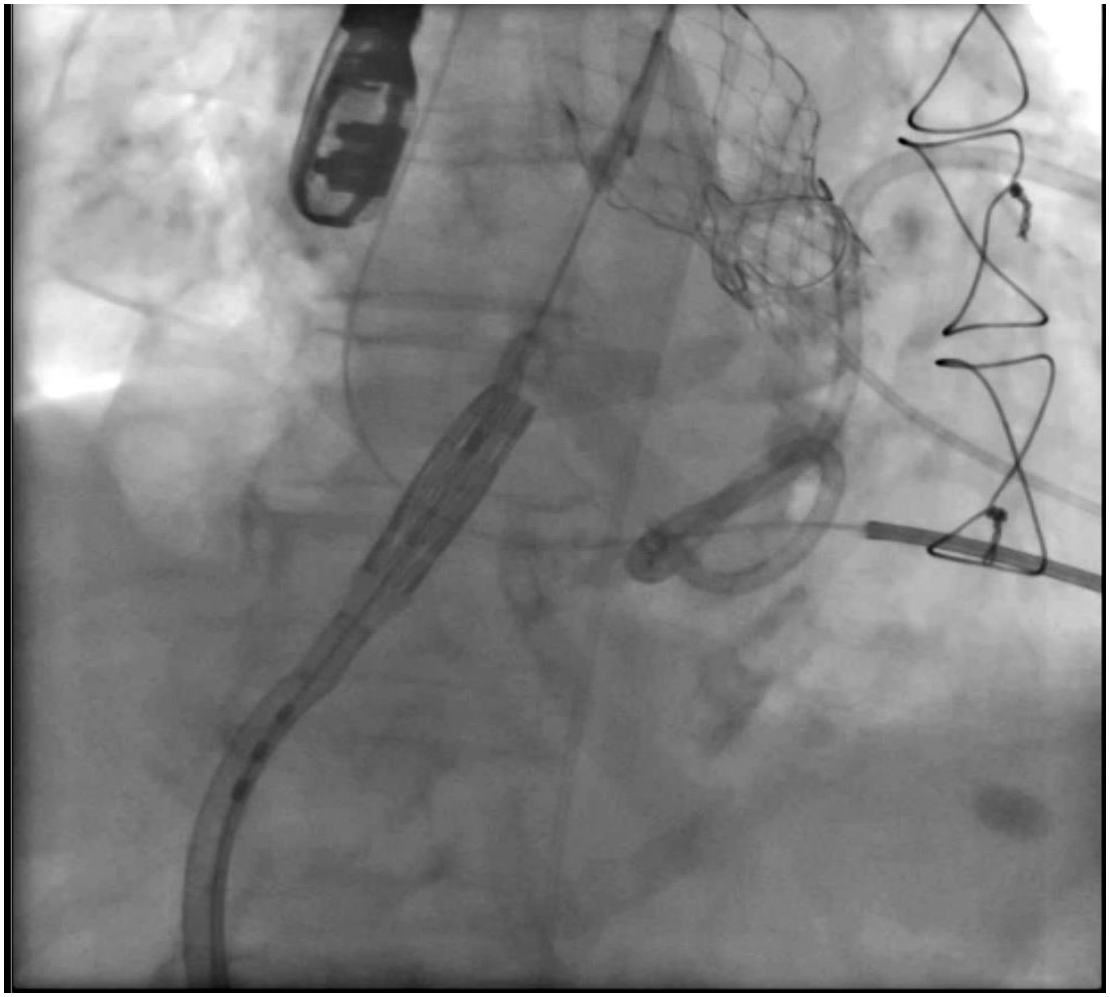
Pre-fracture=peak to peak gradient 44 mmhg



Post-fracture= peak to peak gradient 5 mmhg

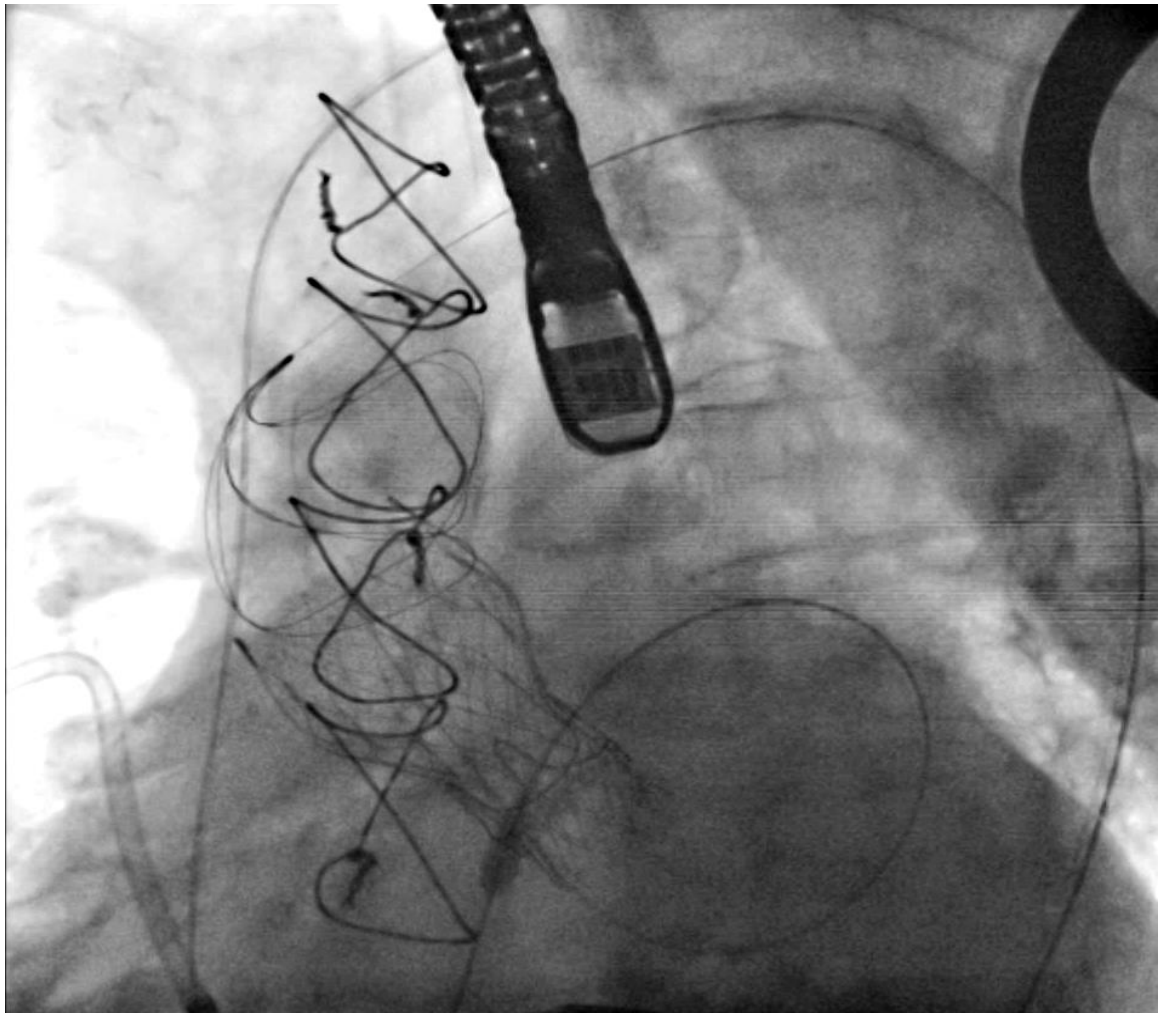
Procedure Step-by-Step

Balloon atrial septostomy was performed using a Z-MED 14x40 mm balloon



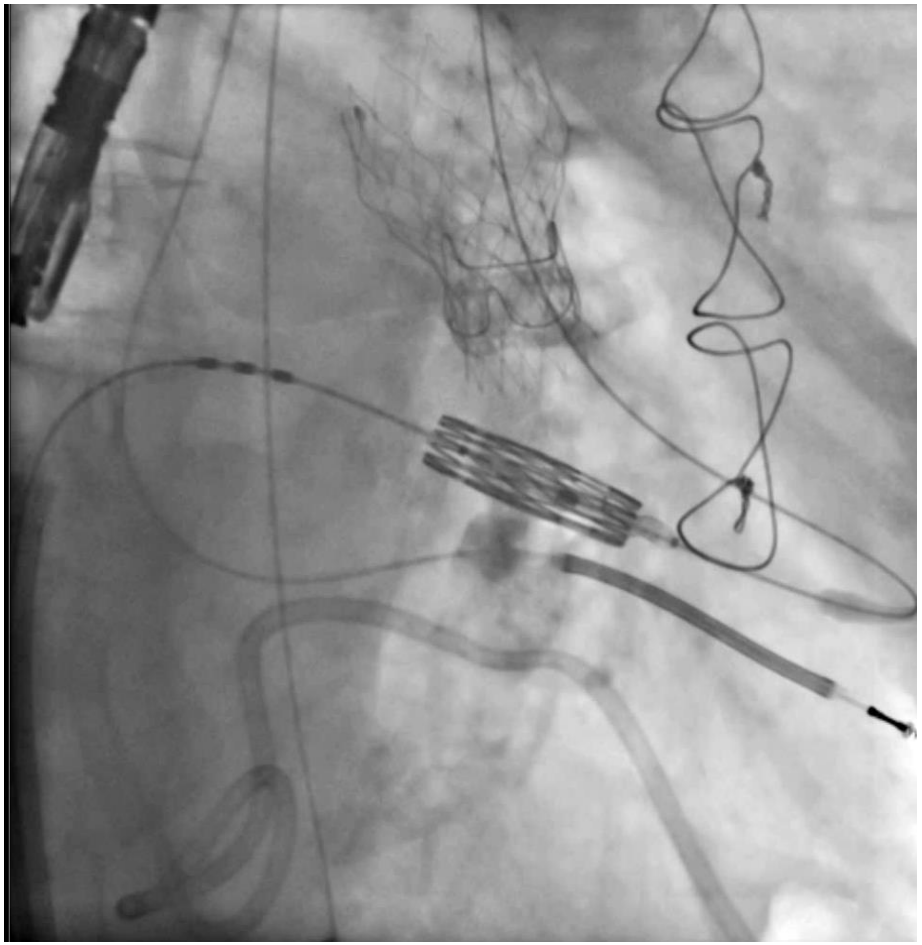
A lot of resistance was encountered during valve advancement in E-sheath due to scar from prior cutdown– in the process LV wire was lost in LA

Procedure Step by step

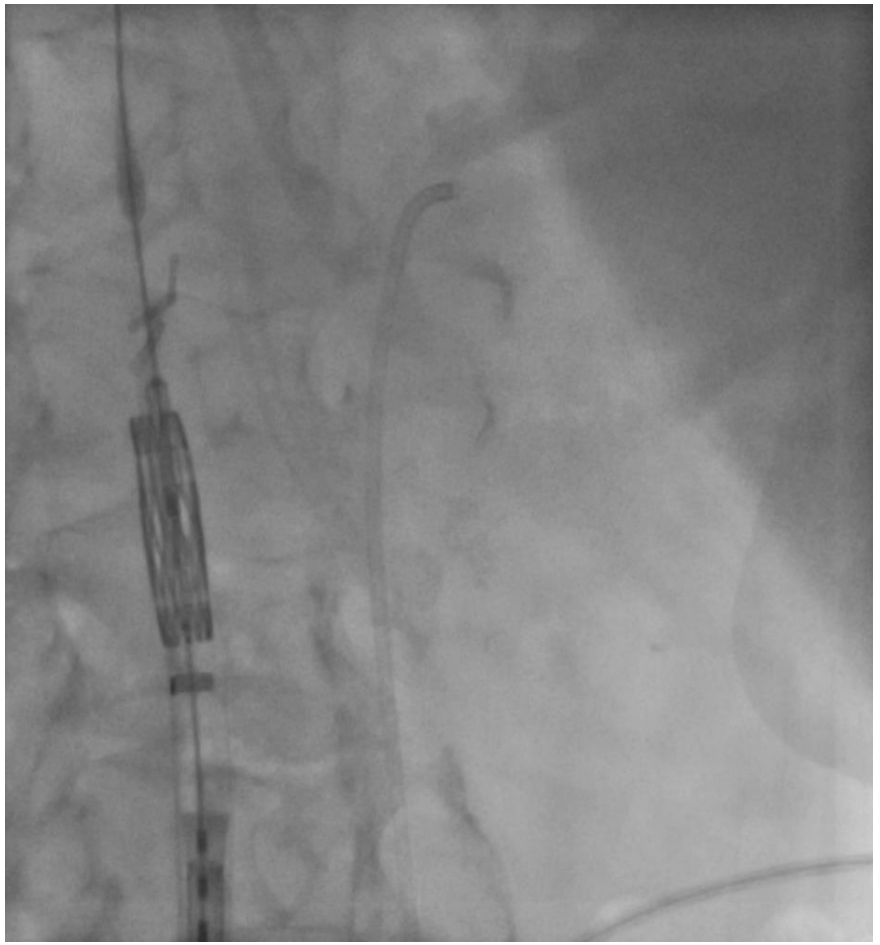


A terumo stiff wire was advanced from LA to LV to aorta and was snared with an En-Snare to form a VA rail.

Procedure Step-by-Step

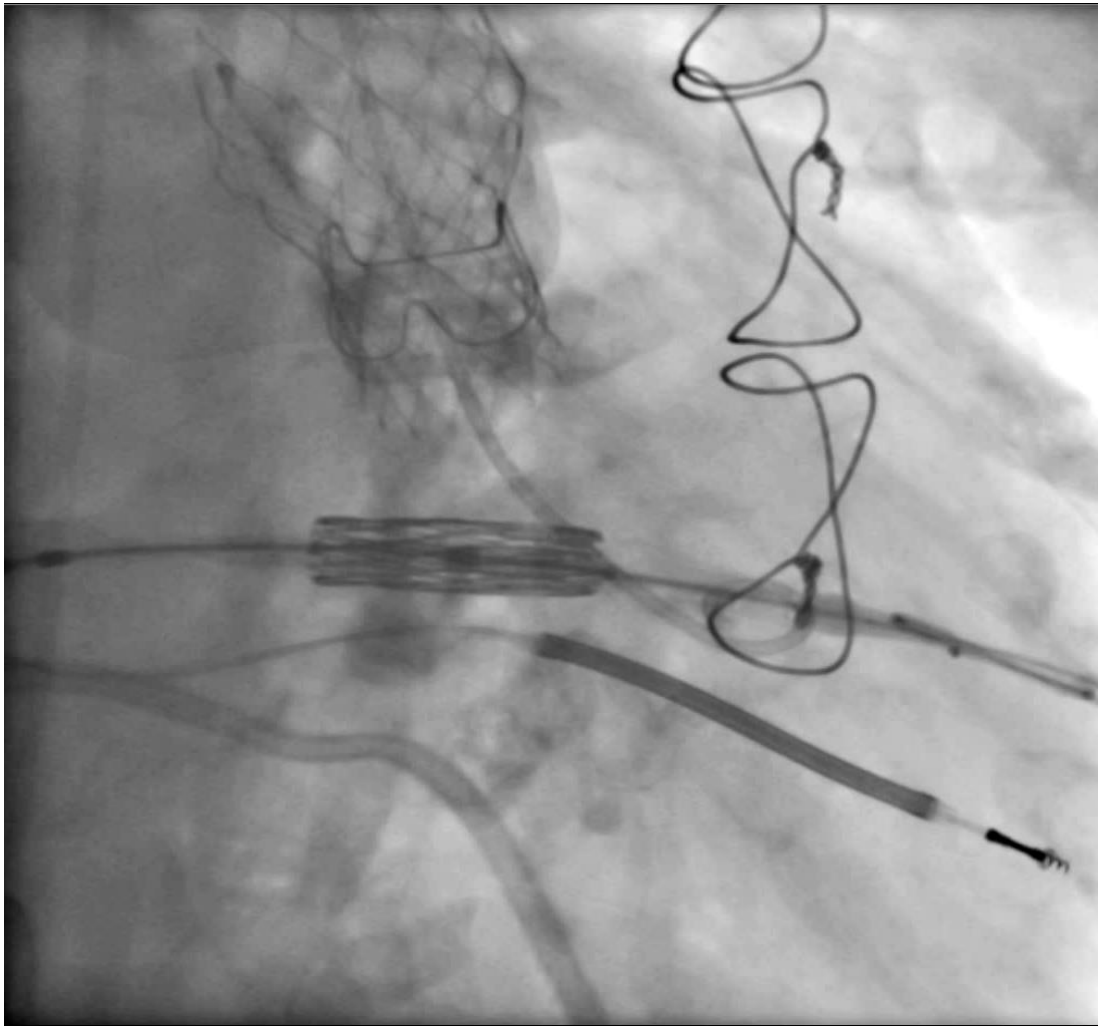


Sapien Valve advanced to the mitral annulus but failure to deploy due to balloon rupture and extravasation of contrast in LA



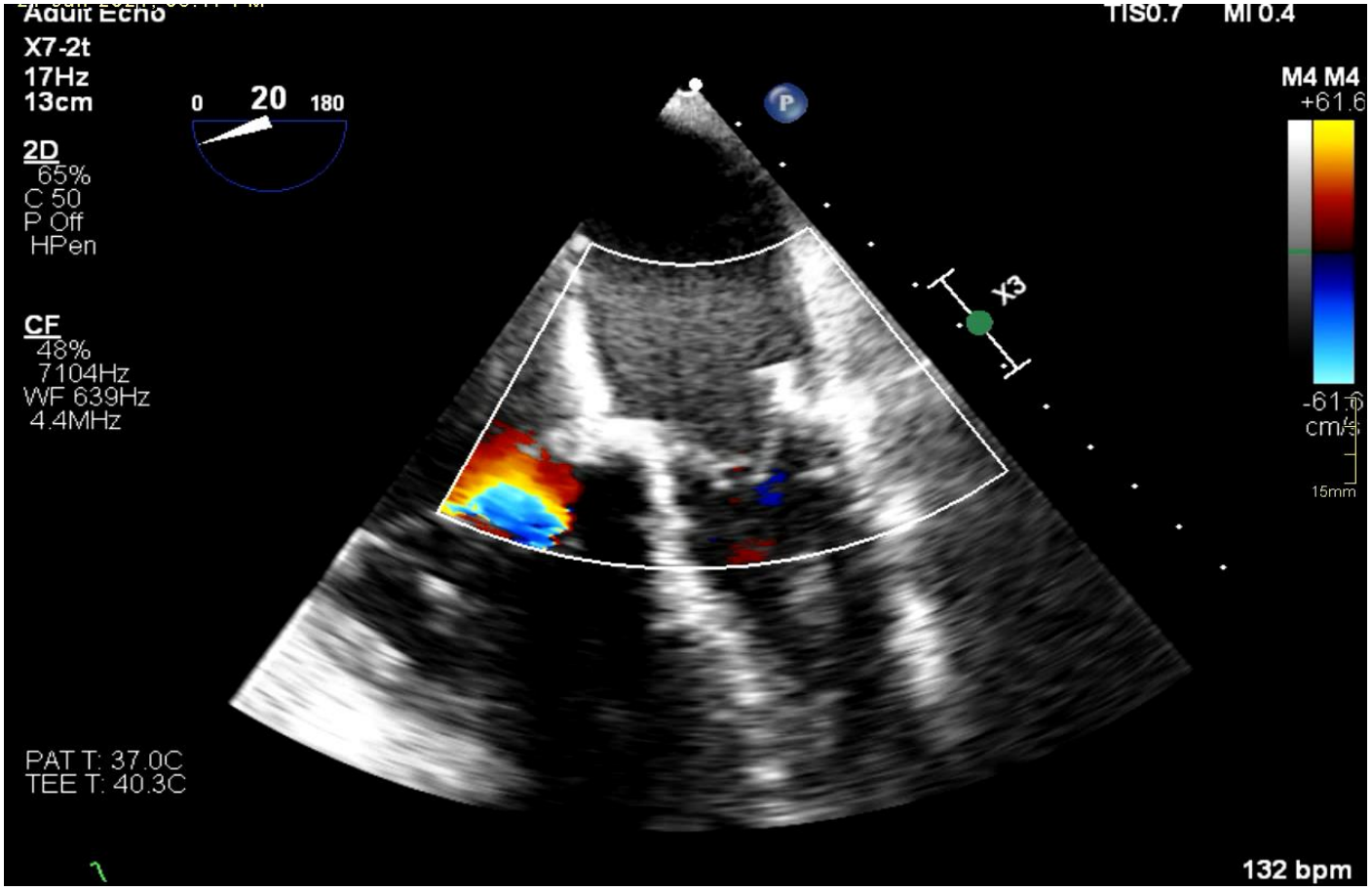
The valve was pulled back to the right femoral vein and removed via surgical cutdown. The femoral sheath was upgraded to a 24 F DRYSEAL sheath

Procedure Step-by-Step



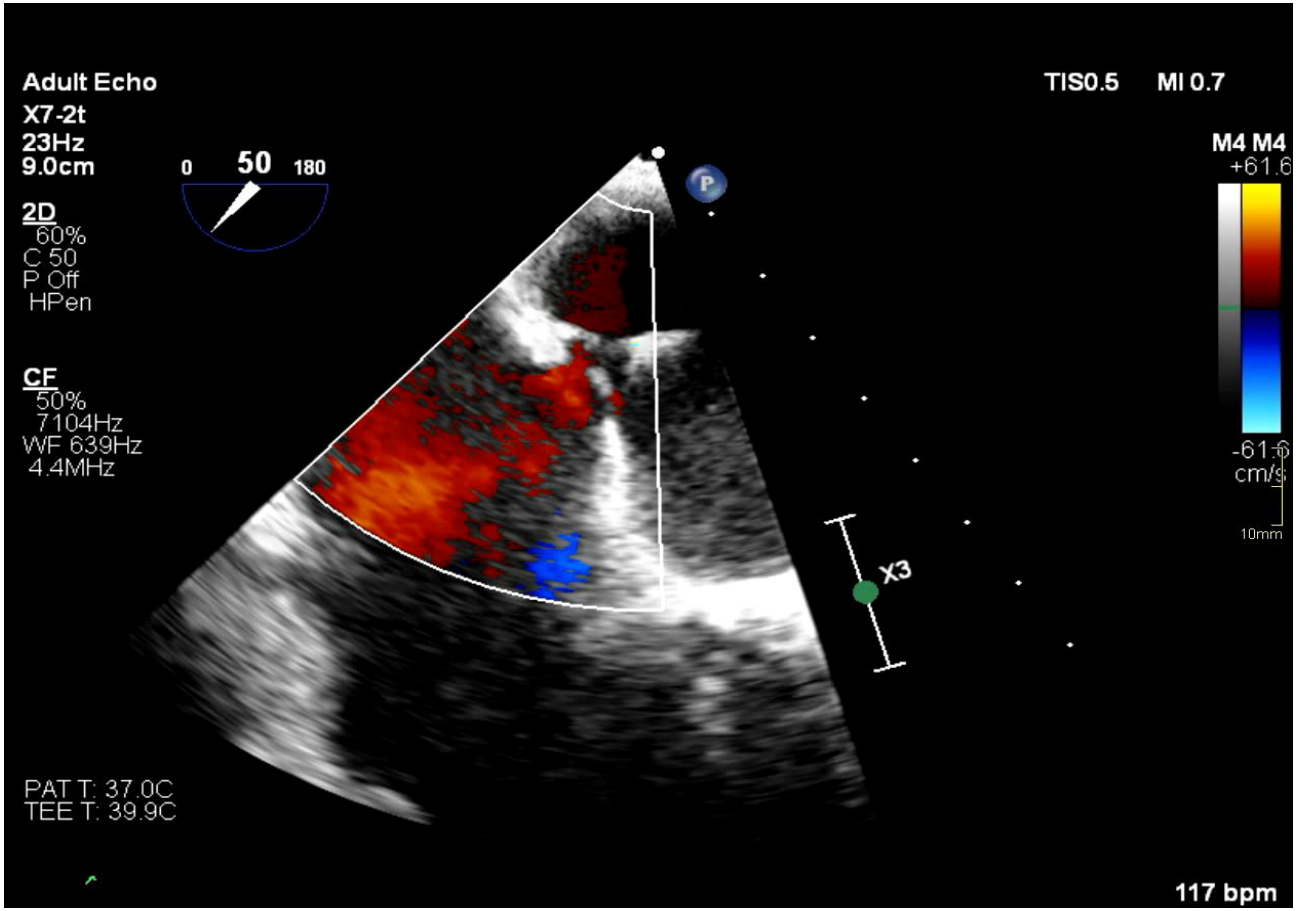
Sapien 3 26 mm + 3cc was deployed via transeptal approach under rapid pacing.

TEE Post Procedure



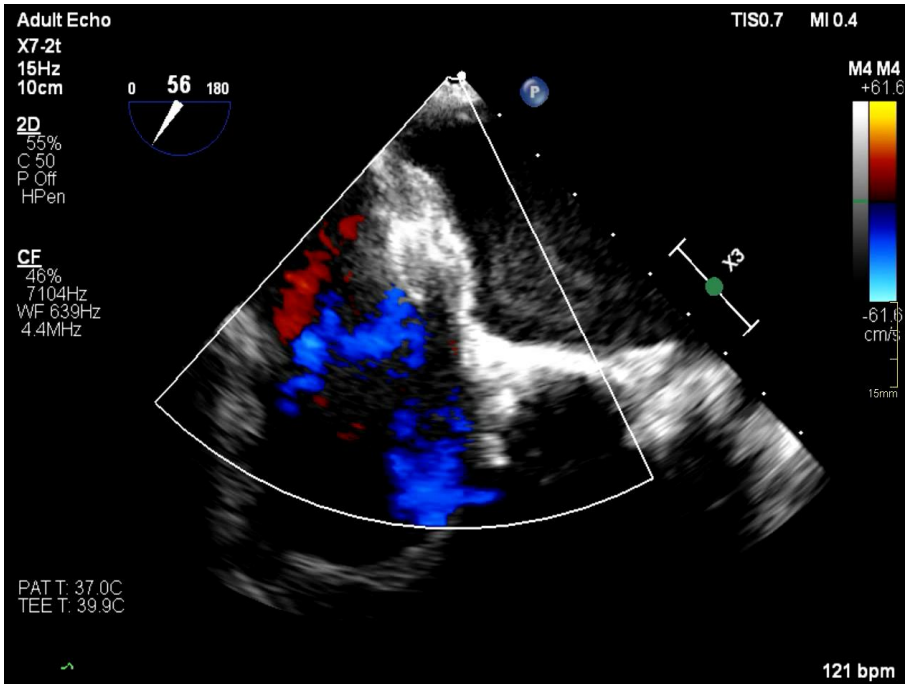
TEE showed trivial para-valvular leak with mean gradient of 2 mmhg.

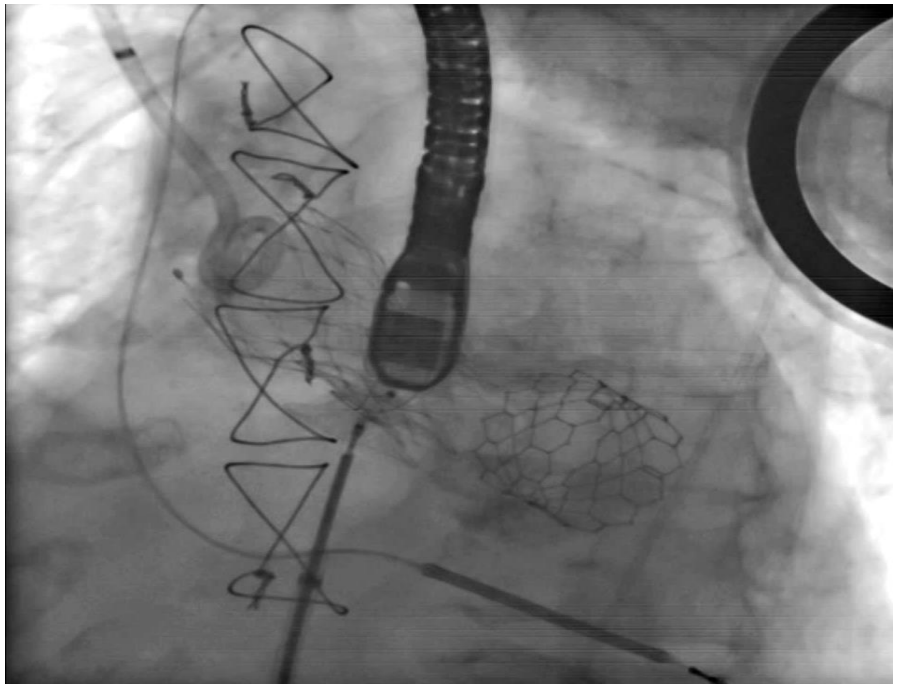
TEE post Procedure



Evidence of Right to Left Shunt on TEE with hypoxia 86% on 100% FiO2

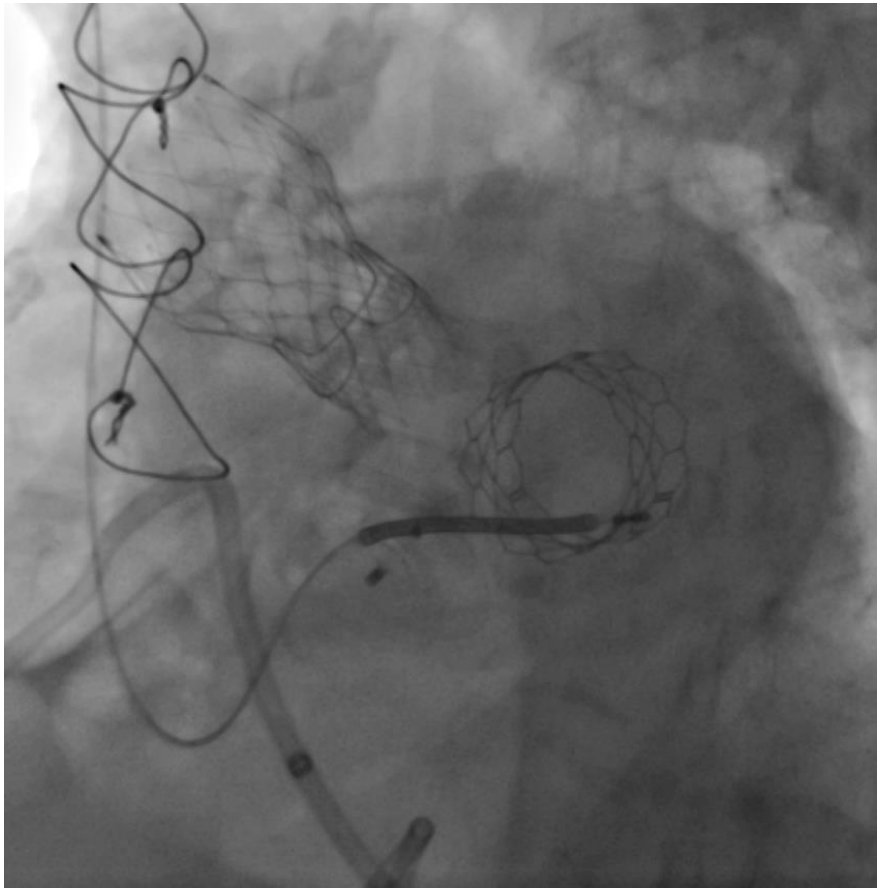
TEE post Procedure

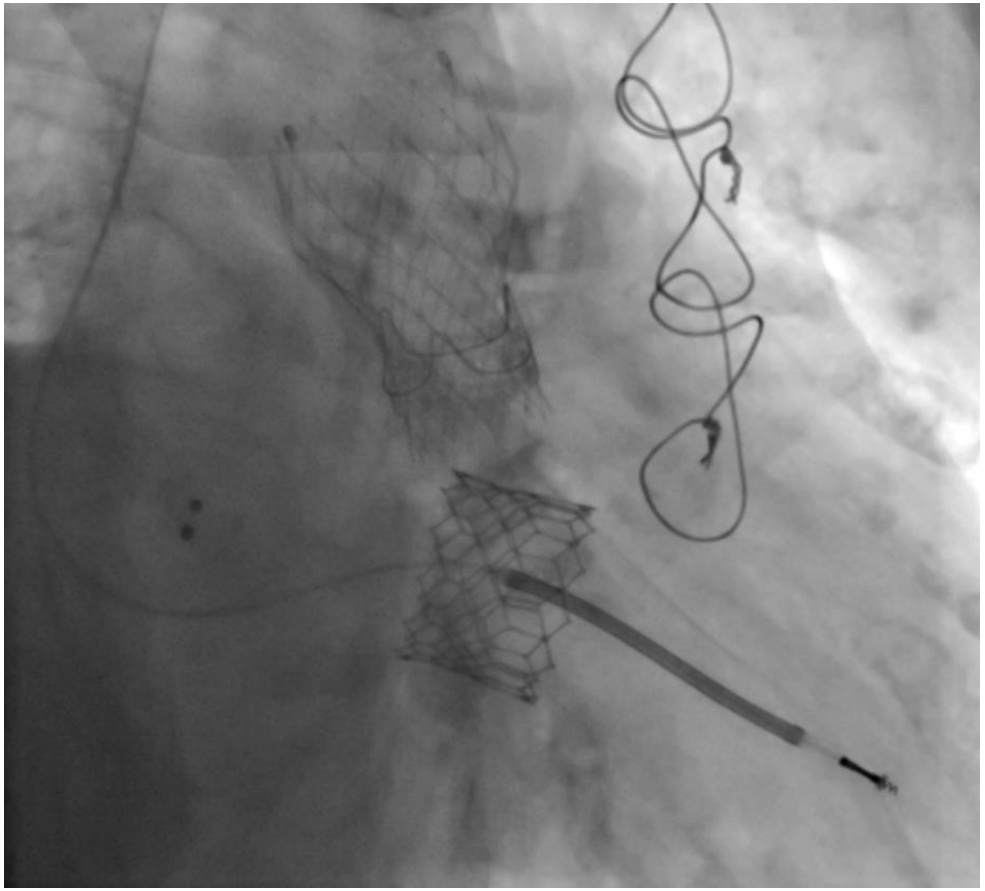




An Amplatzer 15 mm septal occluder device was deployed across the septum with resolution of hypoxia (86→99%)

Procedure Step-by-Step





Final Images in LAO caudal and RAO Caudal showing the relation between the aortic, mitral valves and ASD device