

Complicated TAVR

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I , Dr. Ashok Seth

☐ I have the following potential conflicts of interest to report:

- Scientific Advisor: Meril Life Sciences**
- Principal Investigator: Myval-1 Study, MeRes-1 Study**
- Consultant/Speaker's Bureau: Medtronic, Boston Scientific, Abbott Vascular**
- Member, BRS Global Advisory Board: Abbott Vascular**

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CASE SUMMARY

MEDICAL HISTORY

80 years frail lady

Poliomyelitis since childhood and used crutches to walk

Last few months of shortness of breath

DEMOGRAPHICS

80 years

Weight 45 kg

Serum creatinine 0.8mg/dl

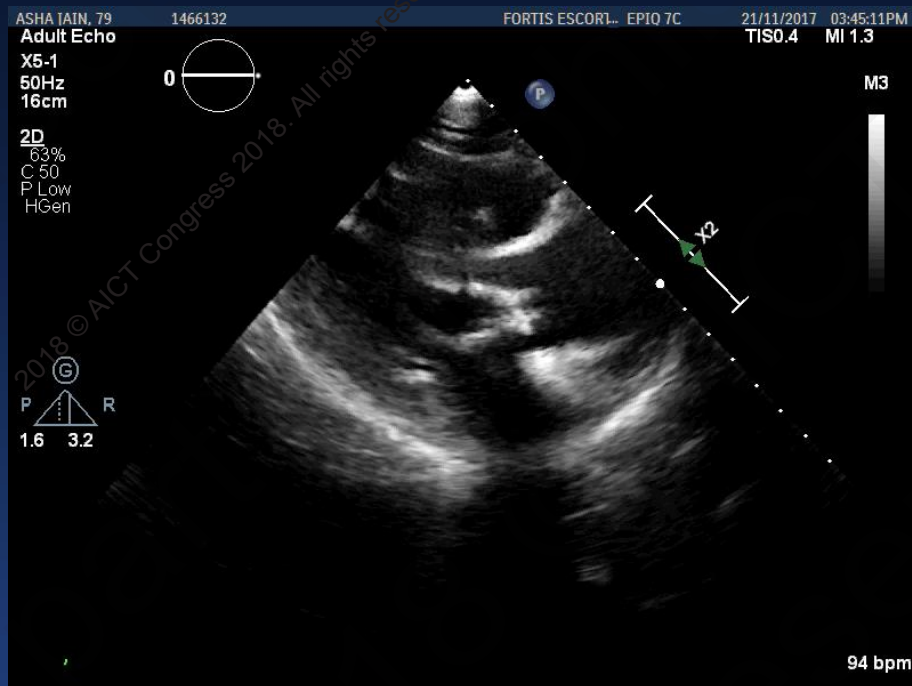
RISK STRATIFICATION

STS score 3.2%

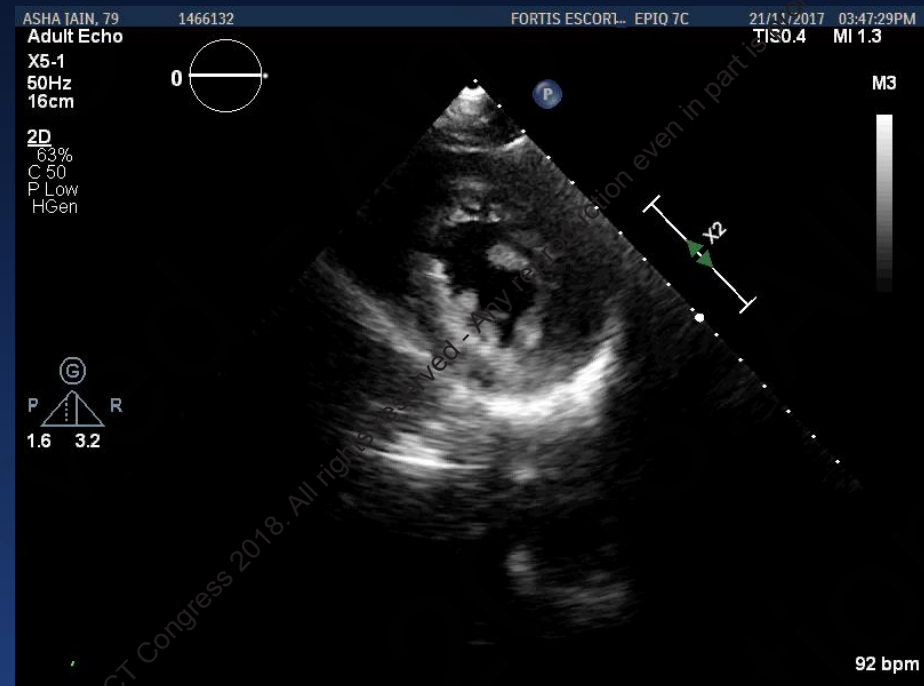
Fraility

PLAX AND SAX VIEW

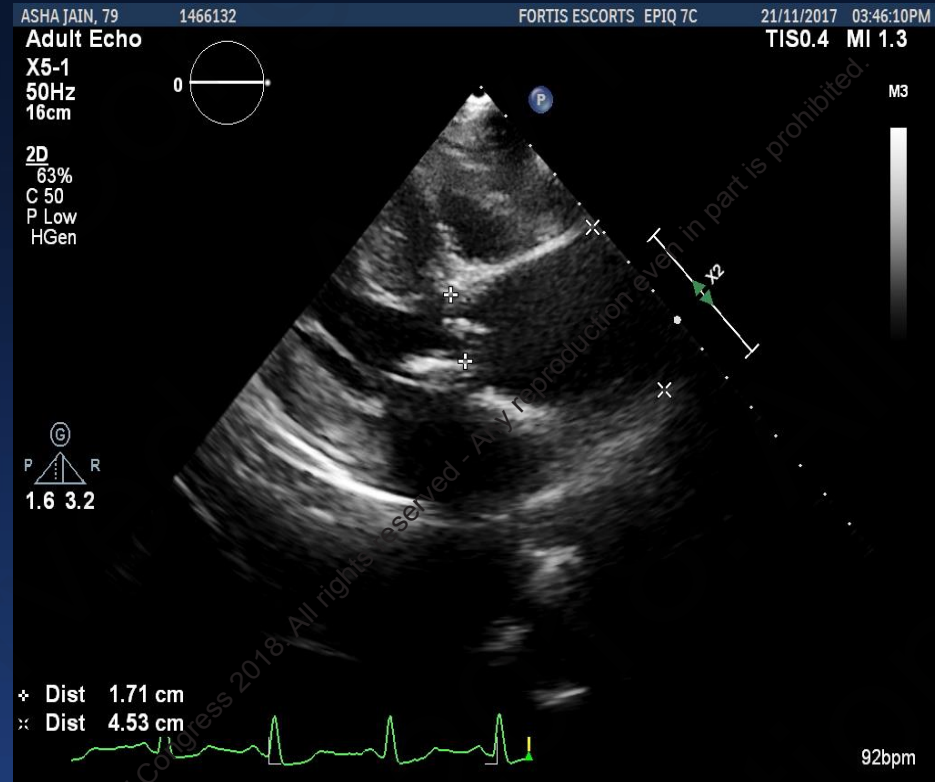
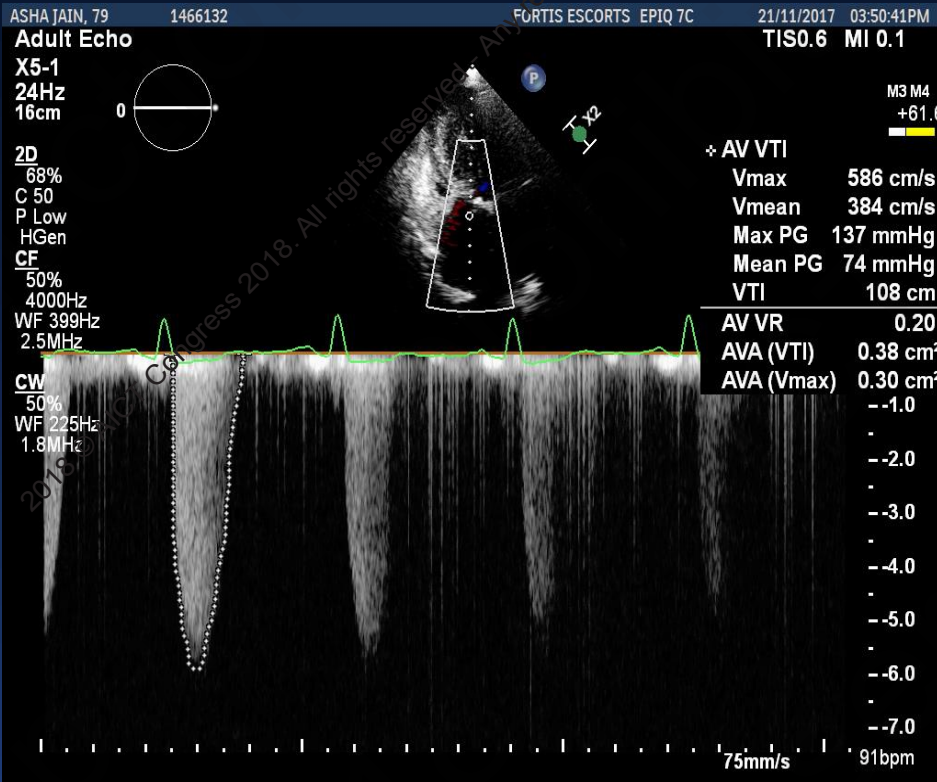
Septal bulge



Hypertrophied small cavity



PINHOLE AORTIC STENOSIS

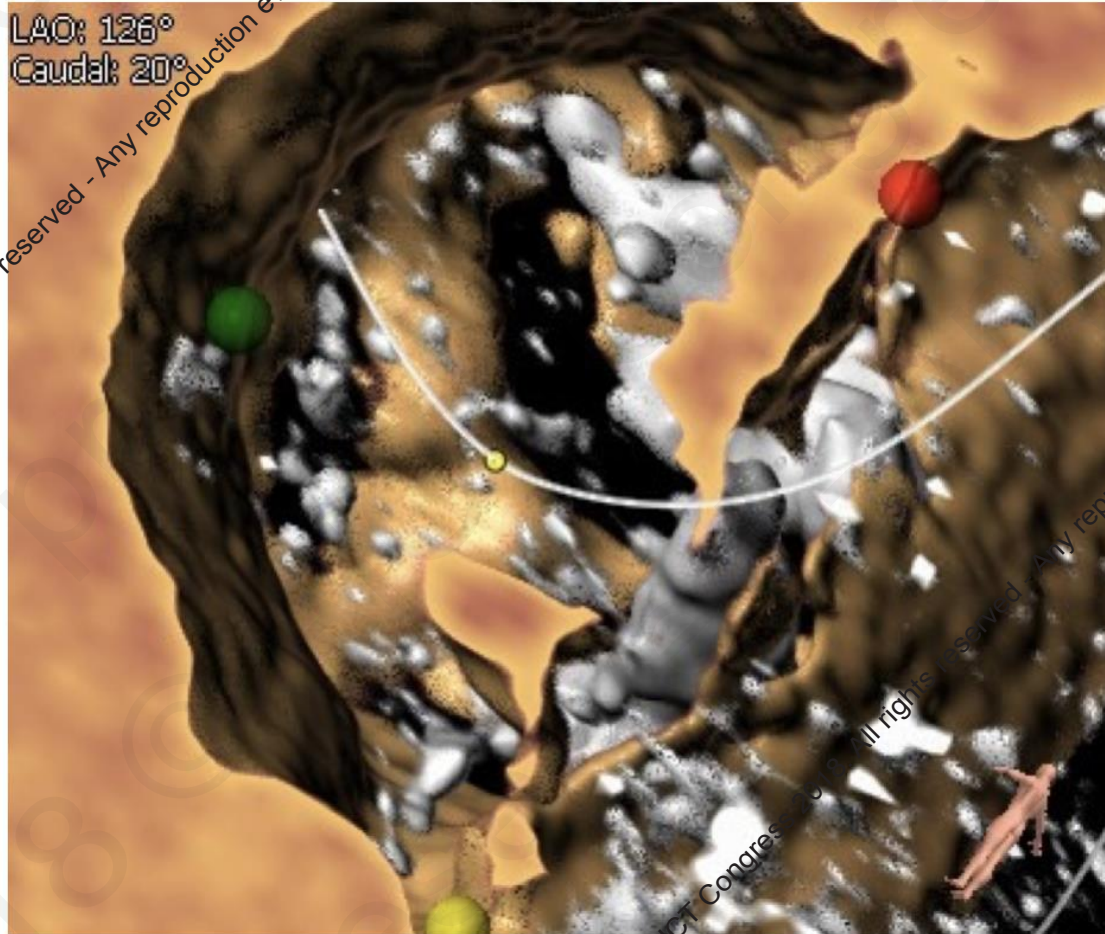


Aortic Valve area-0.3cm², Mean pressure gradient -74mmHg

Functionally Bicuspid Aortic Valve

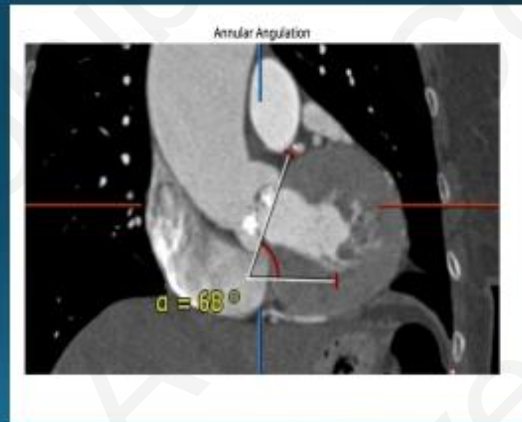
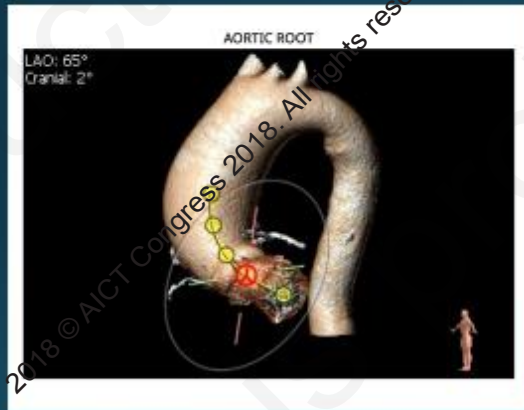
AORTIC VALVE
CALCIFICATION

LAO: 126°
Caudal: 20°

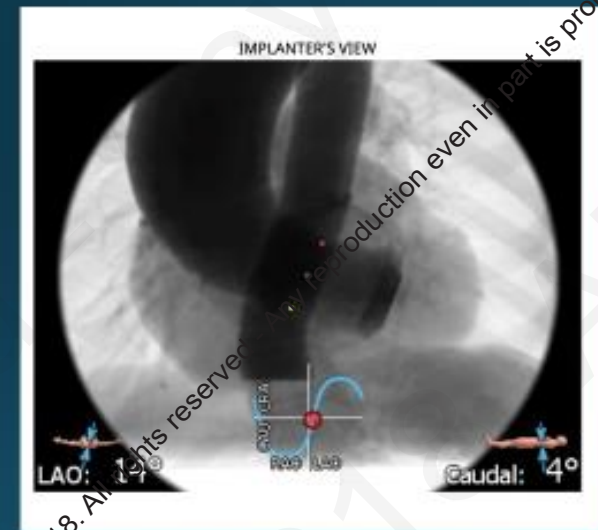


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Aortic lie and Horizontal heart

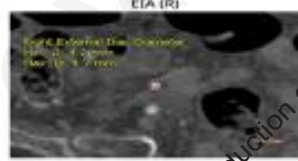
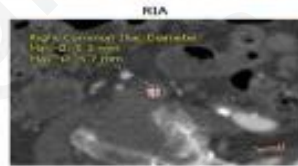
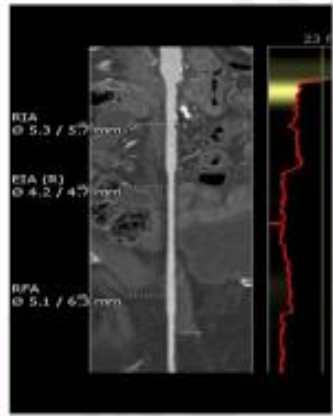


Implantation Angle

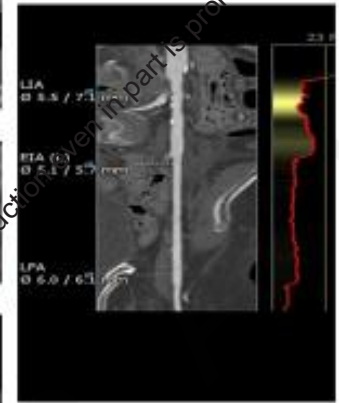
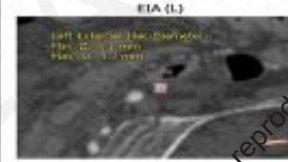


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Femoral Access - Right



Femoral Access - Left



Additional Femoral Images



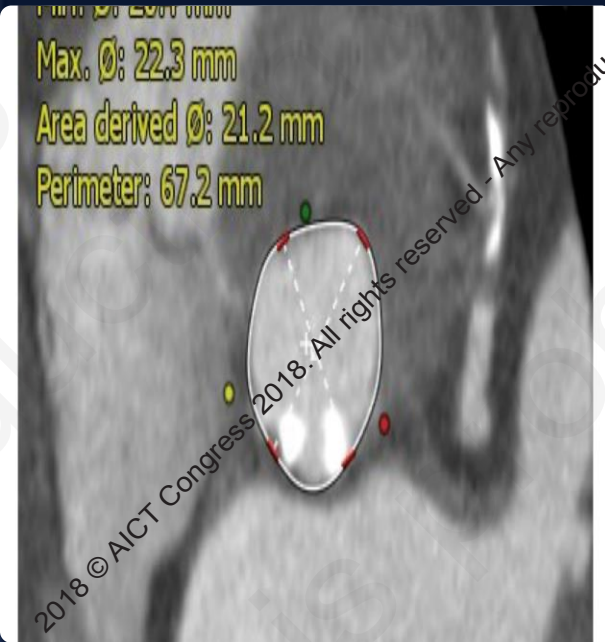
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Challenges about the case

- Frail octagenarian with physically challenged
- Small and Tortuous femoral and iliac artery, as well as aorta
- Pin Hole Aortic Valve stenosis with severe calcification,
- Functionally Bicuspid aortic Valve
- Horizontal Aorta
- Hypertrophied concentric Ventricle with septal bulge

Aortic annulus diameter at three levels



Annular level



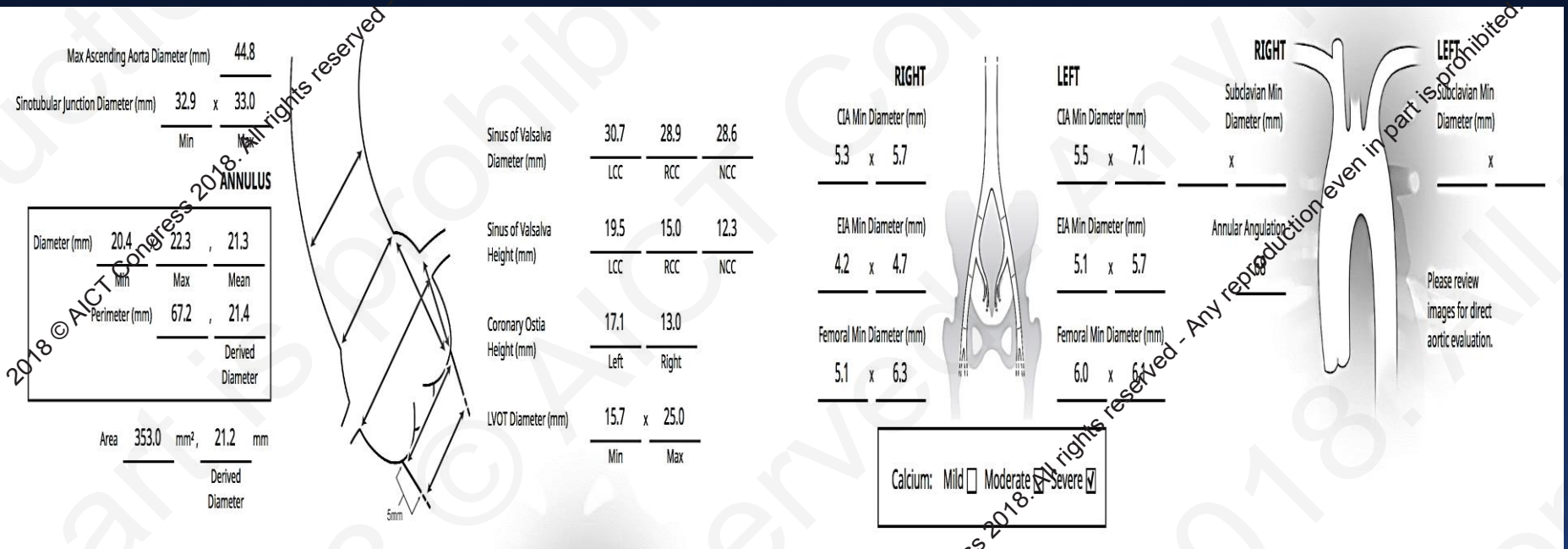
5 mm above Annulus



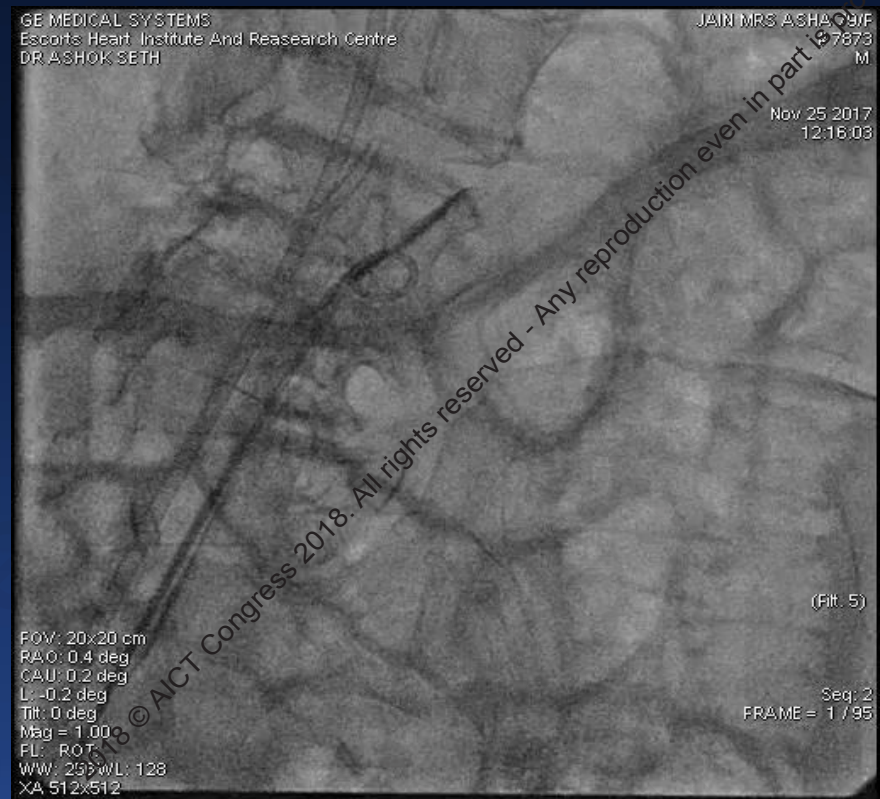
8 mm above annulus

Average of 67 mm

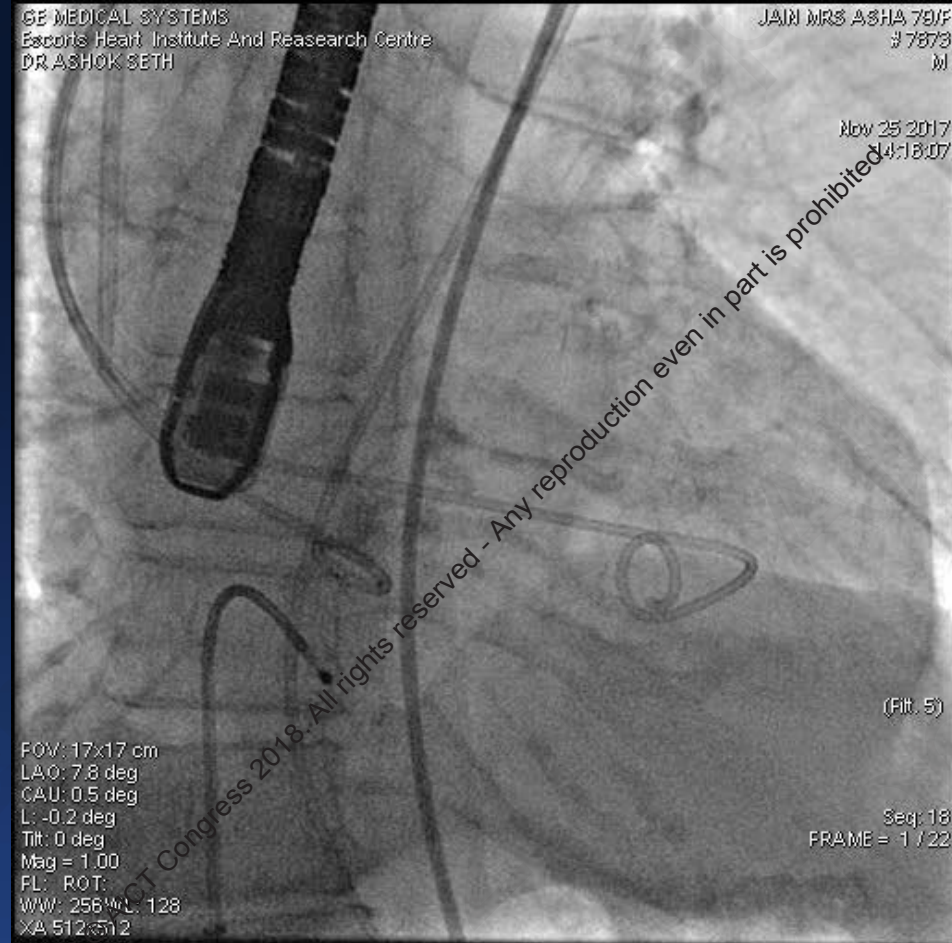
CT measurements of aortic root and iliacs and femoral arteries



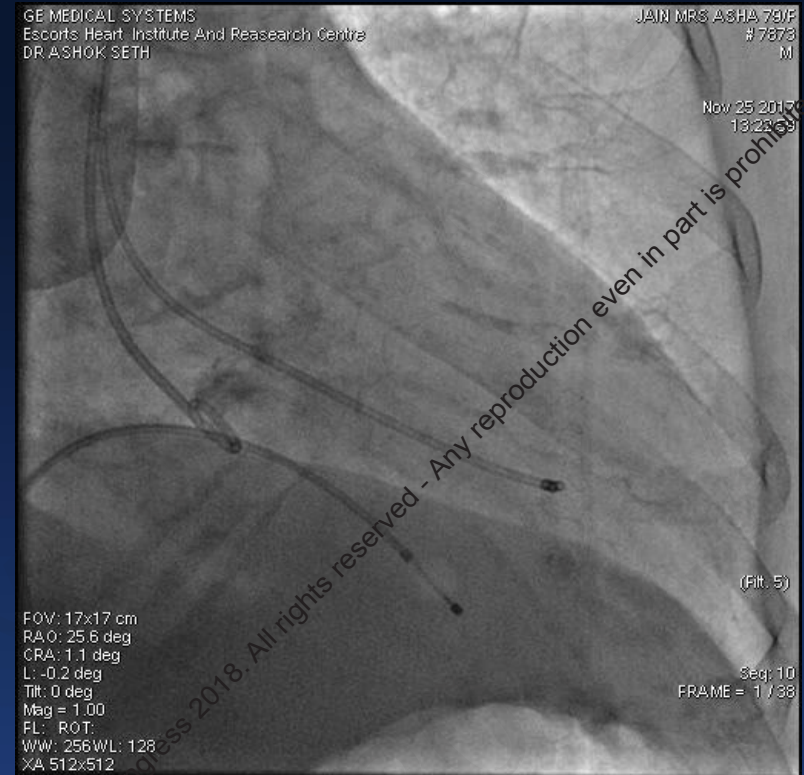
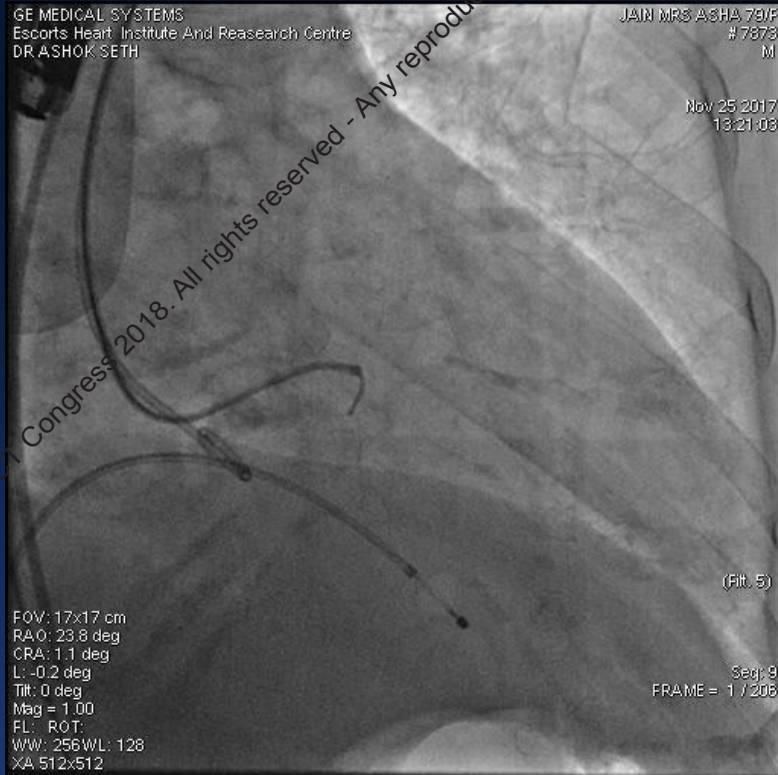
Dissection on the right iliac and lower aorta while struggling to take the catheter to left iliac for Fluro guided puncture



Successful crossing of Aortic valve but rest was all struggle !

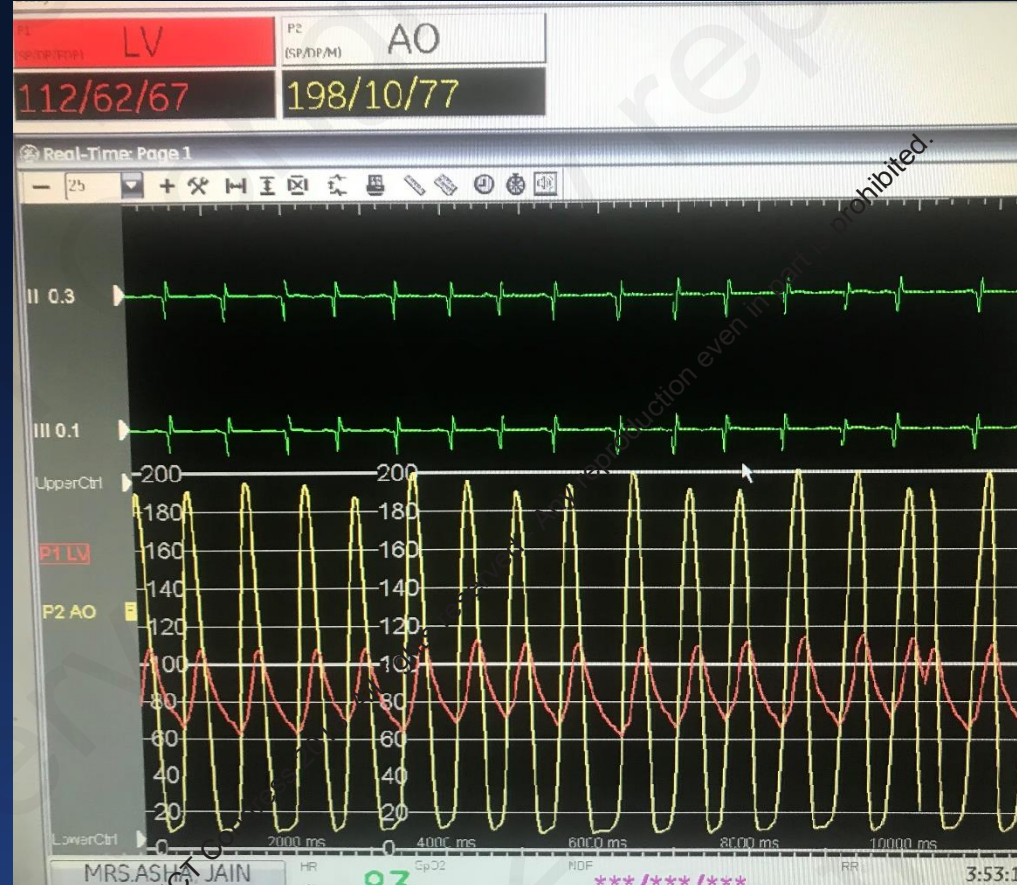
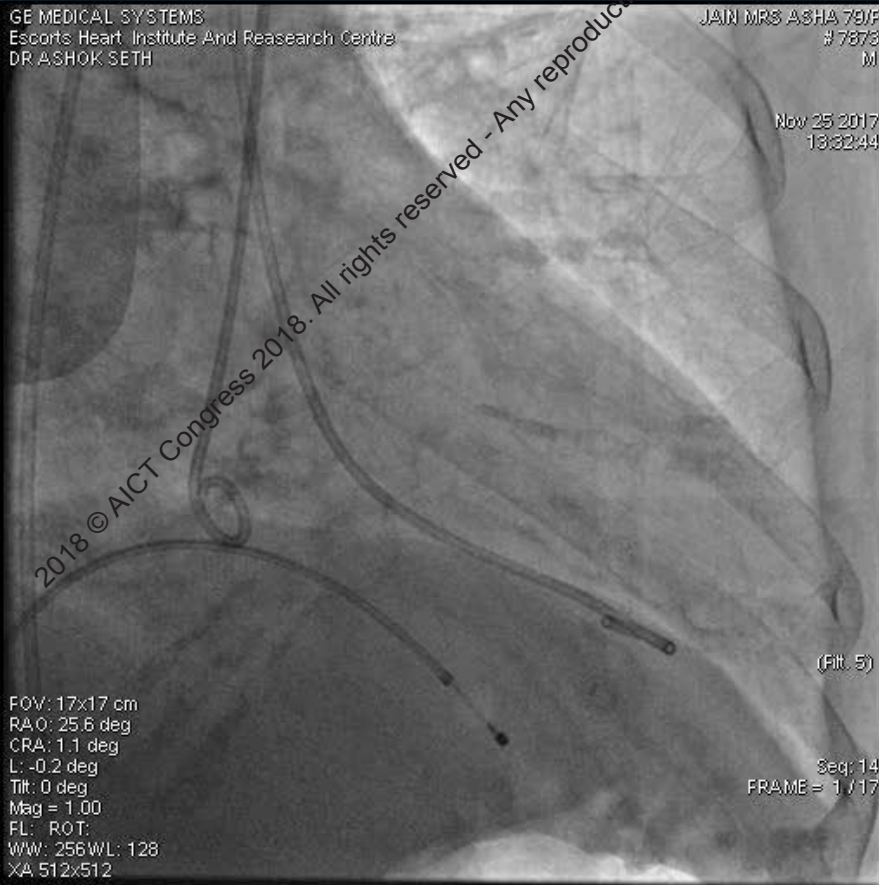


Wire was out, Re crossing with AL2

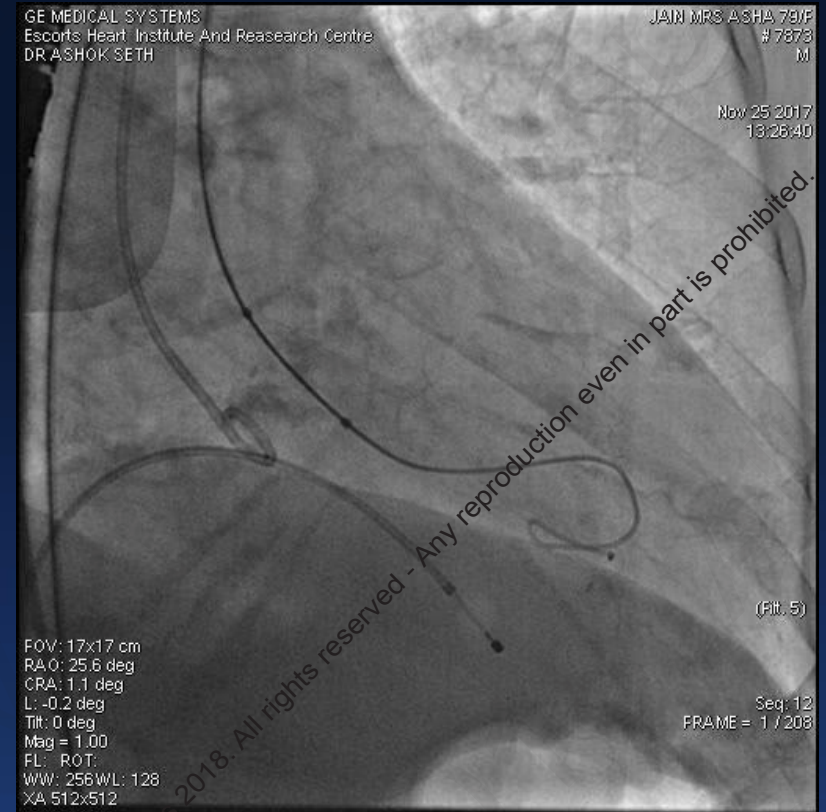
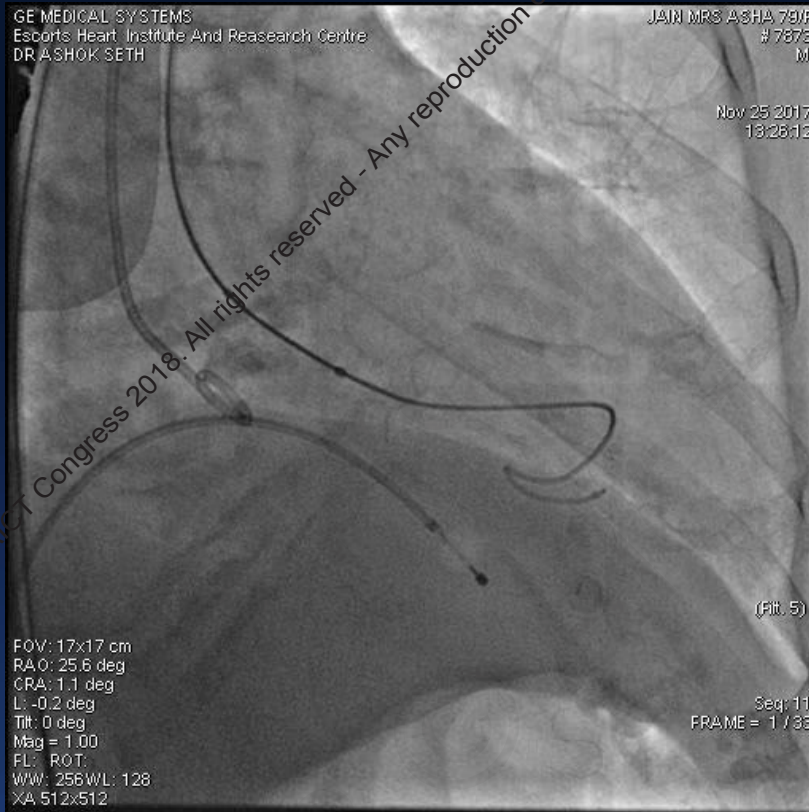


Simultaneous pressure tracing

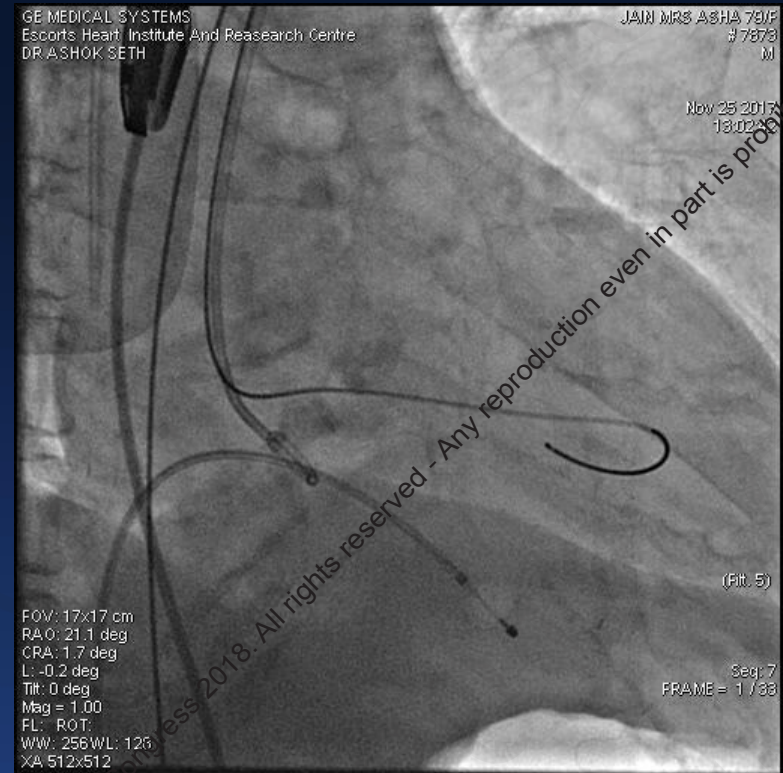
Final Successful positioning and then the hemodynamic measurement



18 mm balloon failed to cross, 14 mm balloon failed to cross 6x 40mm peripheral balloon



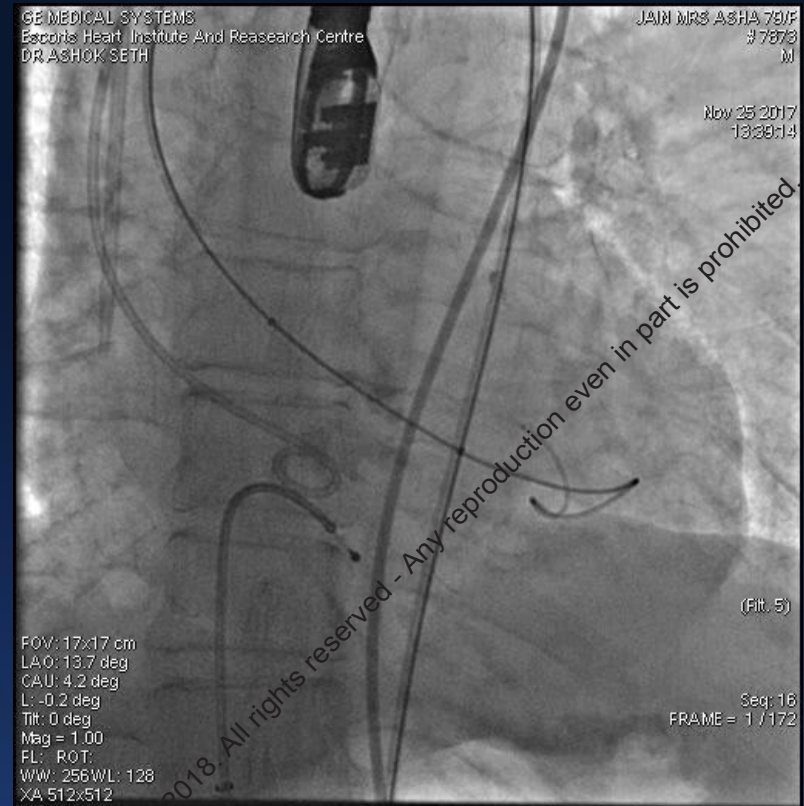
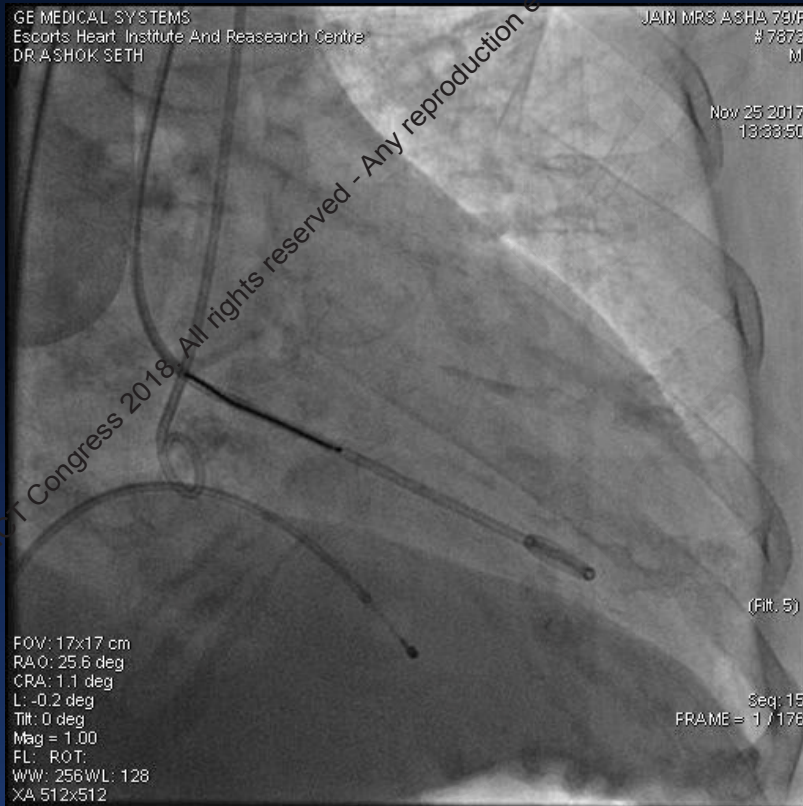
Crossing the Aortic valve with AL2 Lunderquist wire parked



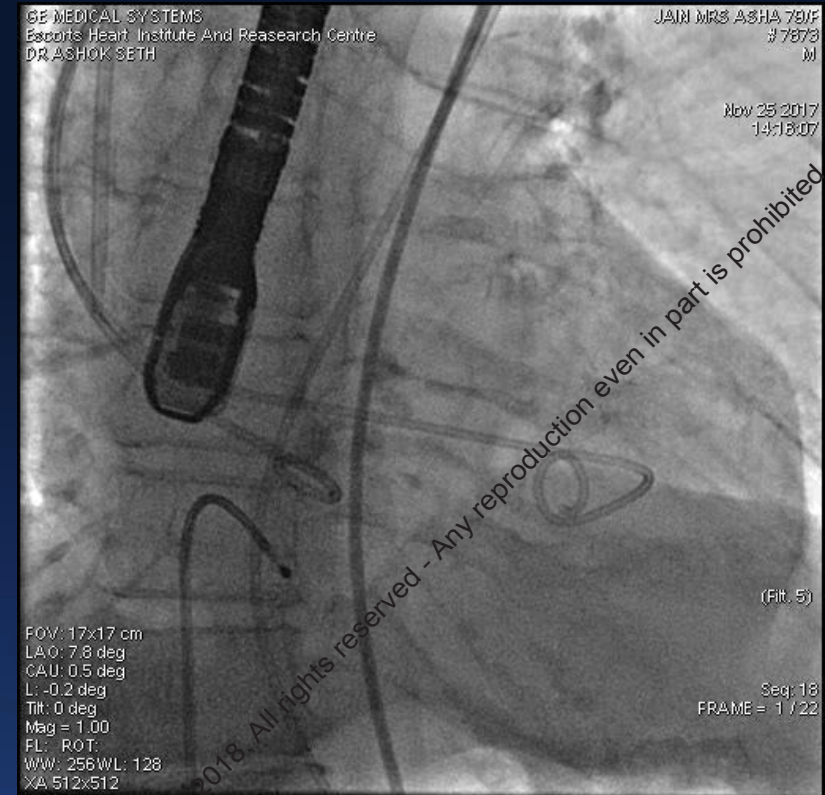
16x40mm ZMED balloon pre dilation



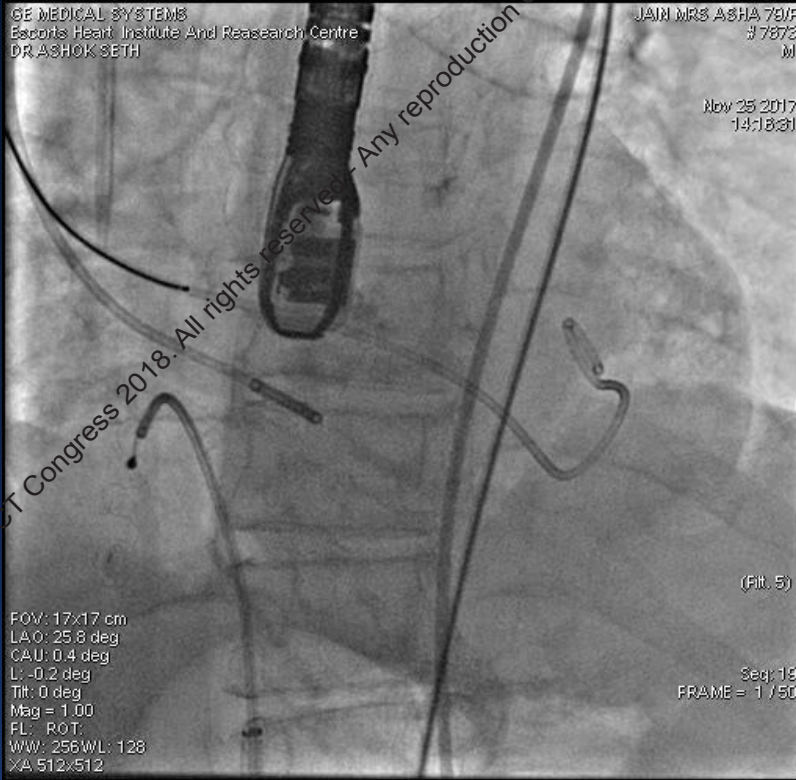
Device could not cross Every hardware comes out Re doing the whole thing again- -This time -18x40 mm ZEMED BALLOON dilation



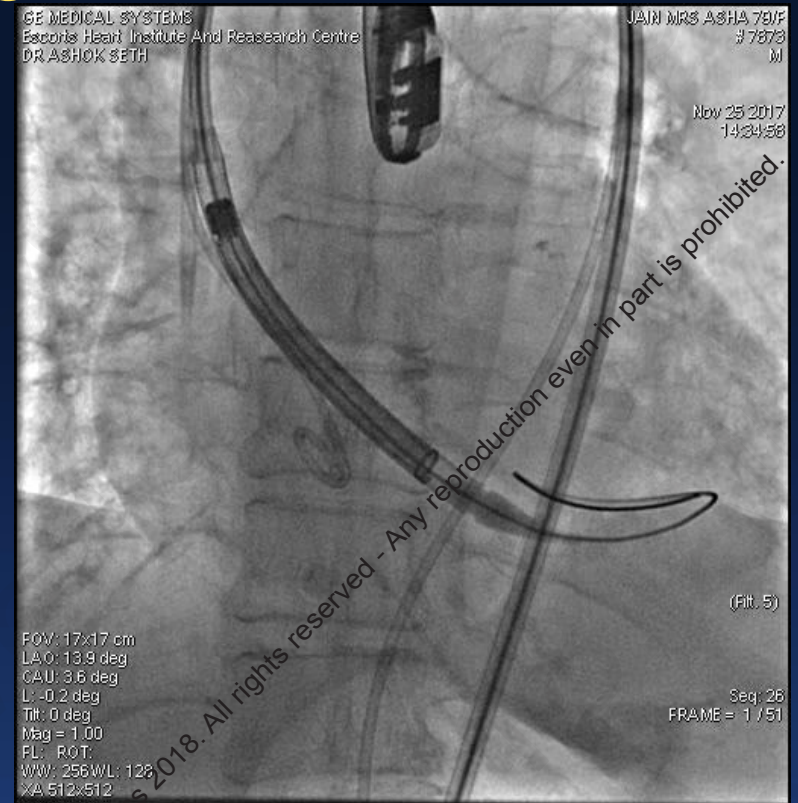
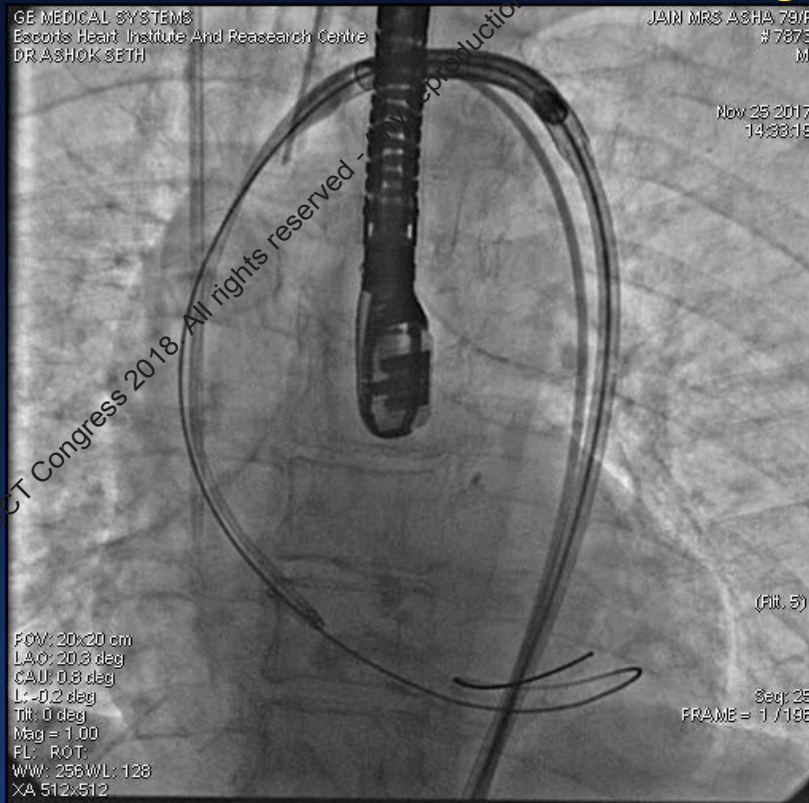
ALL OUT AGAIN – RE DO EXCERCISE



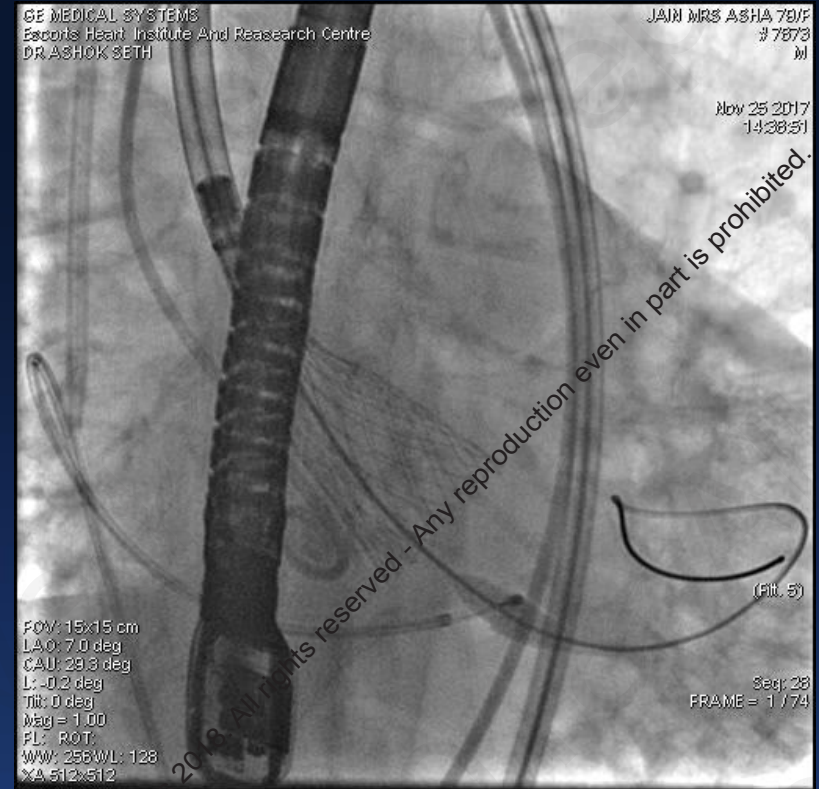
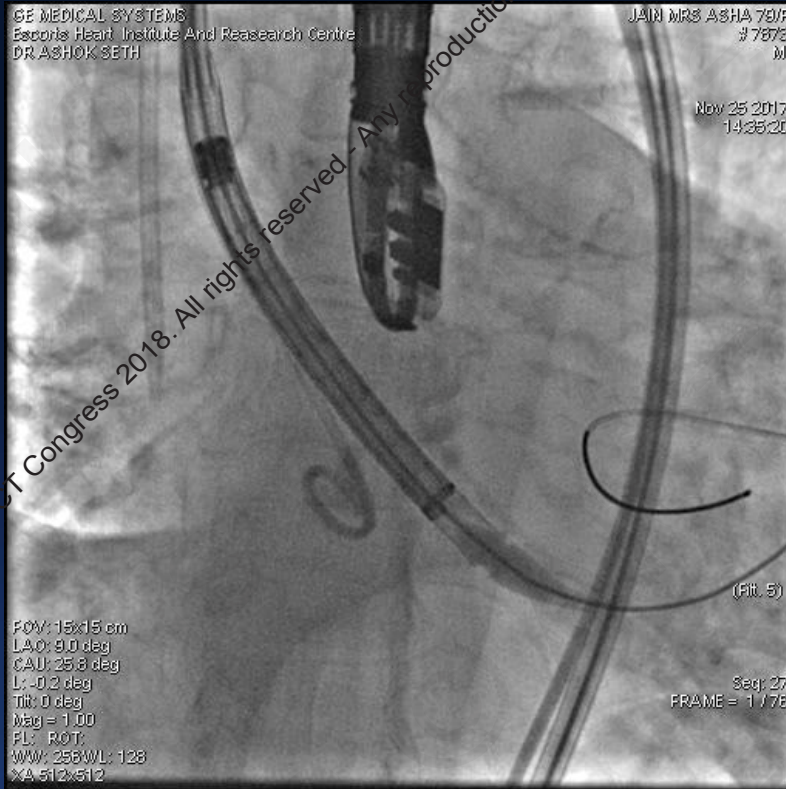
LUNDERQUIST PARKED AGAIN



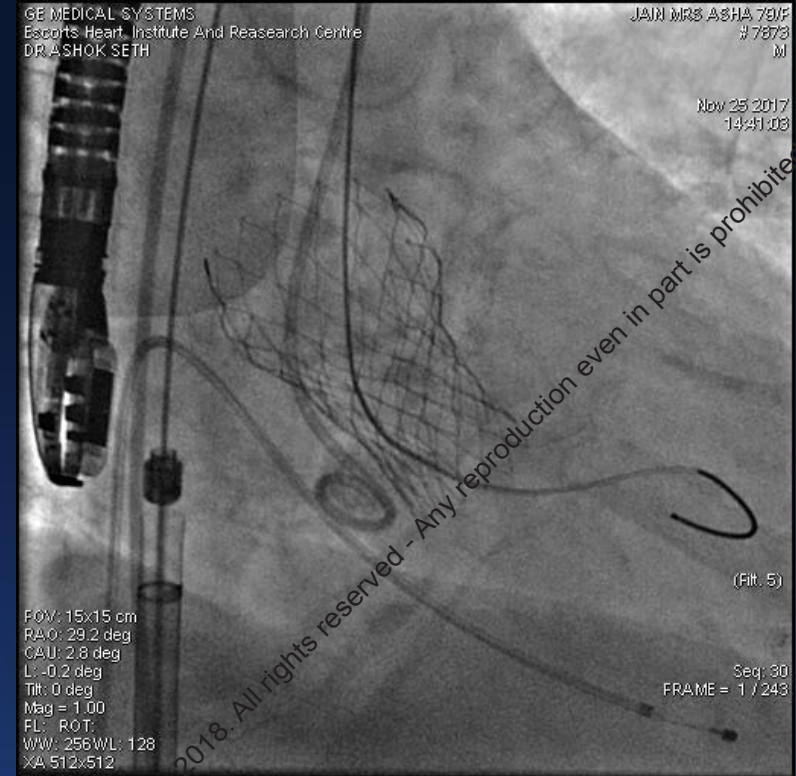
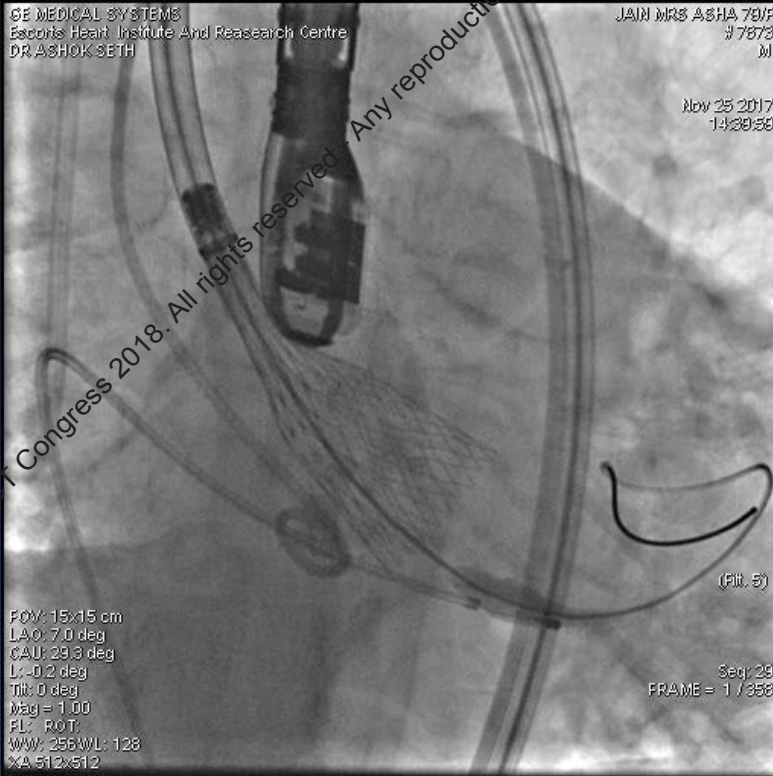
Finally the Device crosses Aortic valve



Positioned, Unsheathing



Deployed the 26 mm Evolut R



Significant PVL by aortogram, echo and haemodynamic trace

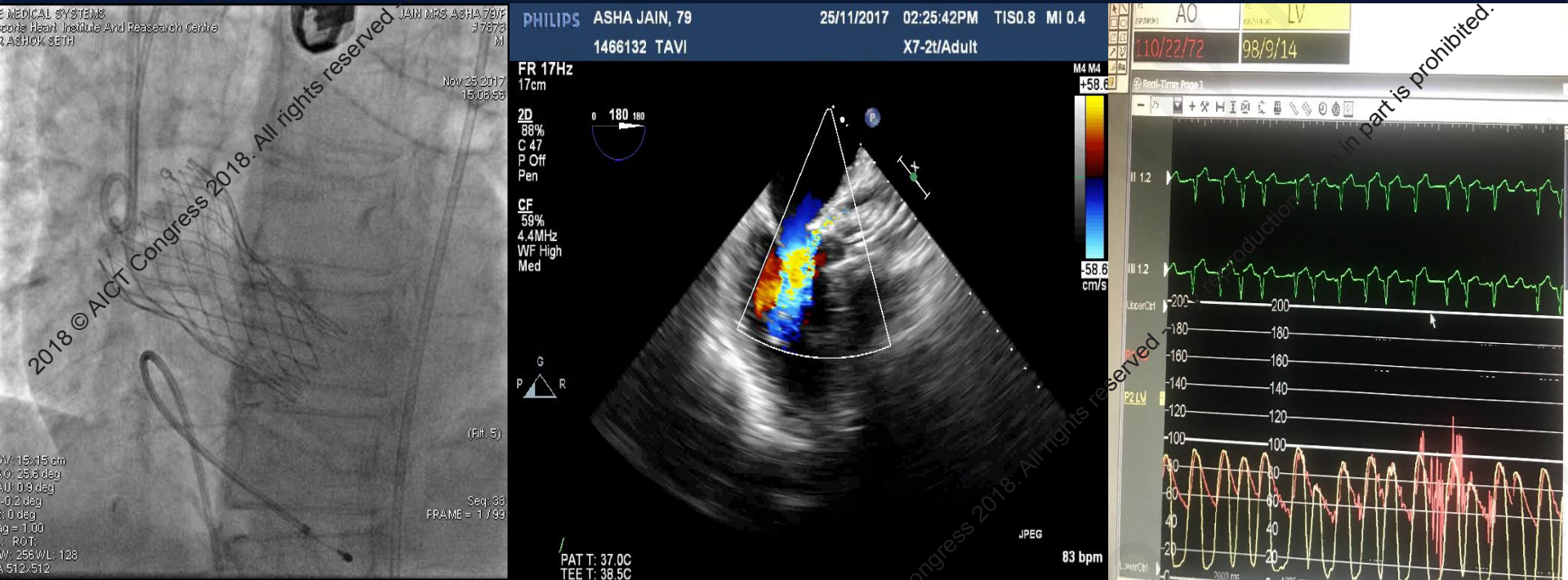
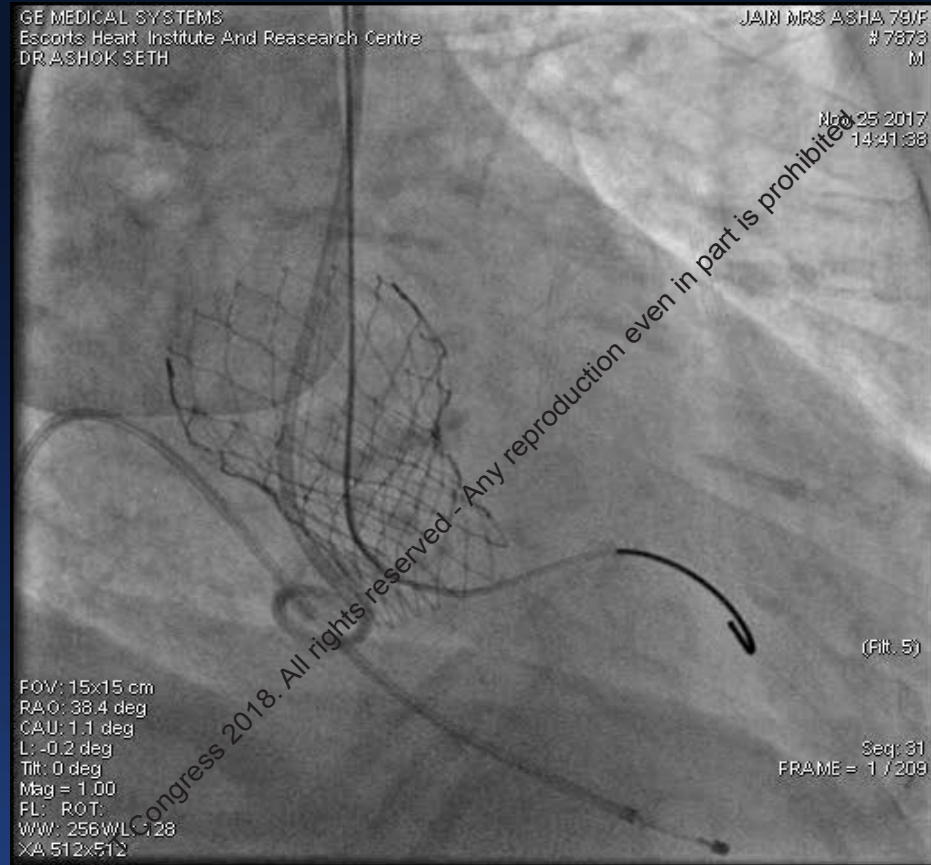
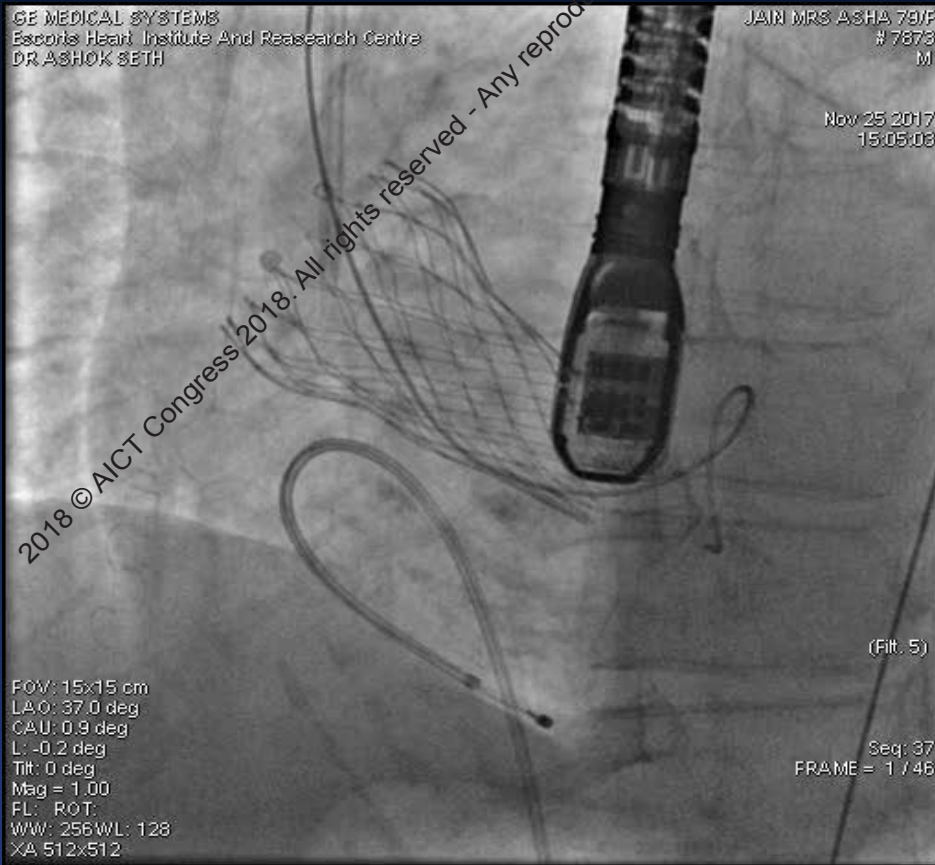
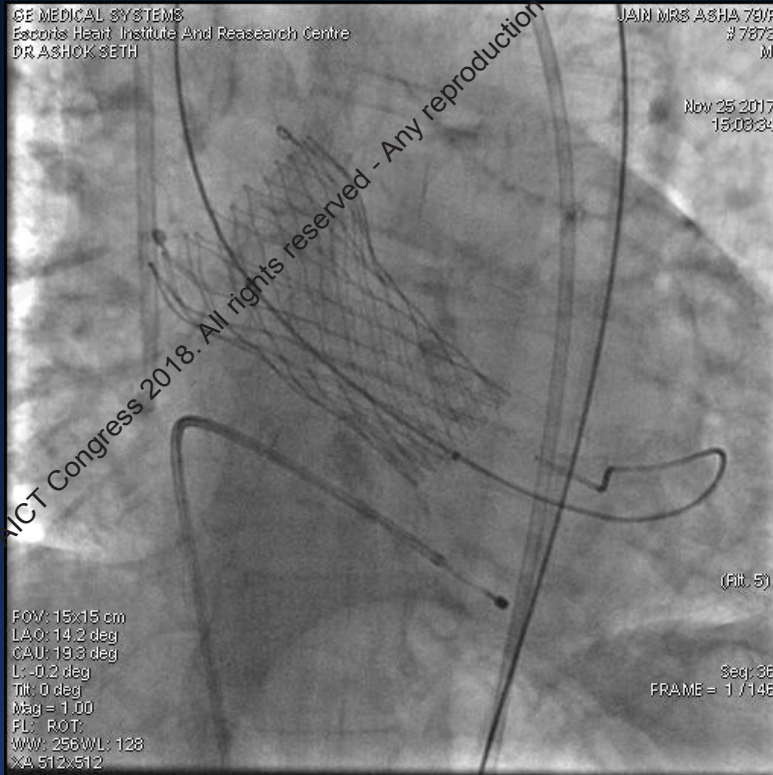


Figure out for any malapposition as cause of AR



Post dilation and final result



No PVL after Post dilation of the Device

Dissection of lower abdominal Aorta with a flap



Summary

- **Performing TAVR in patients with horizontal aorta is feasible and safe with variety of valve systems**
- **Stiff wire like Lunderquist have edge over other wires**
- **Sequential balloon upsizing could be needed in some very severe AS**
- **Good predilation can be helpful**
- **Buddy balloon is a useful technique to know in these cases**
- **Re sheathable feature makes things easier with current self expanding valves**
- **Nuances with alternate access and horizontal aorta 2nd Rt IC for TAo, Left subclavian preferred for horizontal aorta versus Rt subclavian.**



14th

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