Inability to Cross AV
A Case

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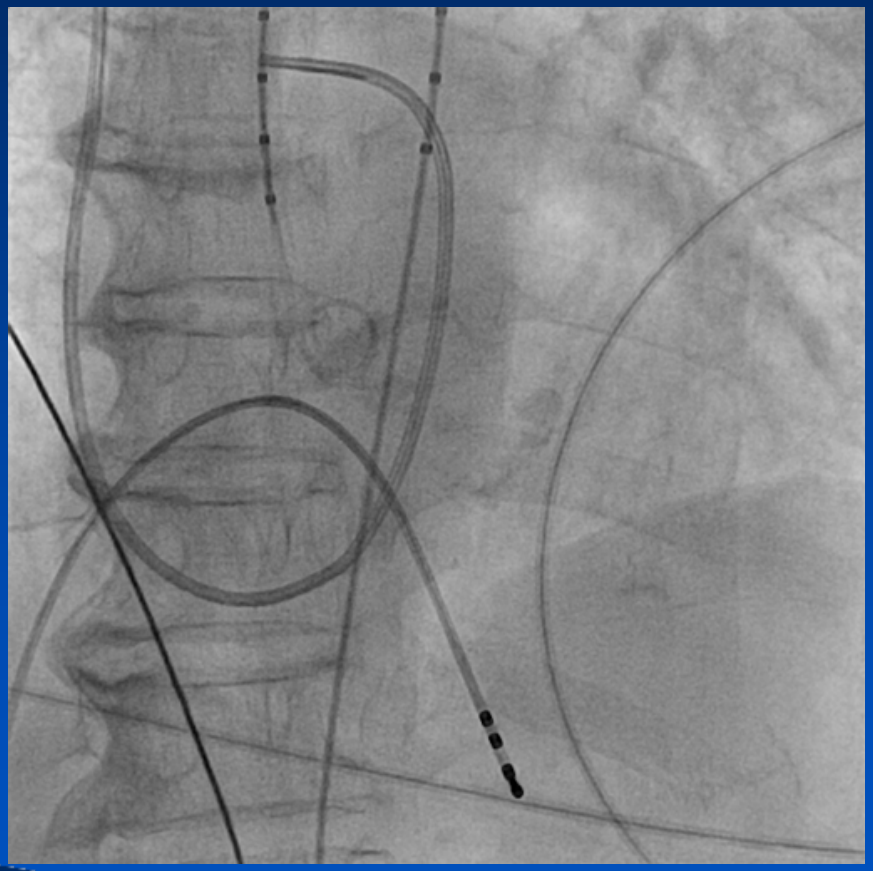
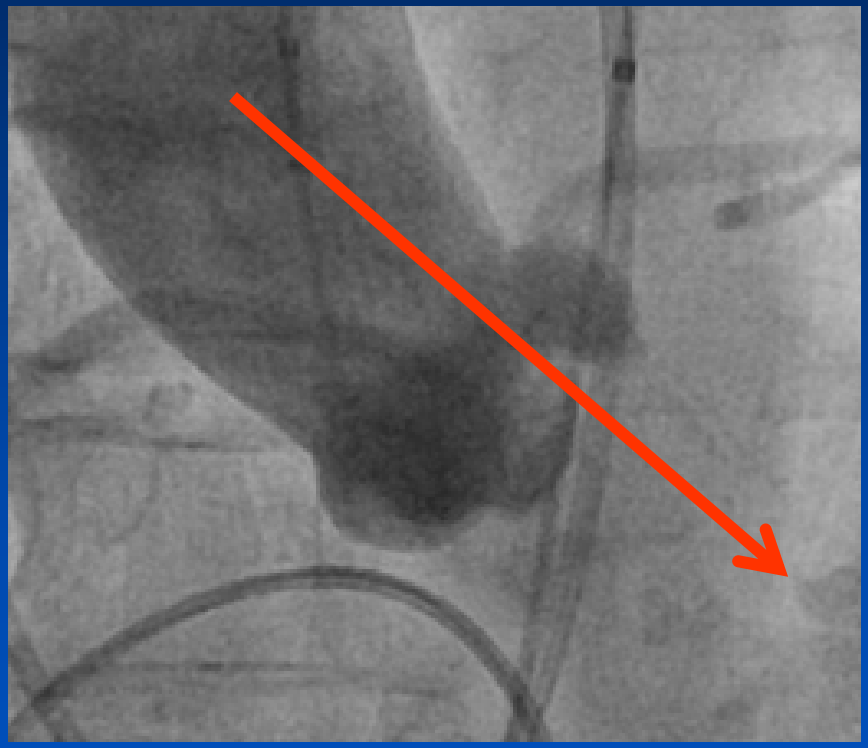
Our Practice of Crossing AV

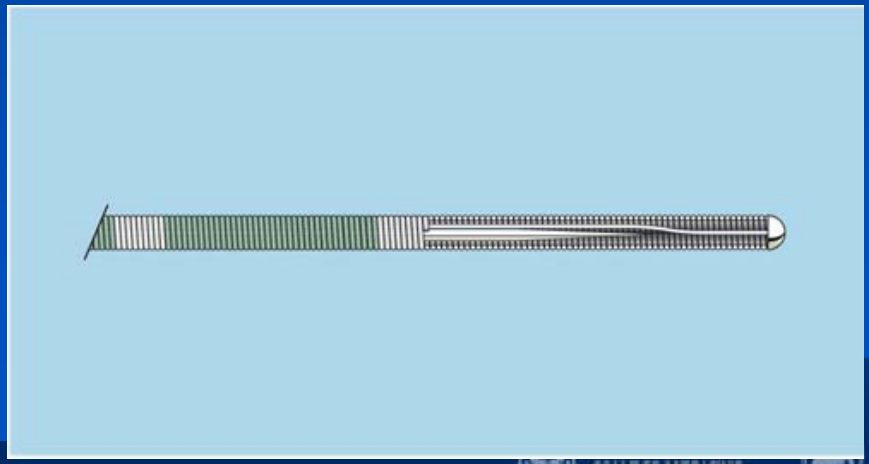
1. Careful watching of aortogram





Crossing AV

2. Trial with left Amplantz (AL-1) guider and standard straight-tip wire



Difficulty in Crossing AV

- Change the guiding catheter
  - AL2, JR4, Multipurpose, others
- Change the wire
  - Hydrophilic wire
- Change the operator, projections…

To prevent a failure

- Accumulate experience
- Prepare all devices in the cath lab
- Repeat with patience
- Change the operator
- ….

But, a failure still can happen.

Case

68 / F, 54kg/150cm

History

effort chest pain / DOE NYHA III

Co-morbidity

Bronchial Asthma

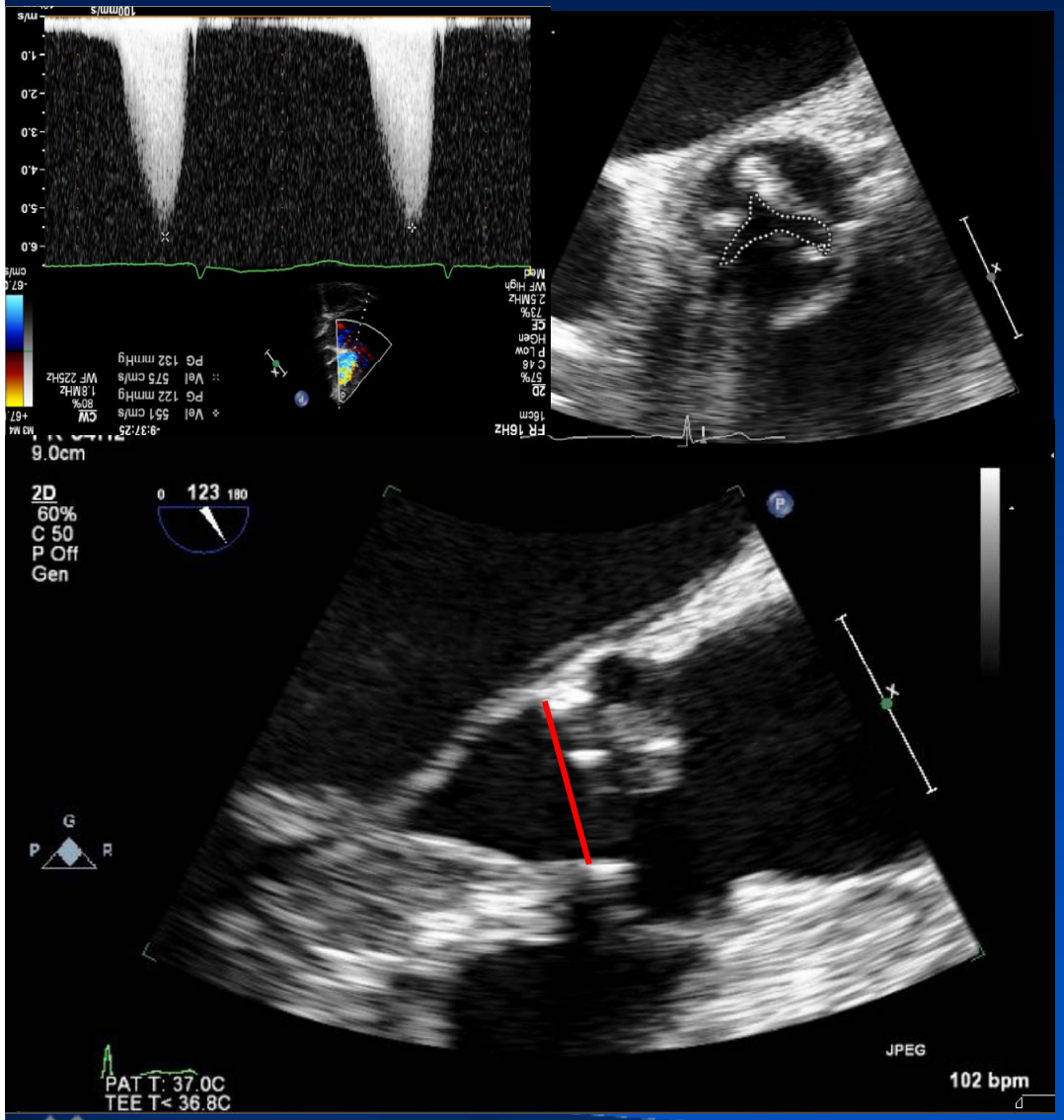
Old CVA

Hypertension

Lab : Cr 0.9 mg/dL

Logistic Euroscore 21.2%

Severe Aortic Stenosis



Aortic valve area: 0.7 cm^2

Vmax: 5.2 m/sec

Max gradient: 102 mmHg

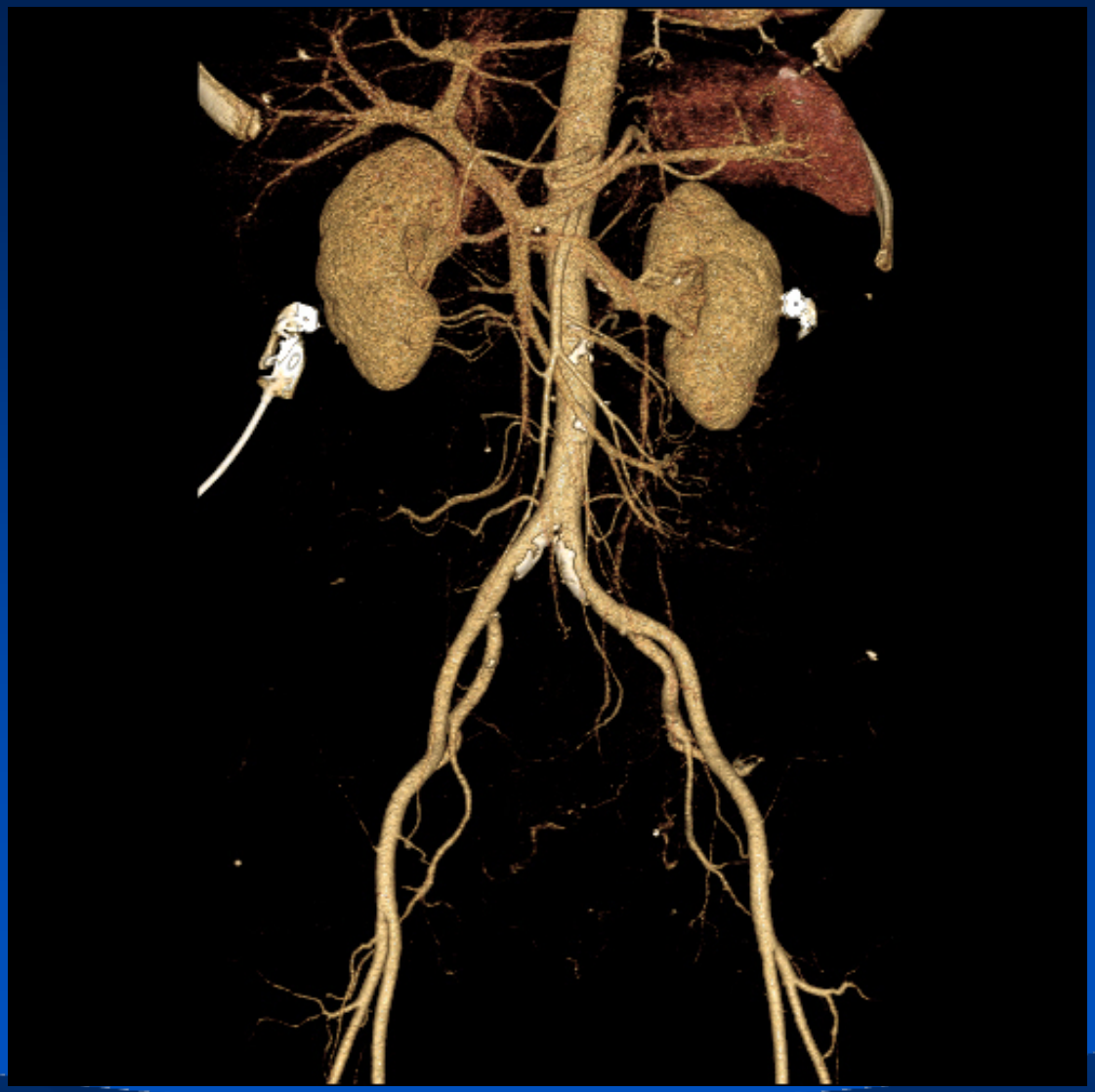
Mean gradient: 63 mmHg

Annulus: 21 mm

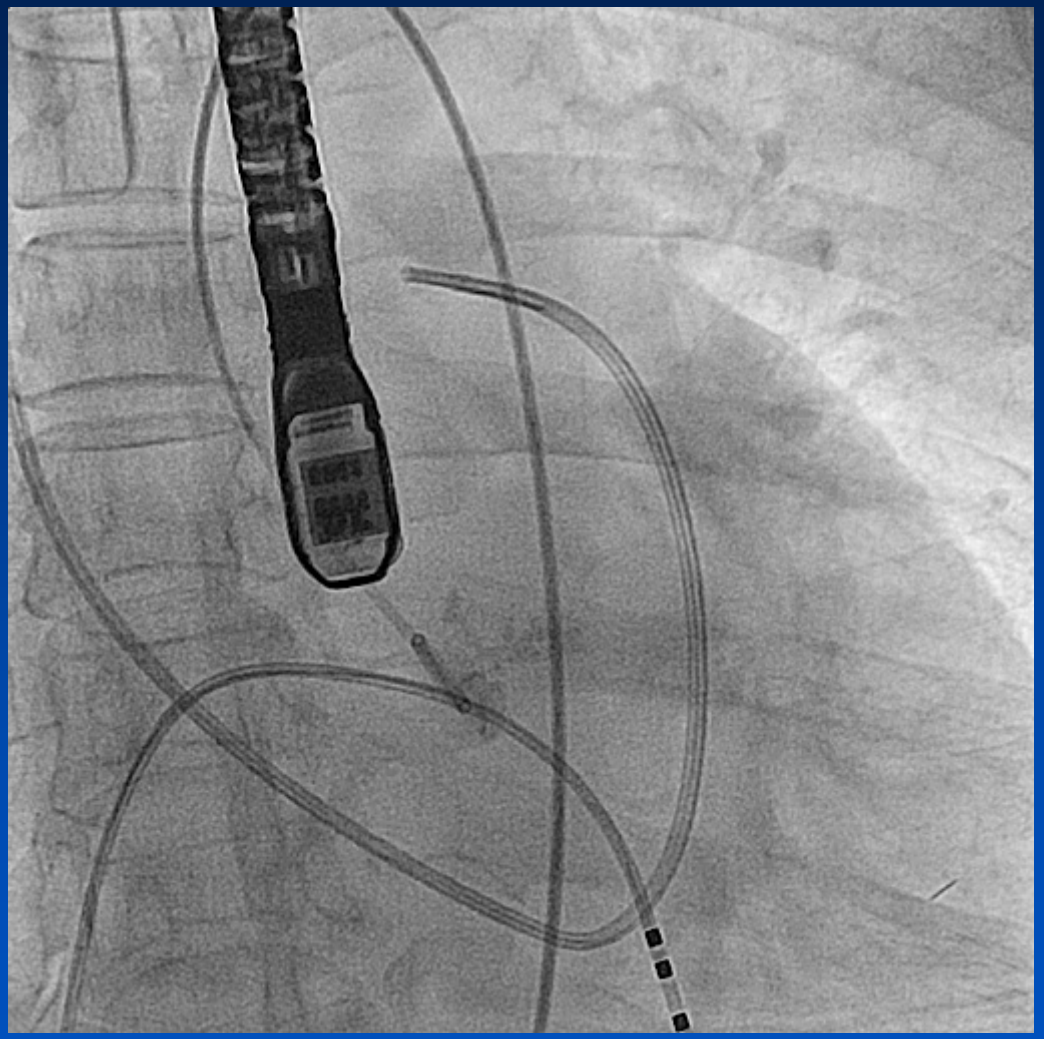
EF: 68%

TR Vmax: 27 mmHg

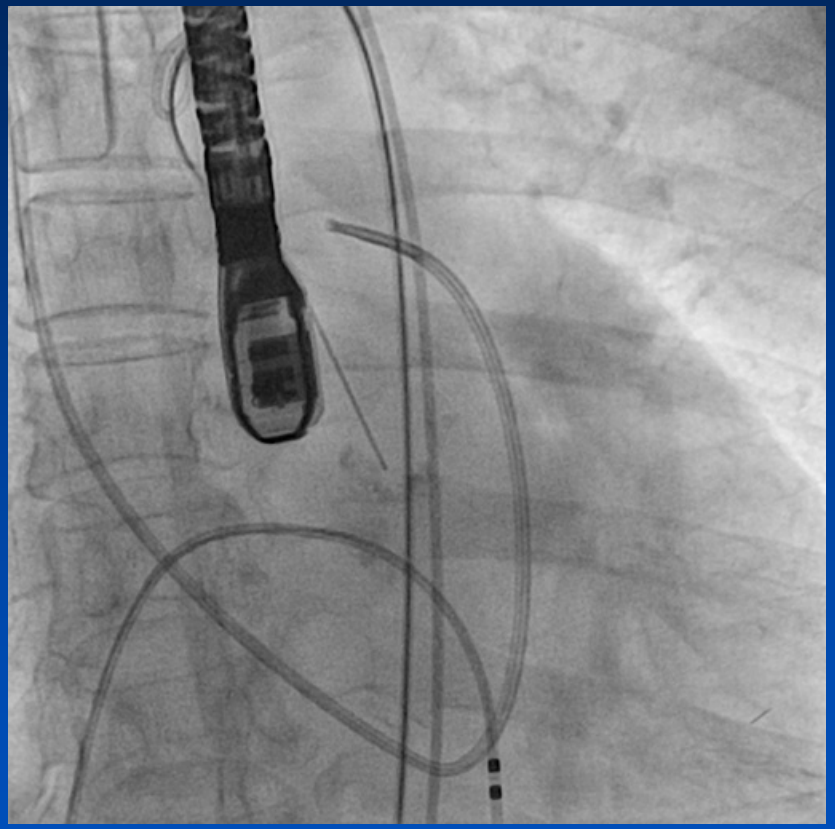
Iliac Artery

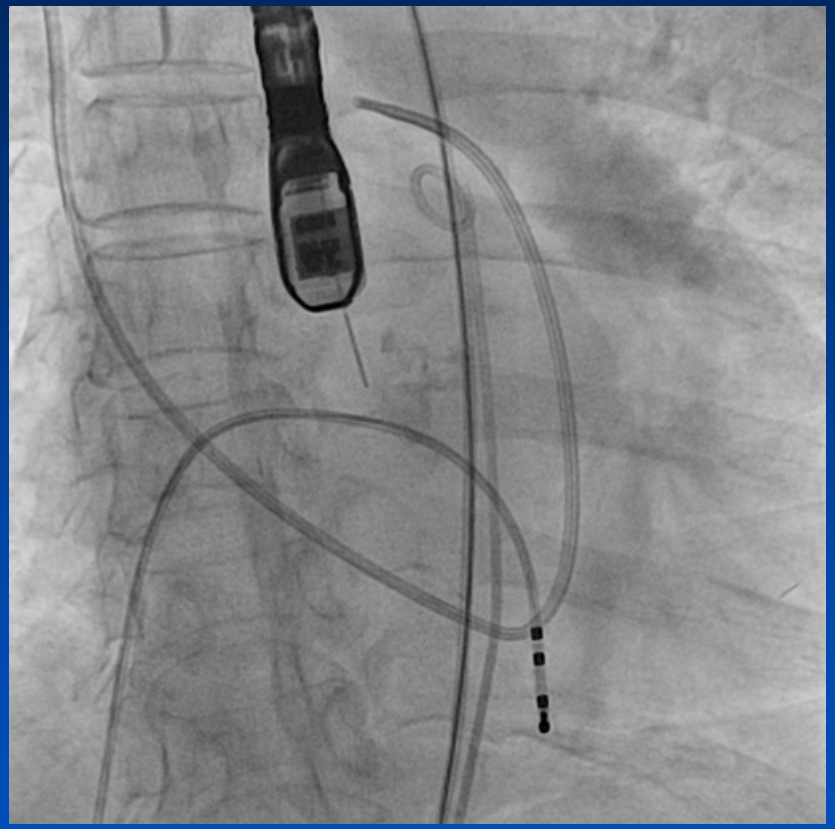


Aortogram



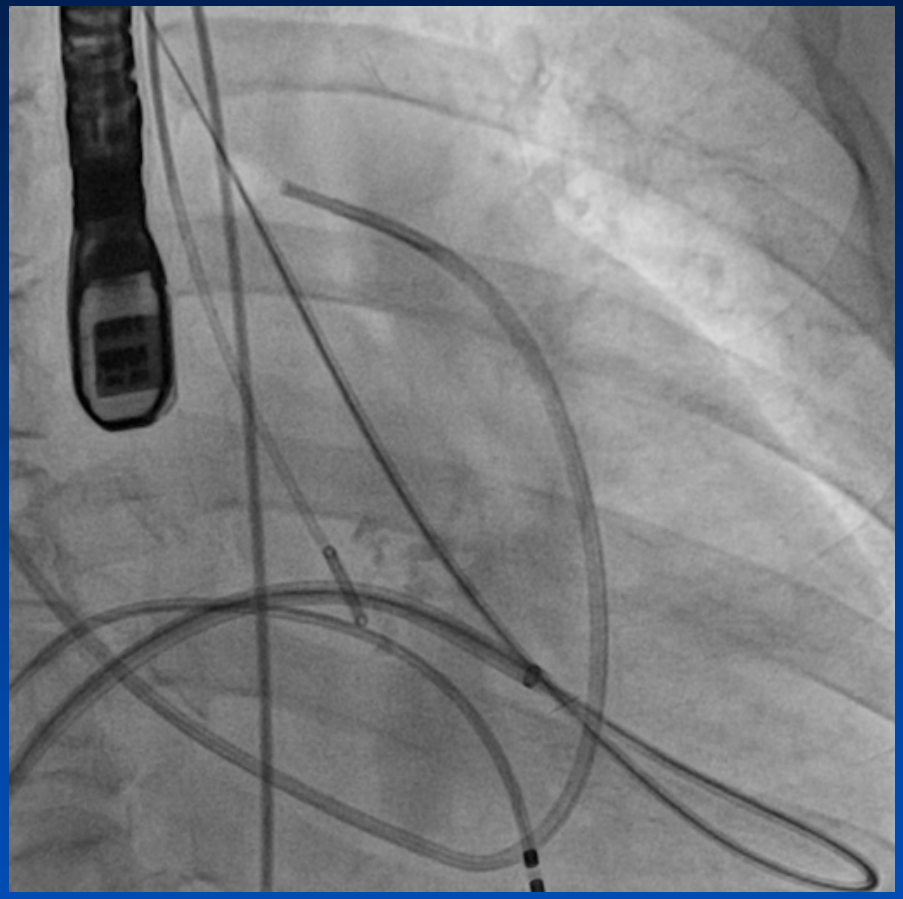
All attempts failed.





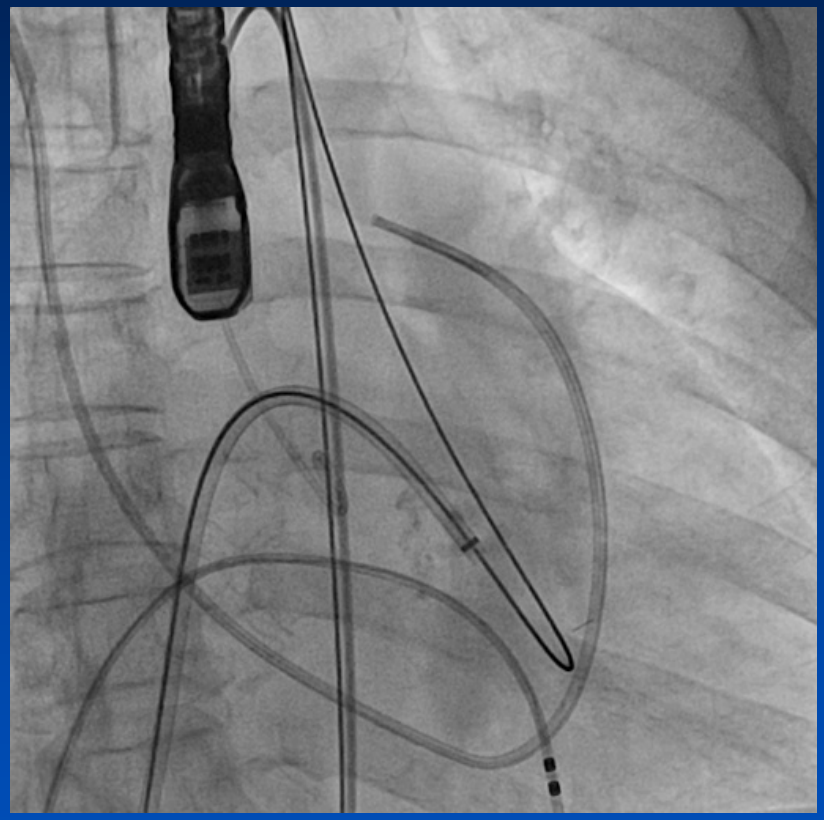
6Fr AL1, AL2, JR4, multipurpose catheter from multiple projections **by Dr. Park and Dr. Cribier….**

Antegrade Approach

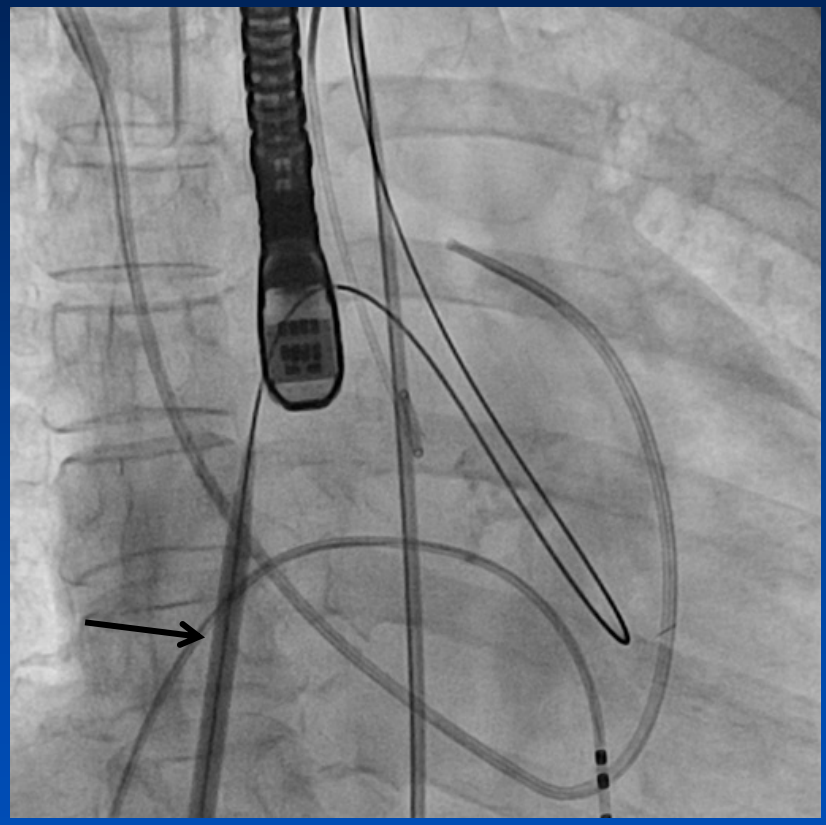


1. Inter-atrial septal puncture, Mullins Sheath insertion
2. Swan-Ganz Catheter with wedge balloon (RA-LA-LV-Aorta)
3. Antegrade wiring into the Aorta

Antegrade approach

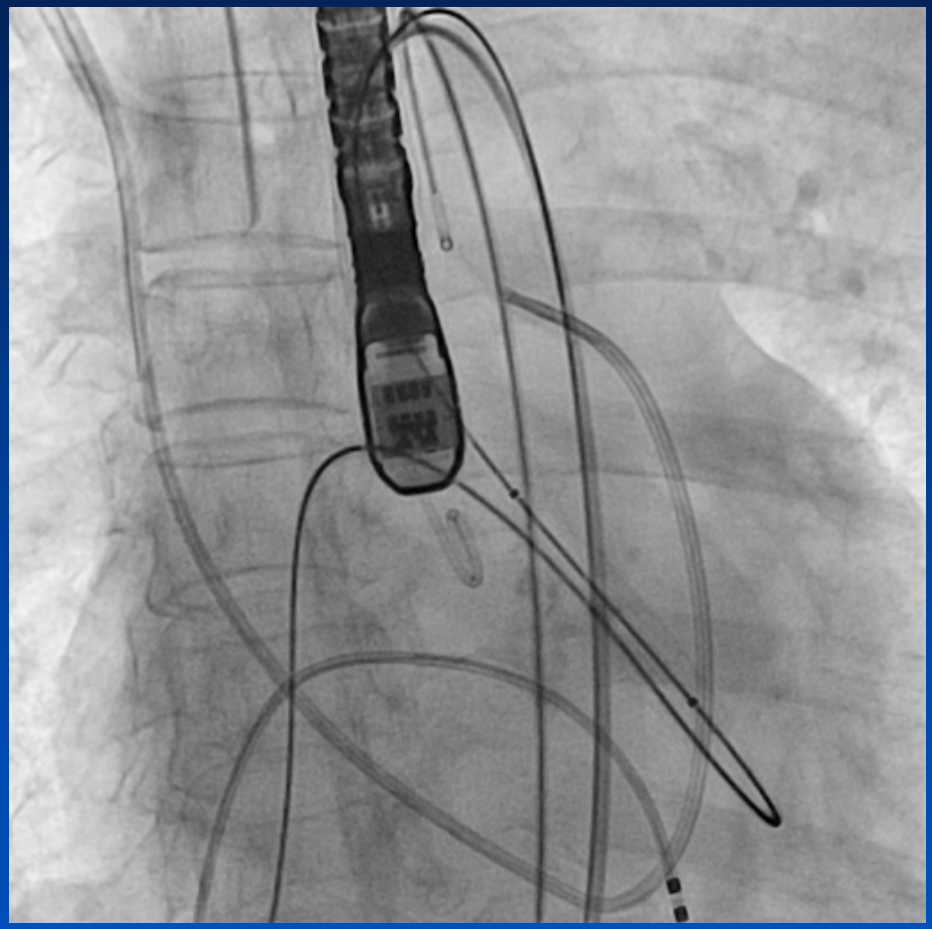


Extra-Stiff wire
into the descending aorta



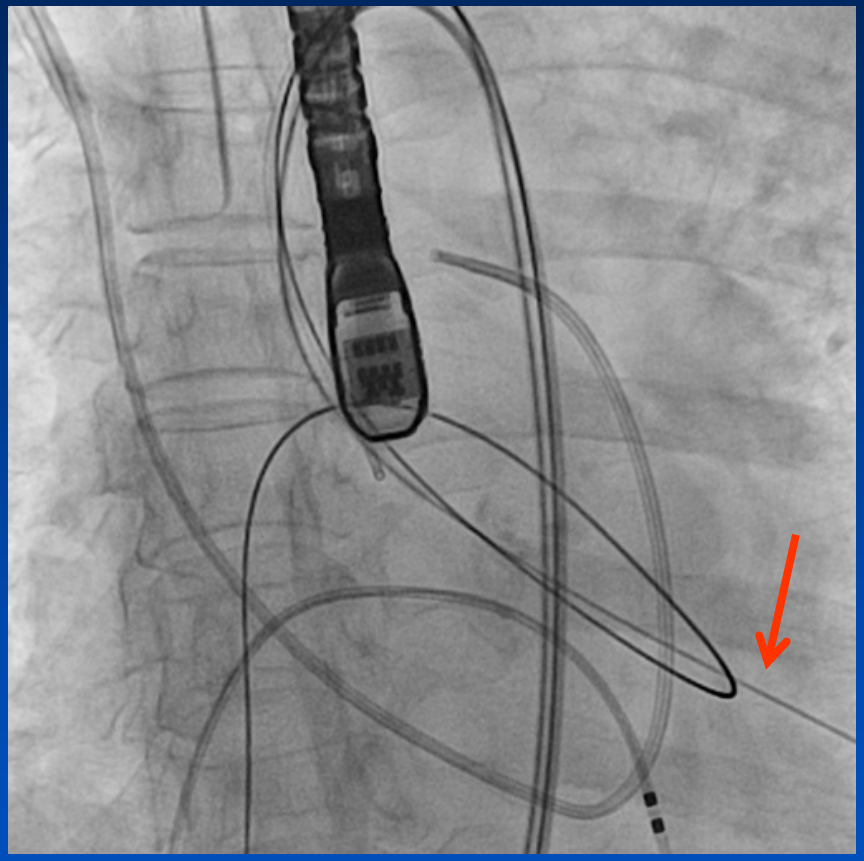
Inter-atrial septal dilator

Antegrade pre-dilatation ballooning

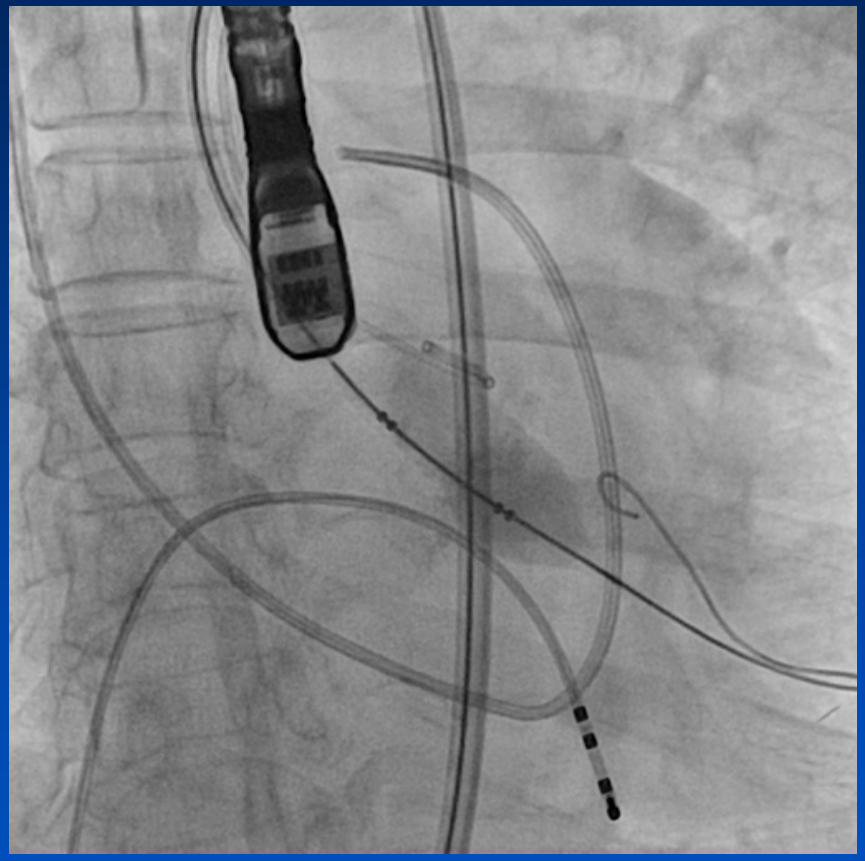


NuMed Z-Med II 20 mm balloon

Retrograde wiring and ballooning again

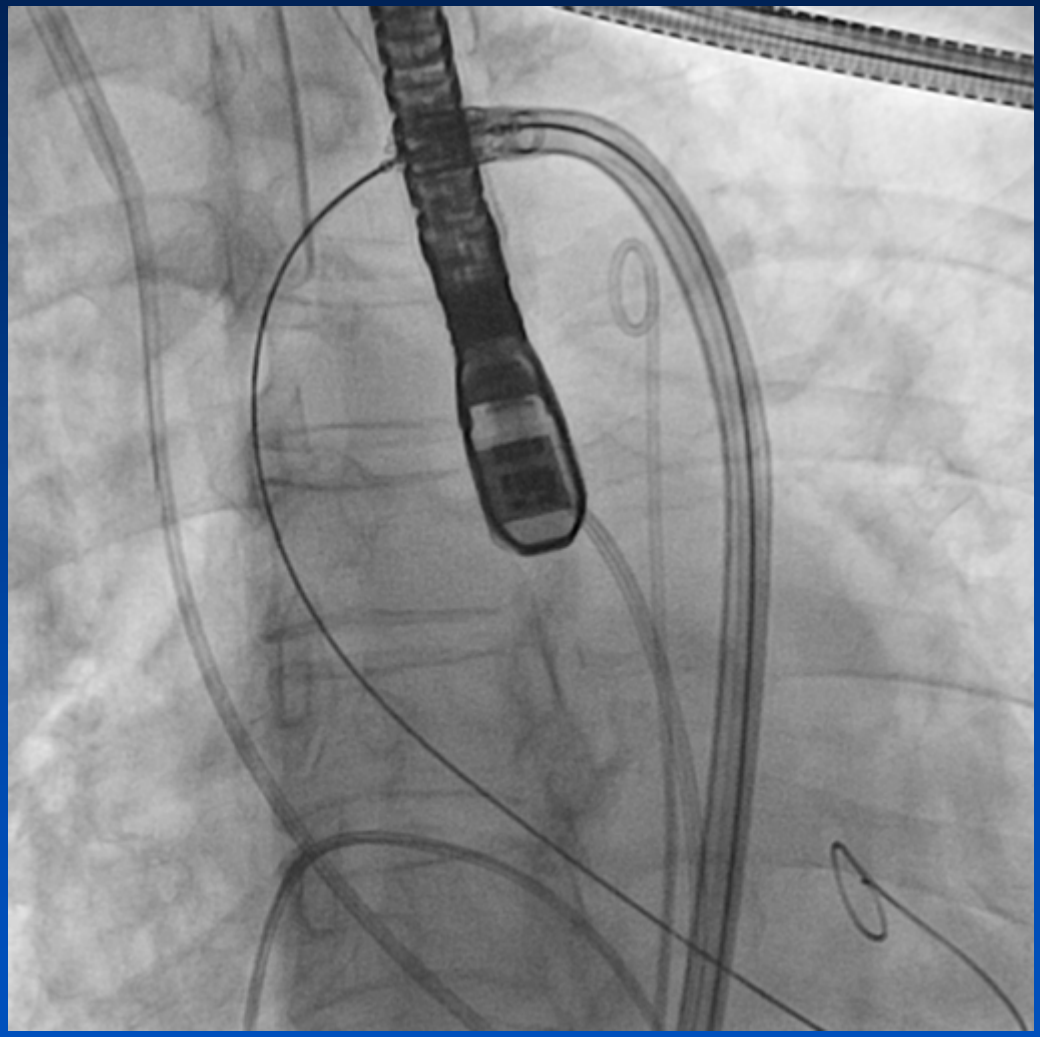


6Fr Lt. Amplatz catheter, with 0.035” straight guidewire crossing

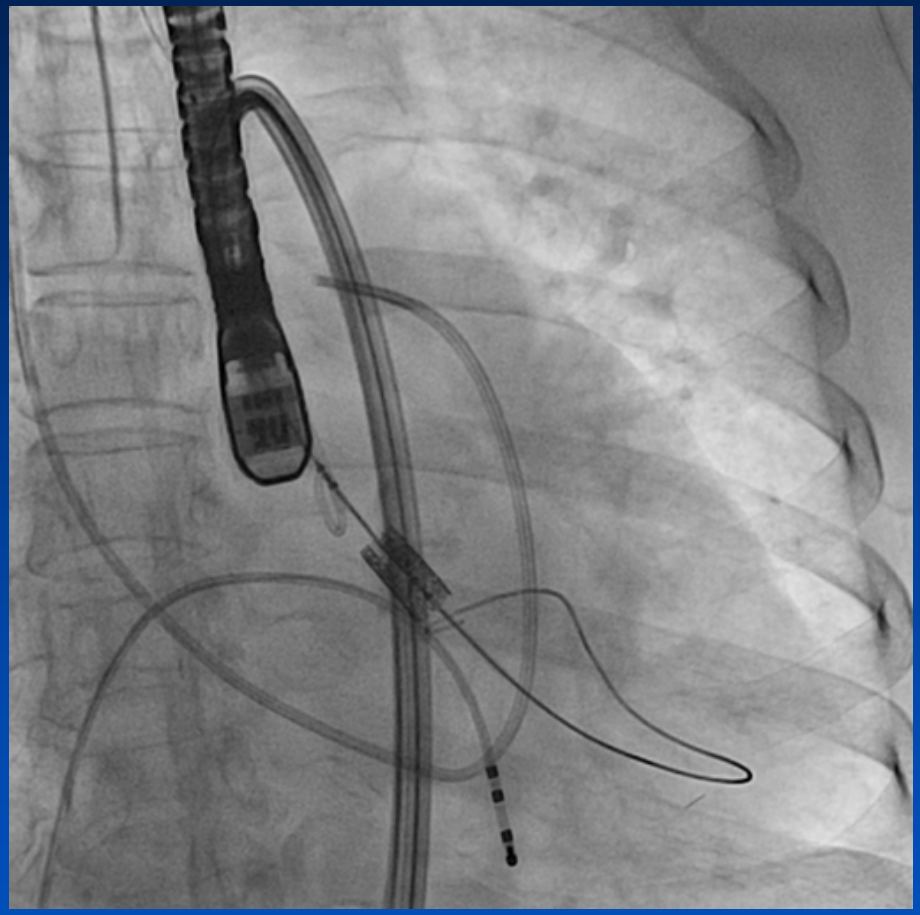


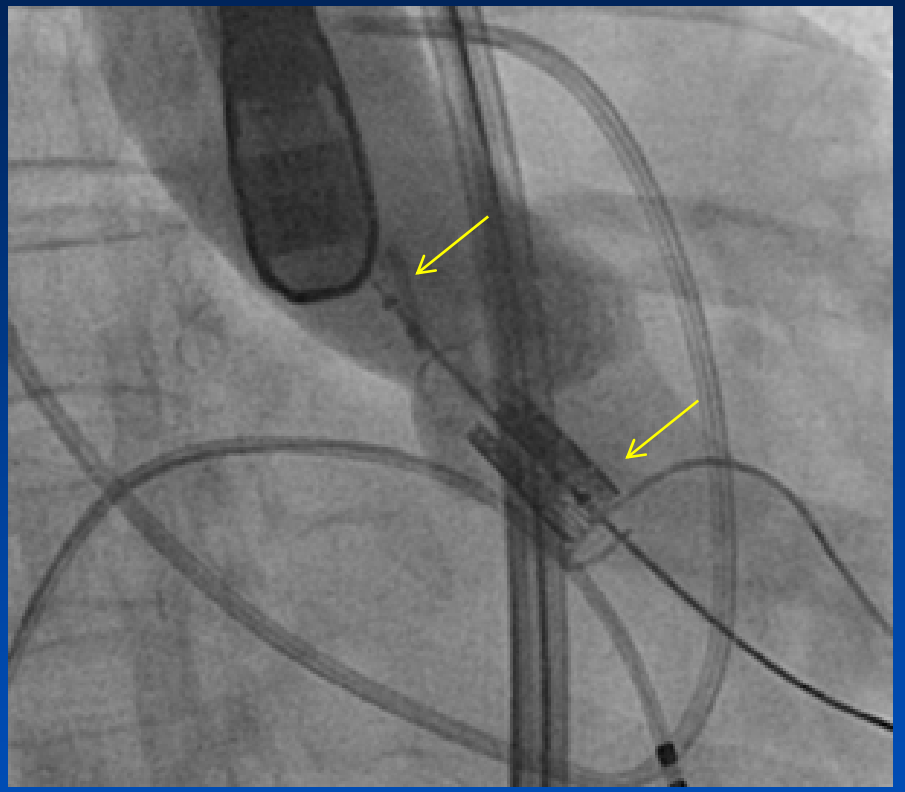
NuMed Z-Med II 20 mm balloon

Advancement of RetroFlex-1



Valve was already moved to the LV side
Due to the limitation of RF-1 system



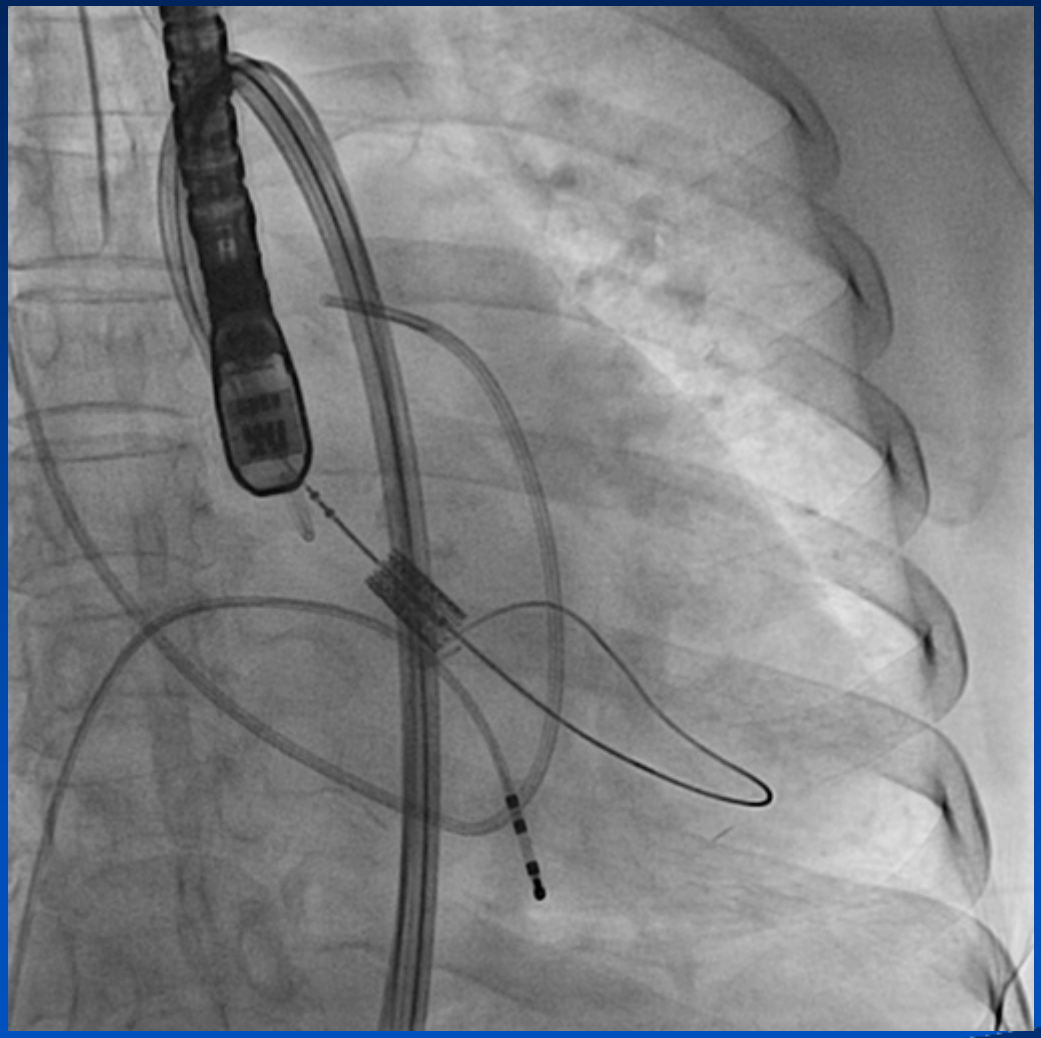


Resistance in crossing the AV valve, even after ballooning, due to heavy eccentric calcification

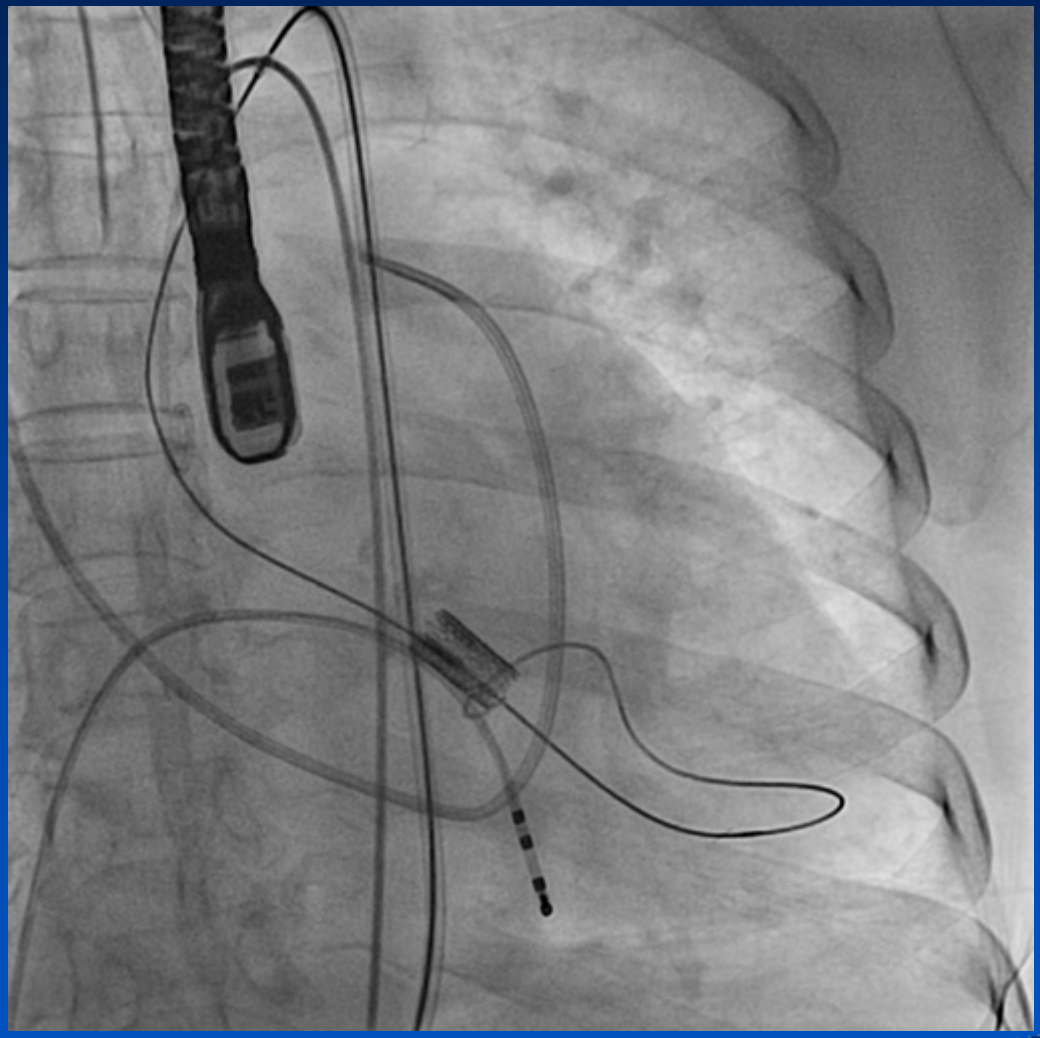
What to do…

- Stent was migrated because the RF1 device could not hold it in calcified lesions.
- We could not get the stent back to the balloon again.
- Therefore, we decided to deploy the stent.

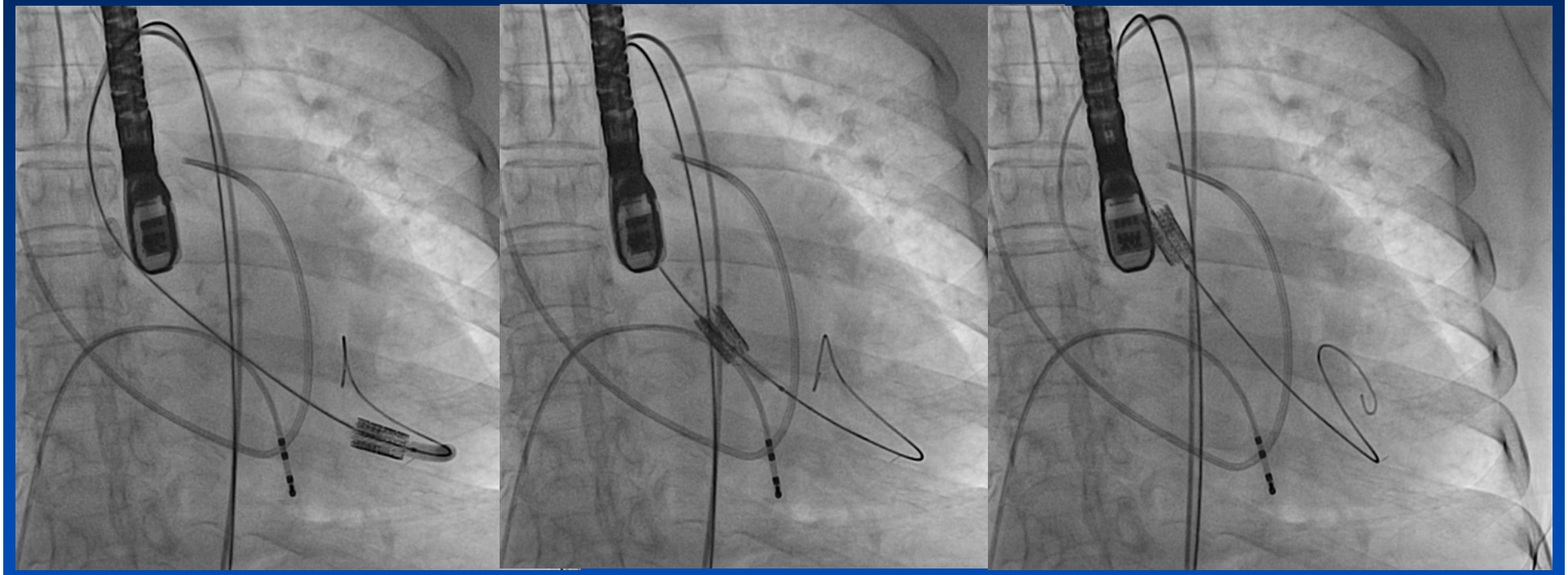
Stent was not fully deployed, but migrated



Stent Embolization into the LV



Re-positioning



Using 5.0 X 20 mm balloon, we tried to place again over the valve, but failed.
Therefore, surgical removal and AVR were performed

How to deal with a difficulty in crossing AV

- Change the guiding catheter
  - AL2, JR4, Multipurpose, others
- Change the wire
  - Hydrophilic wire
- Change the operator, projections…
- **Provisional antegrade approach**