

**Mitral Valve in Valve
ICE guided
In a Patient with Complex Multi-Valvular
Disease**

Arthur Kerner, MD

**Director, Interventional Cardiology Unit
Rambam Health Care Campus**





Case Presentation

- 75 years old male
- Decompensated left heart failure secondary to severe mitral prosthesis (Epic 29mm, 2009) regurgitation, mechanism tear and wear



Comorbidities and procedures

- Rheumatic heart disease
- AVR Mitroflow 29mm, MVR Epic 29mm and CABG SVG to OM 2009
- Atrial fibrillation- paroxysmal
- DM-II, Hypertension, Hyperlipidemia, past smoker
- Renal failure
- Gouty arthropathy





7/2019

- **Decompensated left heart failure, LV enlargement**
- **Severe aortic prosthesis regurgitation (Mitroflow 29mm, 2009)**
- **PCI to mid LAD**
- **Low origin of LMCA, short VTC**

- **BASILICA and TAVI Valve in Valve Evolut Pro 29 mm in Mitroflow 29mm**

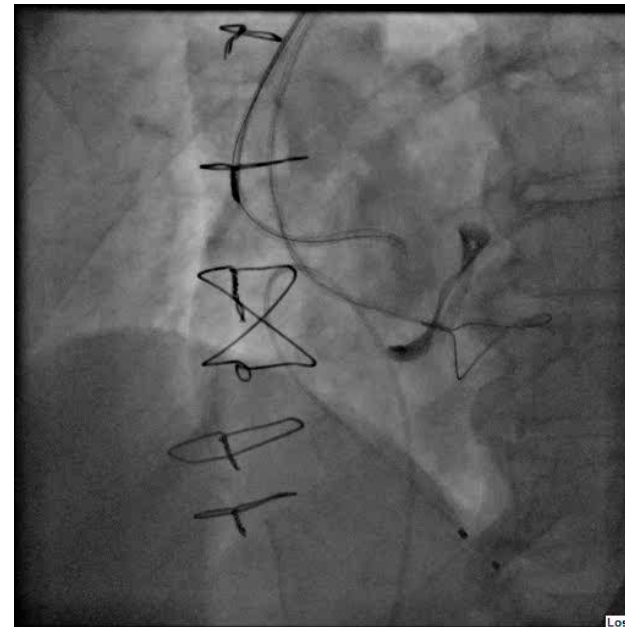


Aortic VIV Evolut Pro 29mm in Mitroflow 29mm

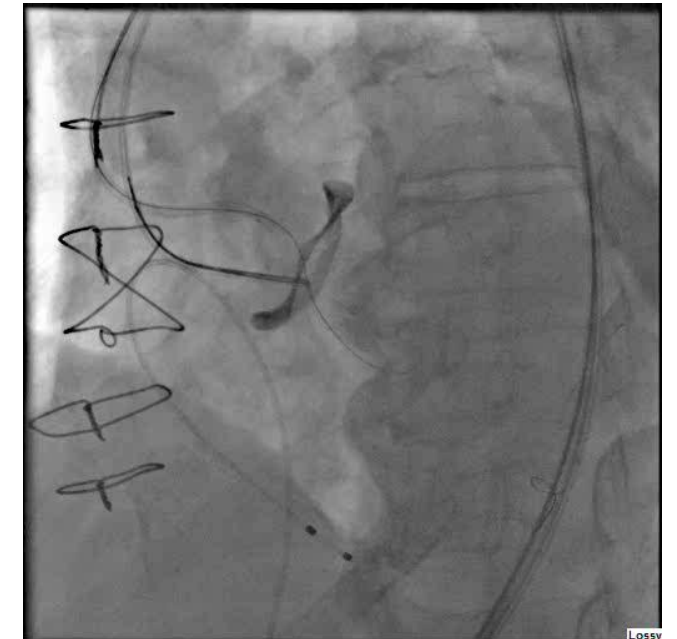
Prevention of coronary occlusion by Lt BASILICA



High risk for occlusion, low LMCA above ring, long leaflets, narrow STJ



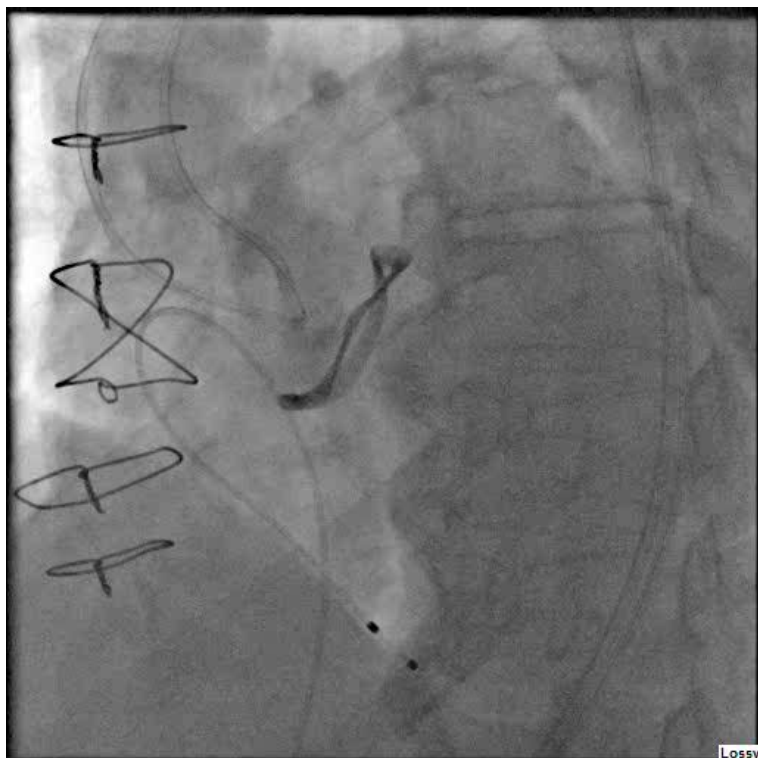
Wire Astato 20 traversal



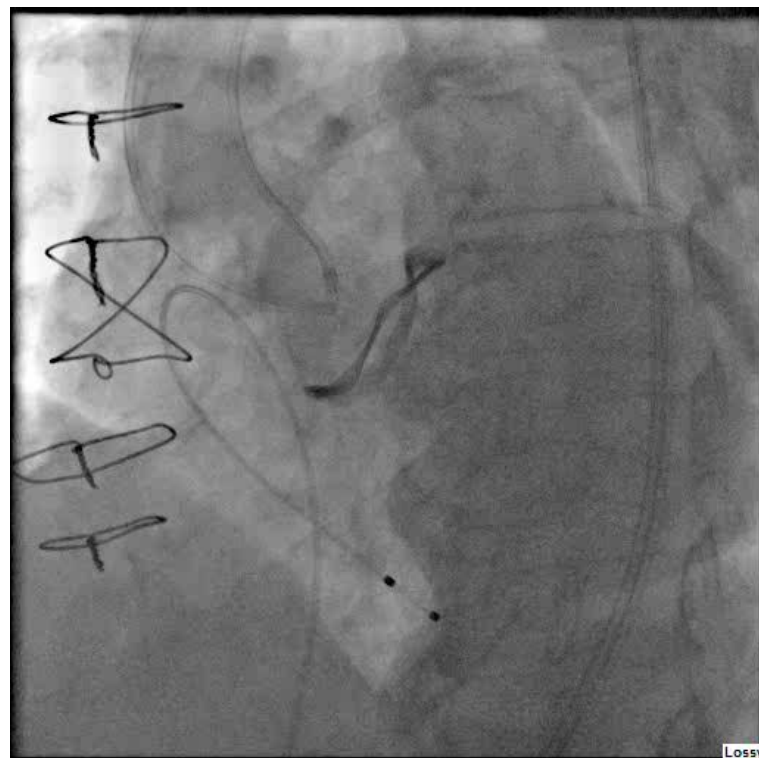
Snaring and loop creation



BASILICA Lt.

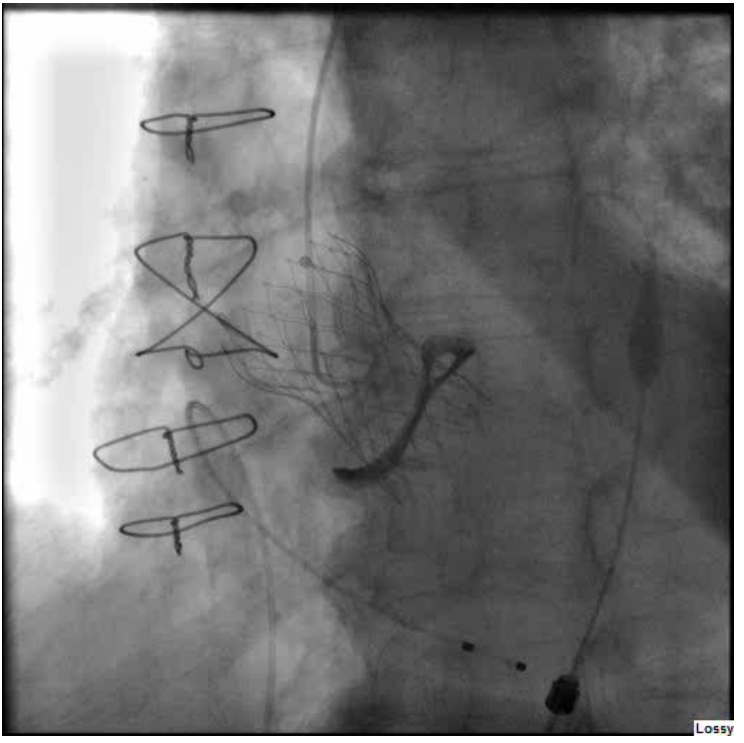
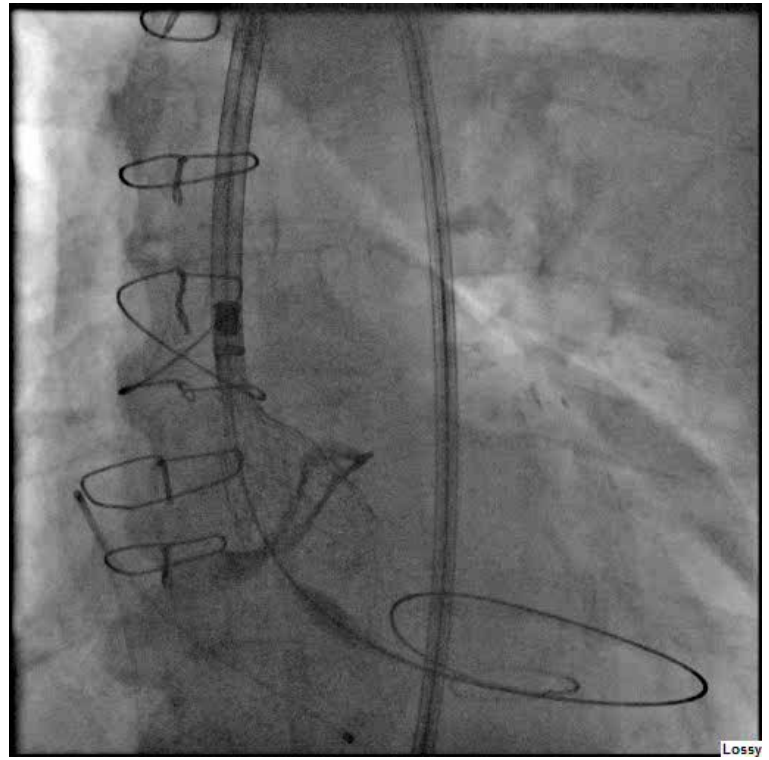
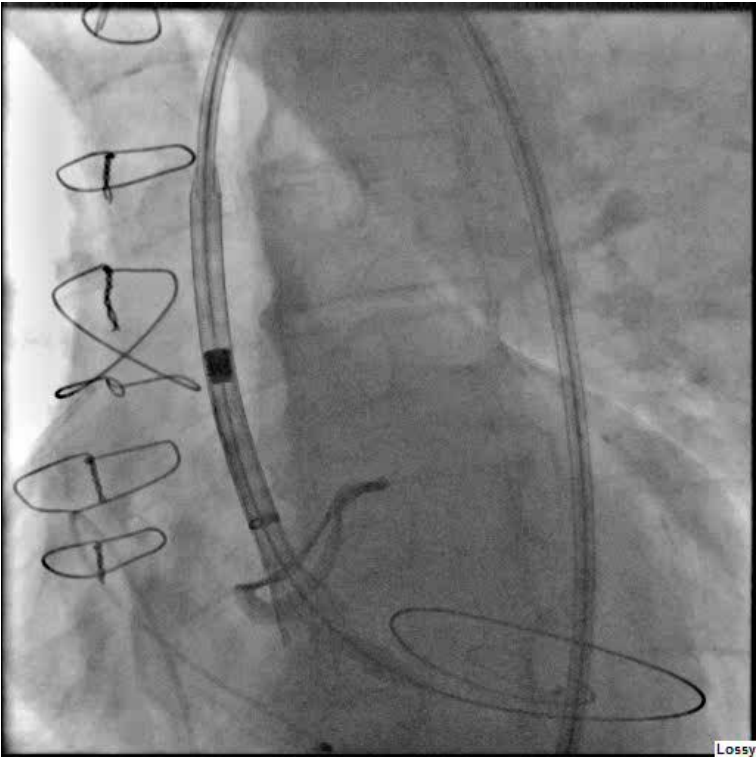


Loop creation flying V



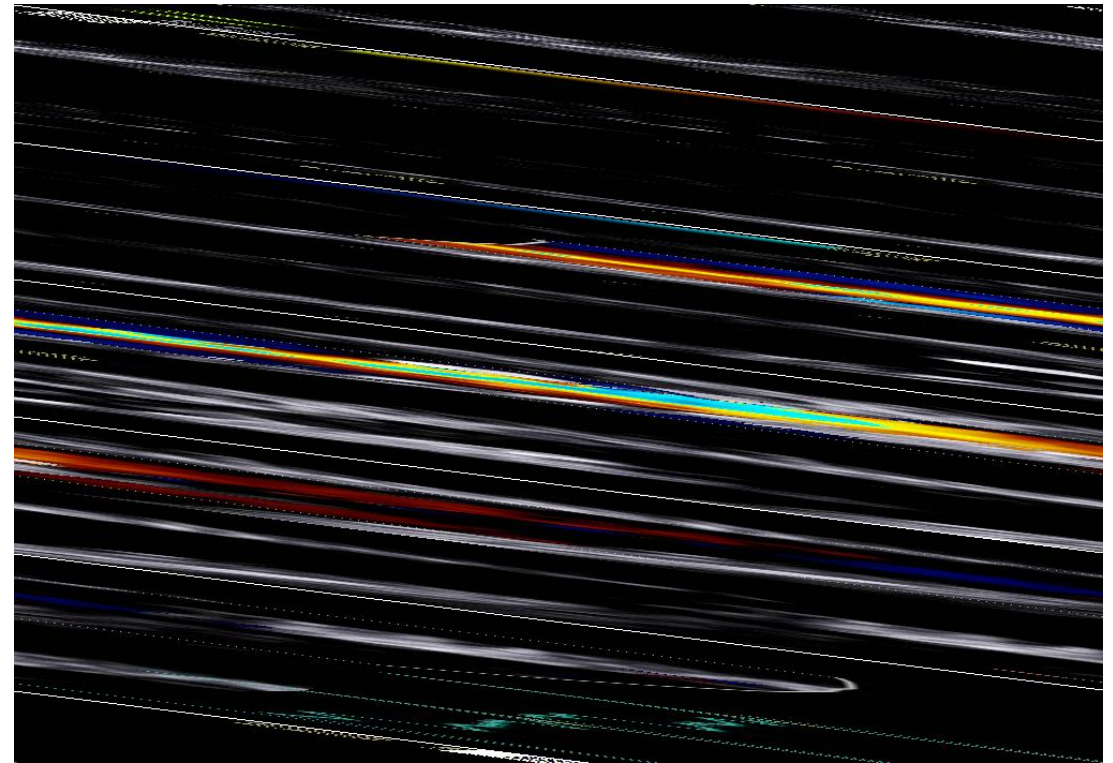
Leaflet laceration



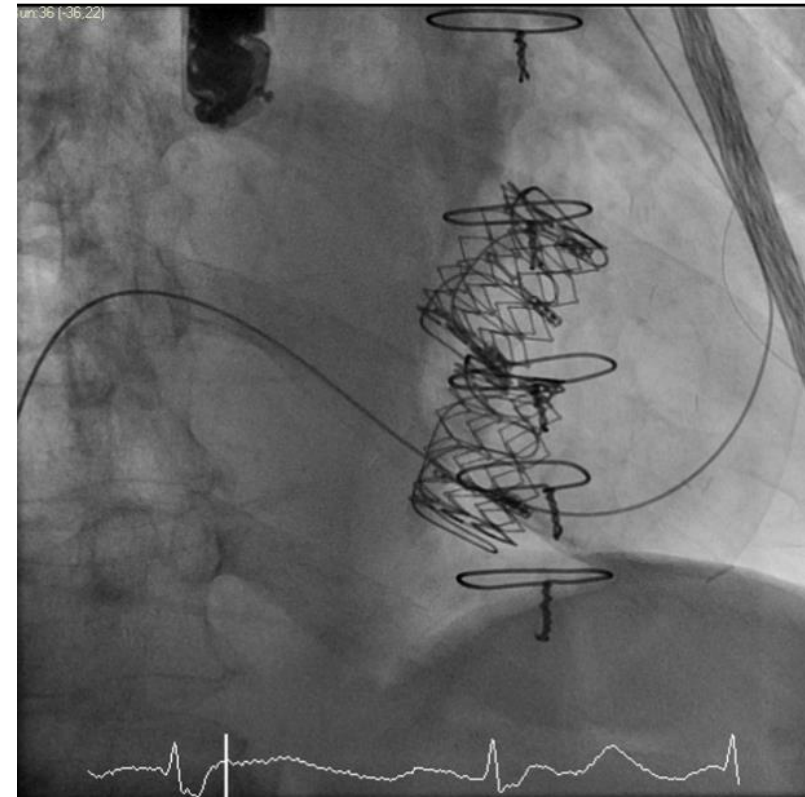


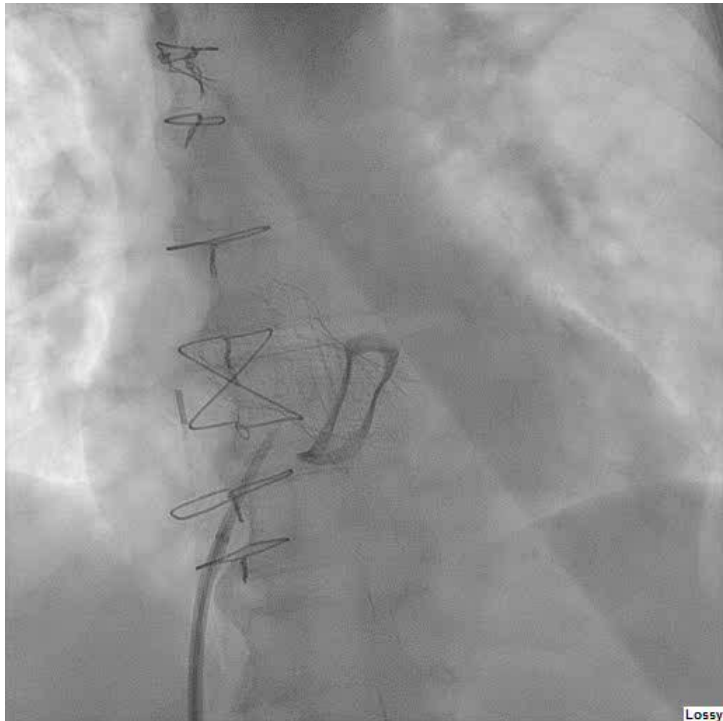
12/2022

- Admission with intractable left heart failure, new atrial fibrillation with rapid ventricular response, ARF
- Severe mitral prosthesis regurgitation
- TMVI ICE guided, no general anesthesia, no TEE



From Apical to Transeptal TEE guided to ICE guided Mitral VIV

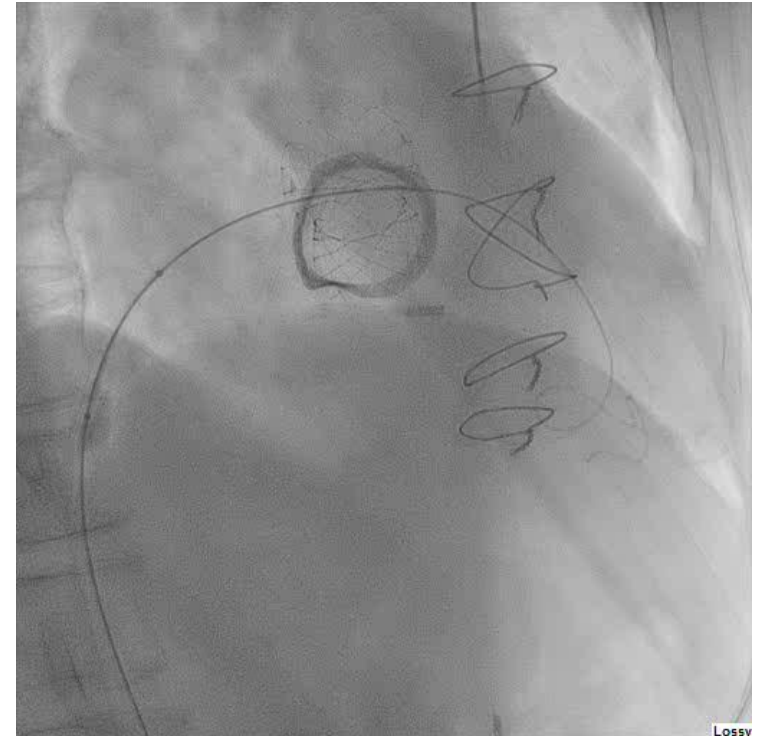




**Ice guided transeptal puncture,
low and posterior**

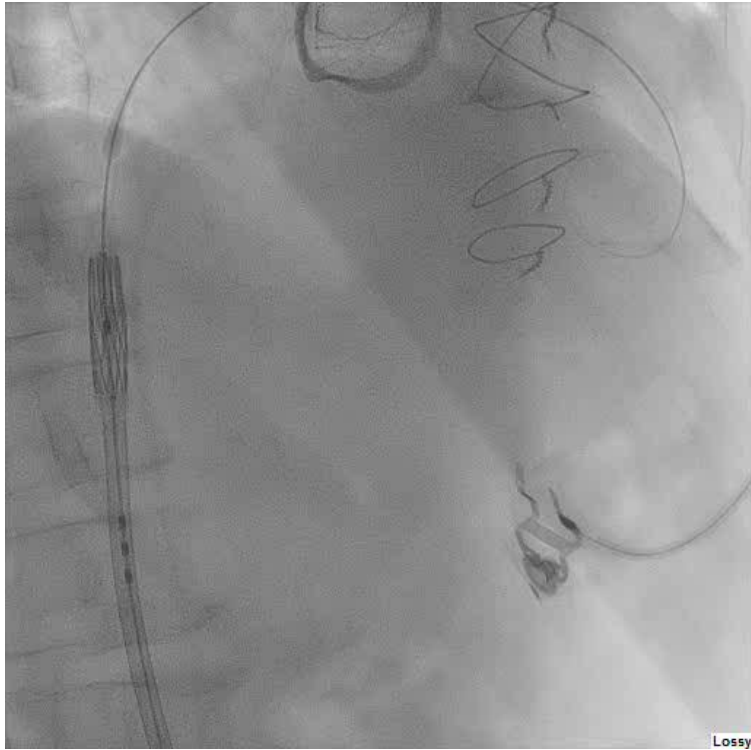


**JR-4 Terumo wire across mitral
prosthesis**

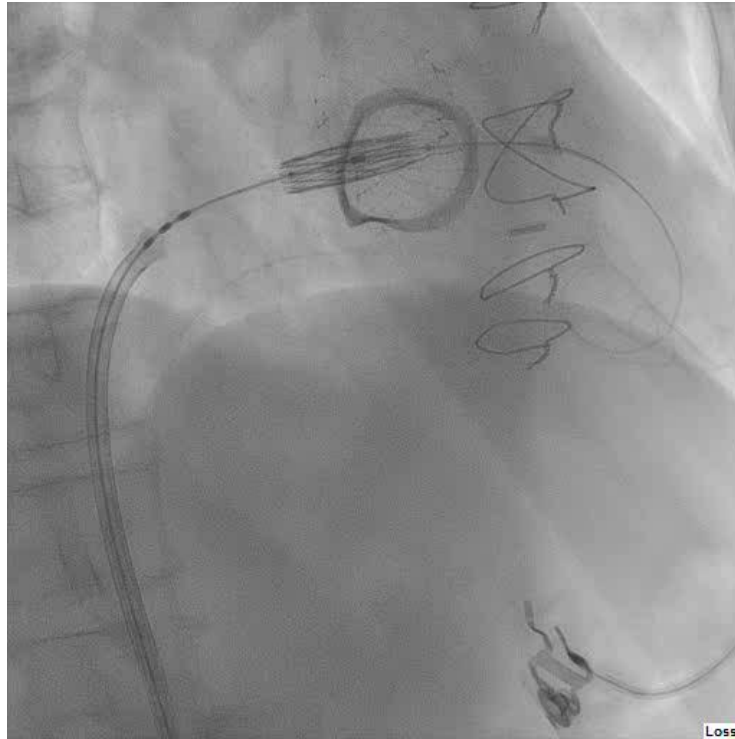


**Over Amplatz superstiff wire
Interatrial septal dilatation
12mm**





Across septum, Flex, Sheath pulled out



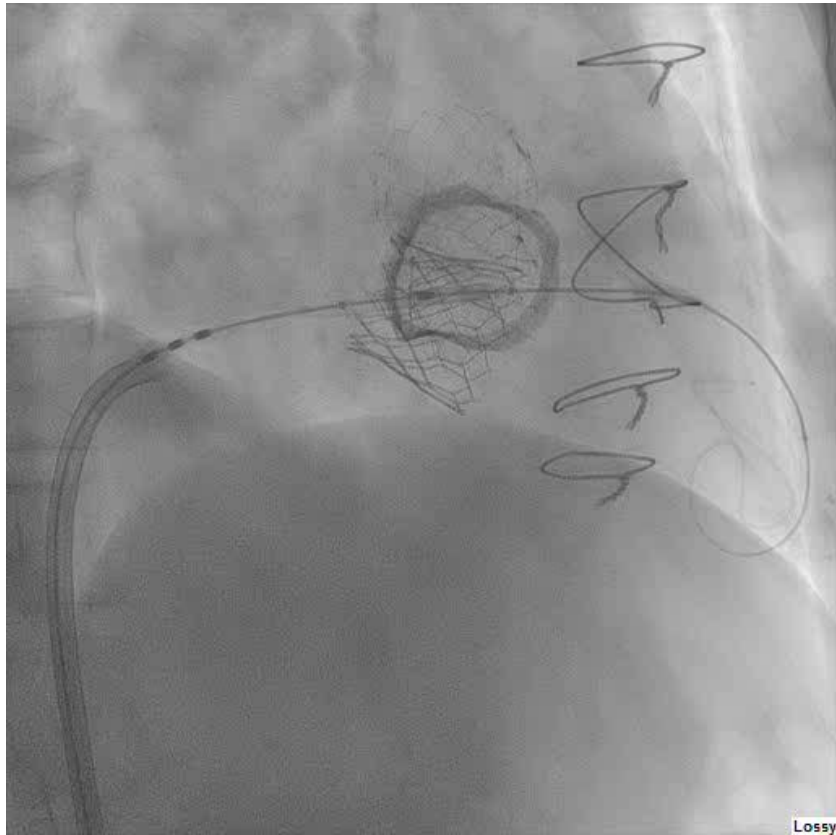
Valve implantation, pacing on wire



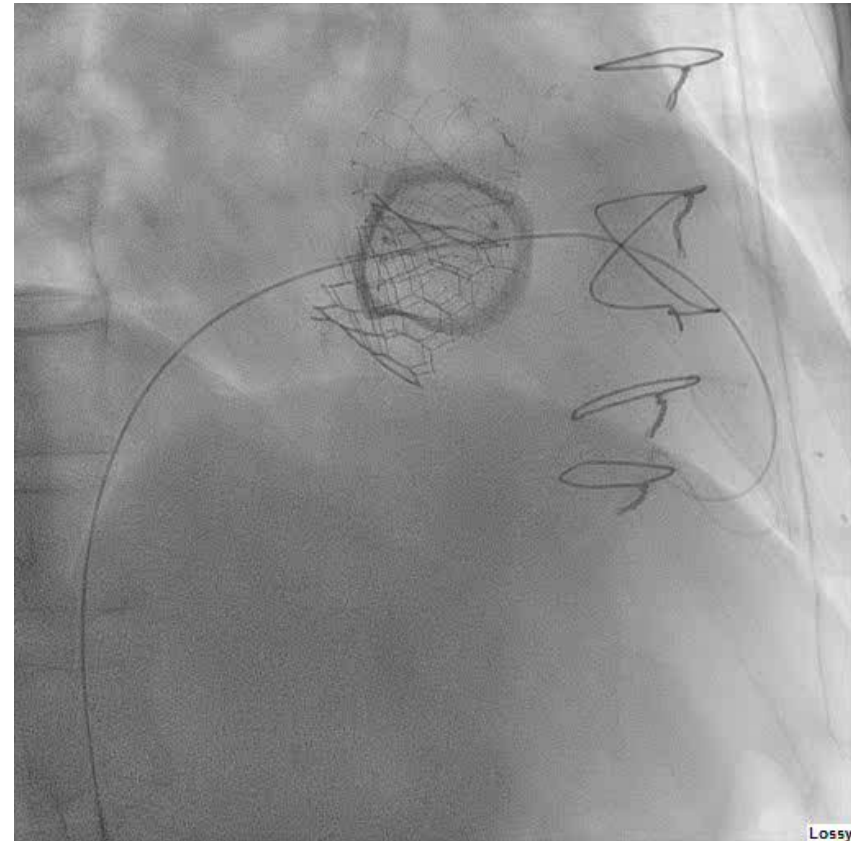
Initial result, frame incompletely opened, high gradient



Day After

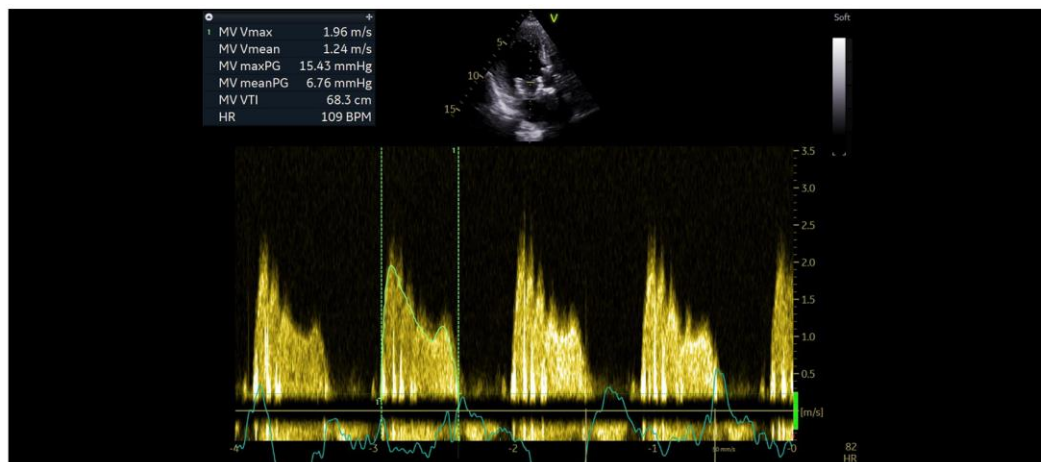
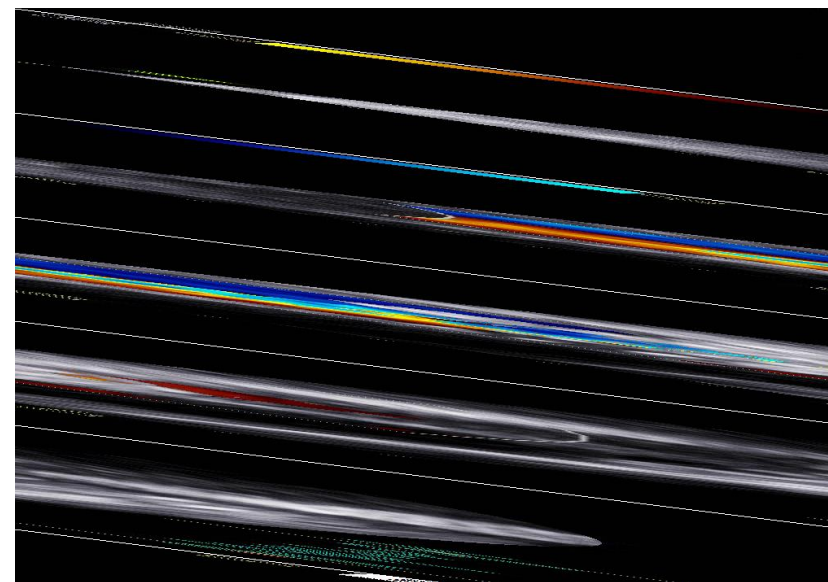
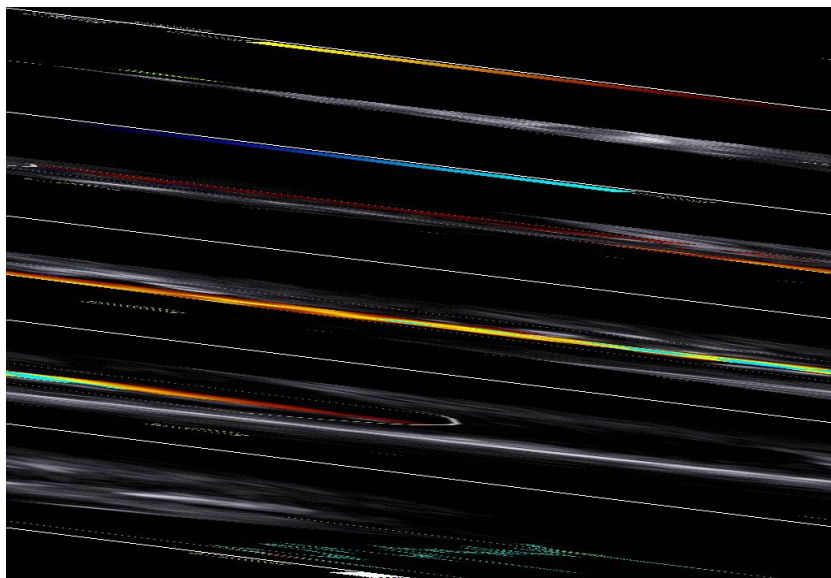


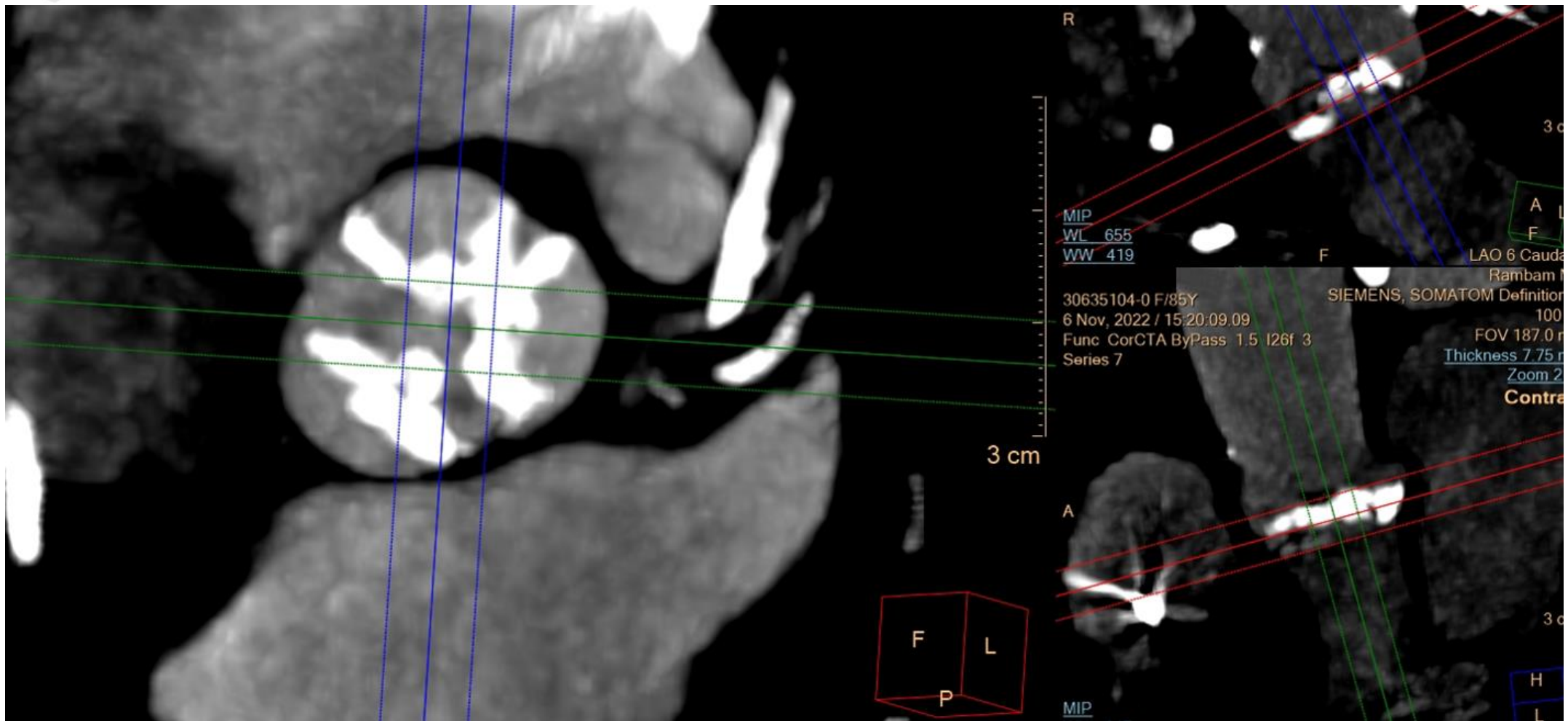
Post dilatation 29mm with
Edwards system



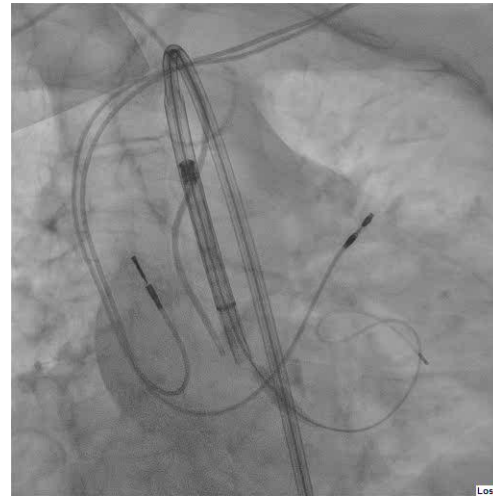
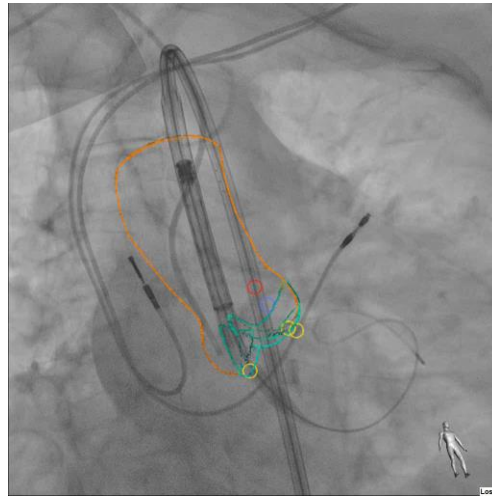
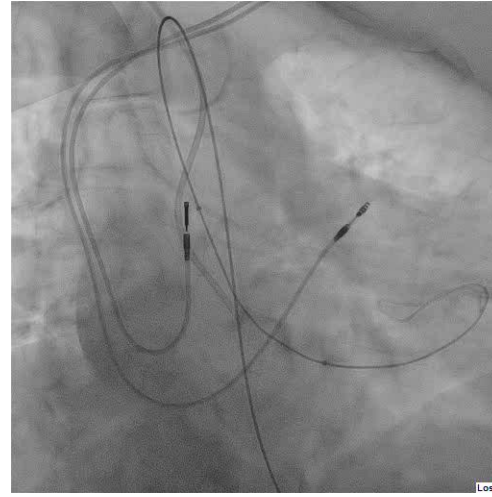
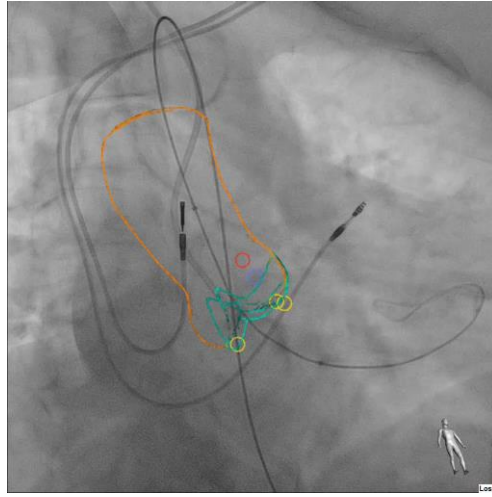
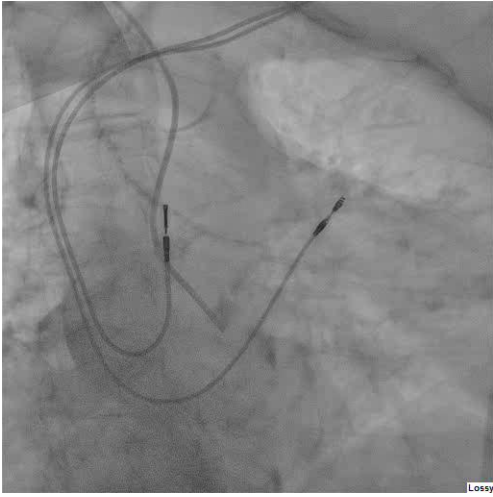
Final result

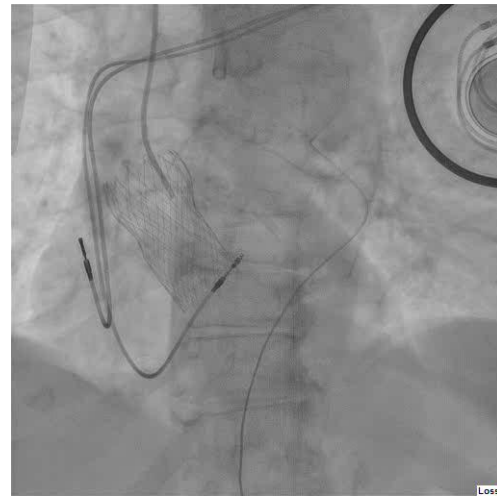
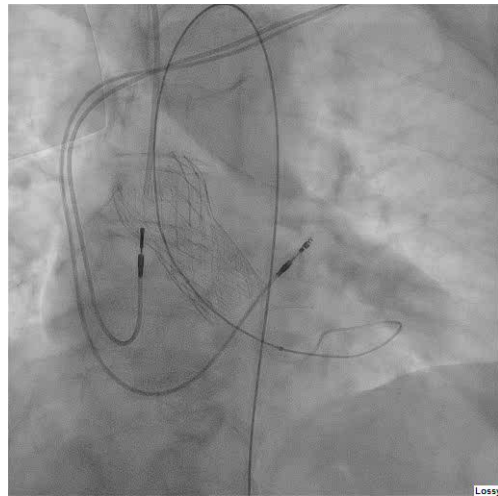
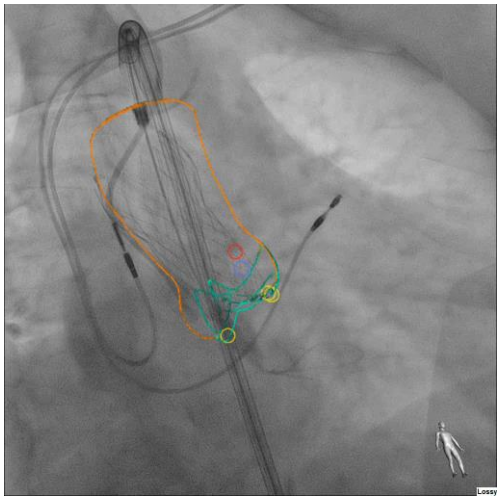
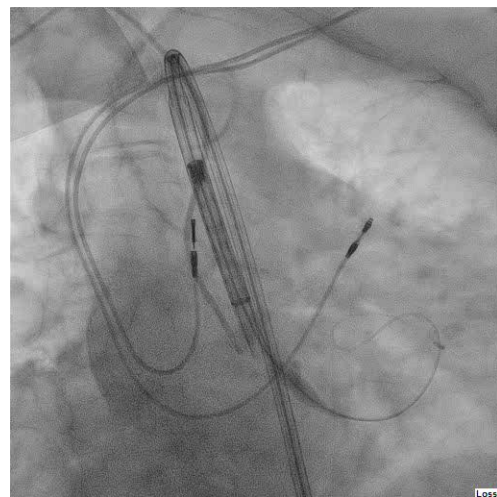
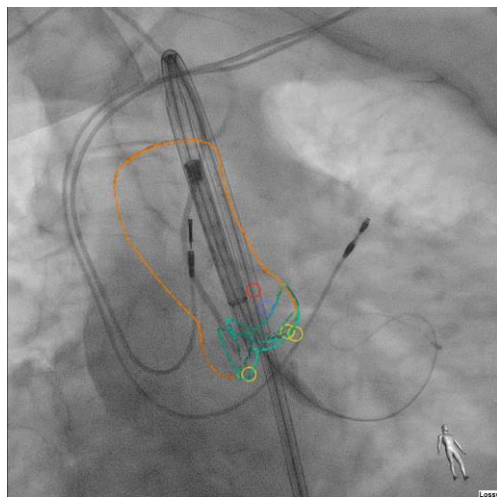






TAVI Self expandable valve - Medtronic Evolut Pro





Summary

- Minimally invasive staged VIV procedures
- Prevention of coronary ostial occlusion by BASILICA
- Mitral transeptal ICE guided VIV without general anesthesia and without TEE probe
- Simple TAVI- US guidance, fusion and co-registration, Radial/ulnar access, Cusp overlap, MP with side holes instead of pigtail, Proseal closure

