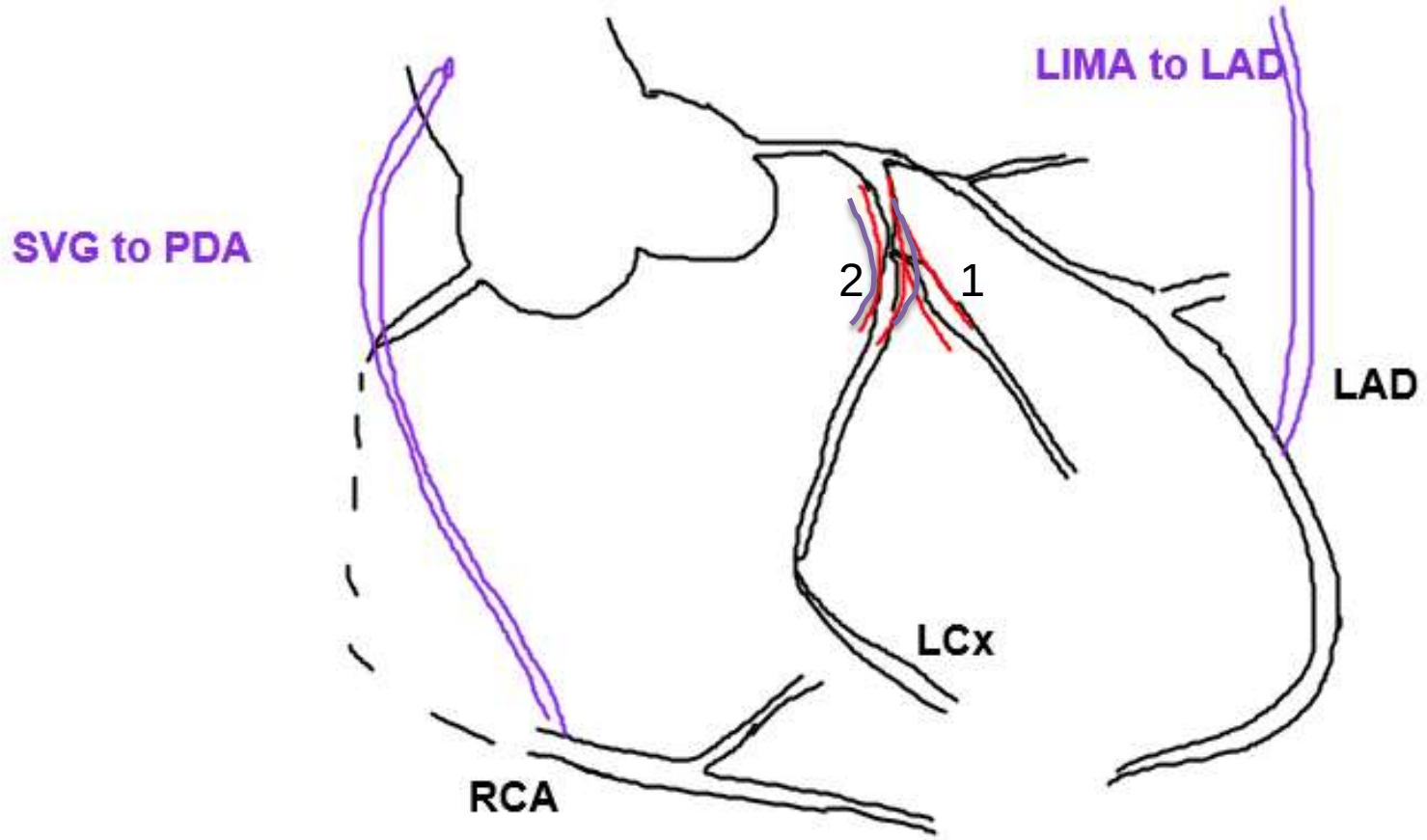
A Case of Left Main Rupture

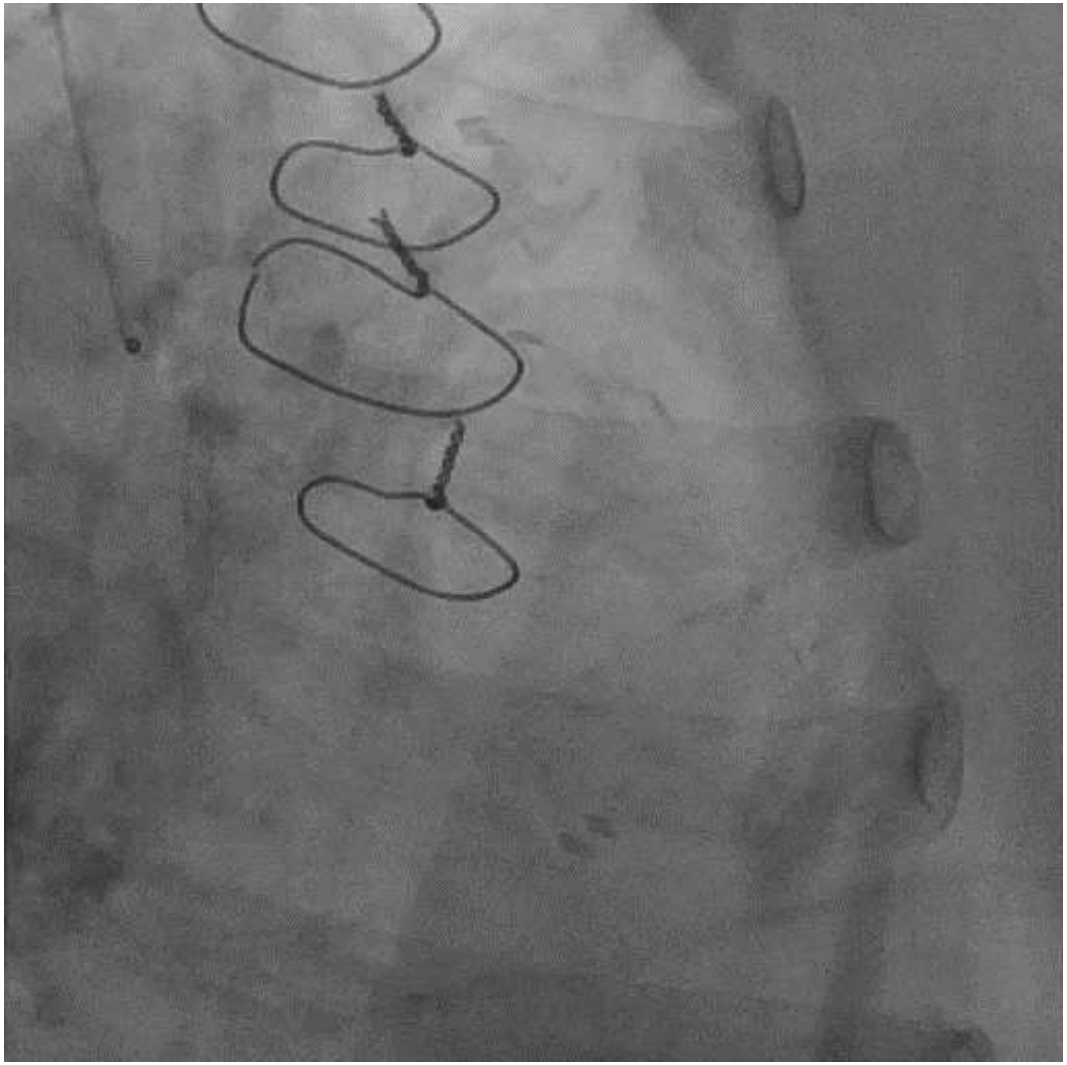
Dr. Ka Lung, CHUI
Prince of Wales Hospital
Hong Kong

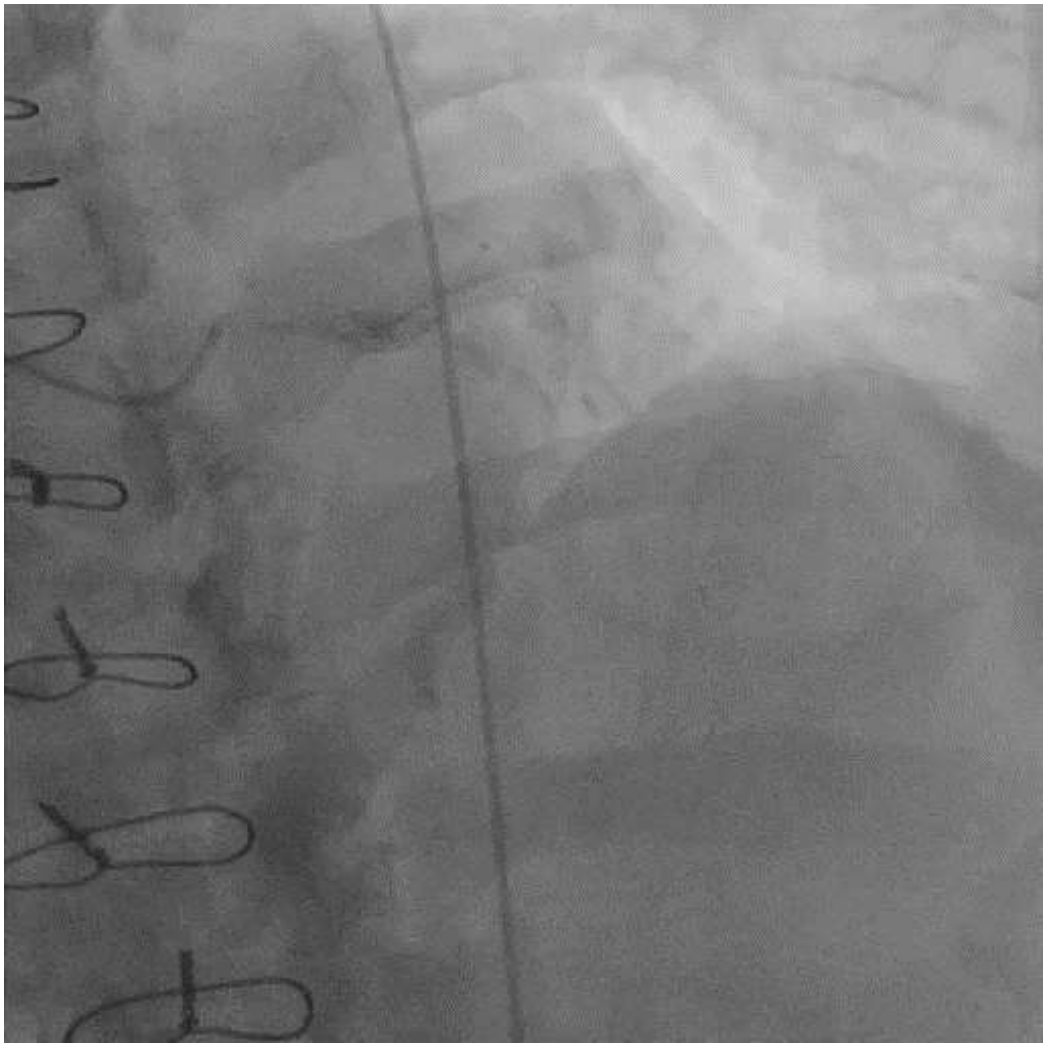
History

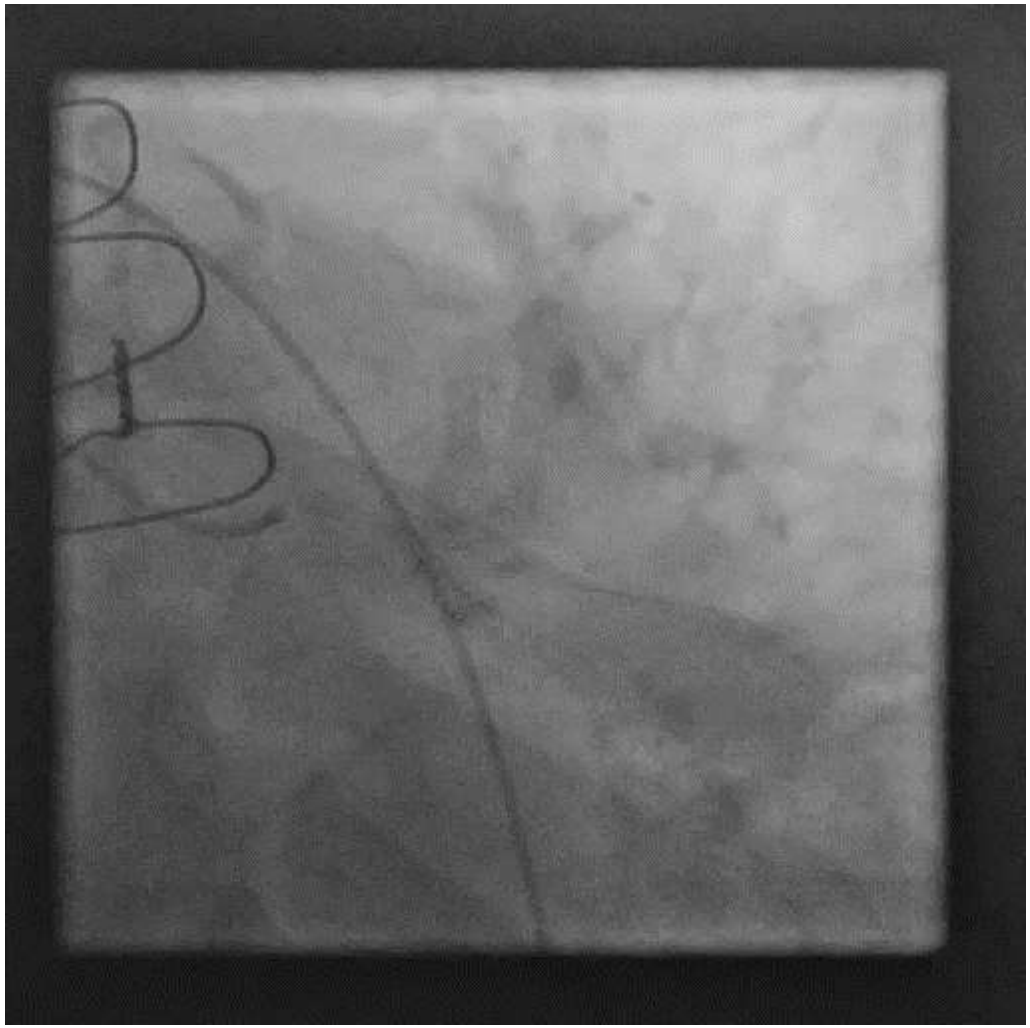
- 60/M
- Ex-smoker
- Hx of HT, HLD, ESRD with renal transplant in 2011, post op MI result in loss of renal graft, now on HD, hx of subclavian artery stenting
- CAD with CABG done 2006 (LIMA to LAD, SVG to RCA)
- PCI to LCx in 2012, ISR with PCI to LCx-OM bifurcation using 2 stents technique in 2014
- Admitted for NSTEMI
- Echo EF 50-55%, no RWMA
- TNT 0.11 to 1.78

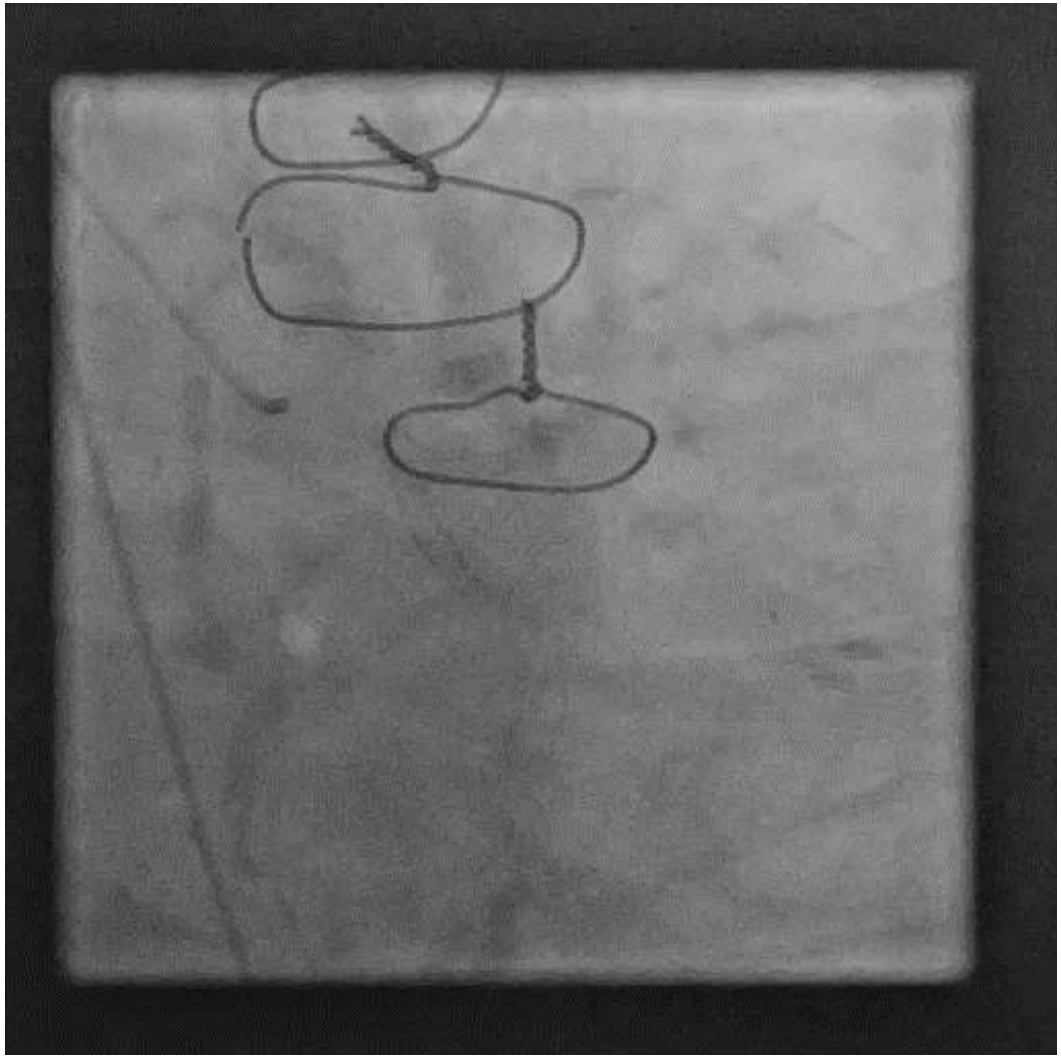
Summary of coronary anatomy

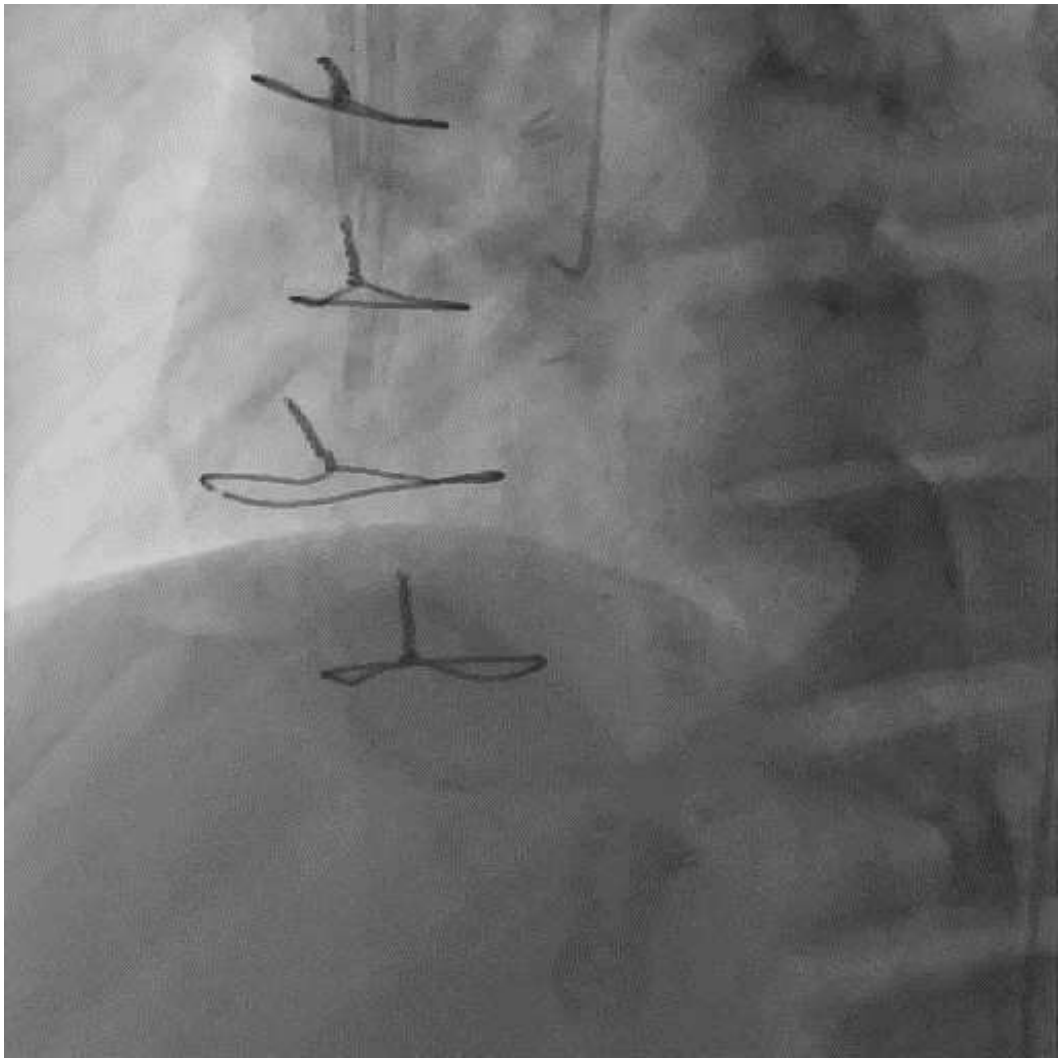


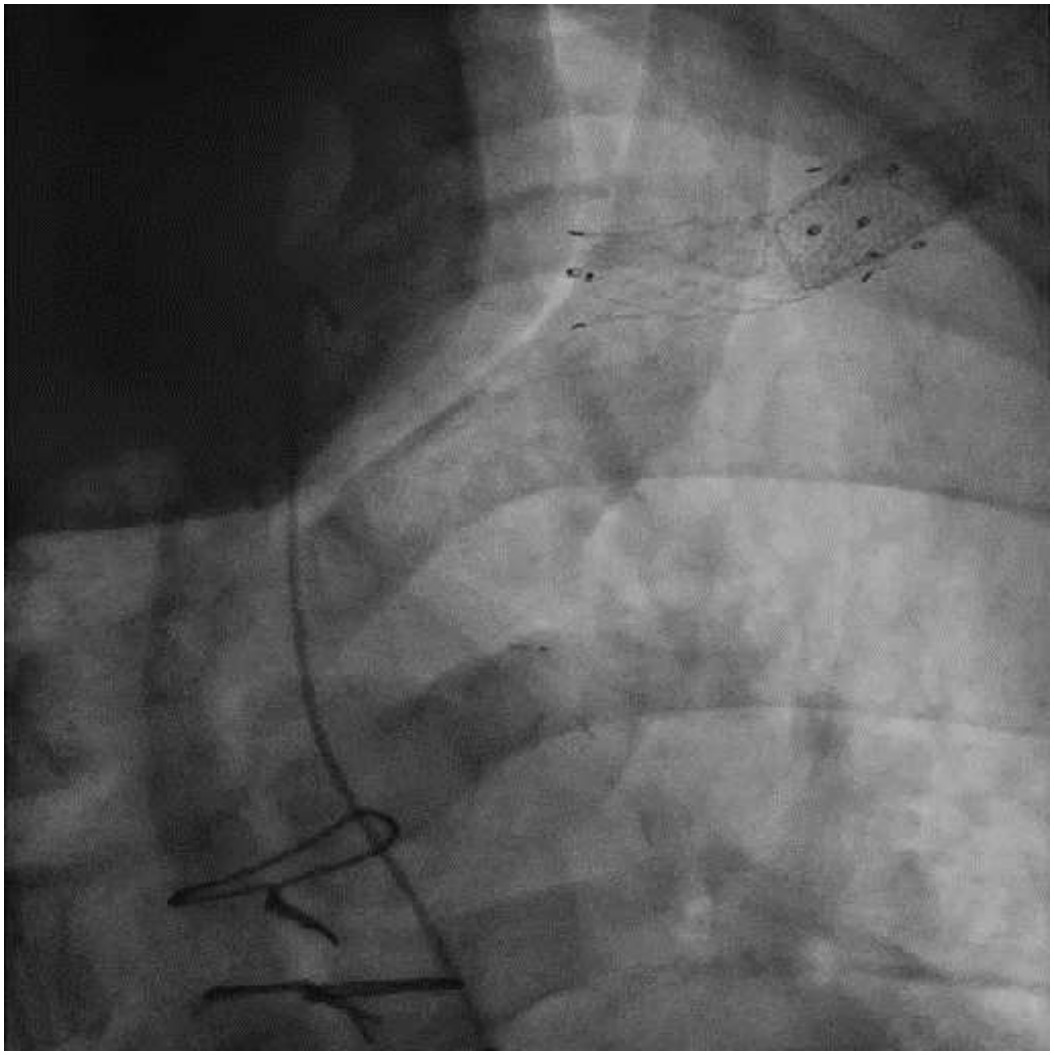


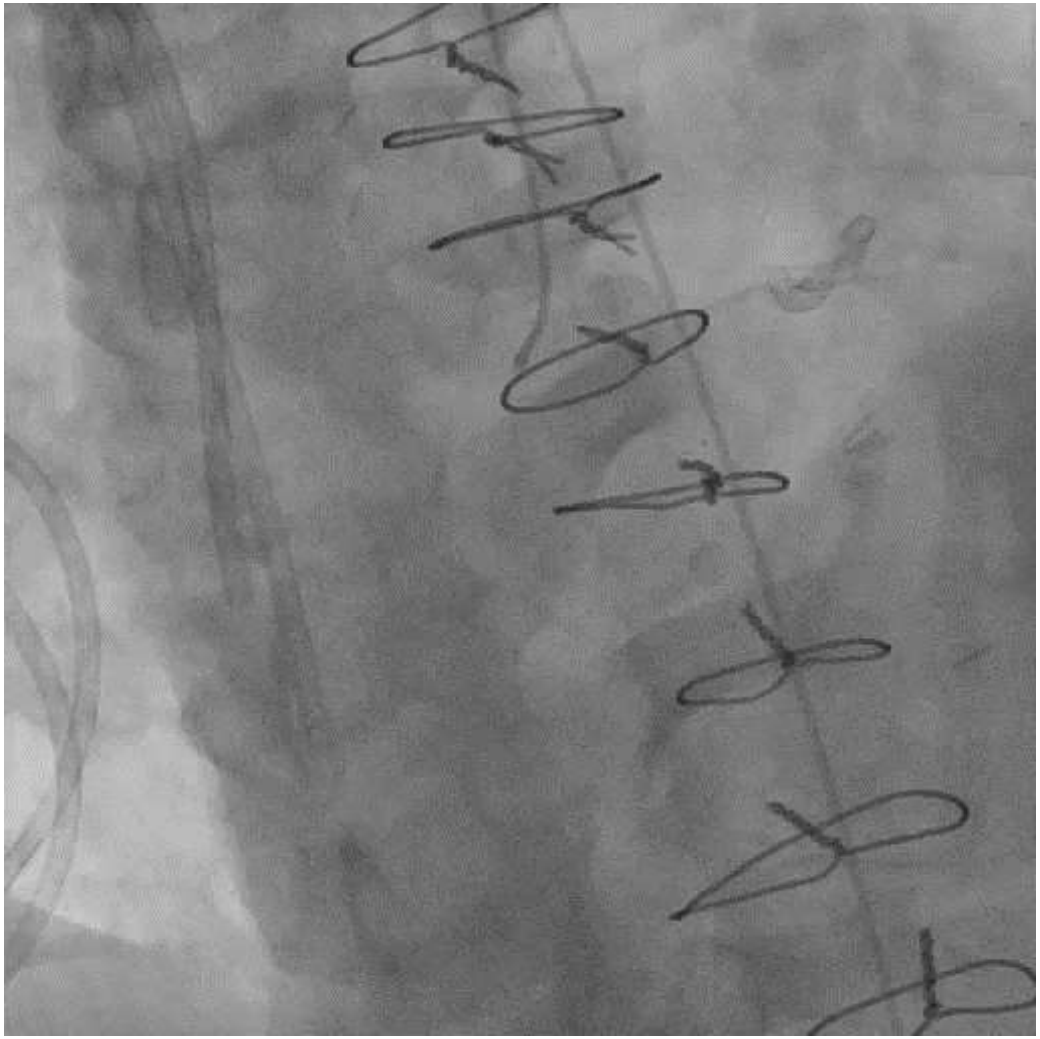




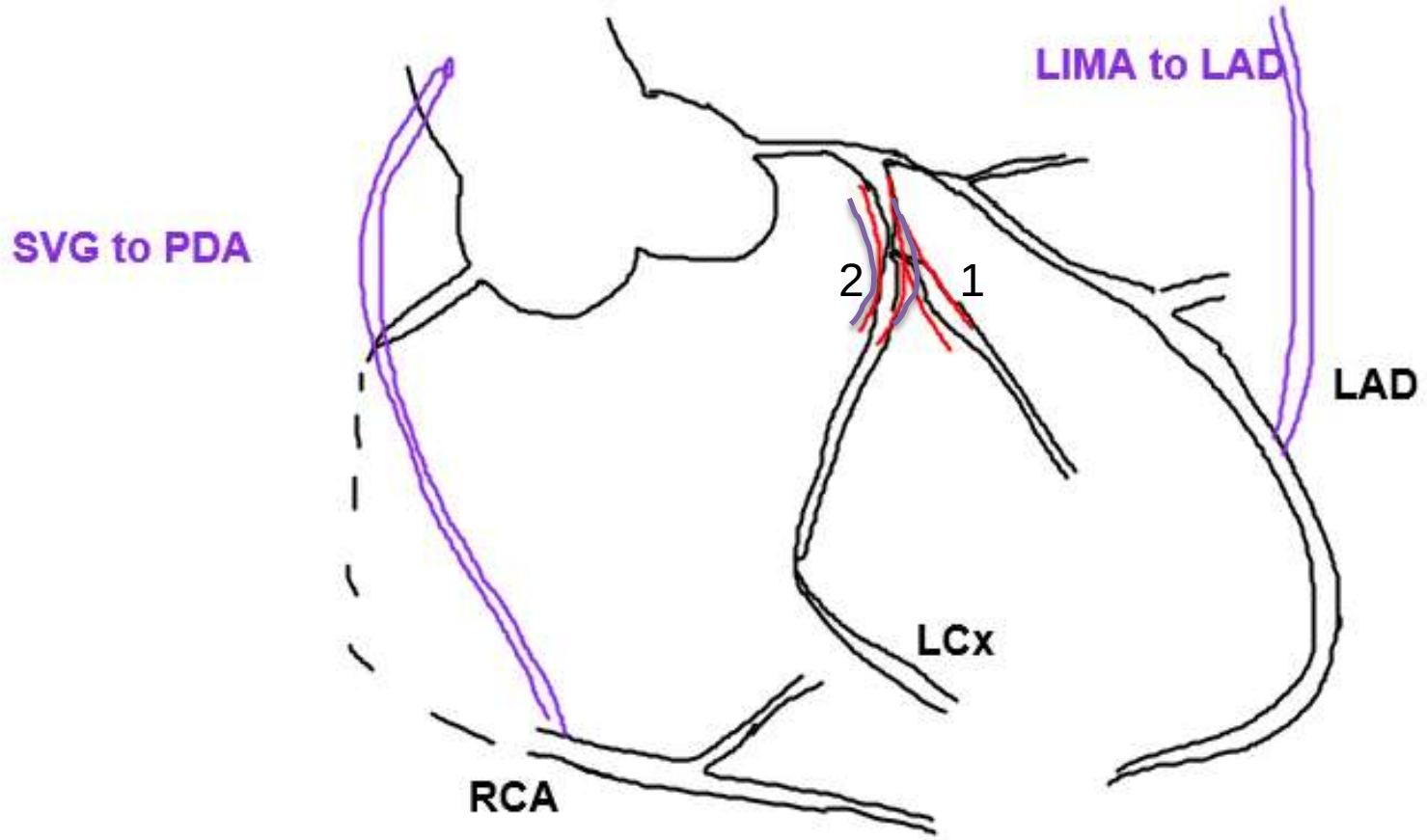








Summary of coronary anatomy

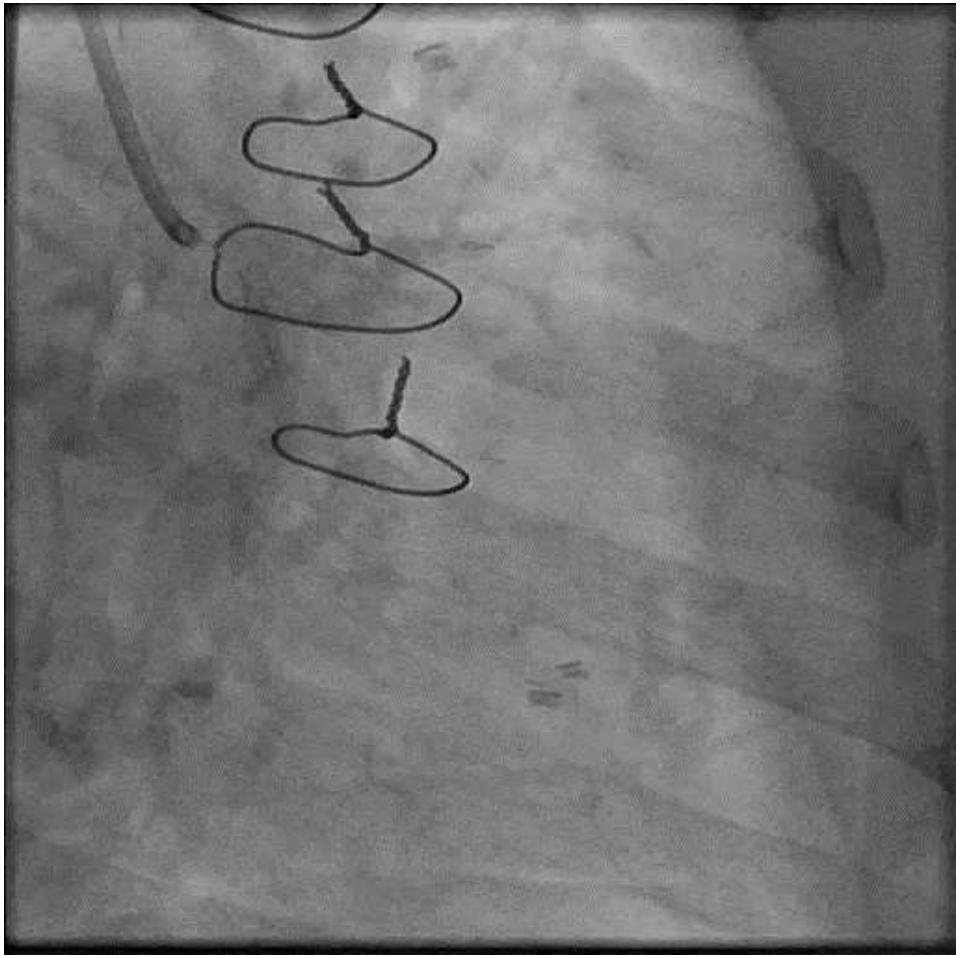


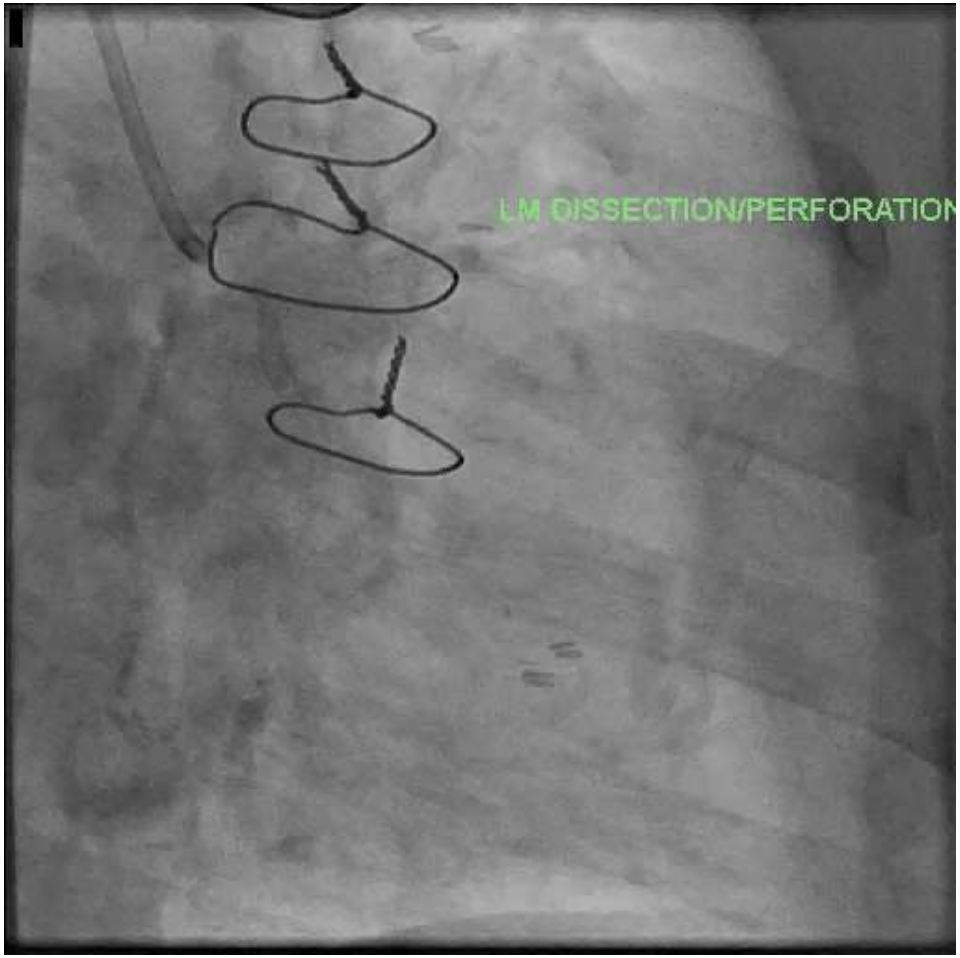
Treatment options and drawbacks

- Redo CABG with SVG to OM and diagonal
  - High risk as it is a redo-case with patent grafts
  - Limited arterial grafts and vein grafts available for harvest in patient on HD
- Multivessel PCI
  - 2nd time ISR
  - DEB not available in USA

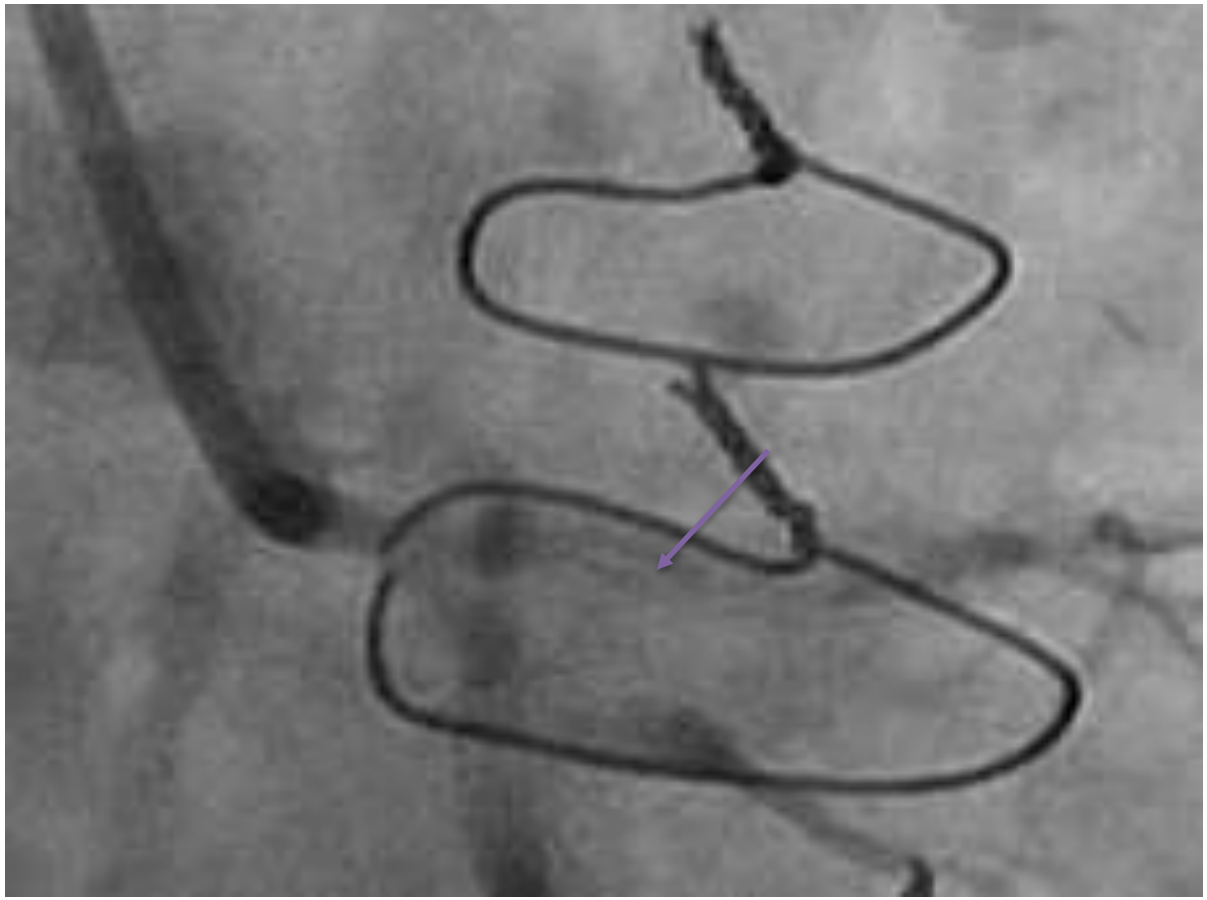
PCI to LCx/OM1

- 8Fr JL4 guiding catheter (without side hole)
- Drug coated balloon not available in USA, plan to use laser atherectomy and balloon angioplasty in LCx/OM ISR and drug eluting stent in LM to proximal LCx
- No pressure damping was noted and roadmap angiograms were then performed…



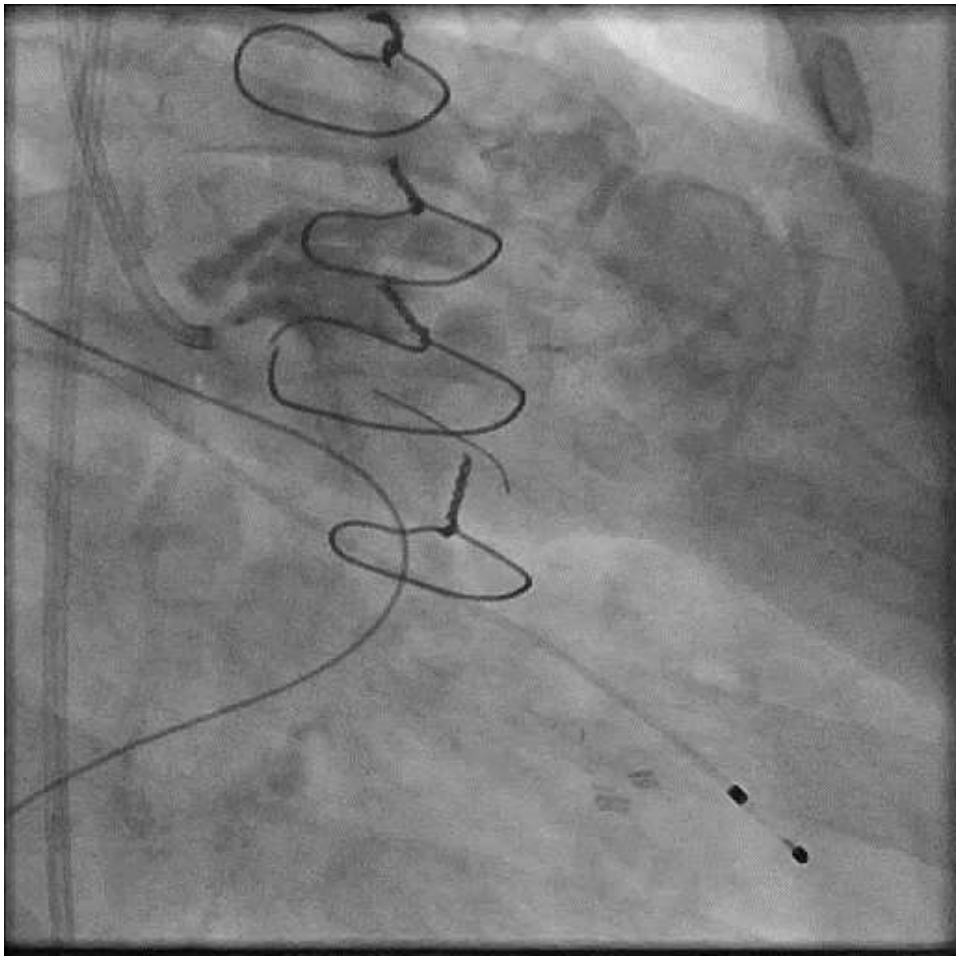

LM DISSECTION/PERFORATION

Dissection flap already seen in first injection

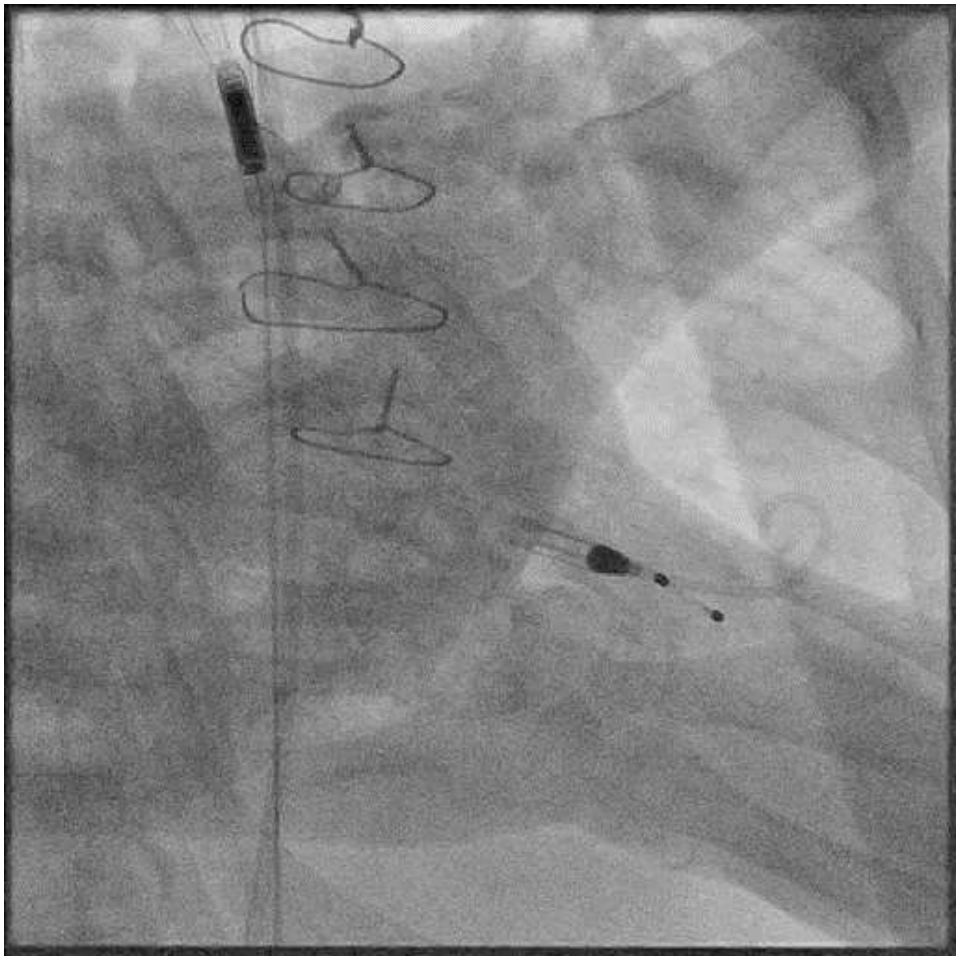


Oops, what to do next?

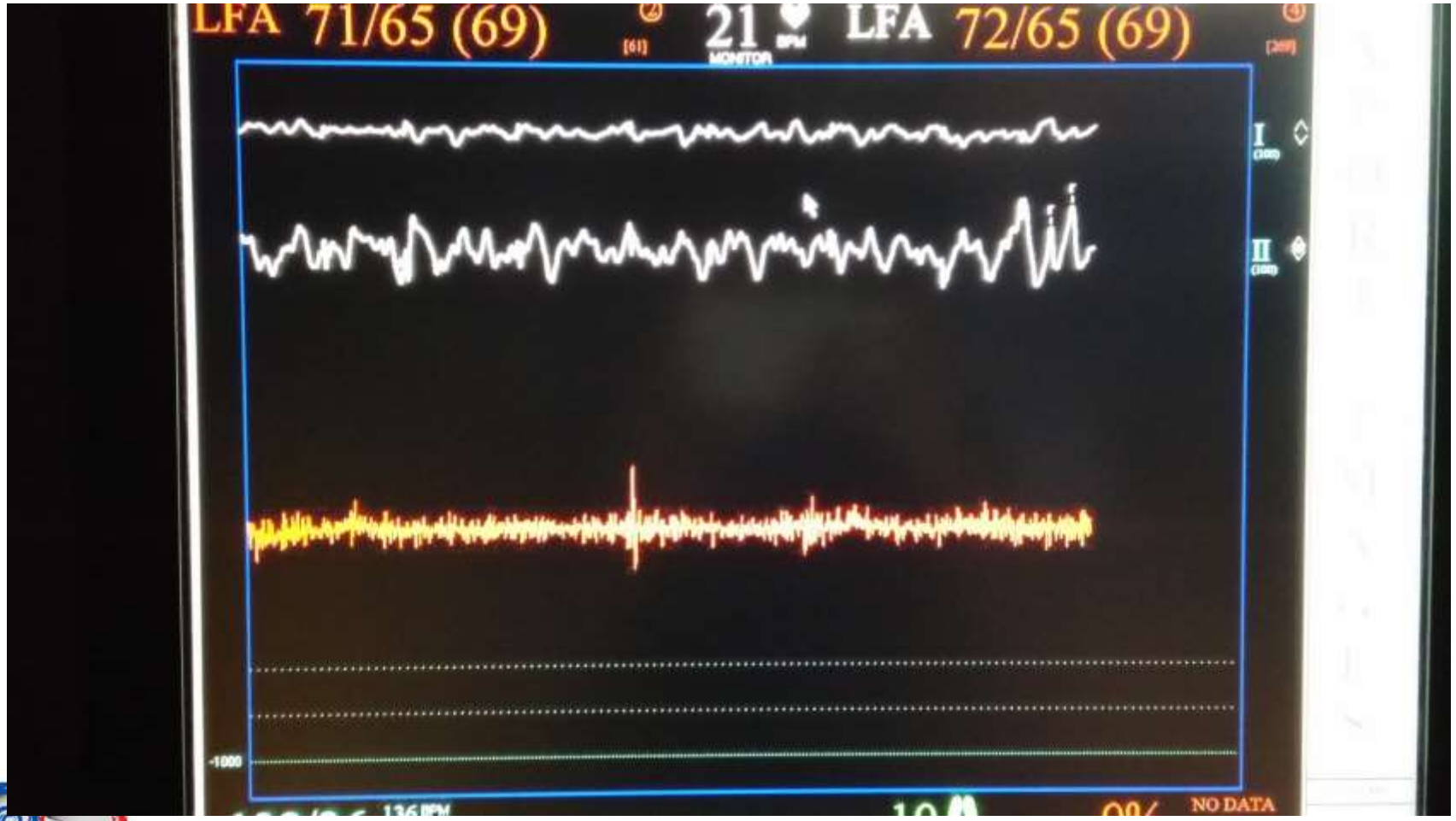
- Patient went into bradycardia and hypotension
- Temp pacing wire was inserted
- Emergency echo was performed which showed no pericardial effusion
- Impella CP was called, while preparing insertion of impella…

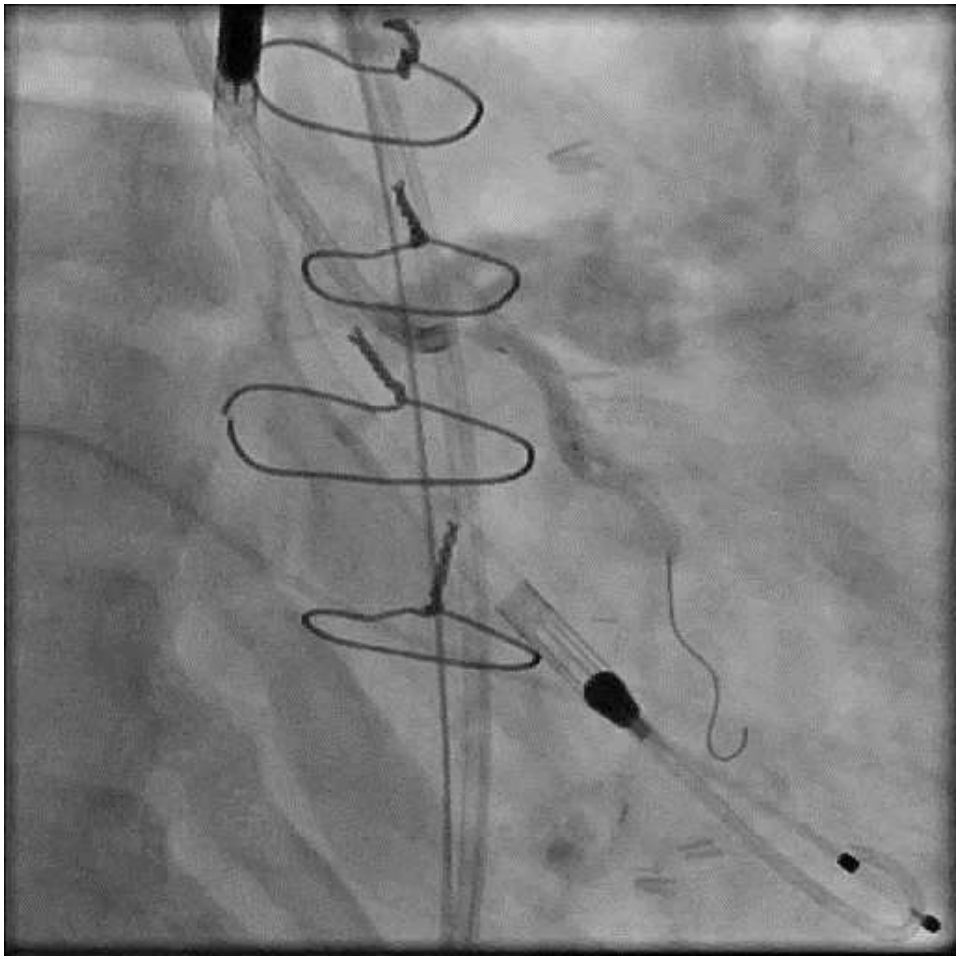


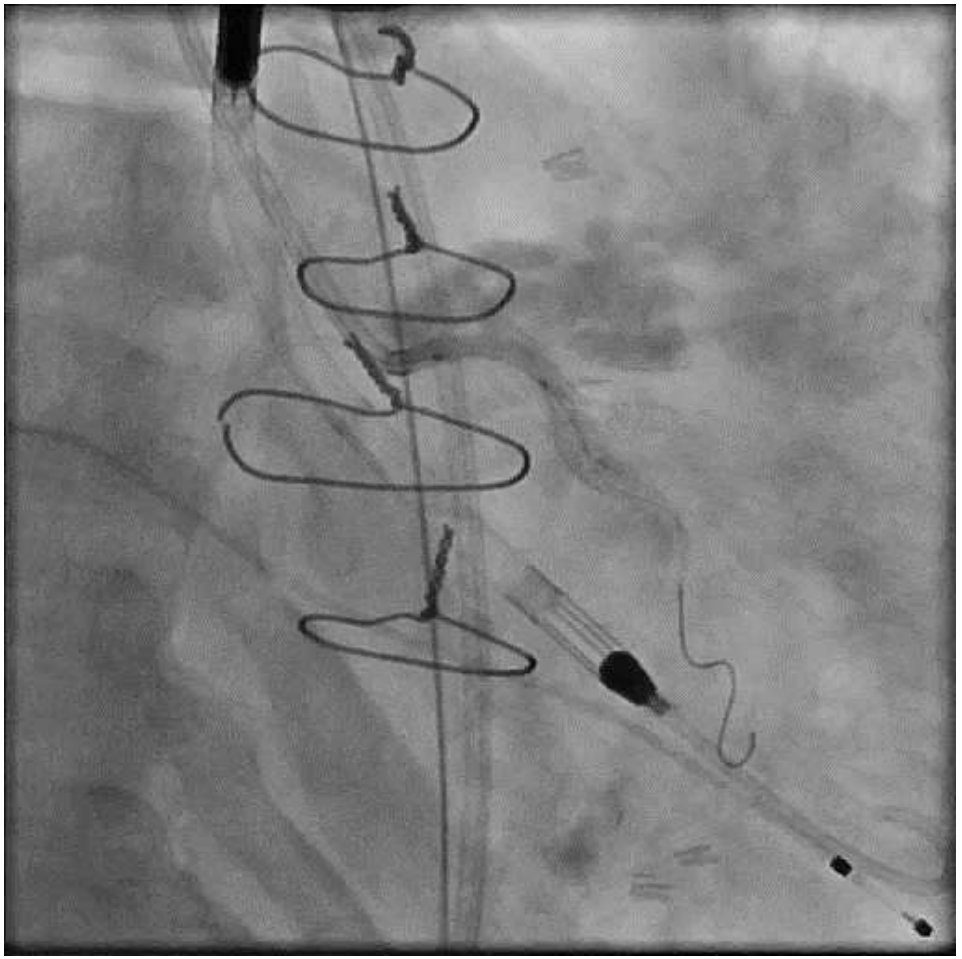
- We quickly inserted Impella CP through left femoral artery for hemodynamic support, while my attending got the guidewires down into LCx and OM1
- Cardiac surgeons were also called to the cath lab

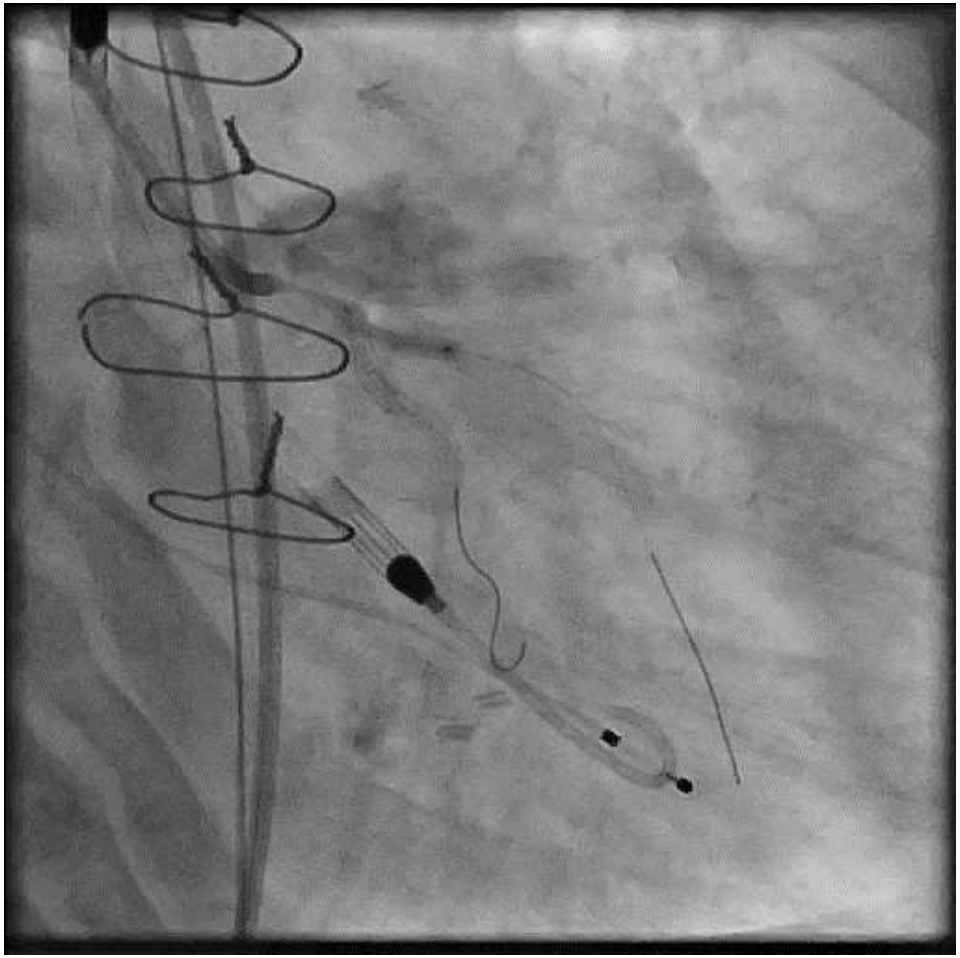


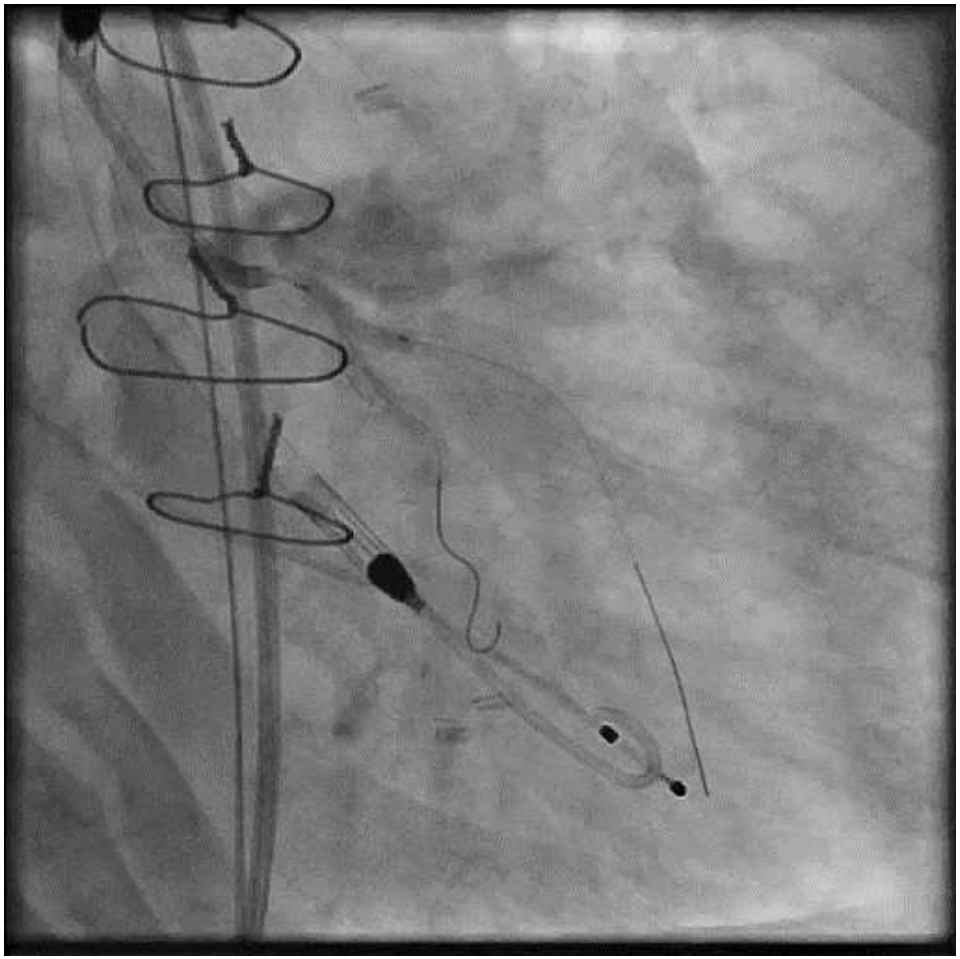
Pressure tracing with impella

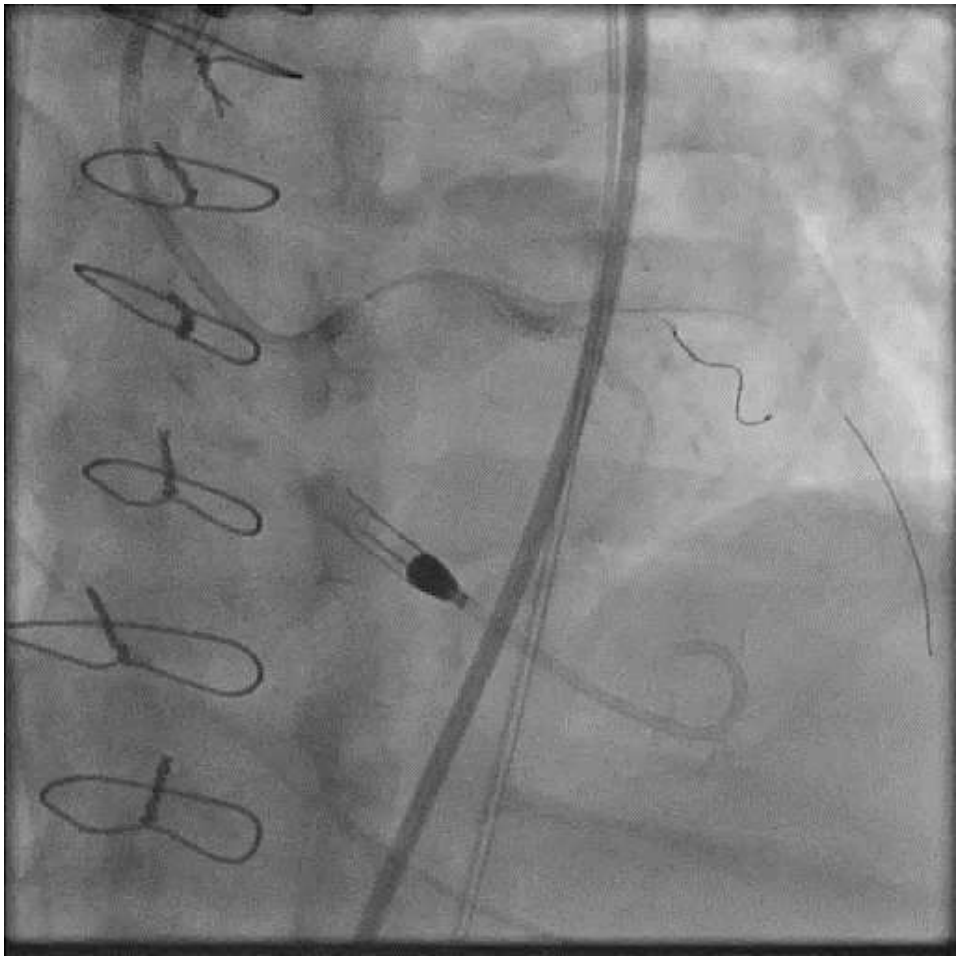


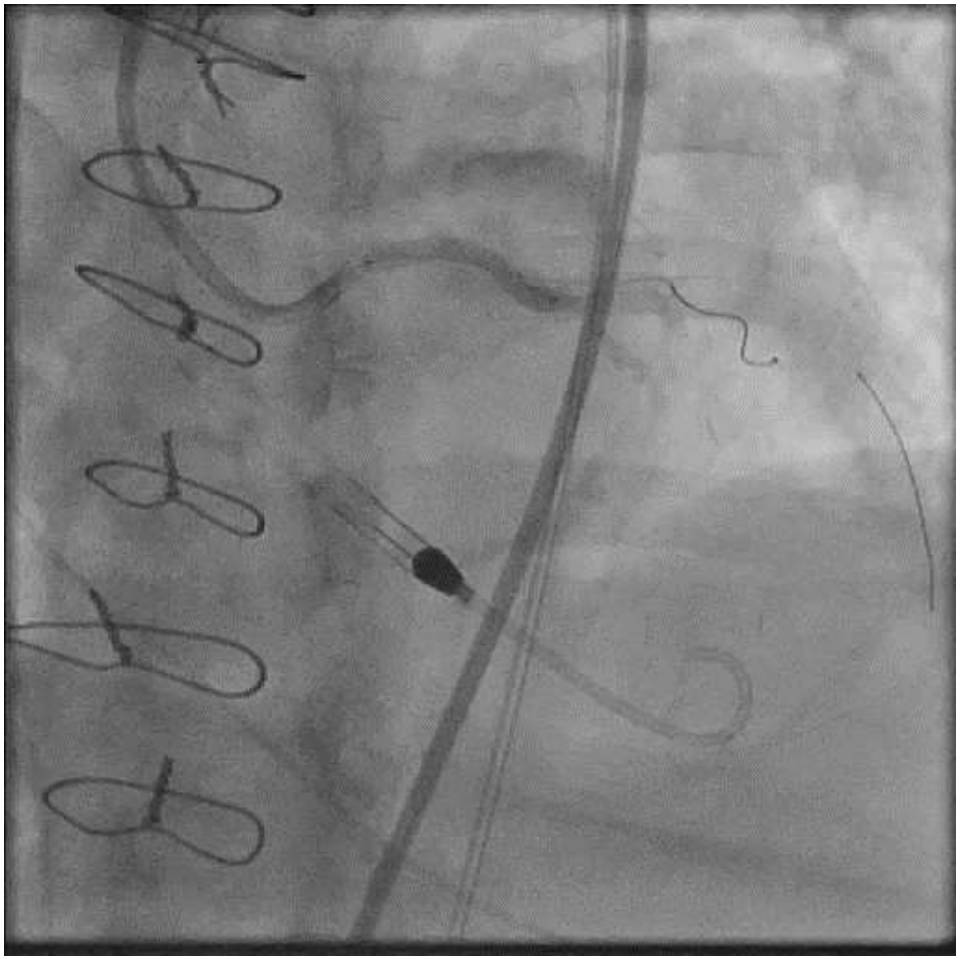


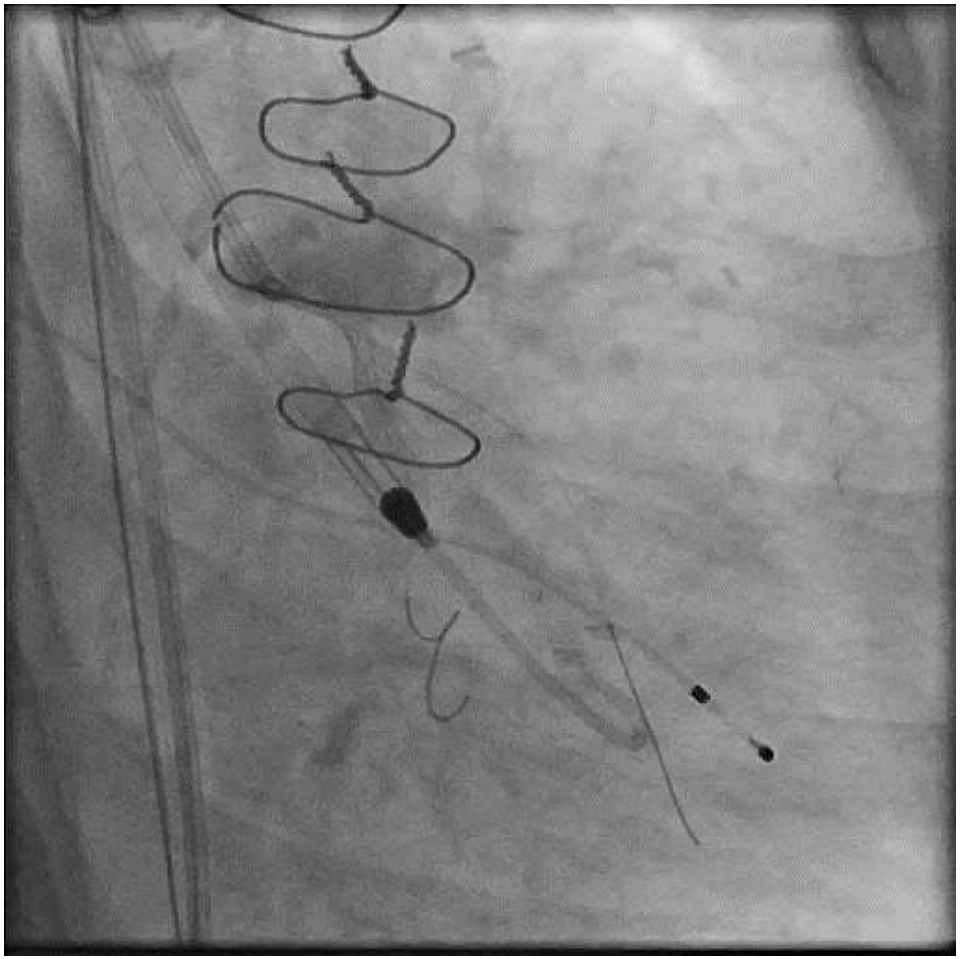


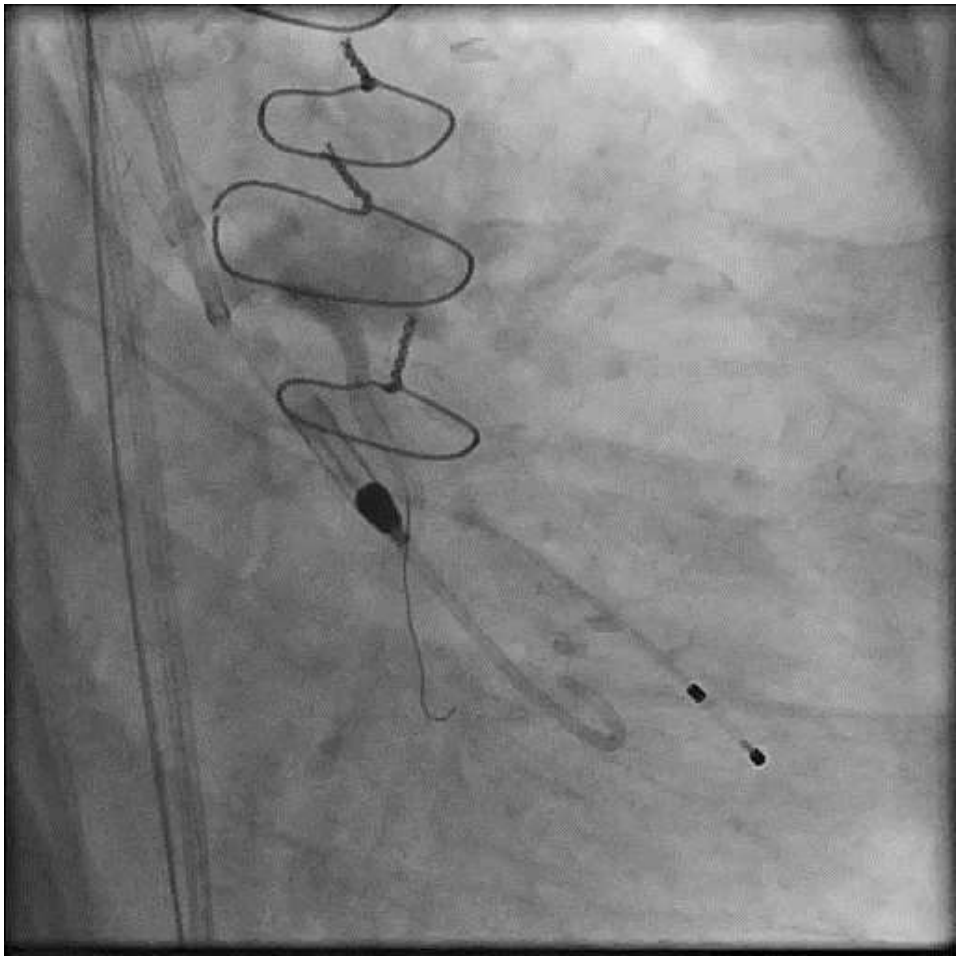


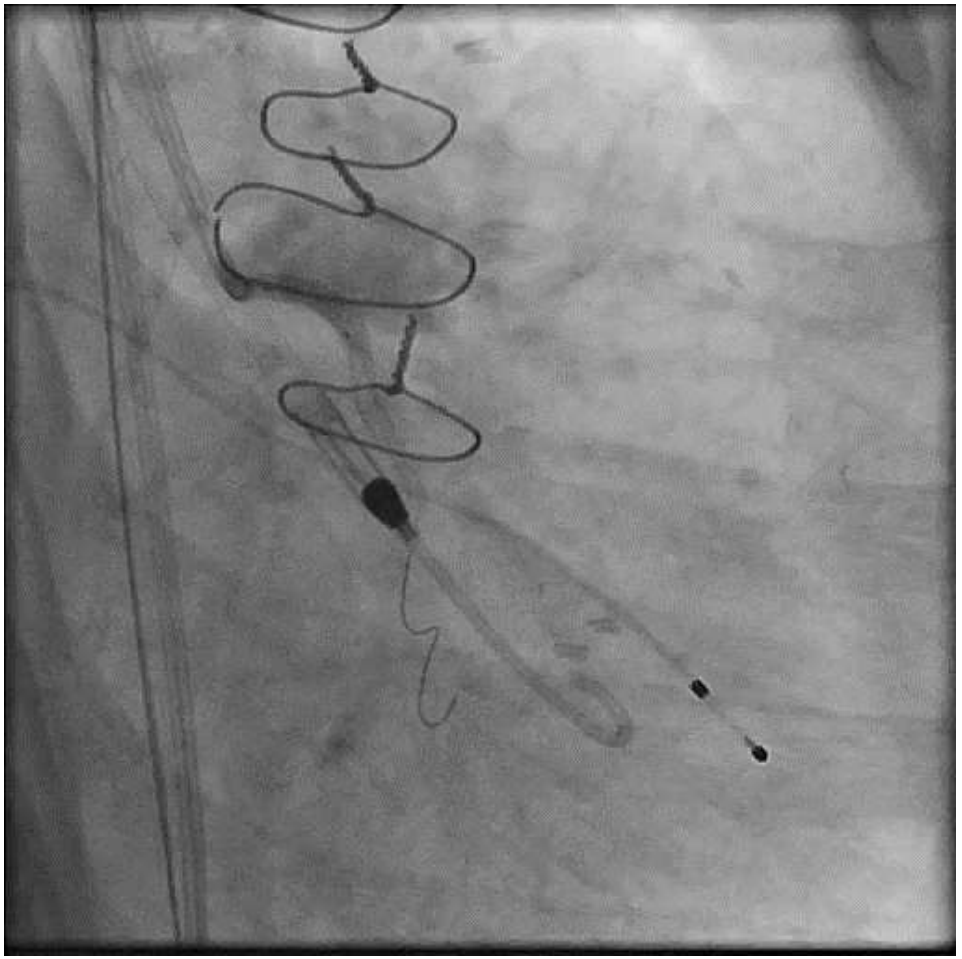


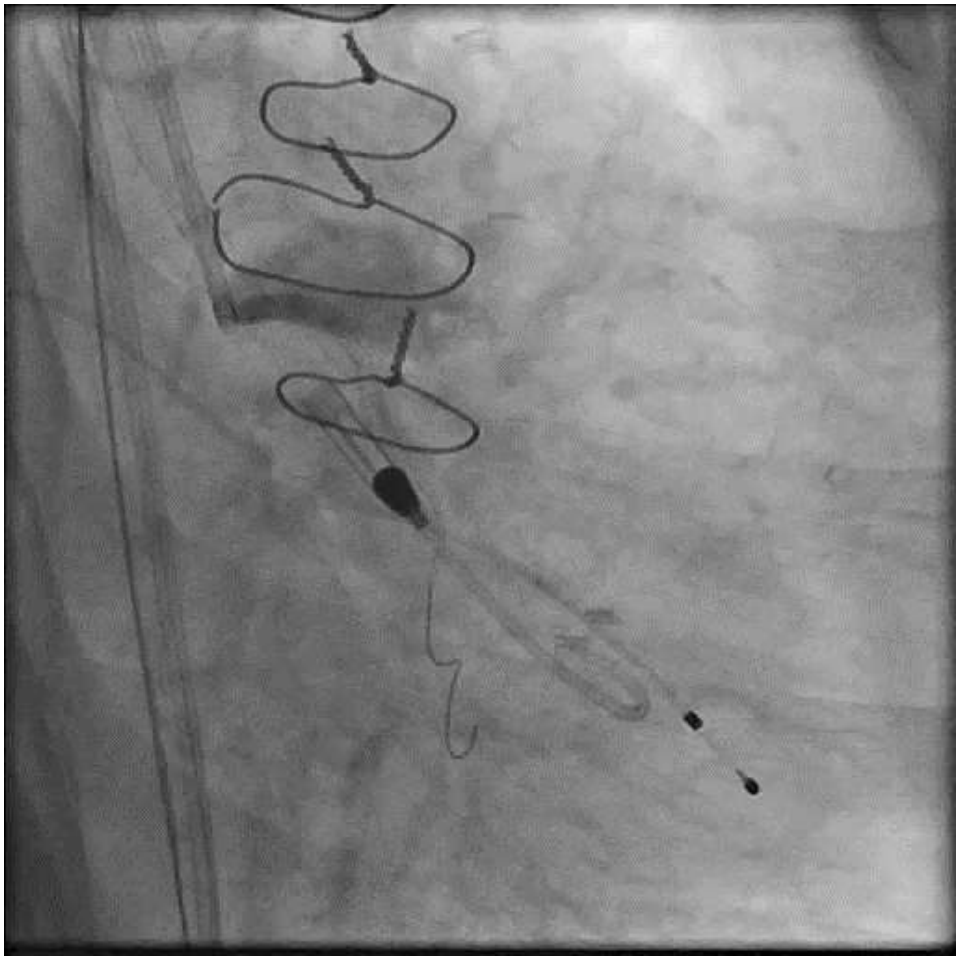


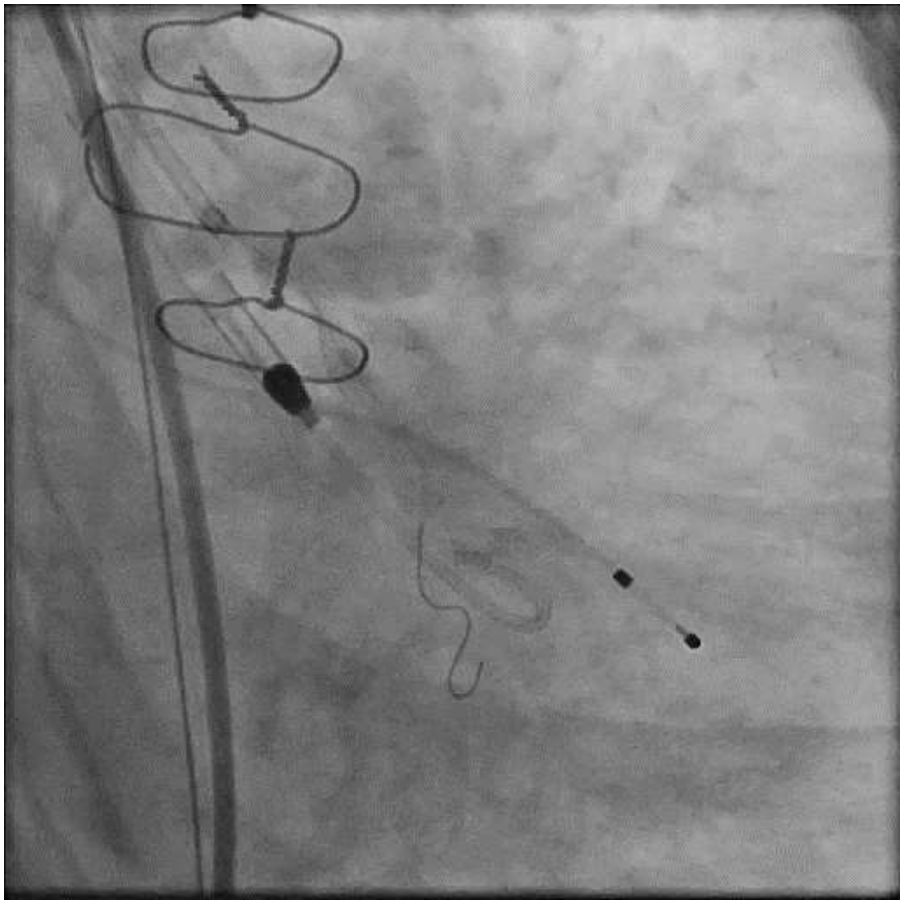


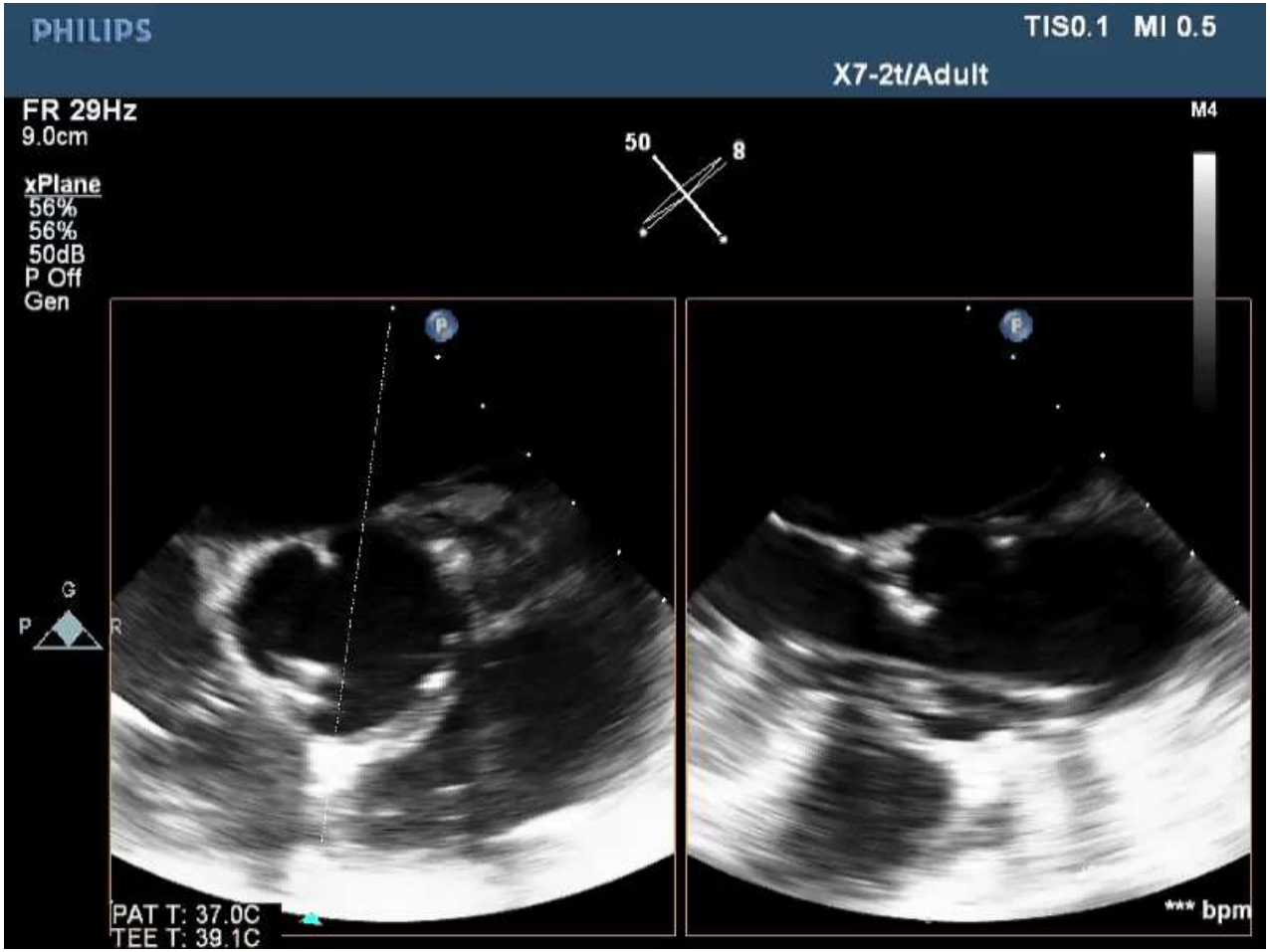


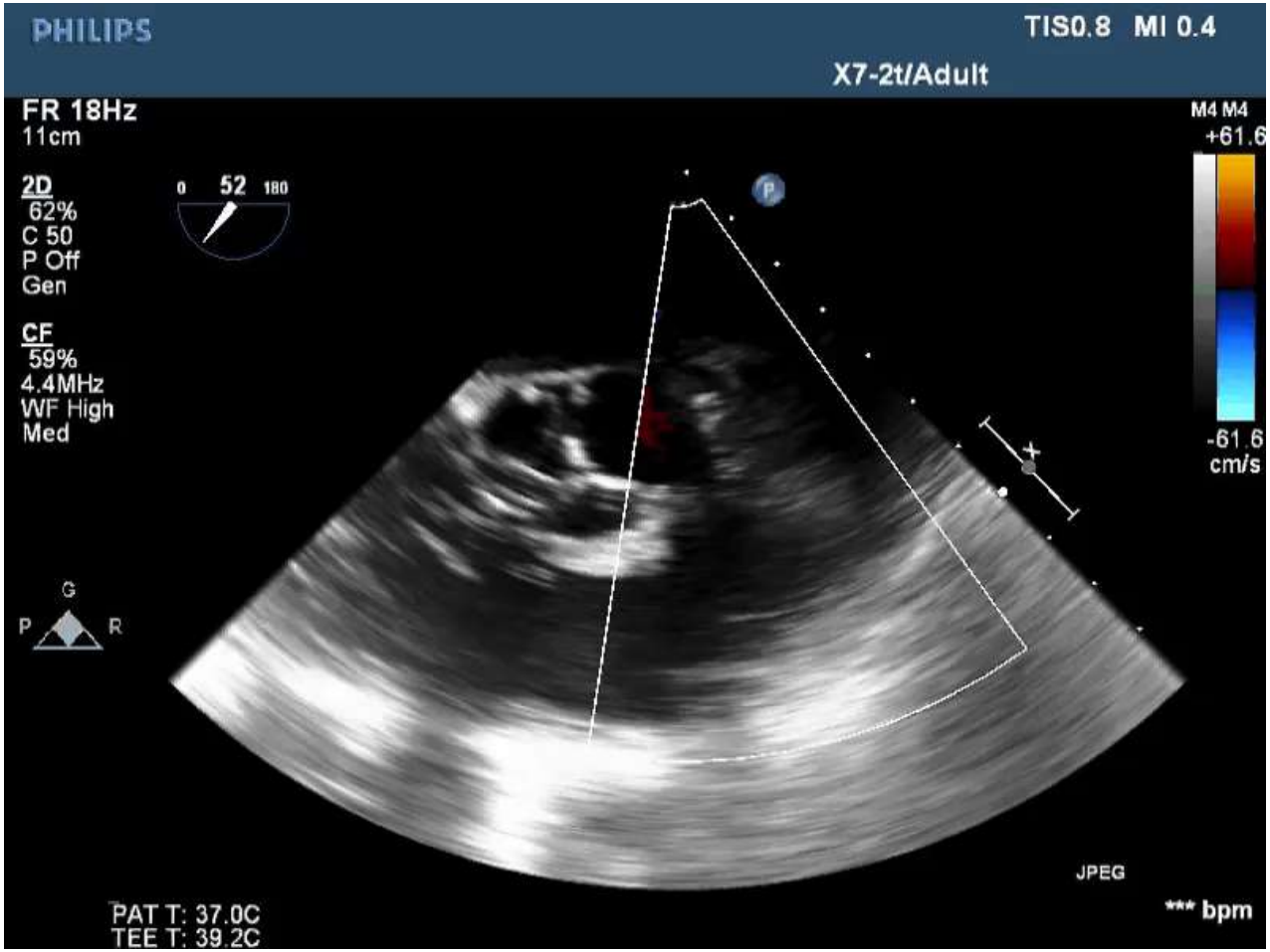









PHILIPS
TIS0.1 MI 0.5
X7-2t/Adult
FR 29Hz
9.0cm
xPlane
56%
56%
50dB
P Off
Gen
50
8
M4
PAT T: 37.0C
TEE T: 39.1C
*** bpm


PHILIPS
TIS0.8 MI 0.4
X7-2t/Adult
FR 18Hz
11cm
2D
62%
C 50
P Off
Gen
CF
59%
4.4MHz
WF High
Med
0 52 180
M4 M4
+61.6
-61.6
cm/s
G
P
R
JPEG
*** bpm
PAT T: 37.0C
TEE T: 39.2C

Summary

- A case of left main perforation complicated with cusp hematoma and cardiac arrest, successfully resuscitated by immediate PCI and impella support

Progress

- Patient was transferred to CCU for close monitoring
- BP 100/70 while on impella support and low dose inotropes
- Wean off ET tube and impella over the next few days
- Survival to discharge after 10 days of hospitalization

Take Home Points

- After seating of guide, if initial diagnostic pictures available, get the wire down first, no need to repeat contrast injection
- In case of guiding dissection, no more contrast injection is allowed, this limits the progression of dissection/perforation
- Immediate stenting to seal off the dissection/perforation, conventional stent may be sufficient in most of the cases

Role of circulatory support in cardiac arrest / shock

- Impella may be considered if patient has refractory cardiogenic shock after initial ROSC
- May consider ECMO to provide immediate cardiovascular support who have cardiac arrest unresponsive to conventional CPR for more than 10 mins, in order to buy time for definitive treatment (ECPR)

Thank you