

LM and Bifurcation Case Sharing

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At 2:20 AM!!

- 79/M
- Visit EMC
- C.C: dyspnea & chest pain for 2 days
- History taking impossible due to severe dyspnea
- History taking from his wife
- 10 years ago PCI at other hospital
- Stop medication for 2 months
- V/S 140/90- 110- 30- Sat 93% by room air -> 96 % with Oxygen

EKG

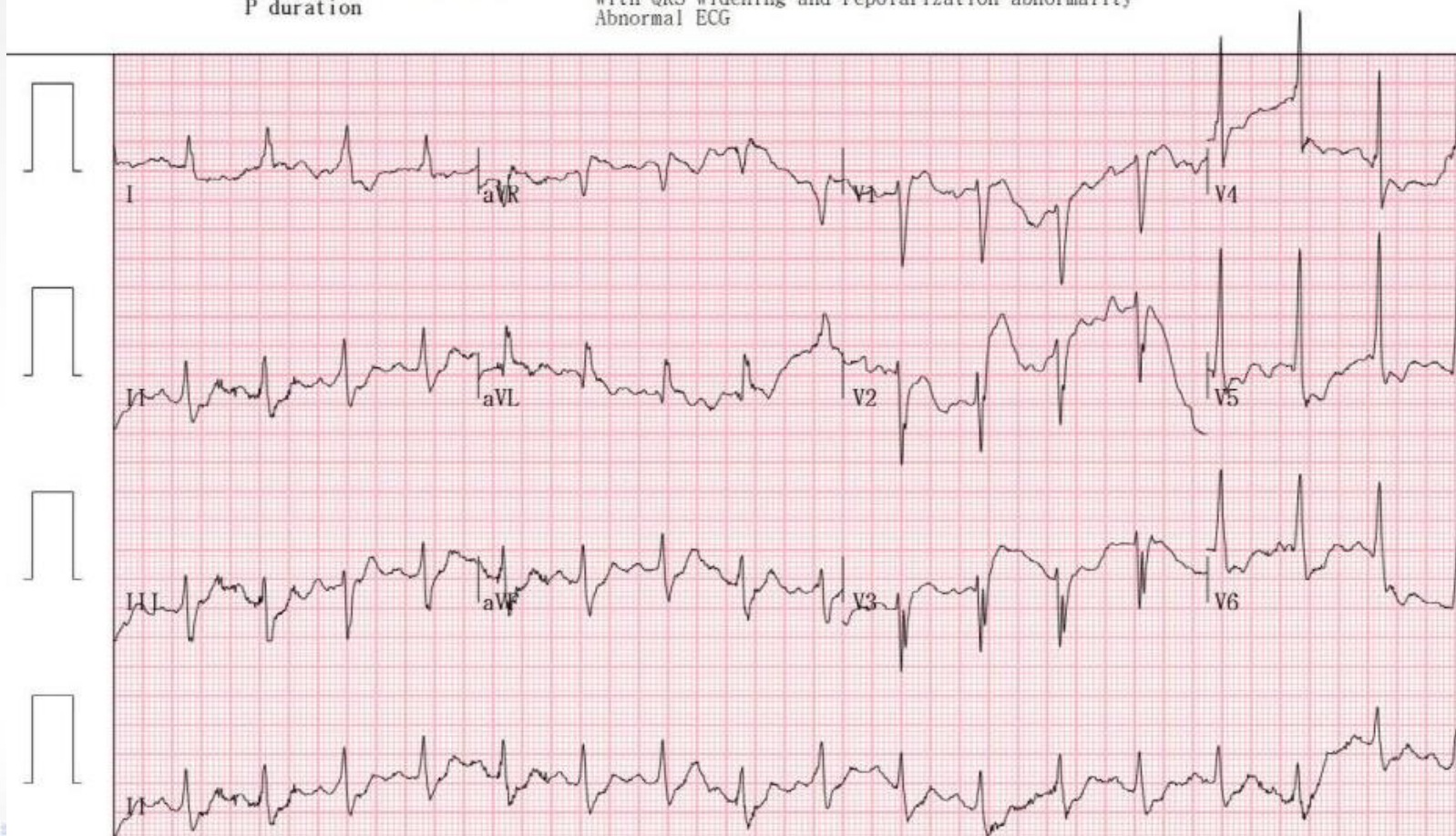
2018/11/22
02:24:49

79Years

Vent. Rate 110 bpm
PR interval 198 ms
QRS duration 130 ms
QT/QTc 366/495 ms
P-R-T axes 84/0/101 °
P duration

Interpretation
Sinus tachycardia
Possible
Left atrial enlargement
Left ventricular hypertrophy
with QRS widening and repolarization abnormality
Abnormal ECG

STEMI ?



GE MAC5K V008B(1)
25mm/s 10mm/mV 16-150Hz 60Hz

Attending MD:

Chest AP



Progress

- Just after EKG & chest X-ray
- Short nonsustained VT at monitoring
- O2 Sat 76%, drowsy mental state

- Intubation with sedation
- chest X-ray again for E-tube and lab check etc..

- EKG again

EKG

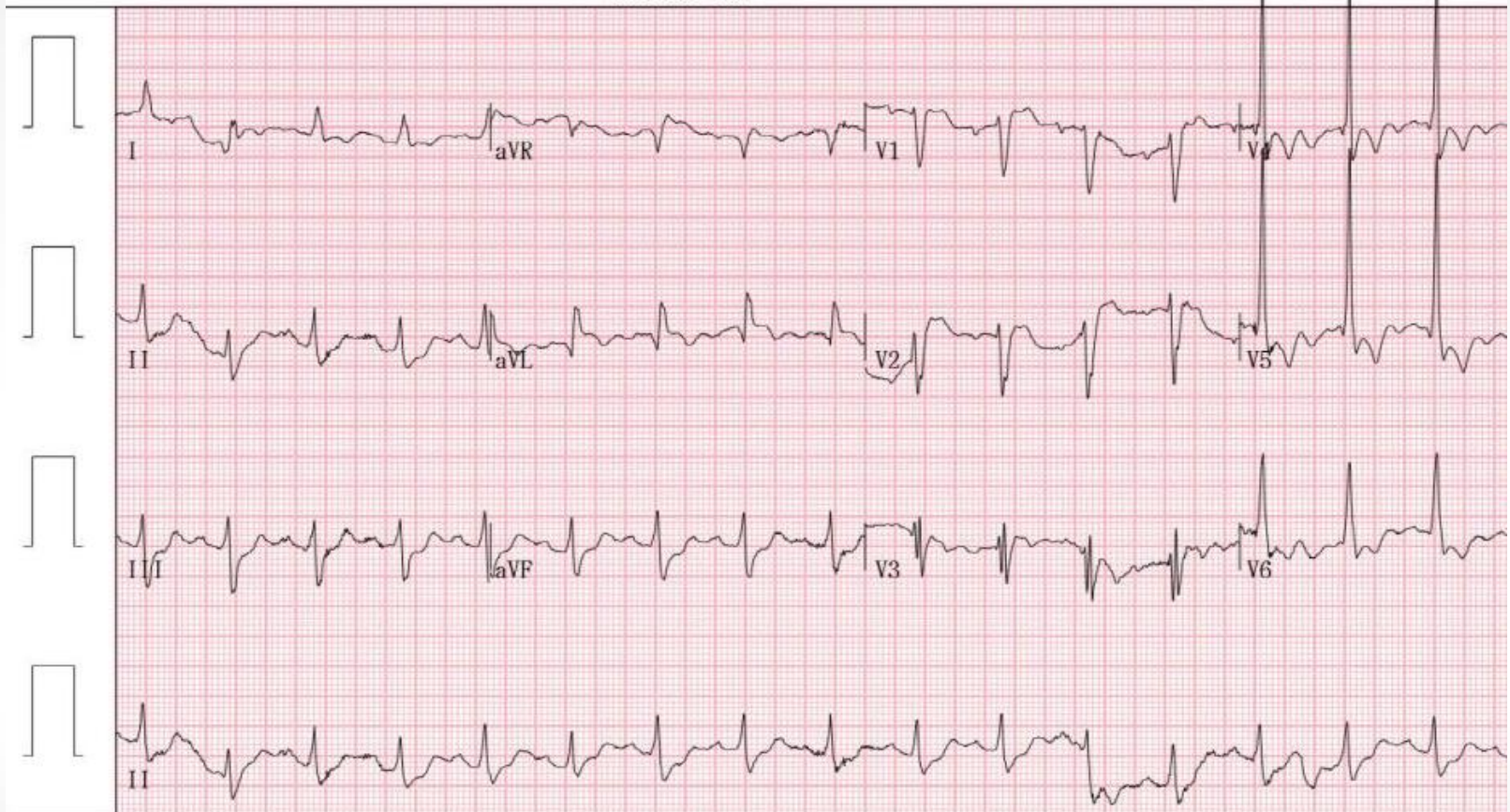
2018/11/22
02:42:01

79Years

Vent. Rate 104 bpm
PR interval 218 ms
QRS duration 138 ms
QT/QTc 342/449 ms
P-R-T axes 86/9/108 °
P duration

Interpretation

Sinus tachycardia
with 1st degree AV block
Possible
Left atrial enlargement
Left ventricular hypertrophy
with QRS widening and repolarization abnormality
Abnormal ECG



GE MAC5K V008B(1)
25mm/s 10mm/mV 16-150Hz 60Hz

Attending MD:

EKG

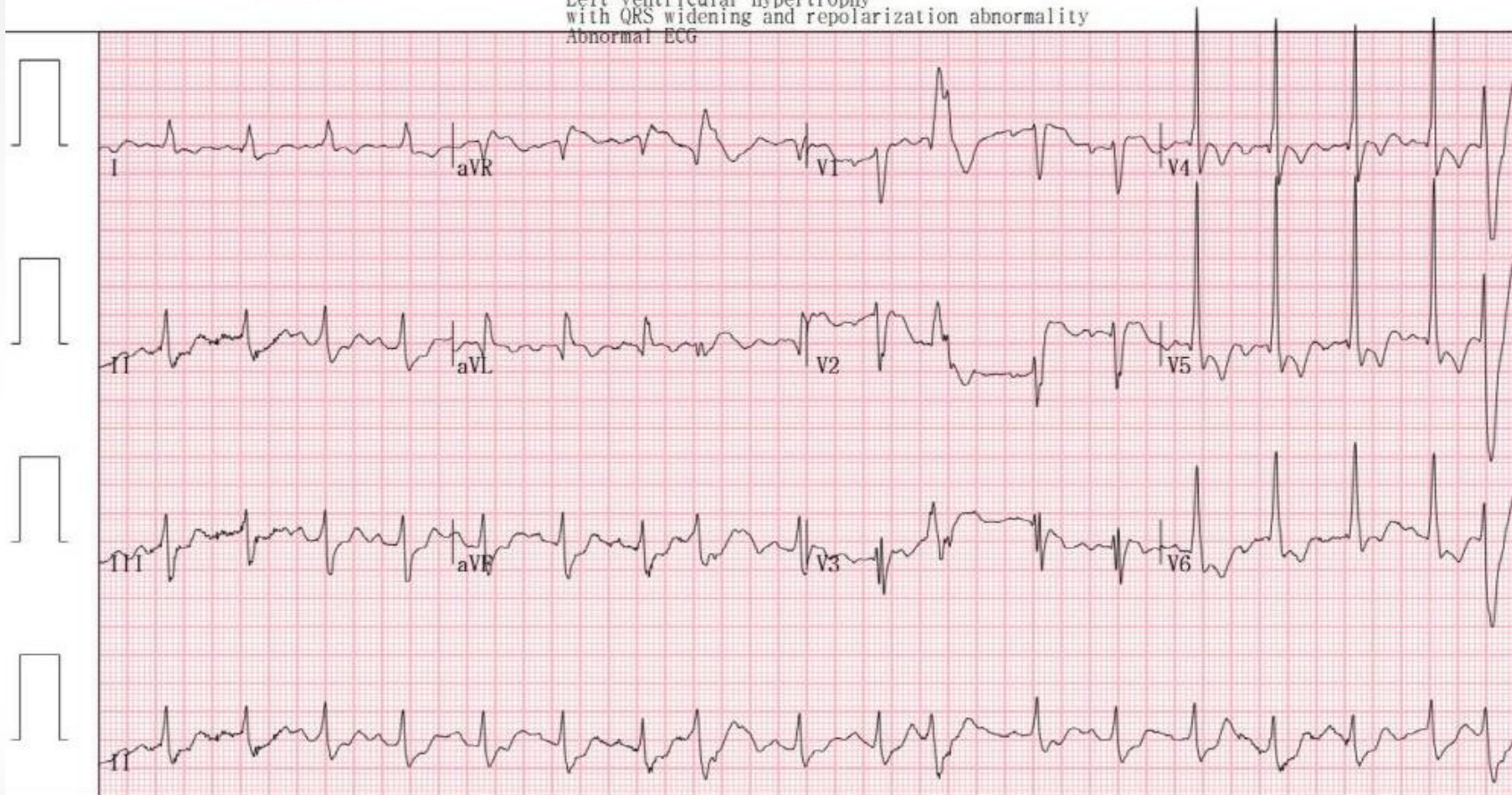
2018/11/22
02:43:24

79Years

Vent. Rate 110 bpm
PR interval 186 ms
QRS duration 136 ms
QT/QTc 356/481 ms
P-R-T axes 91/2/114 °
P duration

Interpretation
Sinus tachycardia
with frequent
premature ventricular complexes
Possible
Left atrial enlargement
Left ventricular hypertrophy
with QRS widening and repolarization abnormality
Abnormal ECG

STEMI ?



Your decision? **AM 2:45!!!**

Our EMC hospitalist call me after 2nd EKG

- Due to.. VT
- No definite confidence for STEMI but he felt something strange..
- Bedside TTE: severely reduced EF
- V/S 100/70-110 without inotropics

Your plan?

1. Wait lab

POCT troponin (+)

2. Activate team for emergent CAG

STEMI!!

2013 ACC/AHA guideline

multilead ST depression with coexistent ST elevation in lead aVR has been described in patients with left main or proximal left anterior descending artery occlusion.⁹ Rarely, hyperacute

2017 ESC guideline

Ischaemia due to left main coronary artery occlusion or multivessel disease

ST depression ≥ 1 mm in eight or more surface leads, coupled with ST-segment elevation in aVR and/or V₁, suggests left main-, or left main equivalent- coronary obstruction, or severe three vessel ischaemia

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EKG

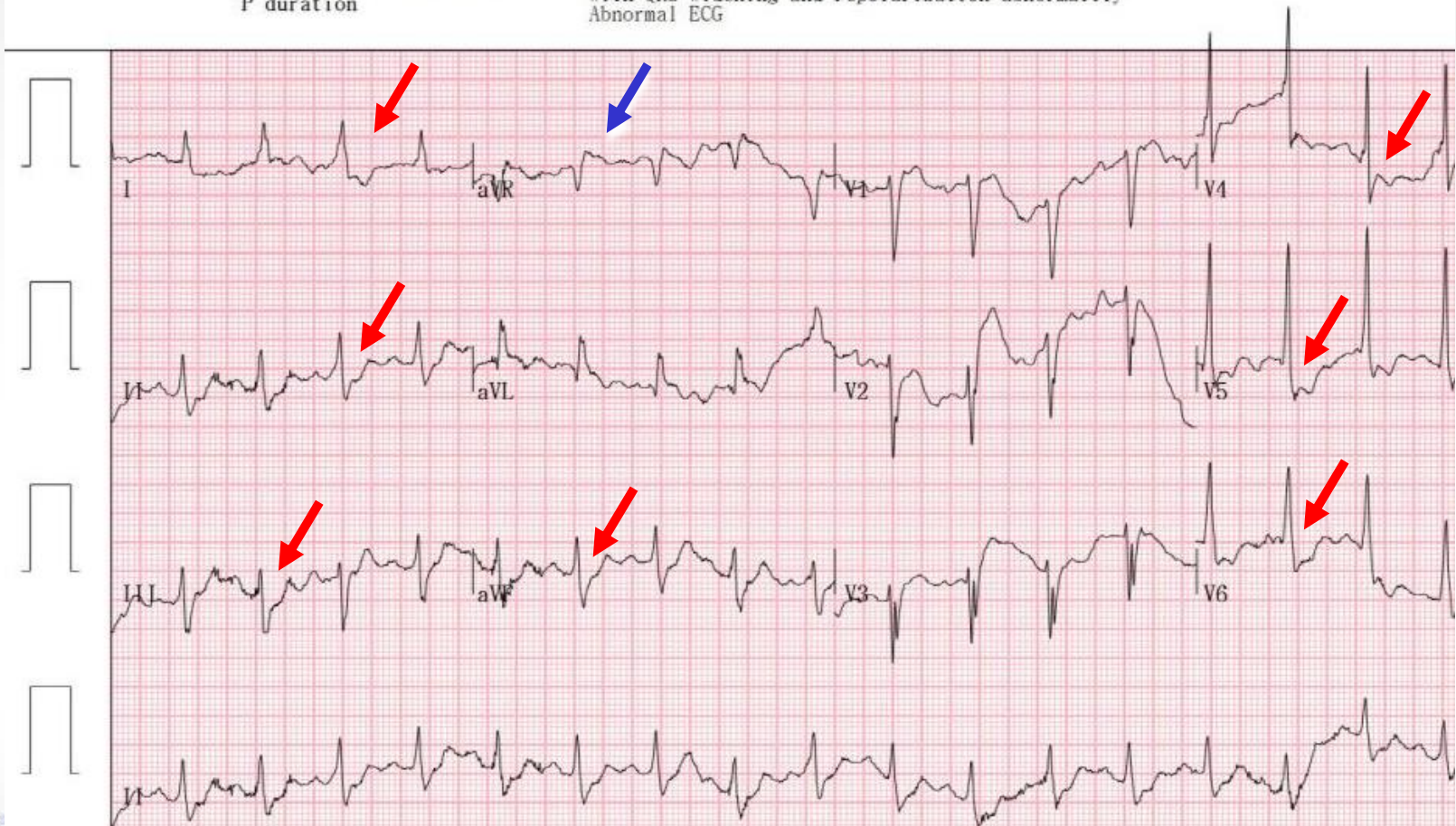
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Abnormal ECG

STEMI ?



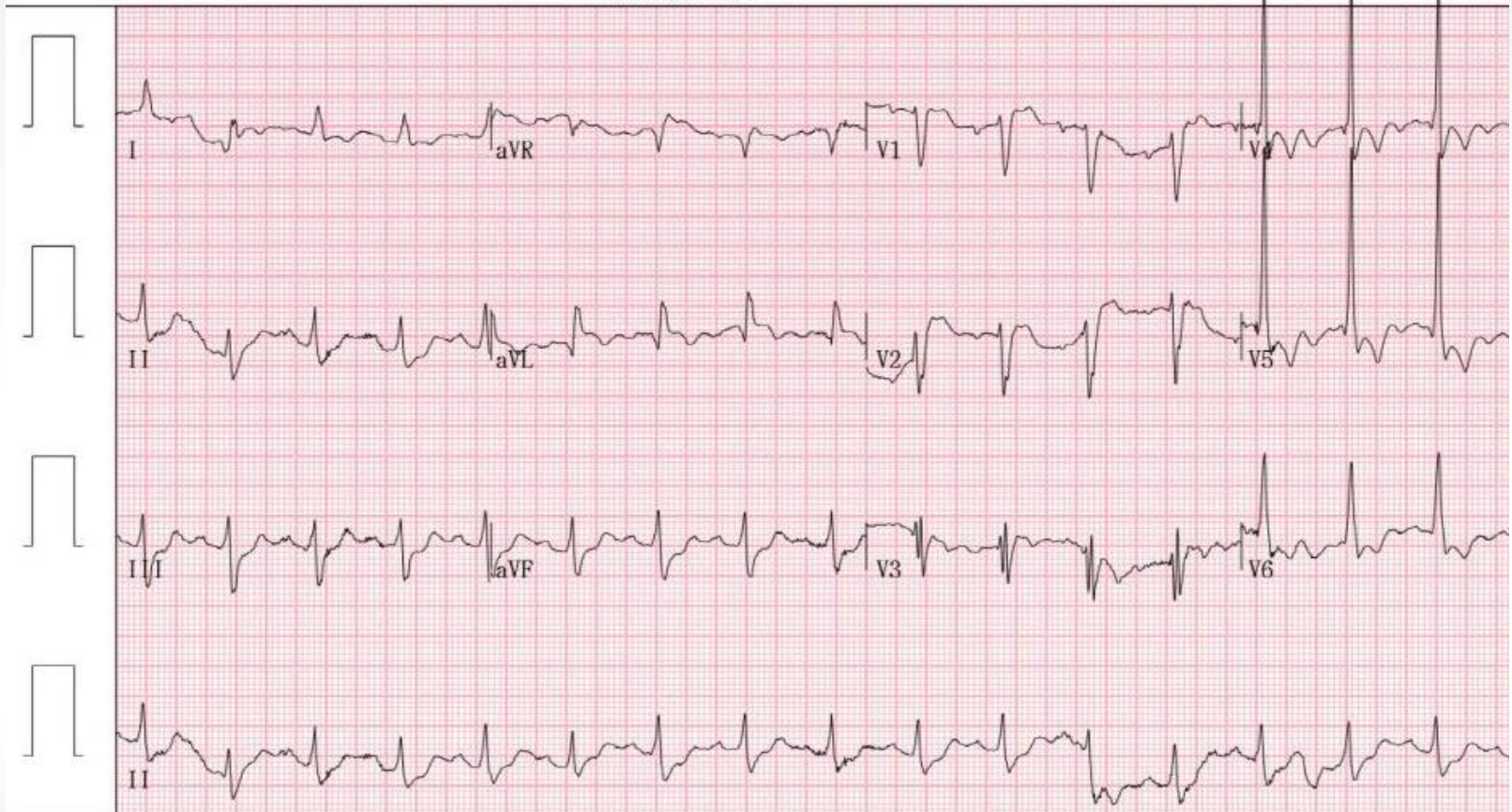
EKG

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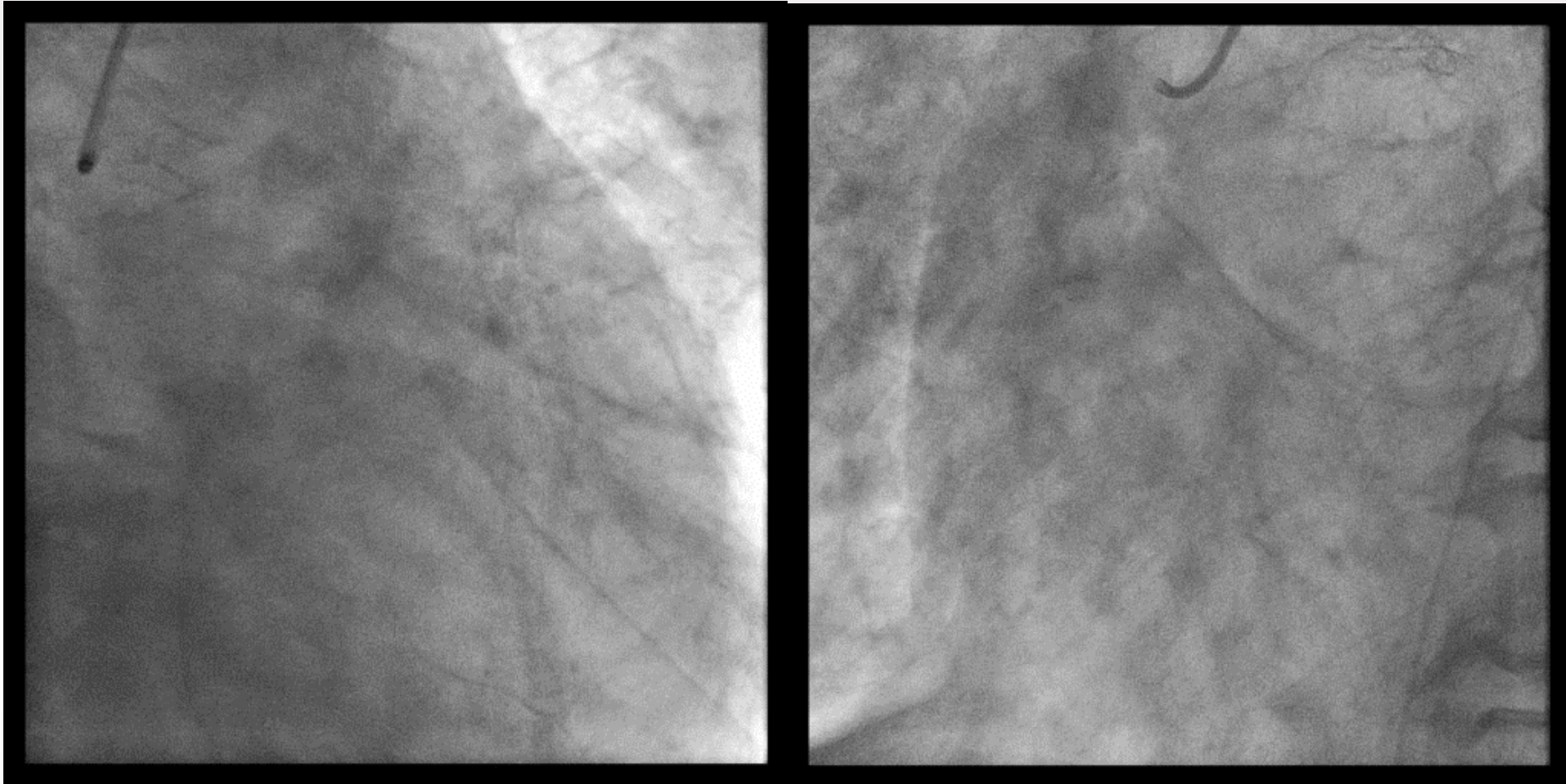


GE MAC5K V008B(1)
25mm/s 10mm/mV 16-150Hz 60Hz

Attending MD:

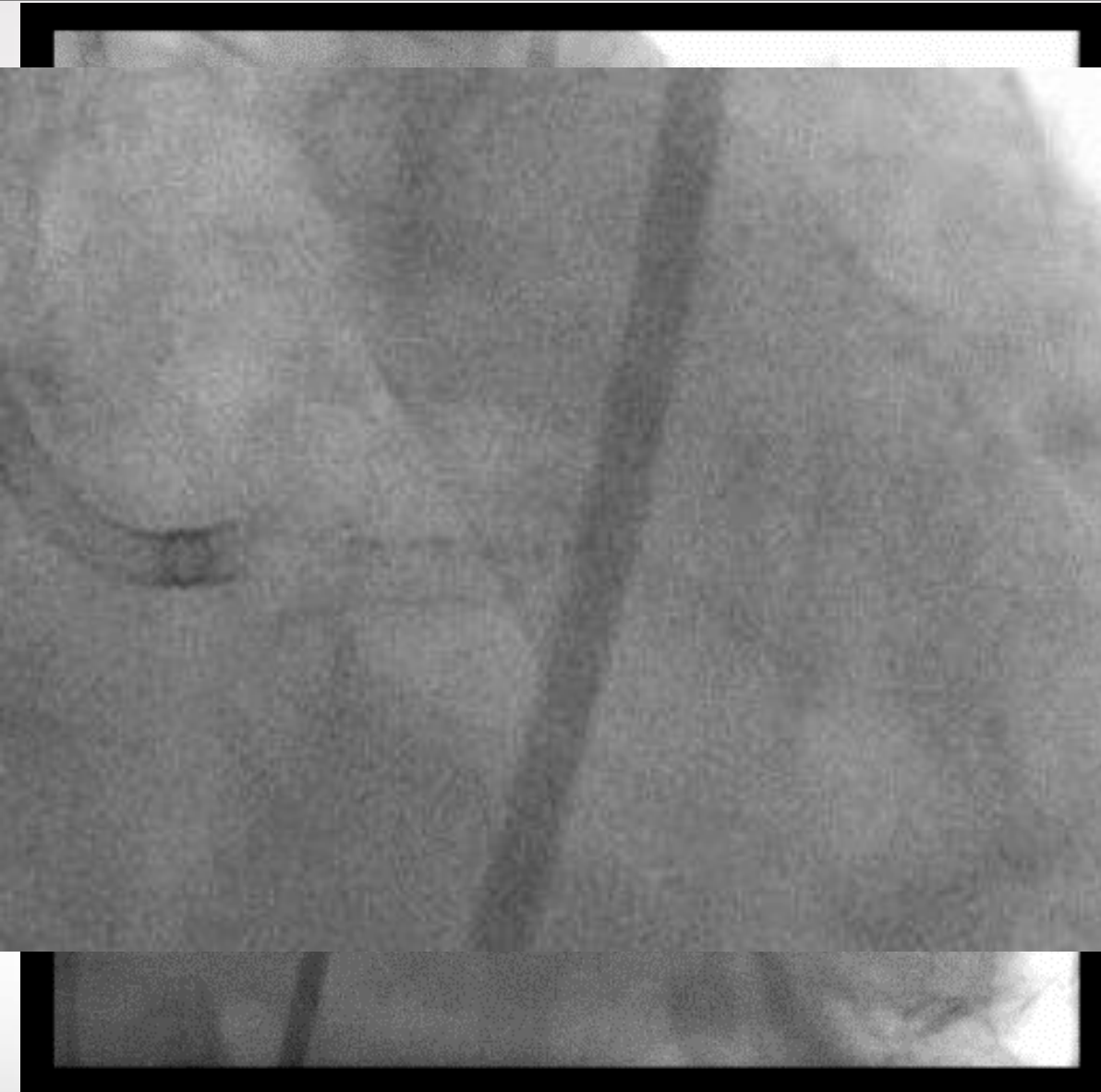
Coronary angiography **AM 3:20!!**

BP 80/40 → Inotropics → 110/70



8F Rt. Femoral approach(JL4, JR4)

LCA angio with guiding(7F JL4)



Problem is...

2 stents at Lt. main!

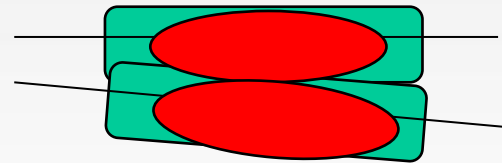
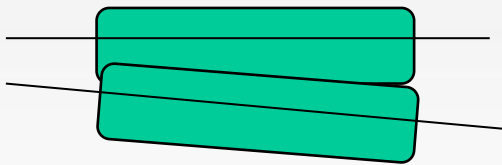
**Maybe Kissing
Stents**

**Stent thrombosis at
kissing stent area**

No previous images..

Plan for stent thrombosis at previous kissing stents(My plan, No Ref.)

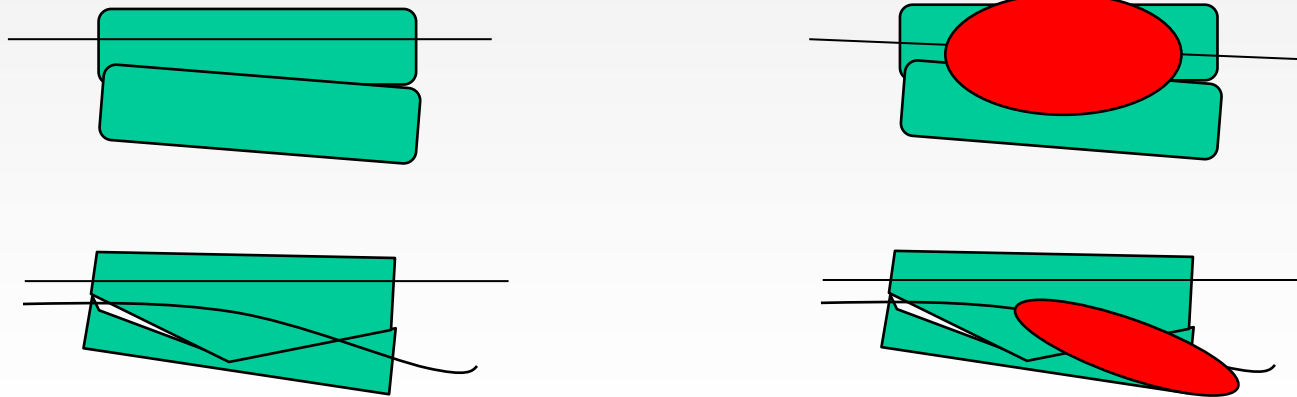
1. Separate wiring and kissing balloon



- looks ideal but problem is
- Takes time for wiring, wire can cross strut due to obstacles(thrombus or some plaques, 10 years..)
- After kissing ballooning additional 2 more stents? or finish with only balloons(or drug eluting balloon)?

Plan for stent thrombosis at previous kissing stents (My plan, No Ref.)

2. Crush 1 stent



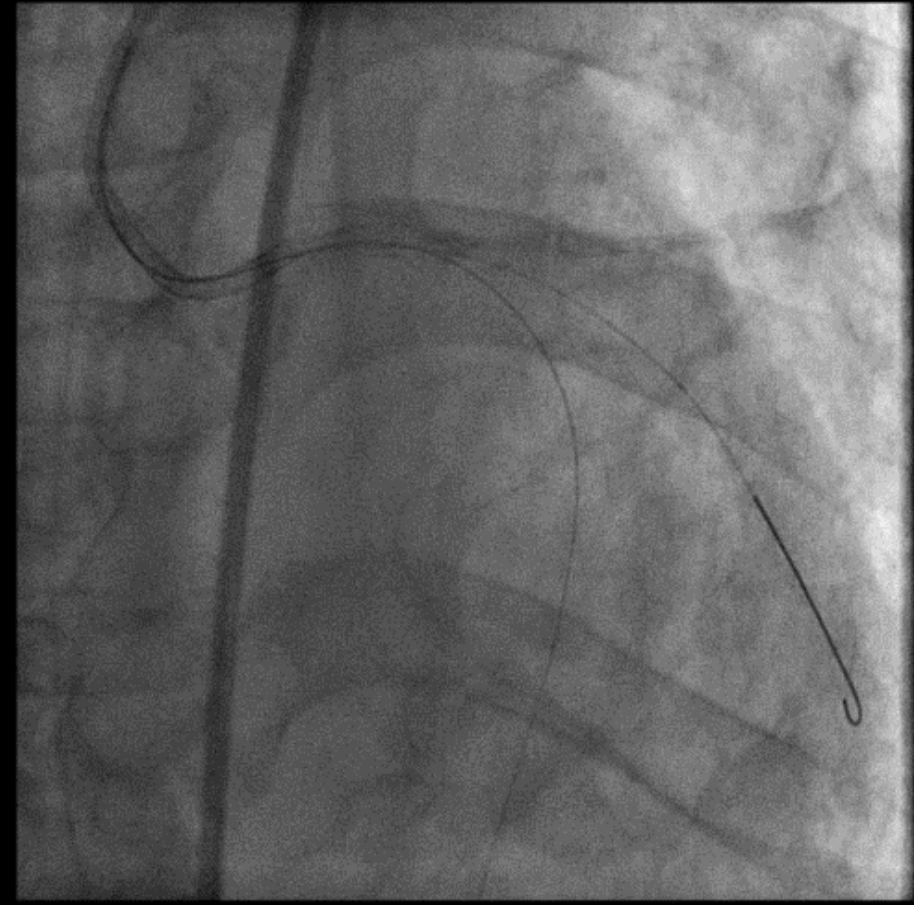
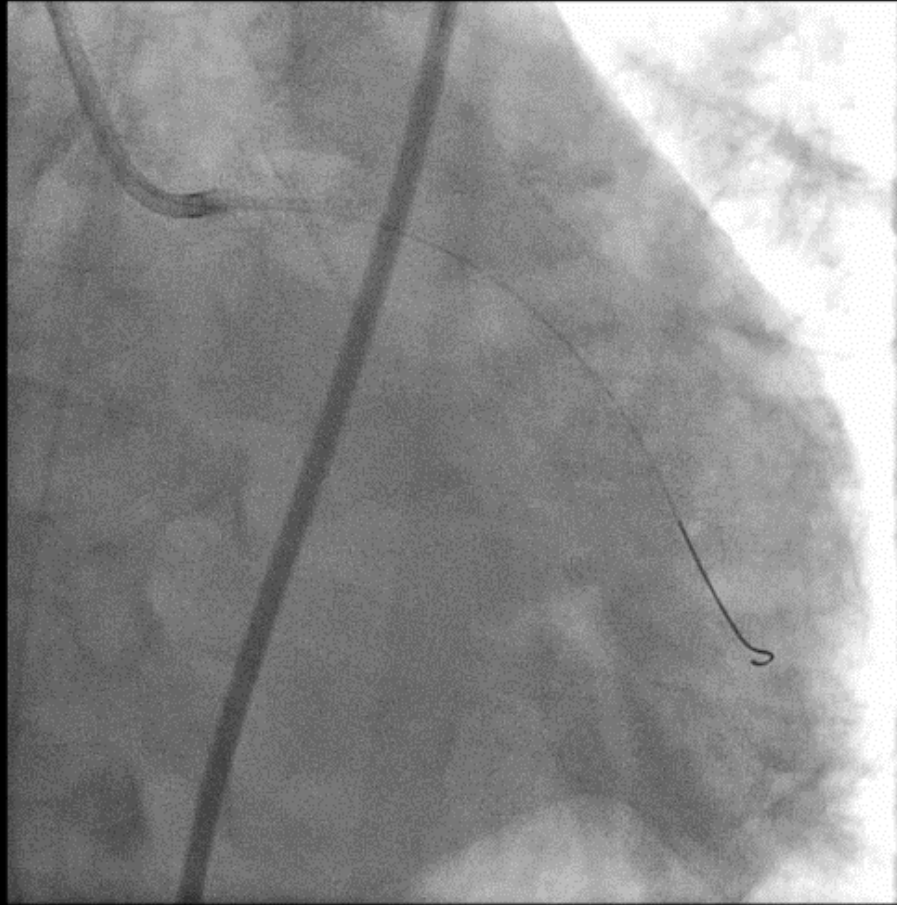
Immediate balloon for LAD is possible

Possibility of Lcx compromise due to thrombus

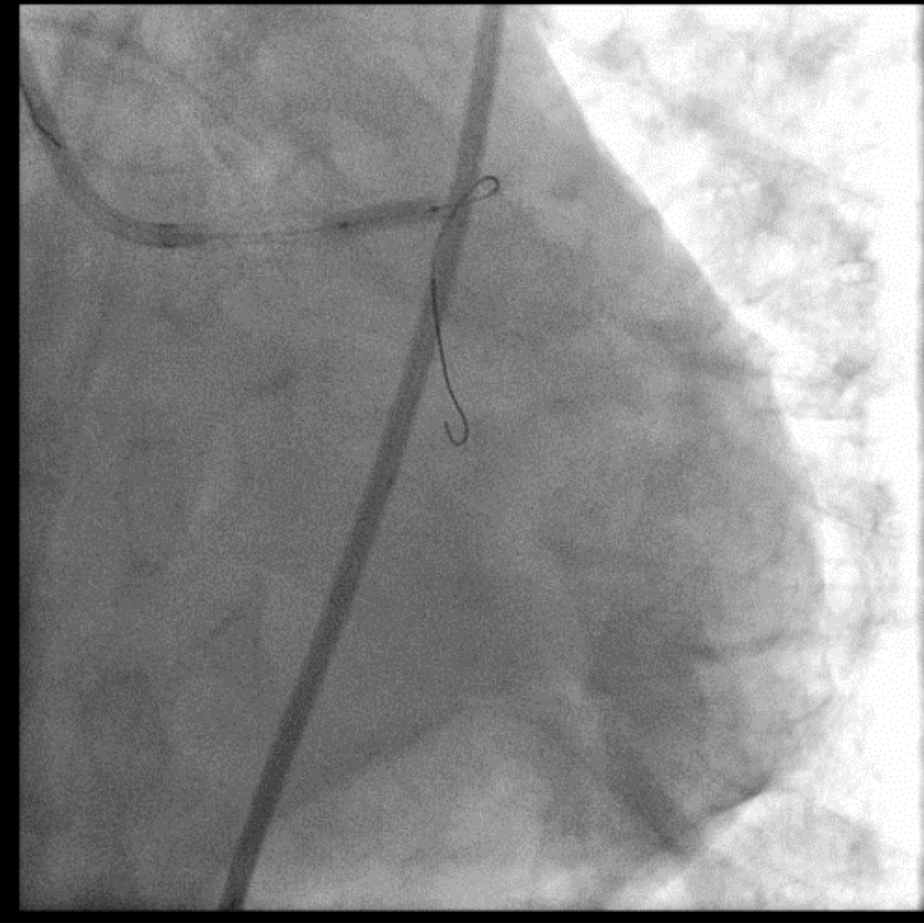
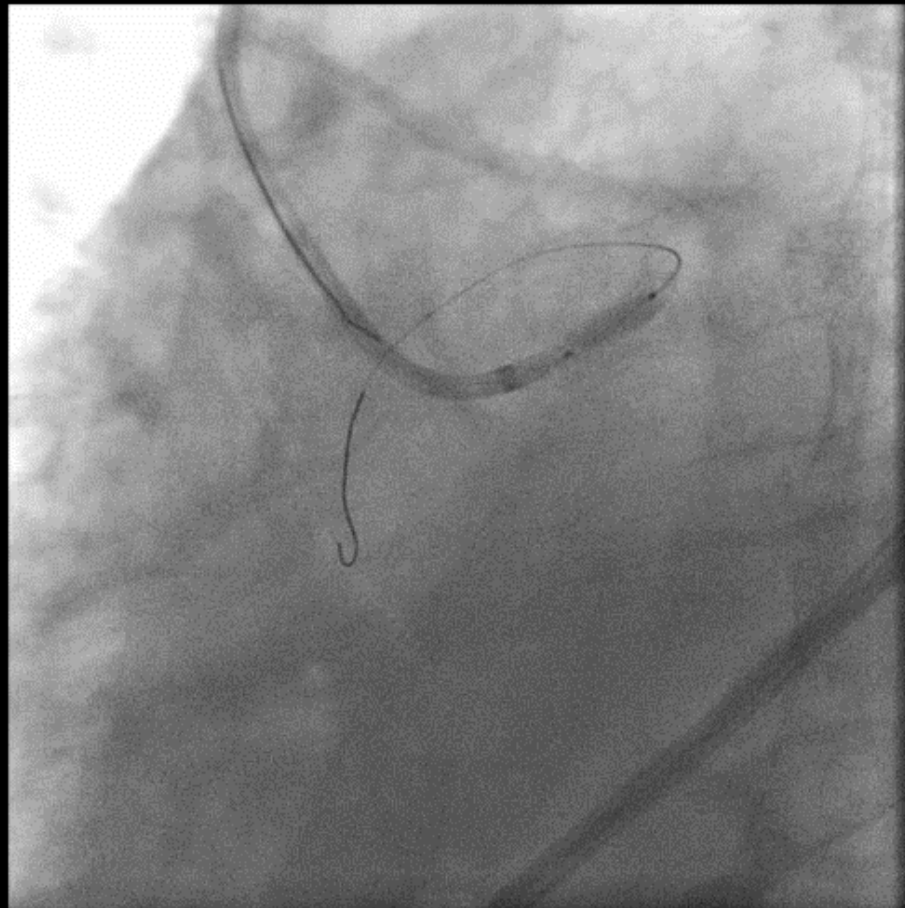
Difficulty for pass wire to Lcx due to cross 2 layers of strut

Need stent(break struts of previous stents but 1 stent is possible)

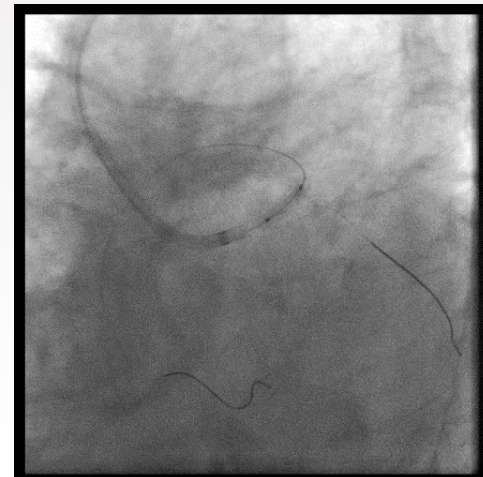
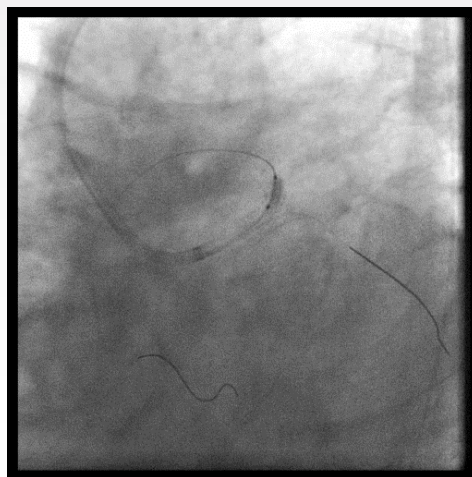
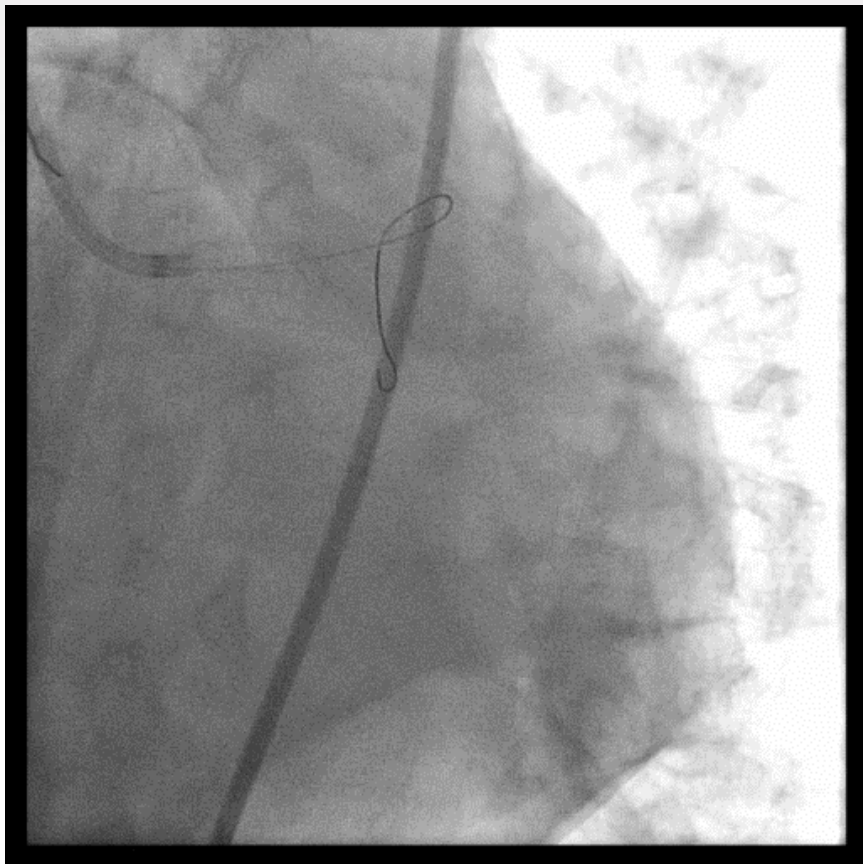
LAD & LCX Wiring (sion & sion blue)



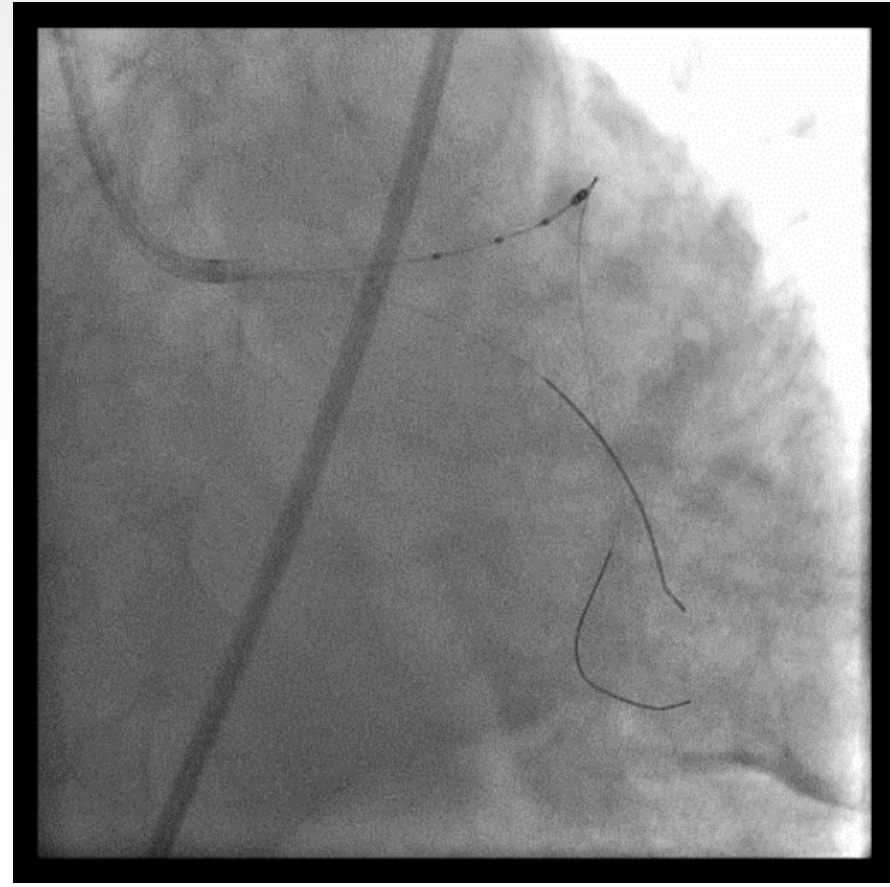
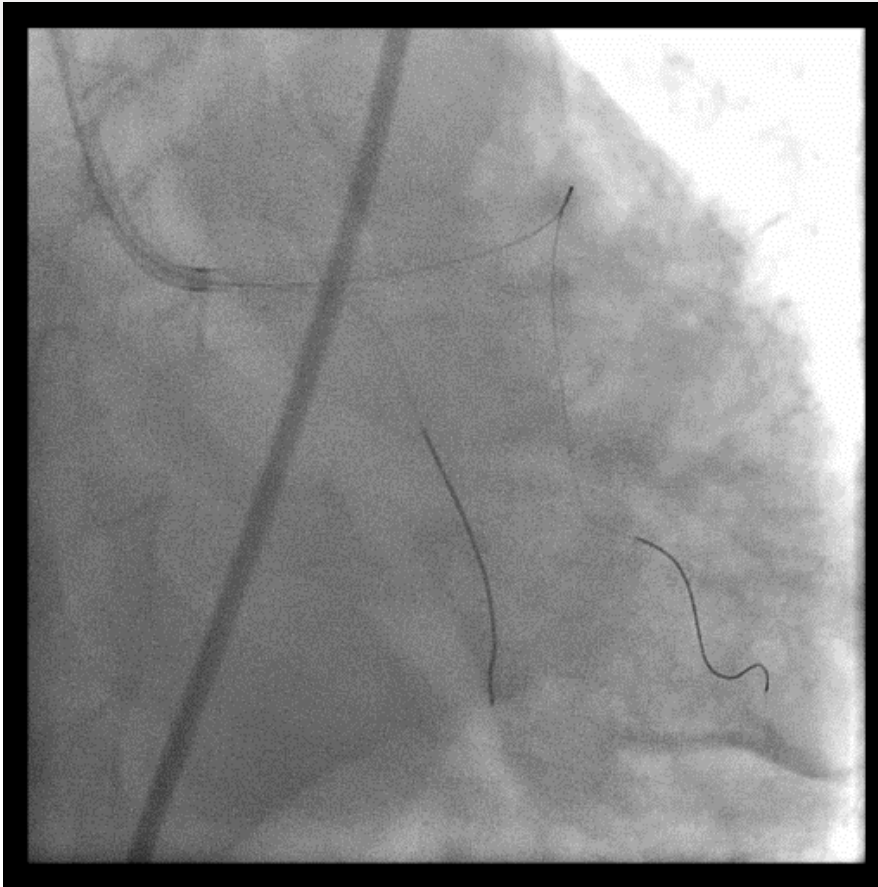
**Balloon(2.5 x 15) pass fail to LAD
rewiring → pass fail → rewiring → 2.0 x 15 pass fail
→ LCX wire remove-> 2.0 x 15 pass success**



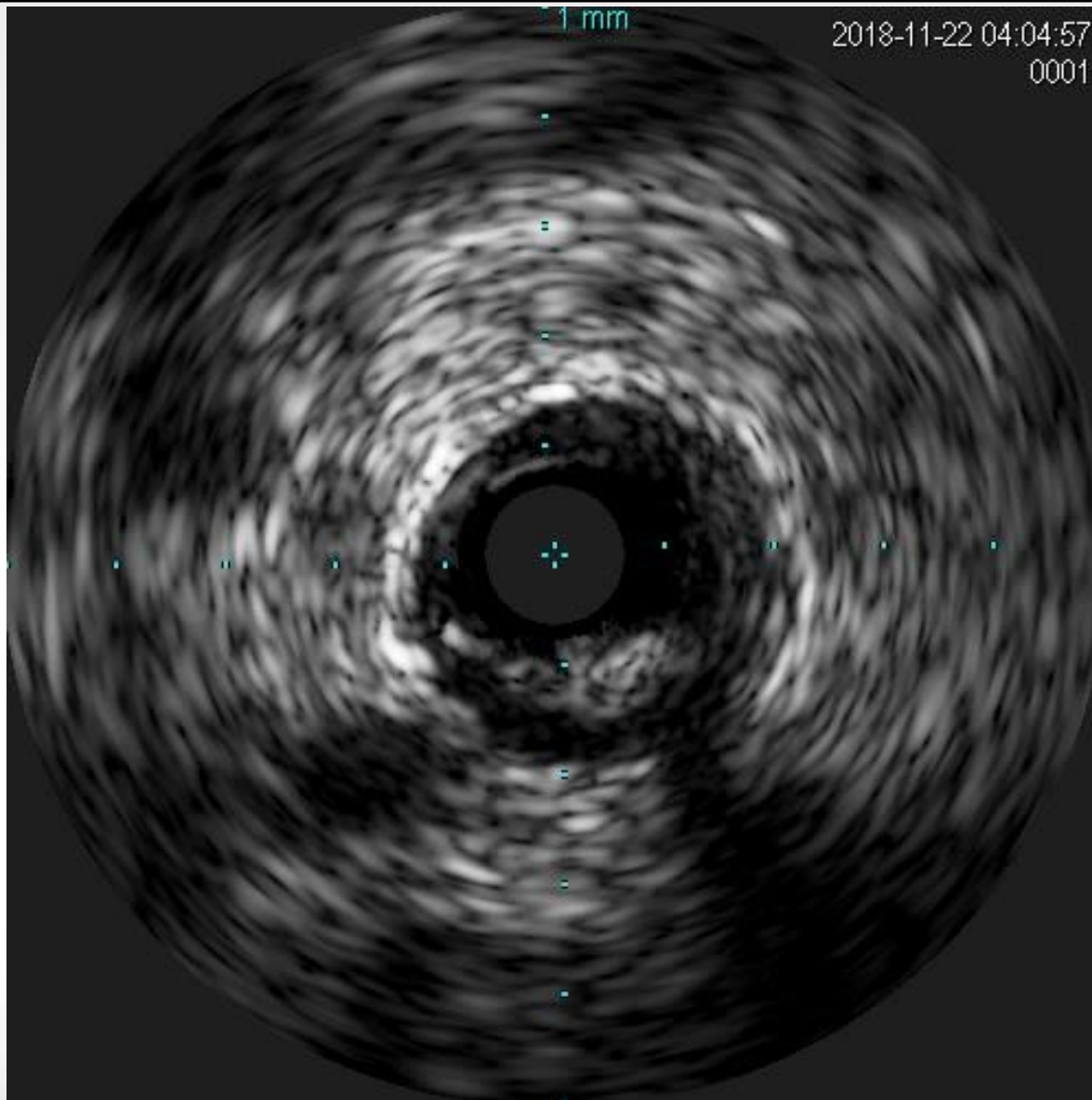
LAD Flow improved but Lcx compromised Lcx rewiring and LAD additional balloon(2.5 x 15mm)



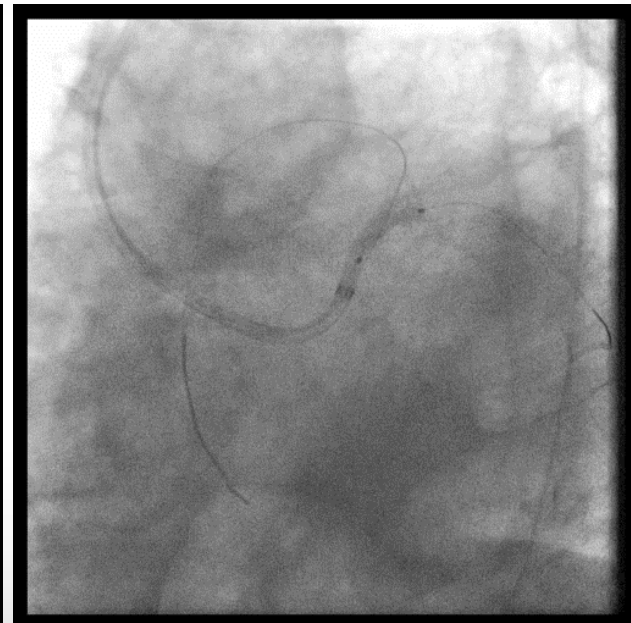
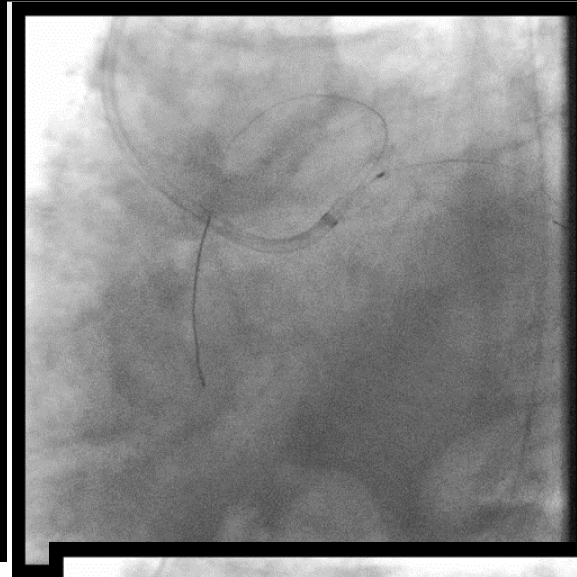
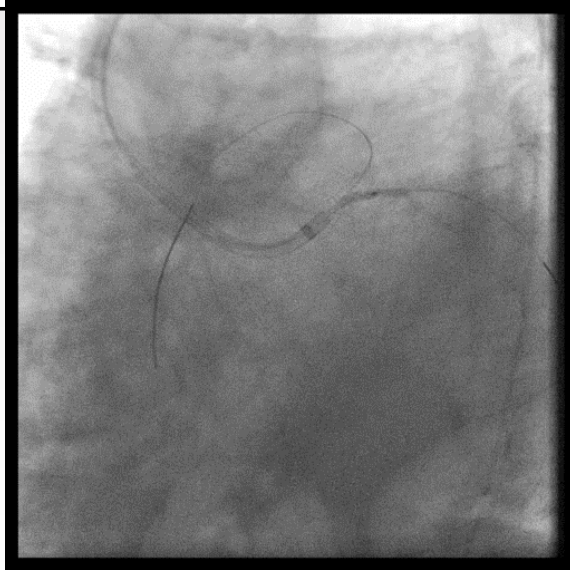
Flow better but LCX os compromised with thrombus, LCX wire position change and LAD IVUS



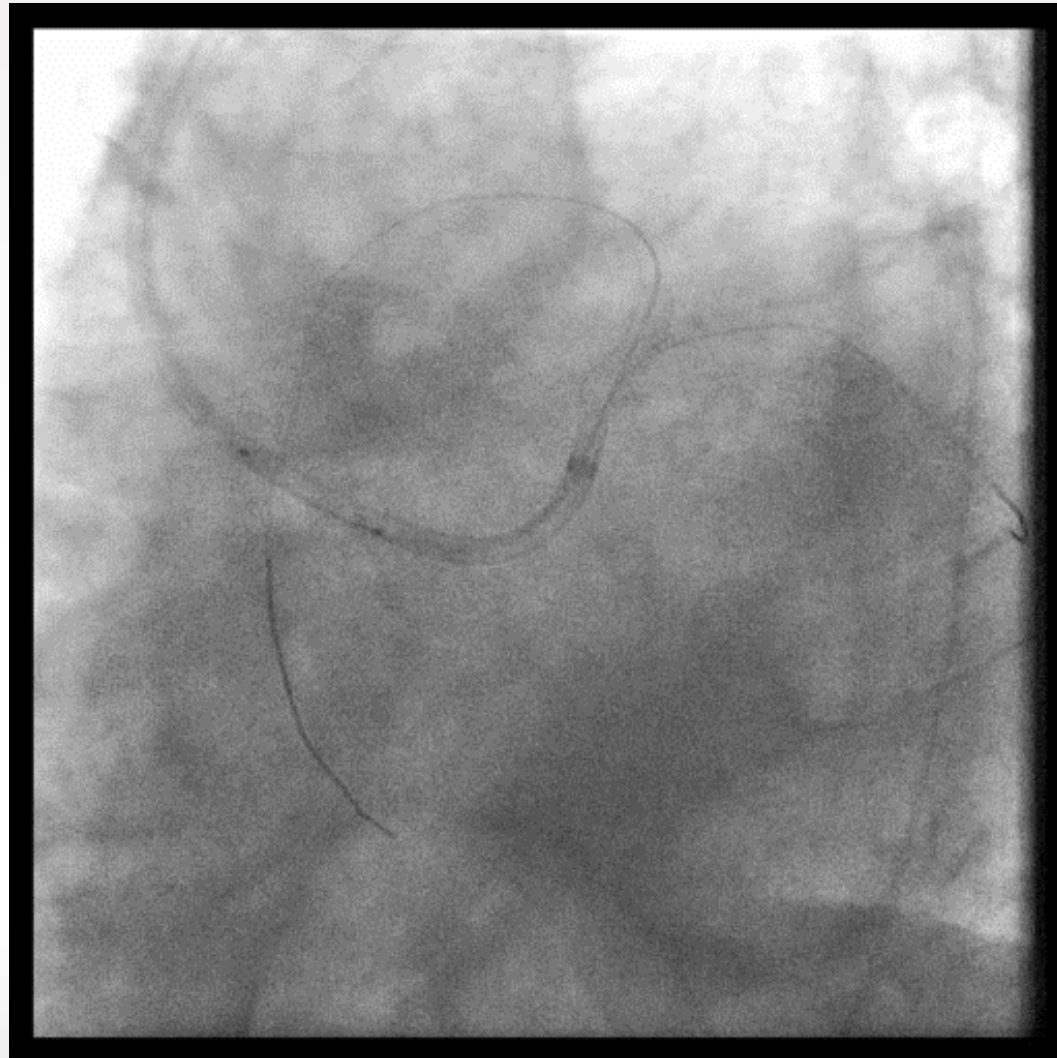
LAD - IVUS



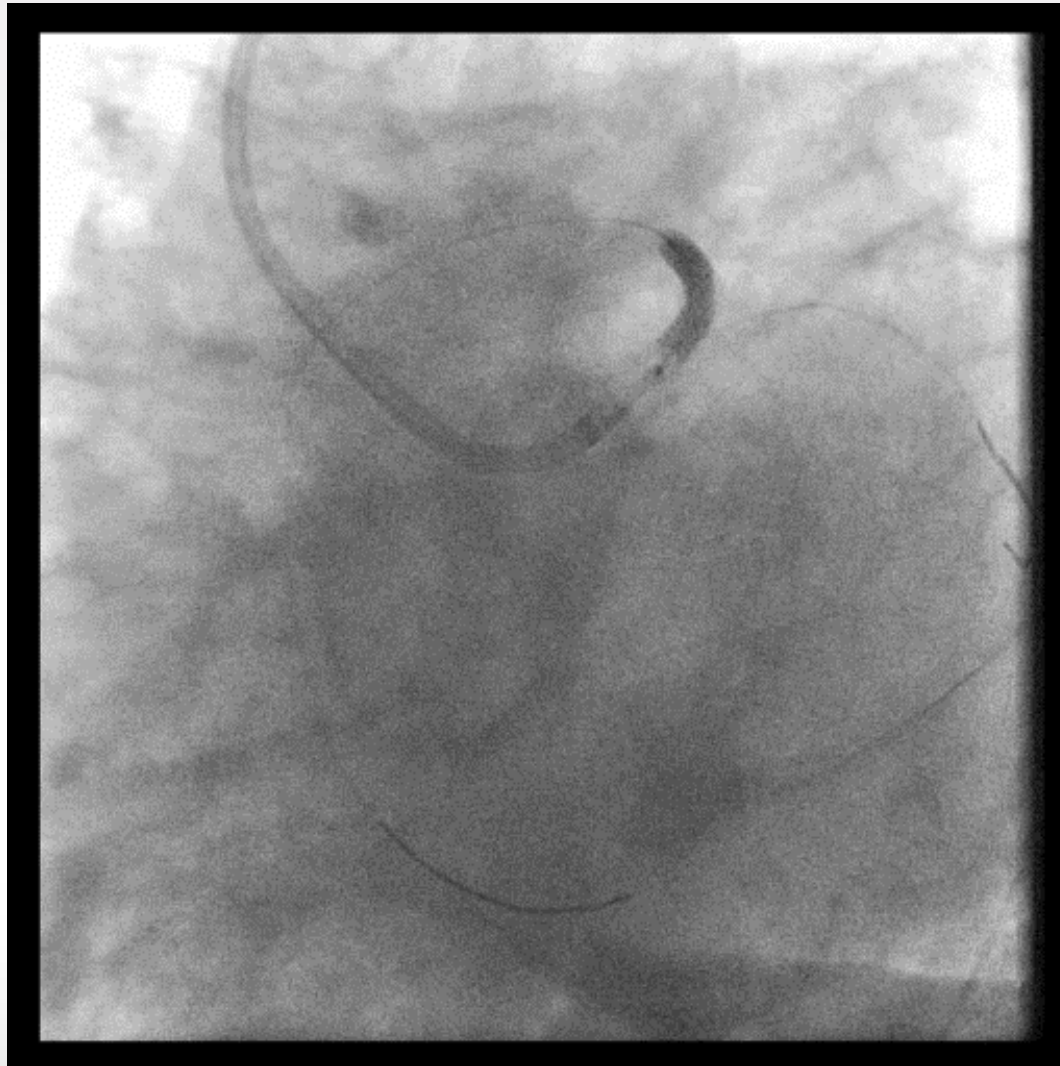
**LCX 2.0 x 15 balloon pass but ruptured during inflation
1.5 x 15 balloon pass but ruptured
another sion blue rewiring and 2.0 x 15(14atm) success
additional 2.5 x 15 done for Lcx**



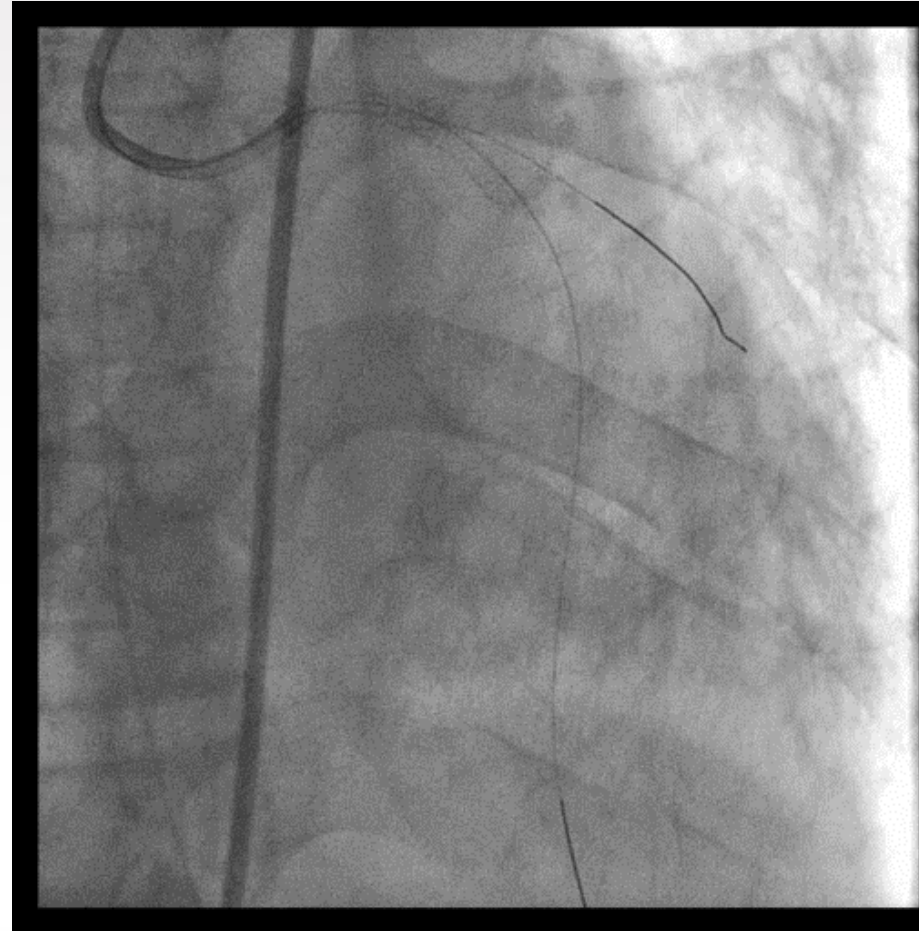
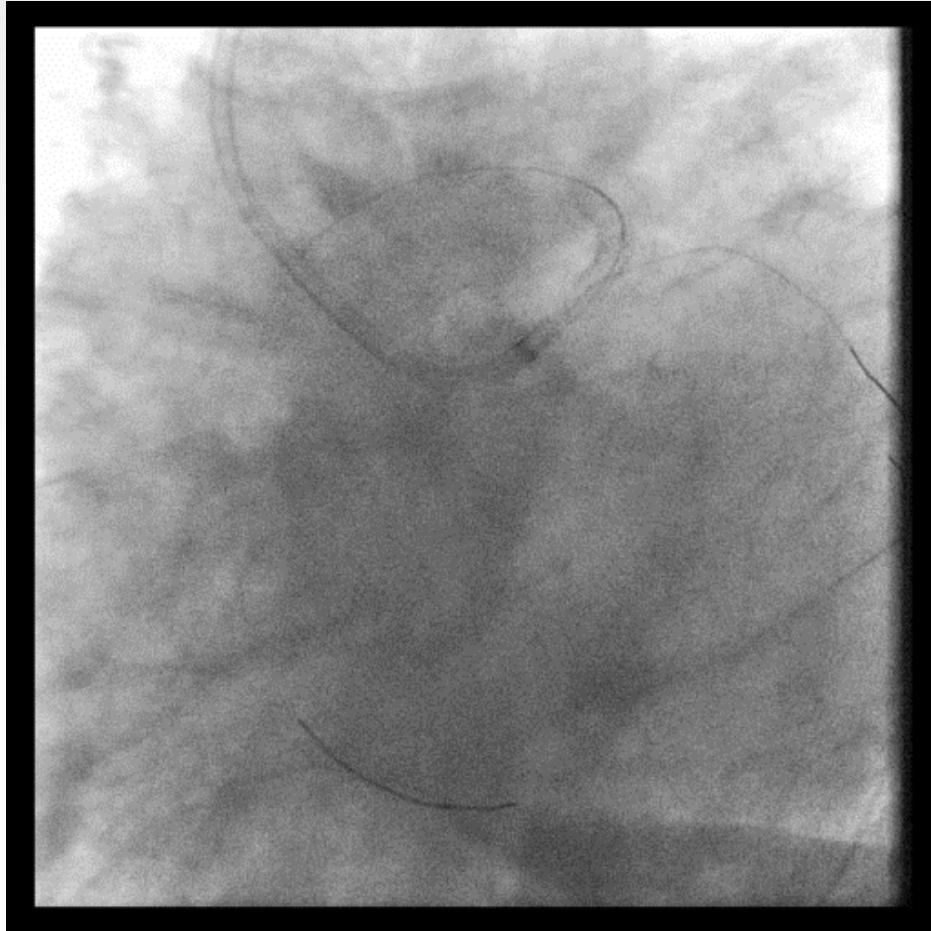
Angio after LCX balloon Next Plan? Stent? 1 or 2?



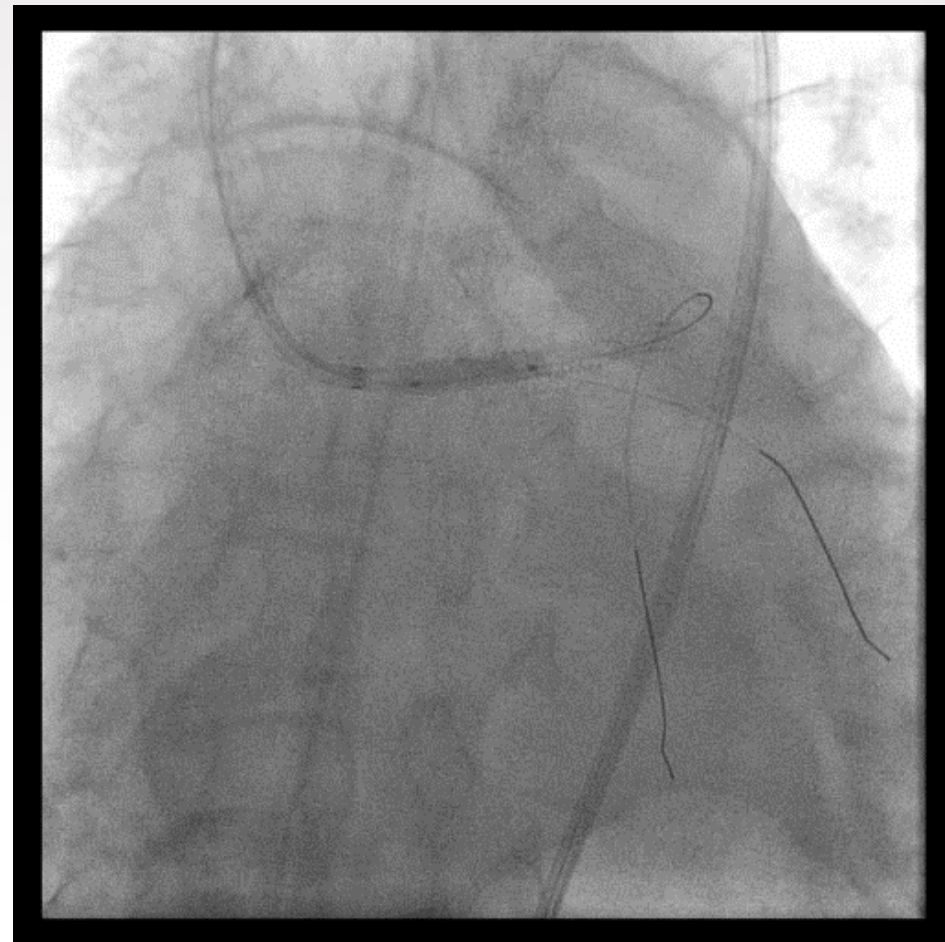
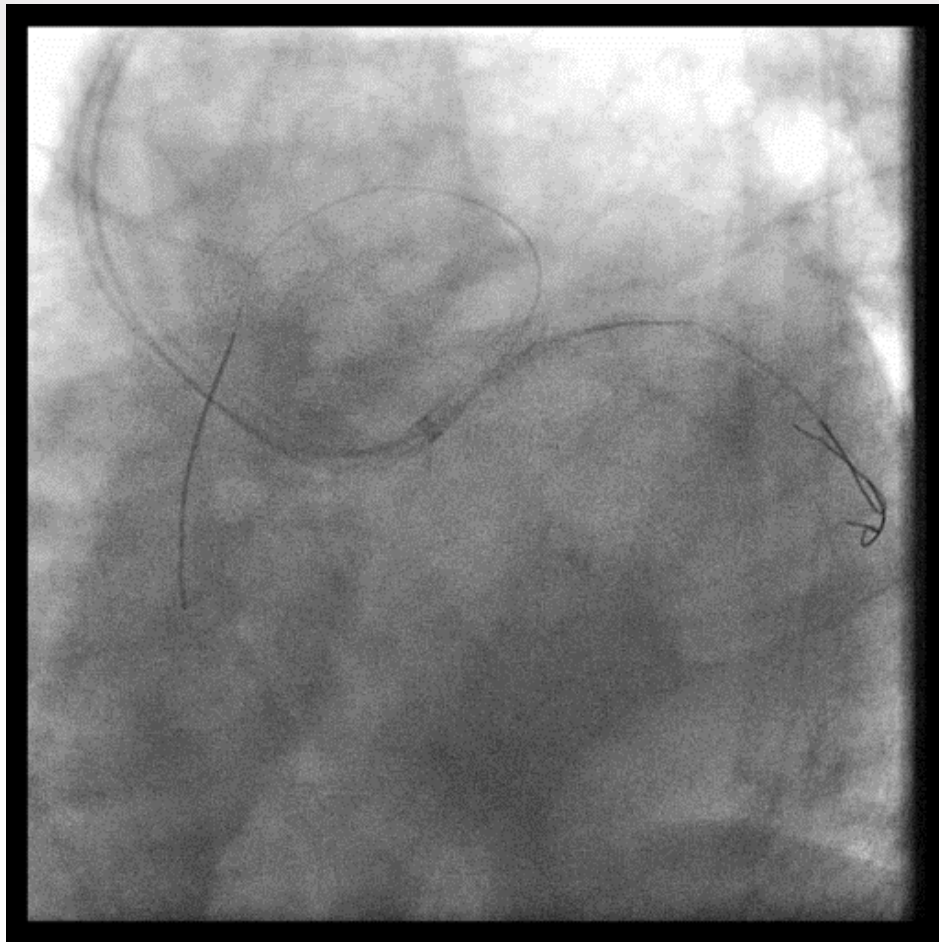
Lt. main to LAD stent(Synergy 3.0 x 28mm) 14 - 16 atm



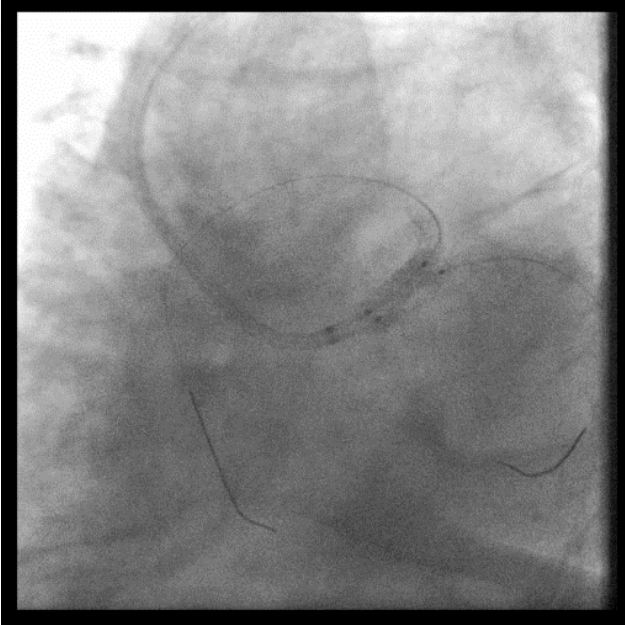
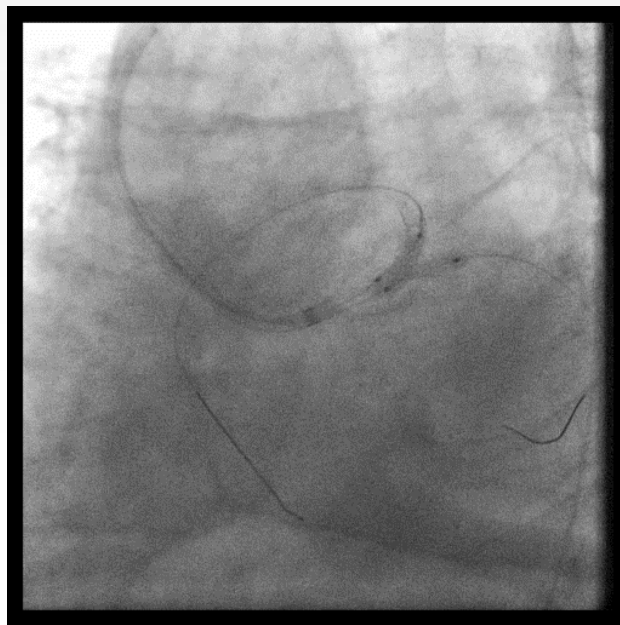
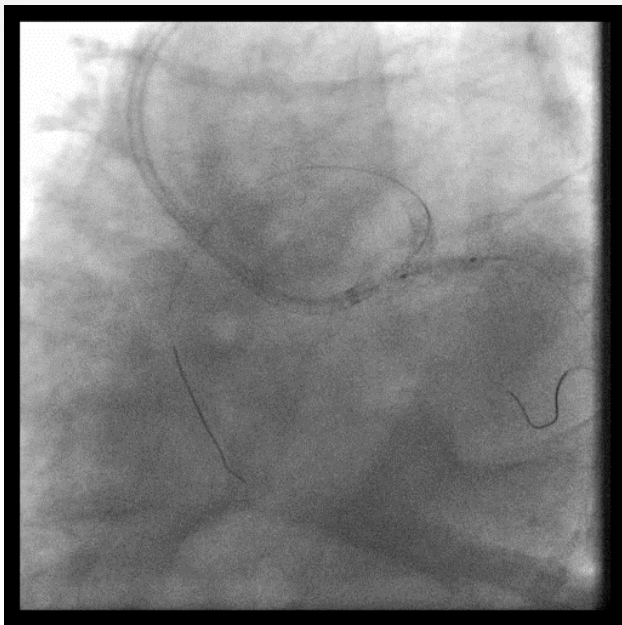
FU Angio after Stent



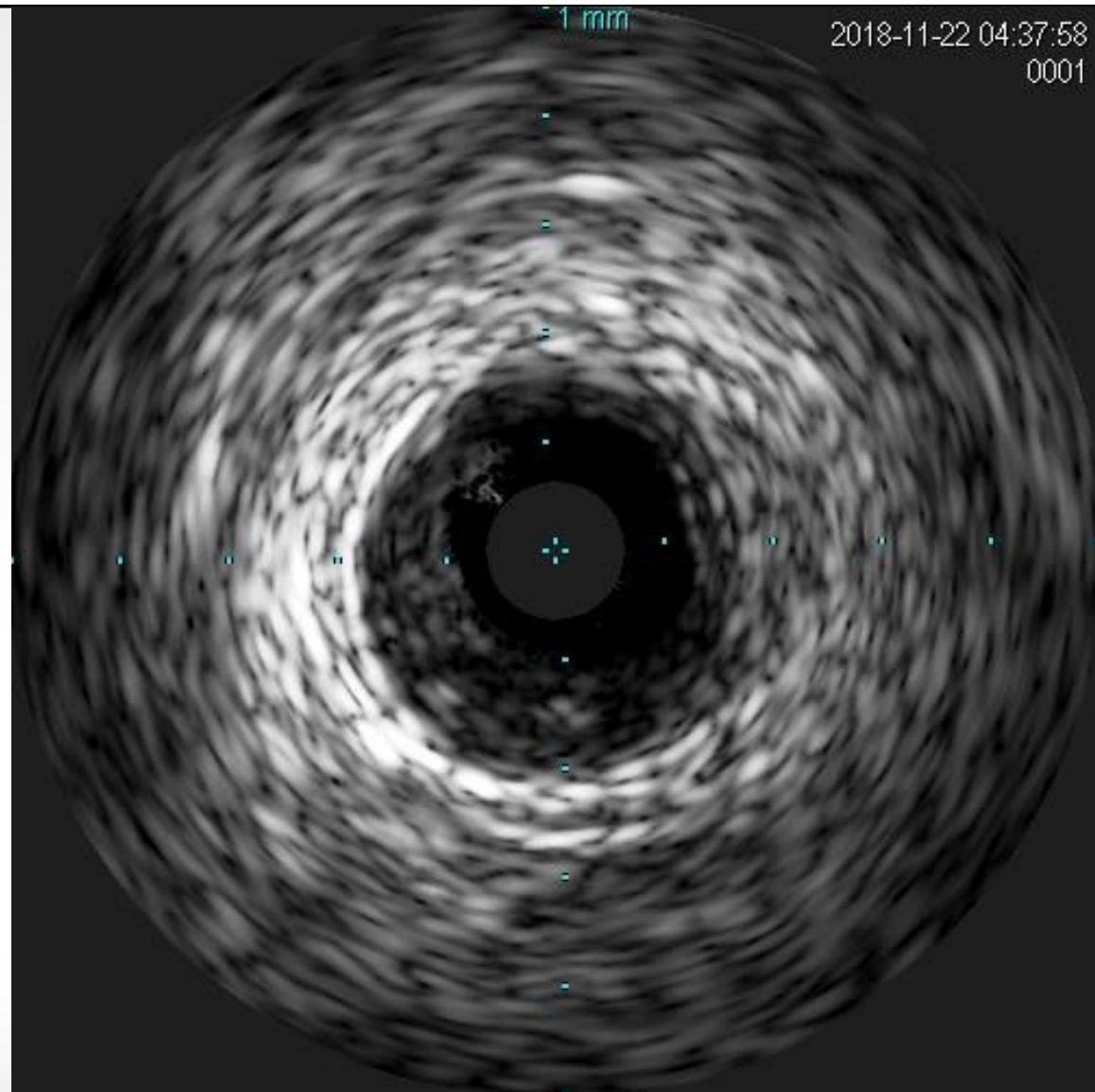
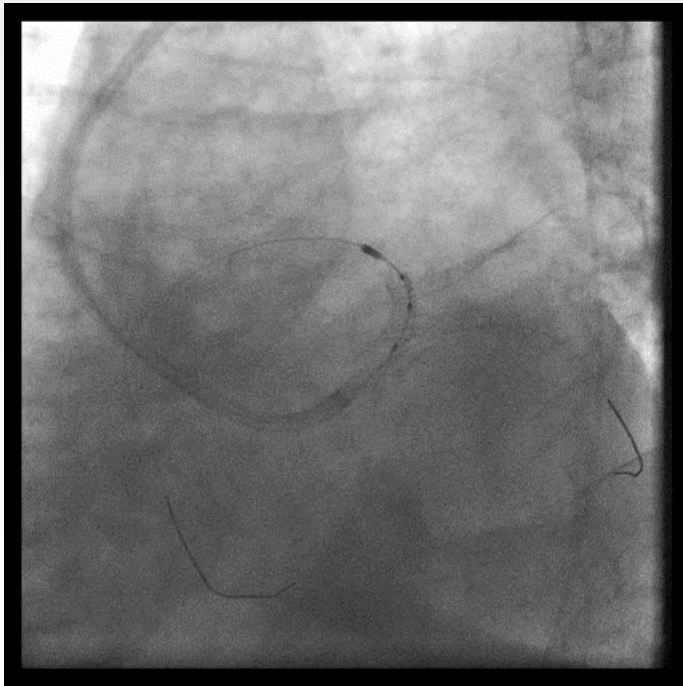
High pressure 3.75 x 15 (20atm)



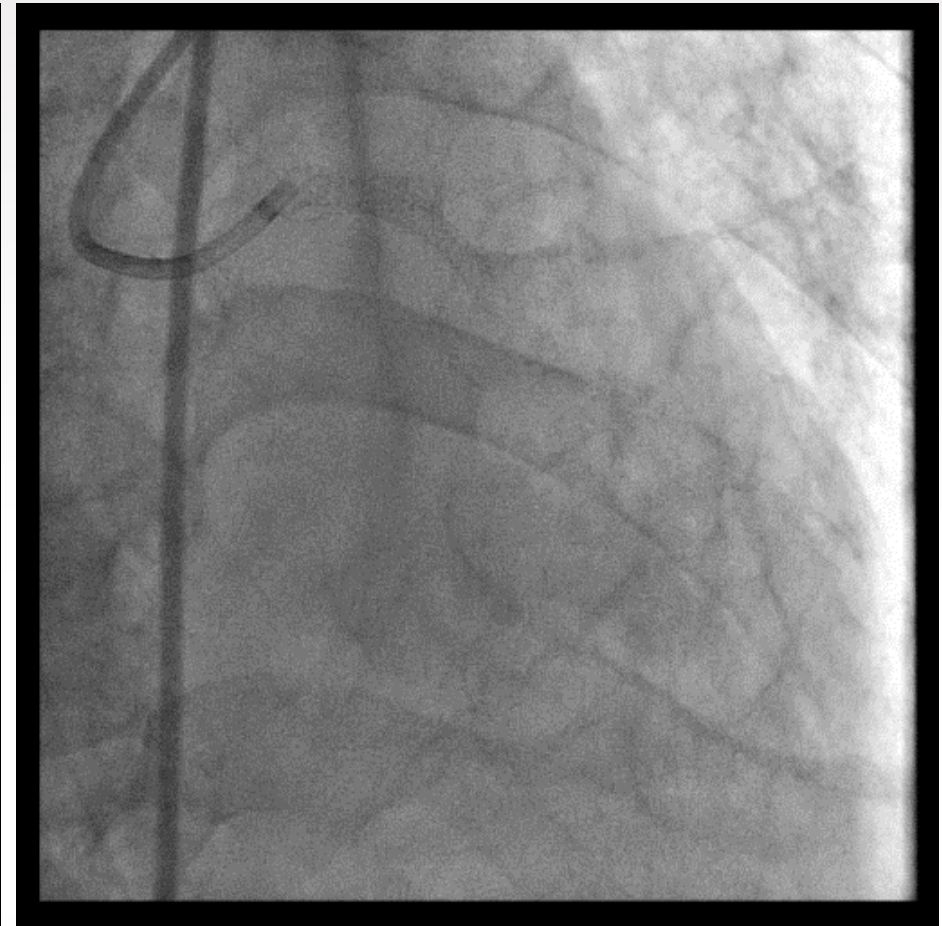
Lcx POBA (2.5 x 15mm) Final kissing balloon 3.75 x 15mm & 2.5 x 15mm



Final IVUS



Final Angio



Procedure summary

- Procedure time 1:50
- Door to balloon time: 85 min
- Procedure finish at **AM 5:10!!!!**
- Contrast 250 ml

Progress

- TTE: EF 31% with LAD & LCX territory RWMA(+)
- Extubation at HD 3
- Transfer to general ward at HD 7

- Aspirin 100mg
- Ticagrelor 90mg bid
- Ramipril 2.5 mg bid -> 5mg bid
- Rosuvastatin 20mg qd
- Spironolactone 12.5mg qd

- Discharge at HD 14

Progress

- Ticagrelor changed to clopidogrel at 1 month due to minor bleeding
- TTE FU 2 month later: EF = 51% with some RWMA
- At 5 months recommend additional PCI for p-RCA but patient refuse due to no symptom

Discussion Points

- Intervention strategy for complicated previous kissing stent area
- Interventional strategy difference between emergent vs elective procedure

Conclusion/Take-home Message

- STEMI EKG of Lt. main or proximal LAD lesion
- Successful PCI for late stent thrombosis of previous Lt. main kissing stents