Multivessel Rotational Atherectomy in a Patient with Recurrent Myocardial Infarction

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Case Summary - I

- 68 y/o woman, non-smoker
- CAD, 2VD s/p PCI with stenting(x2) in 2003
- Type 2 DM, HTN, ESRD under hemodialysis

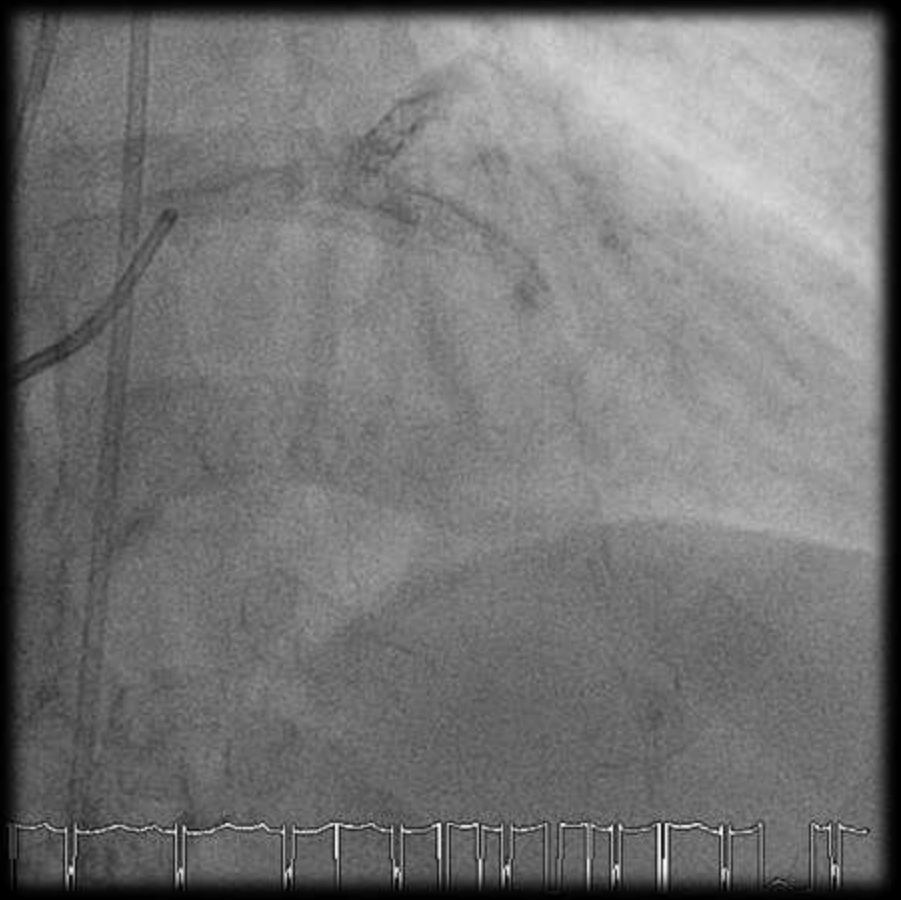
- Chest tightness during hemodialysis for one week

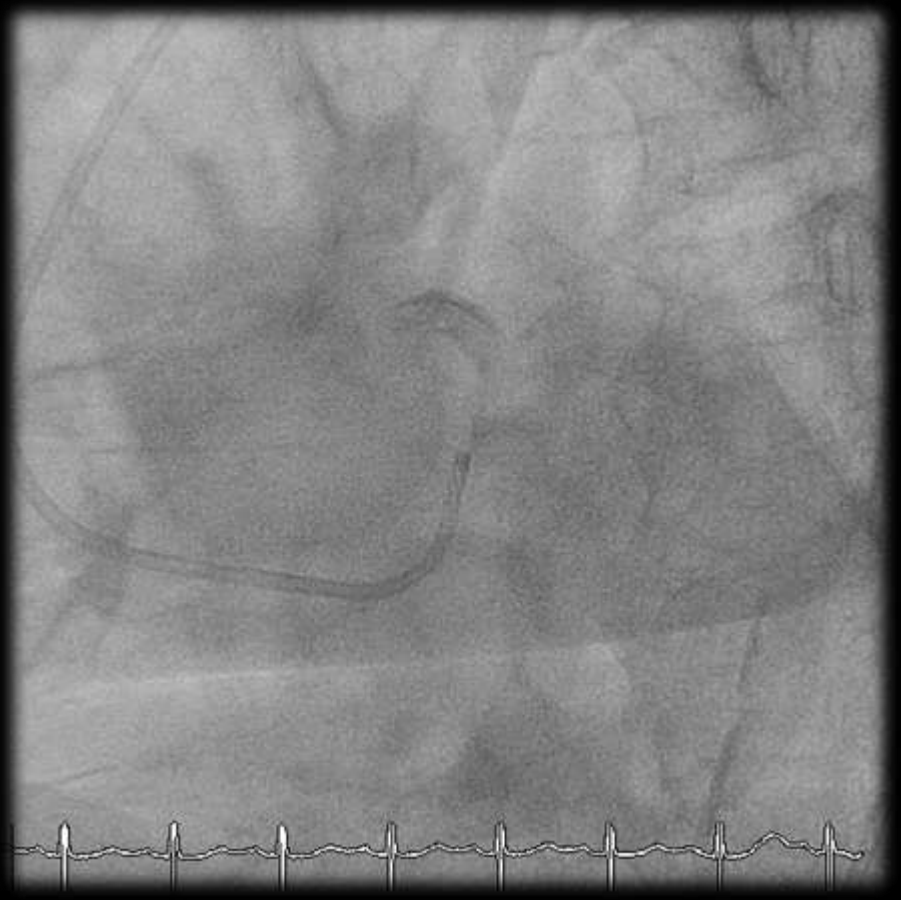
Case Summary - II

- ECG: NSR, STD at I, aVL, V4-6
- Top CK-MB 12.31 ng/mL, TnT: 205.2 ng/L
- TTE: LVEF 55%(A-L) , no RWMA

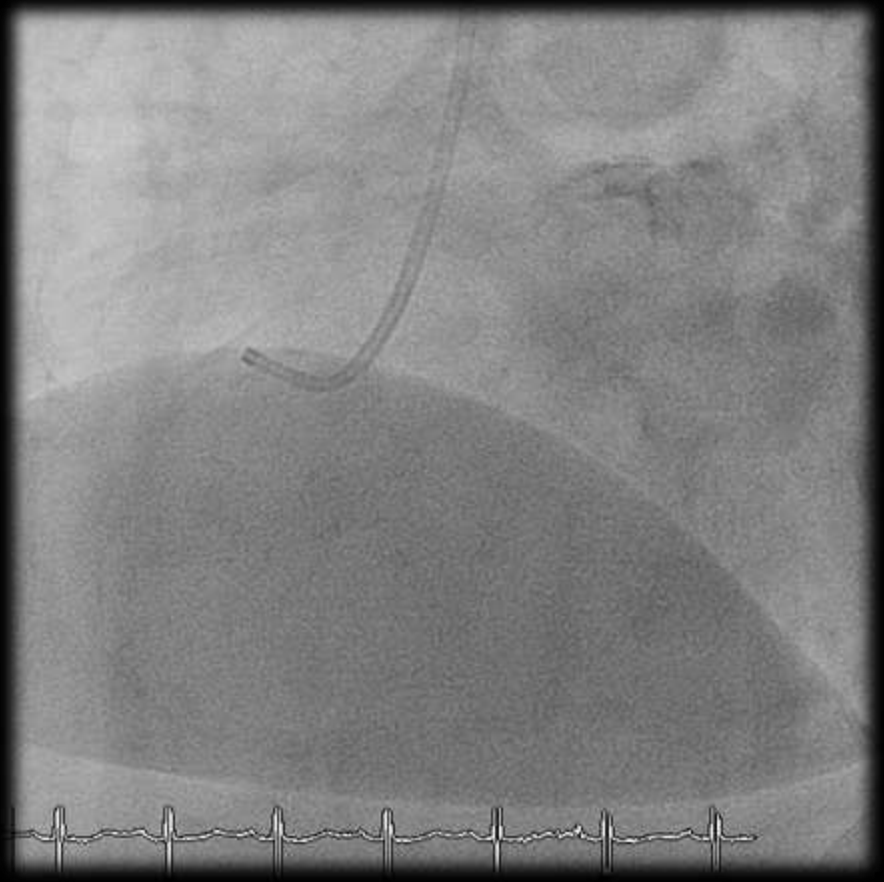
- Impression: NSTE-ACS

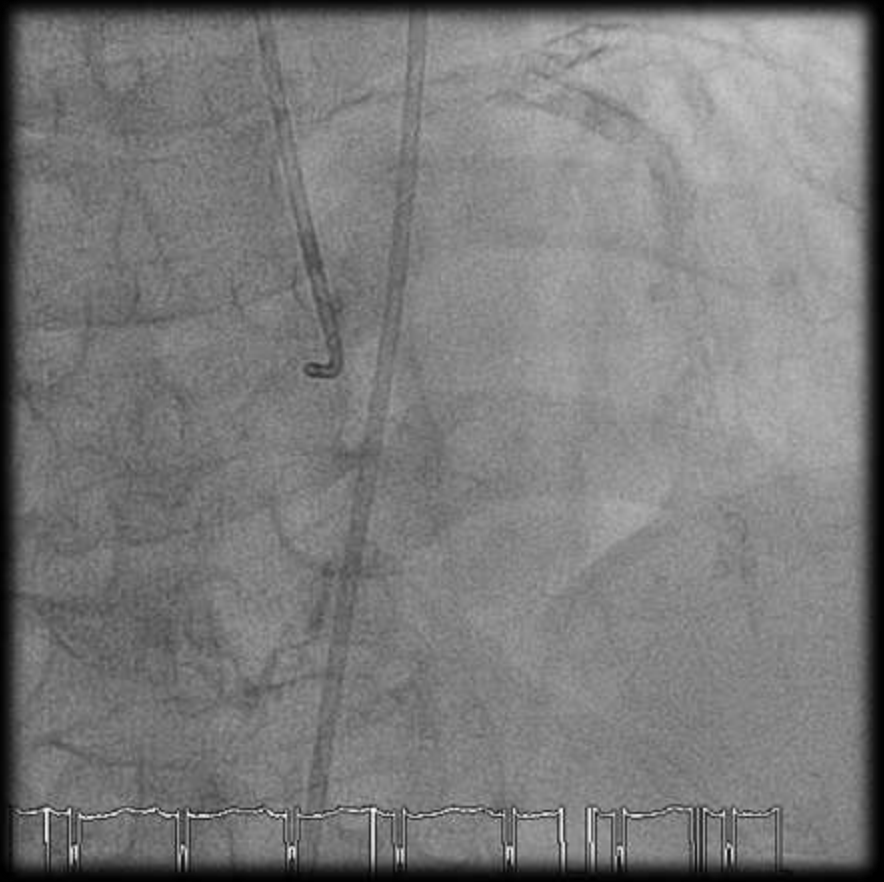
CAG results - I





CAG results - II





CAG result

- LM: distal 30% stenosis
- LAD: proximal ISR 50%, diffuse calcified, distal 80% stenosis
- LCX: ostium 80% stenosis, proximal ISR 50%
- RCA: Diffuse calcified, middle 90% stenosis

PCI or CABG ?

SYNTAX I score = 36

CABG is suggested. But patient and her husband Only accept PCI, refuse CABG.

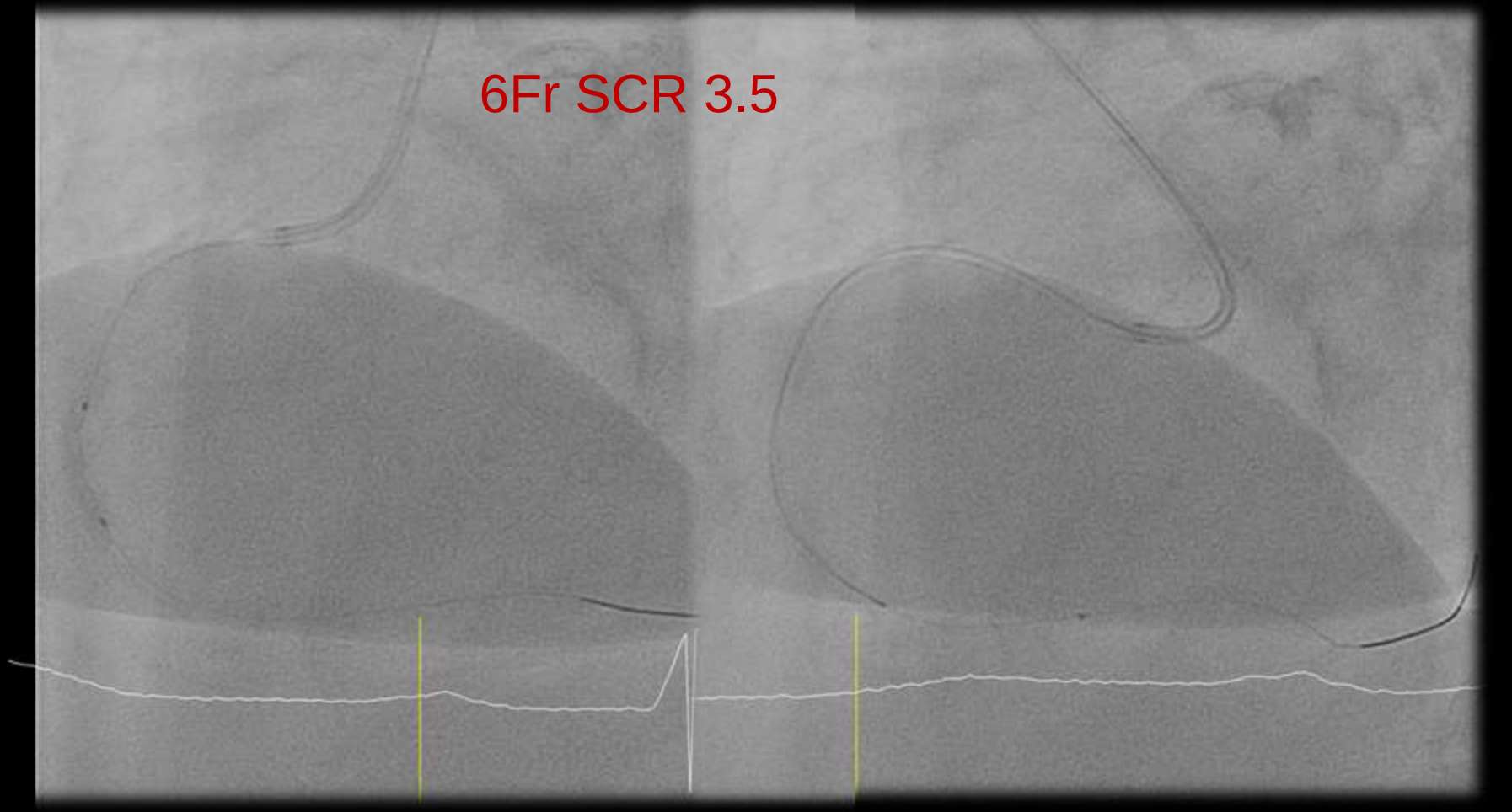
PCI strategy

- Culprit only or Total revascularization ?
  - Patient had no HF signs, no cardiogenic shock
- Which one is the culprit ?
  - ECG: lead I, aVL, V4-6 STD
  - UCG: no RWMA

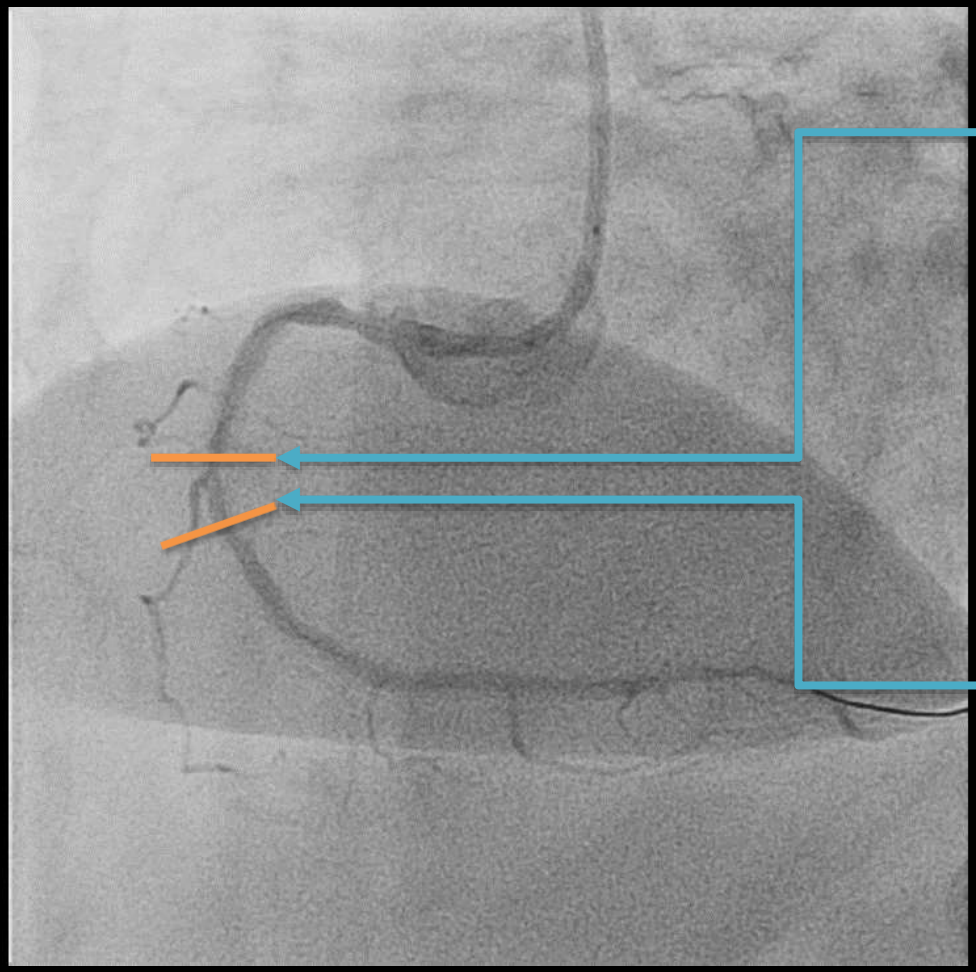
My Decision

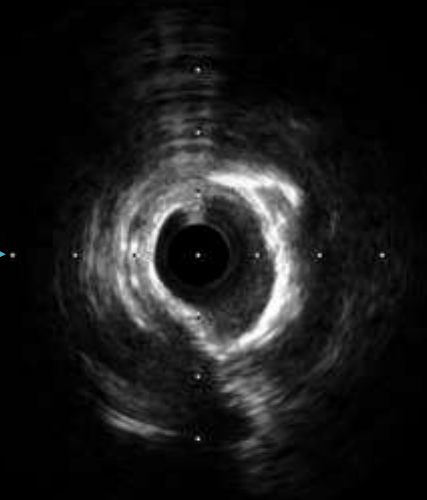
- Culprit is likely to be dLAD+ LCX, but LM bifurcation PCI maybe needed.
- mRCA is most severely stenotic but “easy” to treat.
- I would like to fix RCA first before LM PCI.

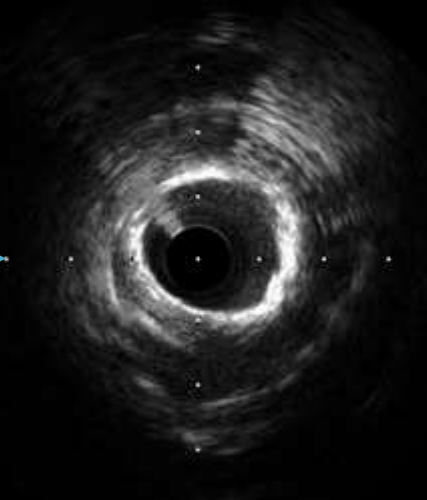
2.5 SC balloon rupture



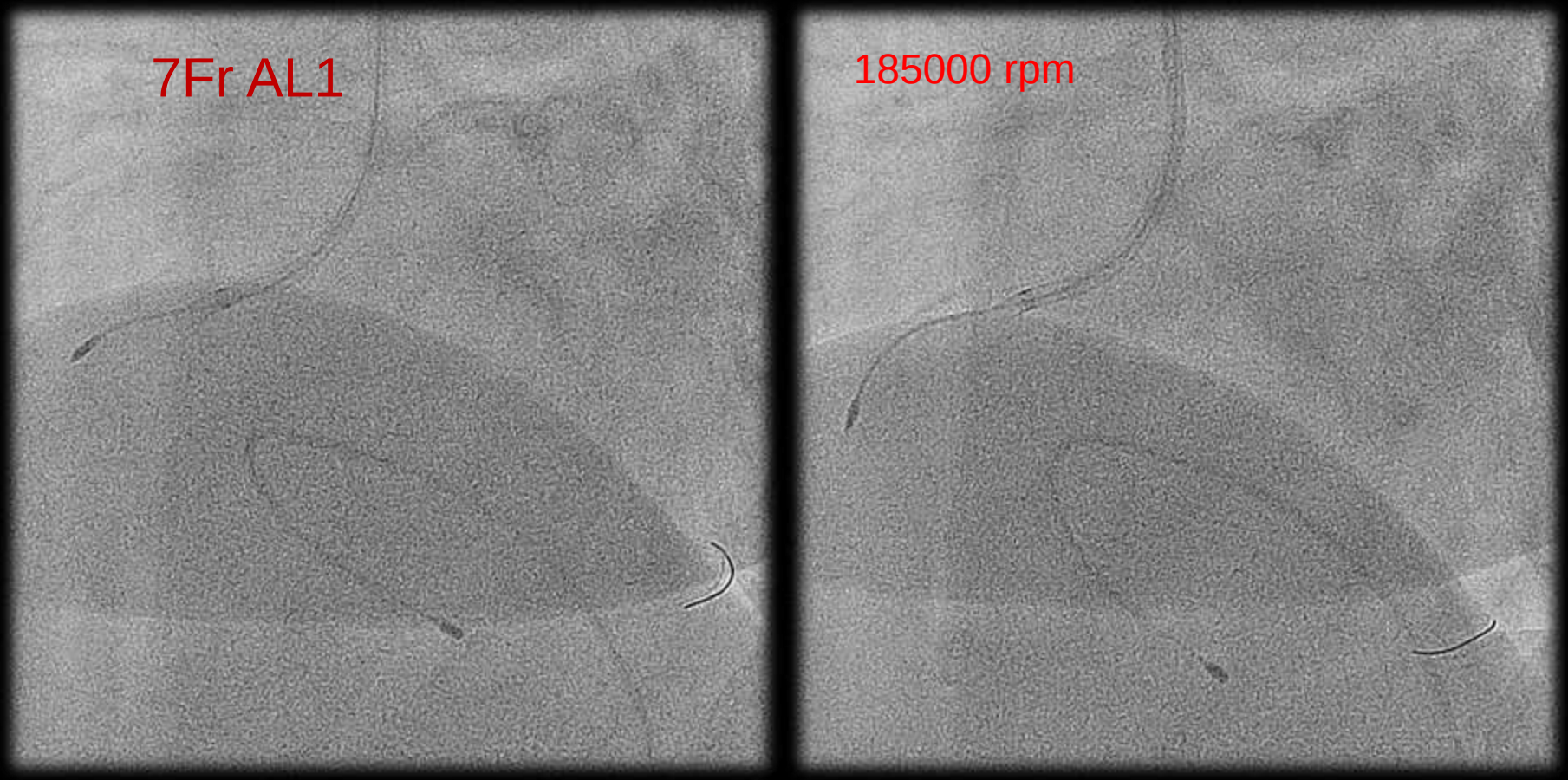
RCA IVUS



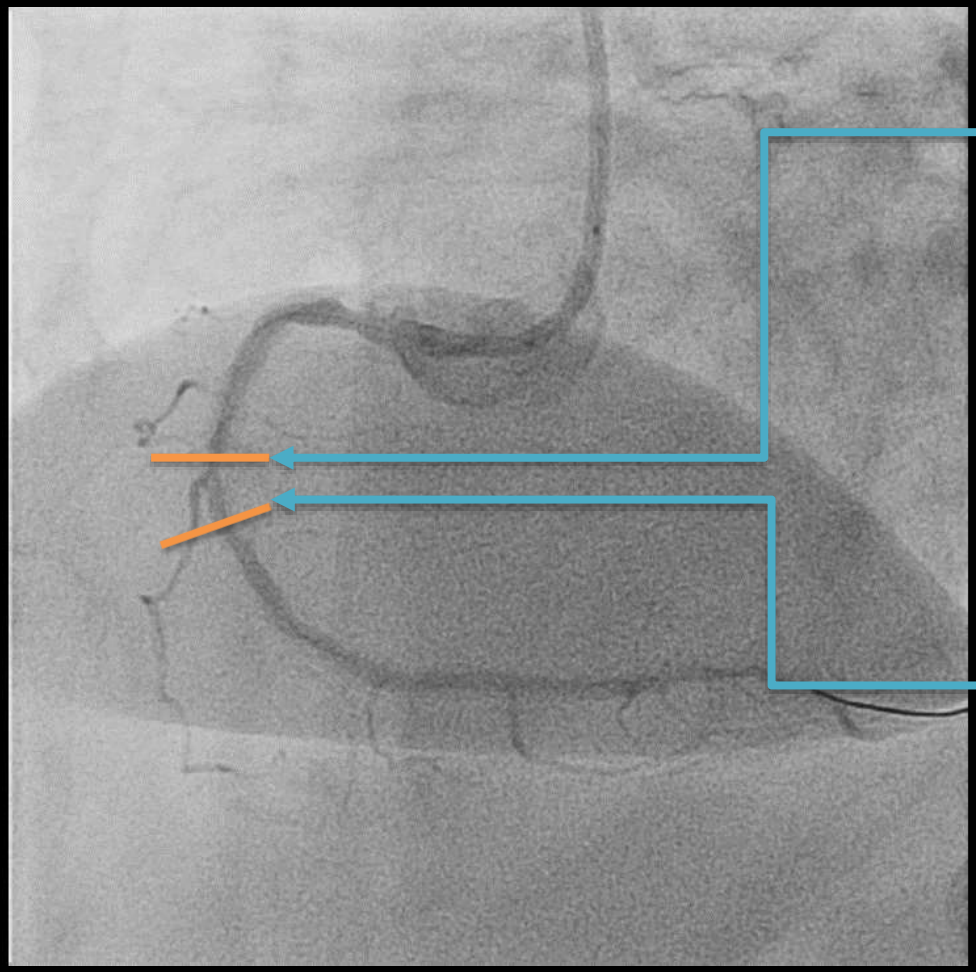


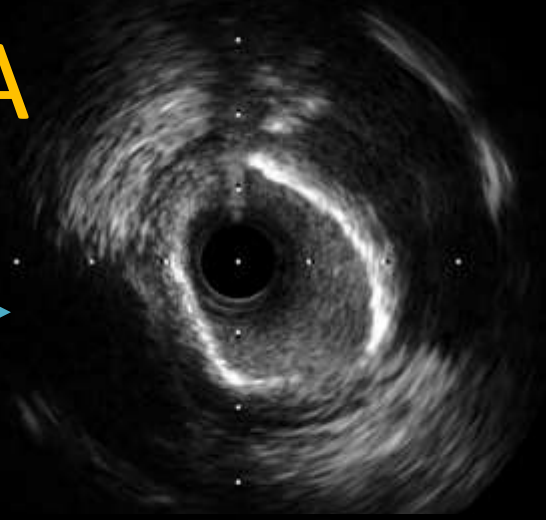


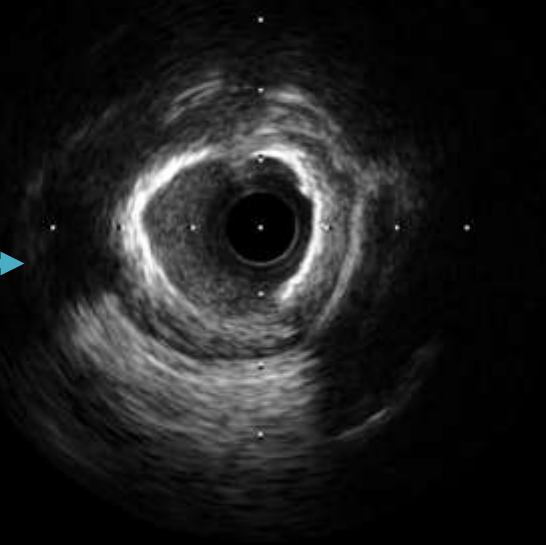
Atherectomy with Rota burr 1.25



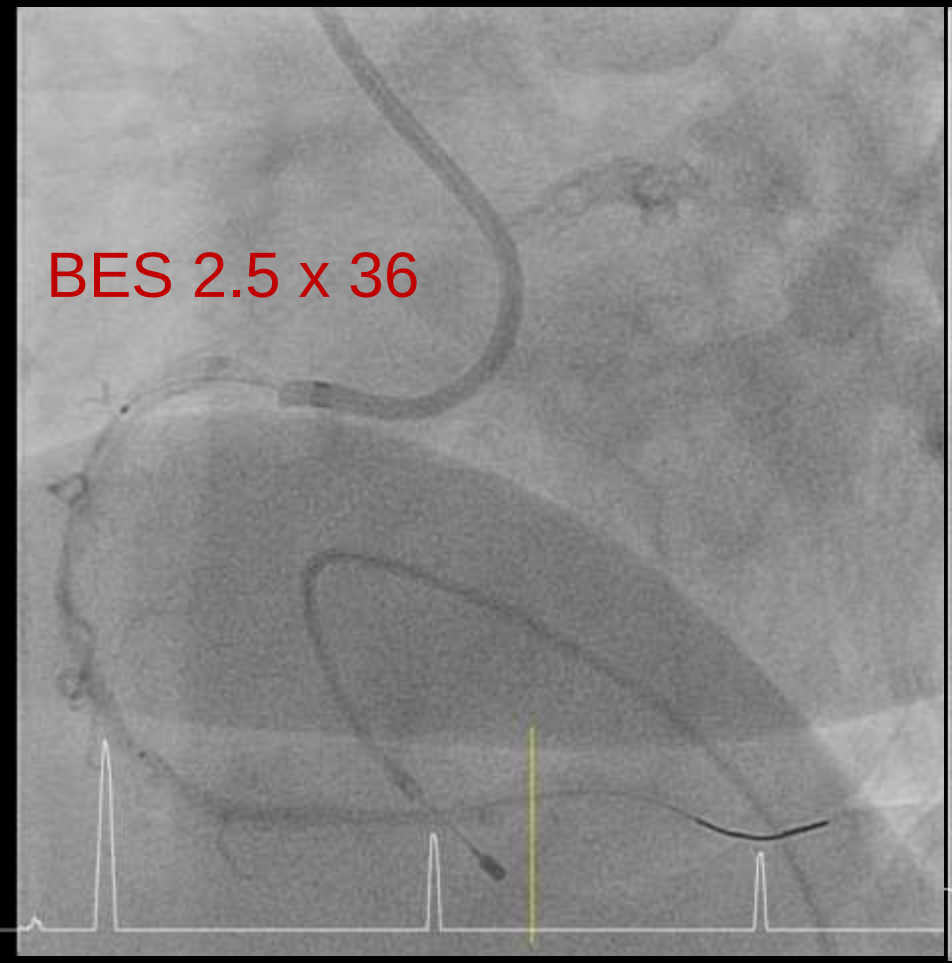
After Rota RCA

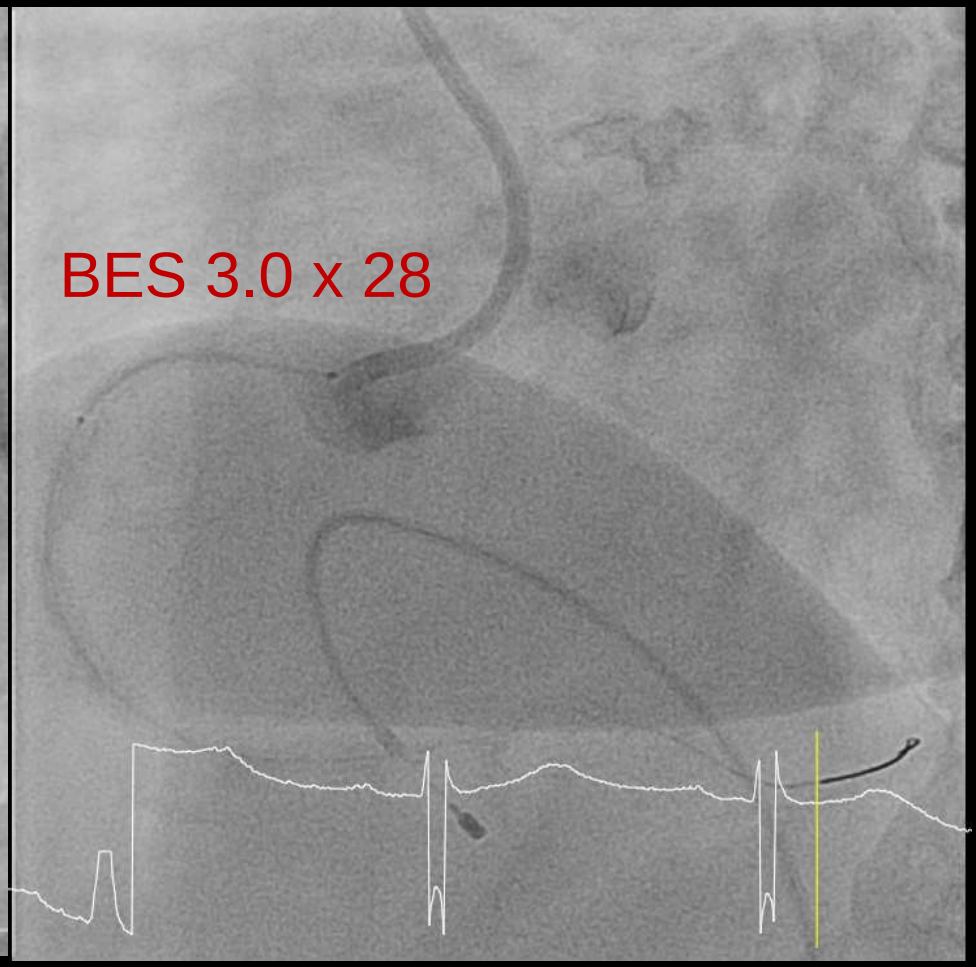




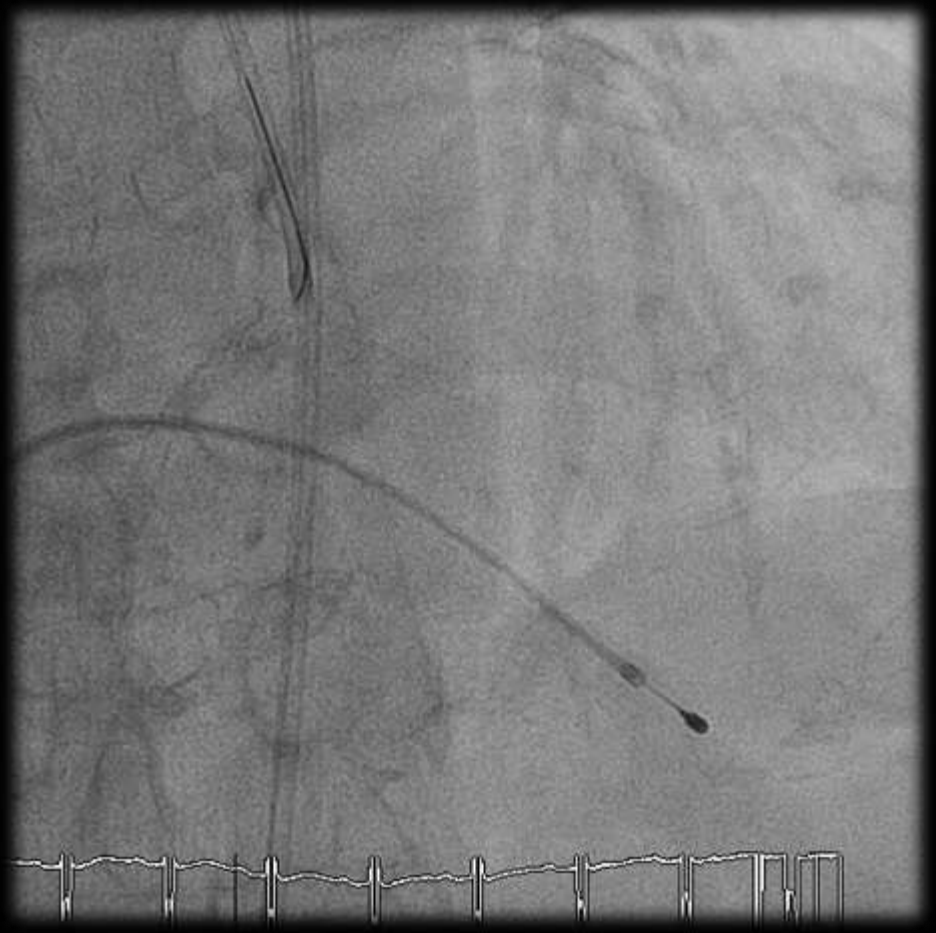


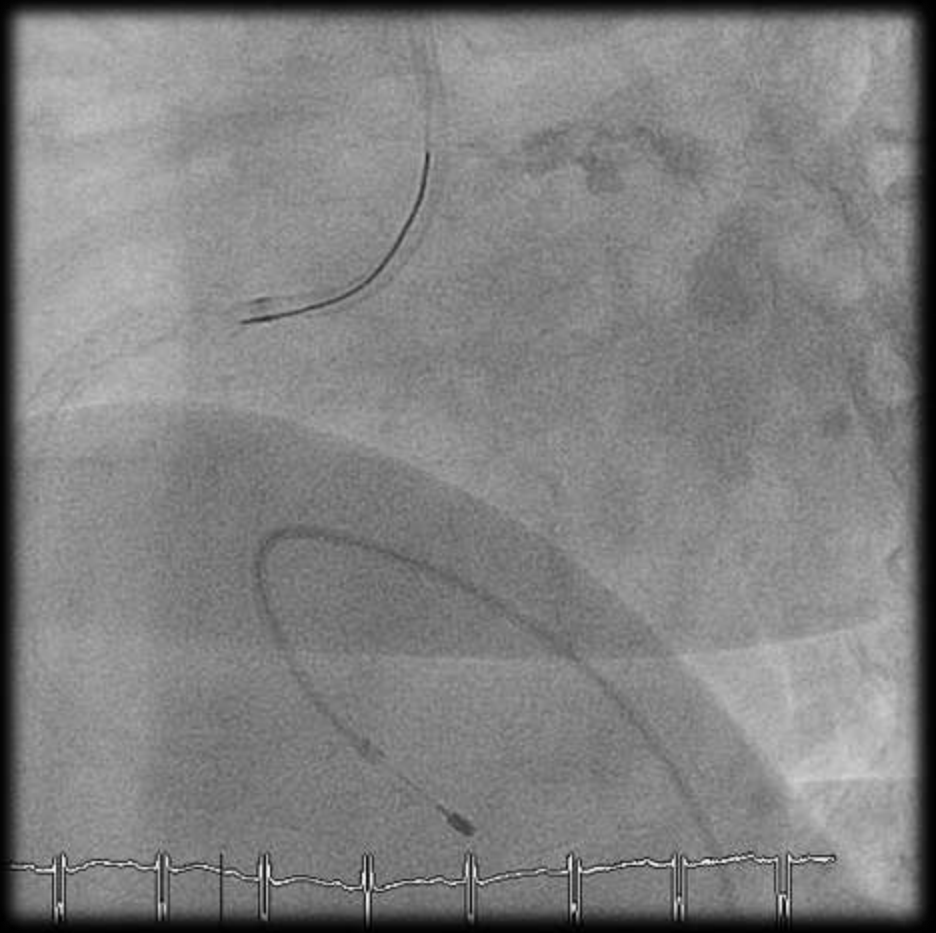
RCA Stenting





RCA final





Treatment Course - I

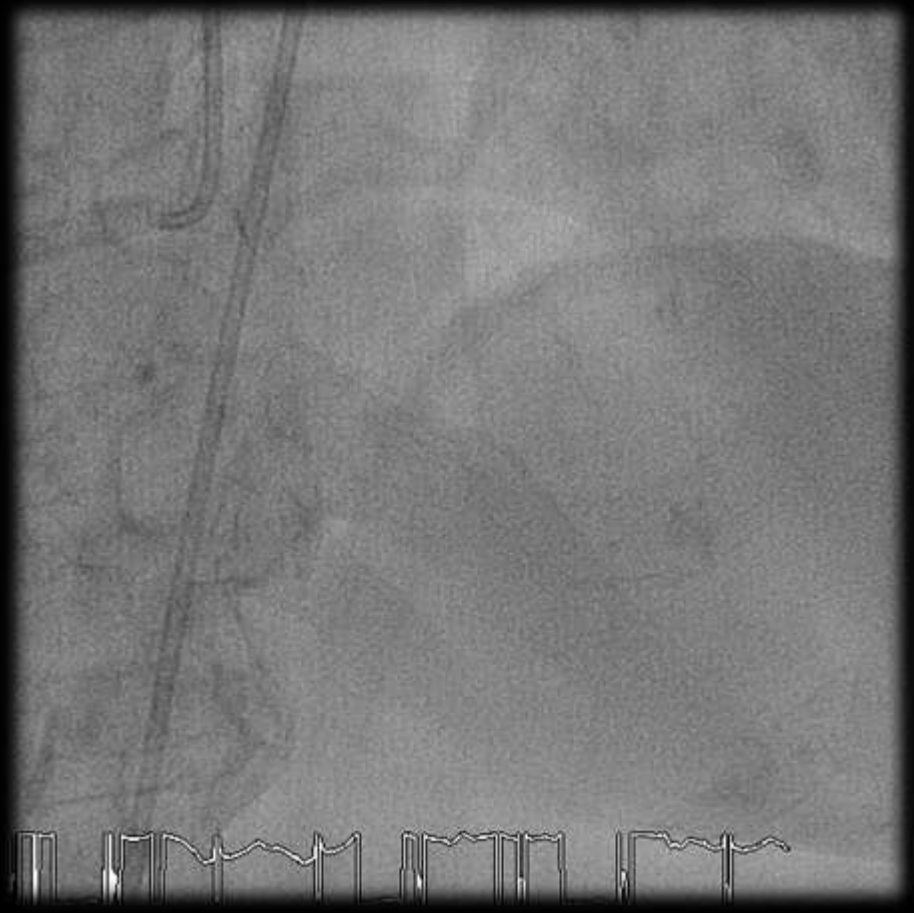
- Procedure time about 2 hours after RCA PCI
- Patient cannot tolerate for long procedure time (back soreness / agitated)
- We stopped LAD/LCX PCI, and planned to do 2 weeks later. She was discharged 2 days later.

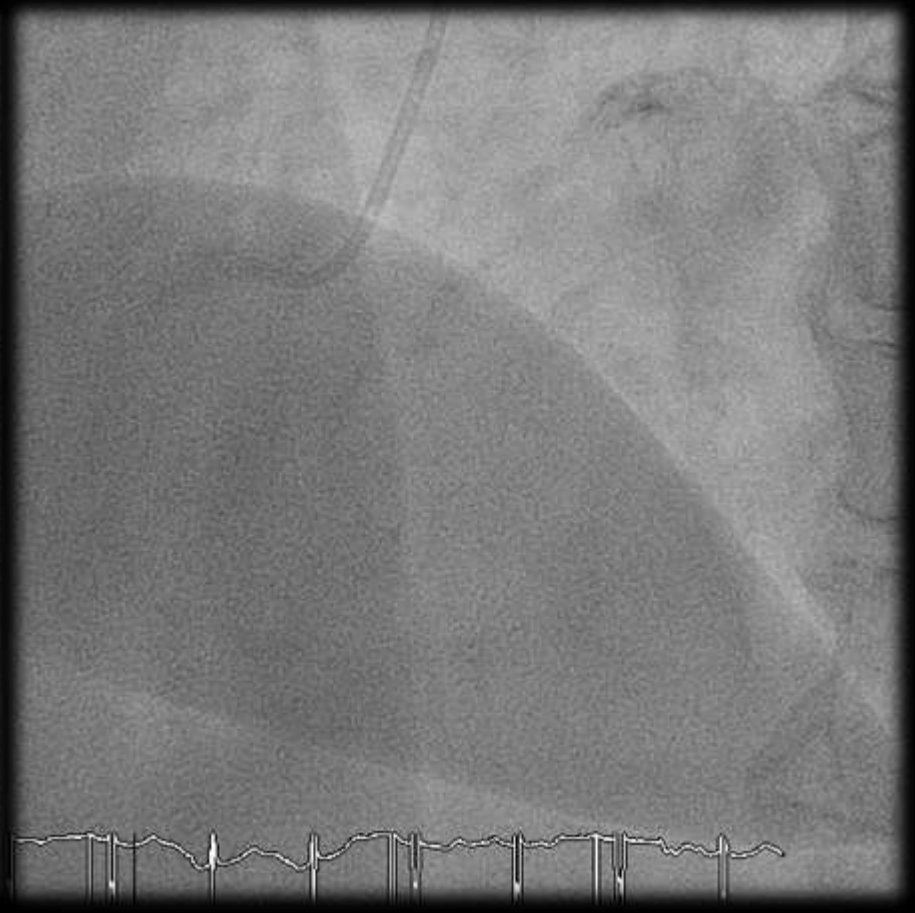
Treatment Course - II

- But patient had chest pain after hemodialysis and came to our ED again 9 days later

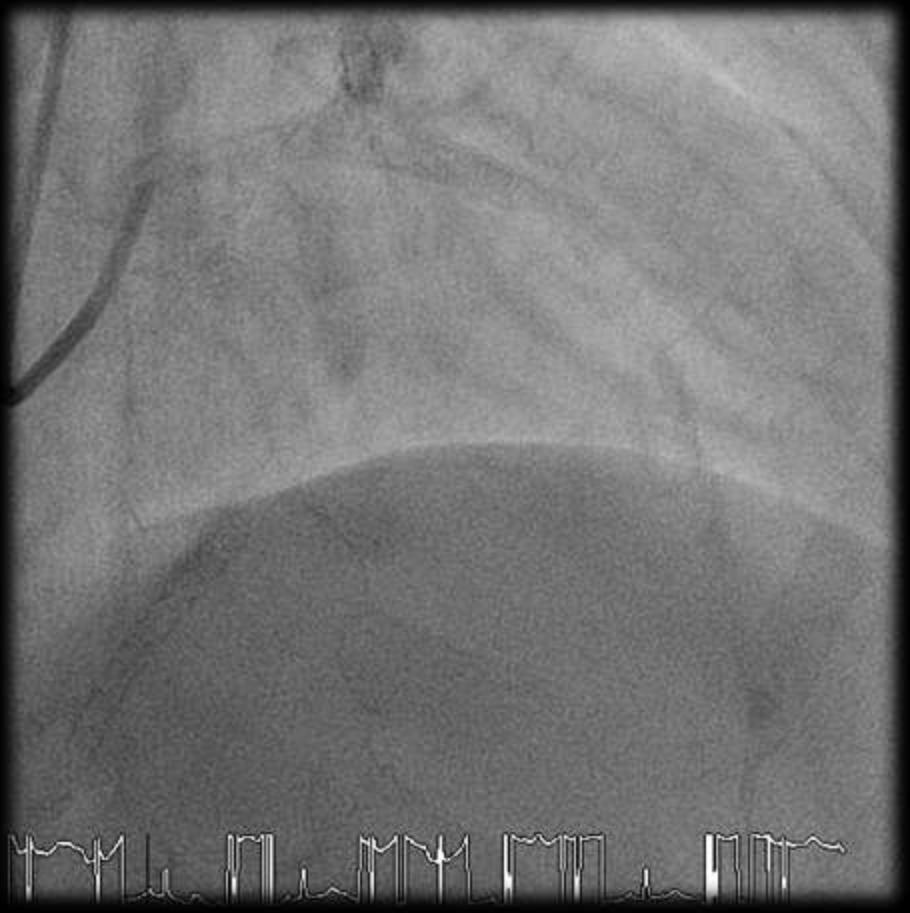
- ECG: NSR, STD at I, aVL
- Top CK-MB 10.64 ng/mL, TnT: 388.7 ng/L
- TTE: LVEF 58.3%(A-L) , no RWMA

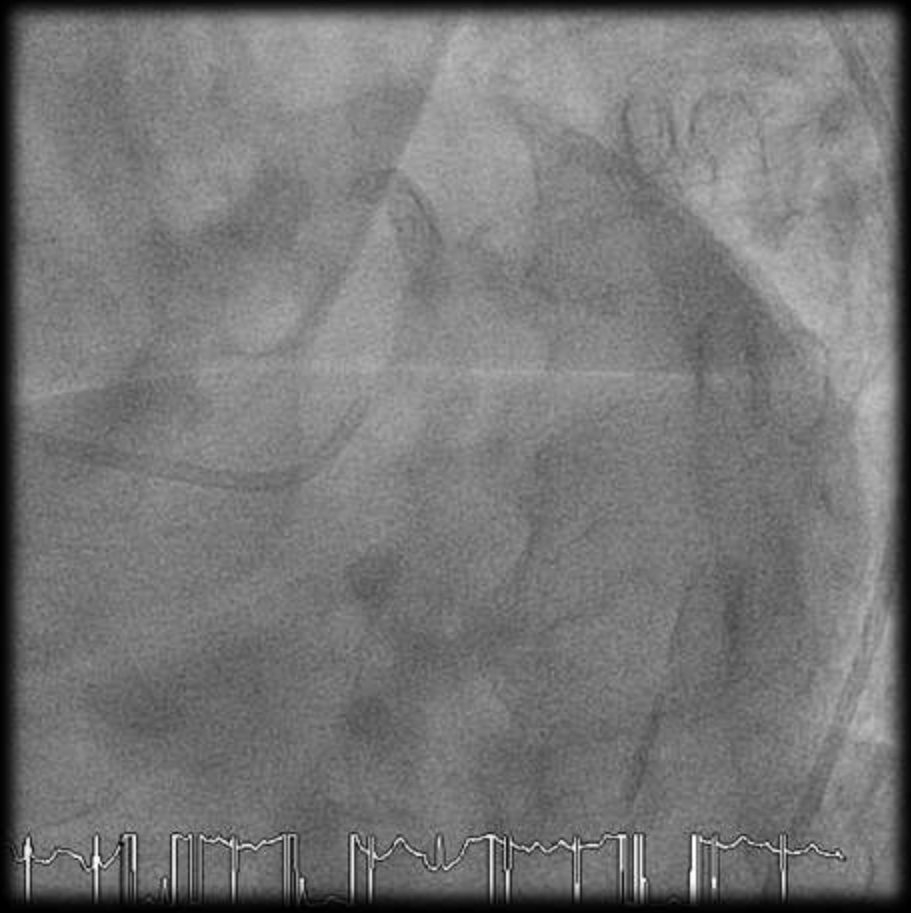
2nd CAG - I





2nd CAG - II

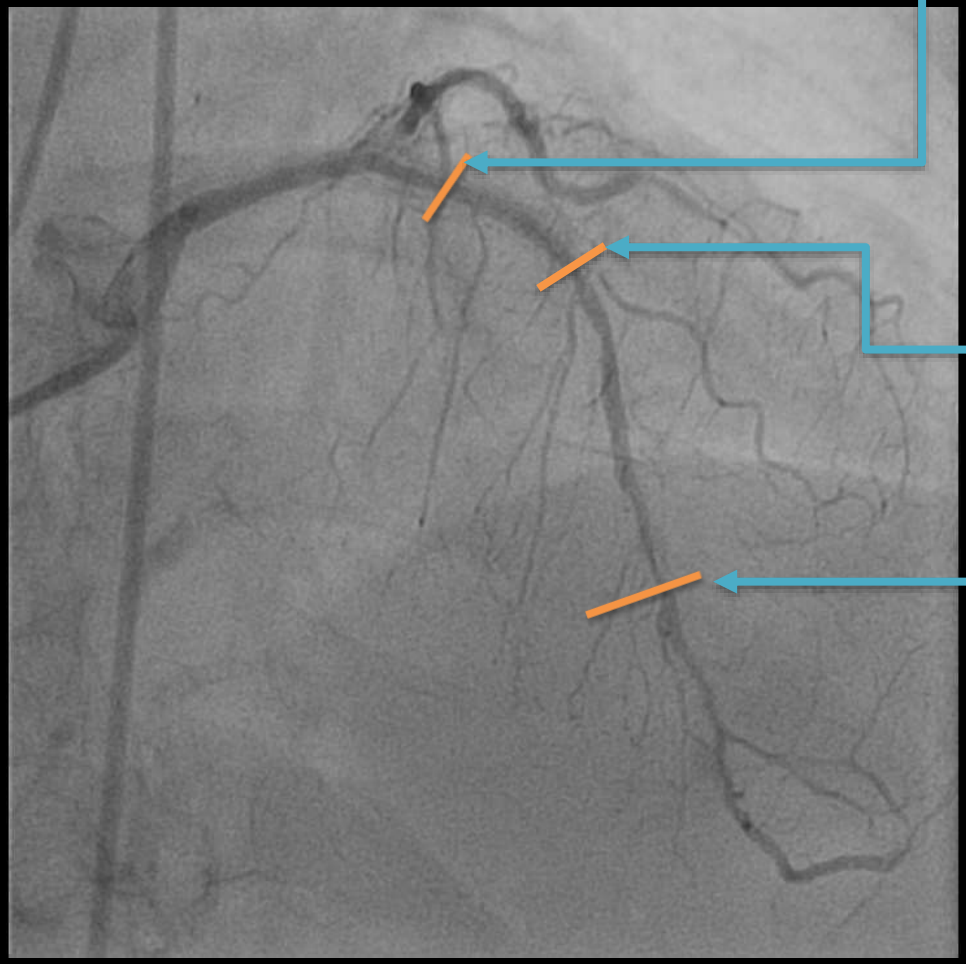




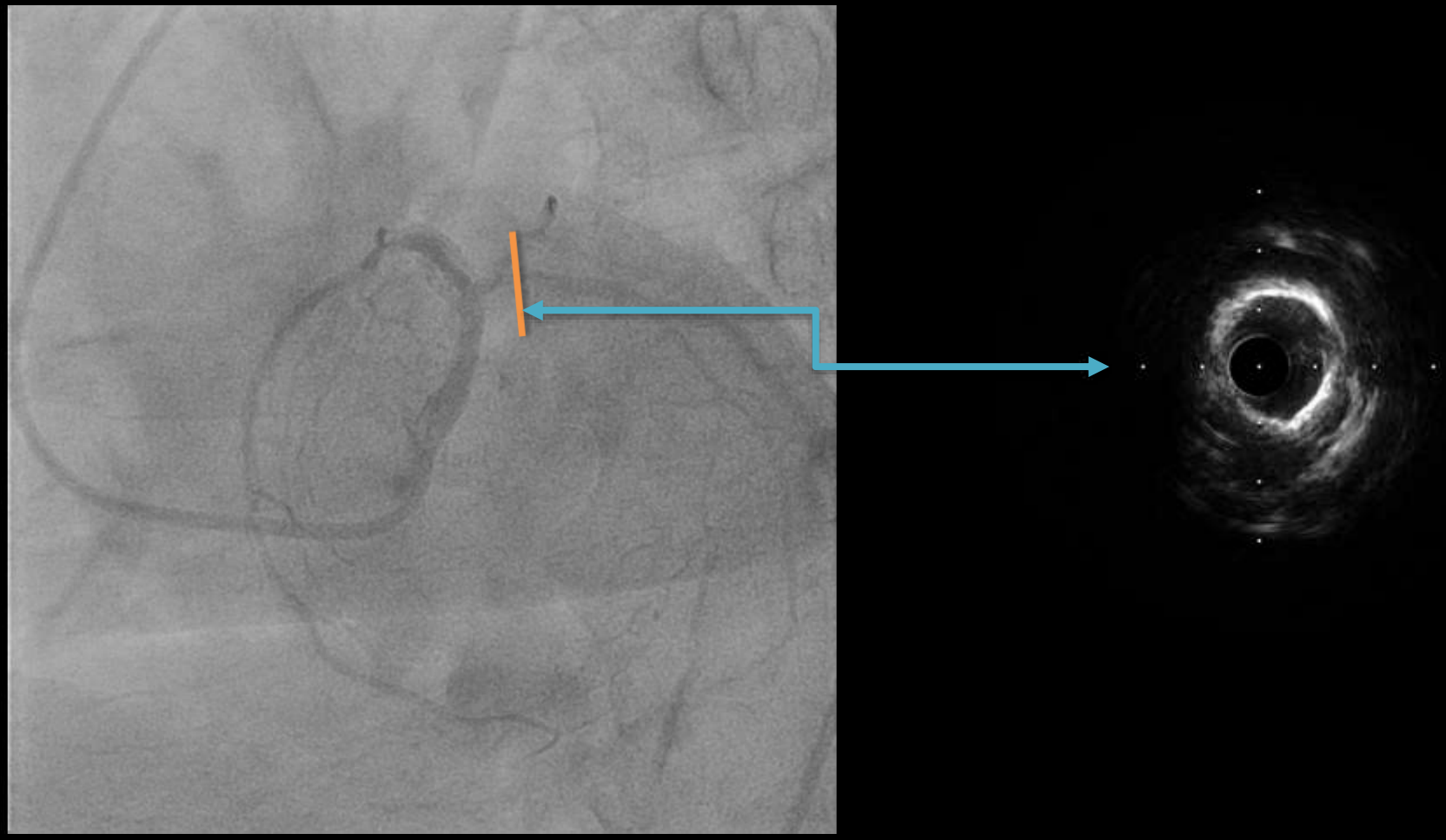
PCI strategy

- IVUS evaluate LM-LAD-LCX
- Probable need Rota atherectomy to LM/LAD/LCX

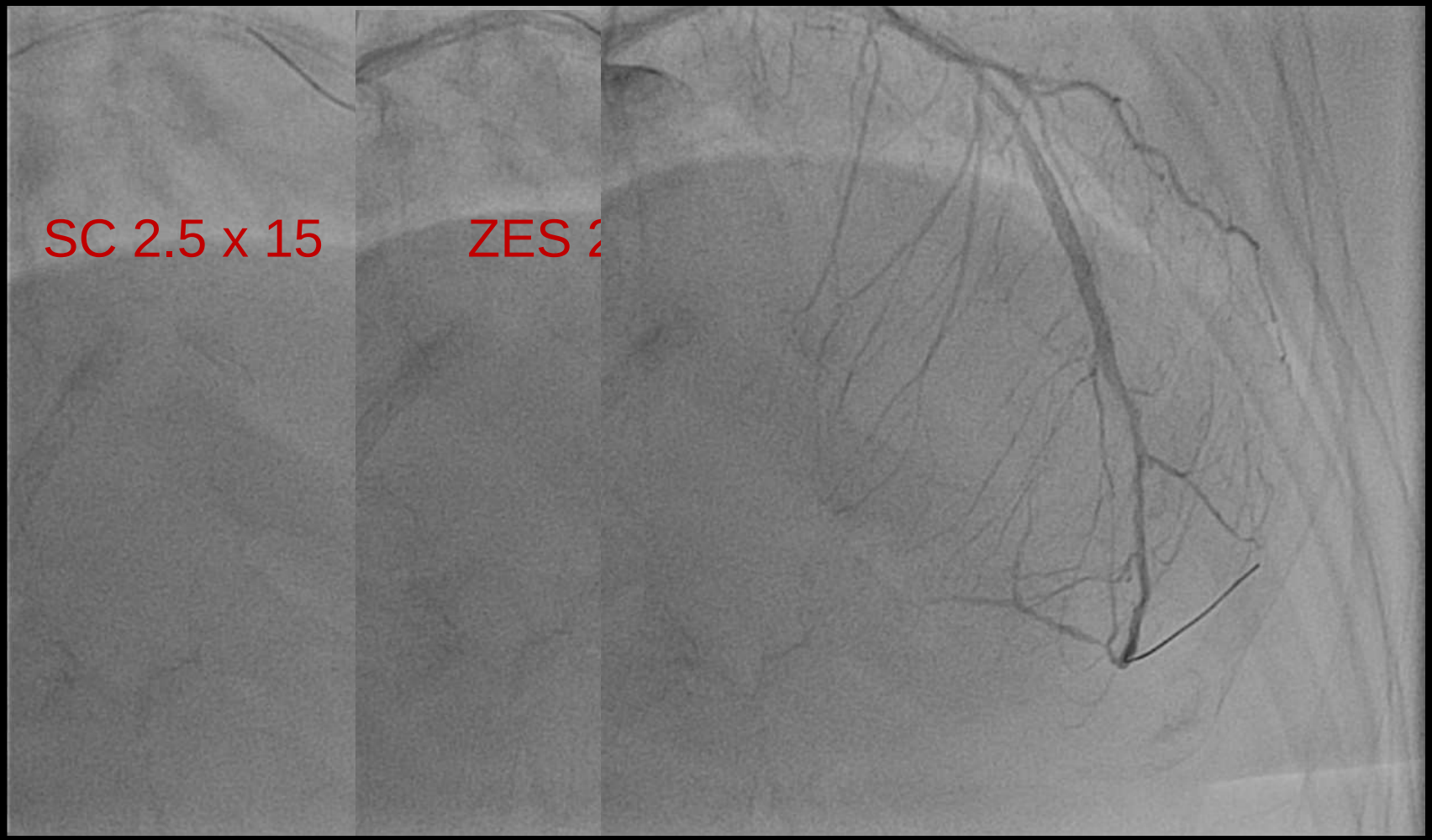
LAD IVUS



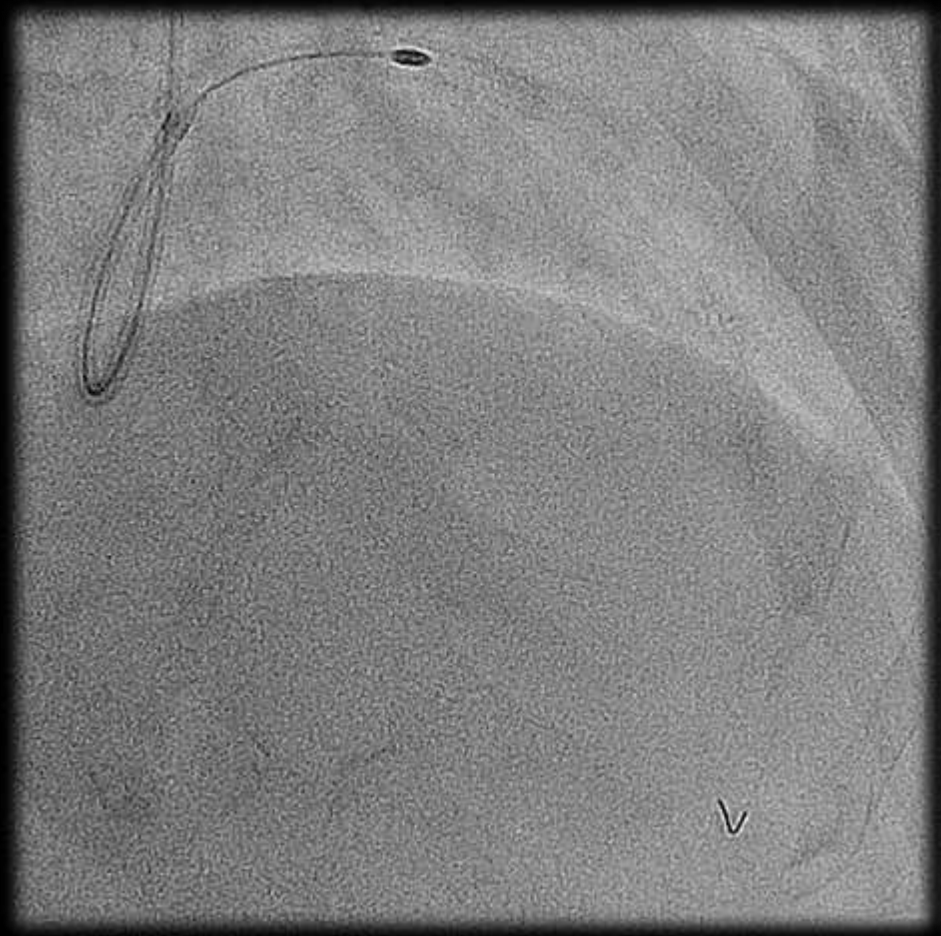
LCX IVUS

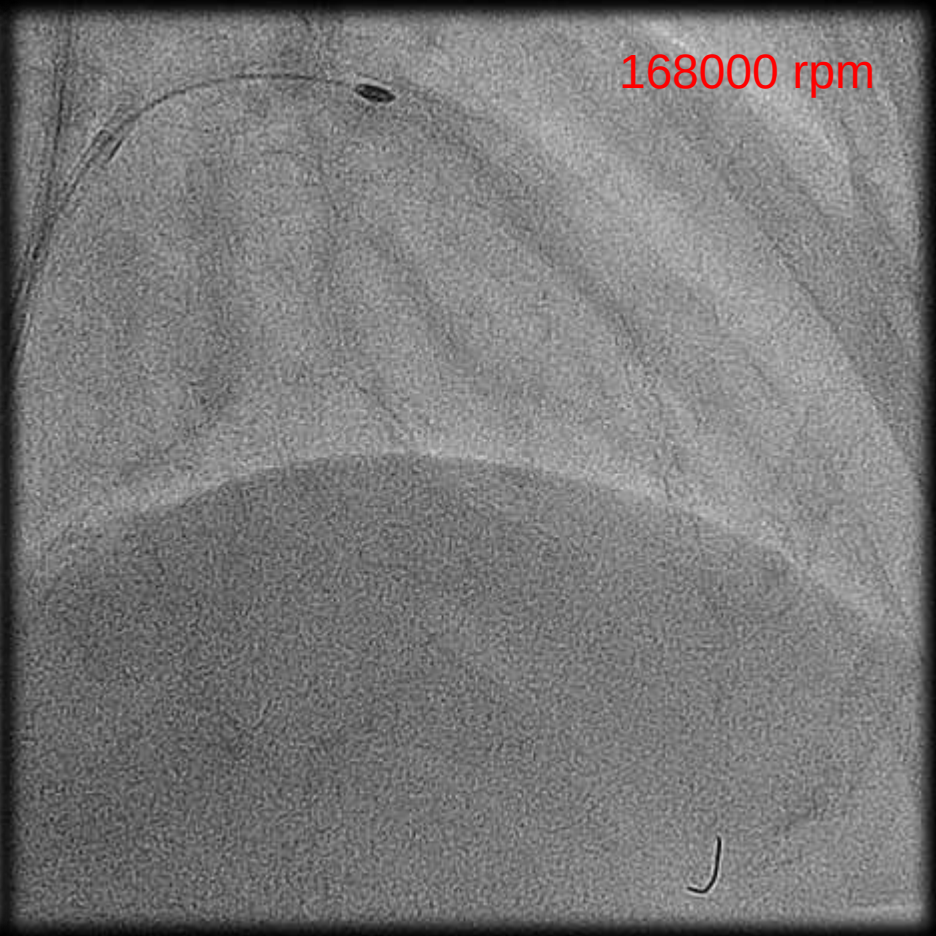


dLAD PCI

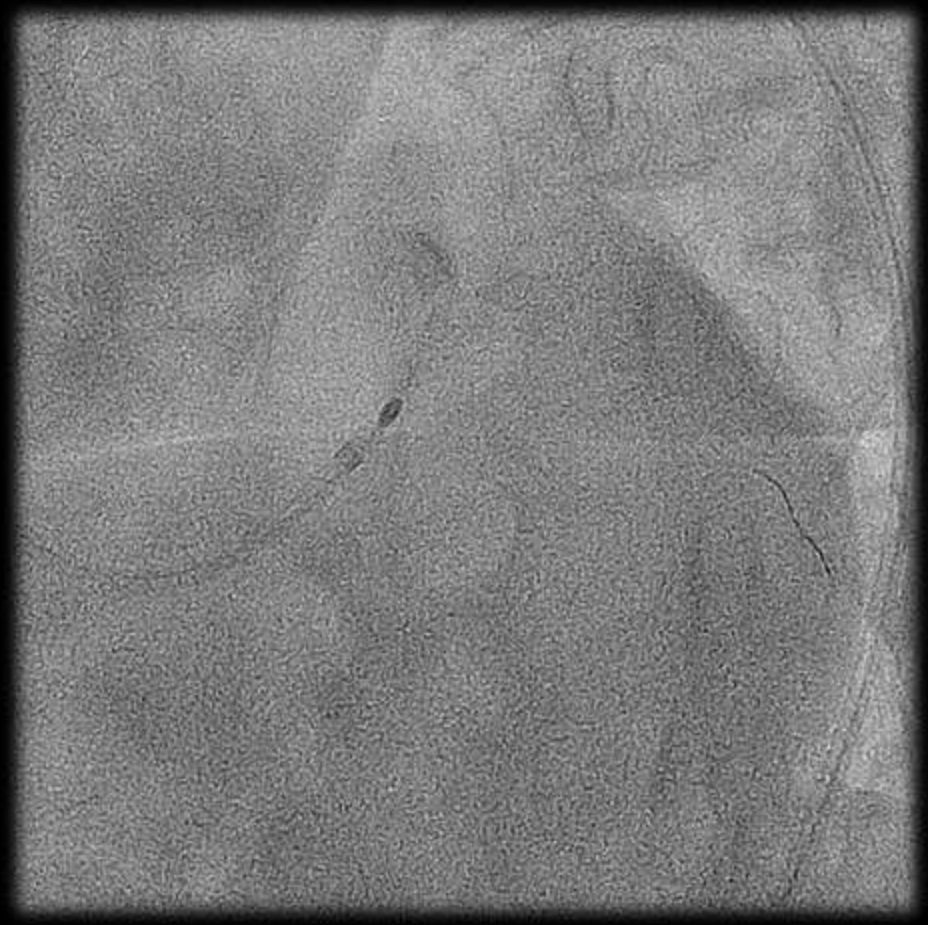


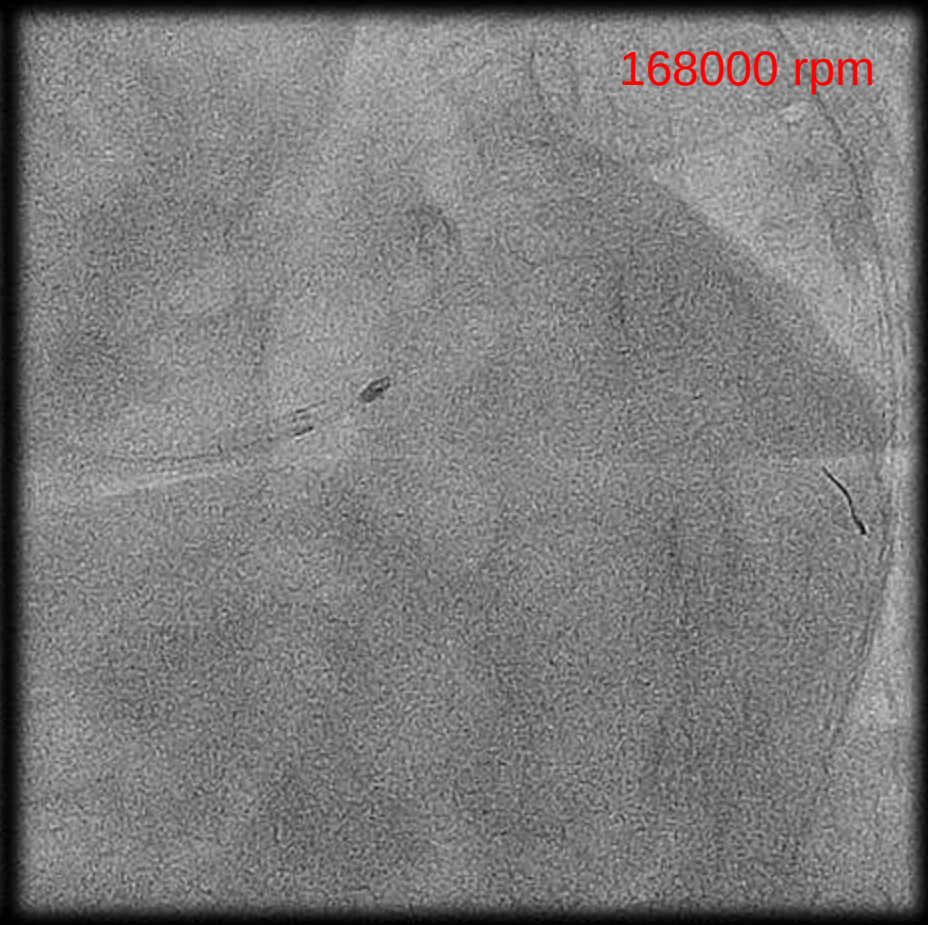
LAD Atherectomy with Rota burr 1.75



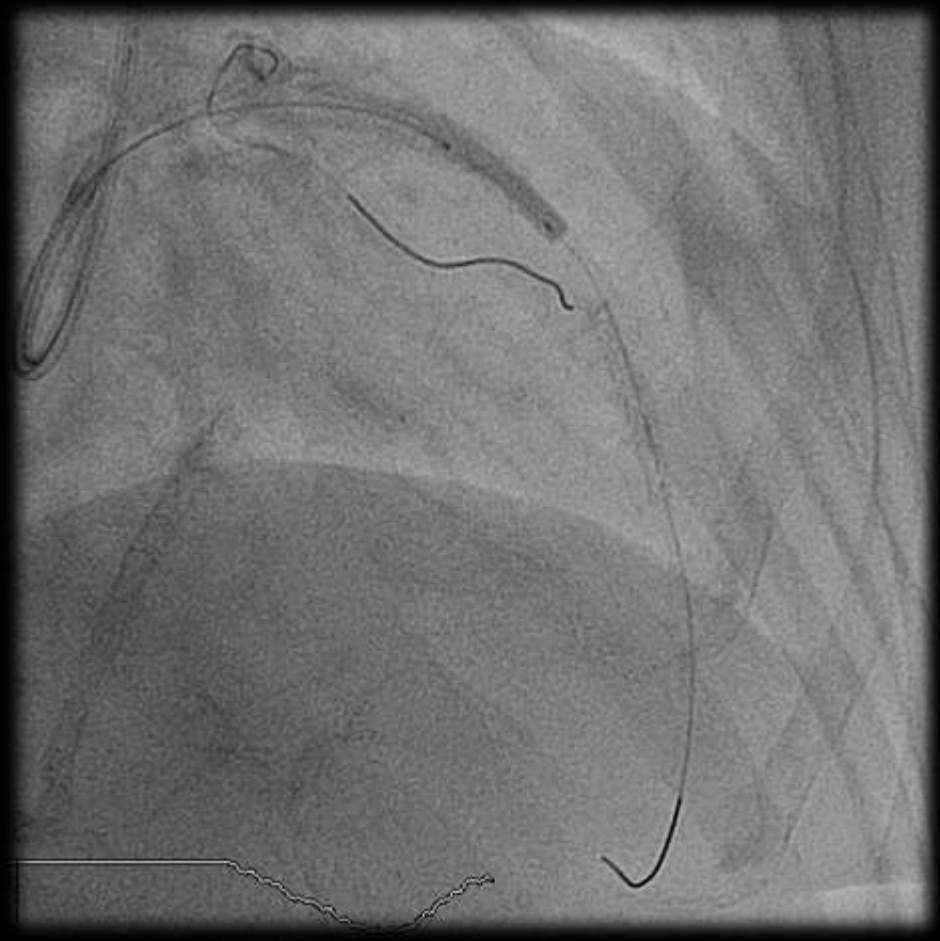


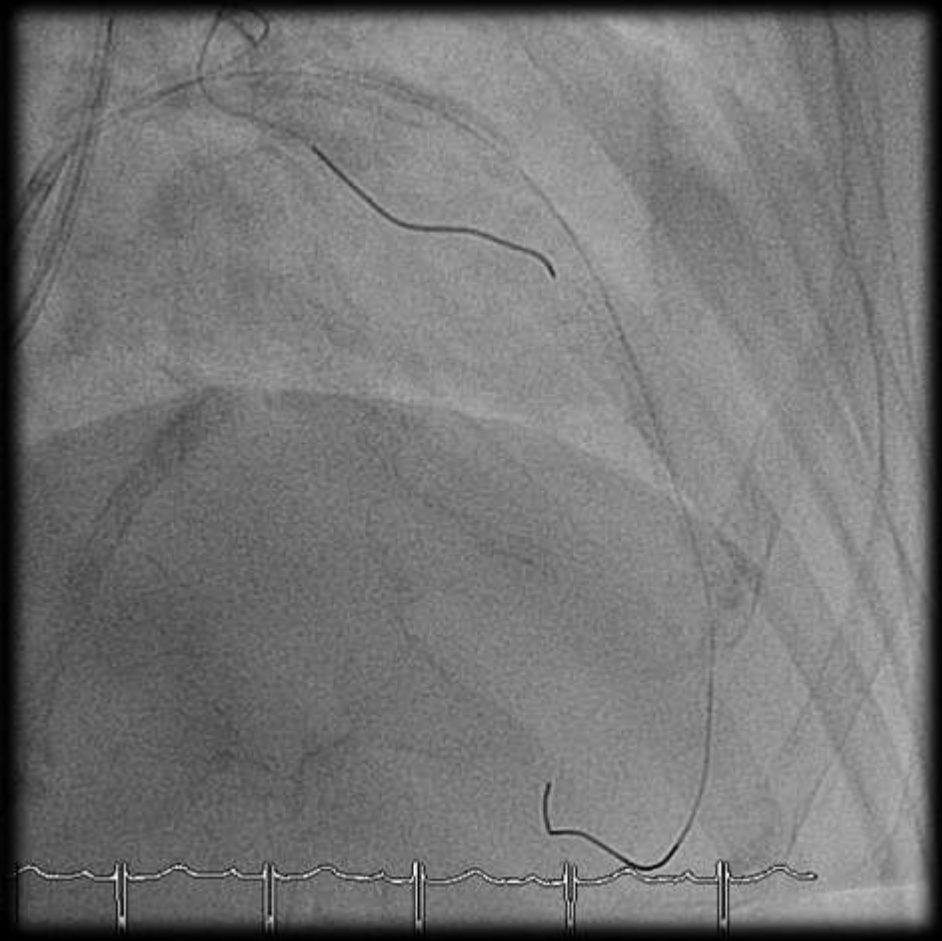
LCX Atherectomy with Rota burr 1.75



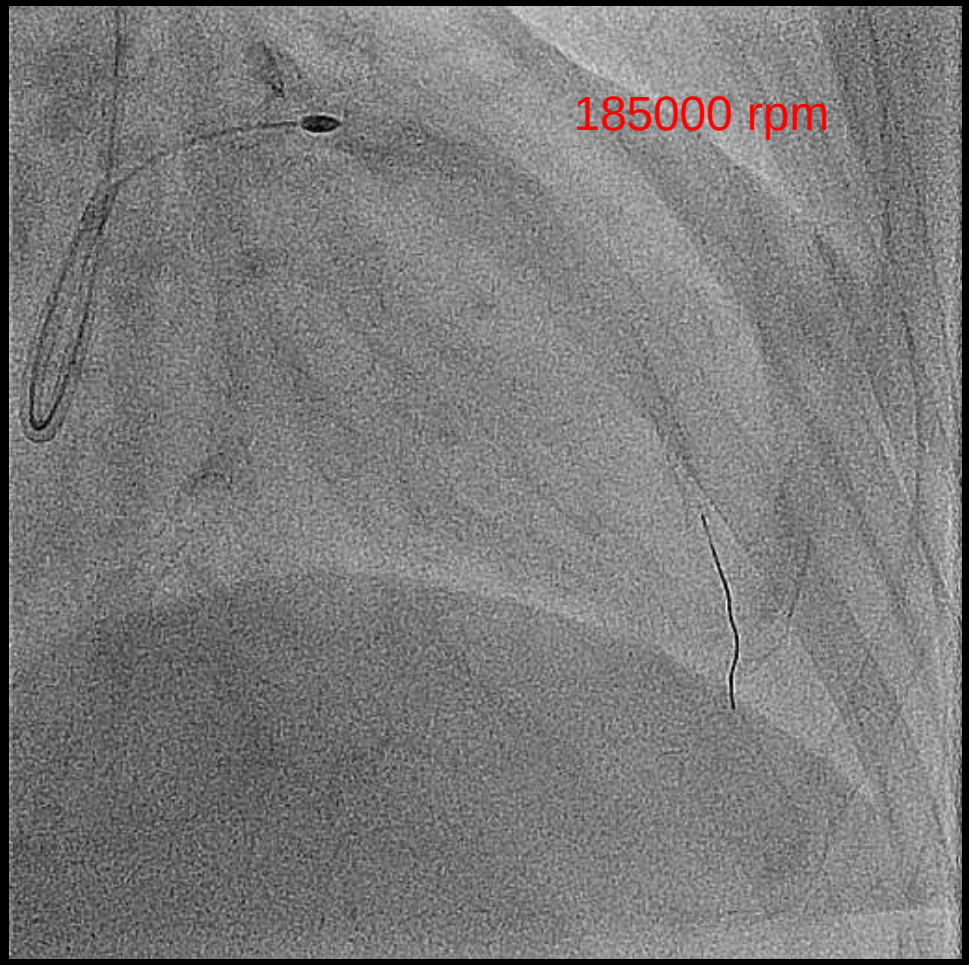


NC 3.0 balloon rupture

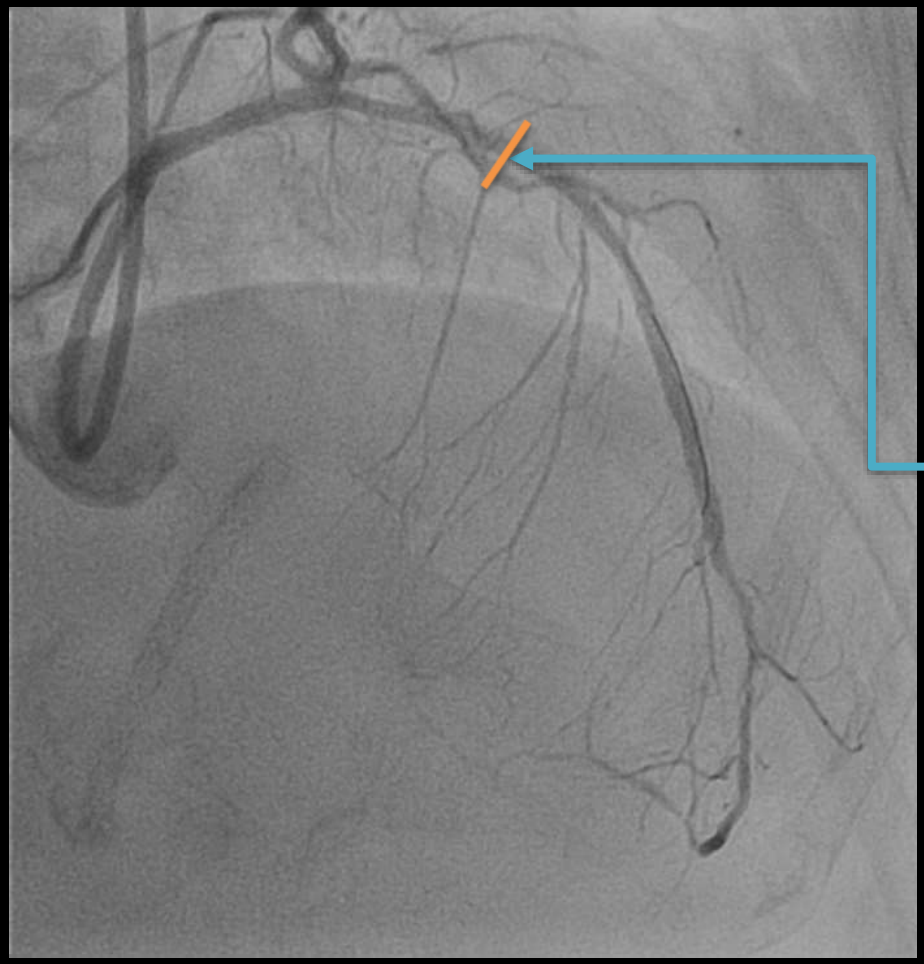


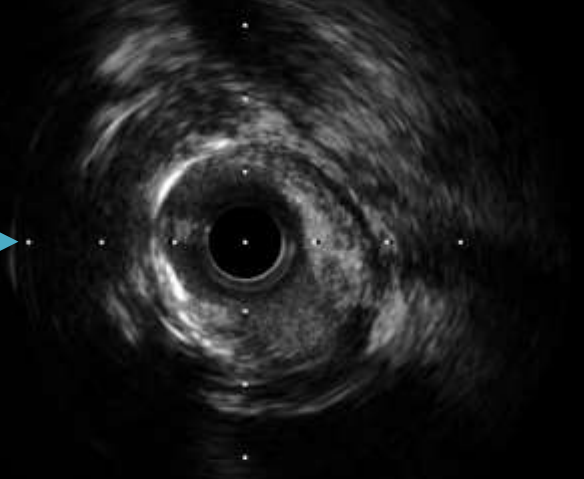


LAD Atherectomy with Rota burr 2.0

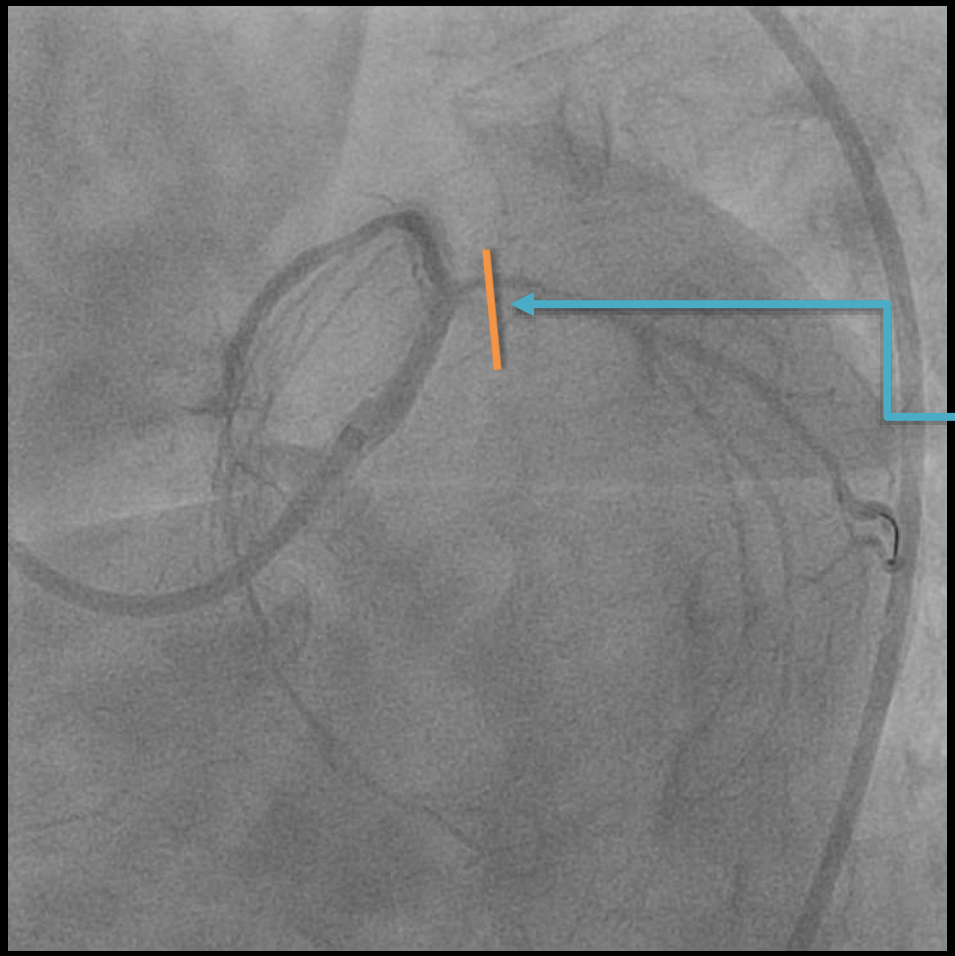


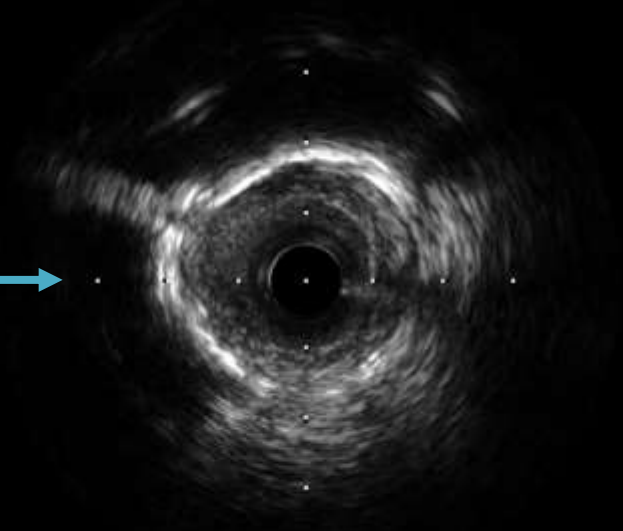
LAD IVUS after Rota



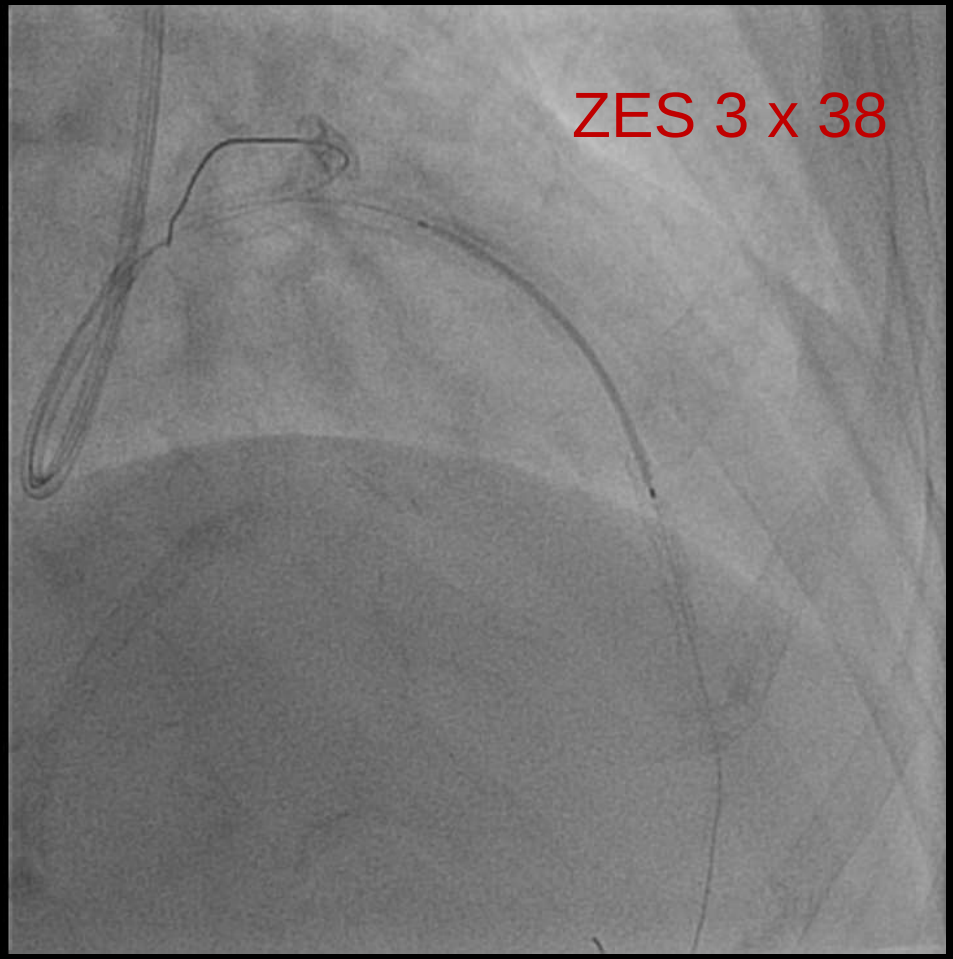


LCX IVUS after Rota

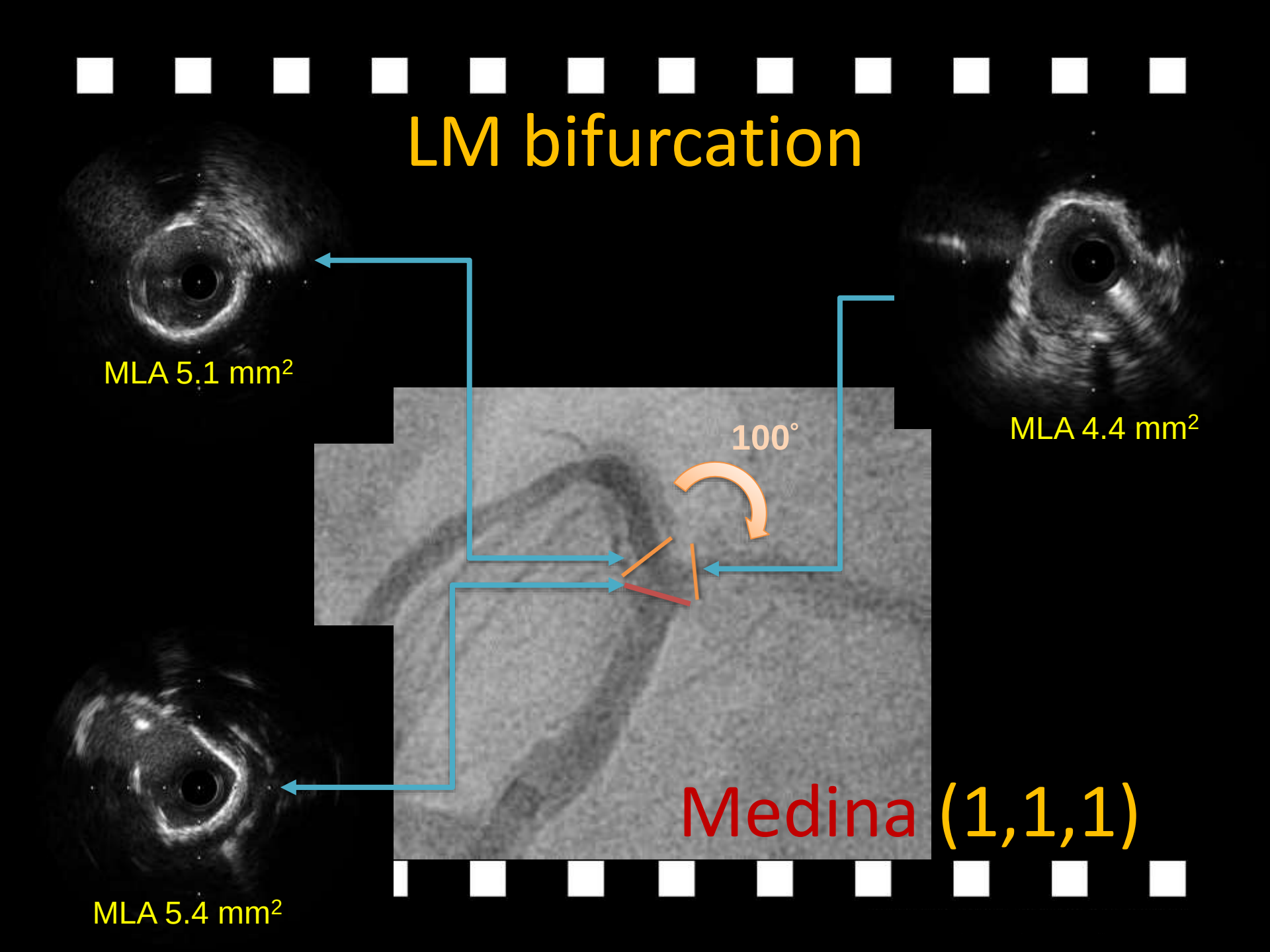




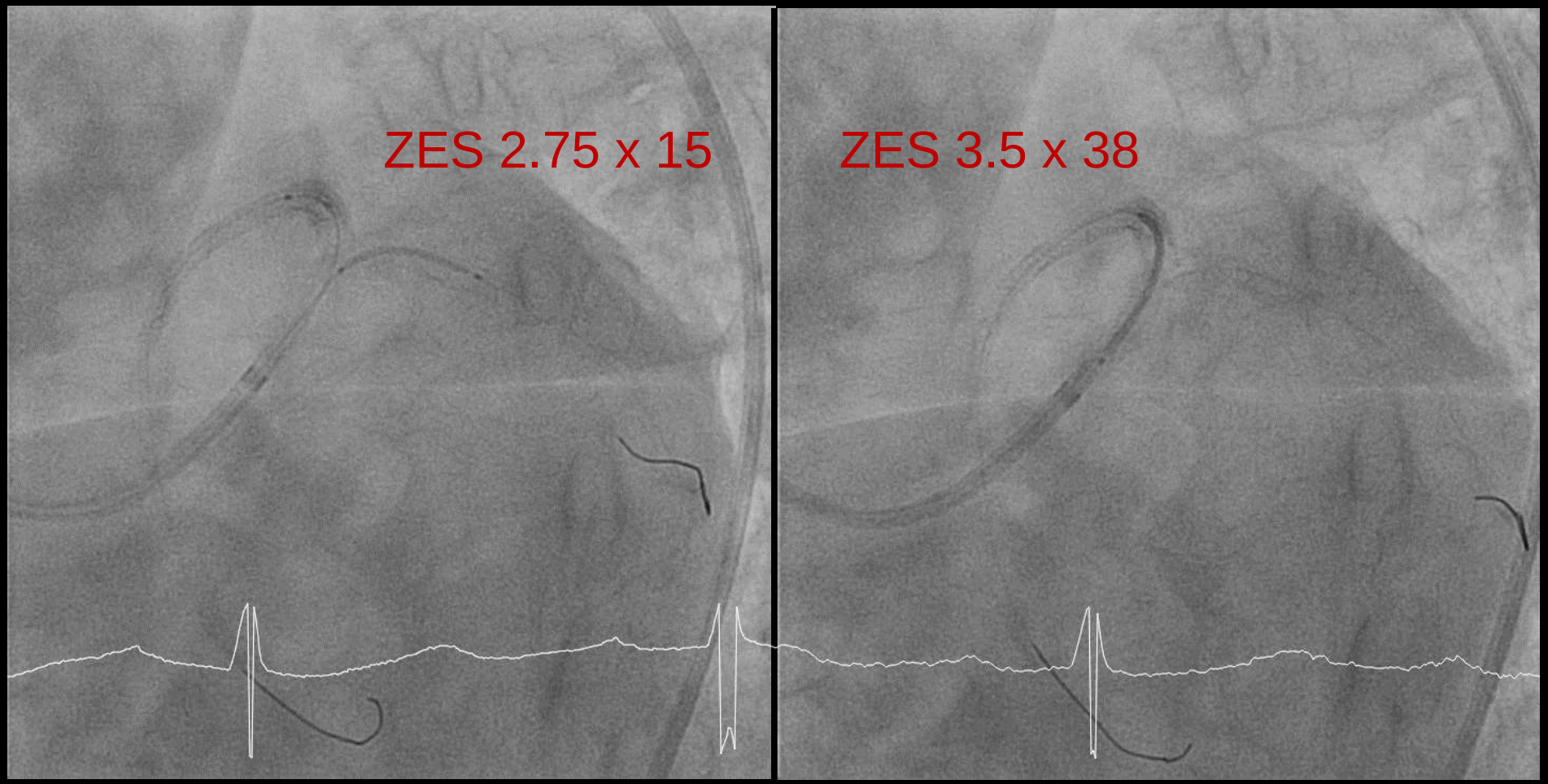
mLAD Stenting



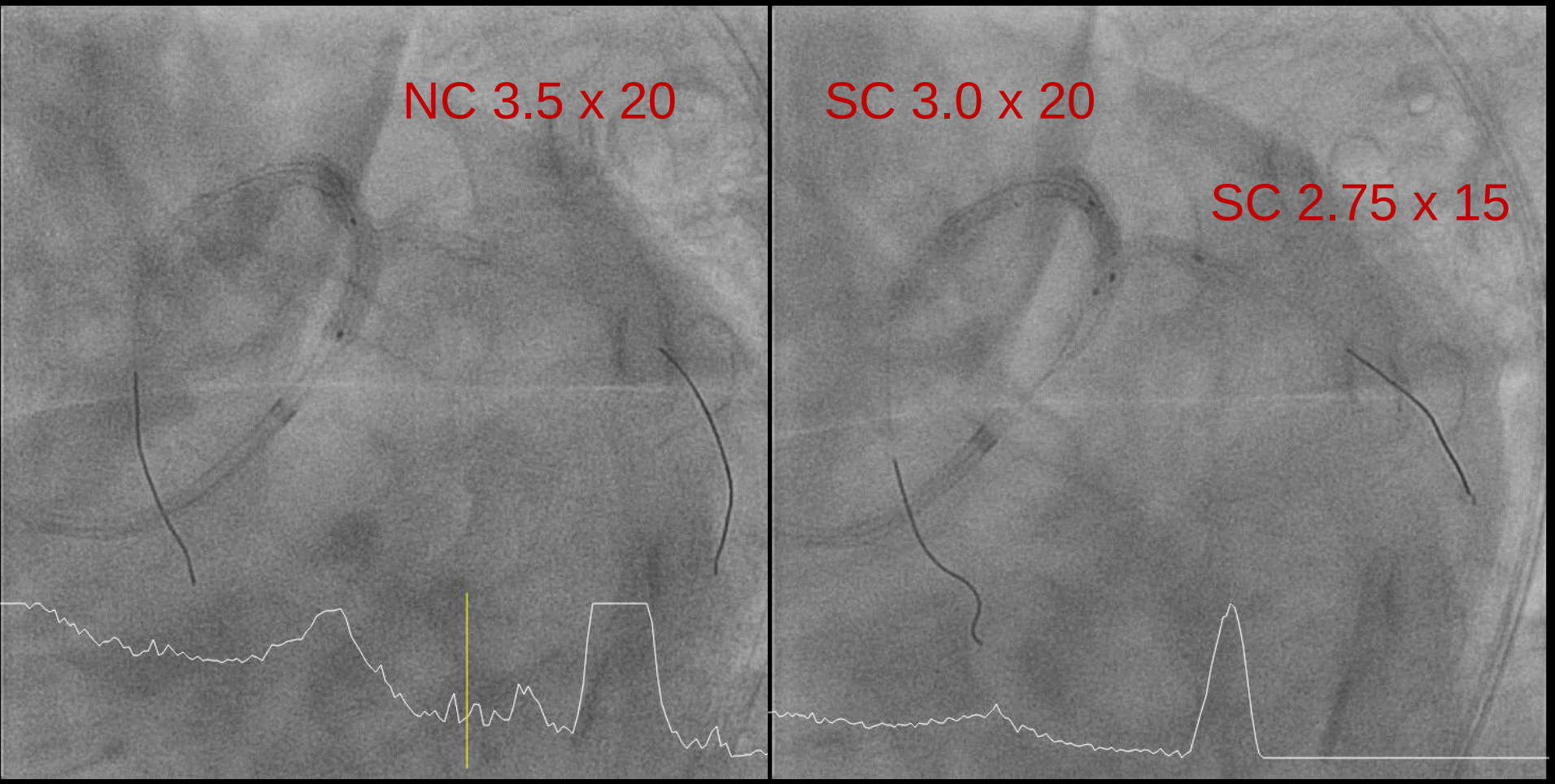
LM bifurcation



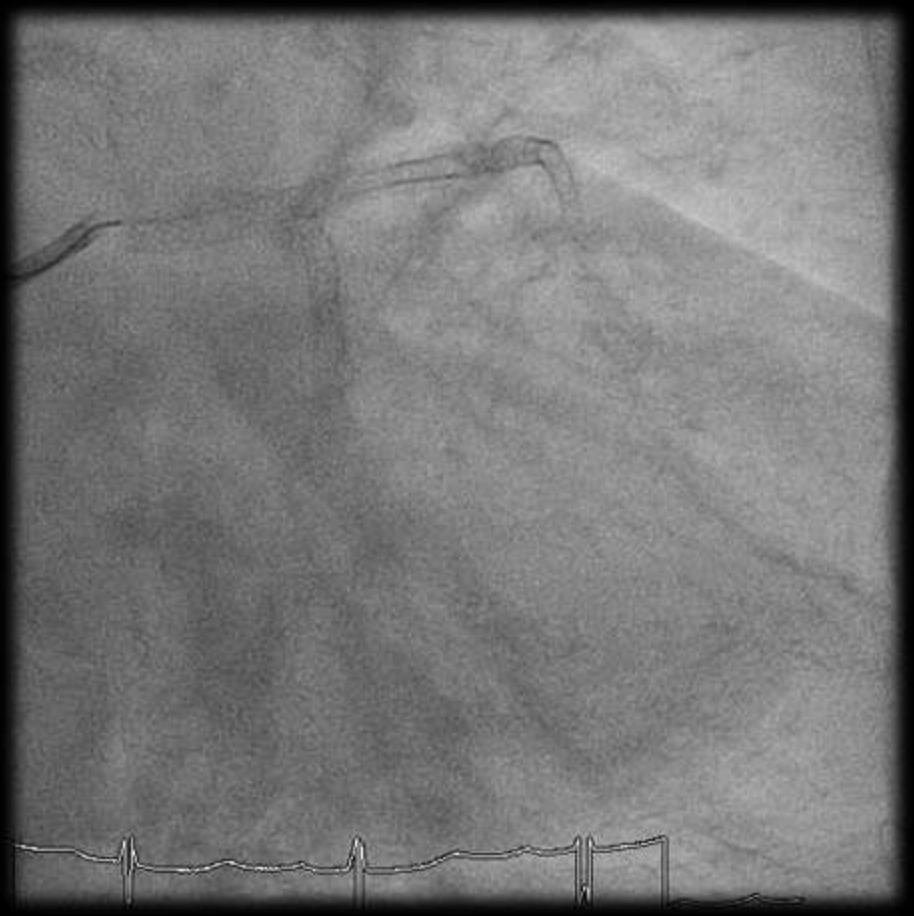
LM bifurcation – modified T technique

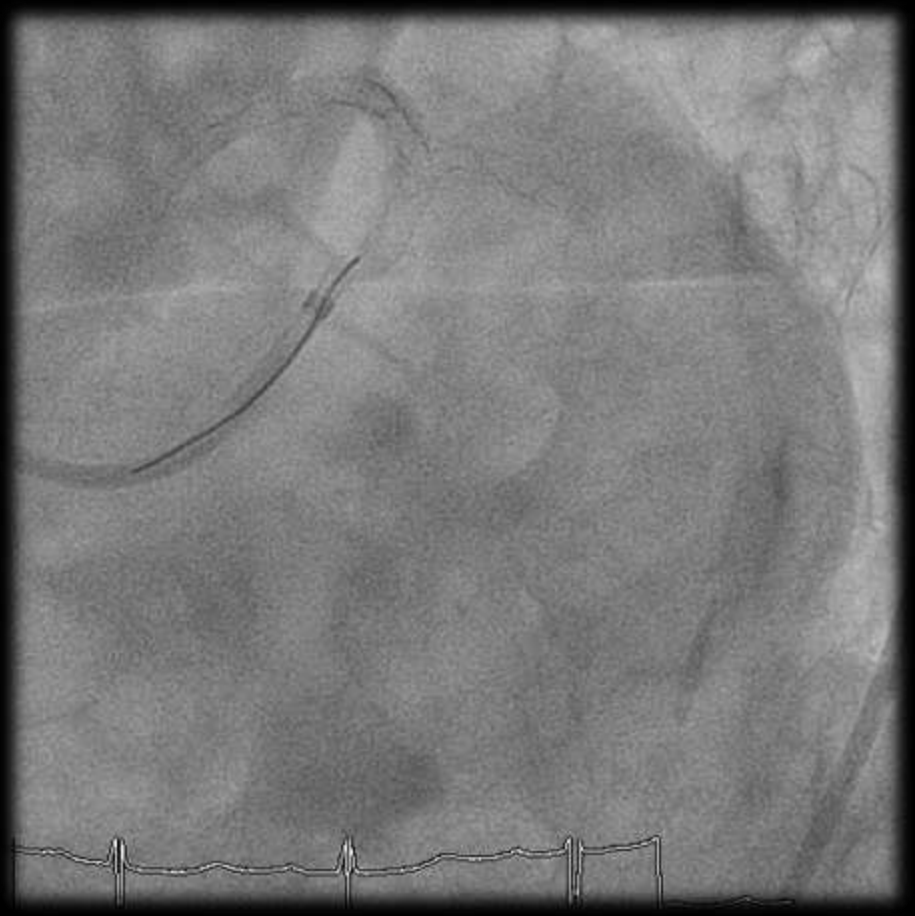


POT + FKB

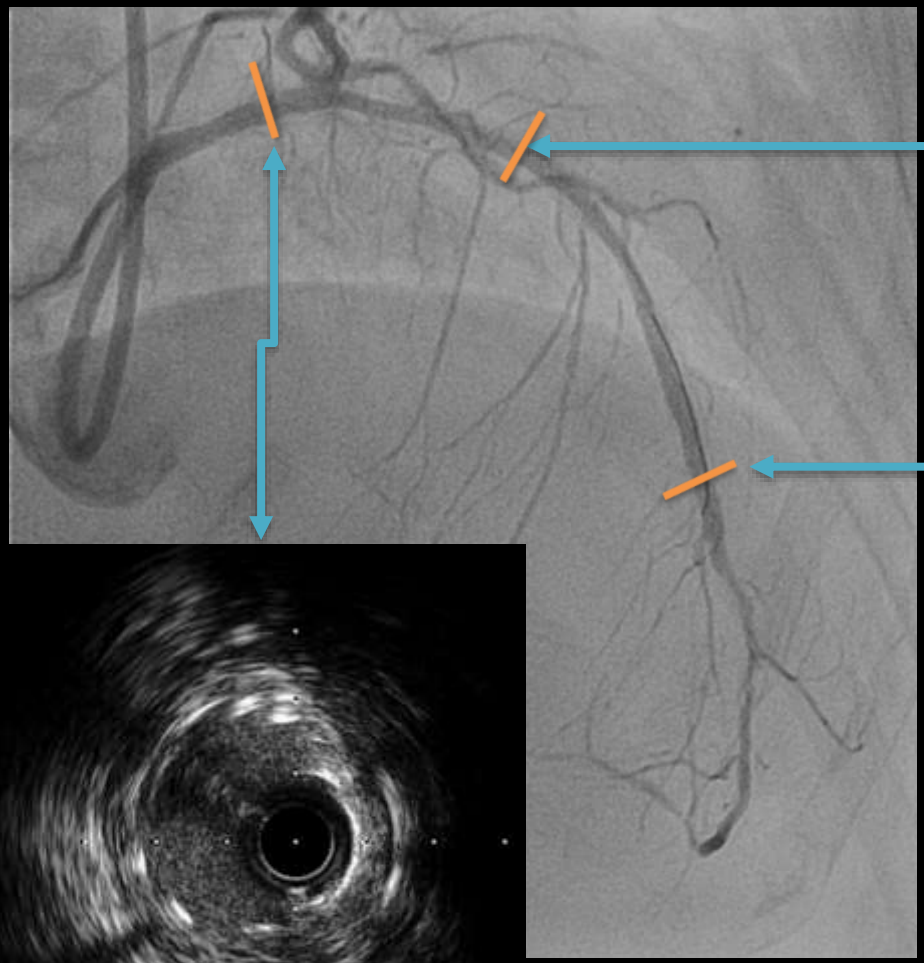


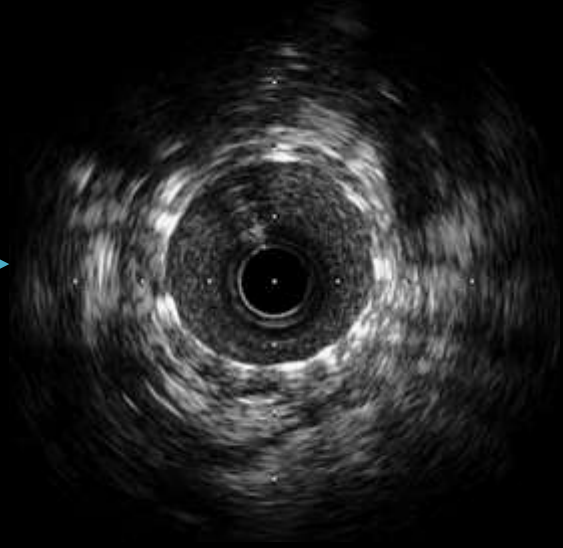
Final

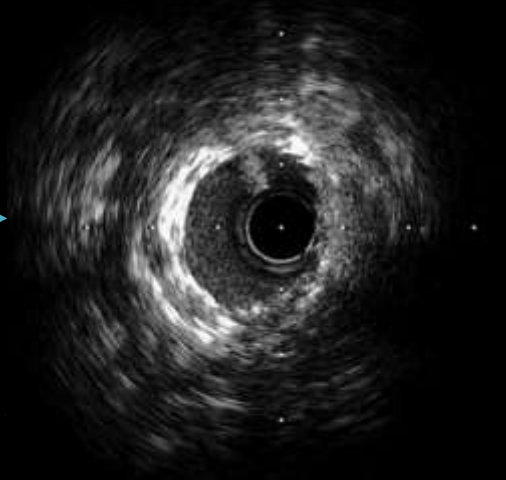




LM-LAD IVUS after stenting







Clinical Pearls

- It’s really not a good idea to perform PCI in a patient with SYNTAX score over 33

- In patient with diffusely calcified coronary lesions, we may need multiple sizes of Rota burr to conquer the tough plaques

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