

My Challenging Left Main PCI: Case of the Year

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Disclosure

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Case Presentation

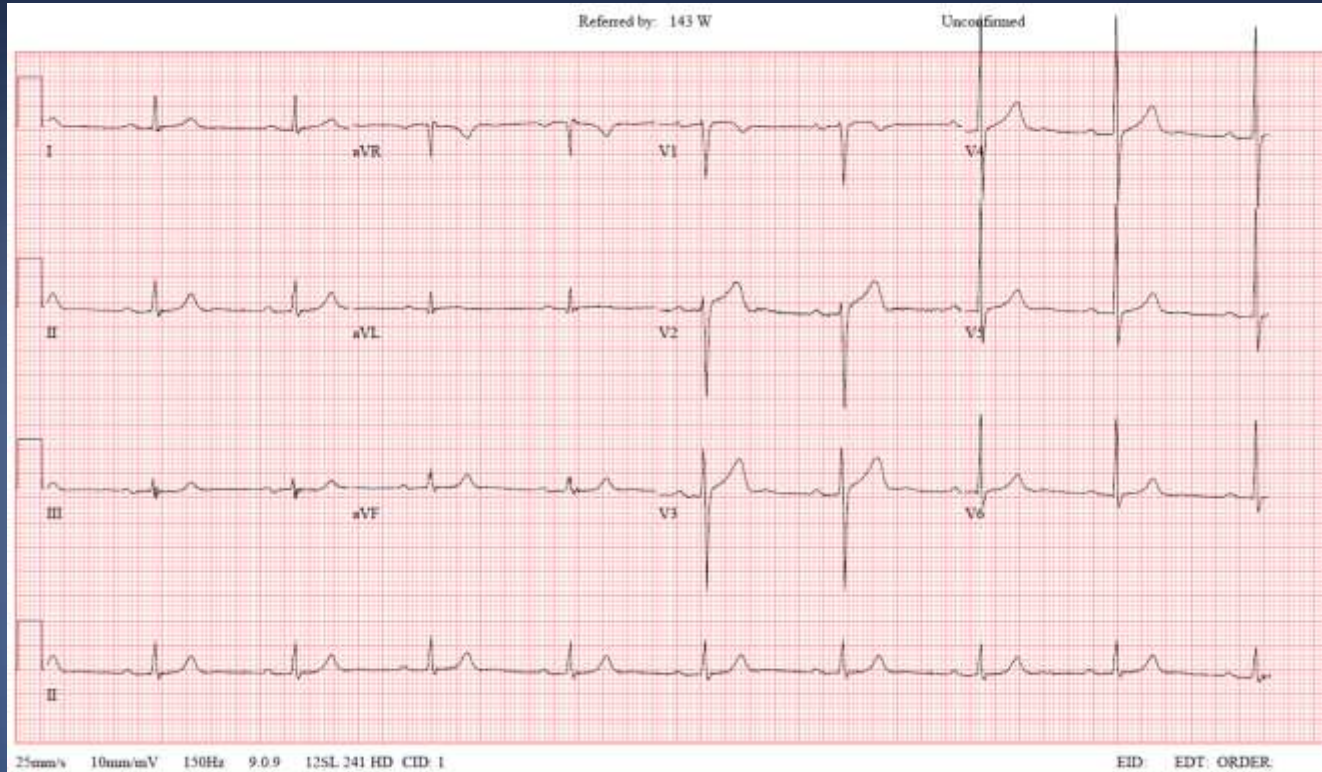
Brief Case Summary

- A 76 year old male with stable angina
- Current heavy smoker with a 55 pack-year history

Past Medical History

- | | | | |
|------------------|-----|----------------|-----|
| ▪ Diabetes | : N | ▪ Previous MI | : N |
| ▪ Hypertension | : Y | ▪ Previous PCI | : N |
| ▪ Hyperlipidemia | : N | | |
| ▪ Smoking | : Y | | |
| ▪ Family History | : N | | |

ECG

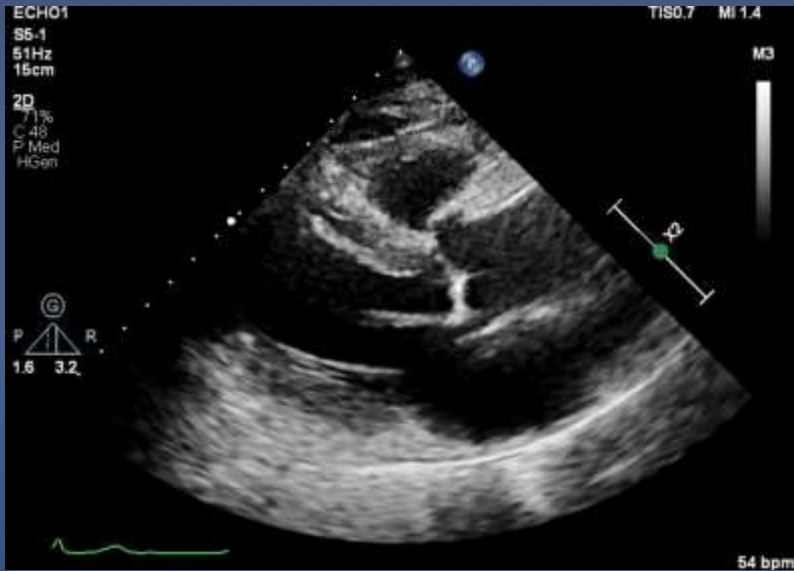


Chest X ray



Transthoracic Echocardiography

- EF 64%
- Normal LV size and systolic function



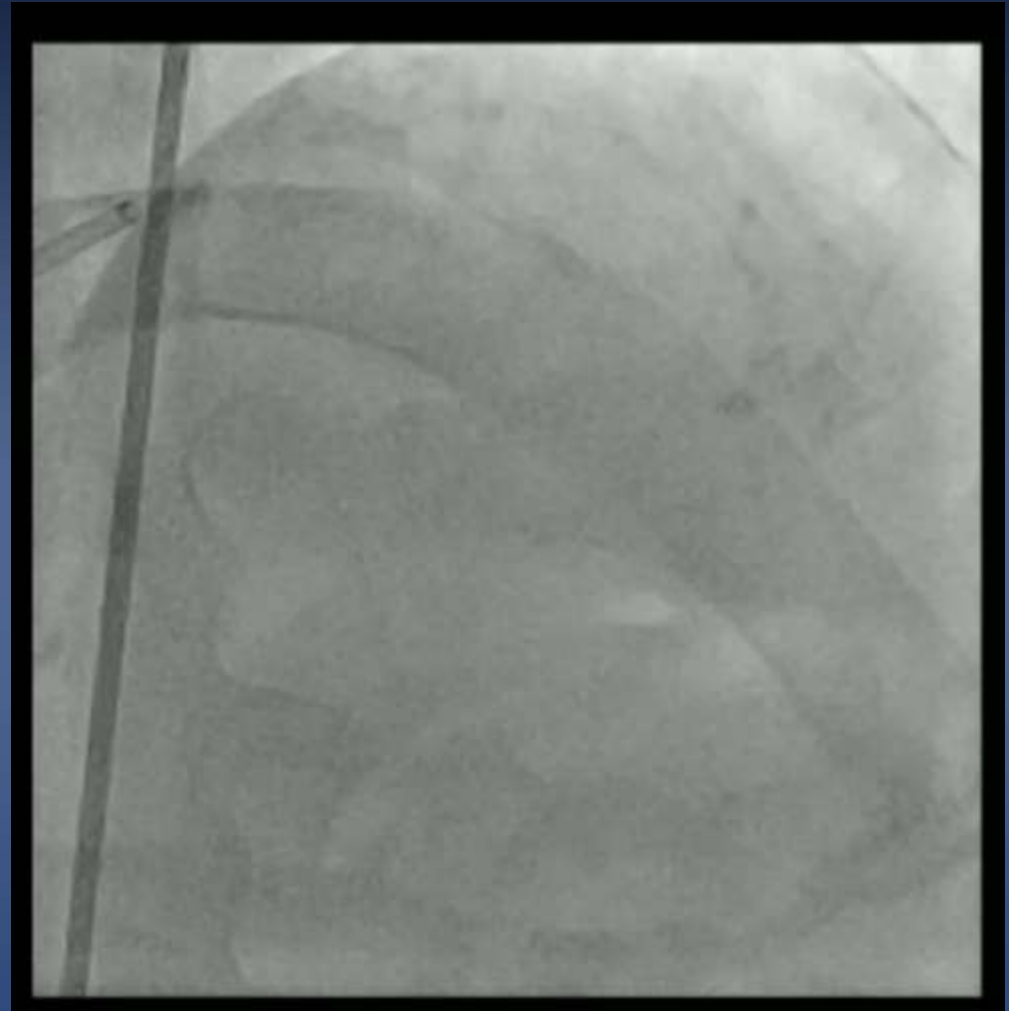
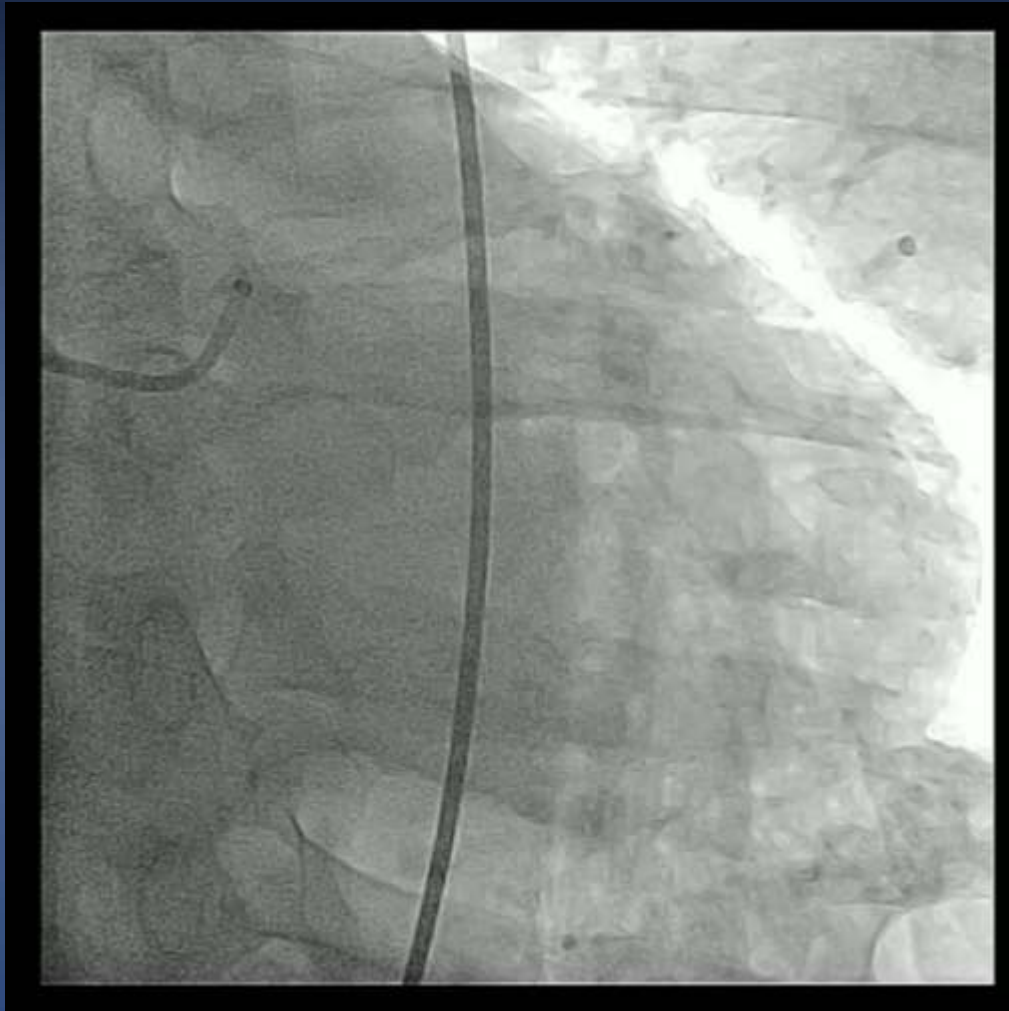
Coronary Angiography

RCA



Coronary Angiography

LAD



Coronary Angiography

Left Main Bifurcation

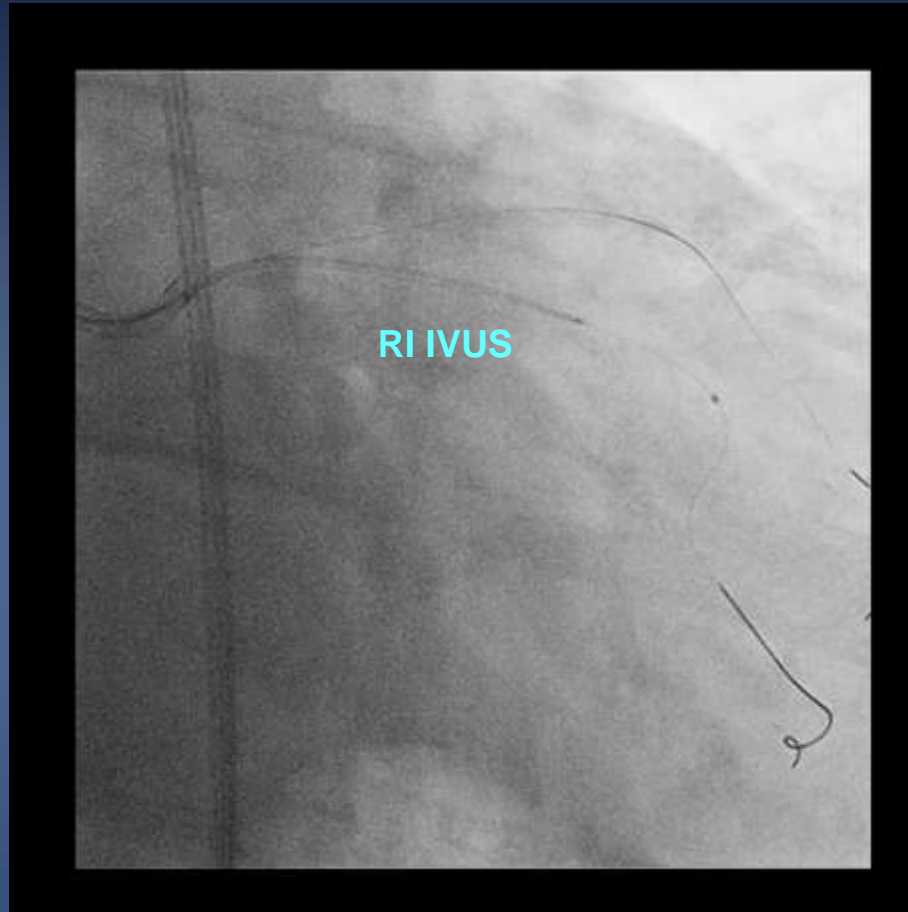


Strategic Plan

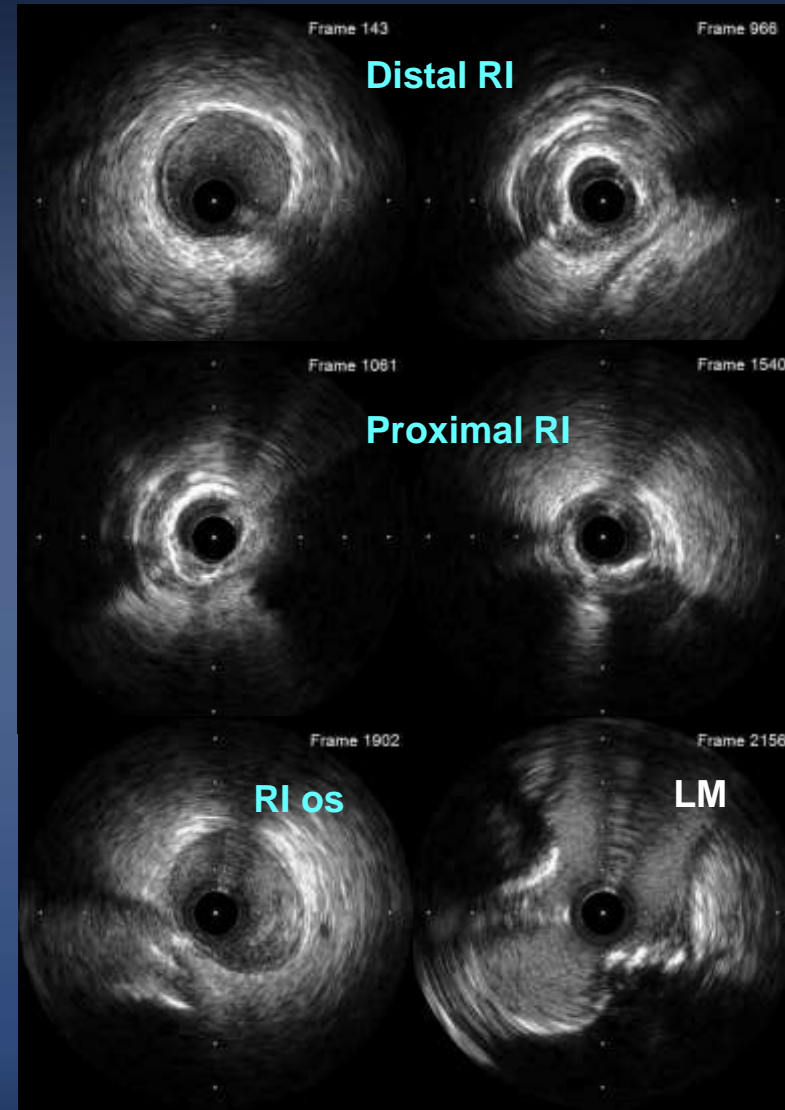
- 76/M, stable angina, HTN/smoker
- Left main and 3VD, severe calcification, syntax score: 43
- Heart team discussion: CABG vs. PCI
- If PCI, which strategy?
 - Left main PCI technique?
 - Imaging- vs. angiographic-guided
 - Elective hemodynamic support?: IAPB or Impella
 - RCA CTO: OMT or PCI

JL4 7Fr, Femoral

Wiring: LAD-BMW / RI-Sion BLUE / LCX-None
IVUS-LAD failed, then IVUS-RI



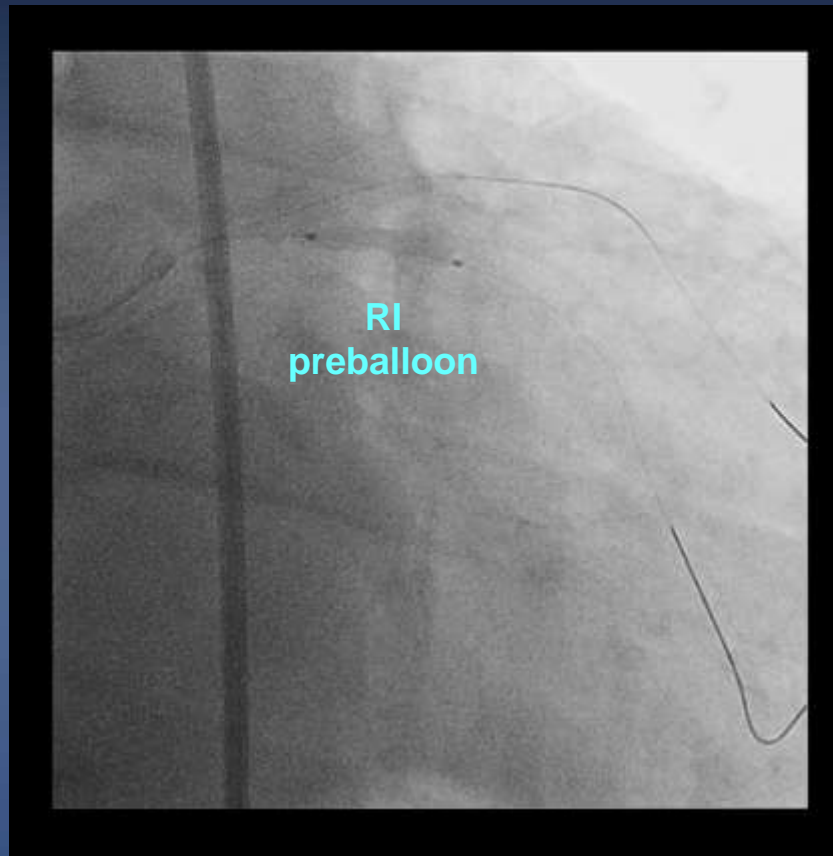
Initial IVUS at RI



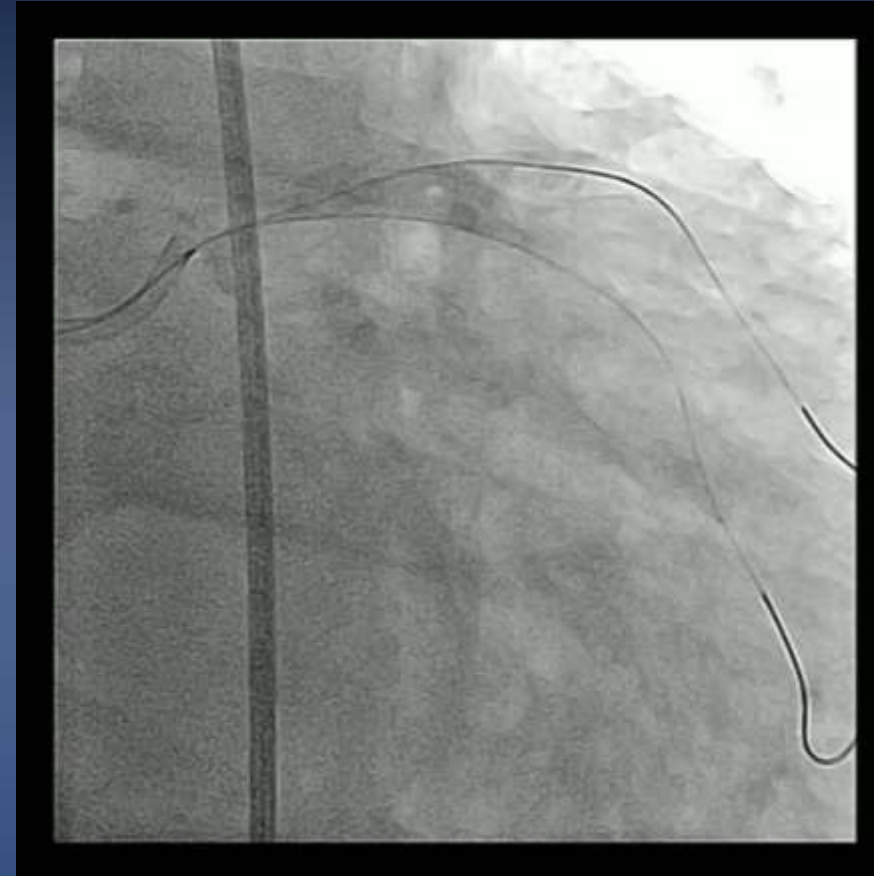
PCI at LM bifurcation

Decide balloon-crush technique: LM-RI & LM-LAD

Pre-Balloon at RI



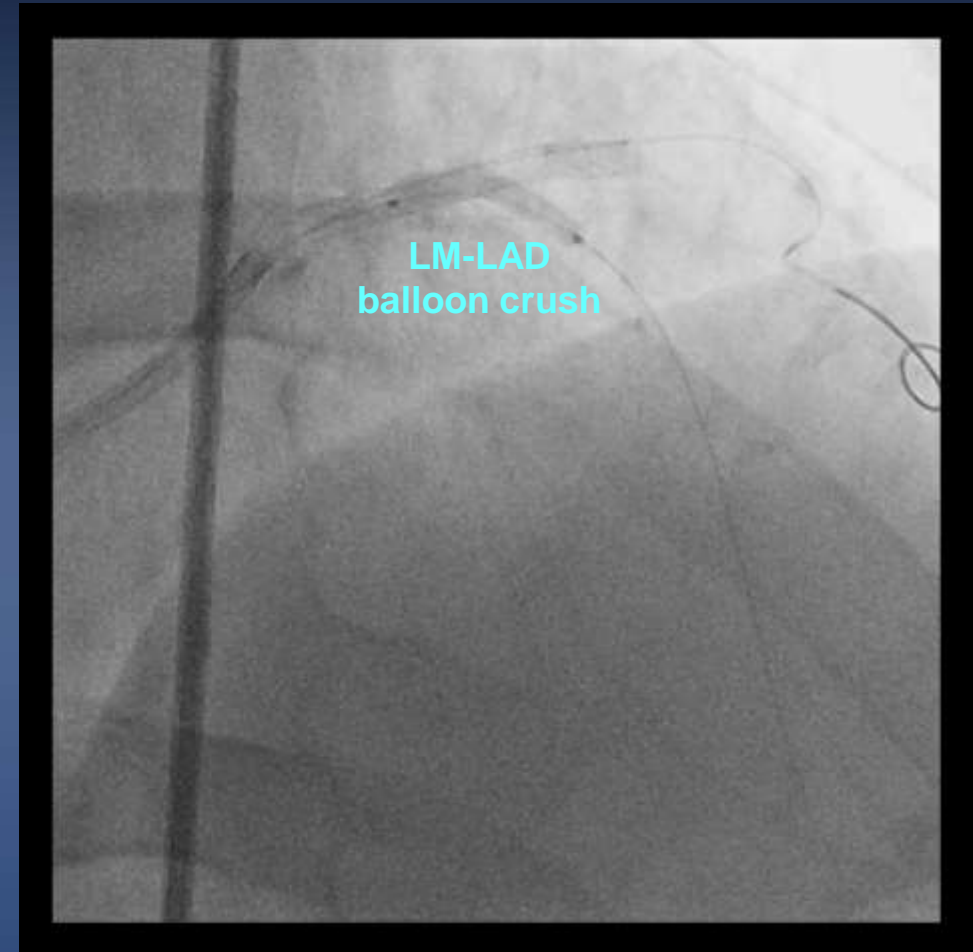
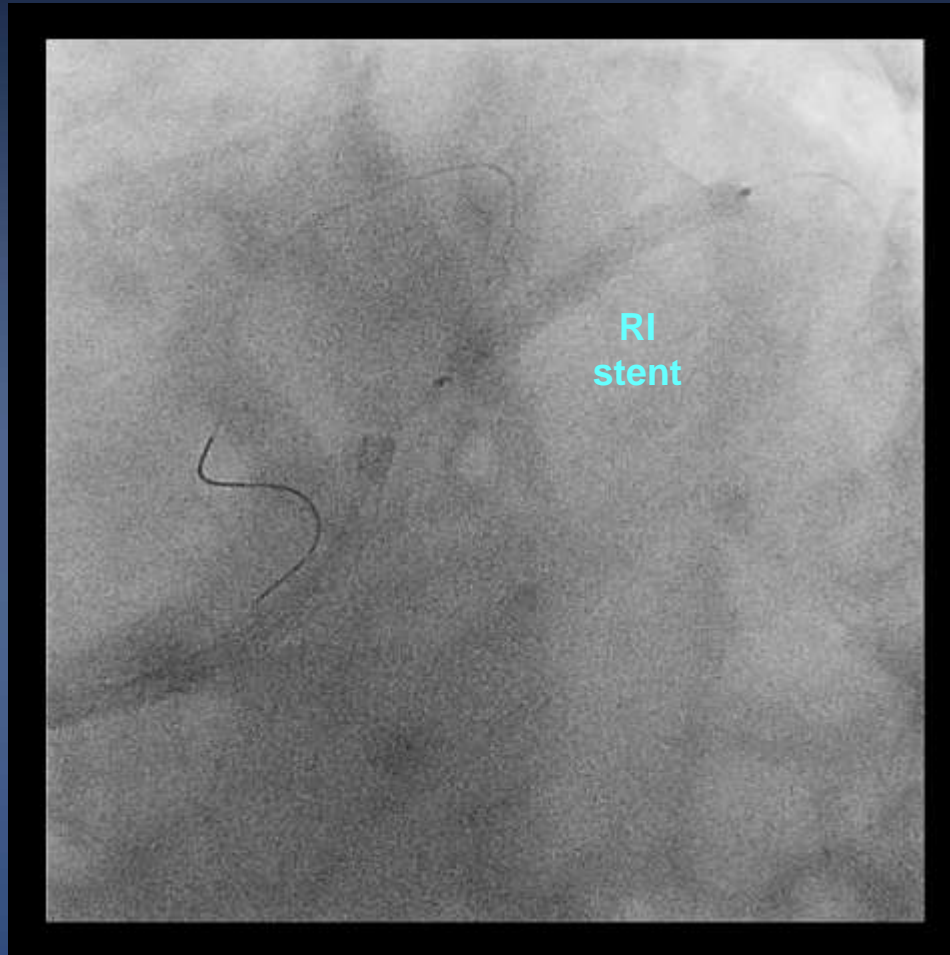
2.5 (15) compliant balloon



After Pre-Balloon at RI

PCI at LM bifurcation

RI stent => Balloon crush at LM-LAD



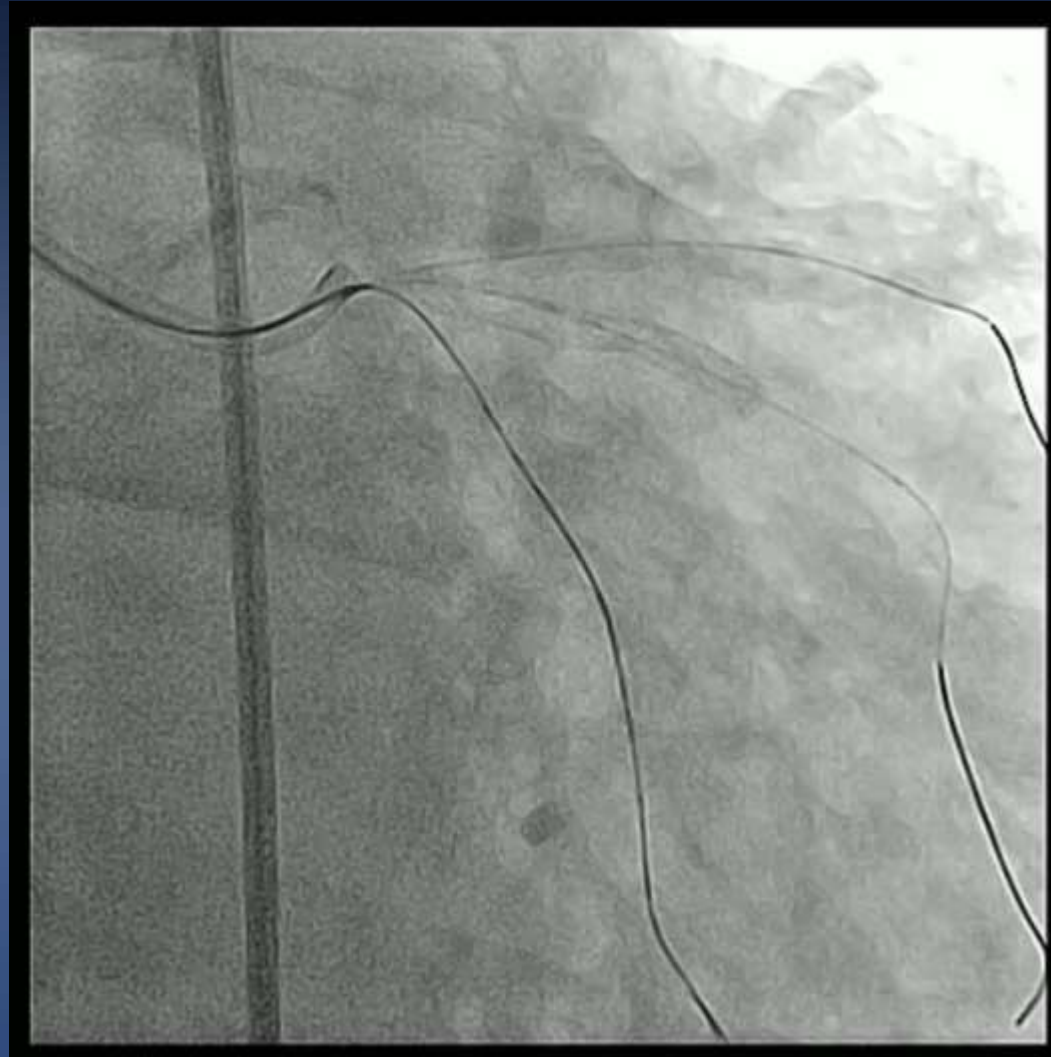
TCTAP & AP VALVES 2020 Onyx 3.0 (30) upto 12 atm

3.5 (15) NC balloon

Sudden BP drop & Bradycardia

Absence of LCX flow and urgent wiring at LCX

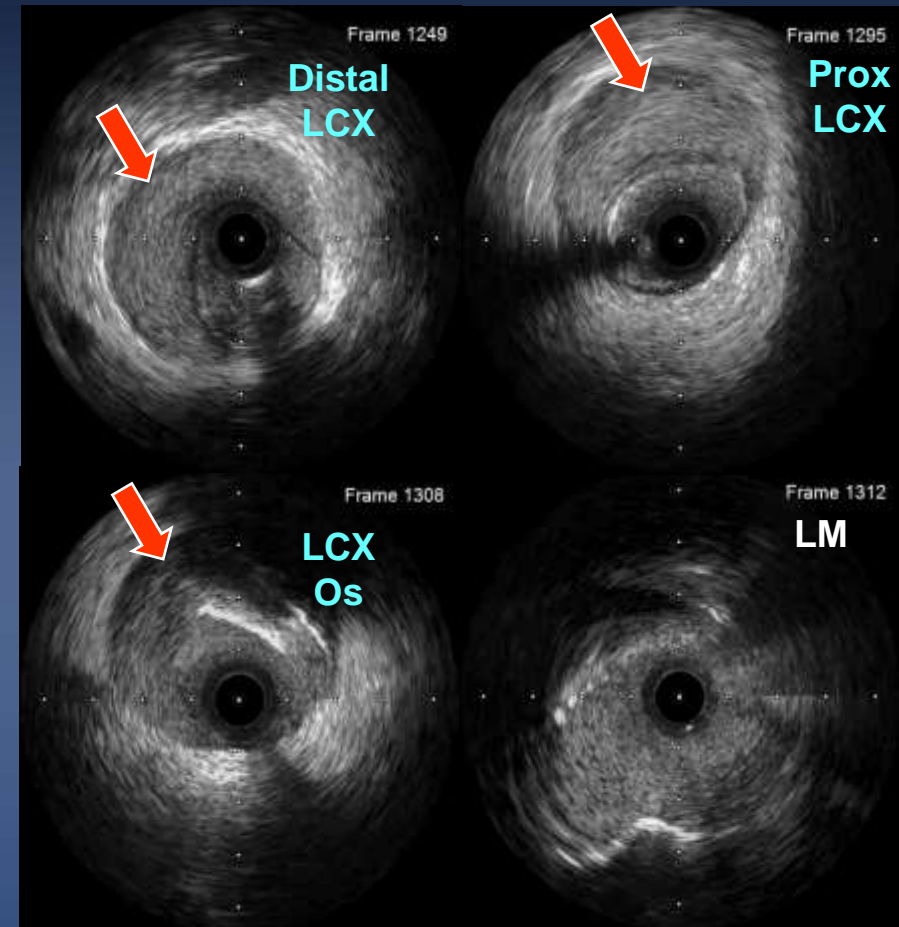
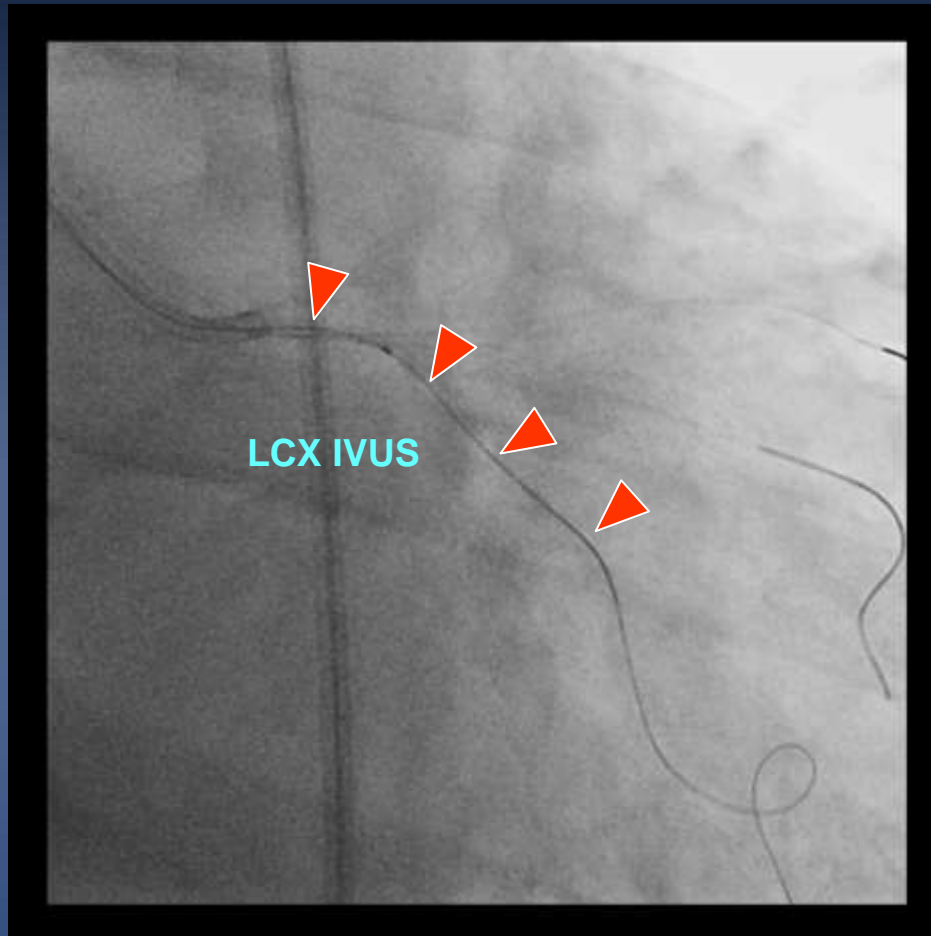
I immediately regretted not putting wire at LCX



It was very lucky to pass wire to LCX

Sudden BP drop & Bradycardia

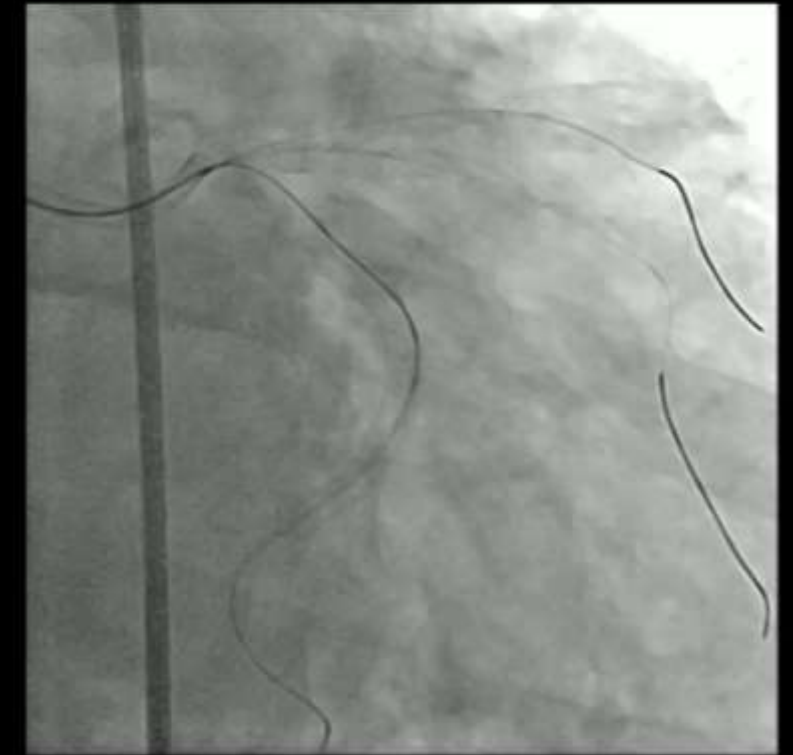
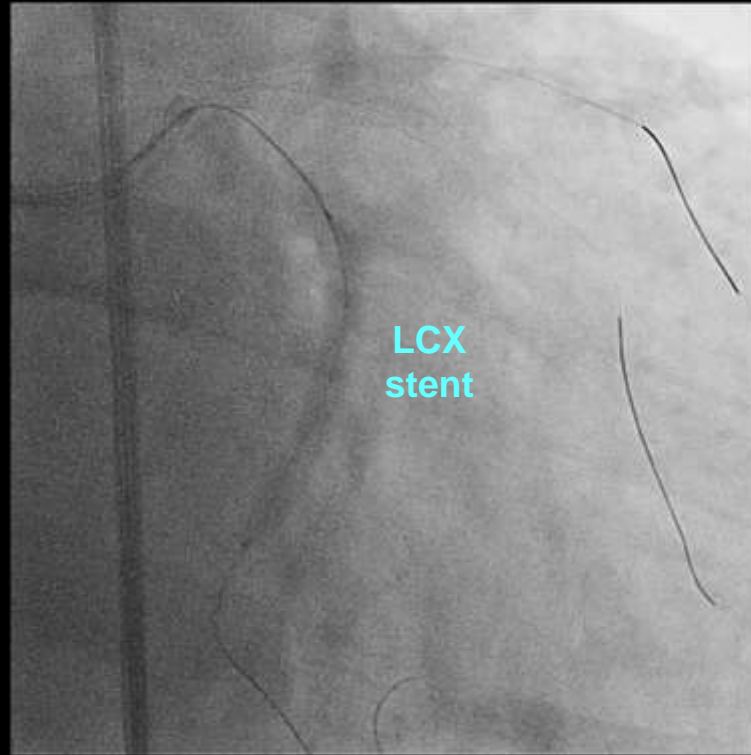
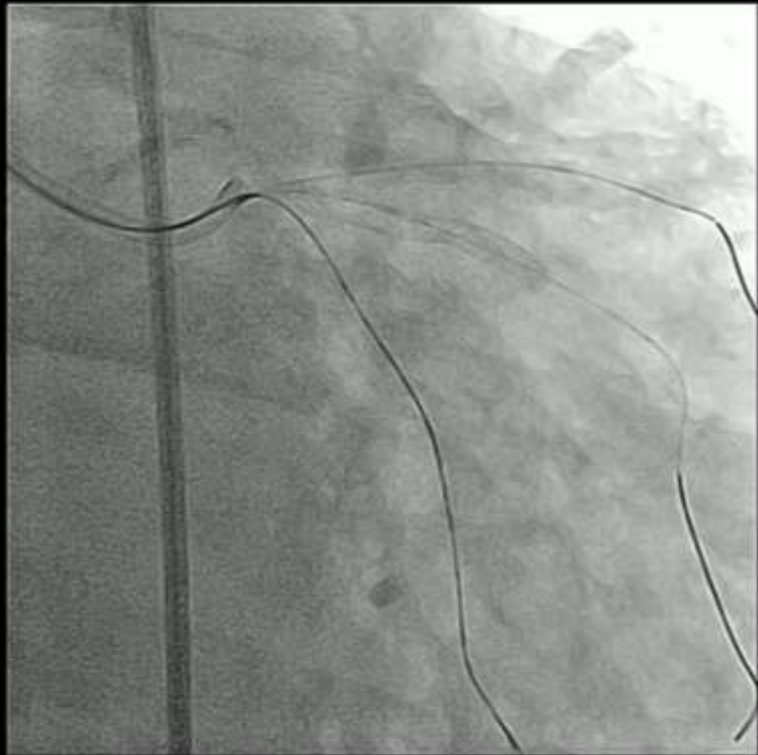
Absence of LCX flow and urgent wiring at LCX



“Iatrogenic Big Dissection at Whole LCX”

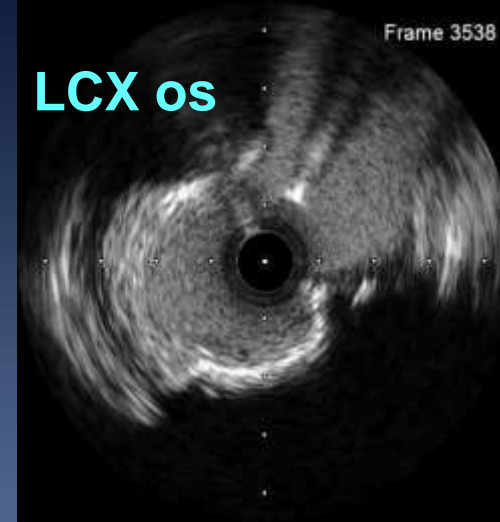
Dissection from LCX Os to Distal

Salvage balloon and stenting at LCX



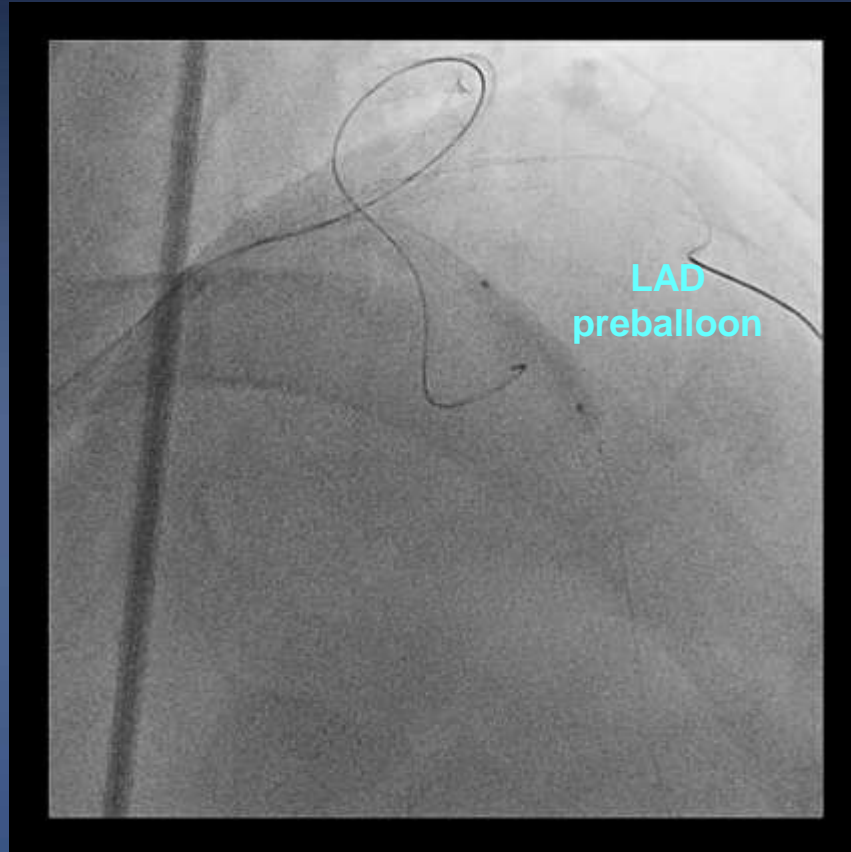
Onyx 3.5 (38) upto 12 atm

IVUS at LCX Os and LAD Os

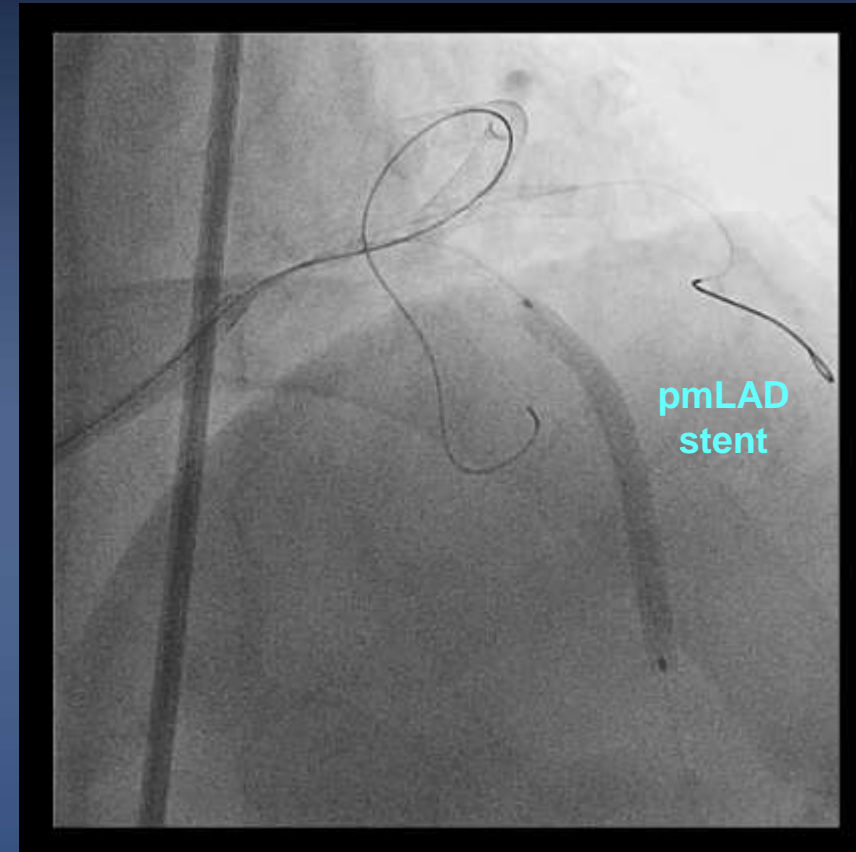


LM Bifurcation to Trifurcation PCI

Pre-Balloon & Stent at pm-LAD



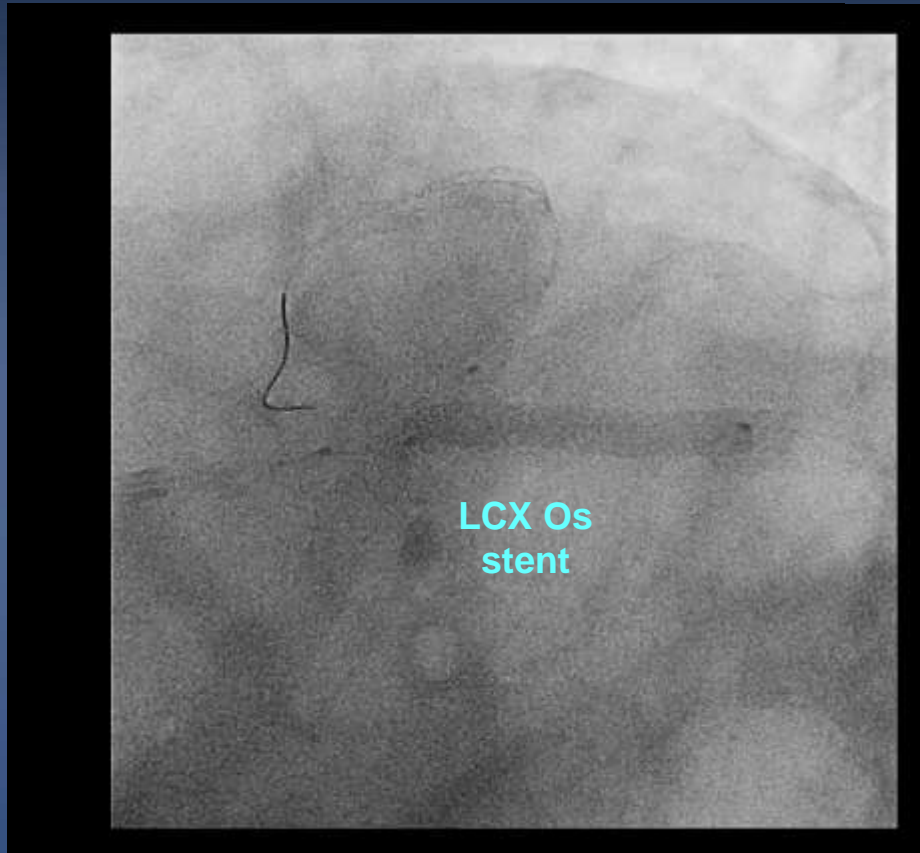
2.75 (15) NC balloon



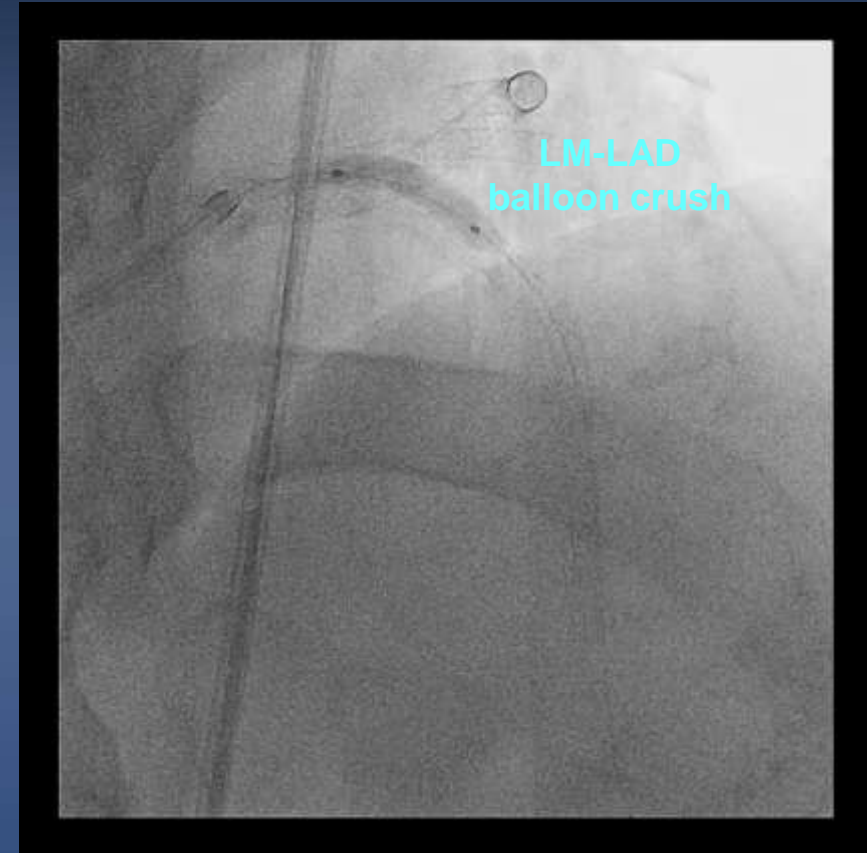
Onyx 2.75 (34) upto 16 atm

LCX Stenting

Stent at pLCX and balloon crush at LM-LAD



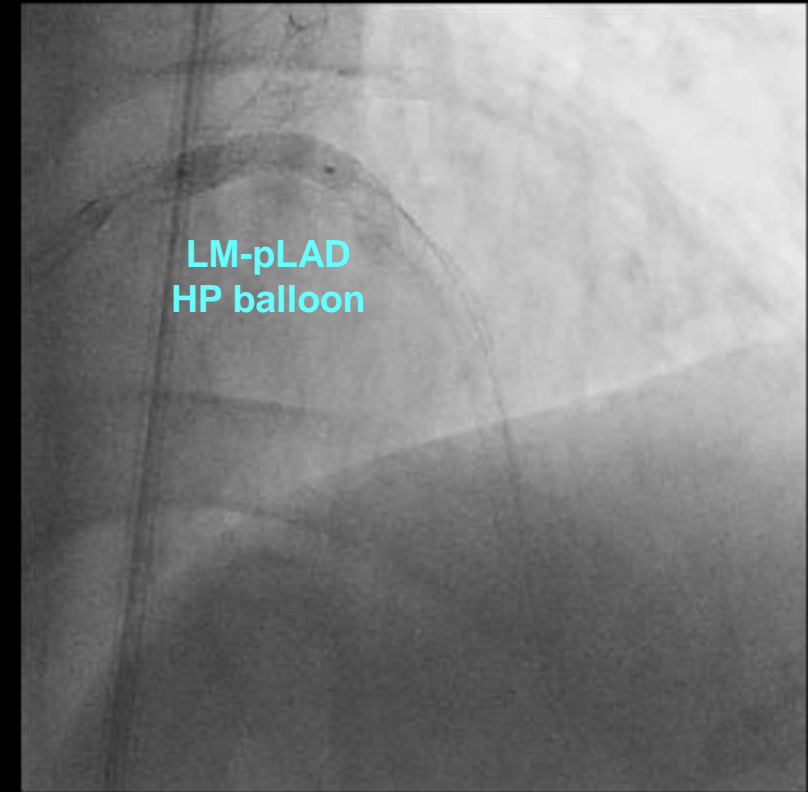
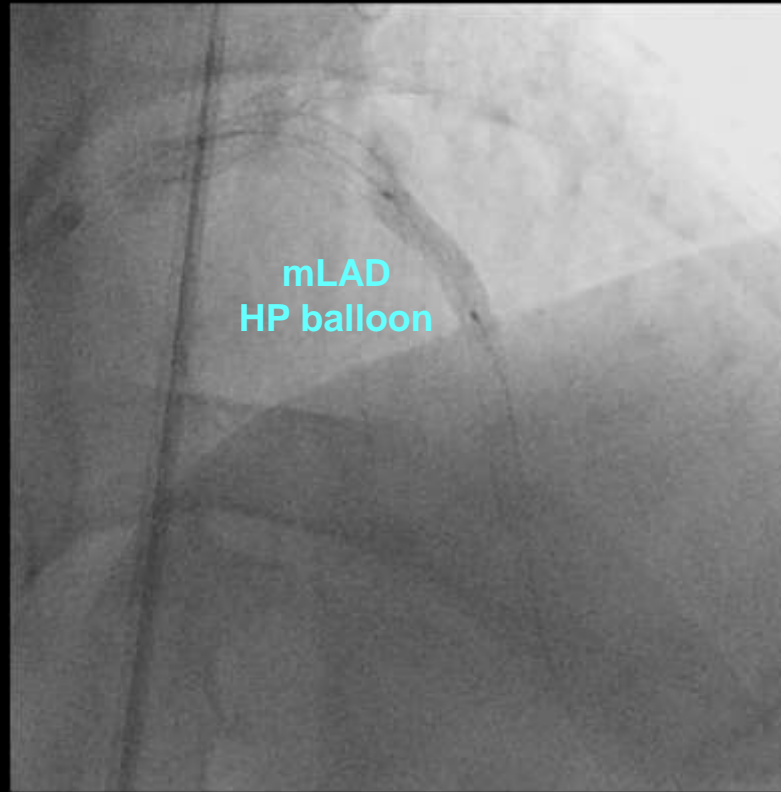
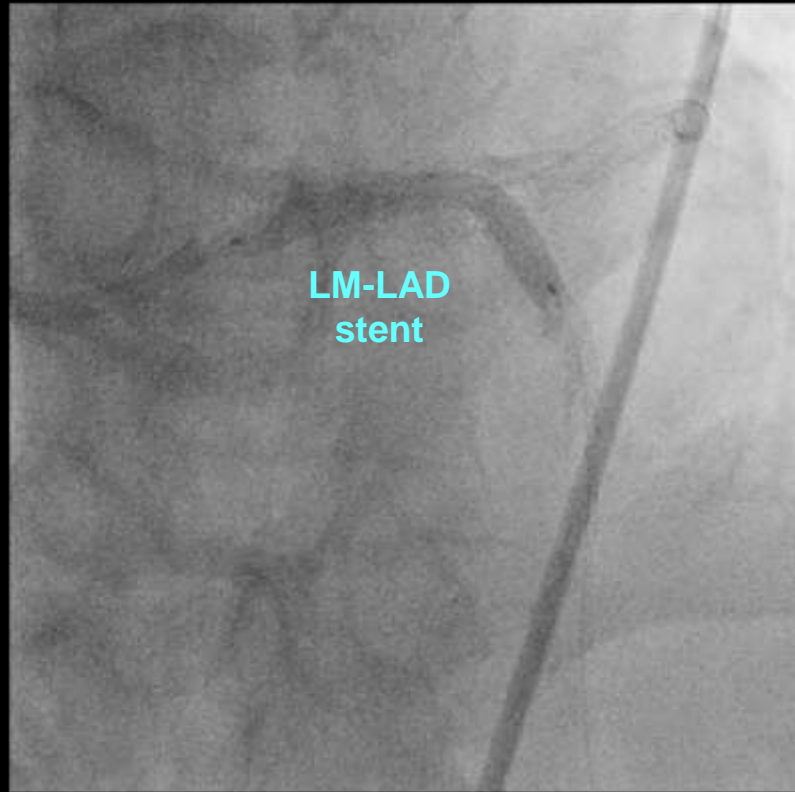
Onyx 3.5 (26) upto 12 atm



3.5 (15) NC balloon crush

PCI at LM Trifurcation

Stent at LM-pLAD and LAD rigorous NC balloon

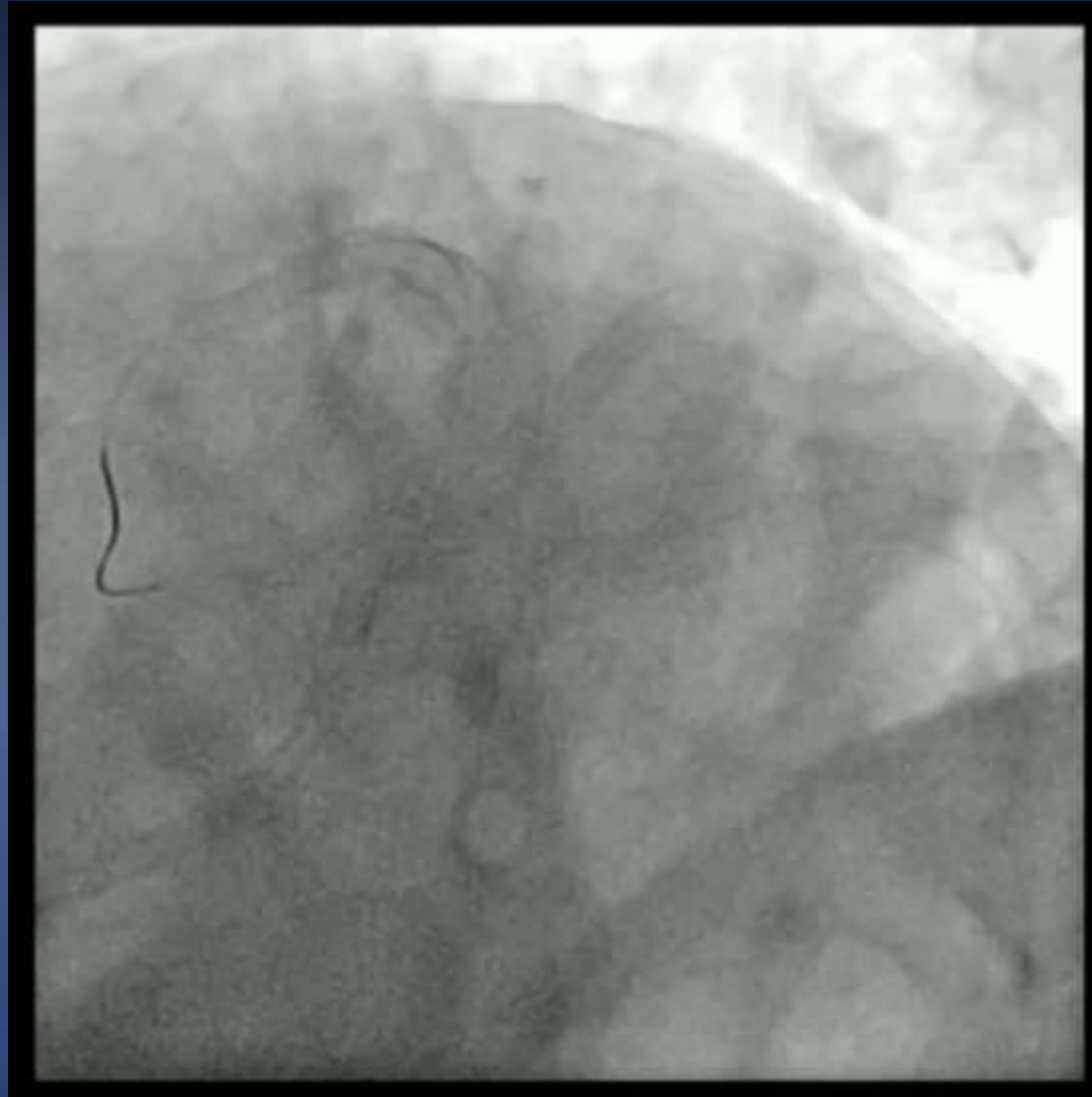


Onyx 3.5 (38) upto 14 atm

3.5 (15) non-compliant balloon

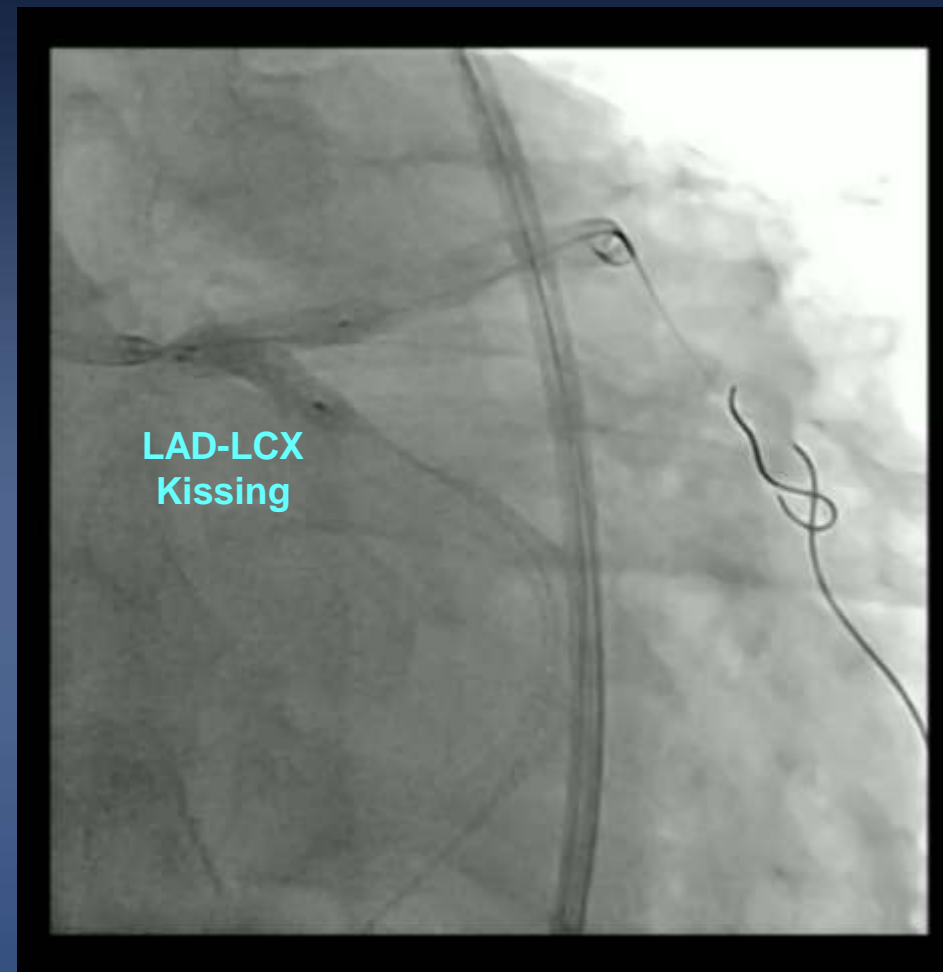
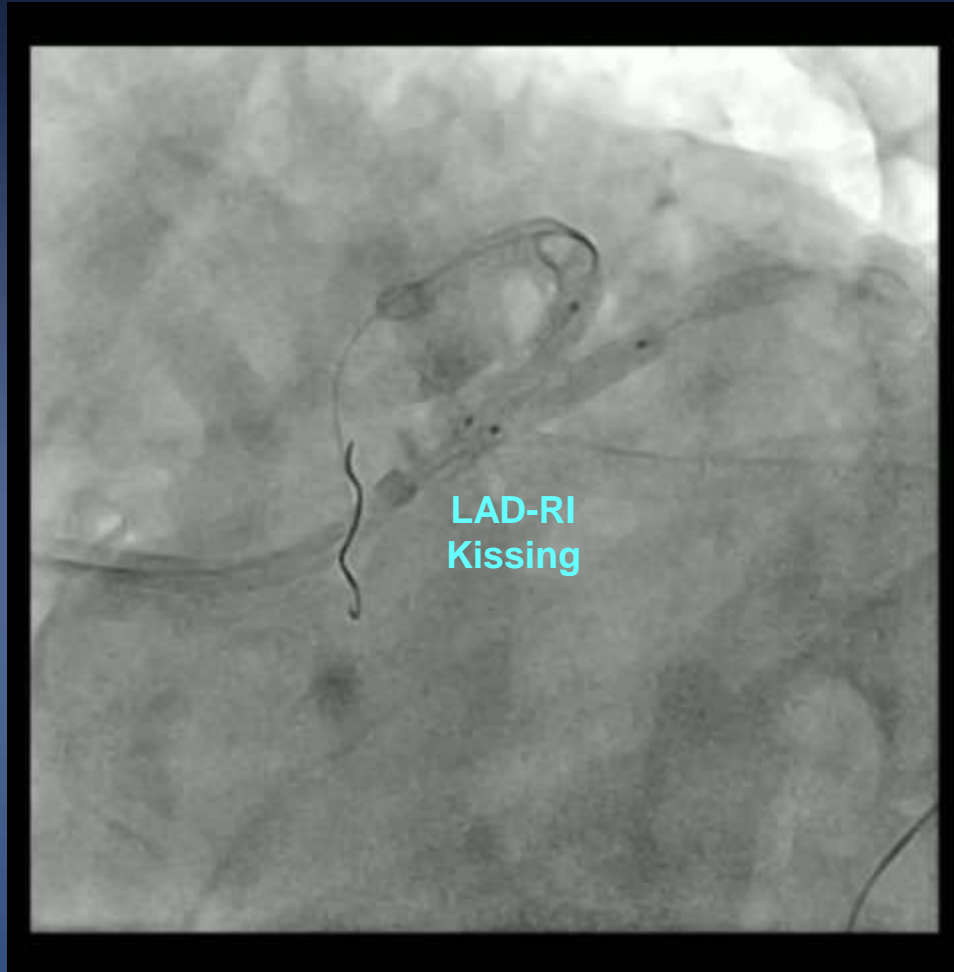
PCI at LM Trifurcation

Immediate Post-Stenting



Rewiring and Sequential Kissing

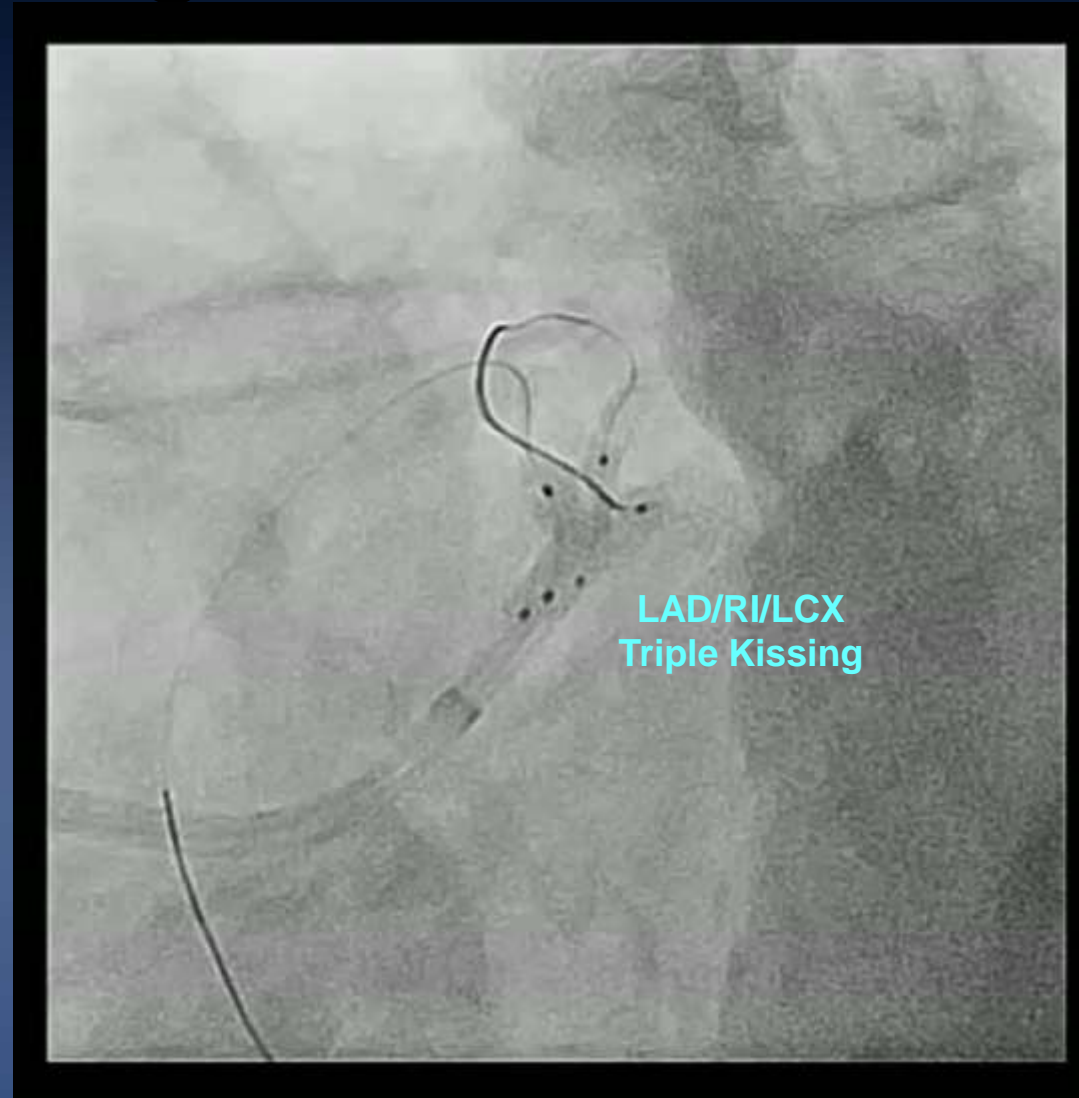
LAD: BMW, RI: Sion blue, LCX: Sion blue



LAD: NC 3.5(15) upto 12atm
RI: NC 3.0(15) upto 12atm

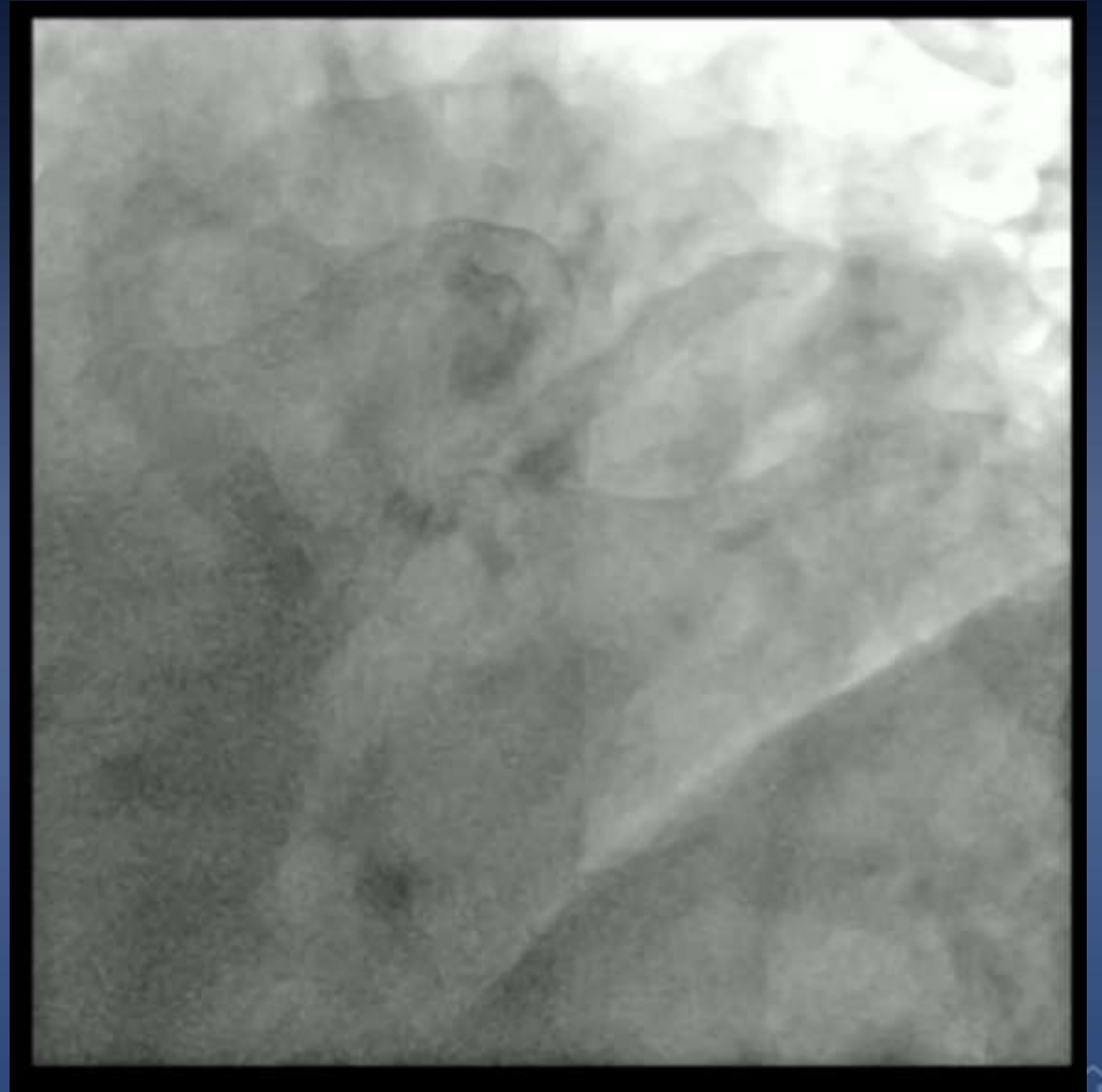
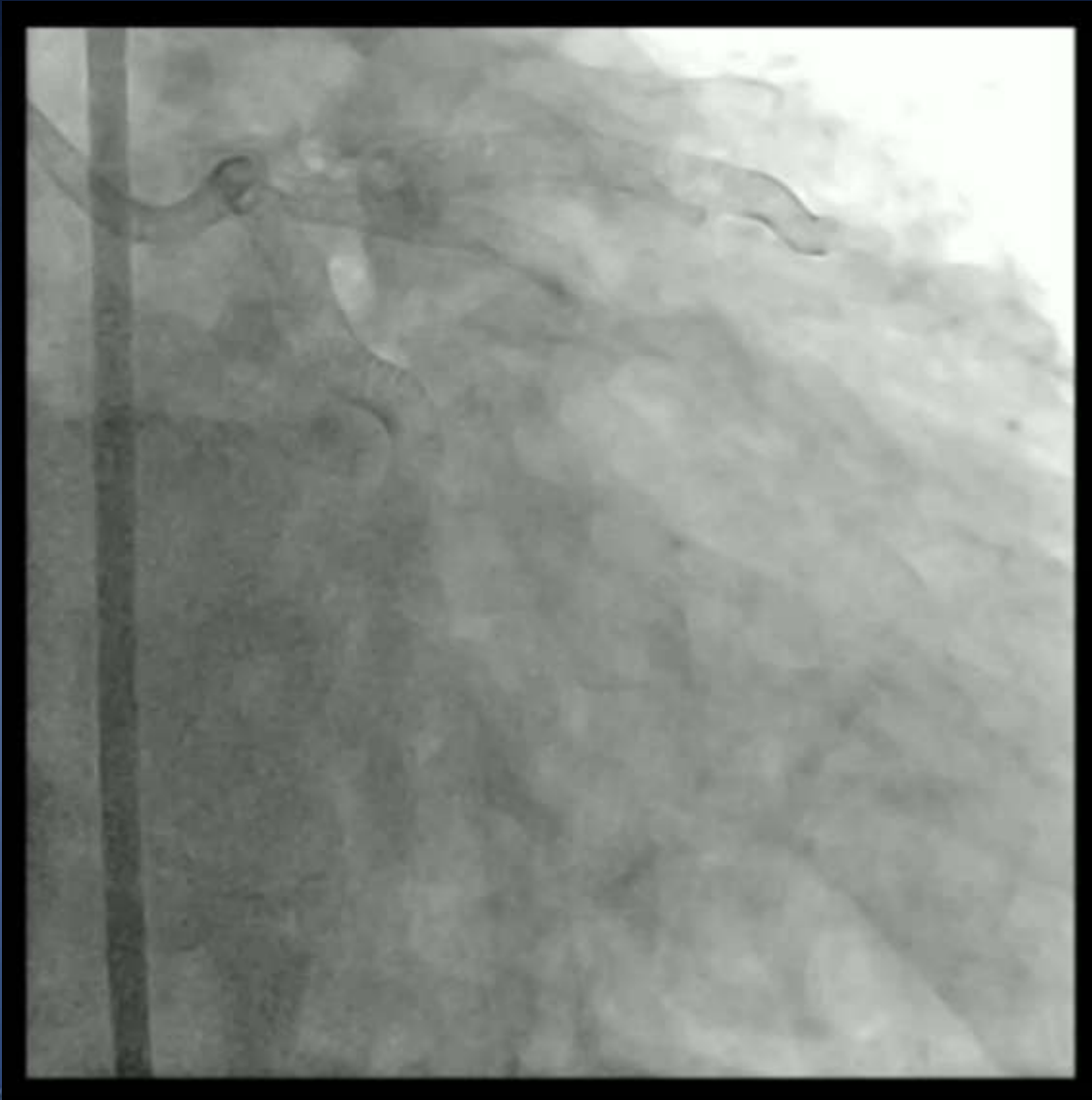
LAD: NC 3.5(15) upto 14atm
LCX: NC 3.5(15) upto 14atm

Triple Kissing Balloon at LM Trifurcation

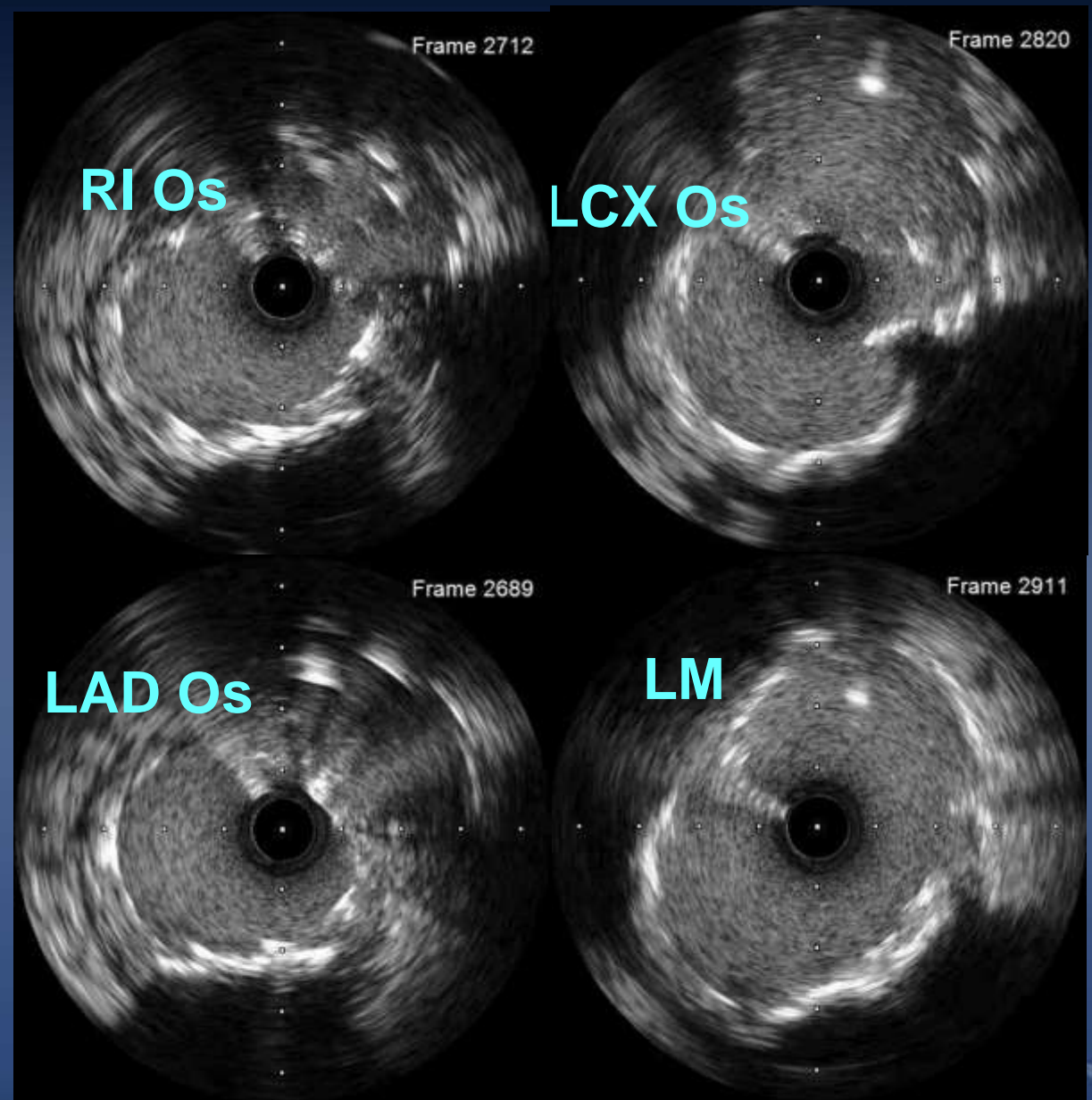
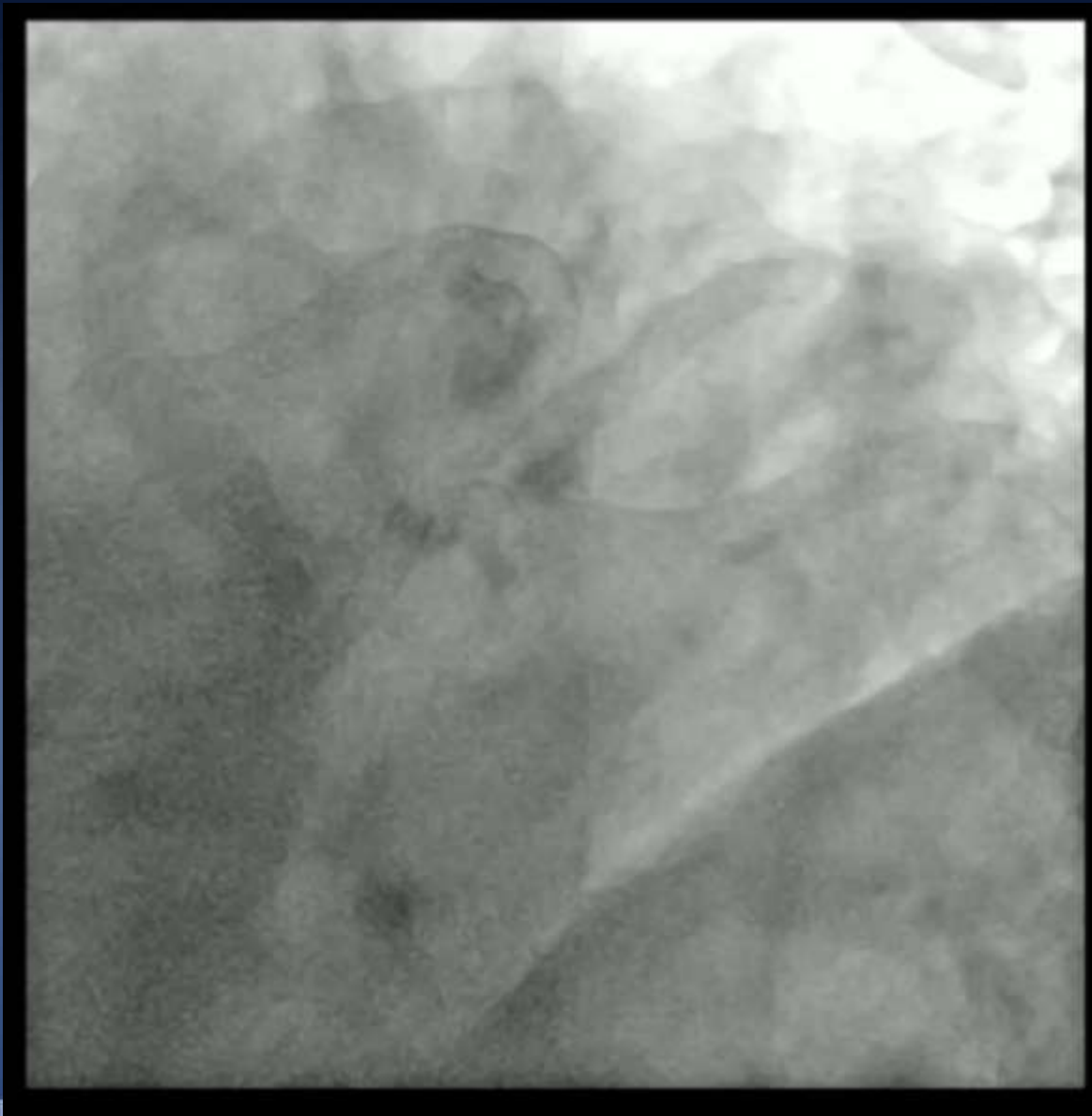


LAD: NC 3.5 (15) upto 10atm,
LCX: NC 3.5 (15) upto 10atm
RI: NX 3.0 (15) upto 10 atm

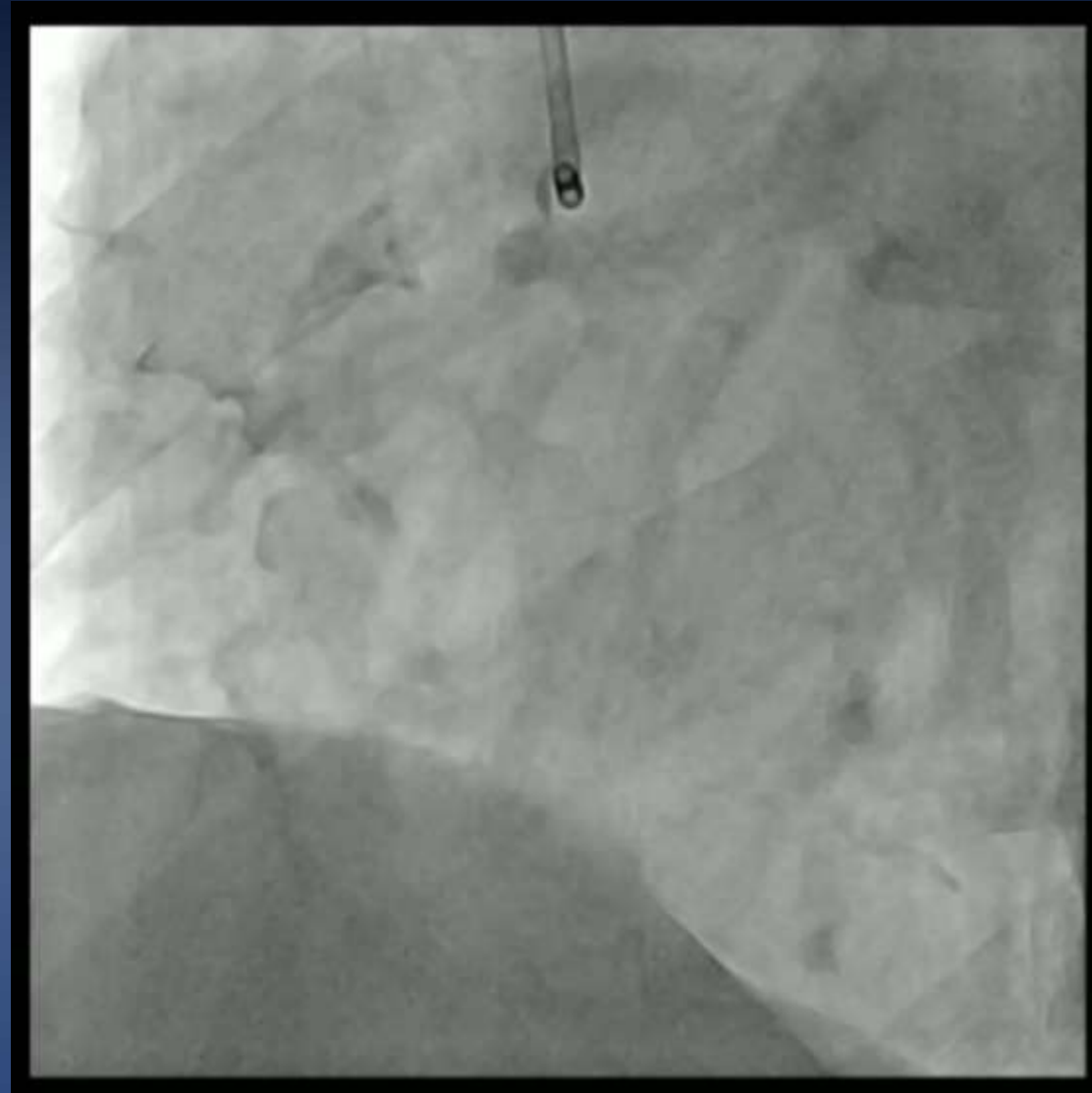
Final Angiographic Results: LM Trifurcation PCI



Final IVUS Results: LM Trifurcation PCI



OMT for RCA CTO



Lessons Learned from This Challenging Case of the Year

- Regardless of initial morphology of distal LM bifurcation, if possible, put all wires in all branches.
- For complex distal LM bifurcation lesion, imaging-guided PCI is essential for detection of complications and PCI optimization.
- During LM bifurcation PCI, unexpected complications can be happened at any time.
- Don't panic, even in an unexpected situation. Complex stenting is possible by quickly formulating strategies in your mind.
- A key wisdom for this challenging case: **“There's always a way out if you keep your head on straight.”**