

Case 1. Left Main Disease

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Disclosure

- Institutional grant/research funding to CardioVascular Research Foundation (CVRF, Korea) and/or Asan Medical Center from Abbott, Boston Scientific, Medtronic, Daiichi-Sankyo, Edwards Lifescience, HK InnoN, Daewoong Pharm, and ChongKunDang Pharm.

Case Presentation

Brief Case Summary

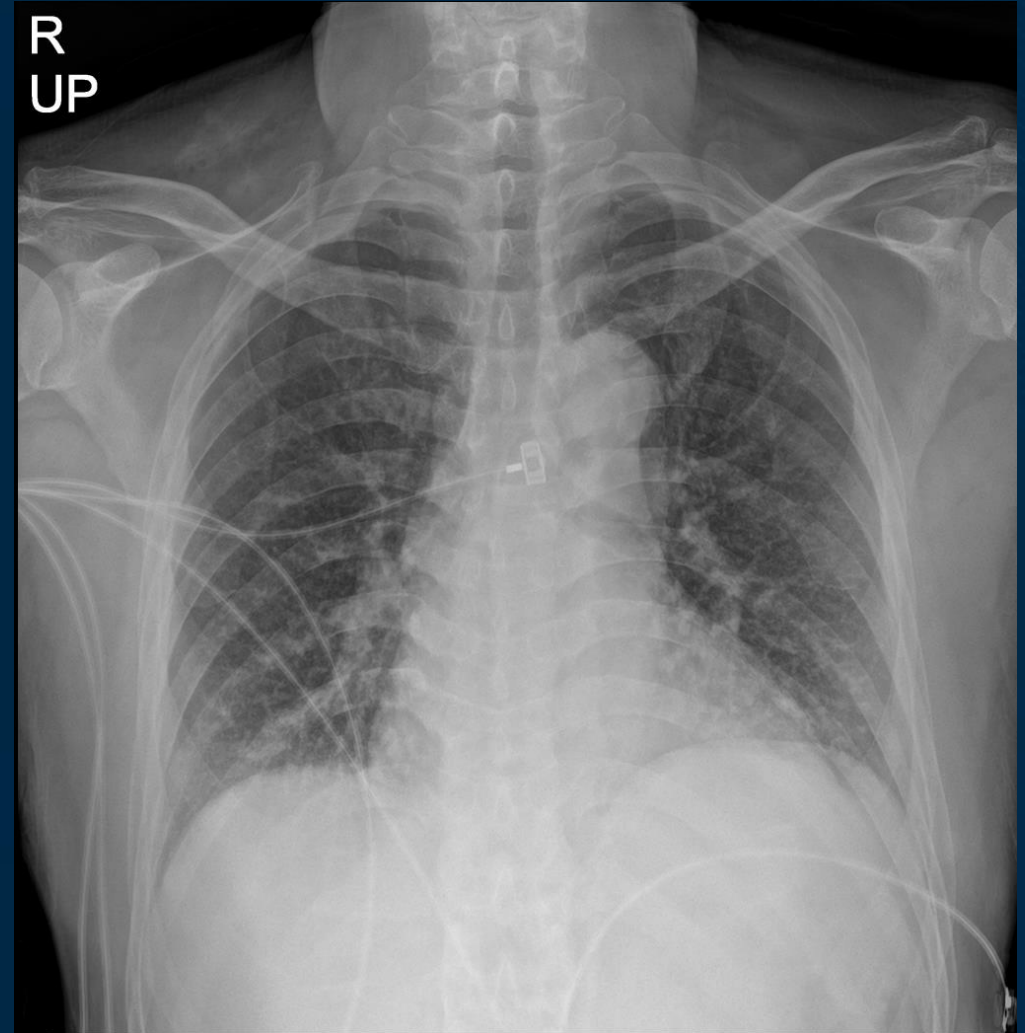
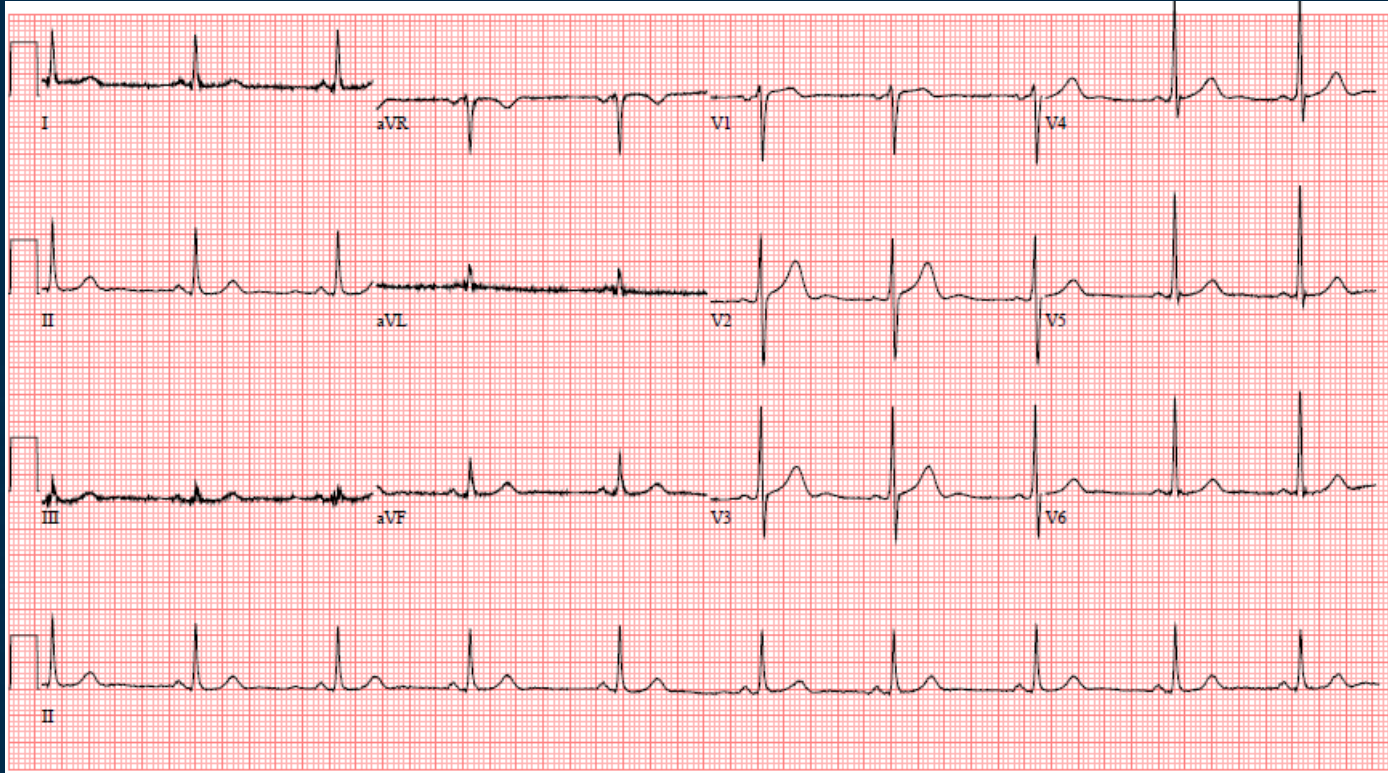
- A 63-year-old male referred for loss of consciousness and effort chest pain. He has been treated with hypertension and hyperlipidemia

Past Medical History

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

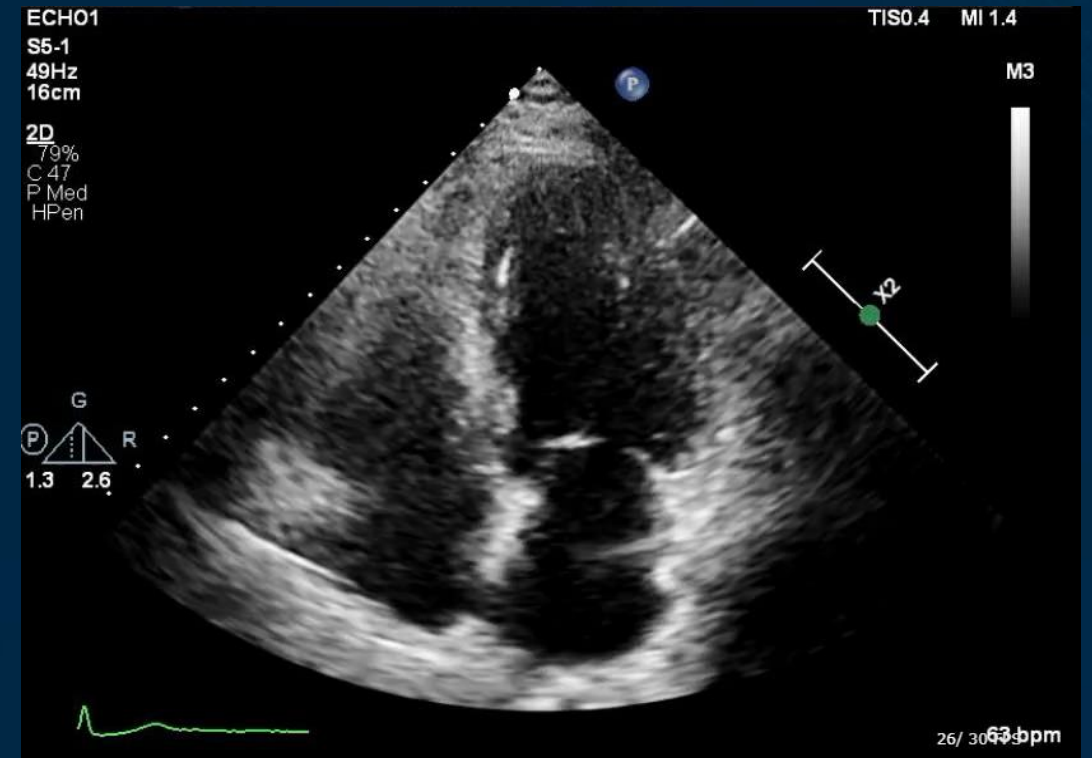
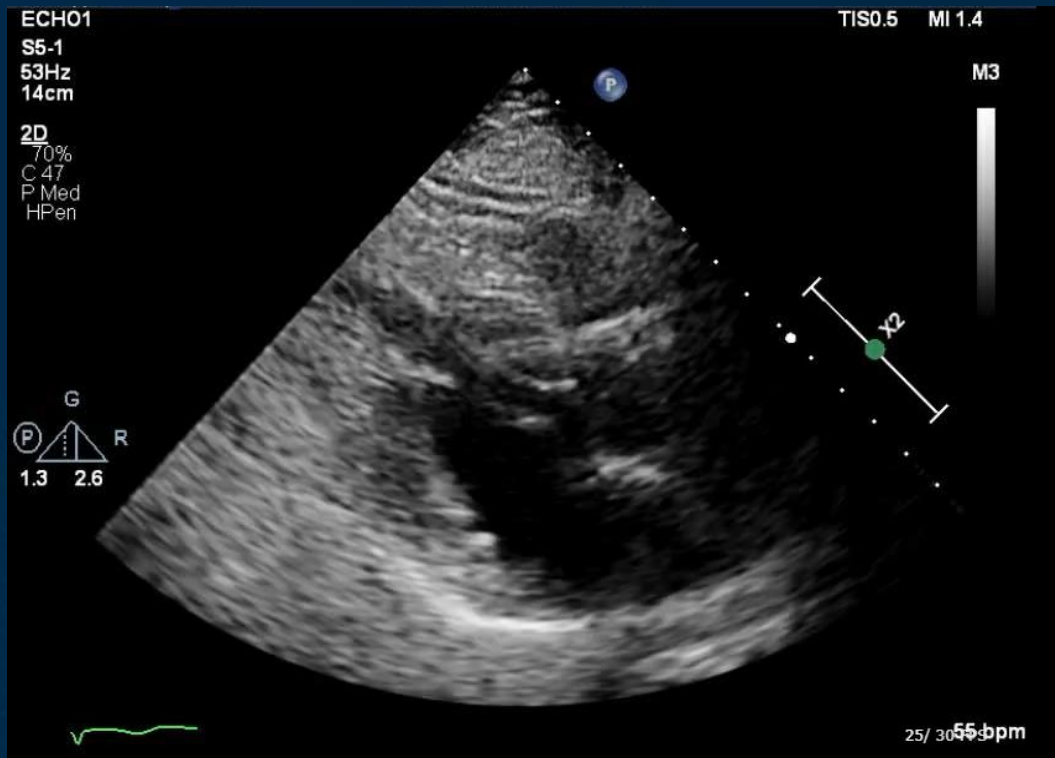
ECG

Chest X ray



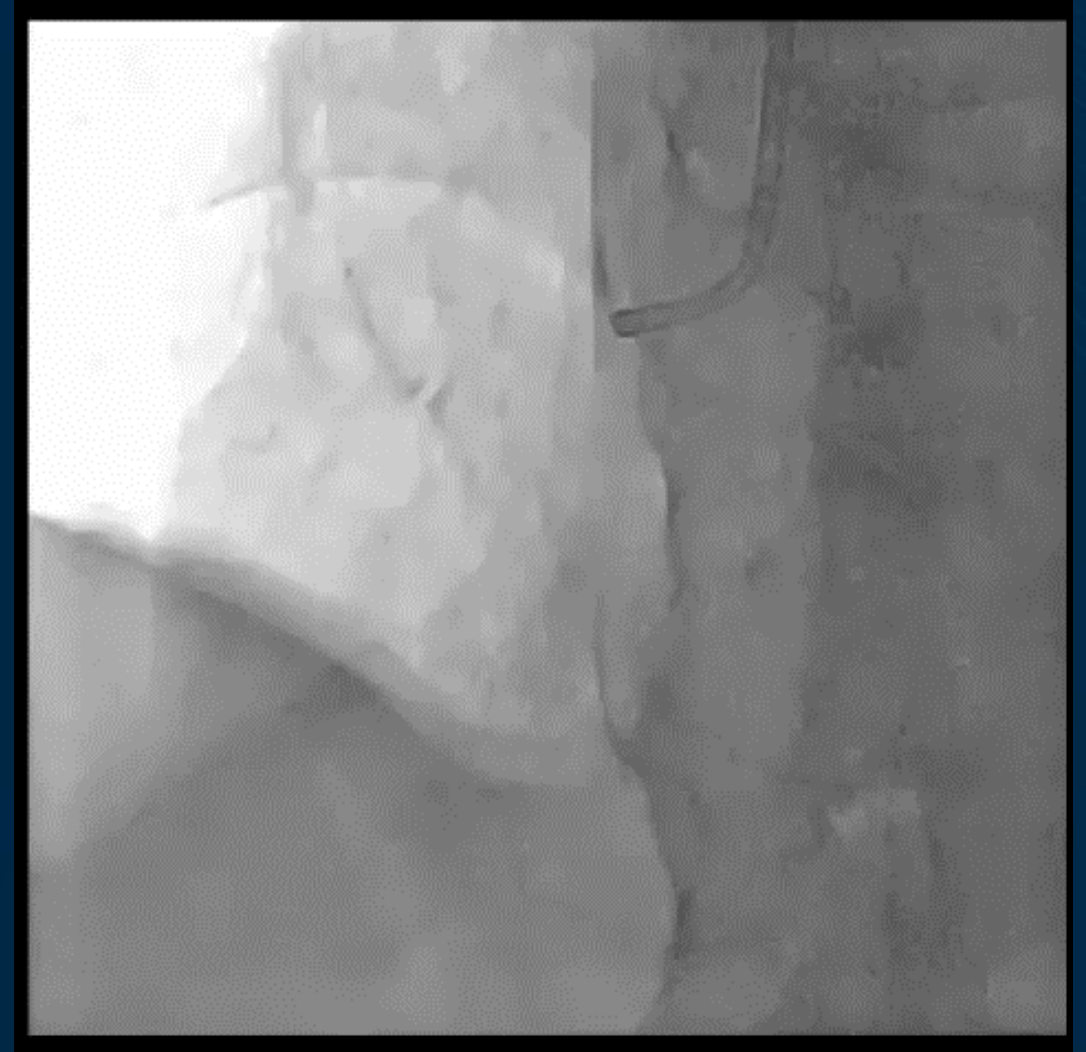
Transthoracic Echocardiography

- EF 67%
- Normal LV size and systolic function



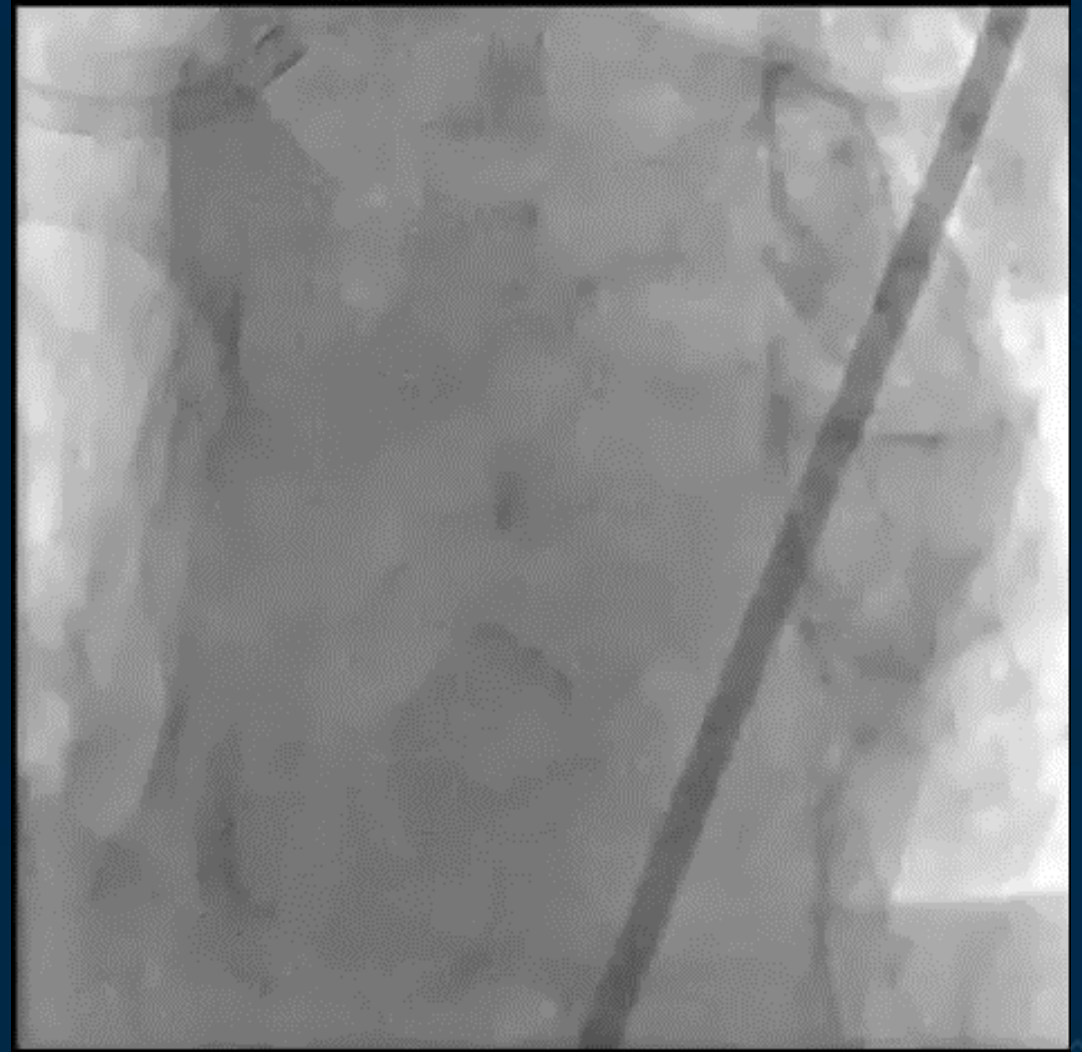
Baseline Coronary Angiography

RCA : Mild stenosis



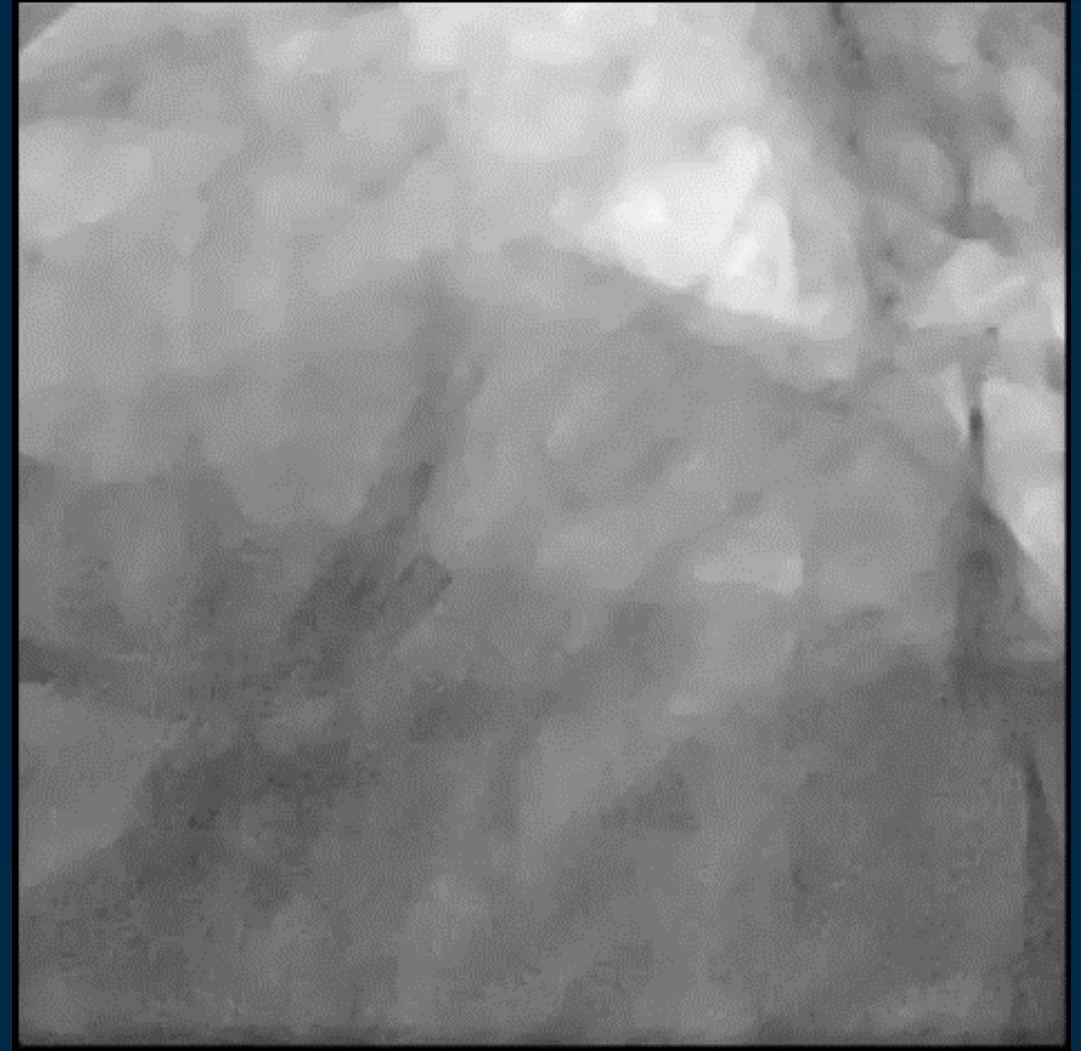
Baseline Coronary Angiography

Target lesion: LM Distal Bifurcation and pmLAD disease



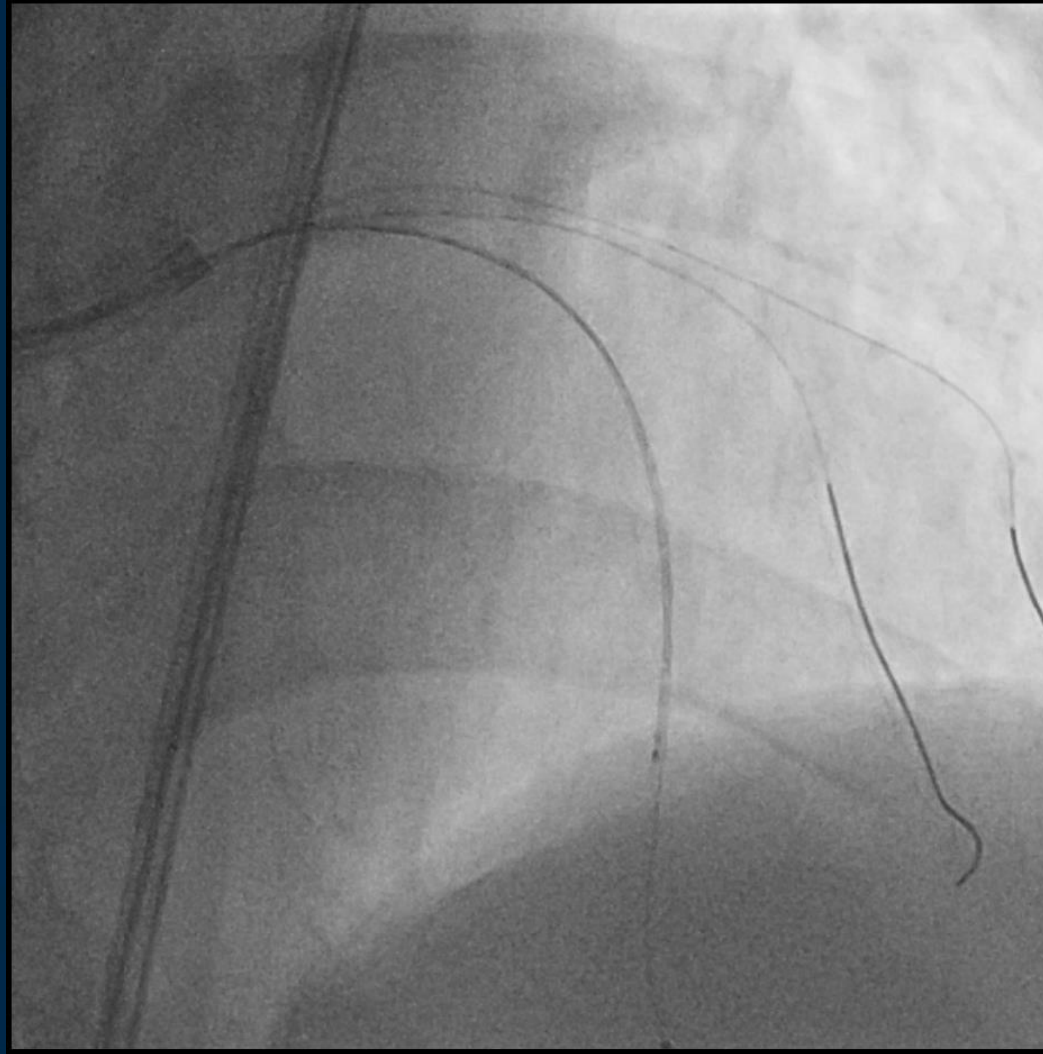
Baseline Coronary Angiography

Target lesion: LM Bifurcation and diffuse LCX disease



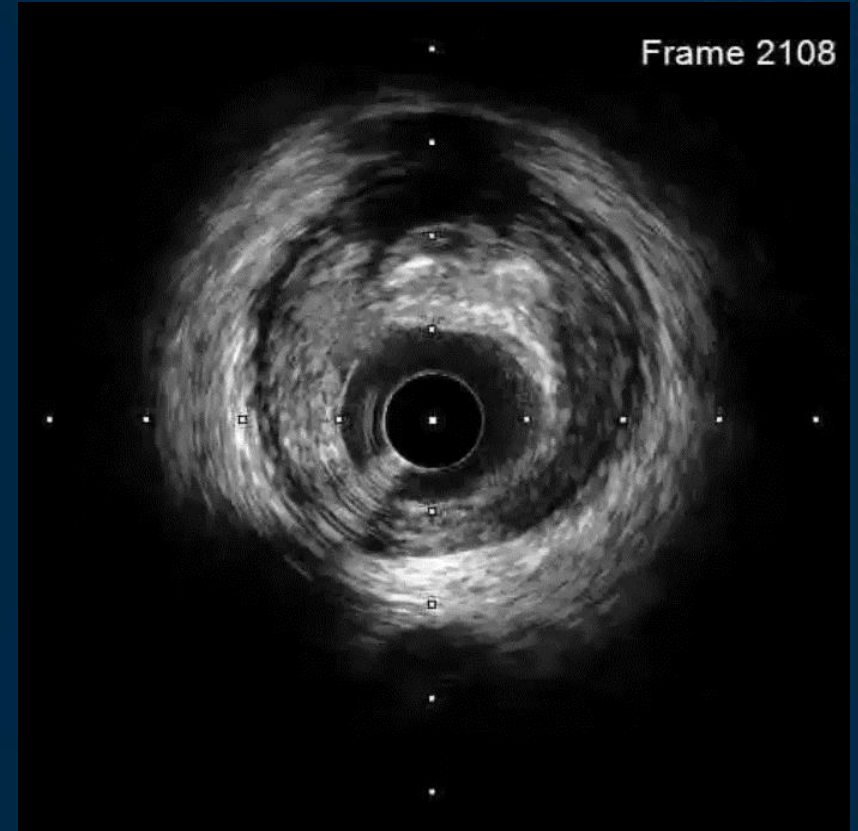
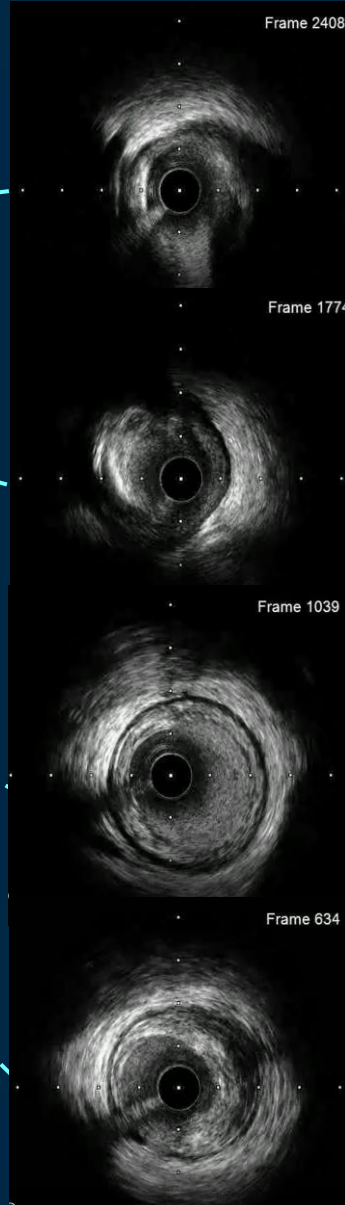
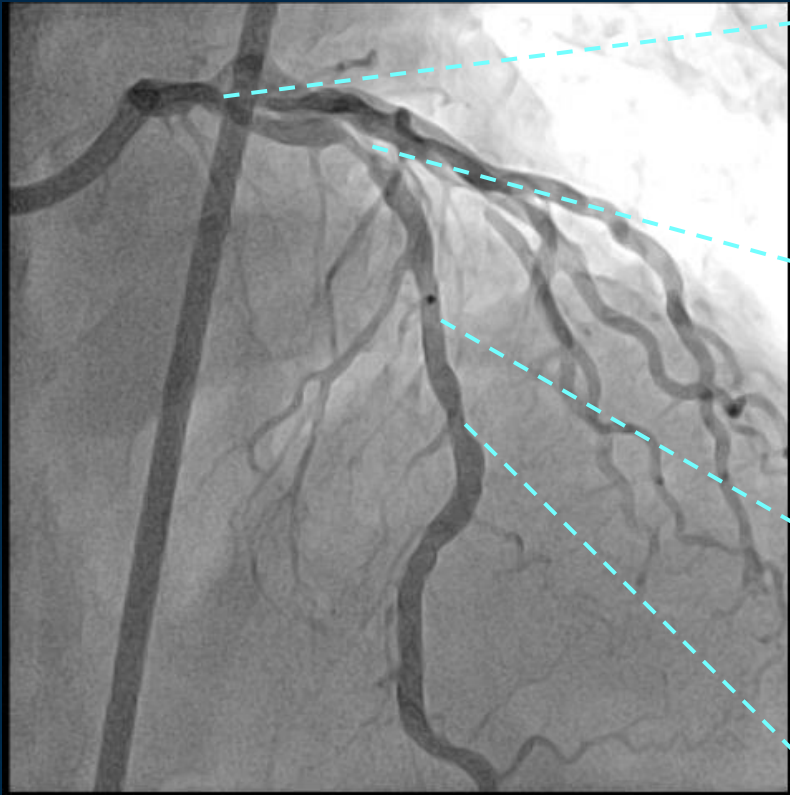
Wiring & Pre-IVUS

Wiring : LAD-Sion BLUE /High Di –Sion BLUE/LCX - Runthrough



PCI at LM Bifurcation

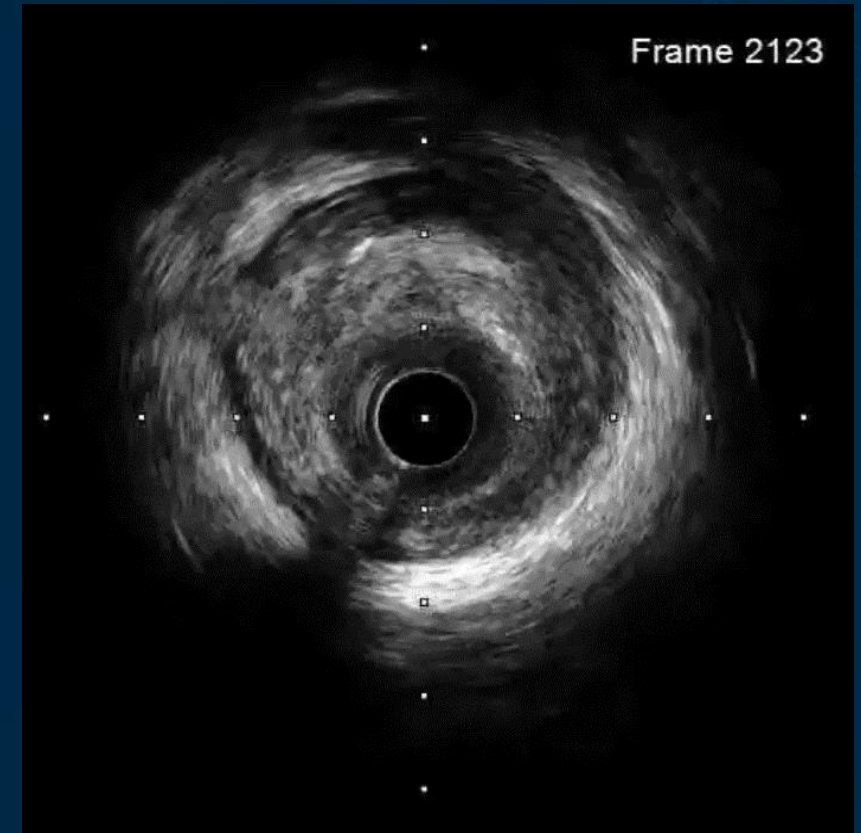
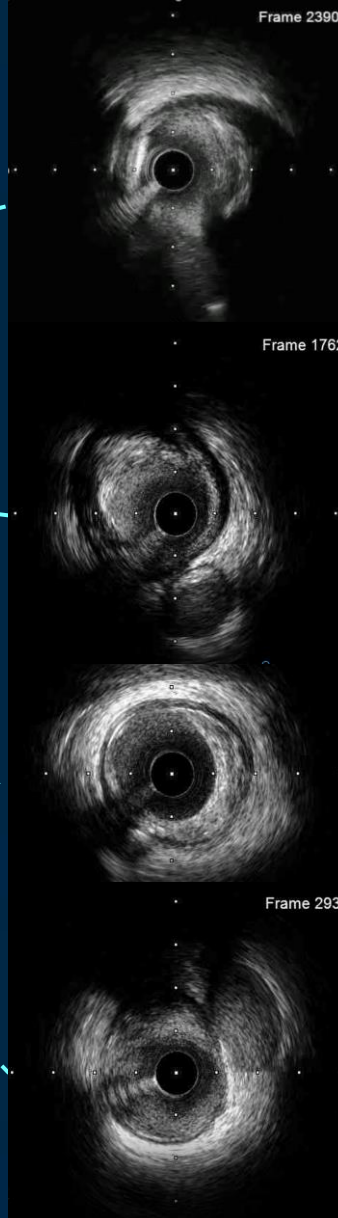
IVUS evaluation at LAD (Pre)



LAD OS

PCI at LM Bifurcation

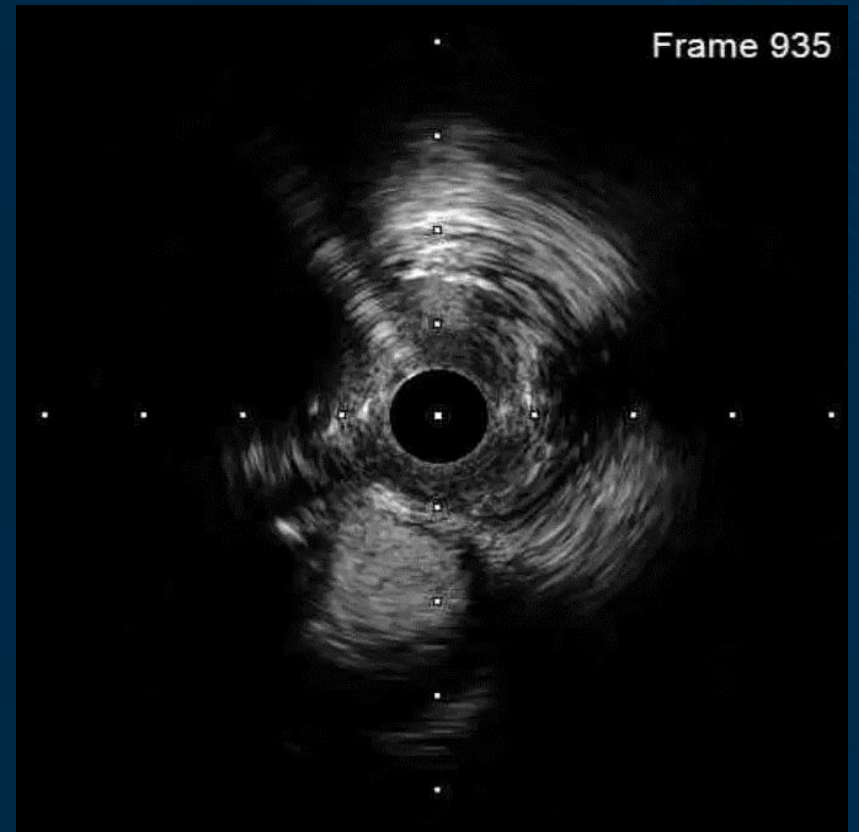
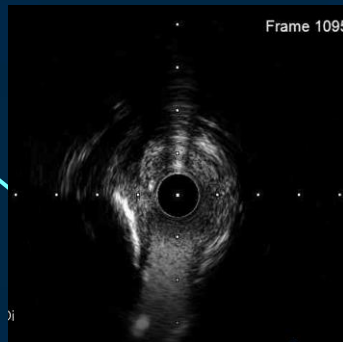
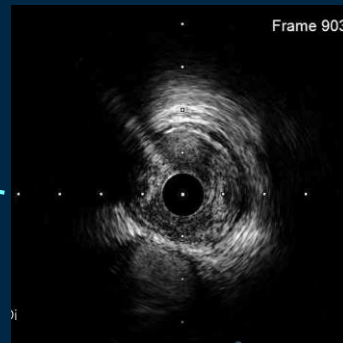
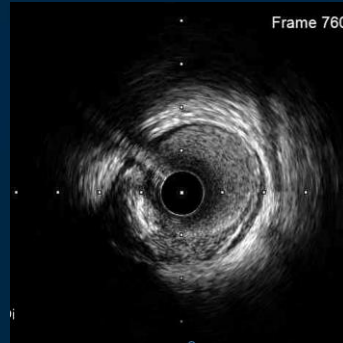
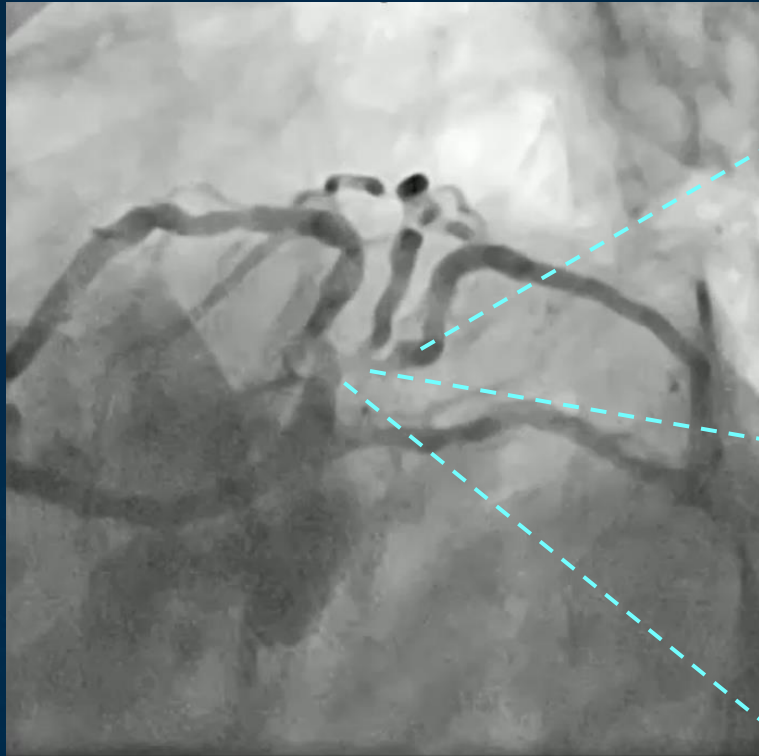
IVUS evaluation at LCX (Pre)



LCX Os

PCI at LM Bifurcation

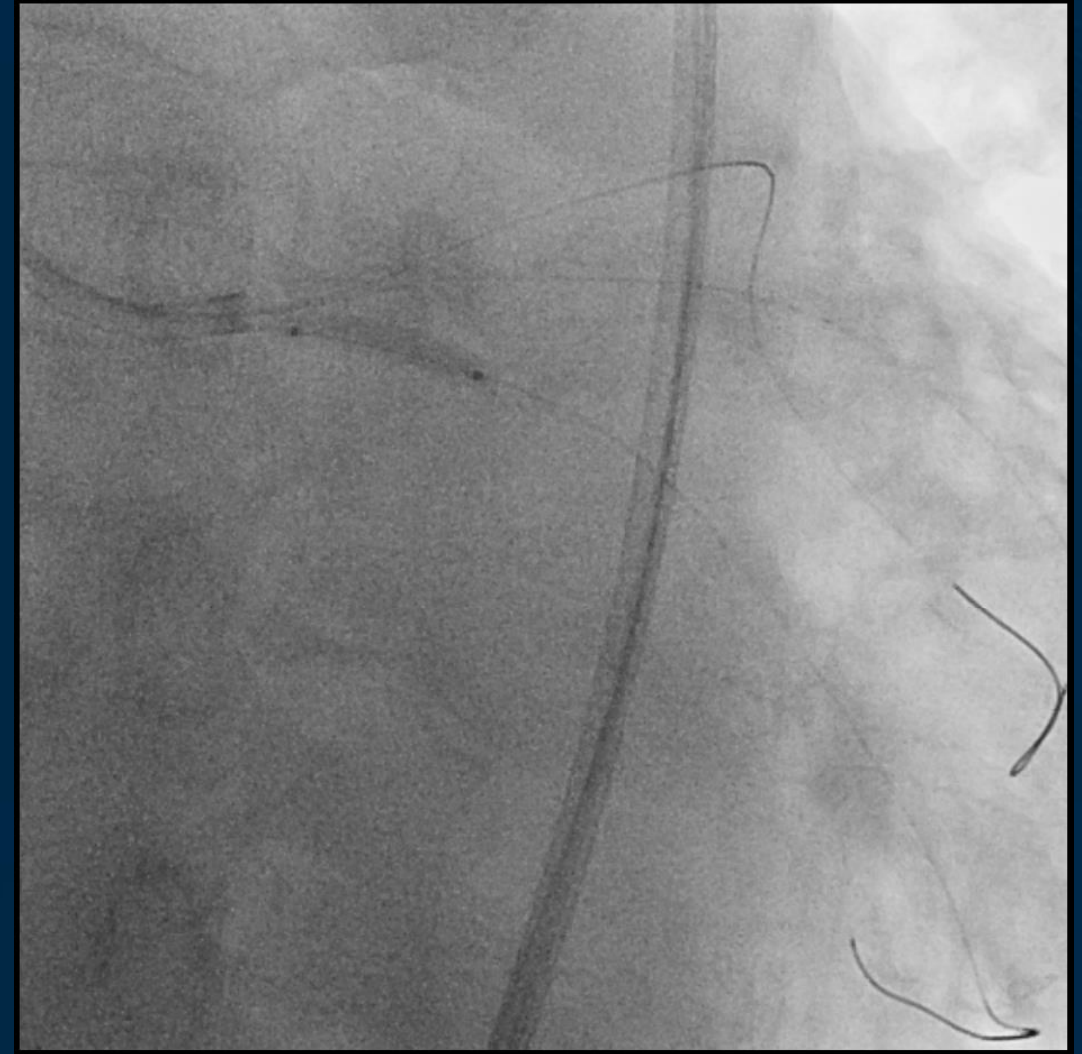
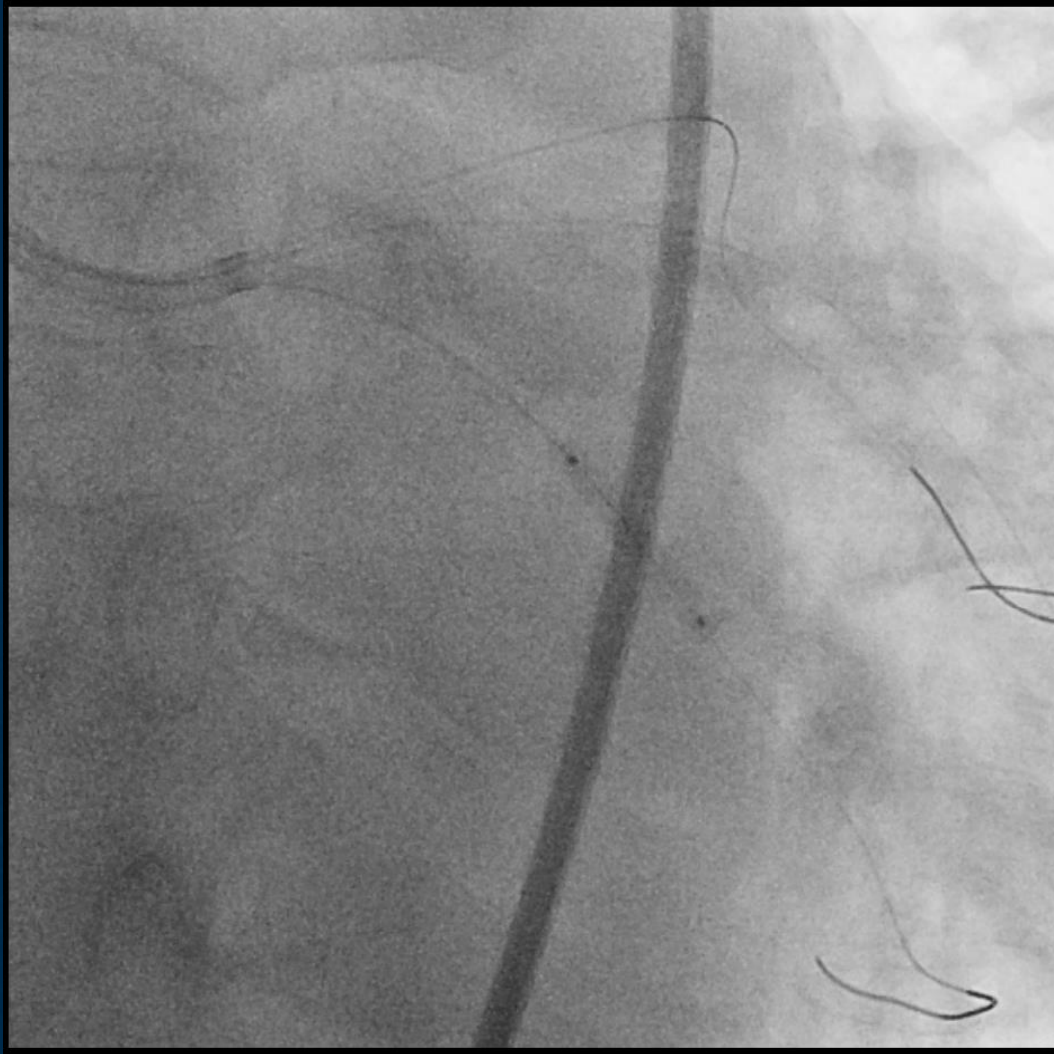
IVUS evaluation at High Diagonal (Pre)



High Diagonal OS

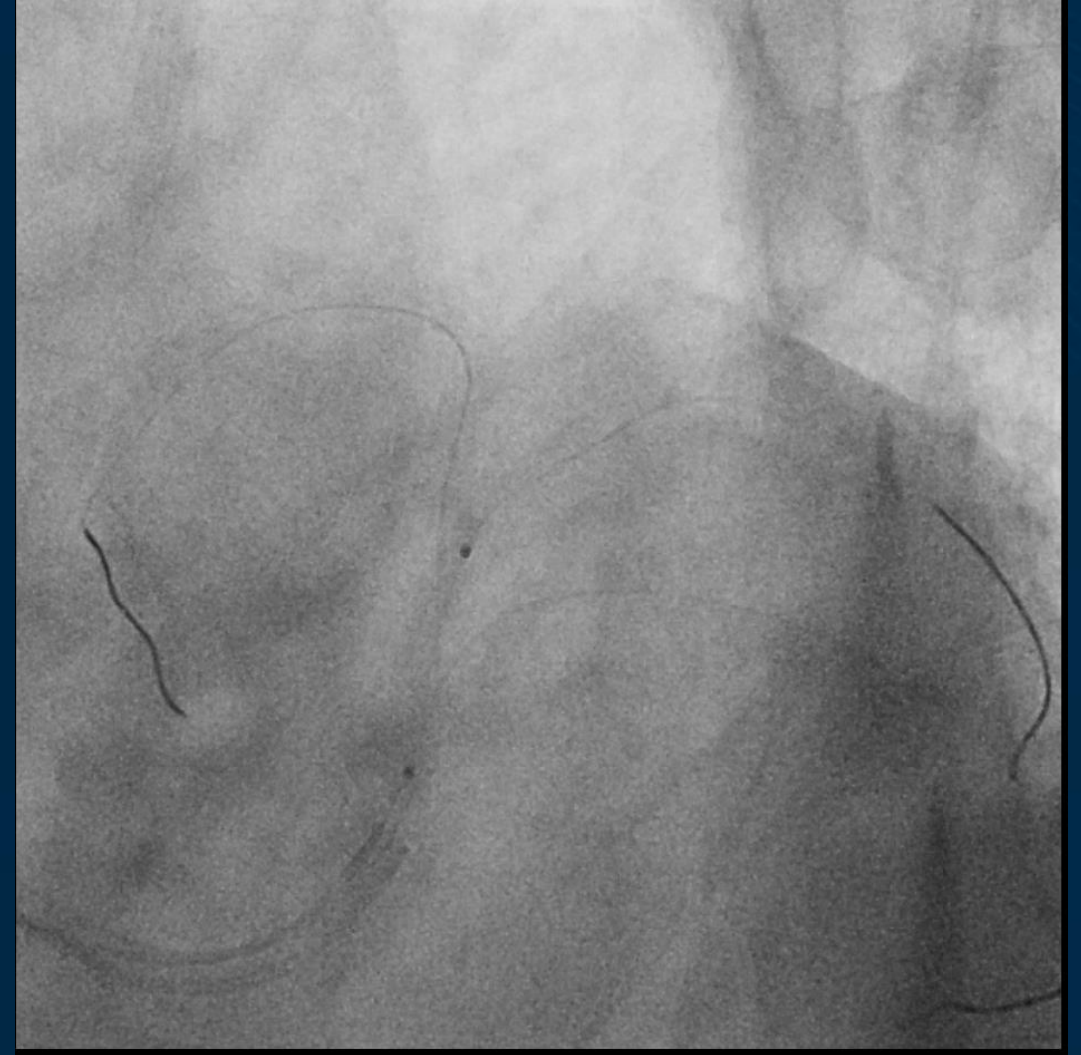
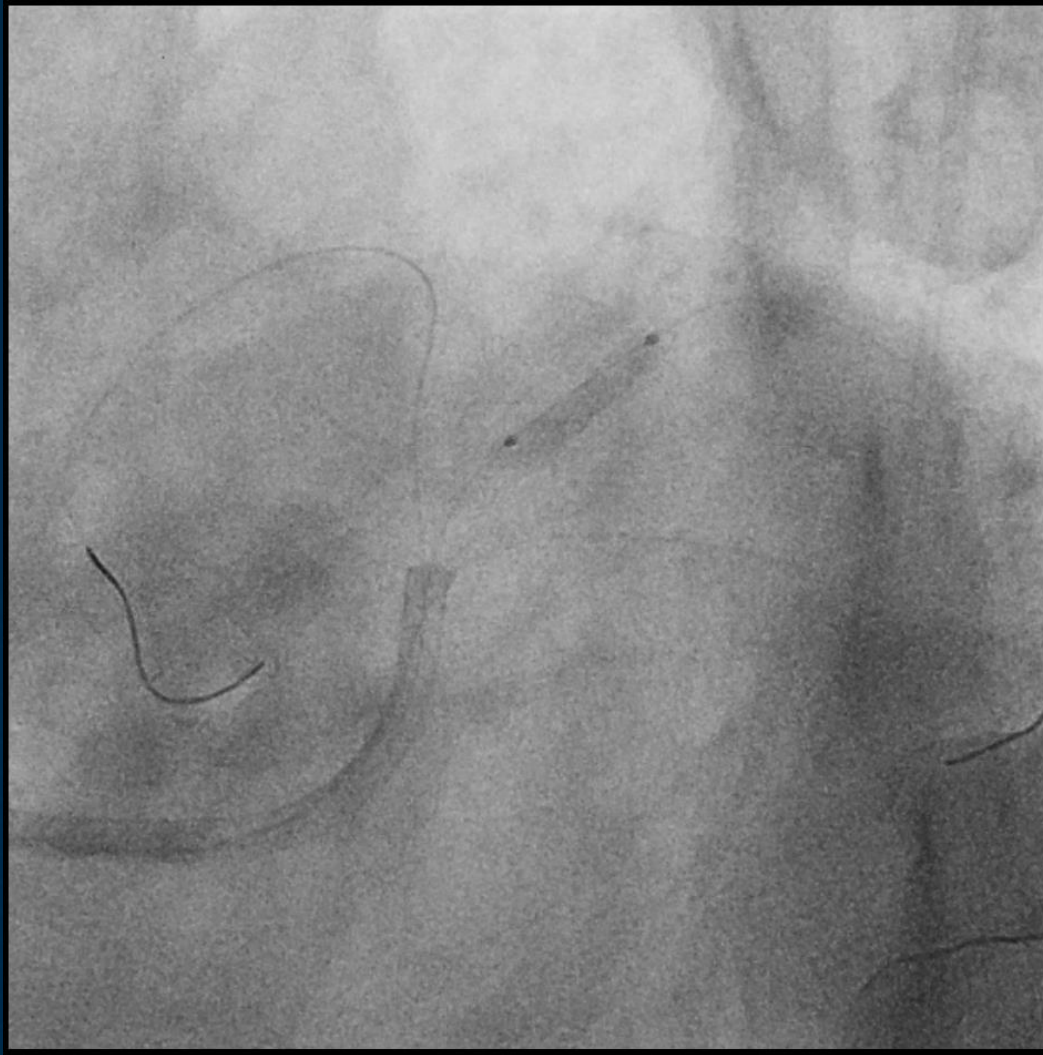
PCI at LM Bifurcation

Pre-balloon : LCX – Venavis 2.5 (15)

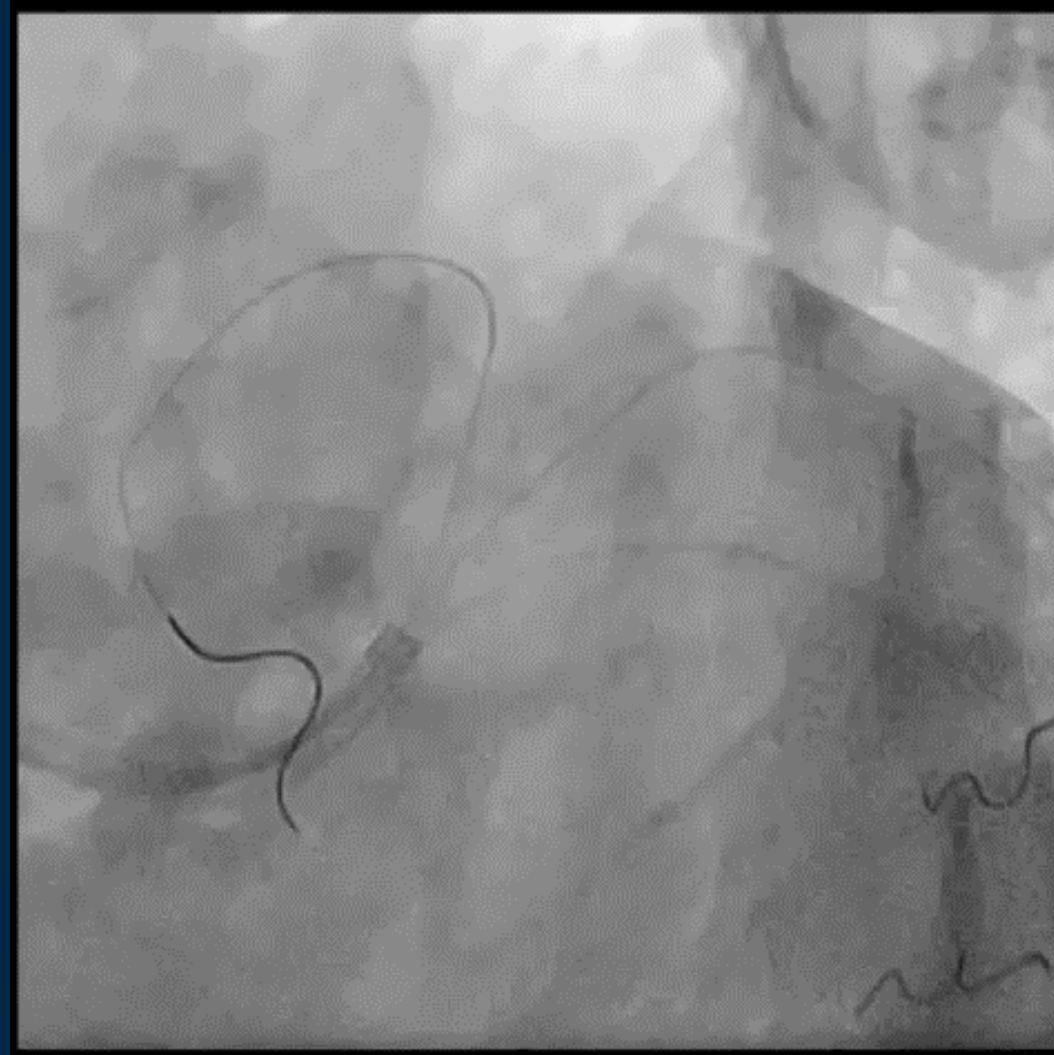


PCI at LM Bifurcation

Pre-balloon : High Diagonal – Venavis 2.5 (15)

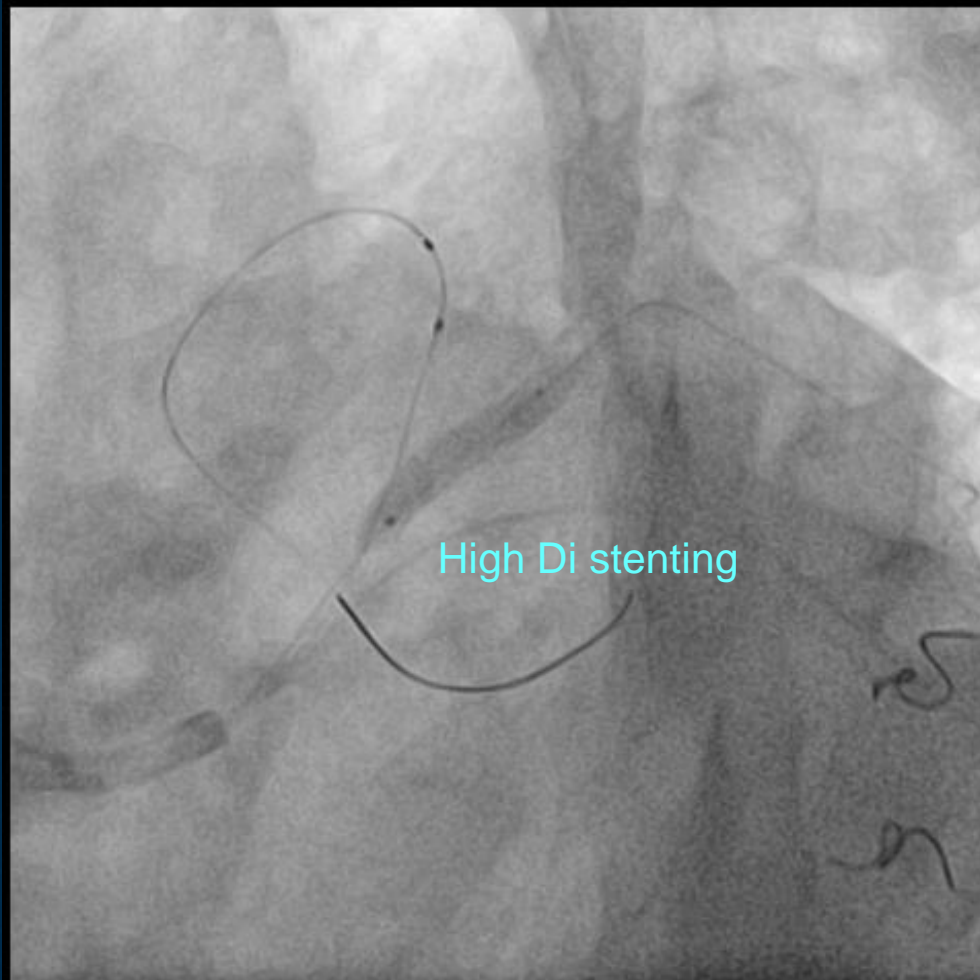


Post-Balloon CAG

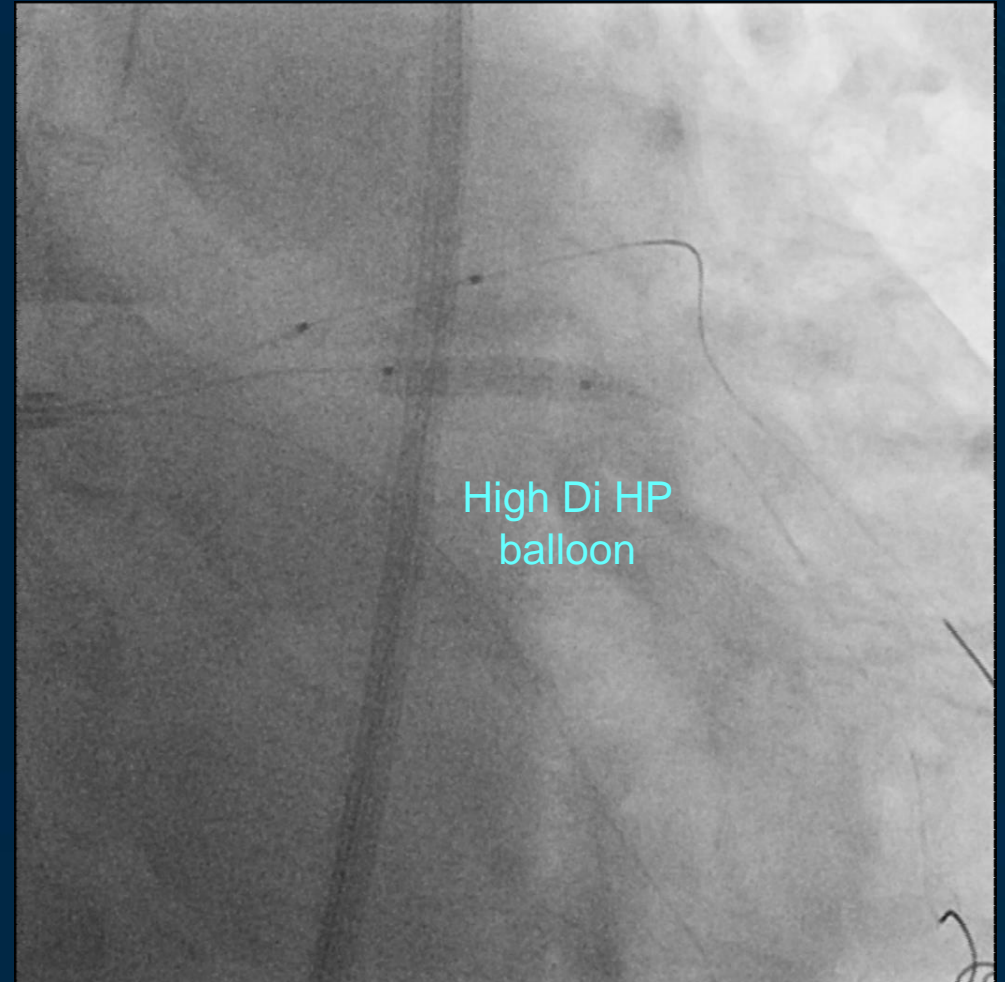


PCI at LM Bifurcation

High Diagonal Stenting and HP Balloon



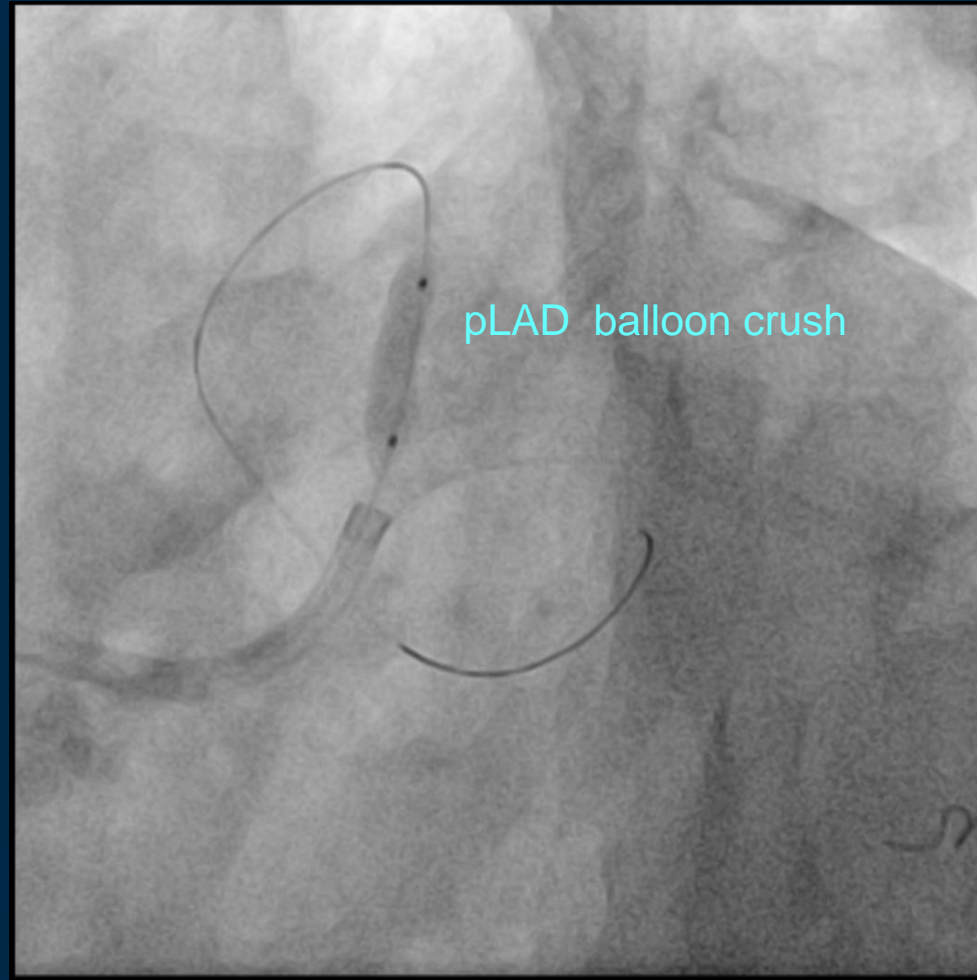
Ultimaster T 3.0 (24)



FORCE NC 3.0 (15)

PCI at LM Bifurcation

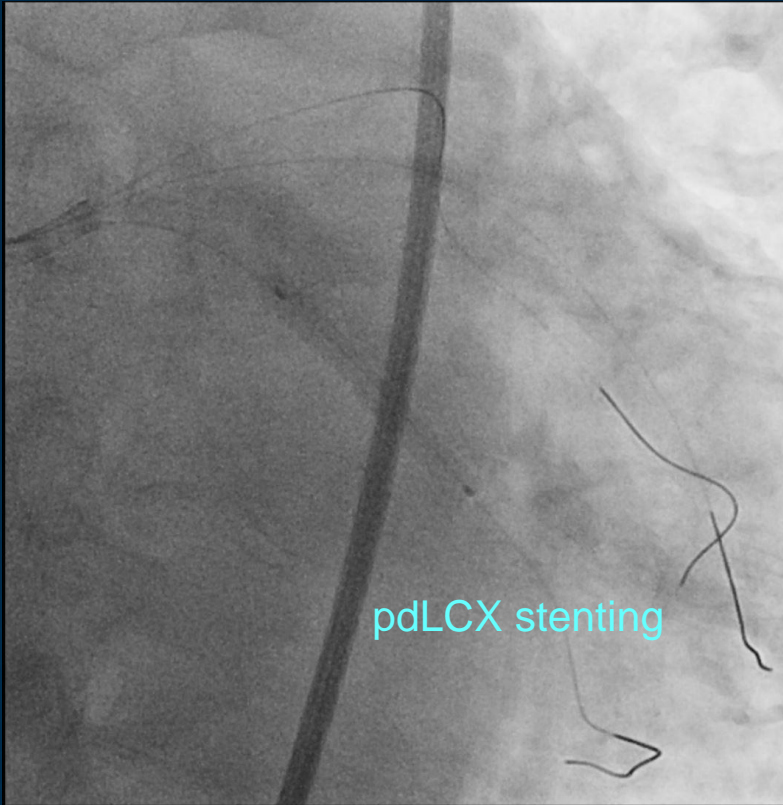
High Diagonal - LAD balloon crush



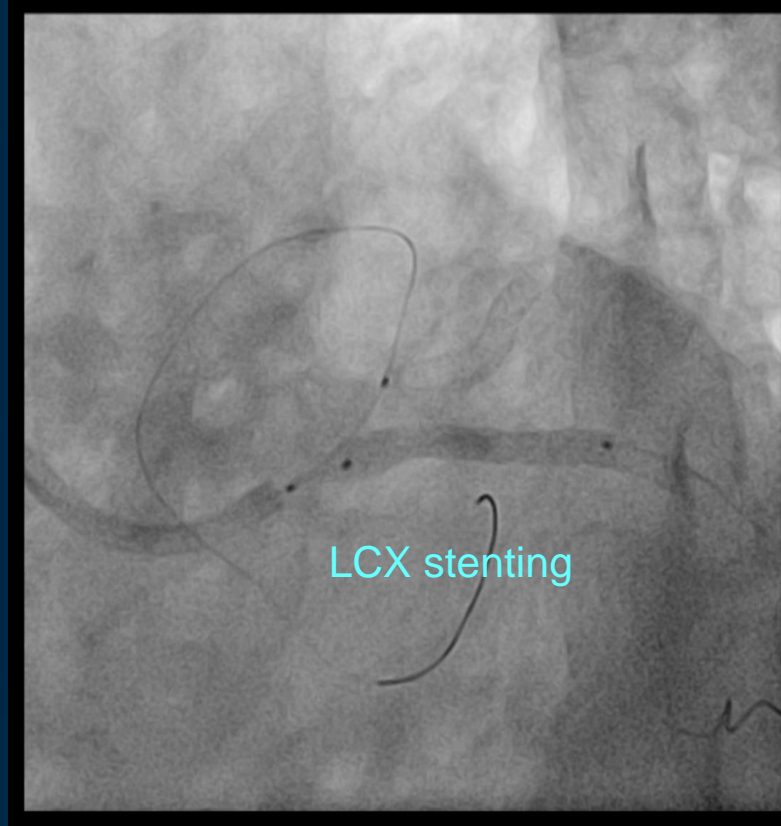
Neon NC 4.0 (15)

PCI at LM Bifurcation

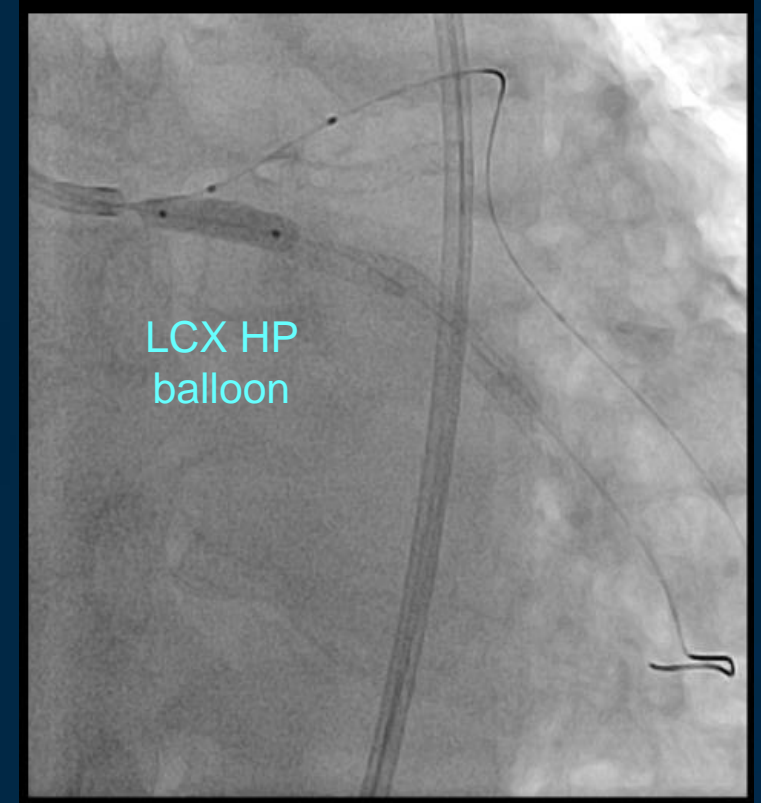
Distal and Proximal LCX Stenting & HP Balloon



Ultimaster T 3.0 (24)



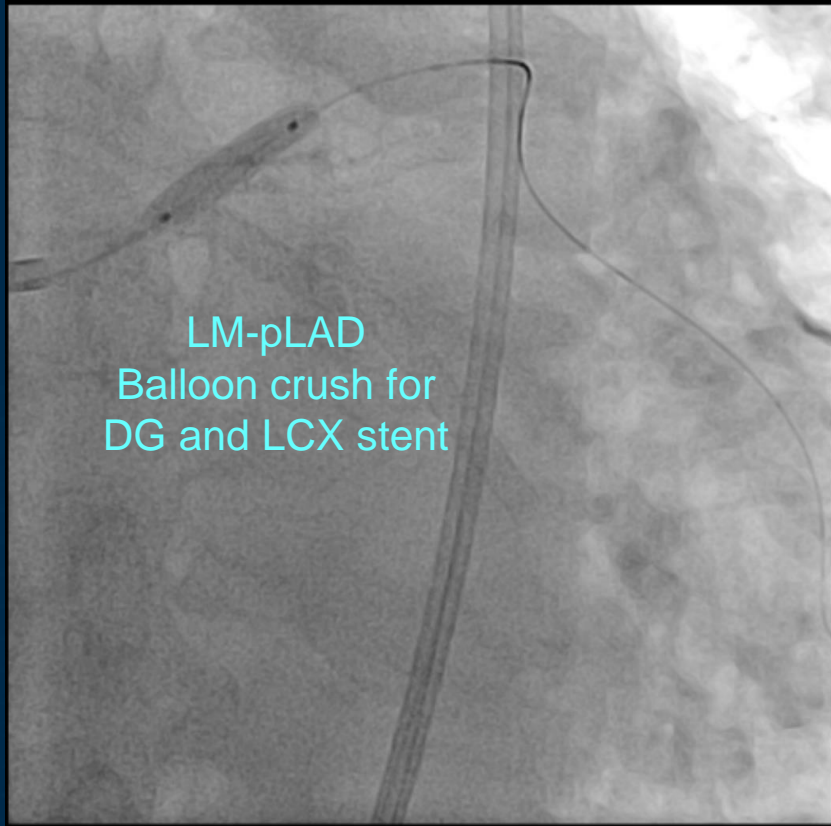
Ultimaster T 3.5 (24)



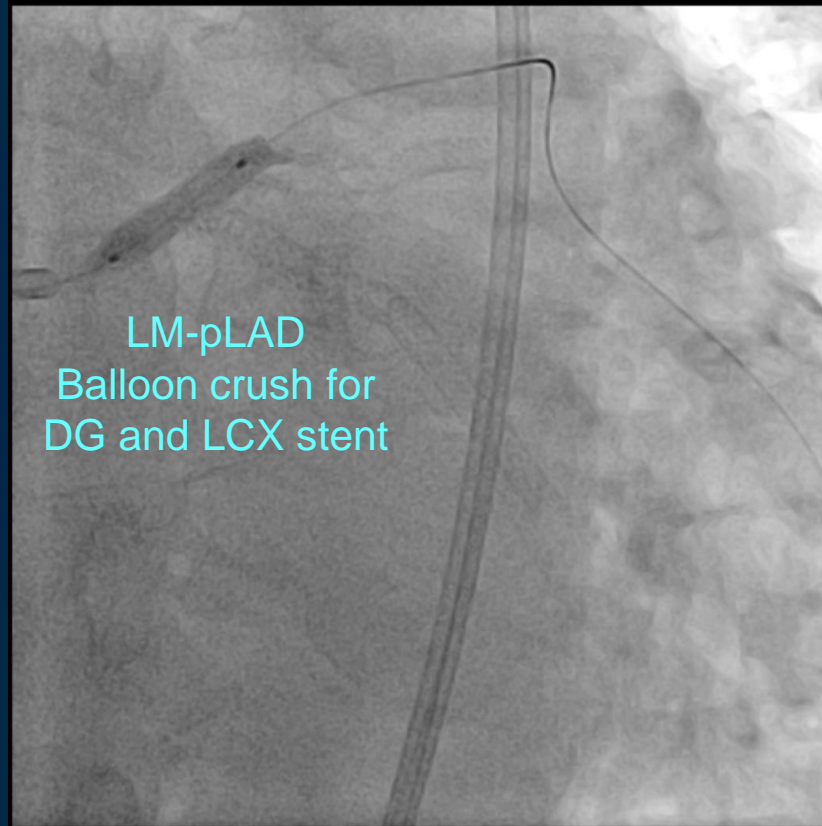
Pantera LEO 3.5 (15)

PCI at LM Bifurcation

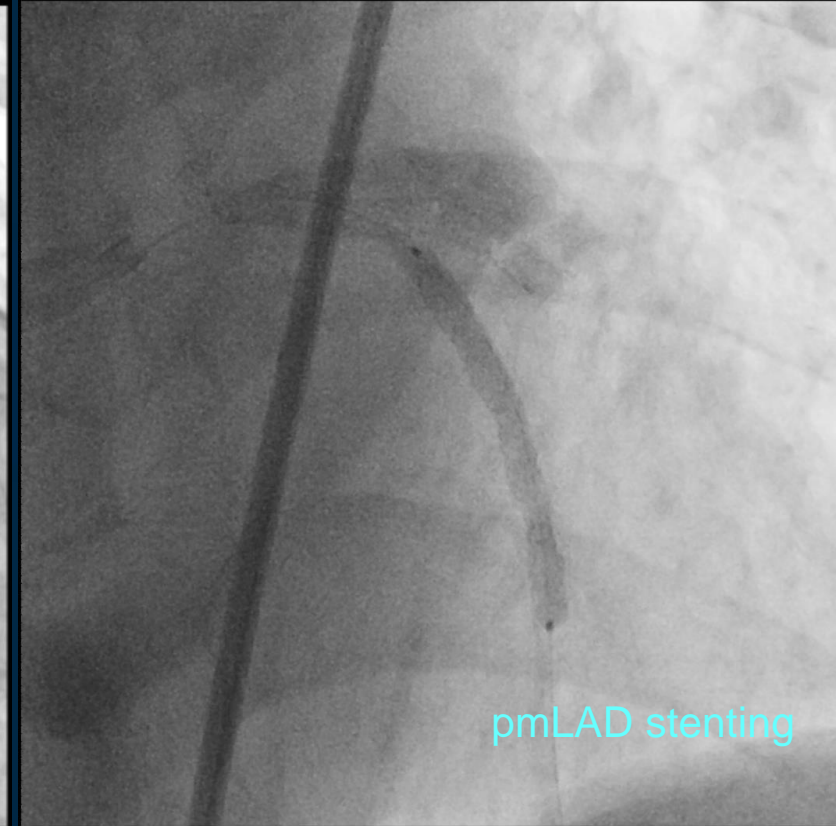
LM-pLAD Balloon crushing and pmLAD Stenting



Neon NC 4.0 (15)

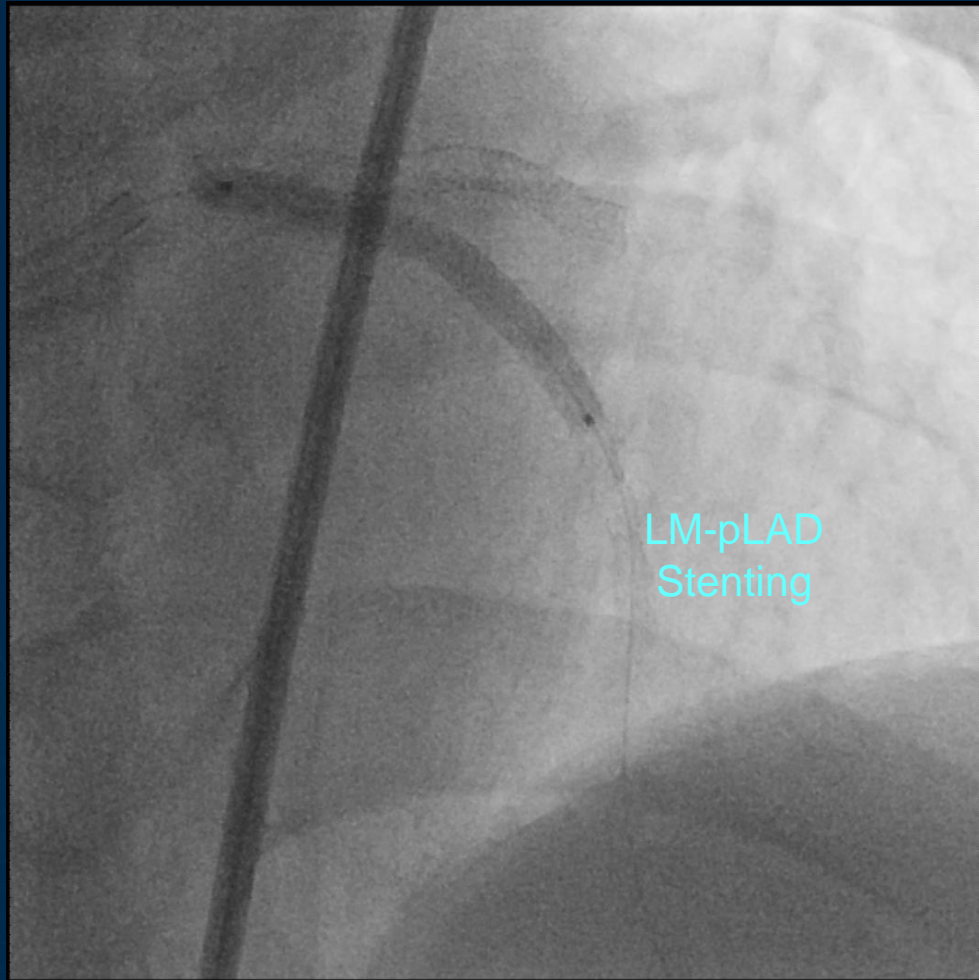


Ultimaster T 3.5 (38)

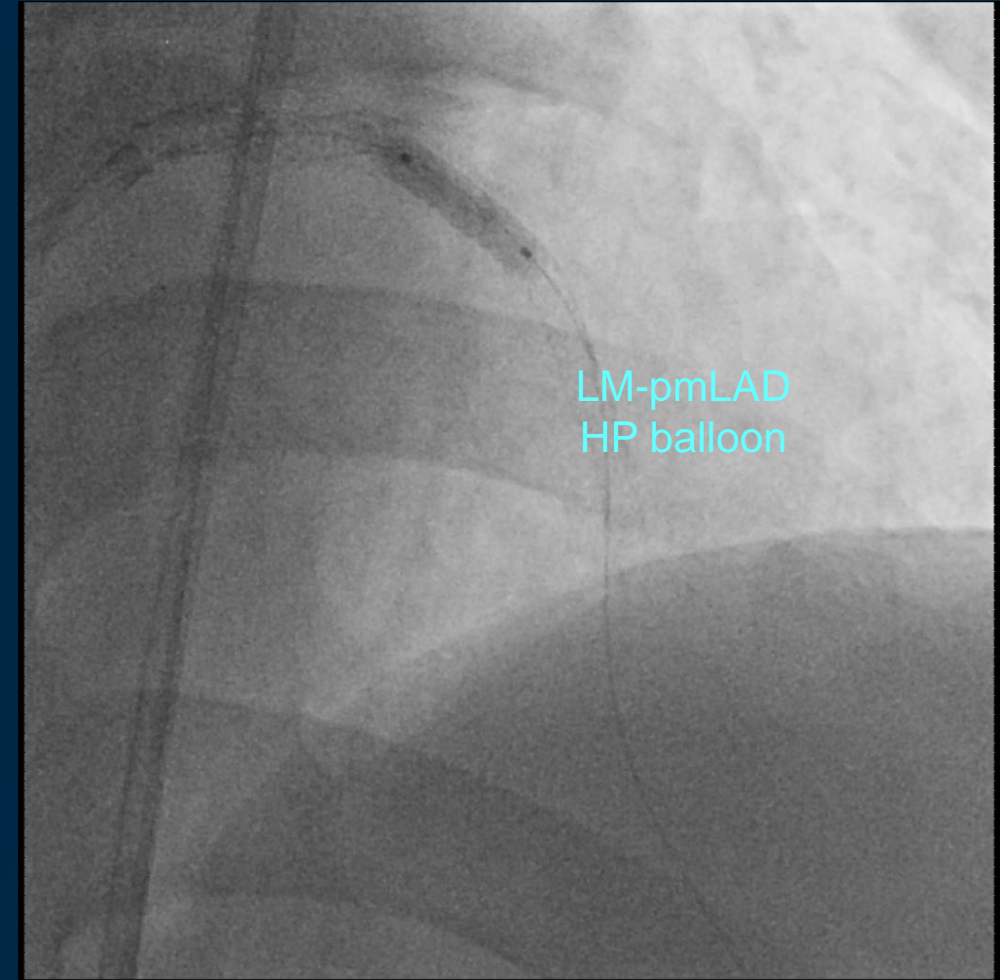


PCI at LM Bifurcation

LM-pLAD stenting and HP balloon



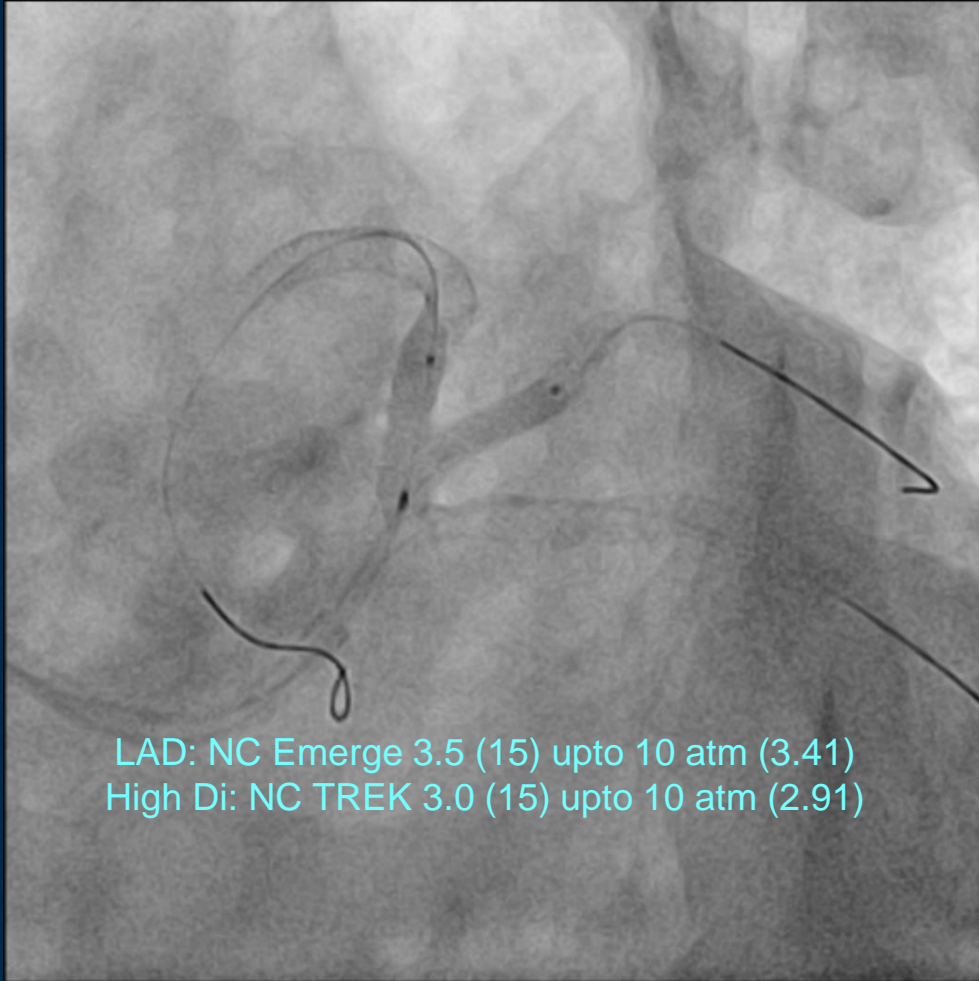
Ultimaster T 4.0 (28)



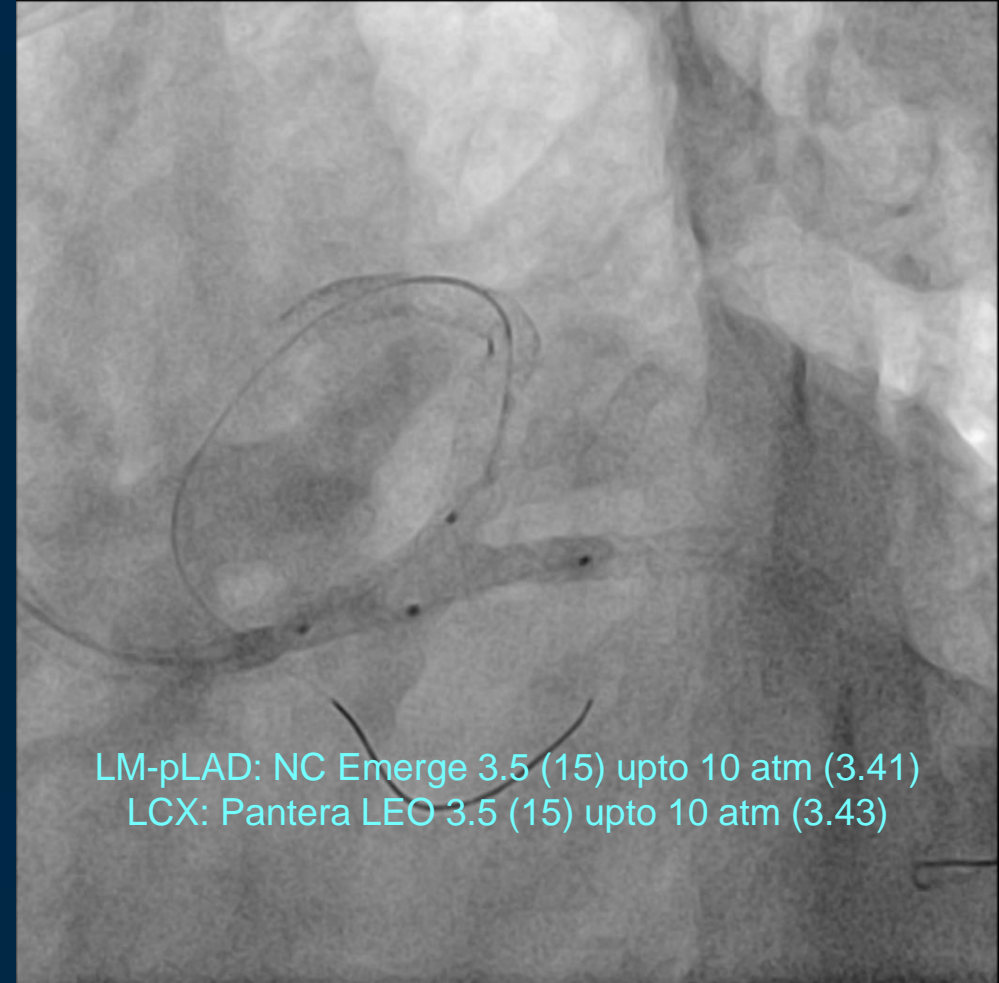
Pantera LEO 3.5(15) + Neon NC 4.0 (15)

PCI at LM Bifurcation

Sequential Kissing Balloon Dilation



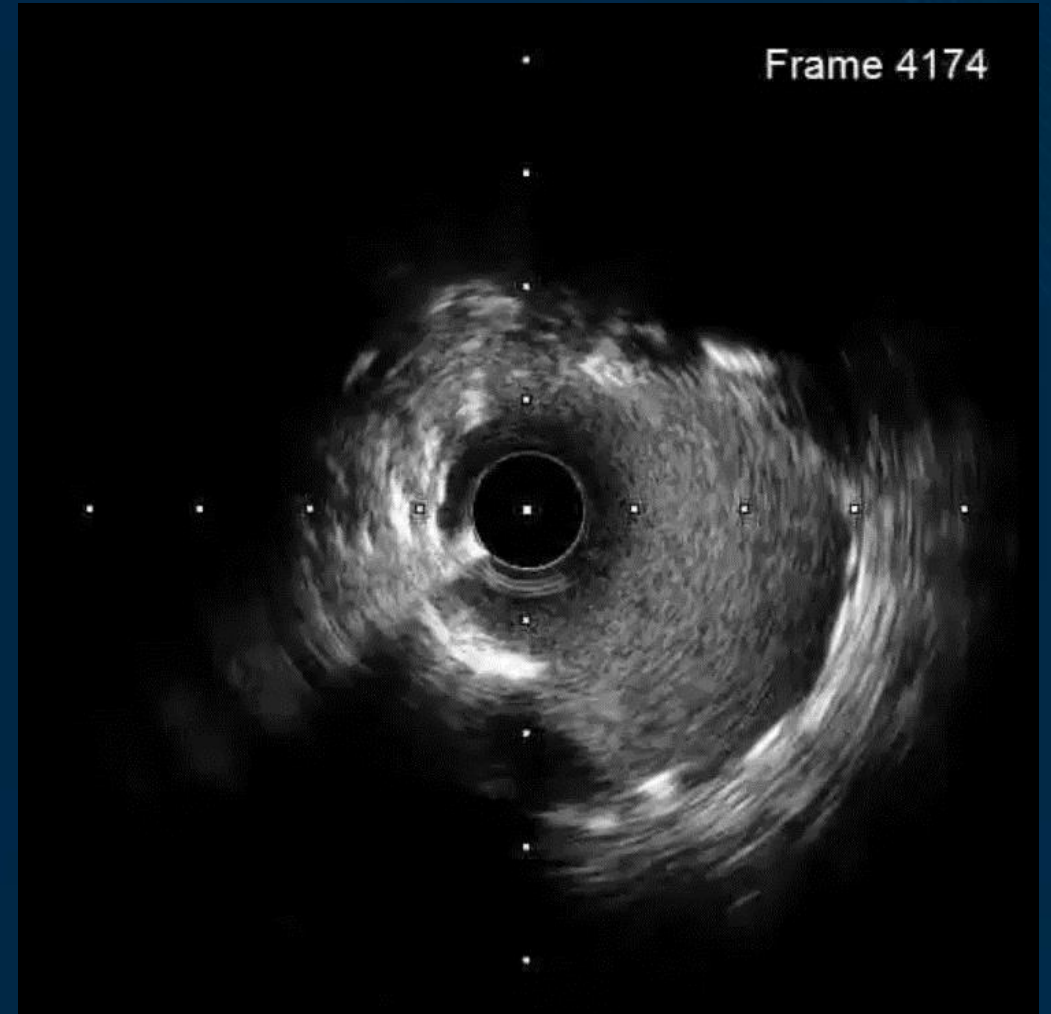
Kissing balloon



Kissing balloon

Final Angiography

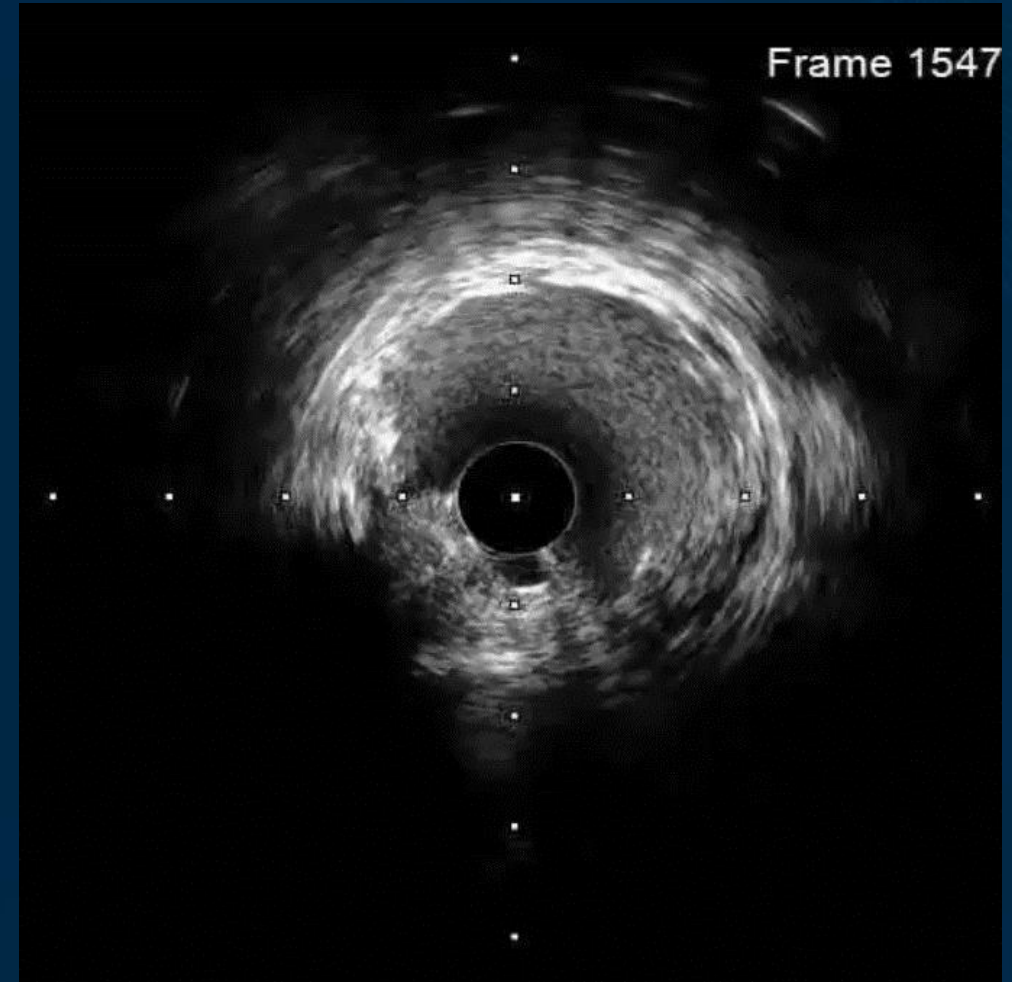
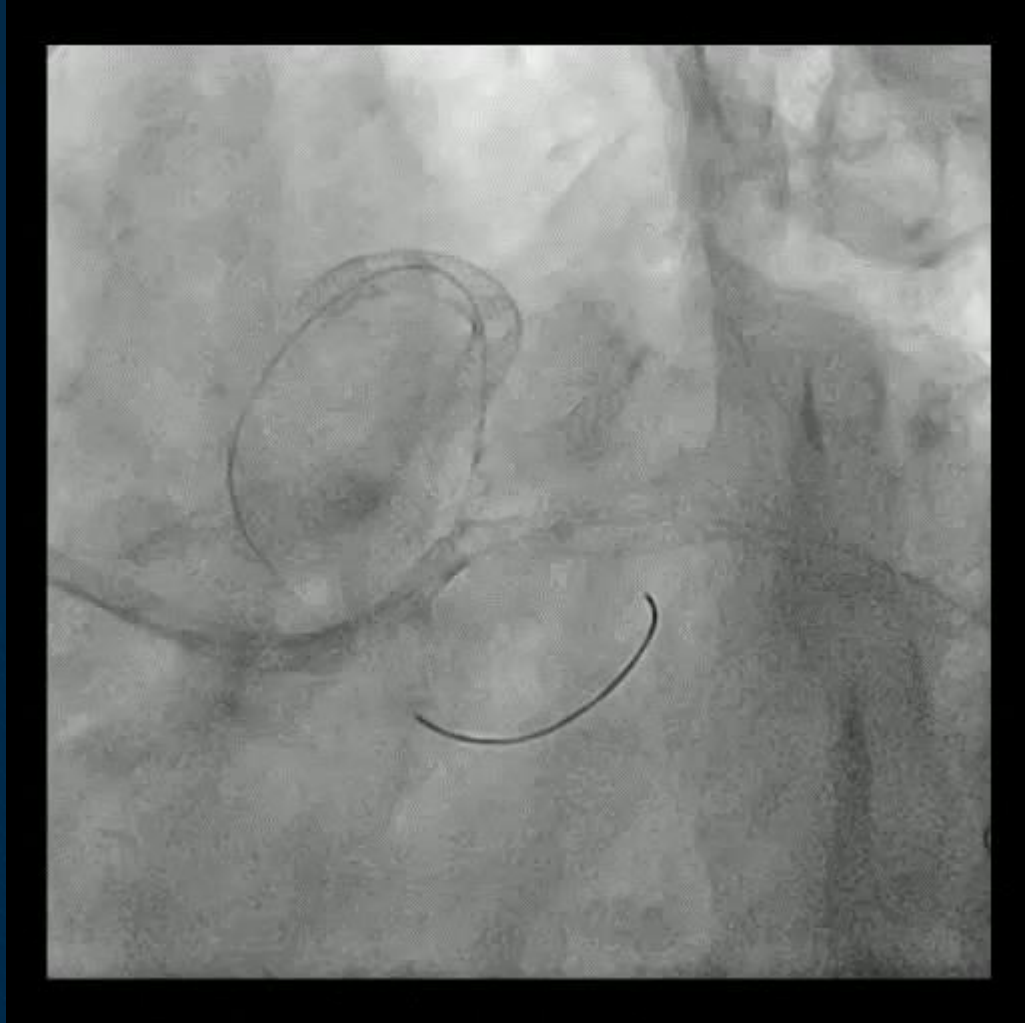
IVUS evaluation at LAD



Final LAD

Final Angiography

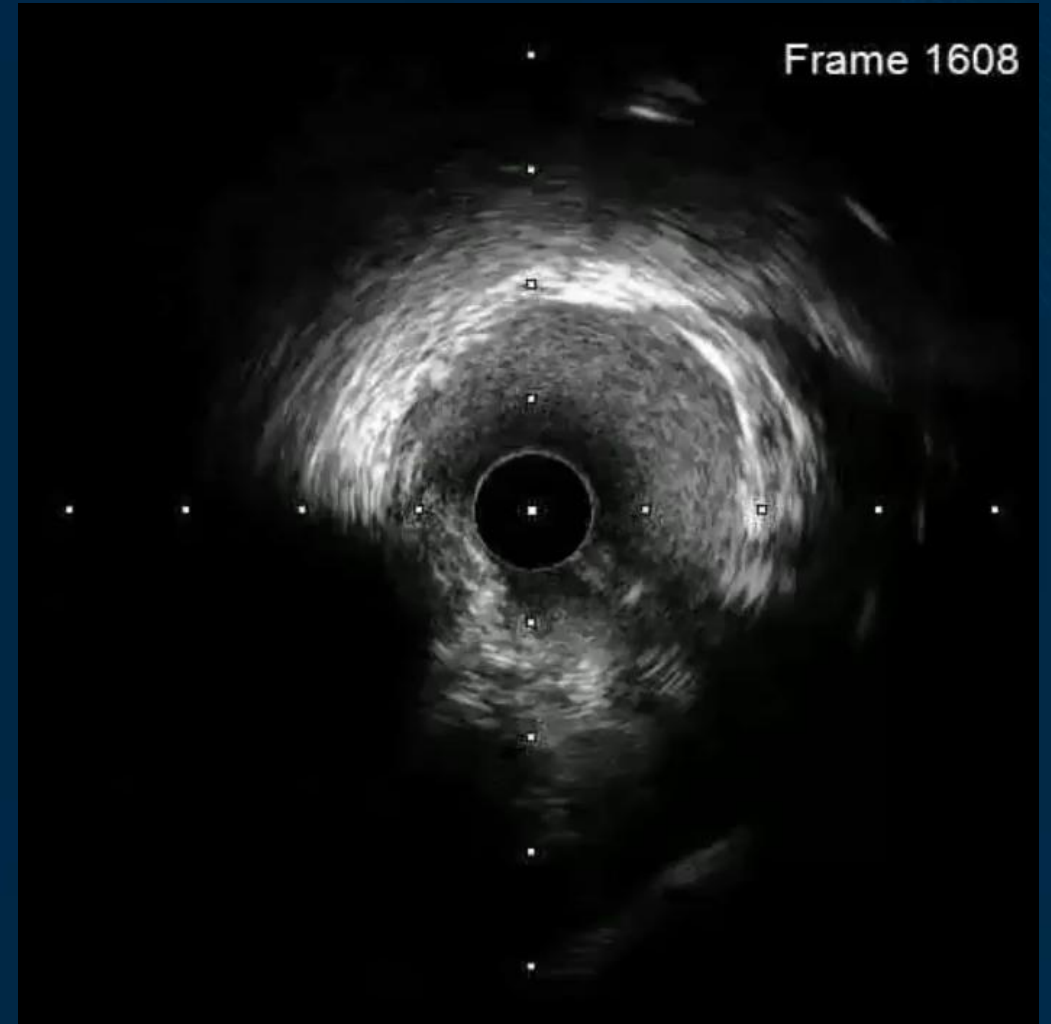
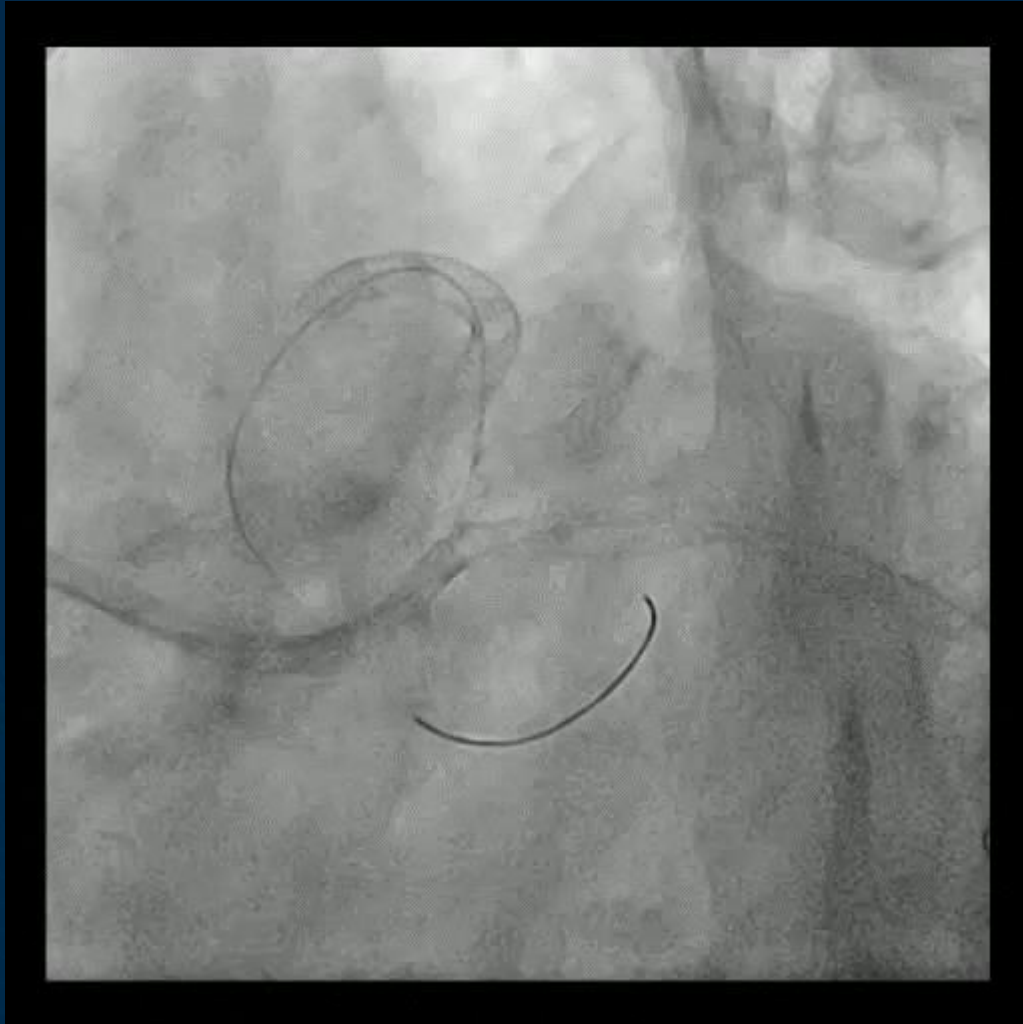
IVUS evaluation at LCX



Final LCX

Final Angiography

IVUS evaluation at High Diagonal

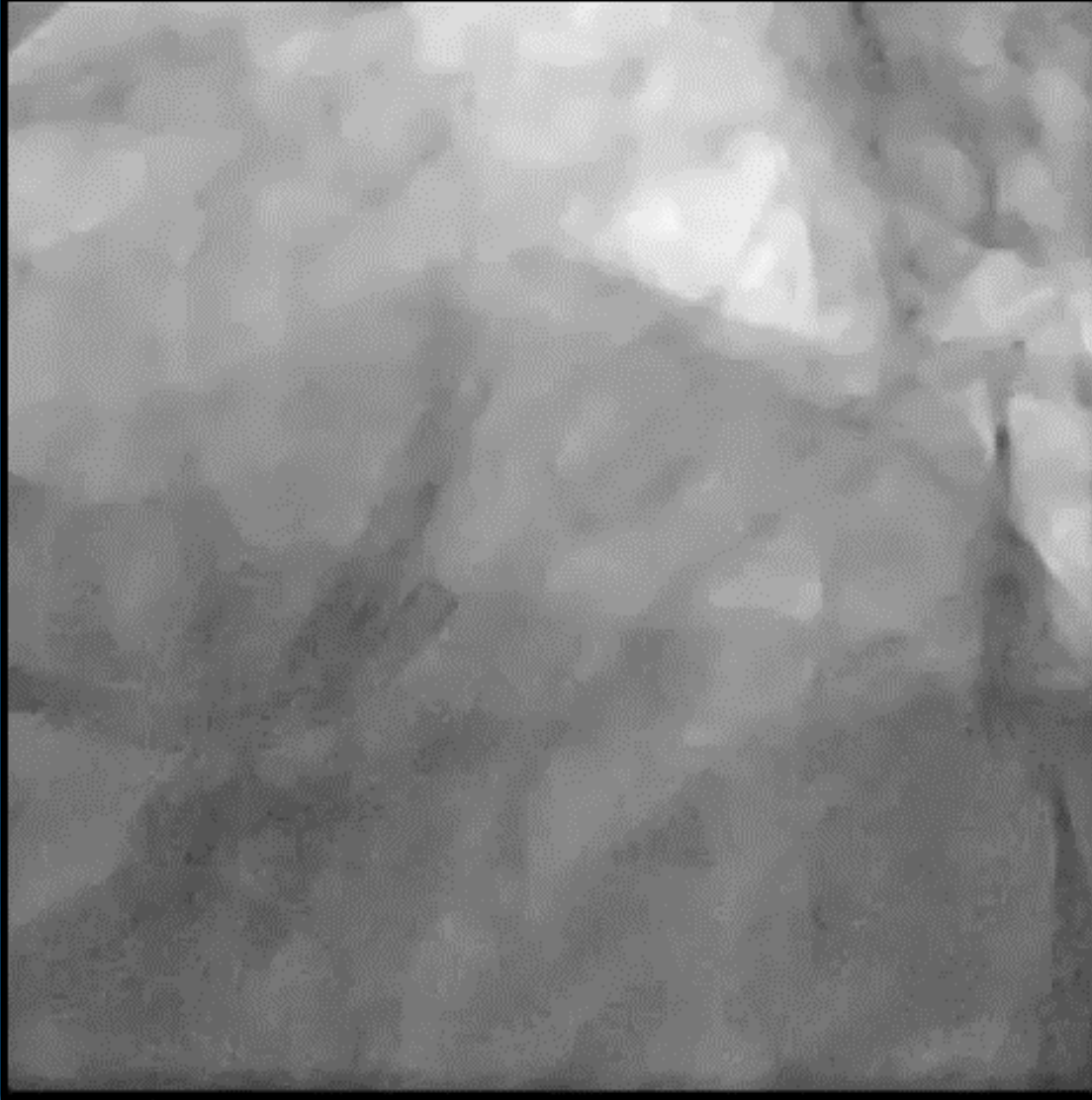


Final High Diagonal

Final Angiography



Pre- and Post-PCI CAG



Summary: Complex Left Main an MVD PCI

- Best revascularization strategy should be discussed in heart-team approach.
- Imaging-guided PCI was more effective than angiography-guided PCI, especially complex PCI (left main, bifurcation, multivessel, or CHIP patients): **RENOVATE-COMPLEX PCI trial (NEJM 2023, March 5)**
- Intravascular imaging is fundamental for complex left main PCI and should be considered as **“standard-of-care”** in the contemporary PCI practice.