

Expert Case Review:
**Complex PCI for Severe
Calcified Coronary Disease**

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PCI Case #1

Brief Case Summary

A 66 year-old male was admitted for the evaluation of abnormal findings of thallium SPECT without symptom. His clinical presentation was silent ischemia. His coronary risk factor was hypertension

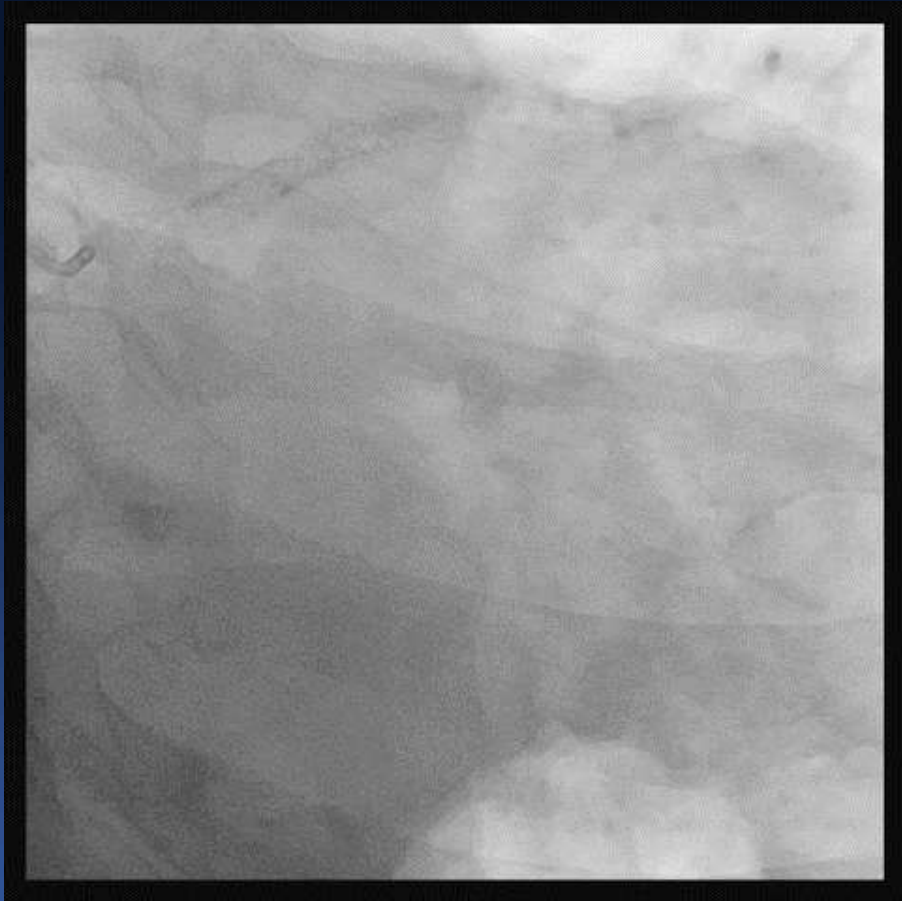
Past Medical History

- Previous MI : N
- Previous CABG : N
- Previous PCI: Y
- s/p PCI at pmLAD and dRCA (07.06.11)

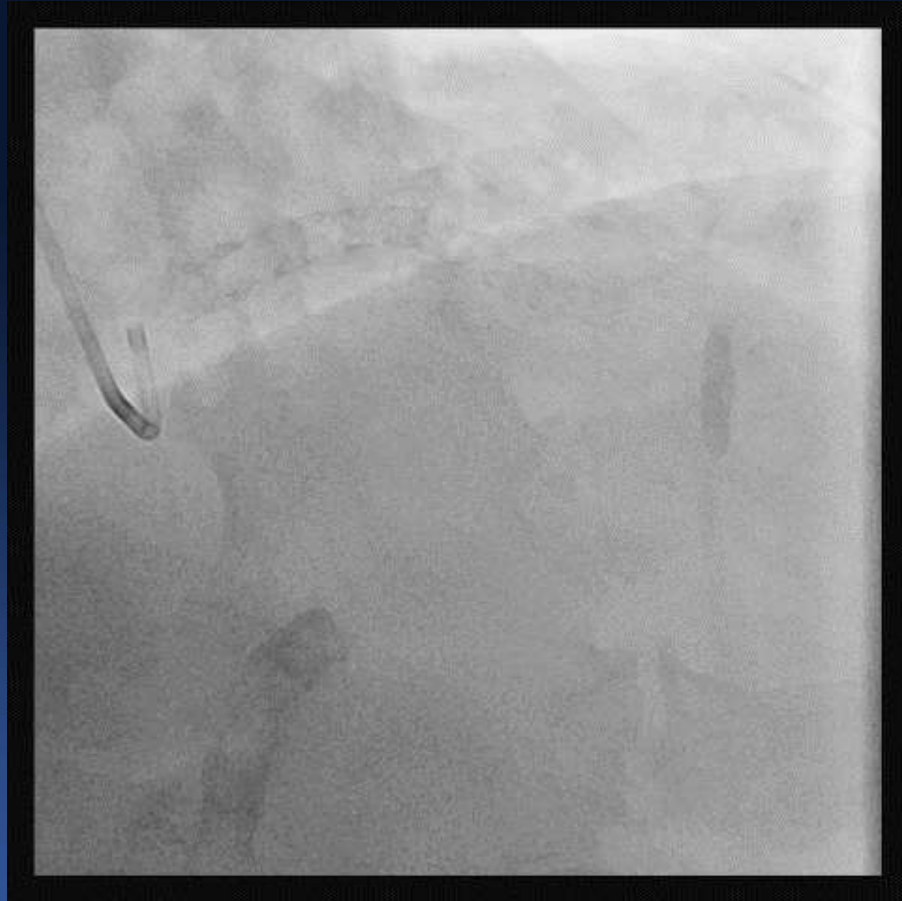
Work up

- **EKG** : Normal sinus rhythm, LAFB
- **Serum Cr** : 0.86 (GFR = 90 ml/min)
- **EchoCG**: moderate LV dysfunction (EF 42%) with akinesia of posterolateral and mid anterior wall
- **Thallium SPECT**
 - ✓ **Partially reversible medium sized defect in mid-basal ant.wall**
 - ✓ **Partially reversible large sized defect in anterolateral, and inferolateral wall**

LCA

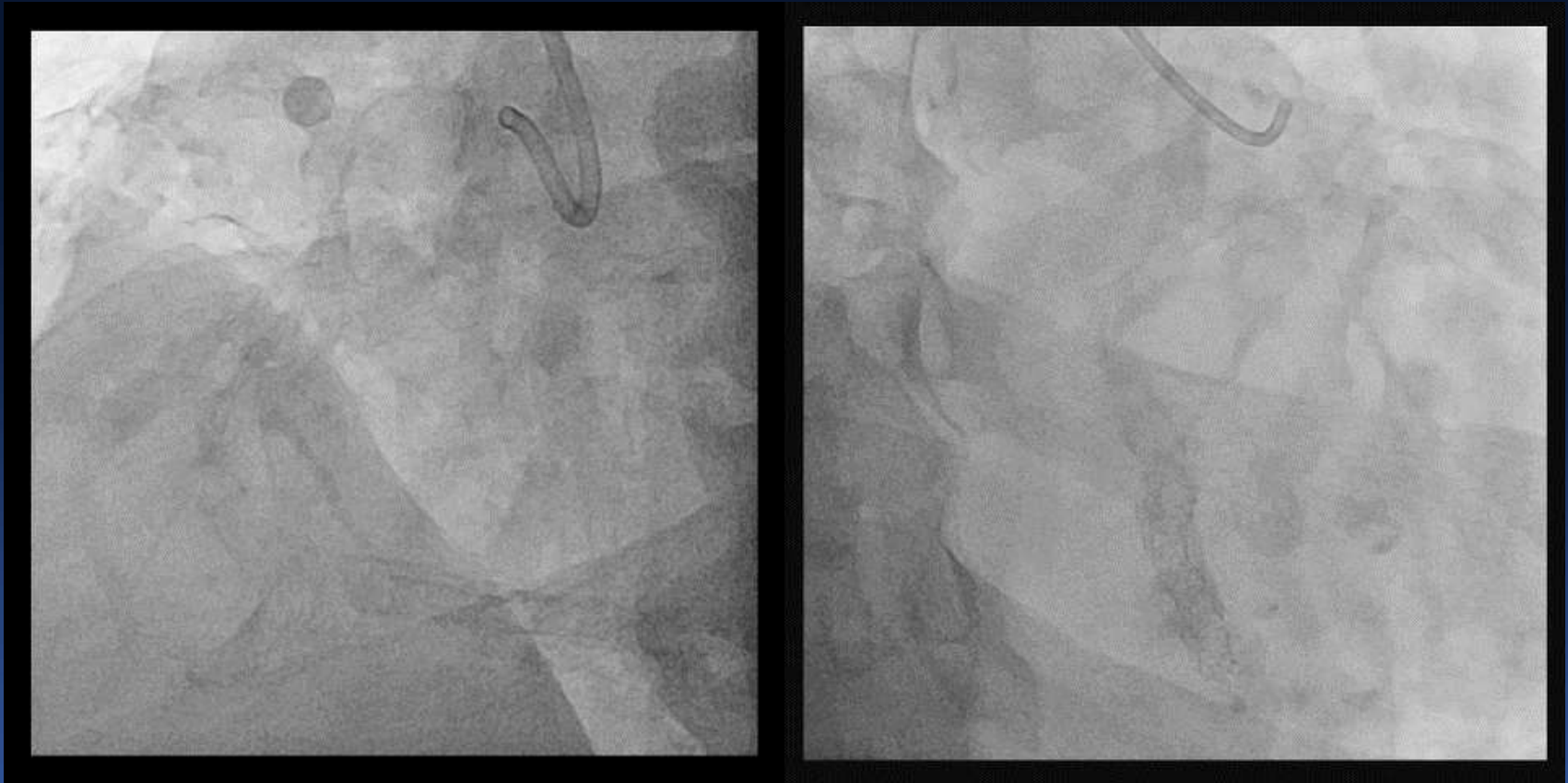


AP CAUDAL



AP CRANIAL

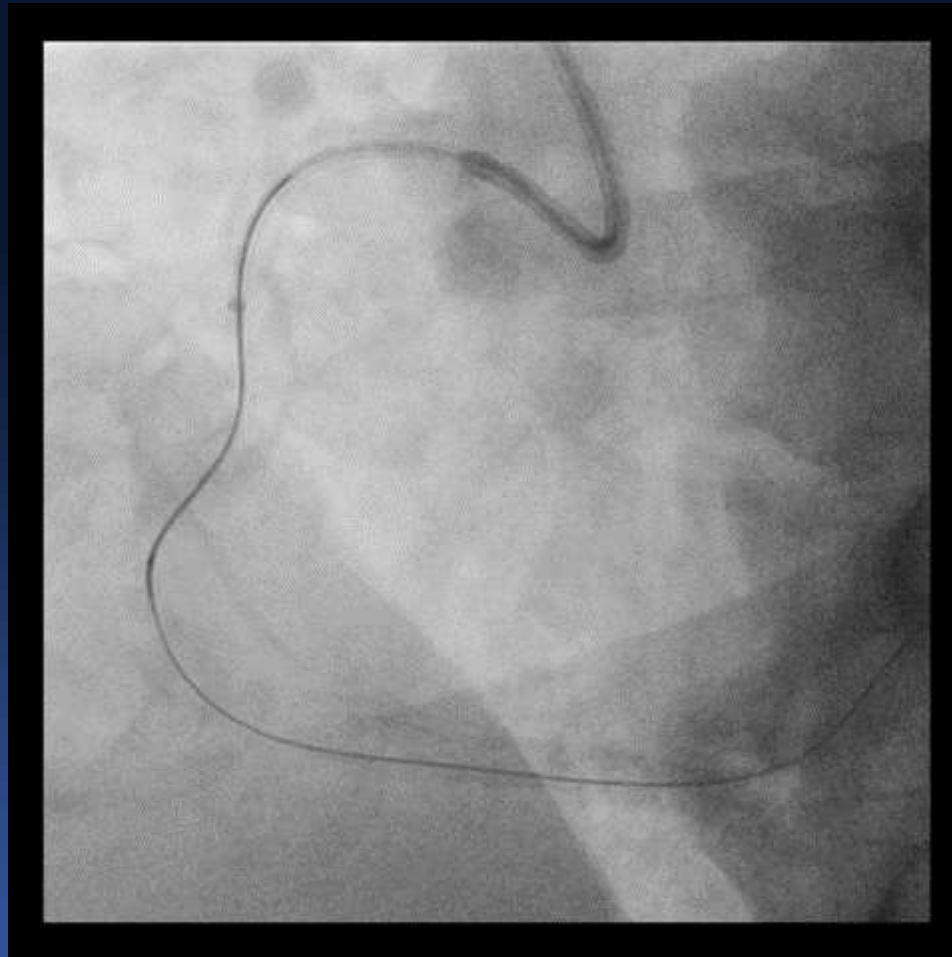
RCA



LAO

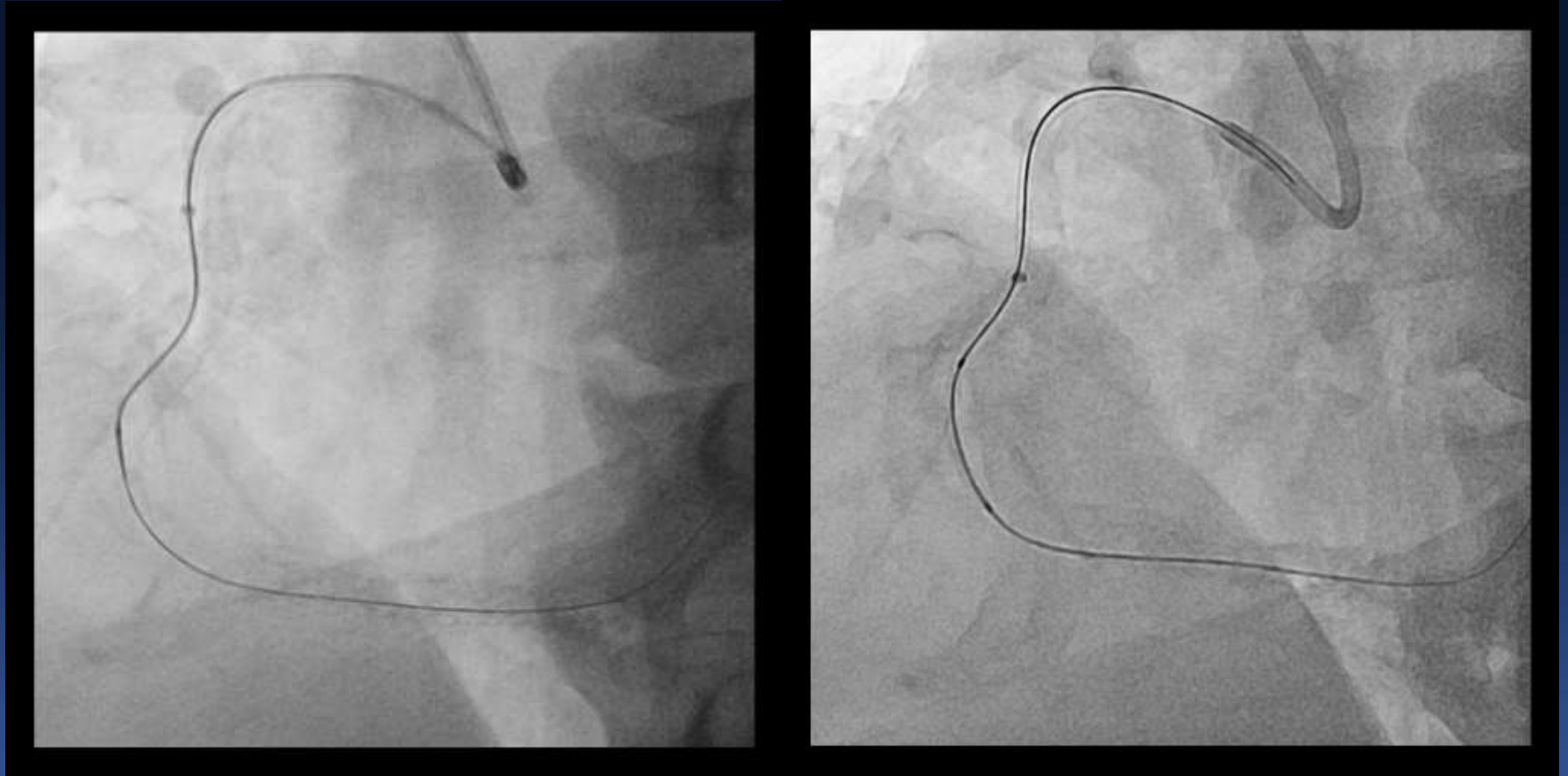
RAO

Wiring (mRCA)



Guide Zila (6Fr) + Corsair + Fielder XT-R

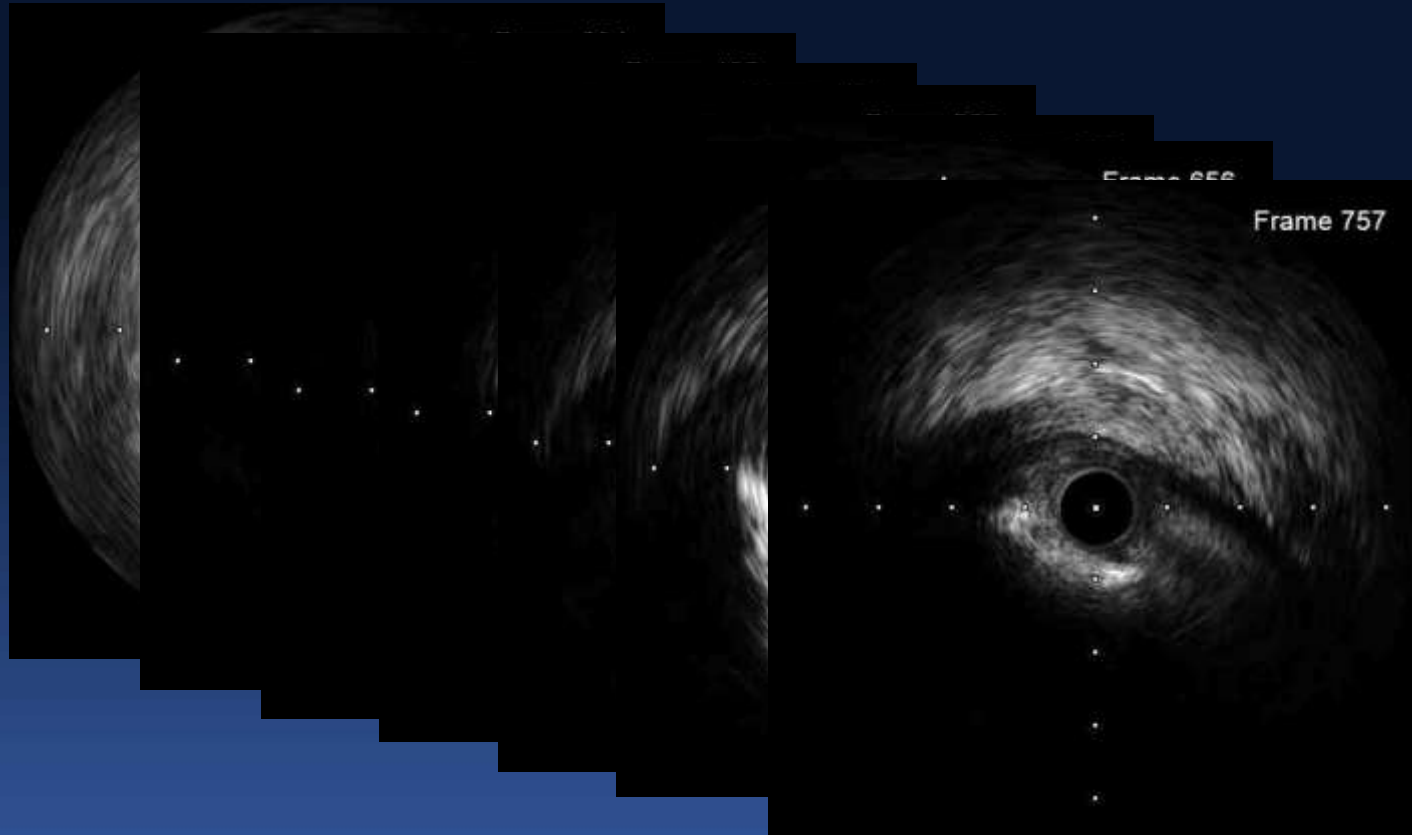
Pre-Balloon (mRCA)



**mRCA: Lacrosse (LAXA) 1.0(5) upto 16 atm (1.16)
Pantera LEO 2.0(20) upto 24 atm (2.1)**

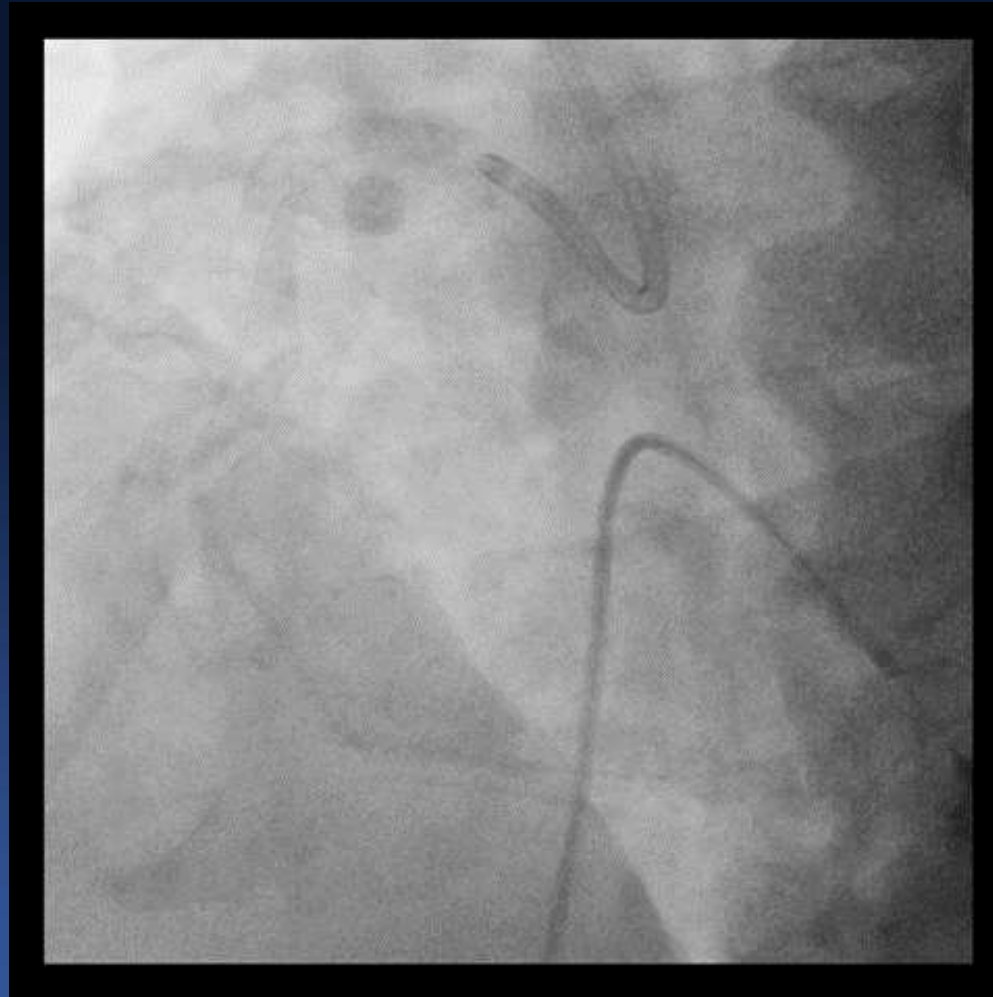
IVUS

Post balloon



Diffuse Multiple Heavy Calcified Nodule

Rotablation (mRCA)

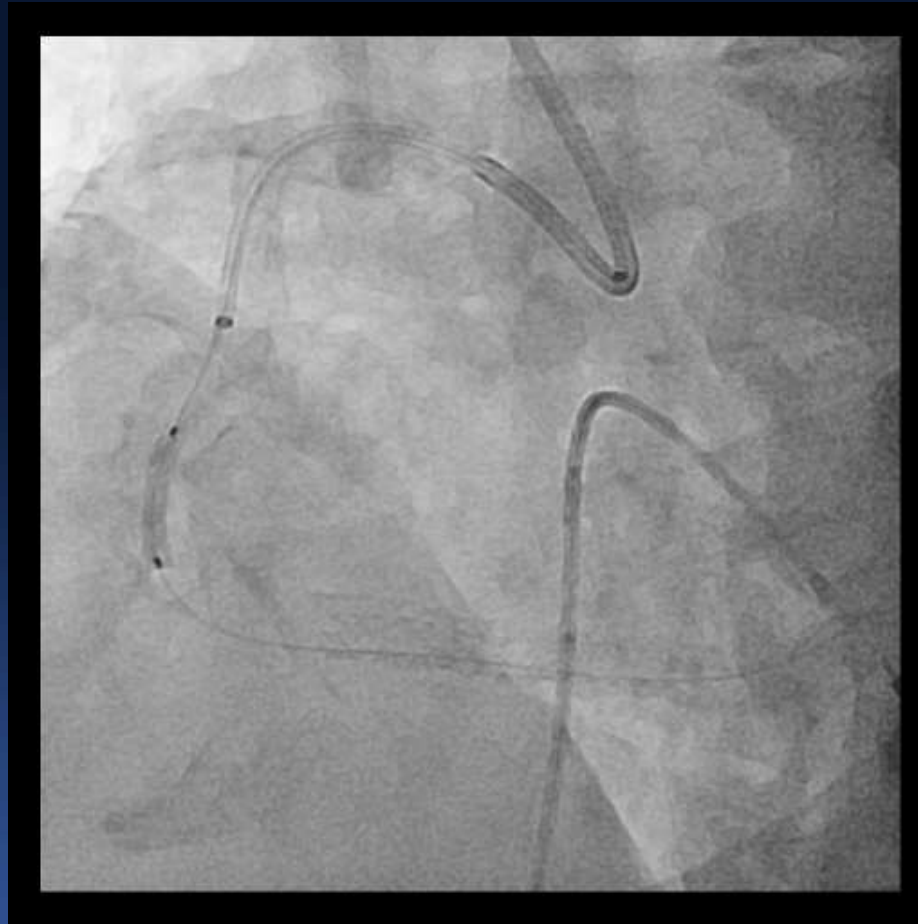


Rotablation 1.5 mm burr

POST ROTABLATION

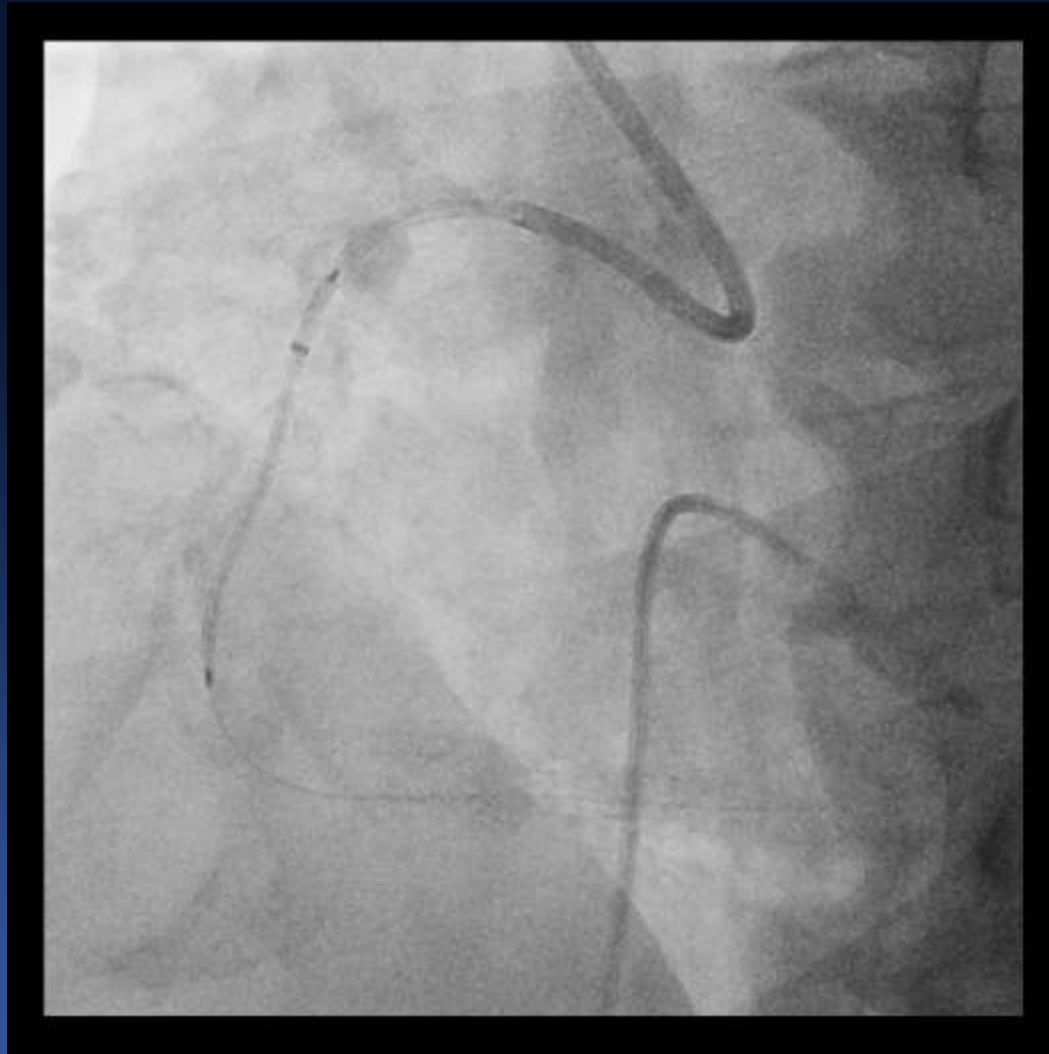


Pre-Balloon (mRCA)



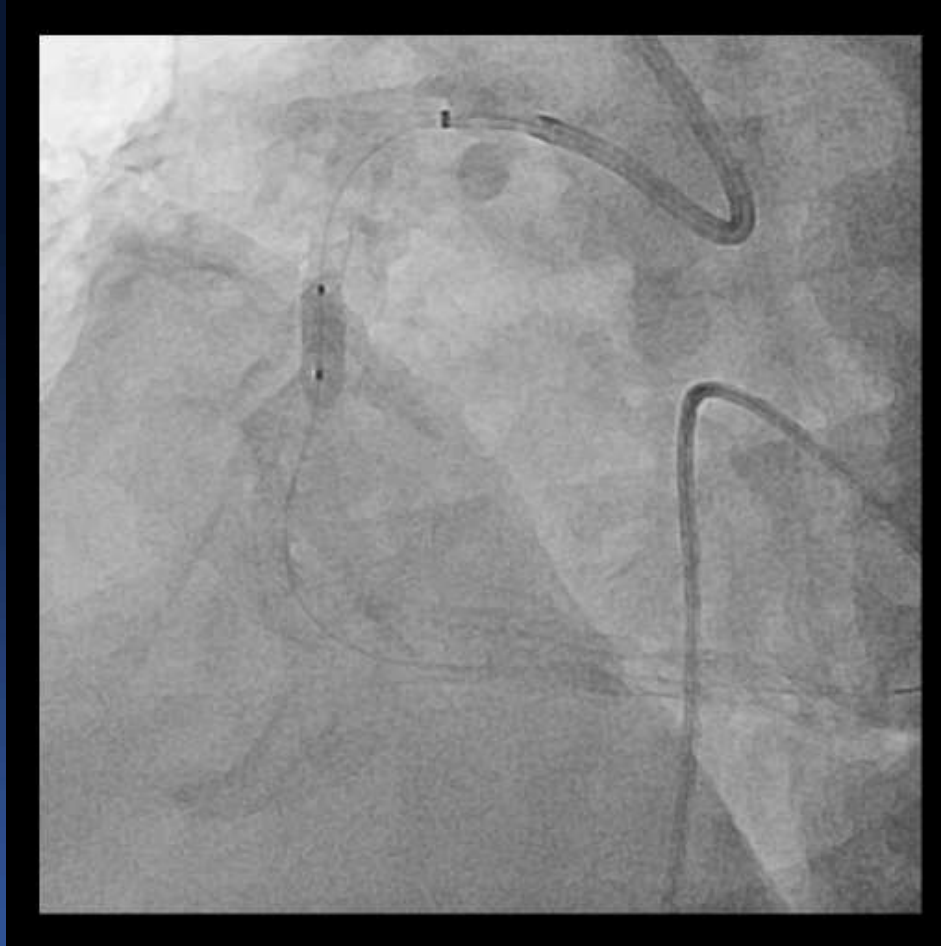
mRCA: Sapphire NC 3.0 (15) upto 14 atm (3.05)

Mid RCA stenting



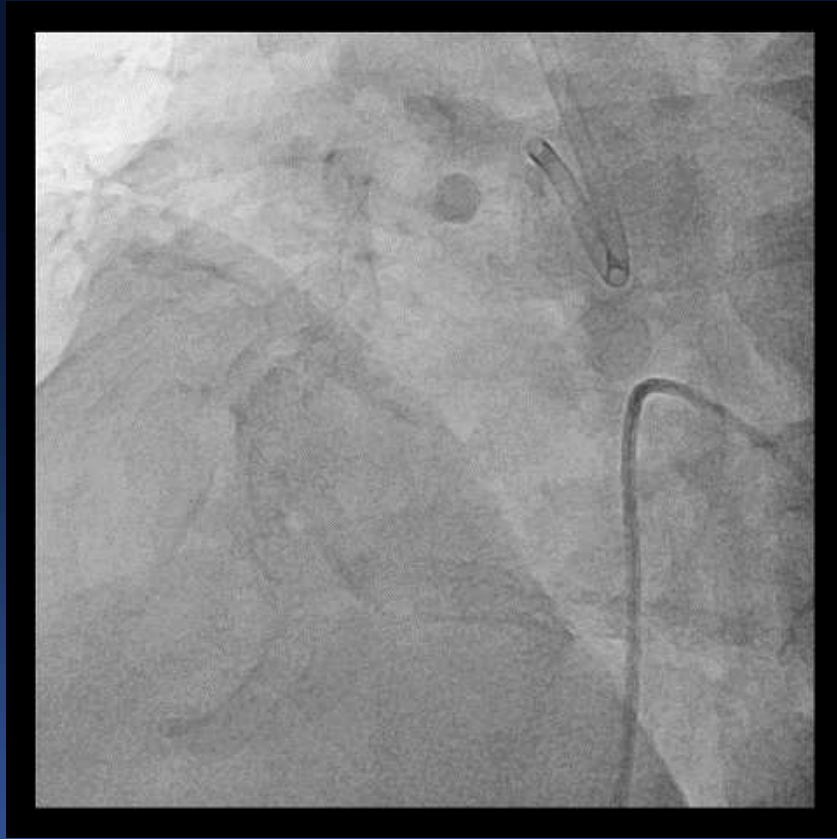
Di : Xience 4.0 (38)

HP Balloon (mRCA)

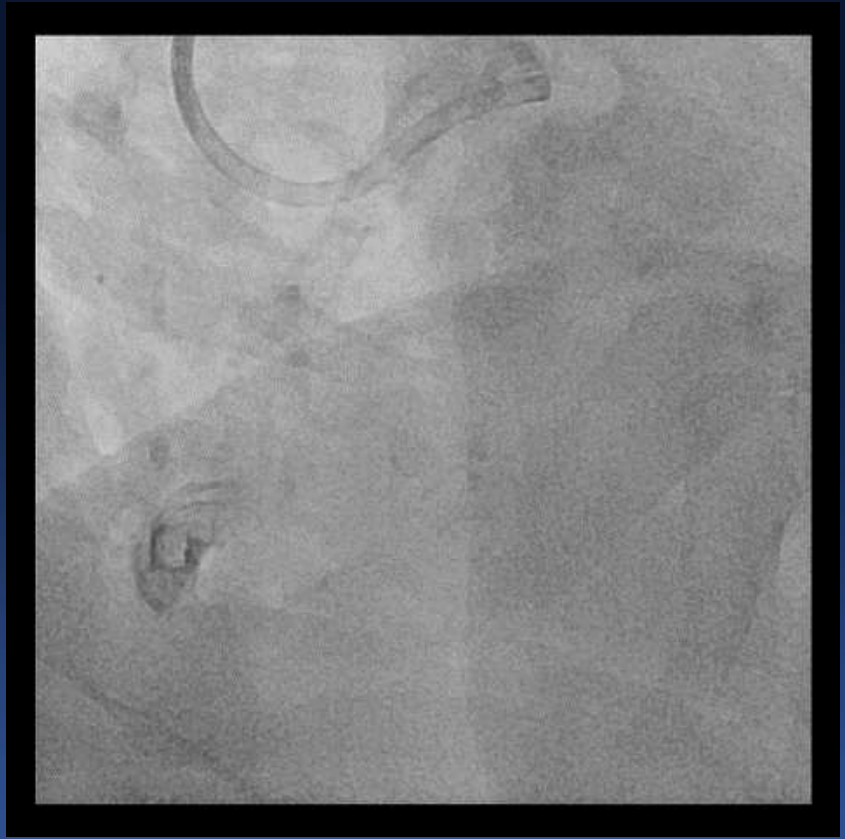


Sapphire NC 4.0 up to 4.5 (28 atm)

Final Angiography



LAO



RAO

PCI Case #2

Brief Case Summary

A 63 years old male patient visited to emergency department for chest pain during hemodialysis. He underwent CABG (LIMA to LAD, SVG to diagonal branch to PDA) 2 months ago. He also had history of prior PCI at LCX and RI 20 years before with BMSs. His clinical presentation was NSTEMI. His coronary risk factor were hypertension and end-stage renal disease.

Past Medical History

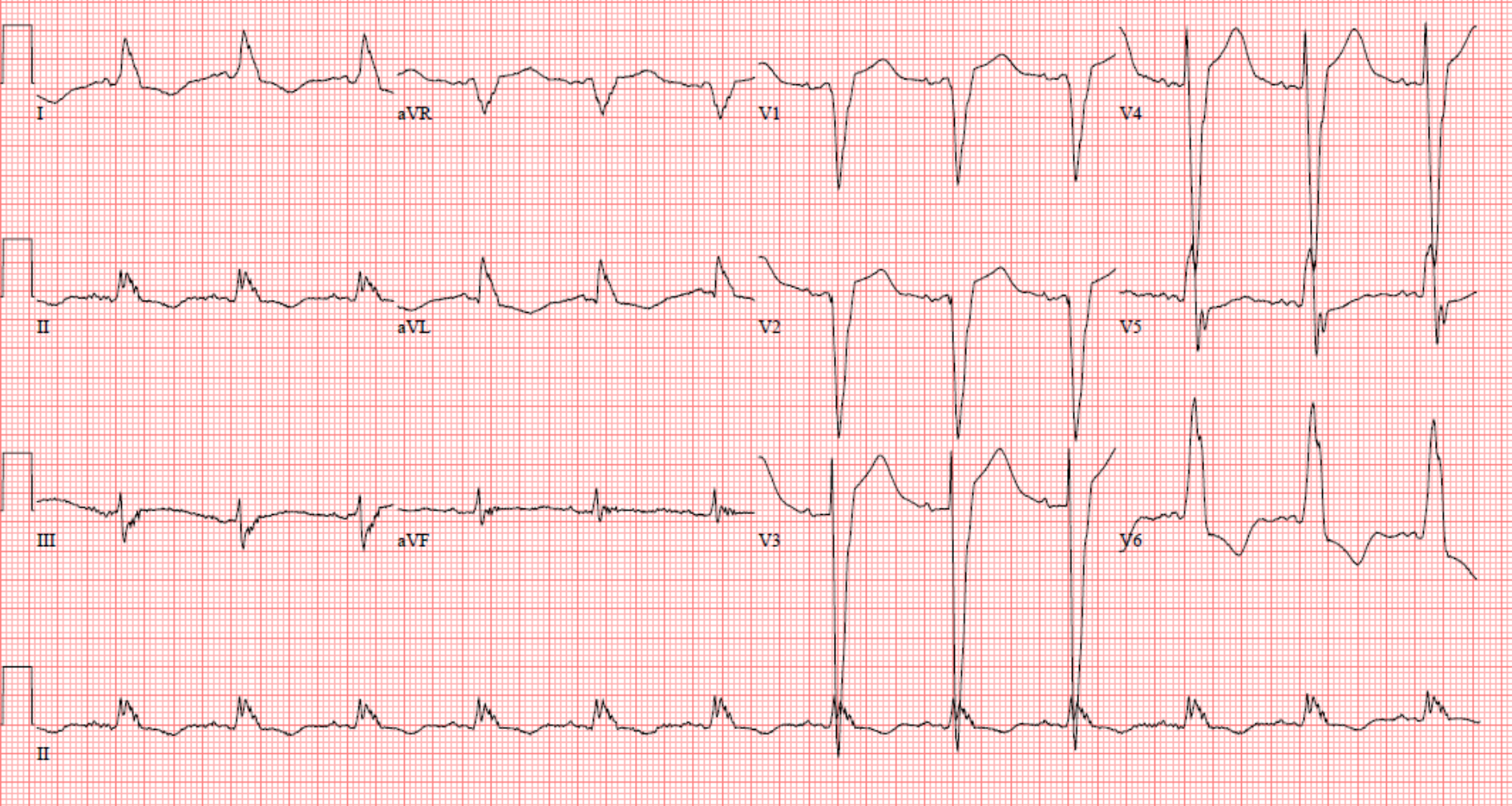
- **Previous MI** : Y
- **Previous CABG** : Y
18.9.12 AVR(severe AS) + CABG
(1+2: RIMA-LAD, SVG-Di-PDA)
- **Previous PCI**: Y
s/p PCI at pLCX and RI ('96)
- **Atrial fibrillation, Hypertension**

Work up

- **EKG** : Normal sinus rhythm, LBBB
- **Serum Cr** : 3.92 (GFR = 15 ml/min) on hemodialysis
- **EchoCG**: Normal LV systolic function (EF 60%) with akinesia of posterior wall with severe functional MR



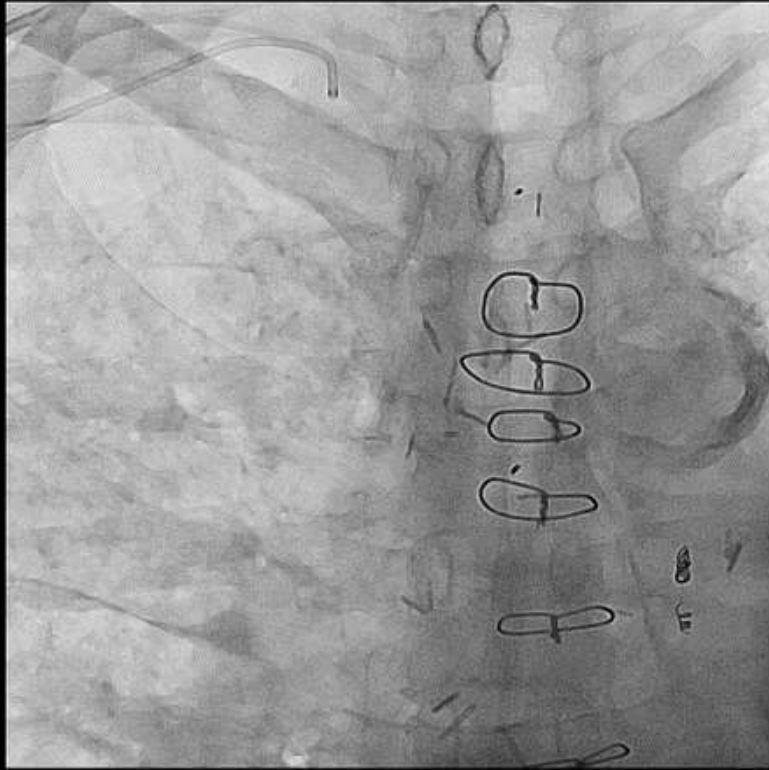
ECG



Chest X-ray



GRAFT: Patent

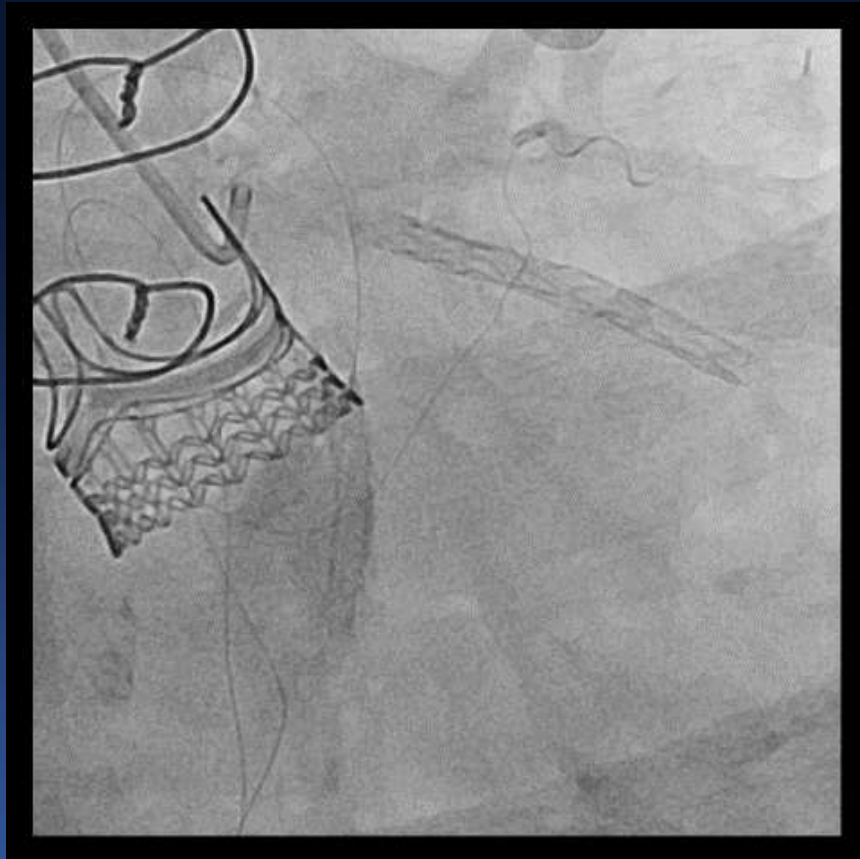


RIMA-LAD

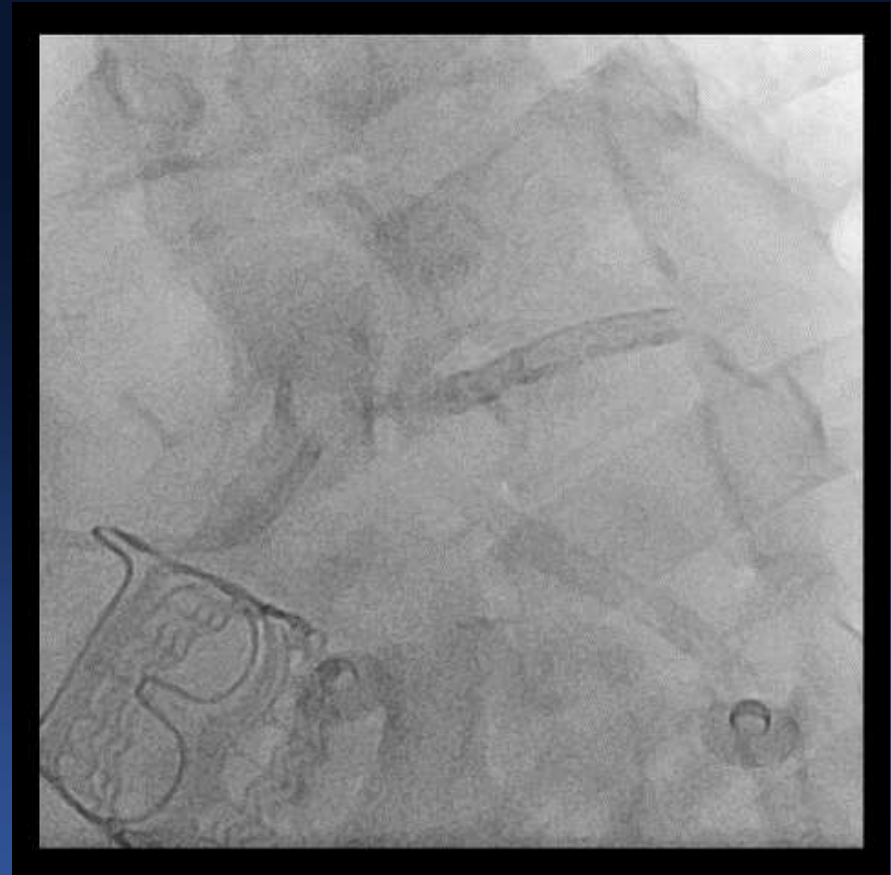


SVG-Di-PDA

LCA

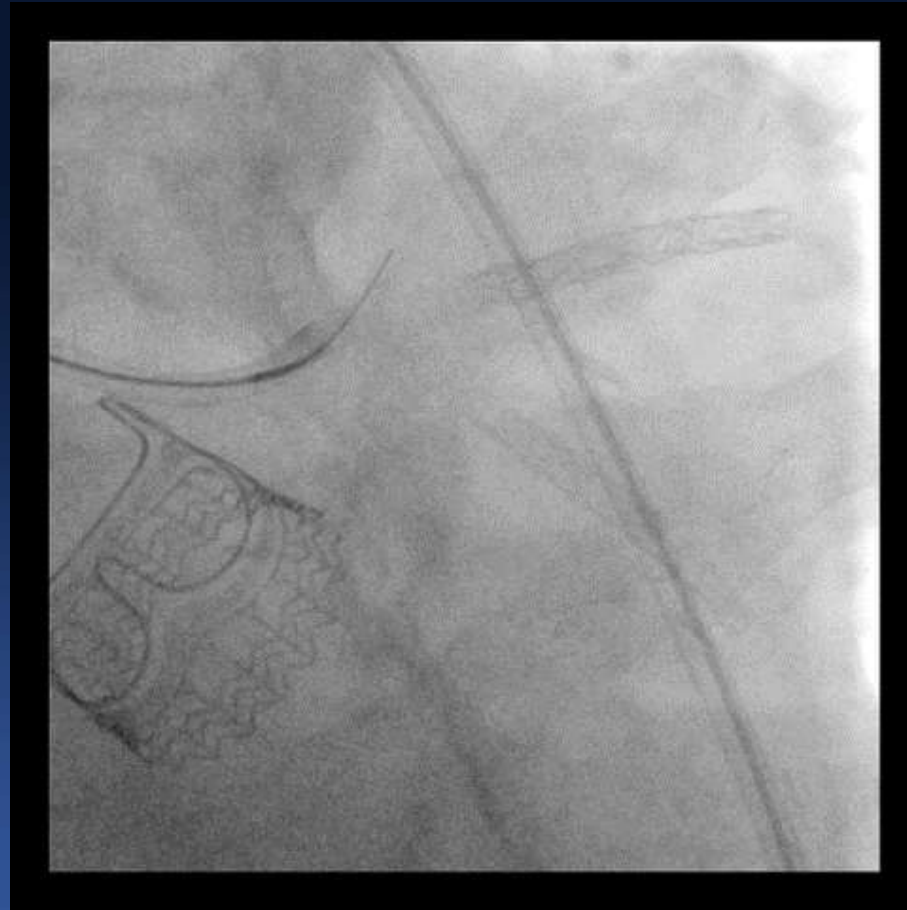


LAO CAUDAL



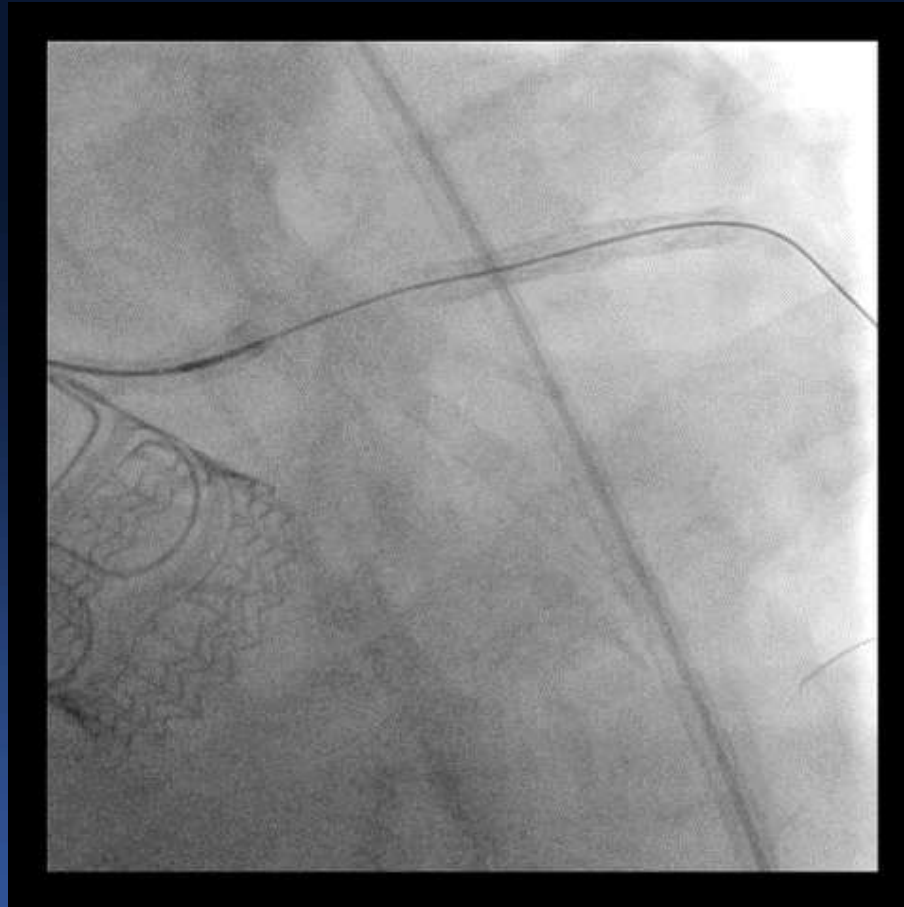
SPIDER

Difficult Wiring

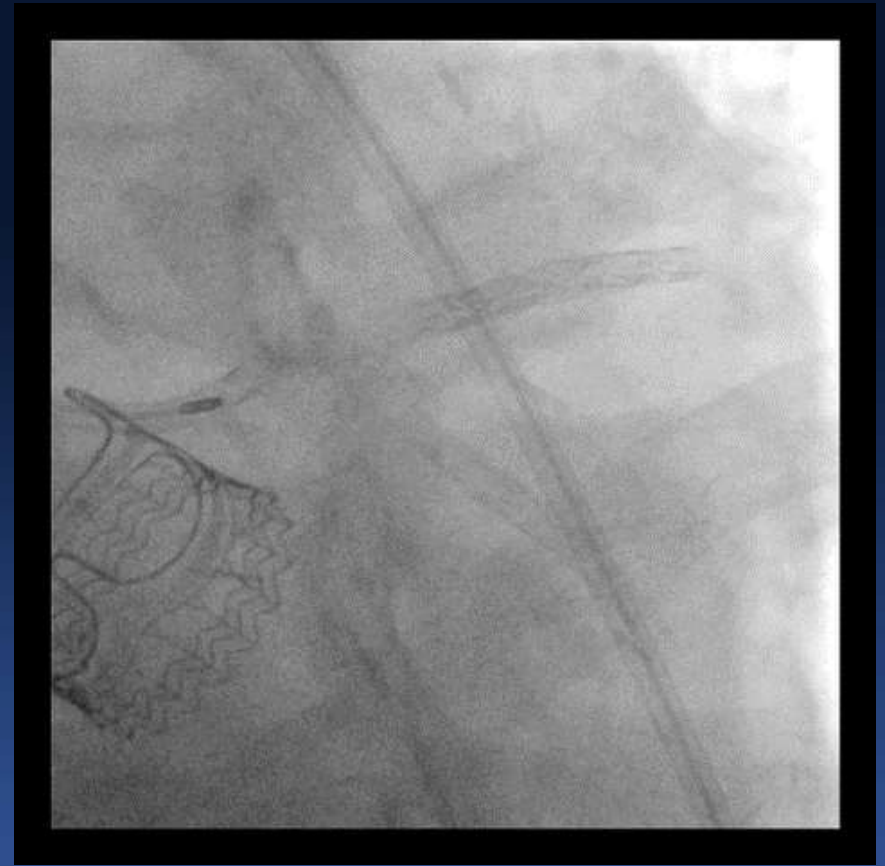
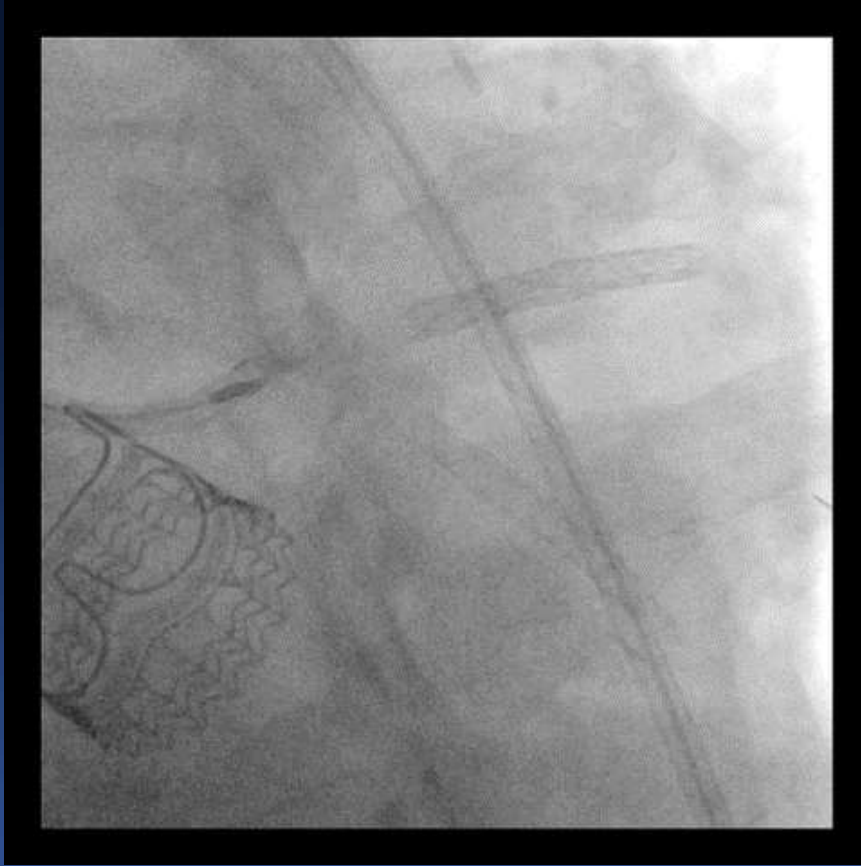


Corsair microcatheter + Fielder XT-R

Change to Rota Wire

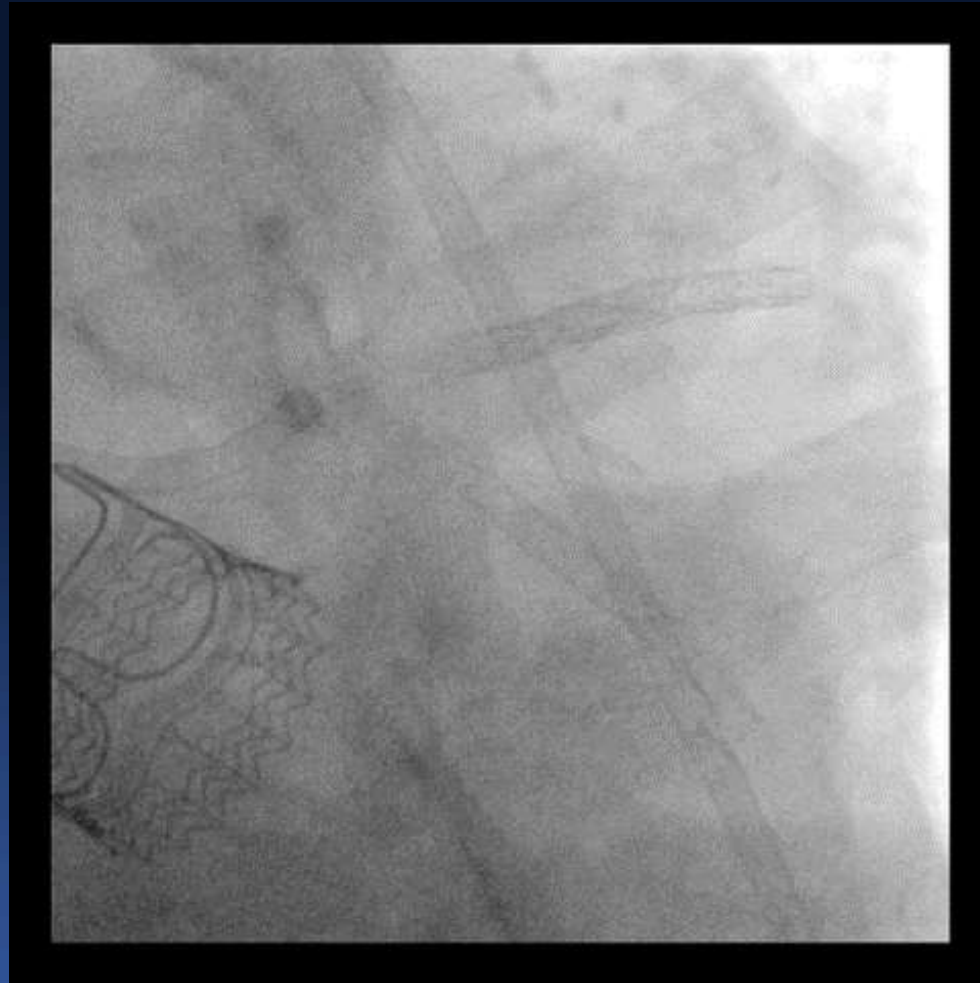


Delicated Rotablation (Ramus)



Rotablation **1.25 mm burr**

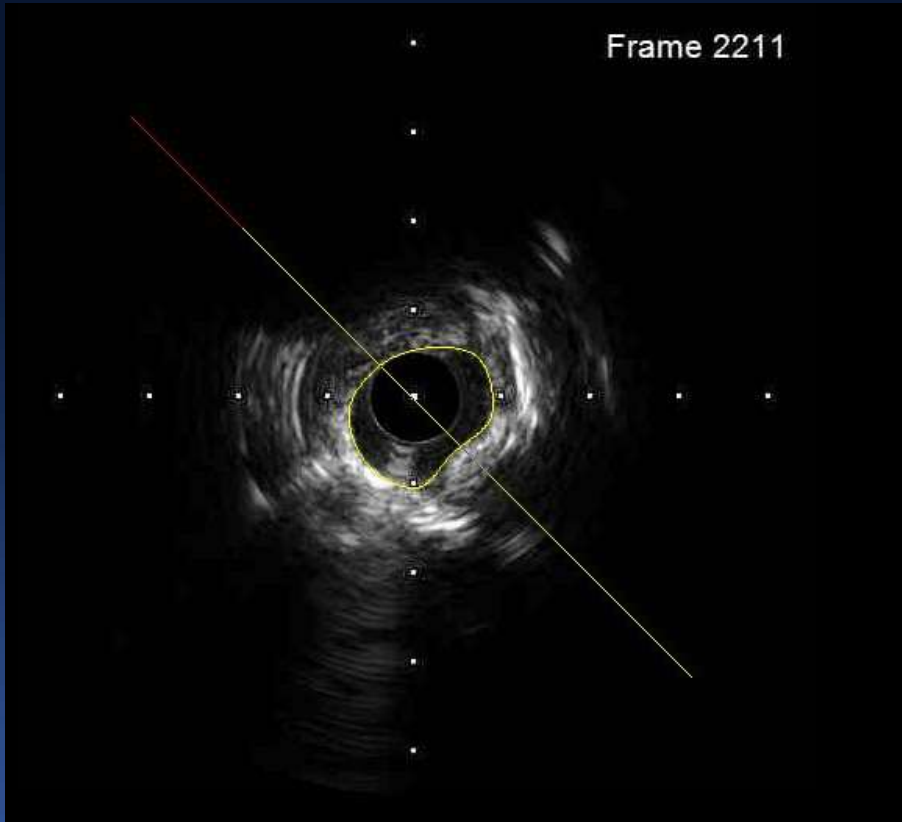
Rotablation (Ramus)



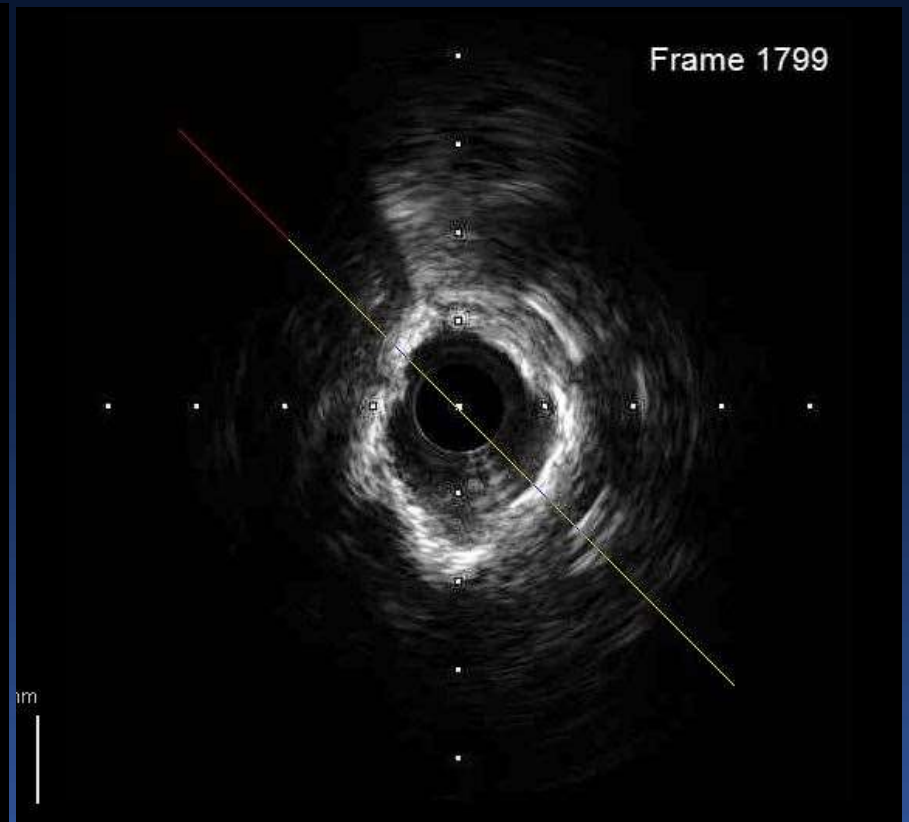
Rotablation 1.5 mm burr

IVUS

Post Rotablation (Ramus)

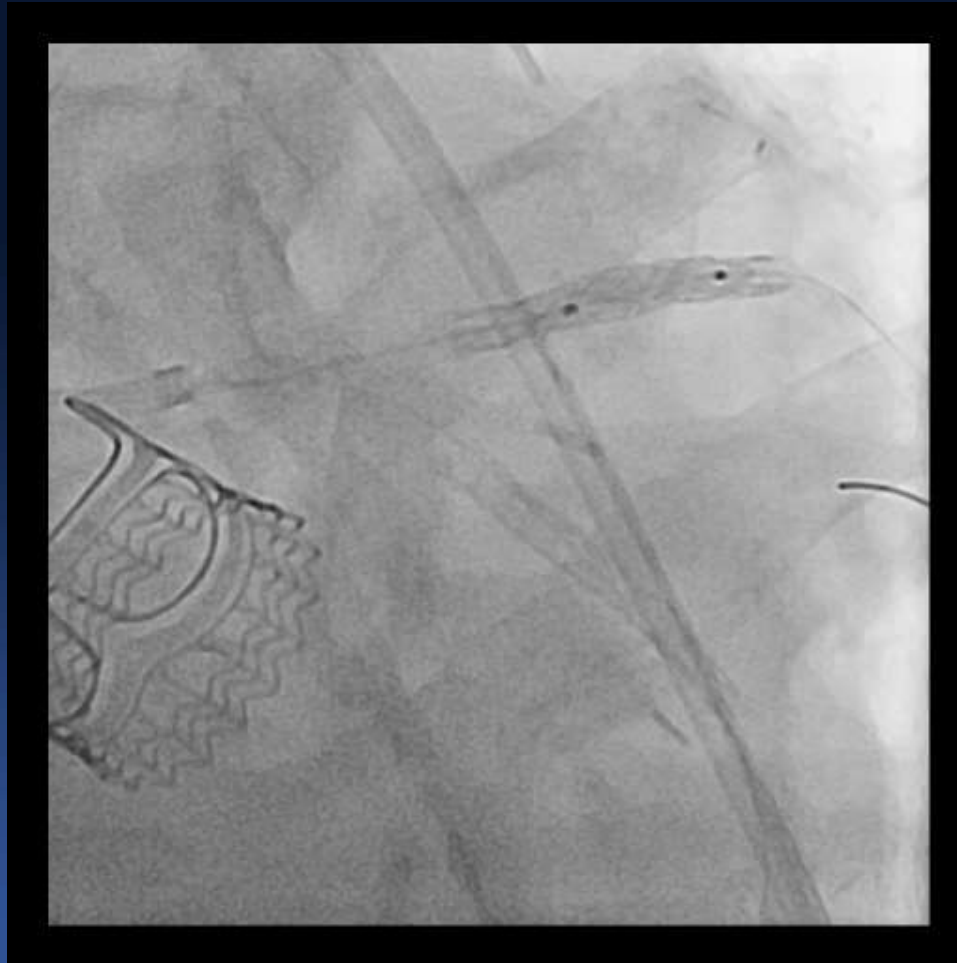


LCXos : Very tight



Heavily calcified Neointima
In Both BMS Stent

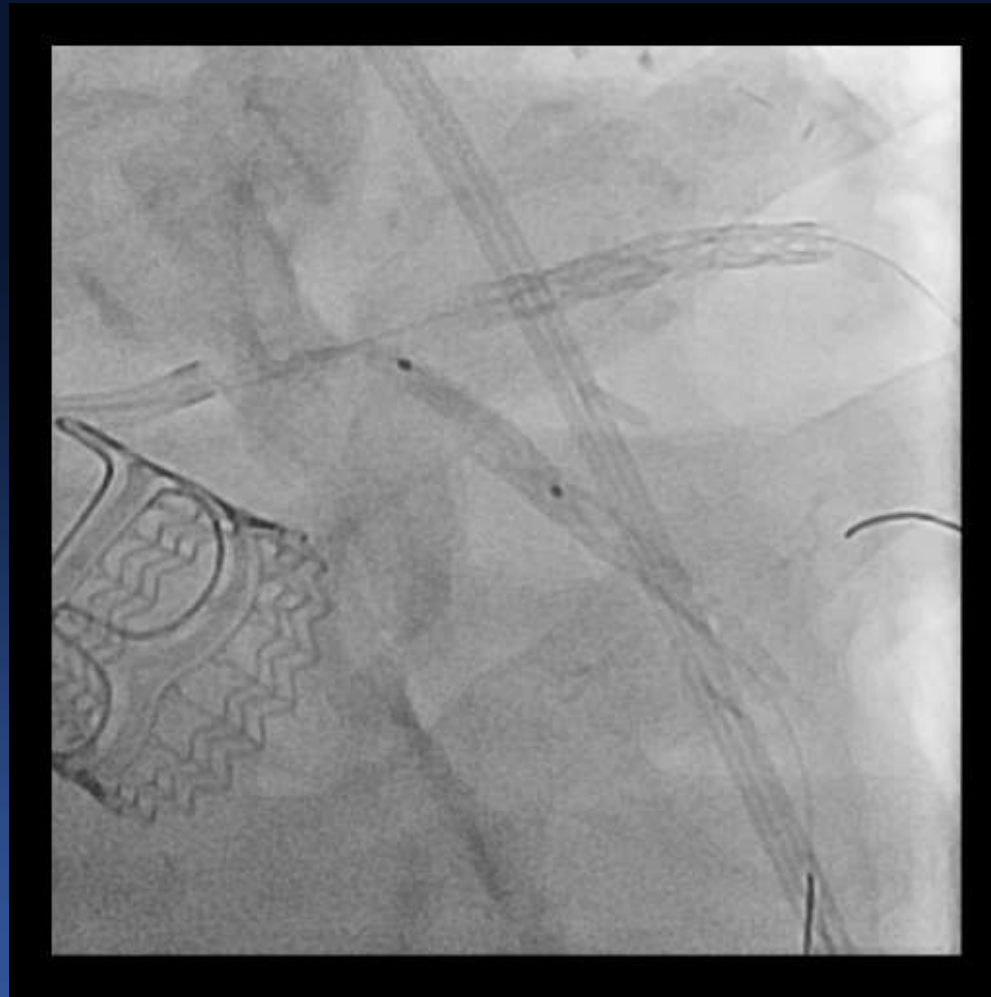
Pre-Balloon (Ramus)



Ramus: Neon NC 2.5 (15) upto 28 atm (2.78)

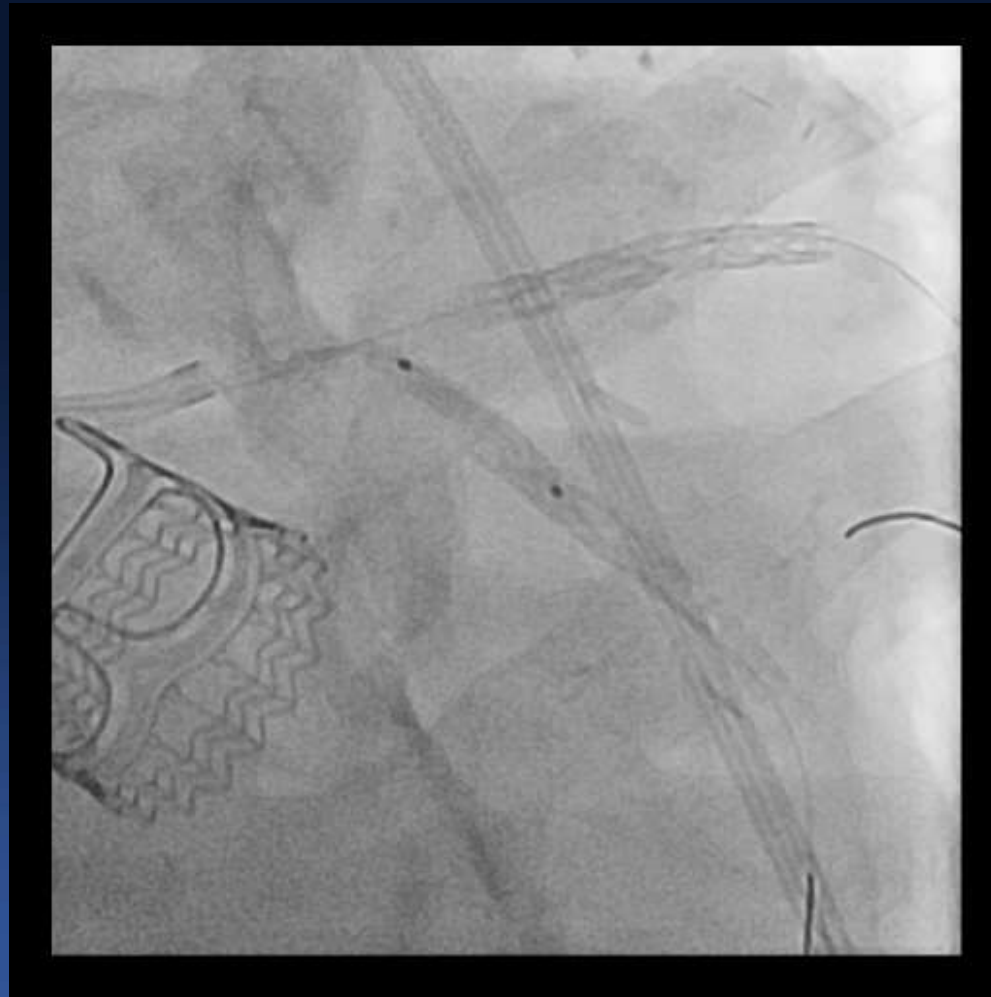
Nimbus Salvo 3.0 (17) upto 16atm (3.05)

Pre-Balloon (Proximal LCX)



pLCX: Neon NC 2.5 (15) upto 28 atm (2.78)

Pre-Balloon (Proximal LCX)



pLCX: Angiosculpt 3.0 (15) upto 10 atm (3.16)

Stenting at pLCX and Ramus “V stenting”



pLCX: Xience 3.0 (15) upto 12 atm (3.12)

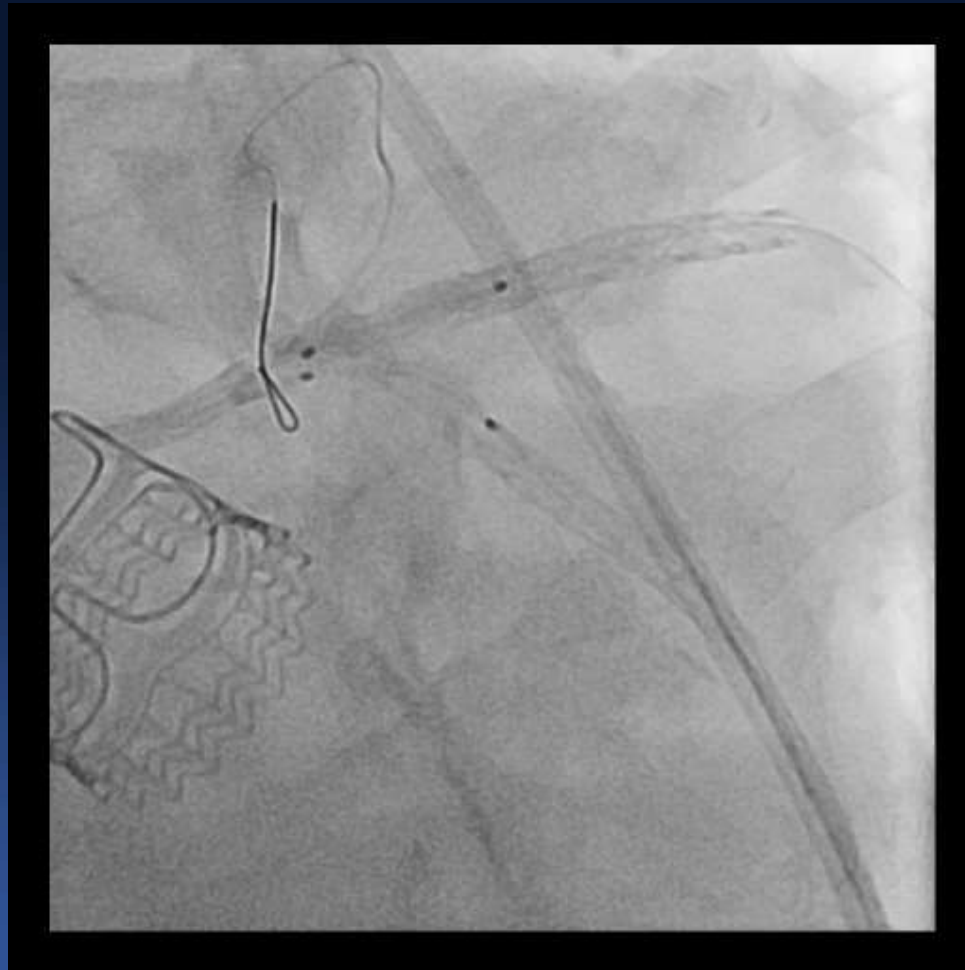
Ramus: Xience 3.0 (15) upto 12 atm (3.12)

HP Balloon (pLCX)



NC TREK 3.0(15) upto 16 atm (3.08)

HP Balloon (Ramus)



NC TREK 3.0(15) upto 20 atm (3.16)

Kissing Balloon



LM-pLCX : NC TREK 3.0(15) upto 8 atm (2.83)

LM-RI : Nimbus Salvo 3.0 (17) upto 8 atm (2.92)

Final angiography



SPIDER

Before and After

Decreased MR Extent After PCI



Severe Functional MR



Moderate Functional MR



Thank you.