

A Nightmare Complication: Tear of Calcified Artery

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Case Presentation

F/63

Chief complaint

: Progressive Effort Angina for 3 months

Past medical history

: Hypertension, Stable angina

EchoCG

: LV EF 59%, No regional wall motion abnormality

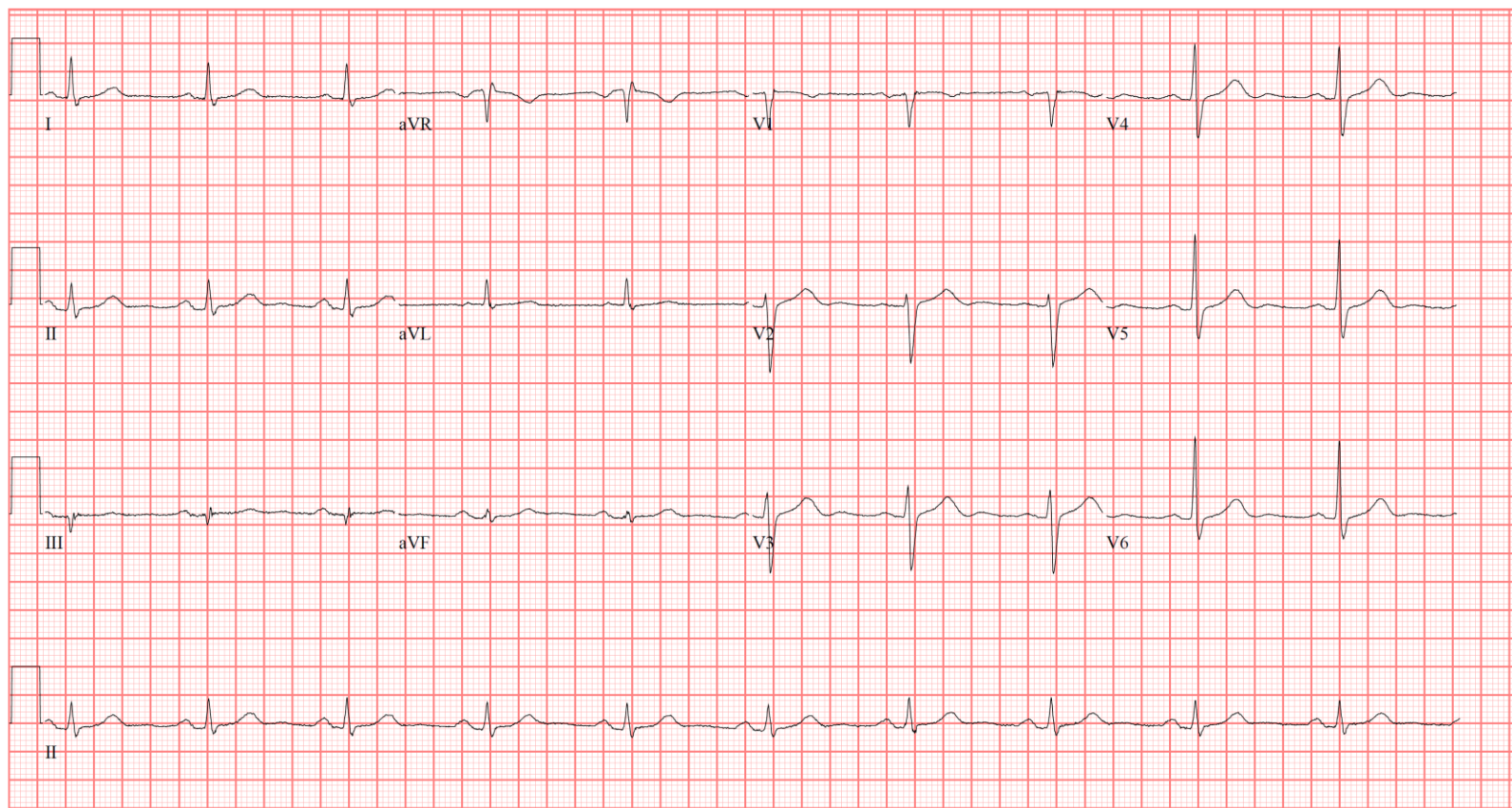
ECG

63 yr	Vent. rate	60	BPM	Normal sinus rhythm
Female	PR interval	194	ms	Normal ECG
	QRS duration	100	ms	
Room:	QT/QTc	442/442	ms	
Loc:113	P-R-T axes	62 13 48		

Technician: LYE
Test ind:88392

Referred by: 144W

Confirmed By: ROOM EAST



25mm/s 10mm/mV 150Hz 7.1.1 12SL 241 CID: 0

EID:2 EDT: 10:00 01-JUN-2018 ORDER:

Chest X-ray



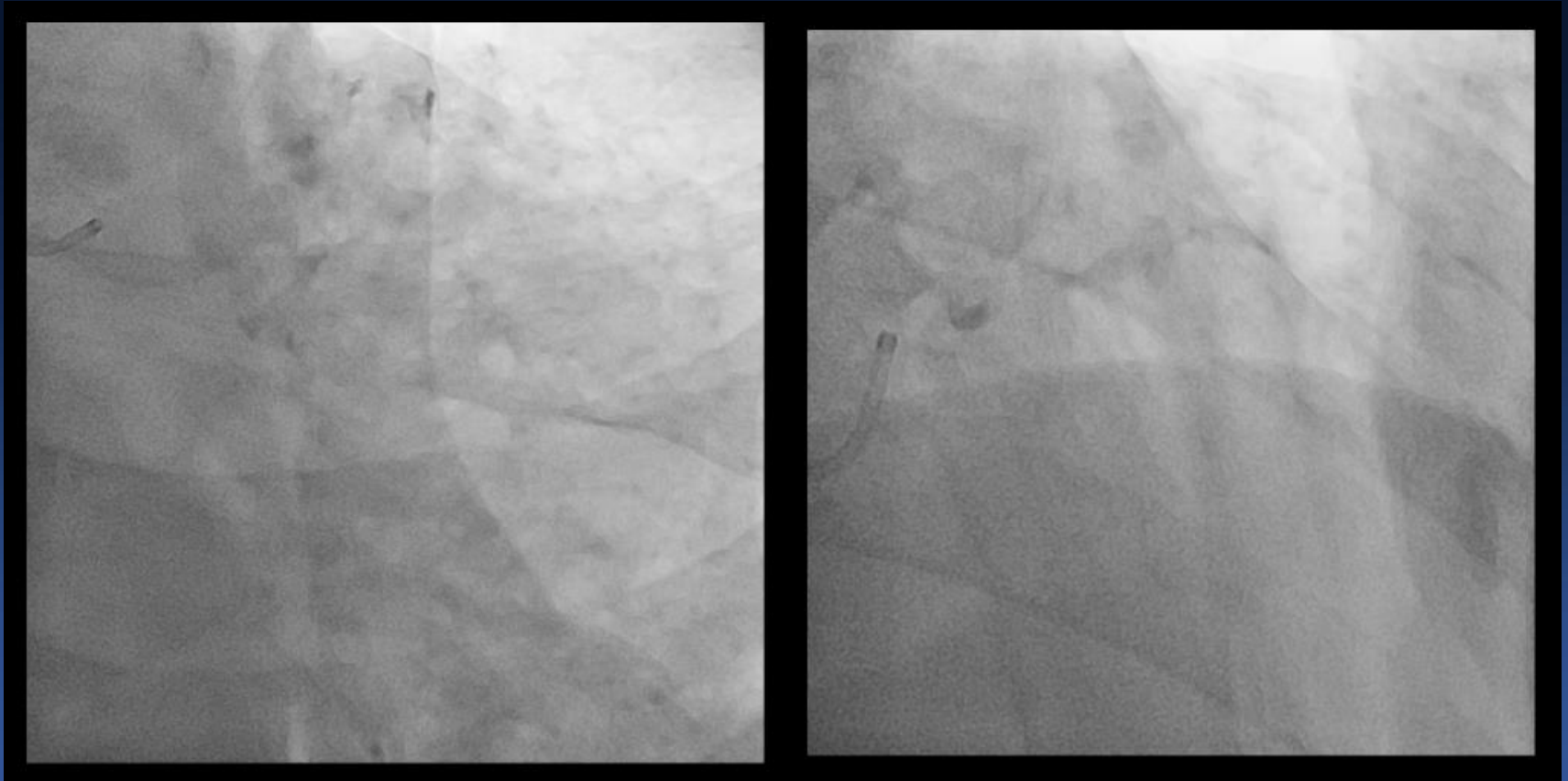
Coronary Angiography

RCA



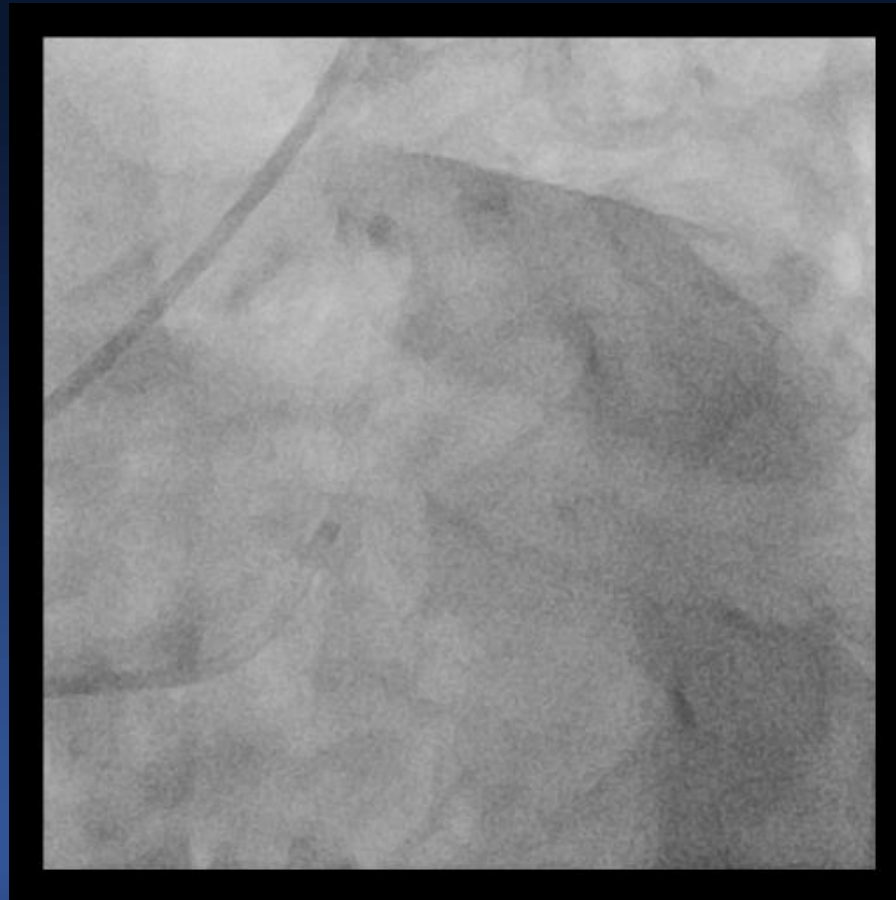
Coronary Angiography

LCA

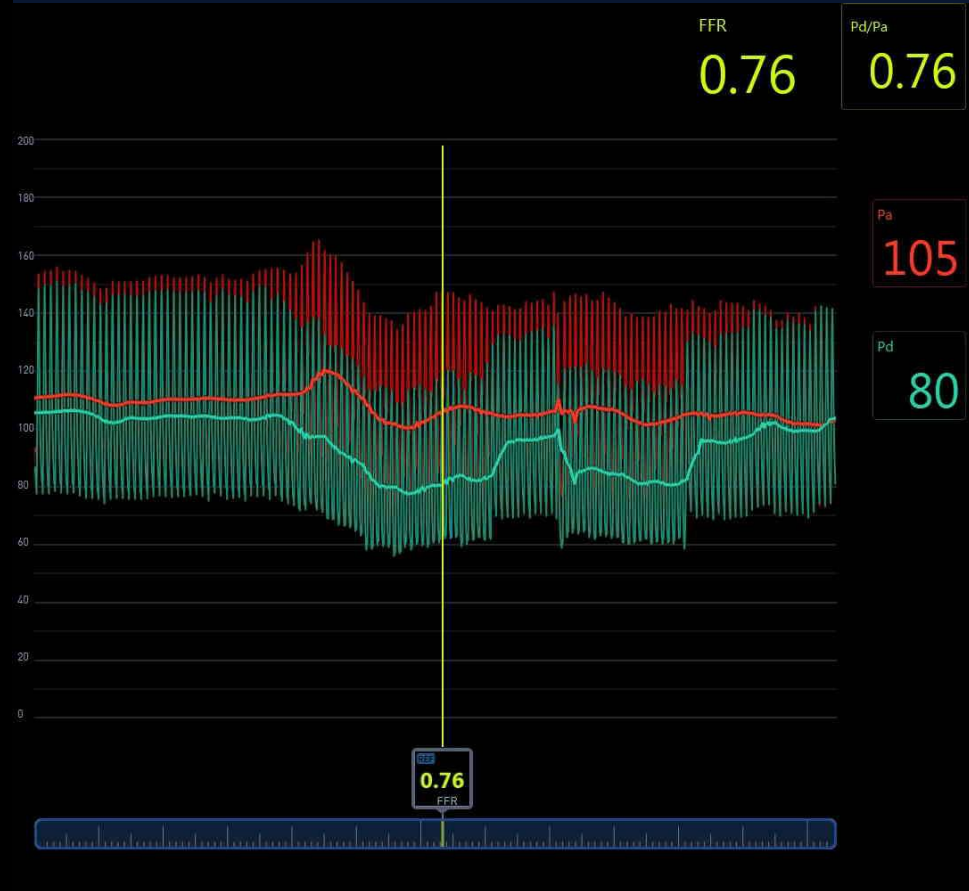
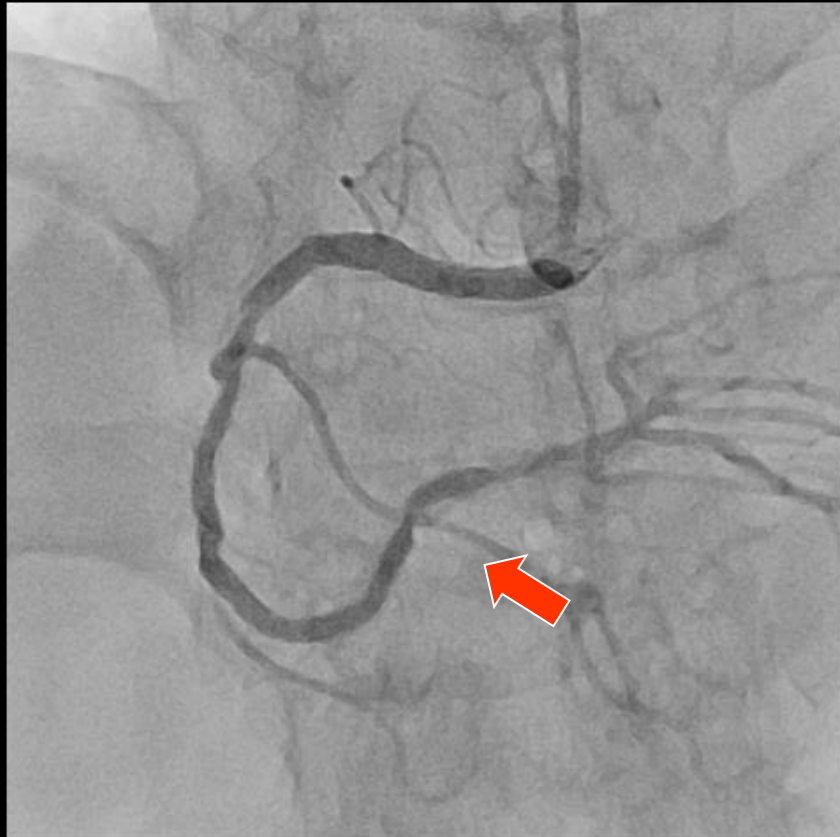


Coronary Angiography

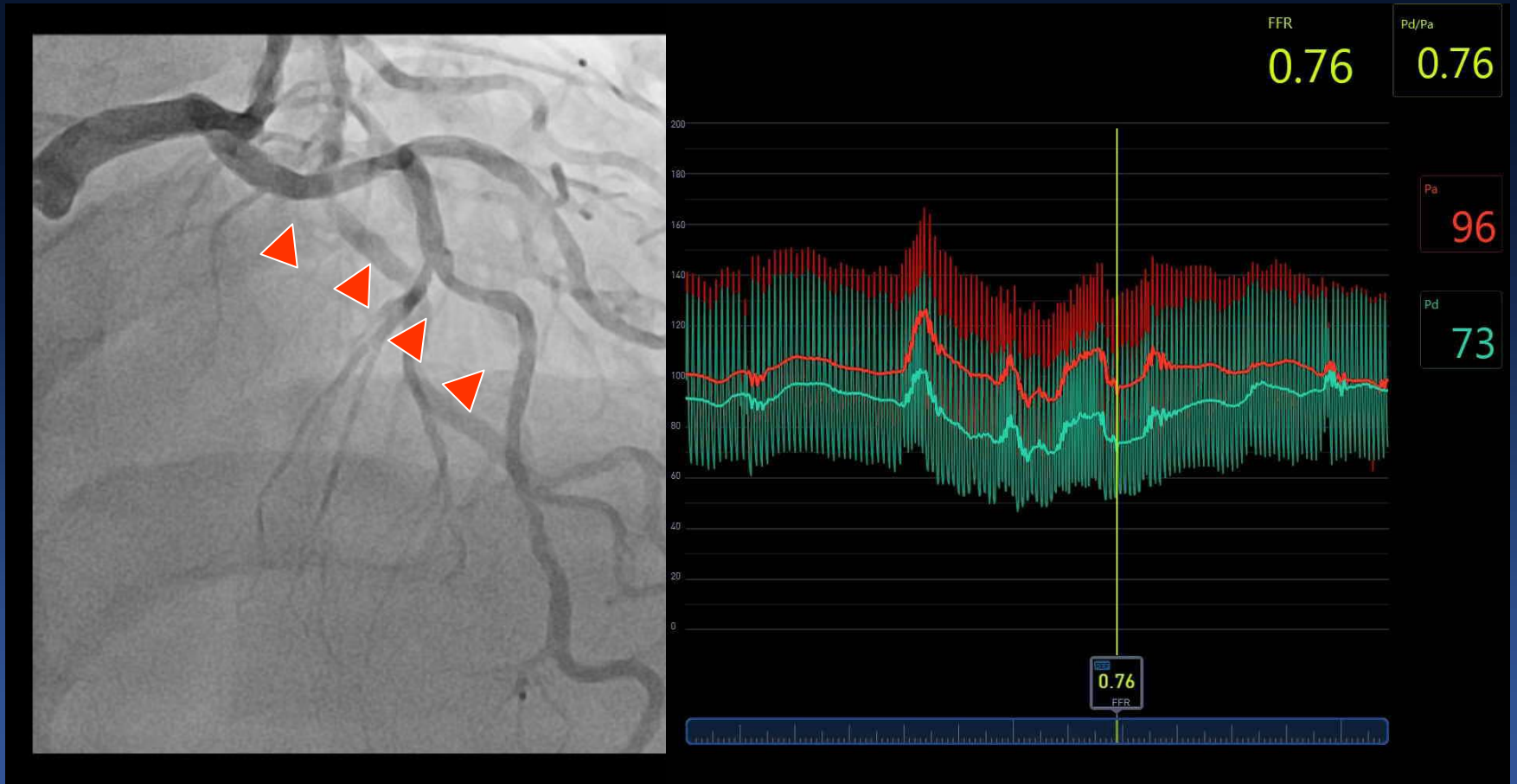
LCA



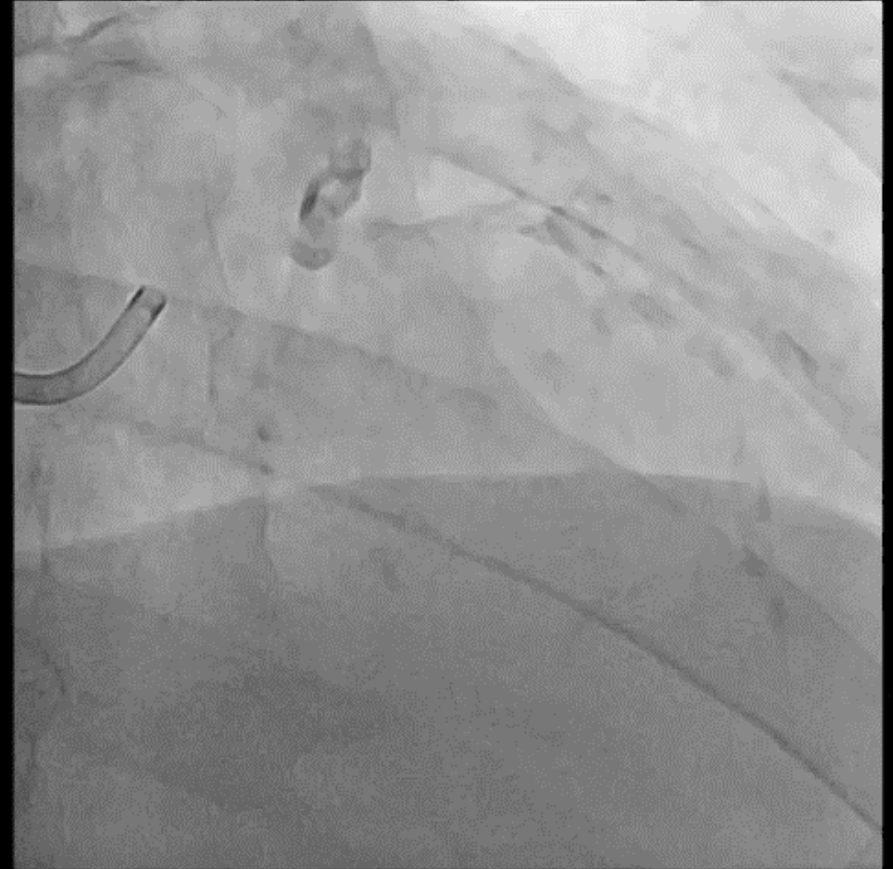
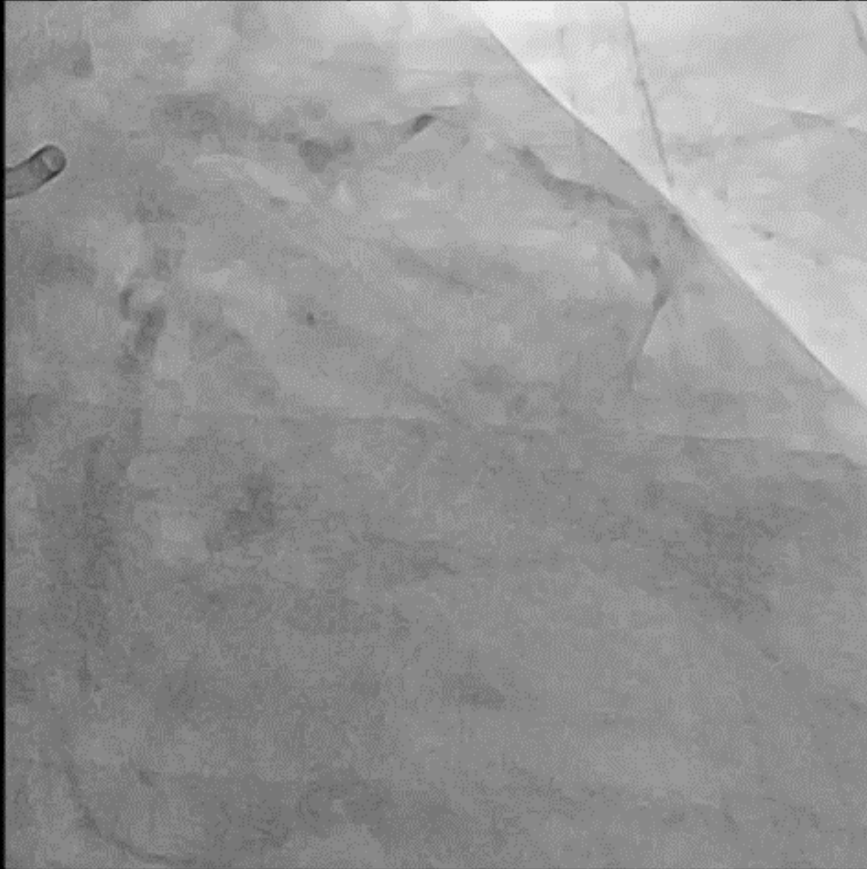
RCA, FFR 0.76



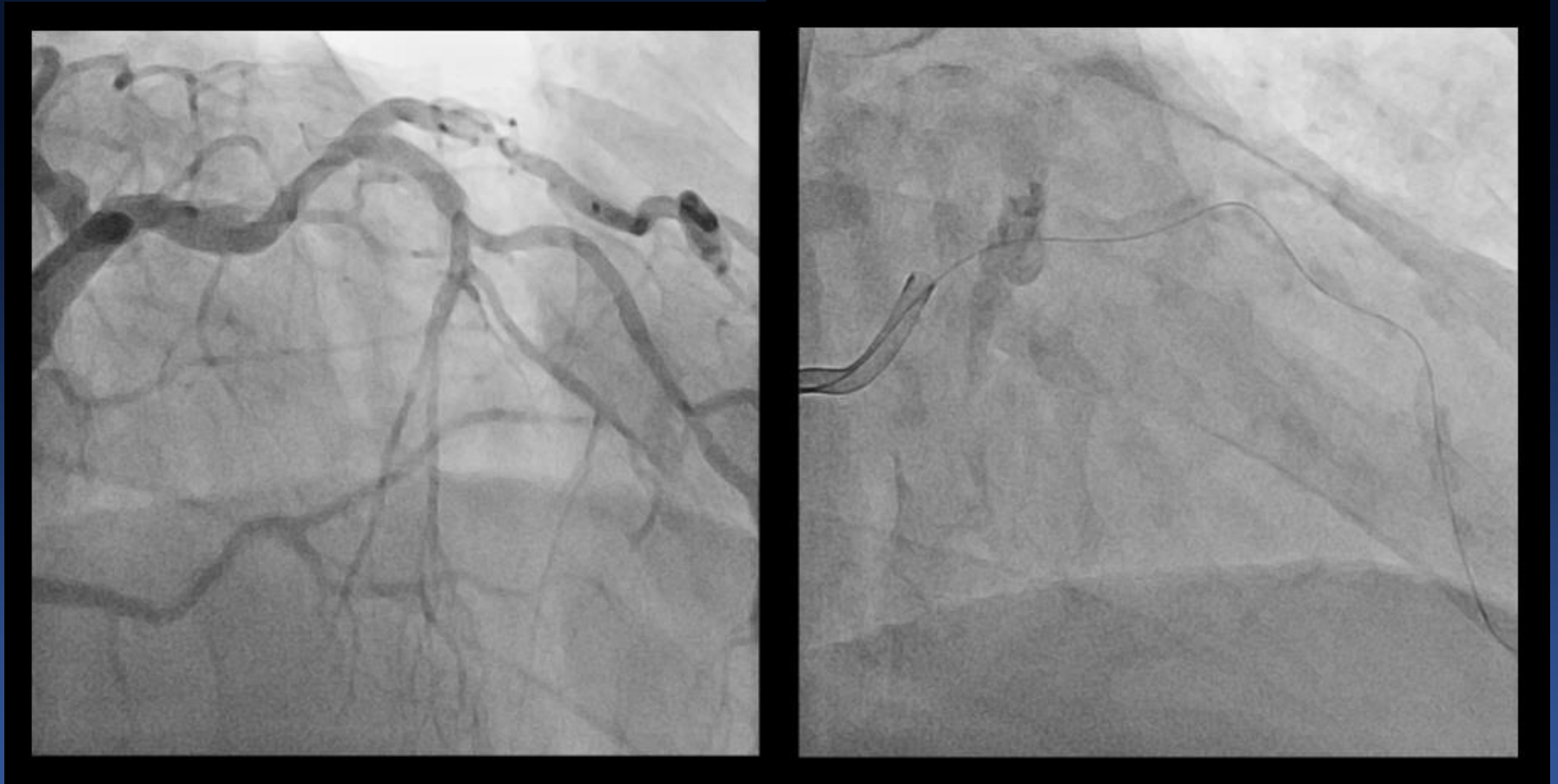
LAD, FFR 0.76



PCI at LAD

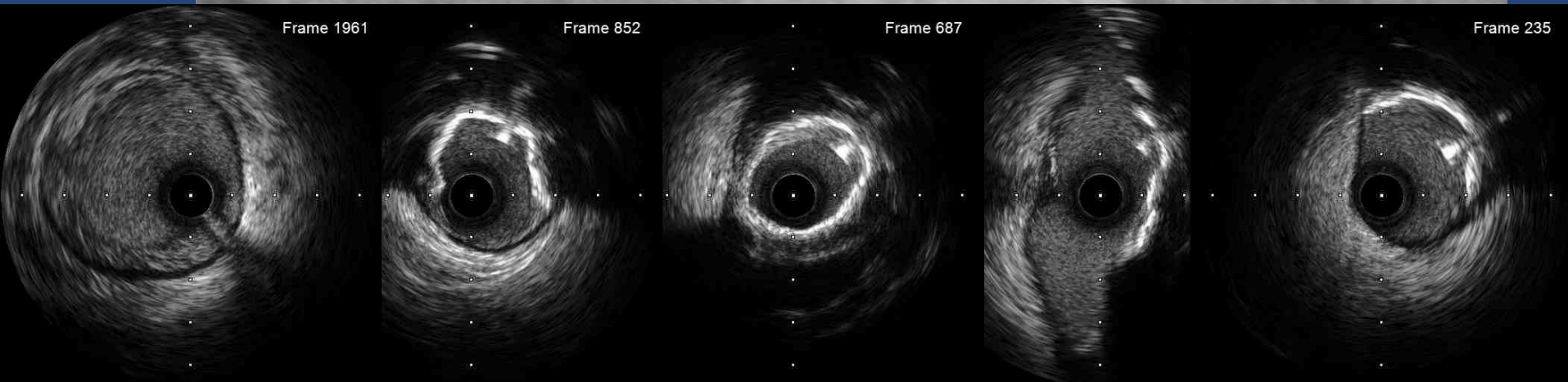
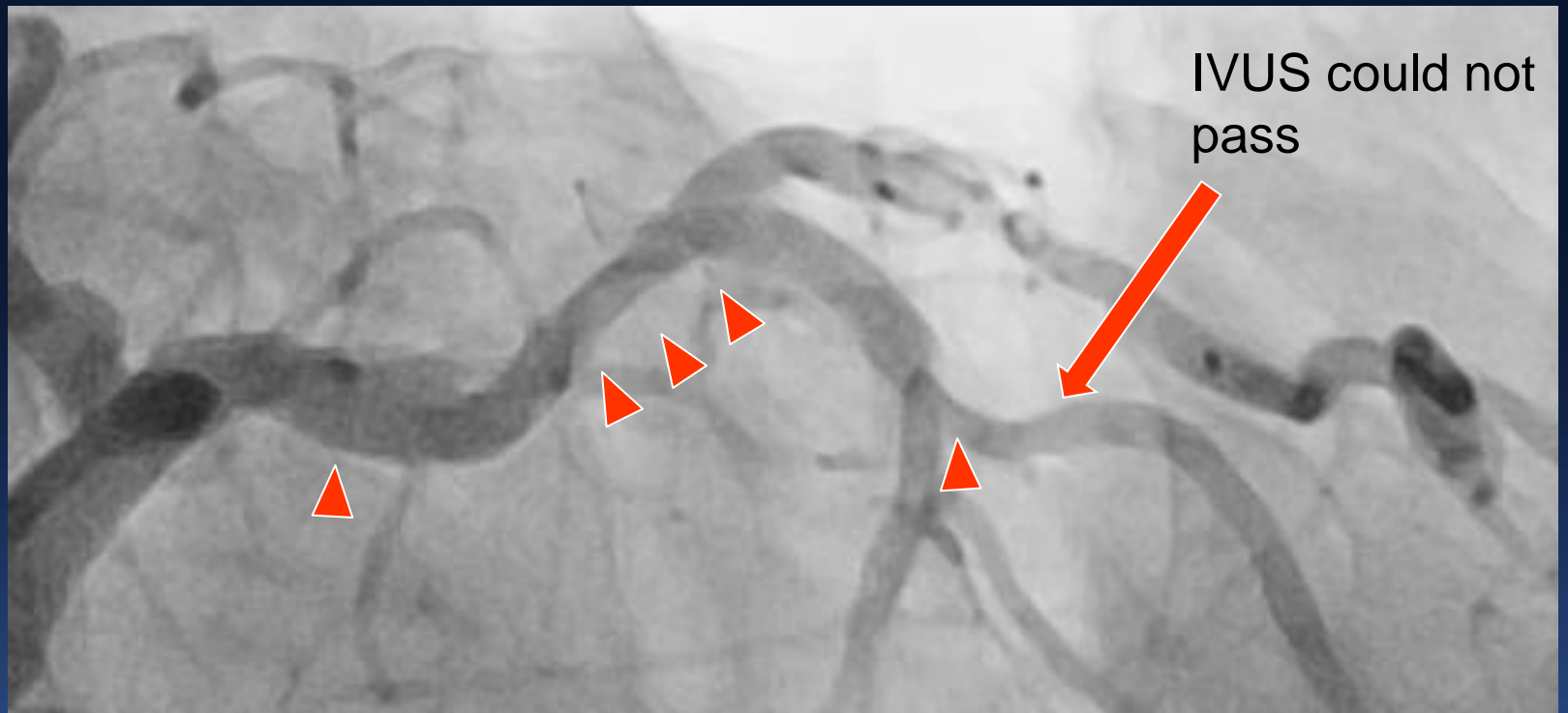


Wiring at LAD



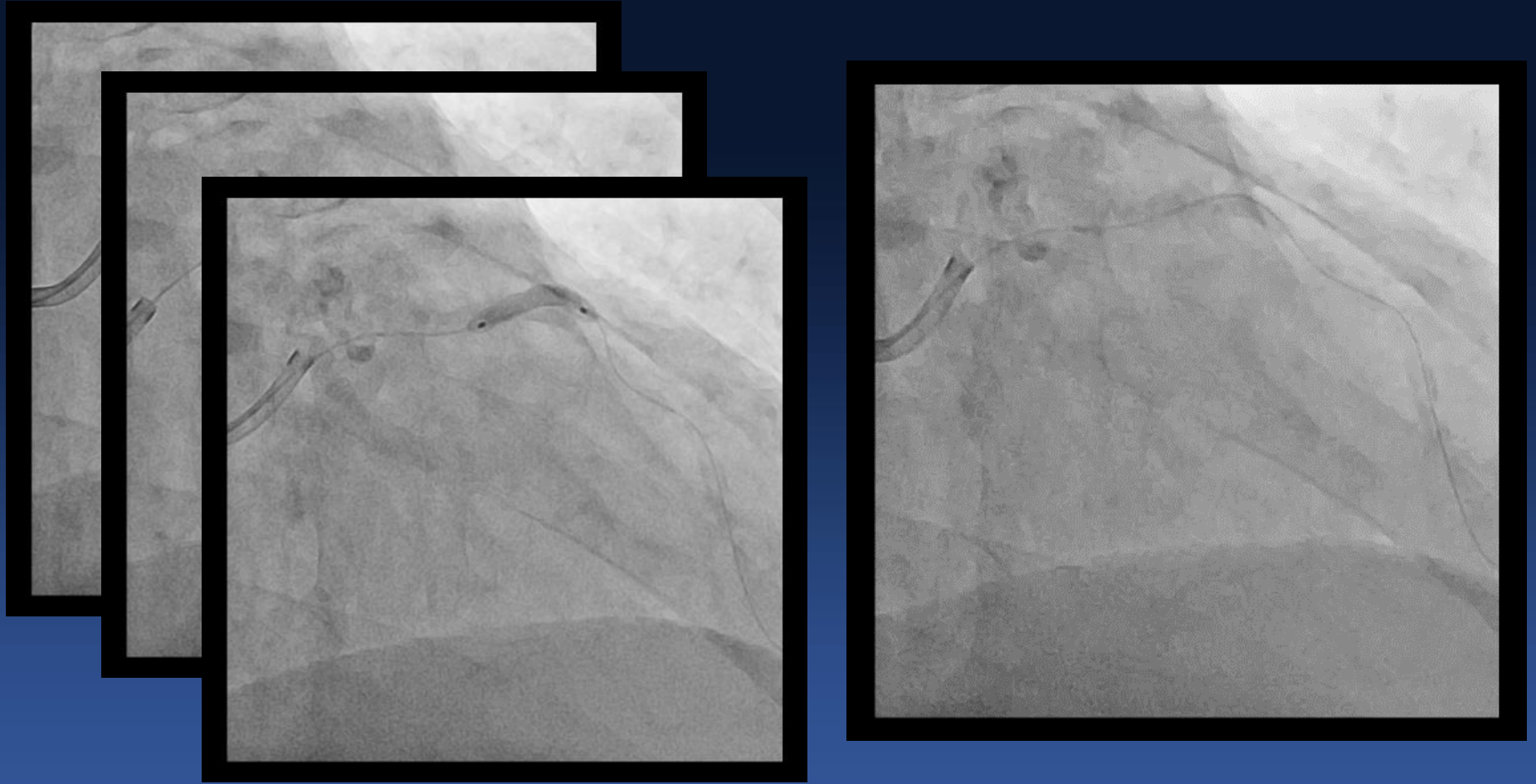
Sion wire with Caravel Microcatheter

IVUS



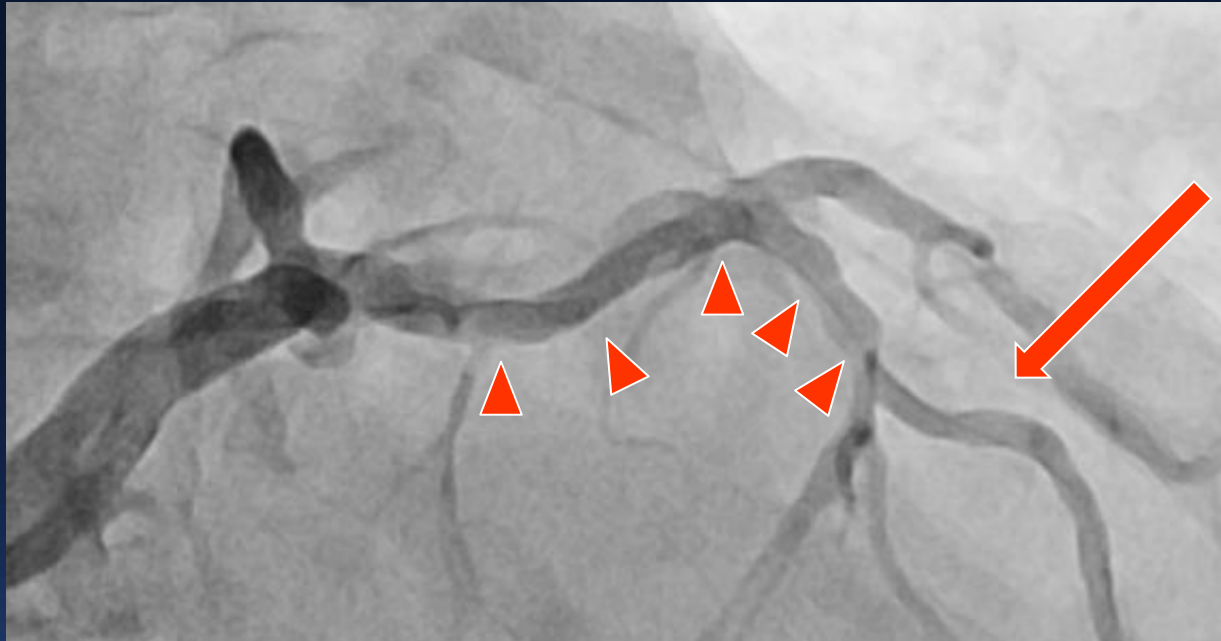
POBA at LAD

Balloon could not advance distally to mLAD

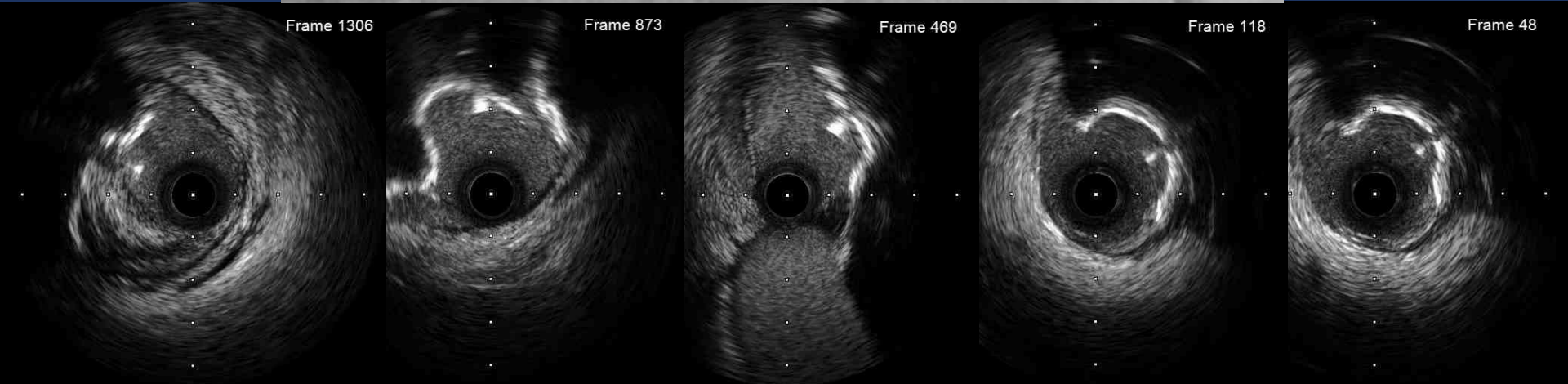


Sapphire NC 2.5 (18) upto 20 atm

IVUS



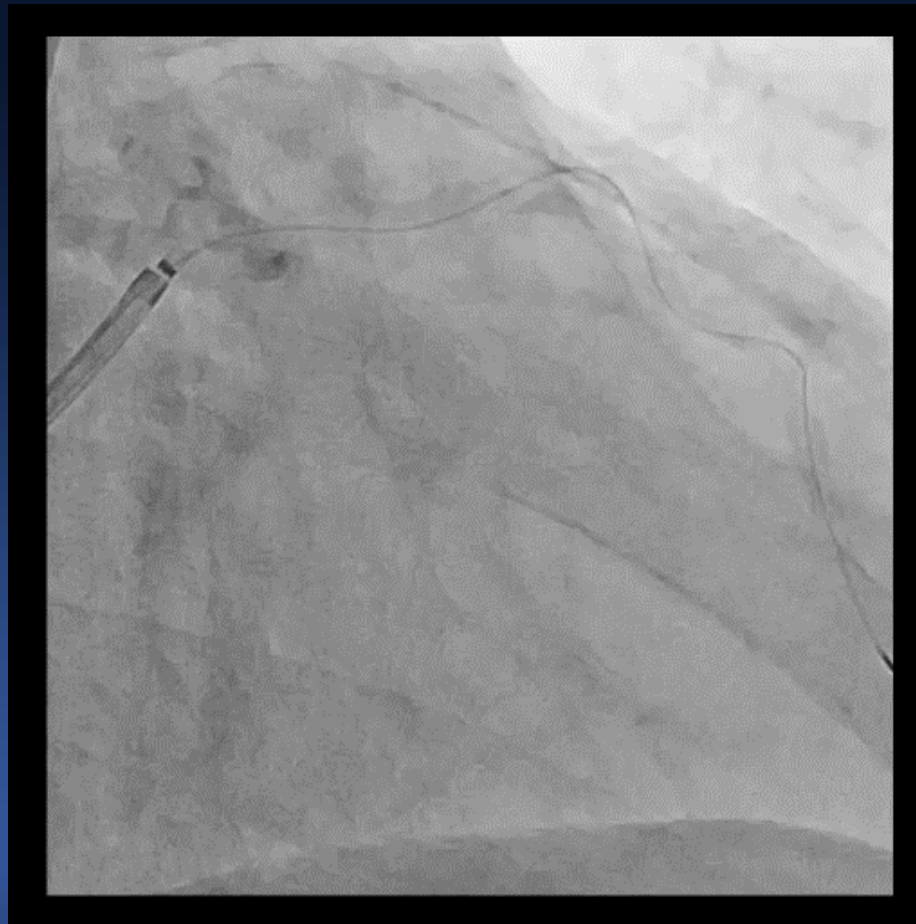
Still, IVUS
can not
pass



Dissection & Hematoma at pmLAD

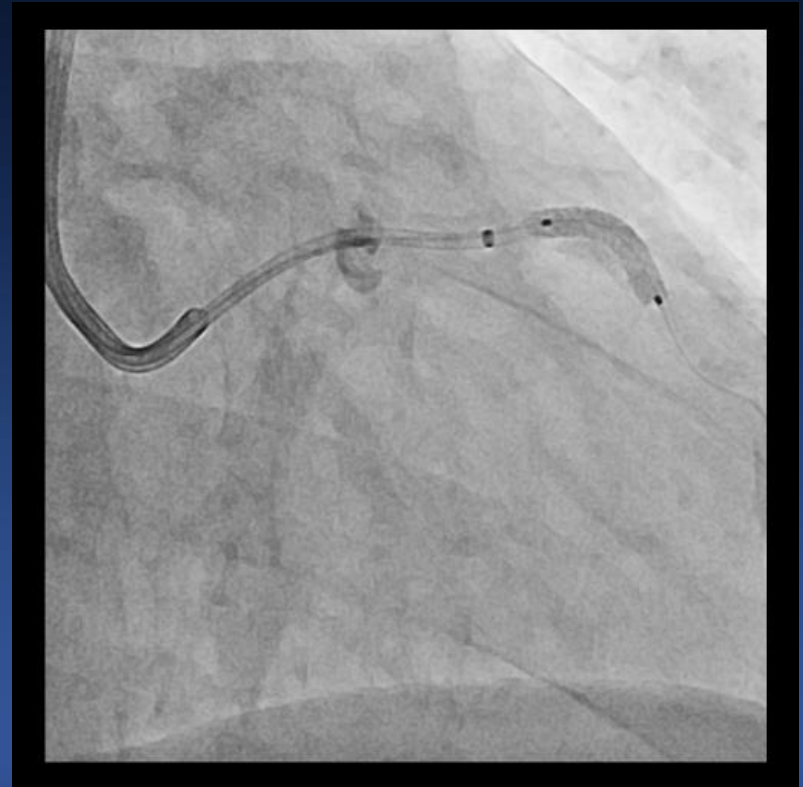
Severe chest pain develops with ST elevation

LAD dissection progressed & propagated to diagonal br., resulting flow limitation



But, stent does not pass

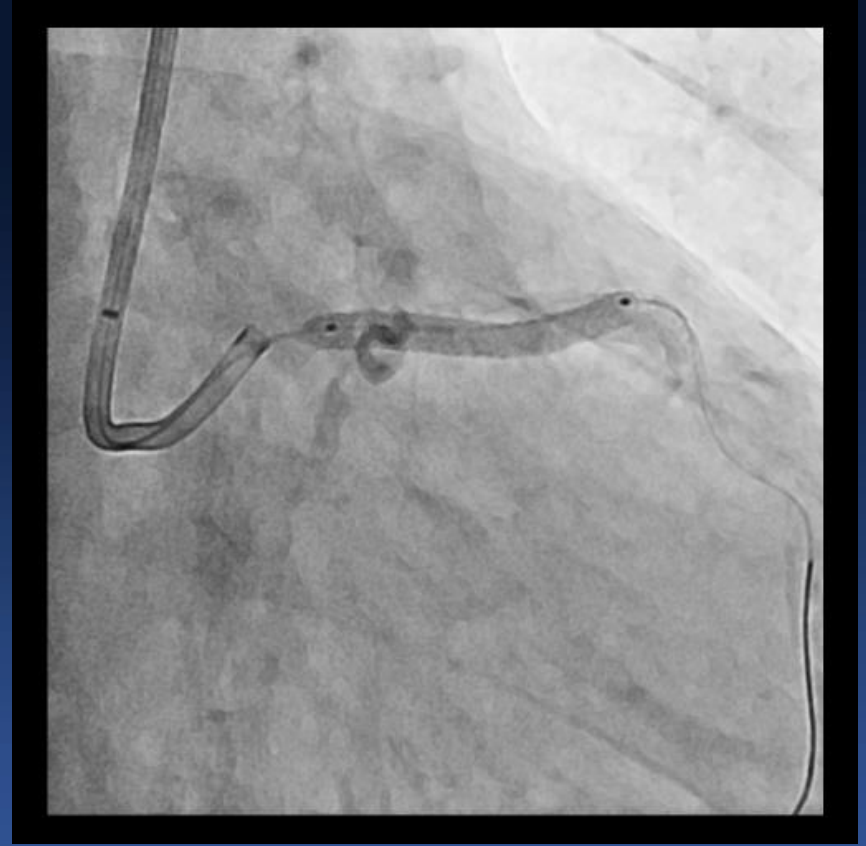
With Exchanging guidewire to Powerturn via microcatheter,
and Guidezilla backup,
finally stent could advance just distal to diagonal branch.



Stenting at pmLAD

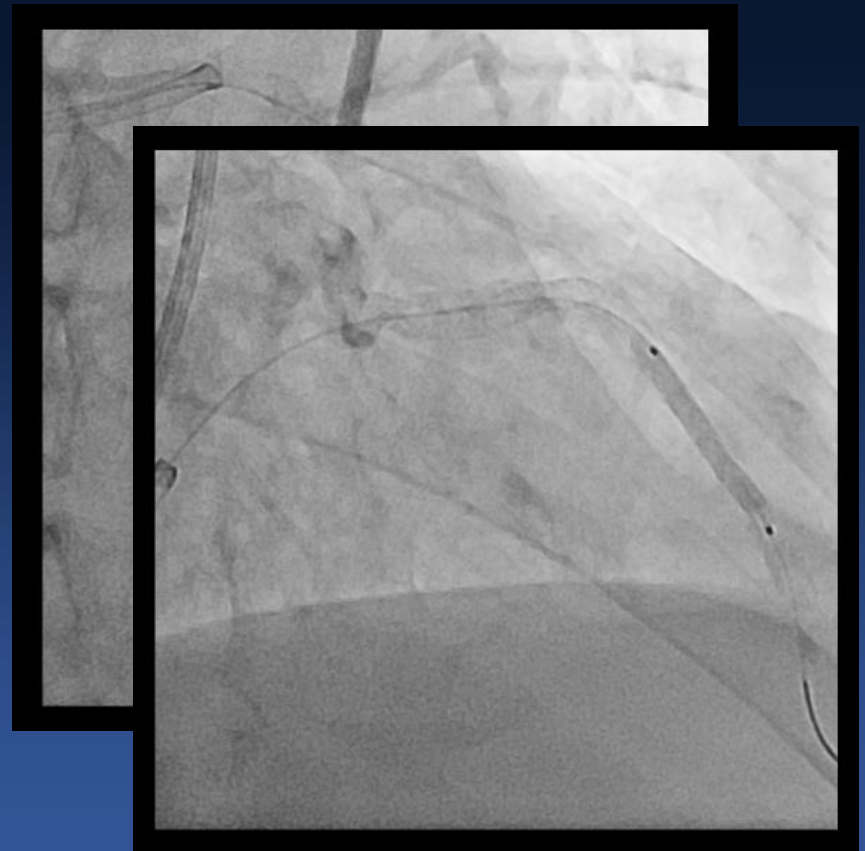
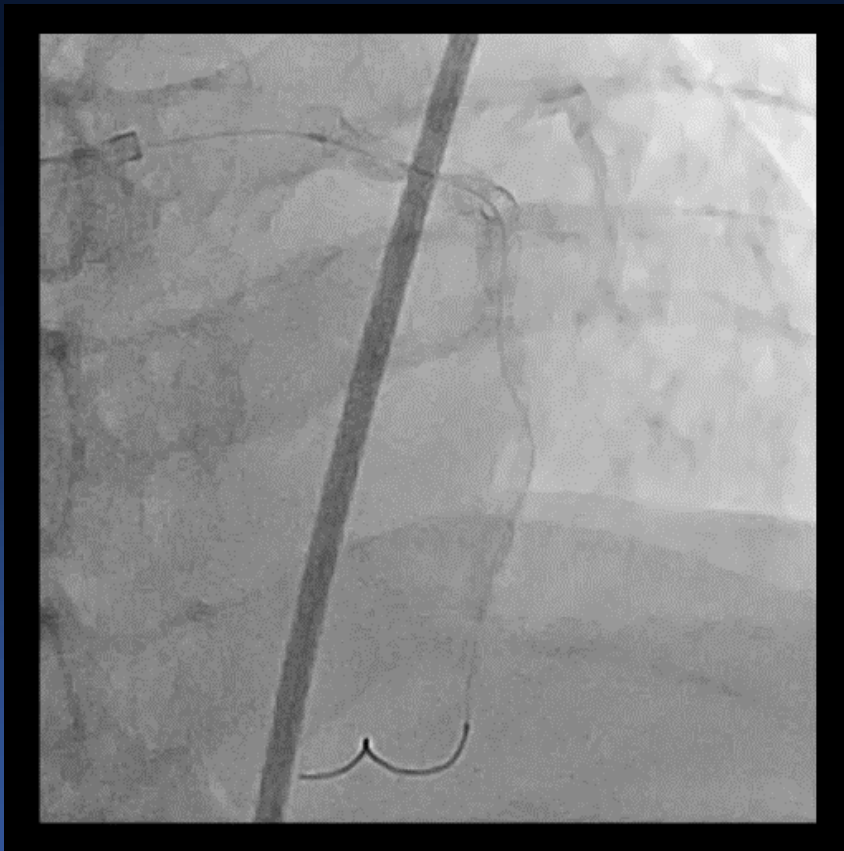


Xience Alpine 3.0 (18) upto 14 atm



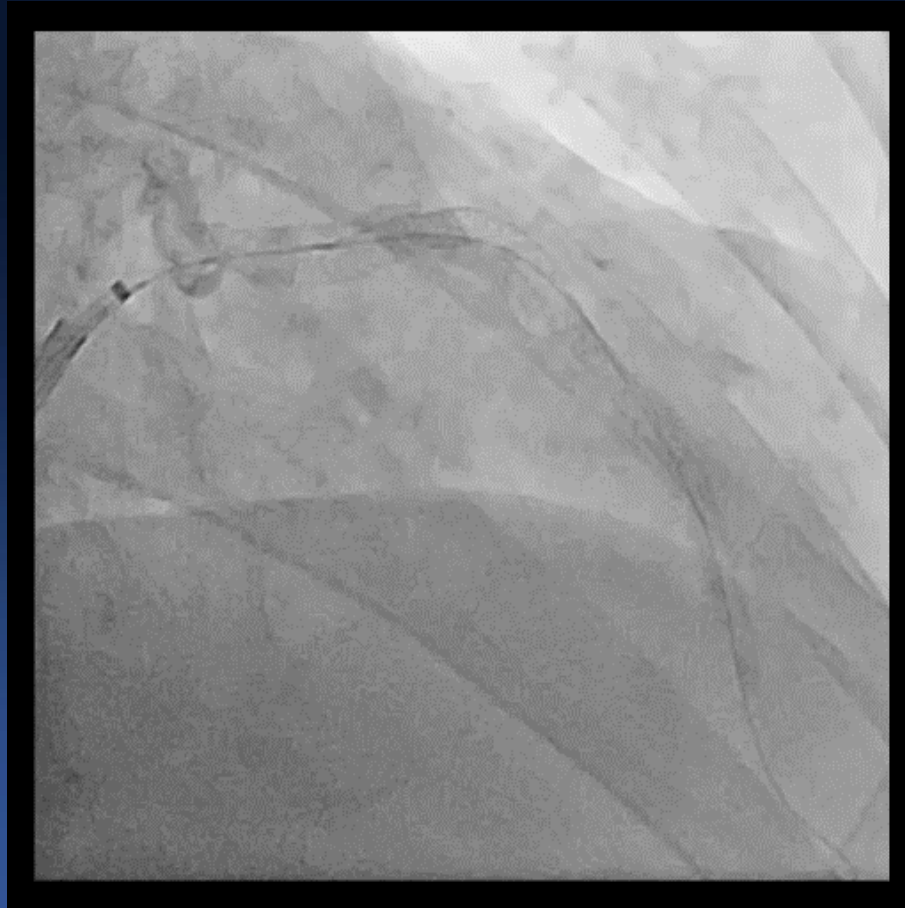
Xience Alpine 3.5 (28) upto 16 atm

Still, severe chest pain
Dissection propagated distally
Now, balloon & stent could pass to mLAD

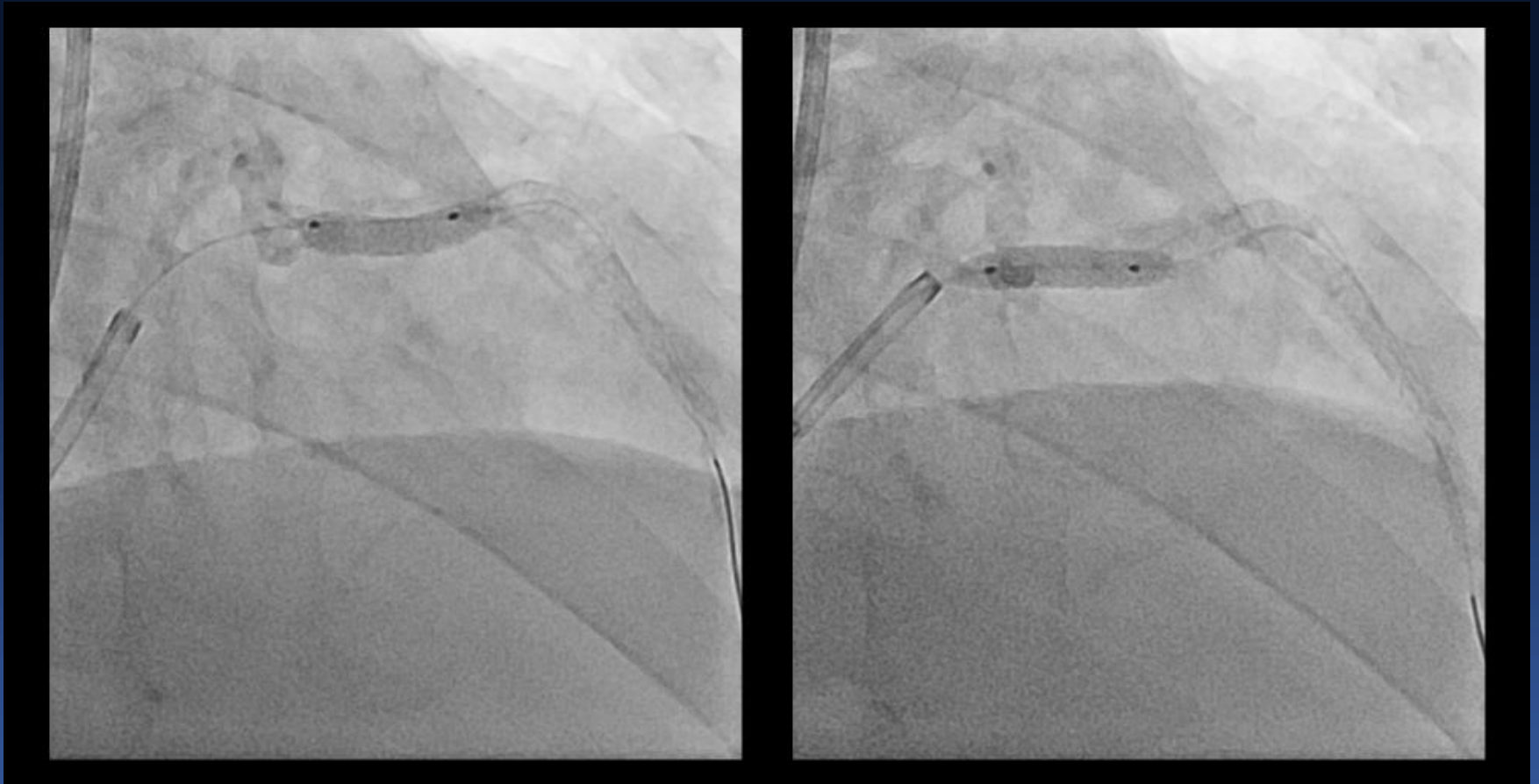


Xience Alpine 2.75 (23) upto 6 atm

Fortunately, the patient was stabilized

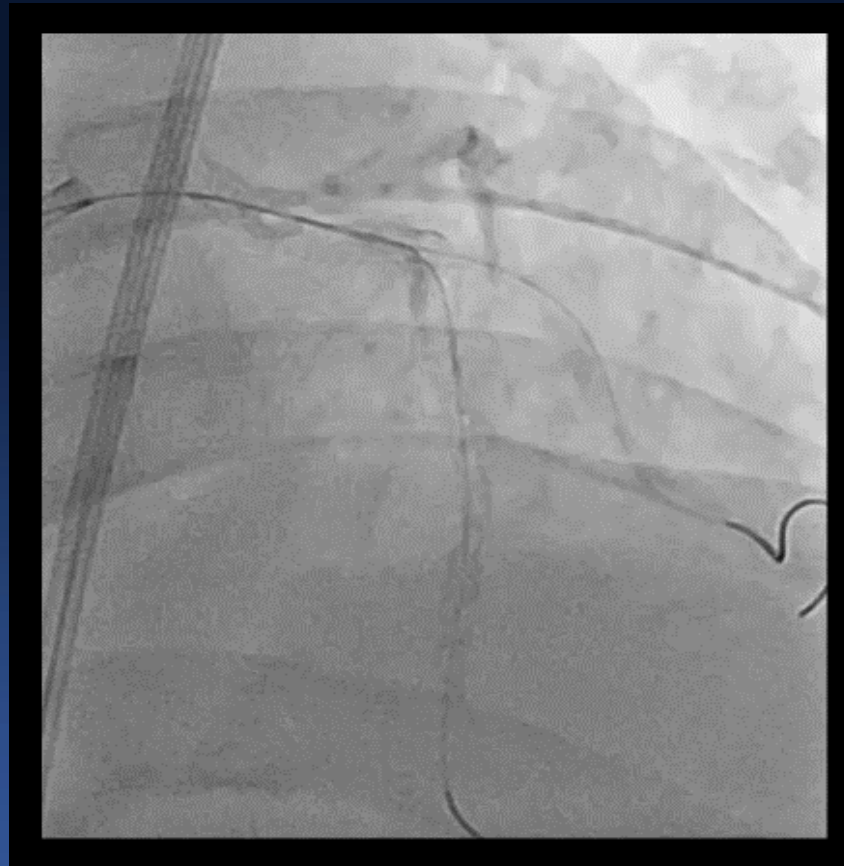


Proximal stent optimization



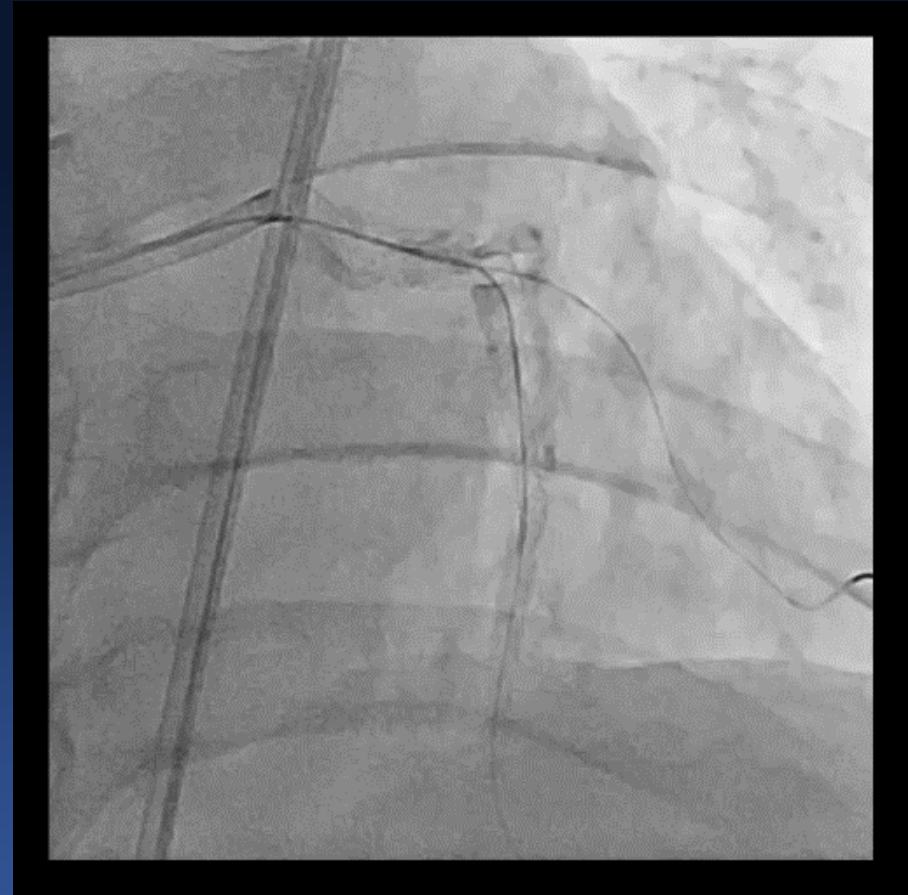
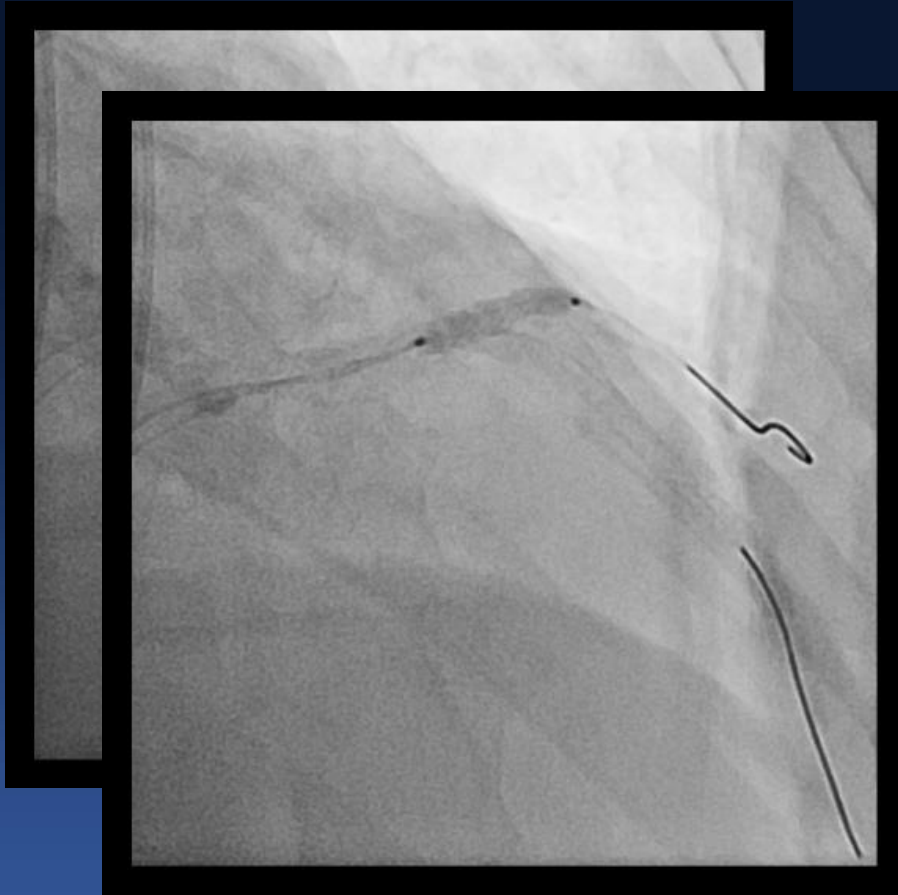
Raiden3 4.0(15) upto 24 atm

Wiring to Diagonal branch



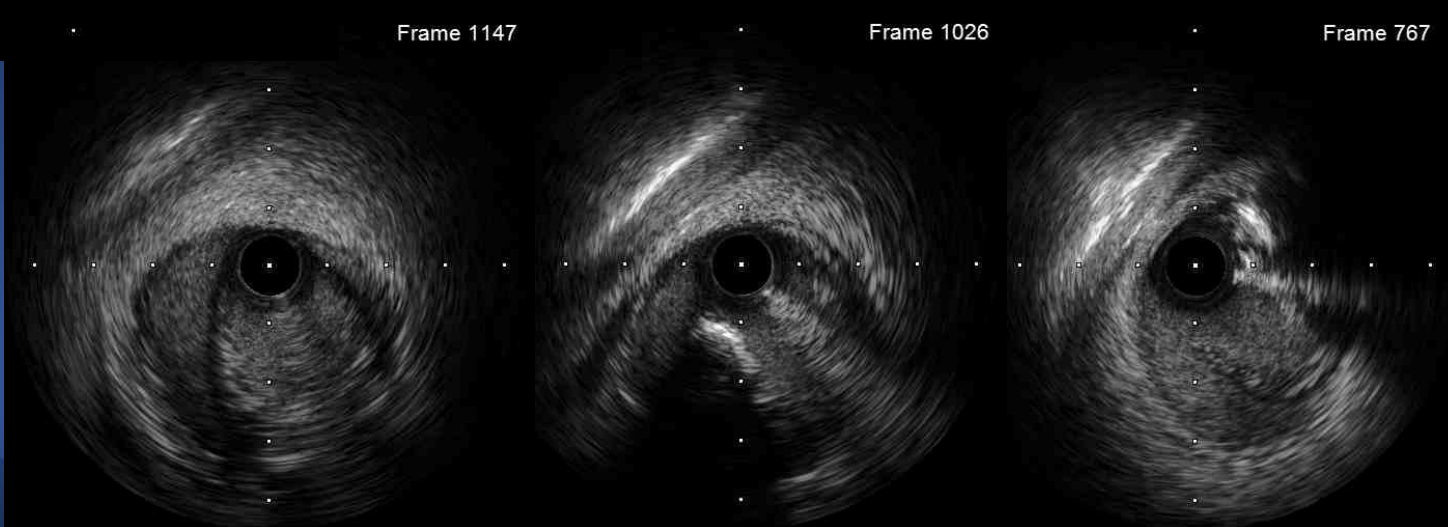
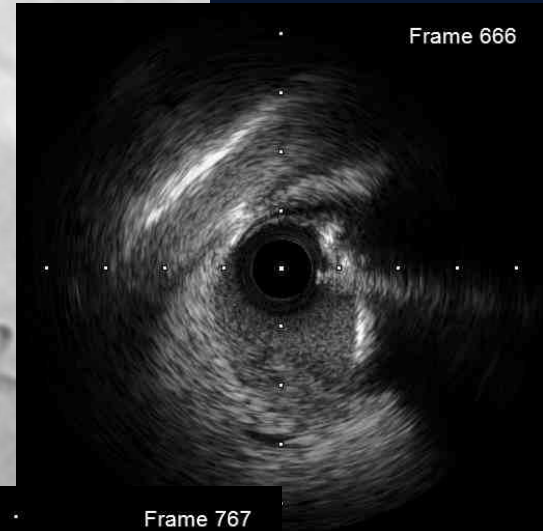
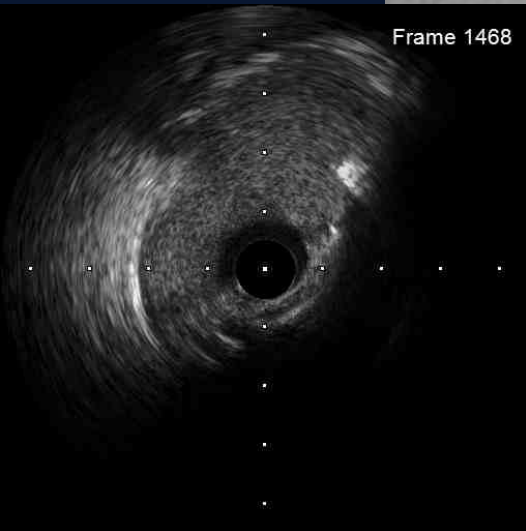
Runthrough wire

POBA at Diagonal ostium

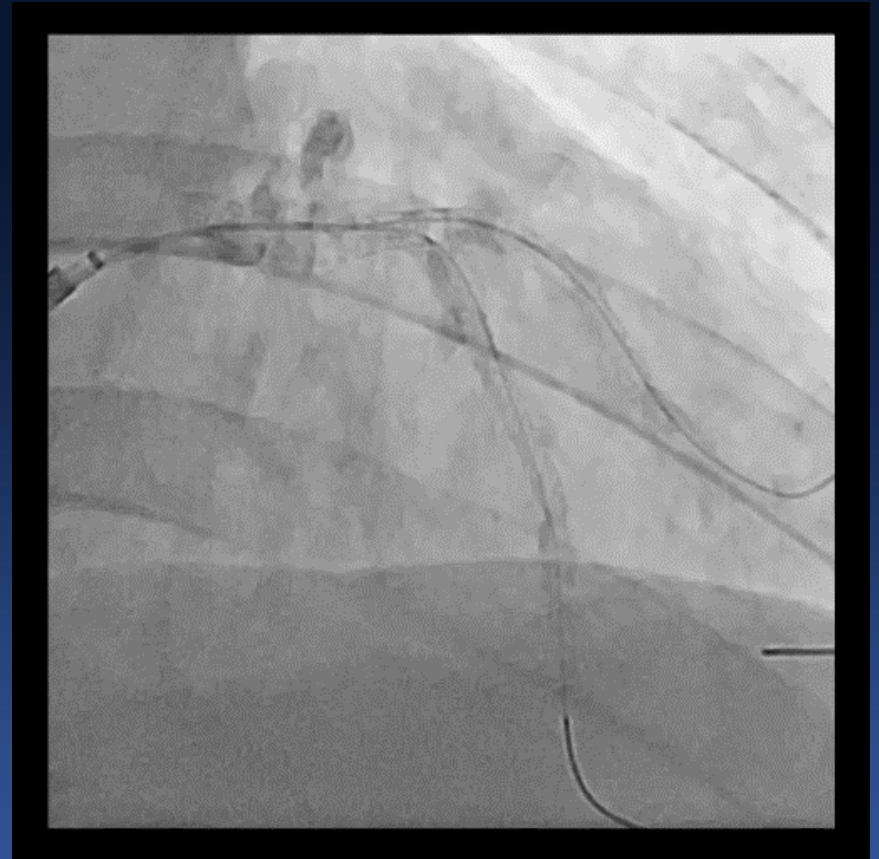
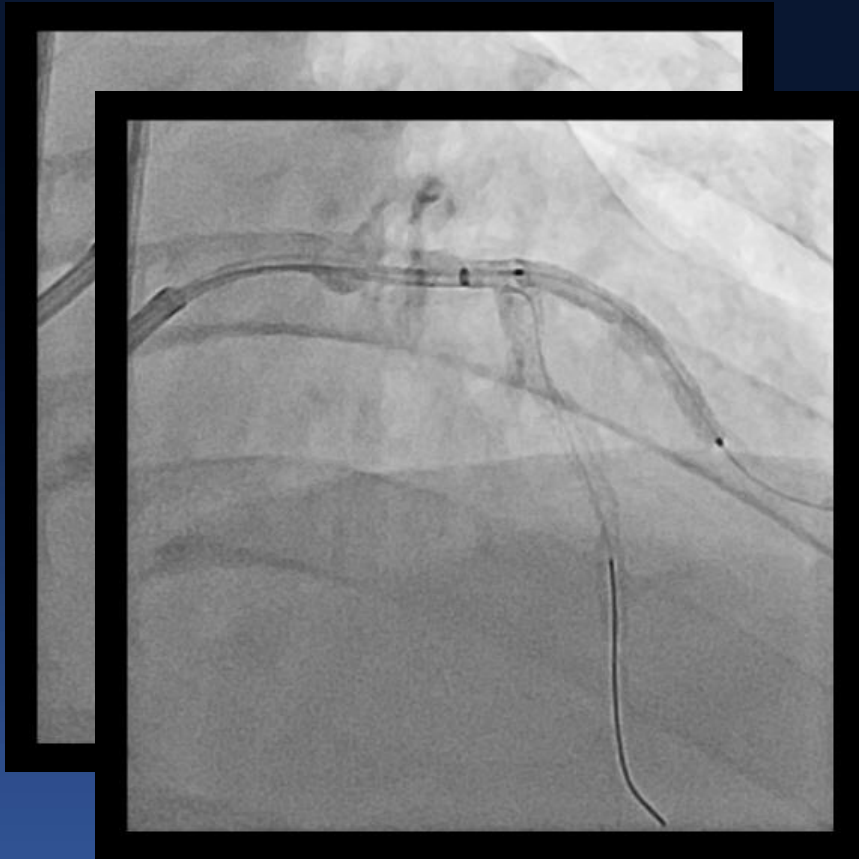


Euphora 1.5 (15) upto 8 atm,
Sapphire NC 3.0 (20) upto 20 atm

IVUS at Diagonal branch

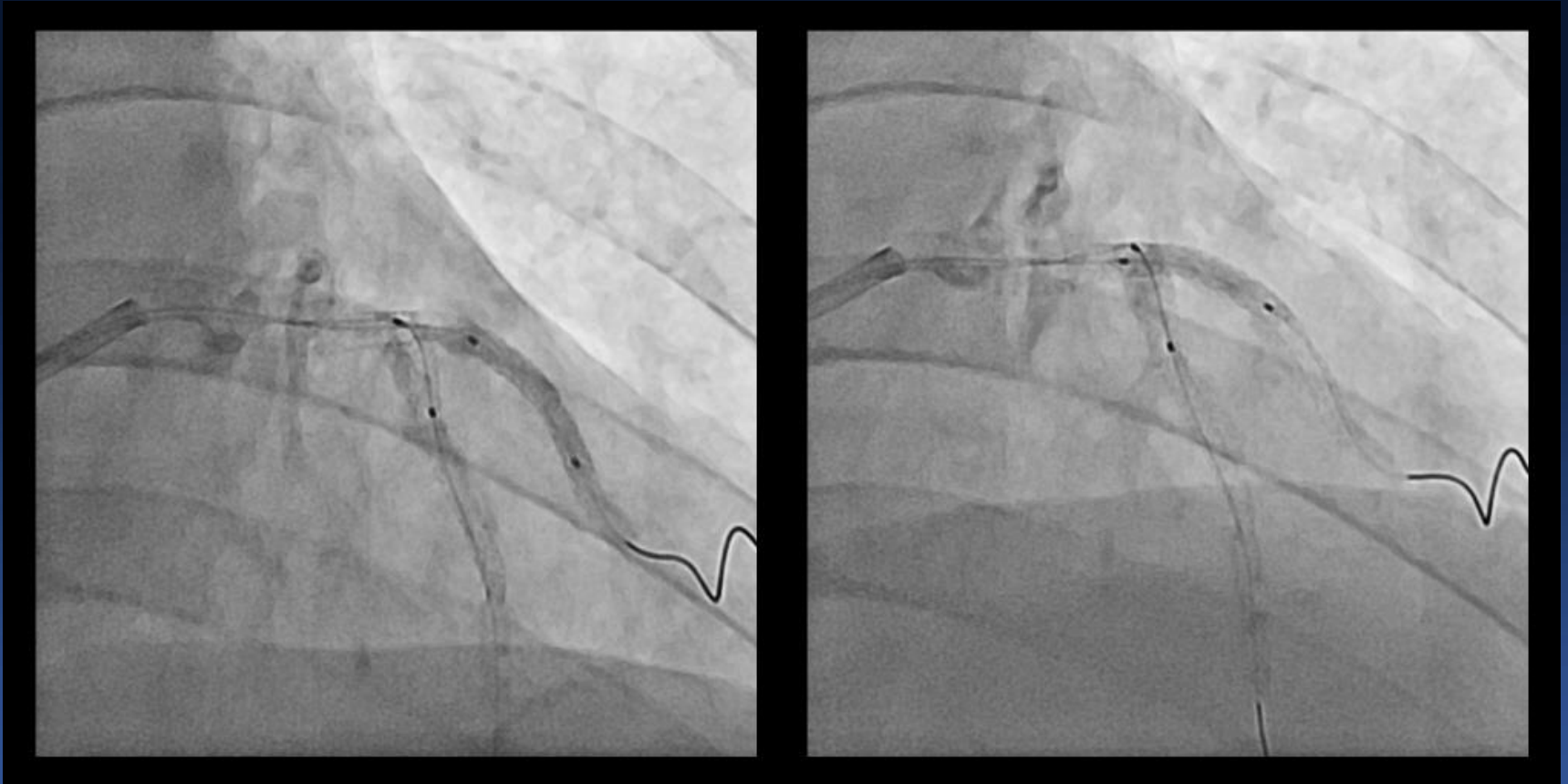


T-Stenting at Diagonal branch



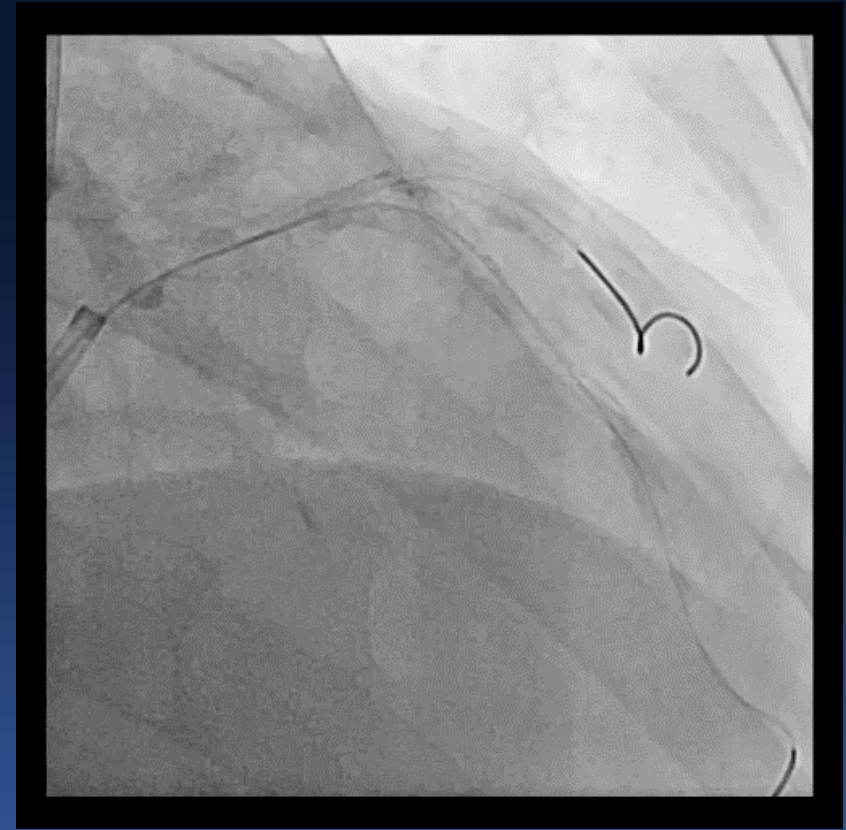
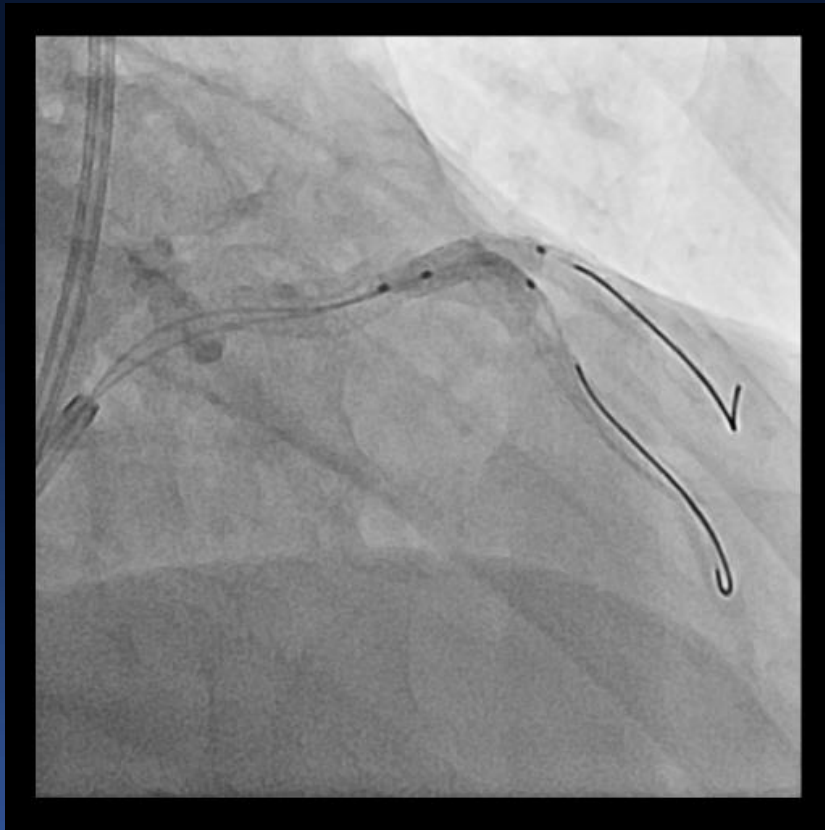
Xience Alpine 2.75 (28) upto 12 atm

Postdilatation at Diagonal branch



Sapphire NC 3.0 (20) upto 20 atm

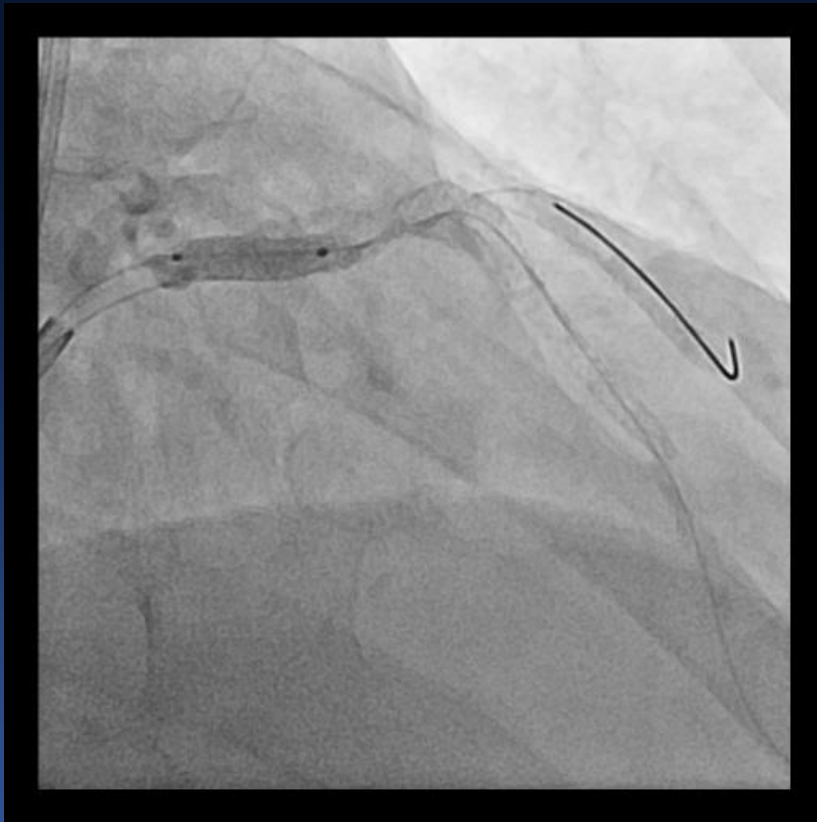
Kissing ballooning for LAD - Diagonal



LAD : Sapphire NC 3.0 (20) upto 6 atm

Di : Sapphire NC 2.5 (18) upto 6 atm

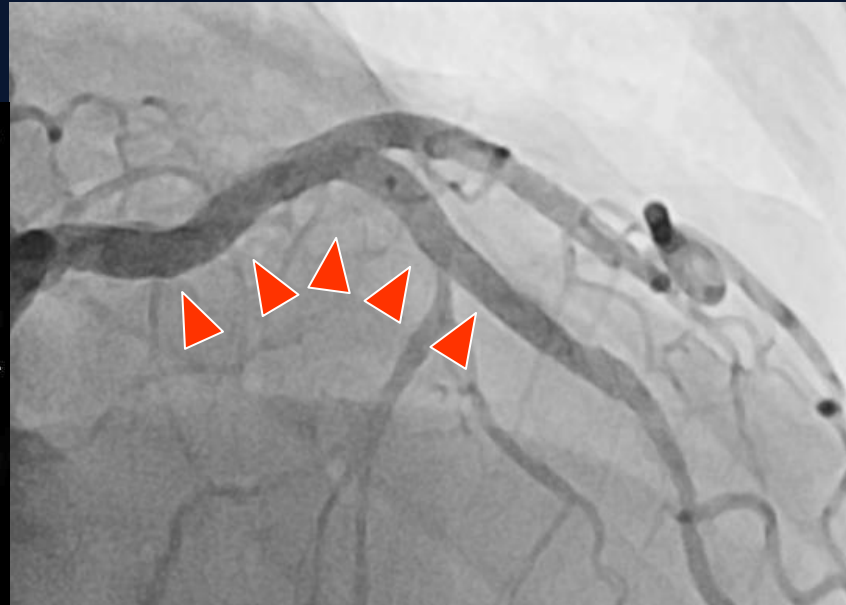
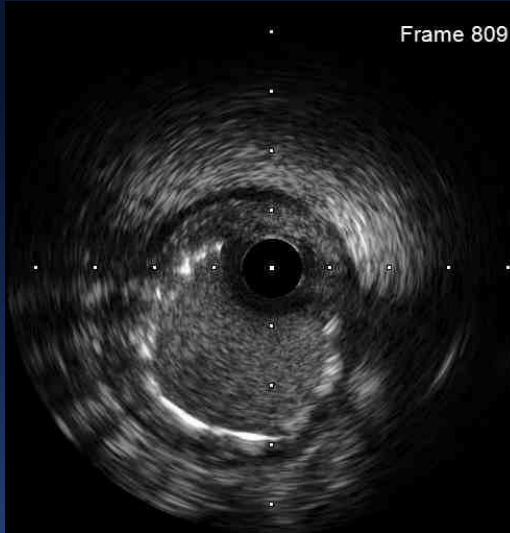
Final proximal stent optimization



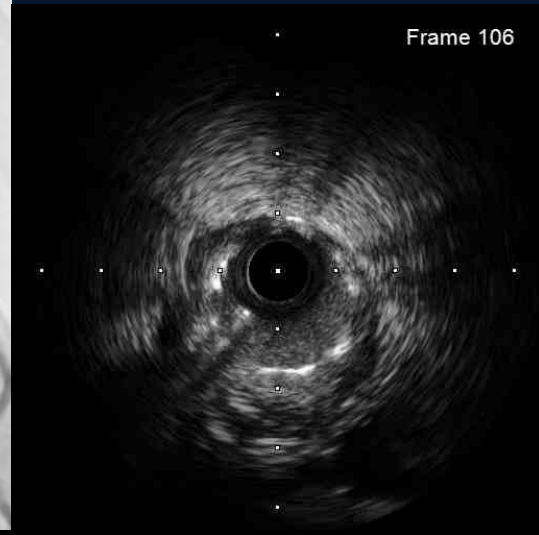
Raiden3 4.0(15) upto 16 atm

Final LAD IVUS

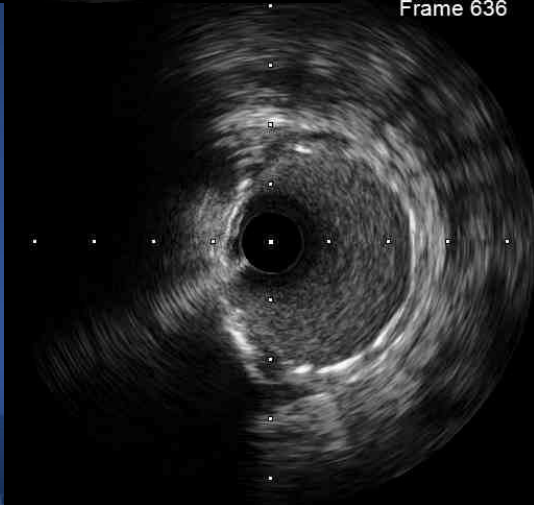
Frame 809



Frame 106



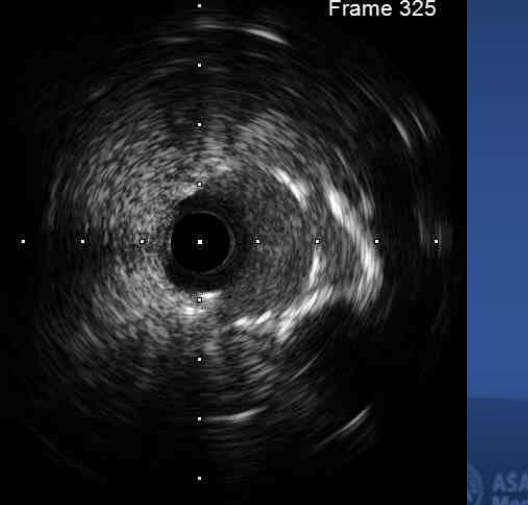
Frame 636



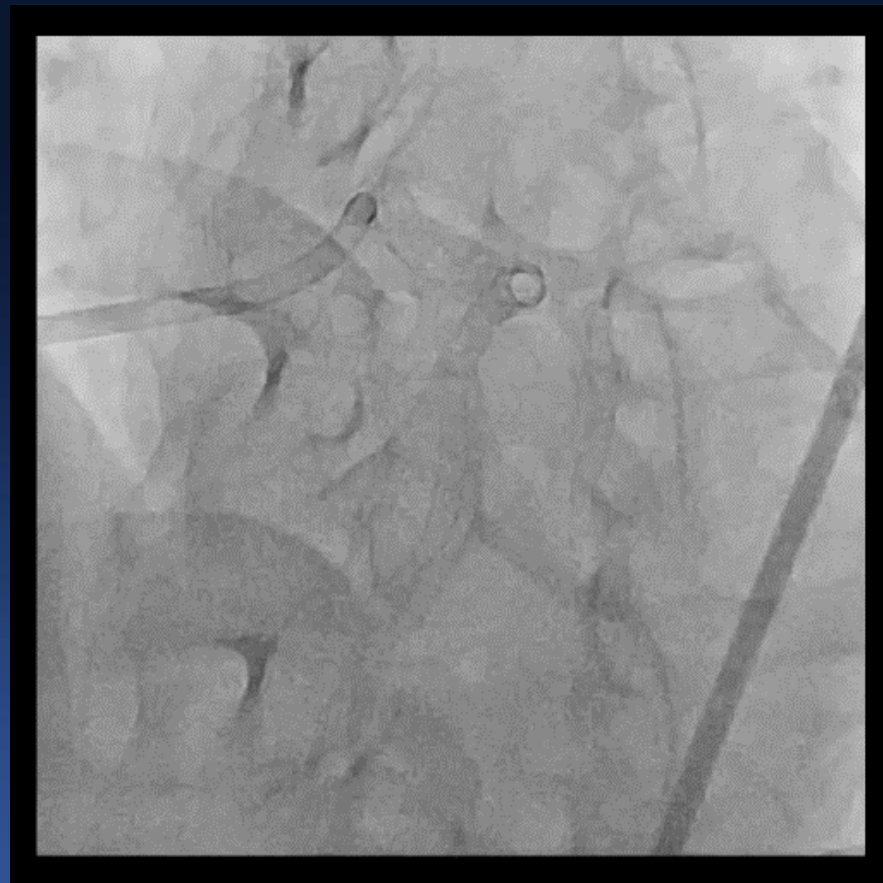
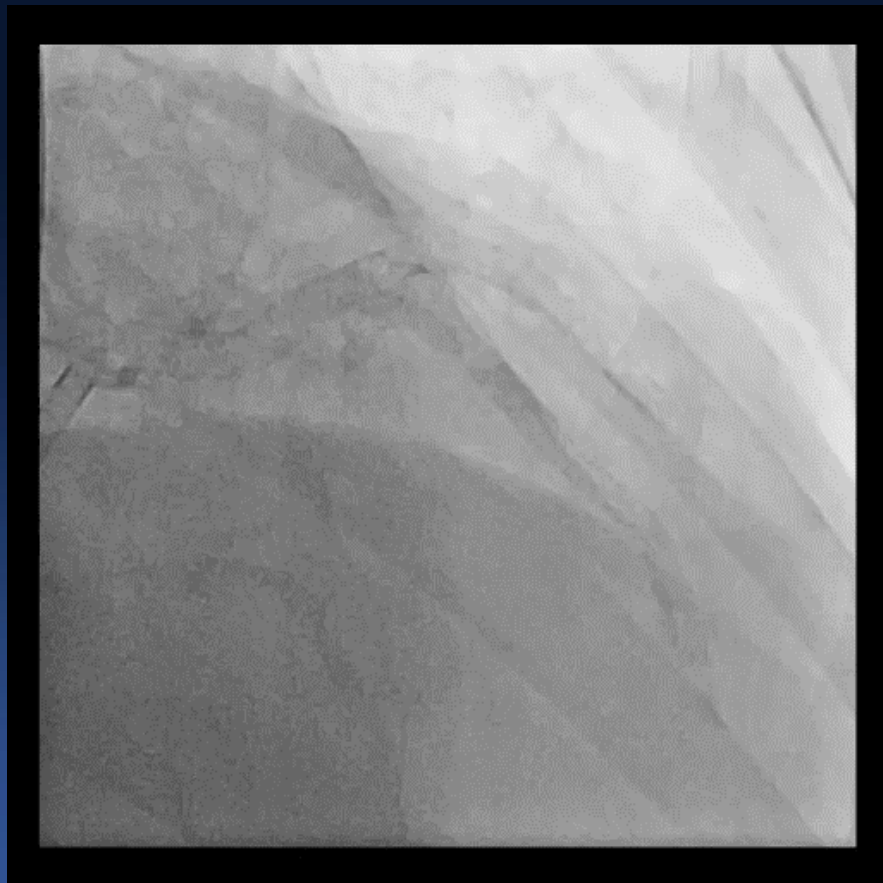
Frame 533



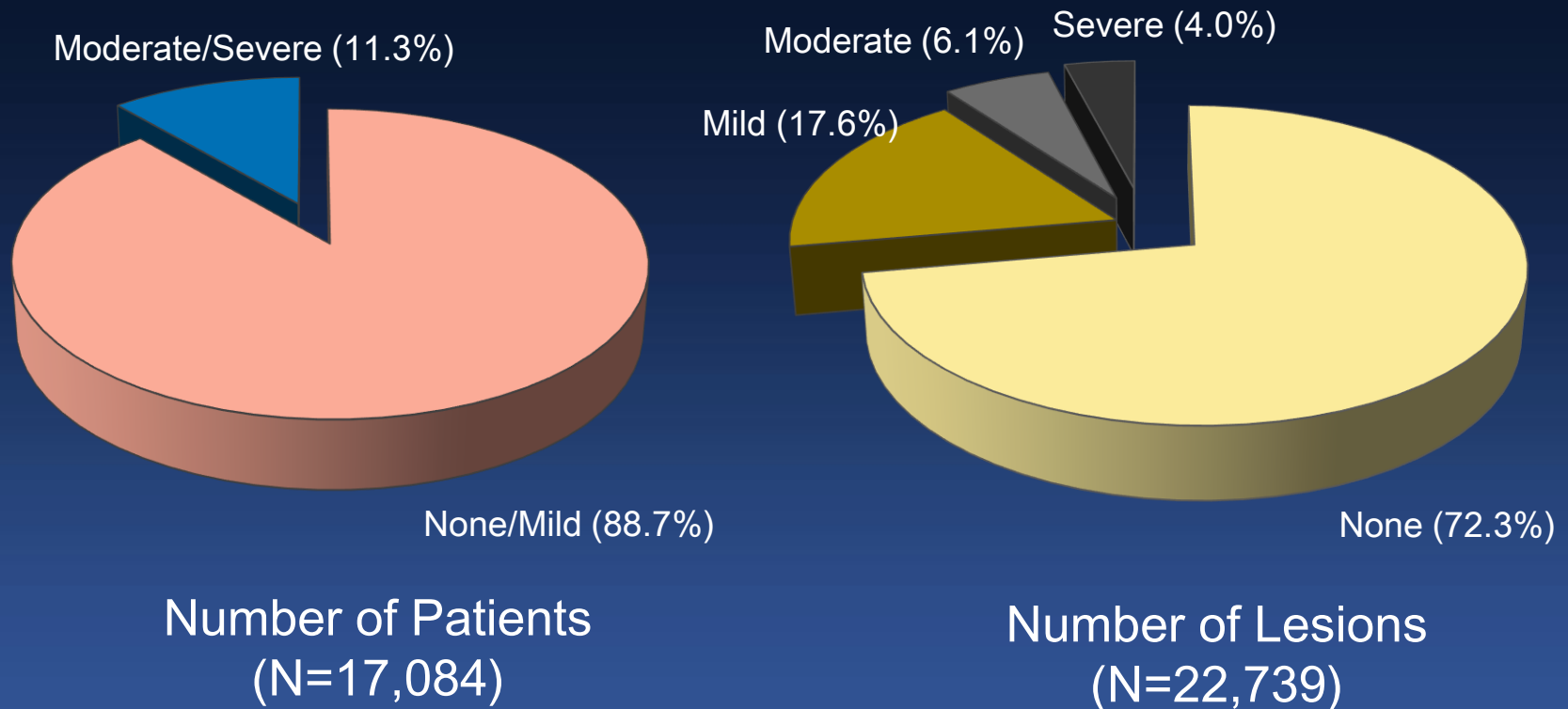
Frame 325



The Final Results



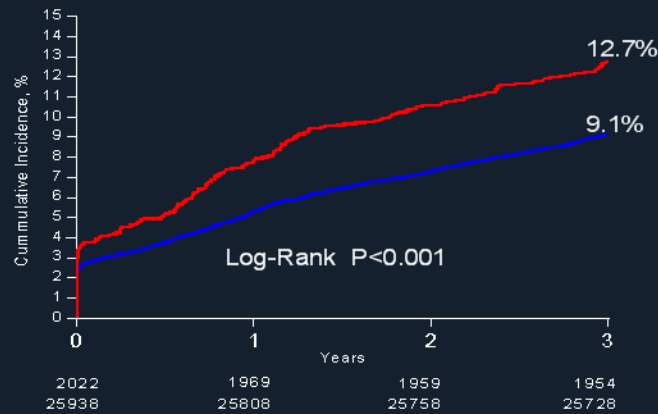
Coronary Calcification in patients undergoing PCI



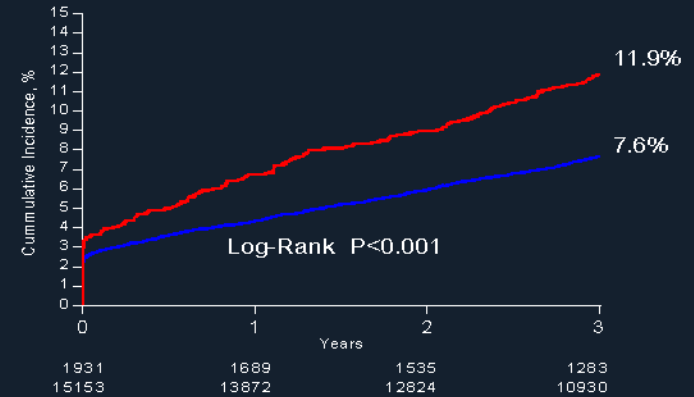
Clinical Outcomes of Calcified Lesion

— Moderate to severe calcification — No or Mild calcification

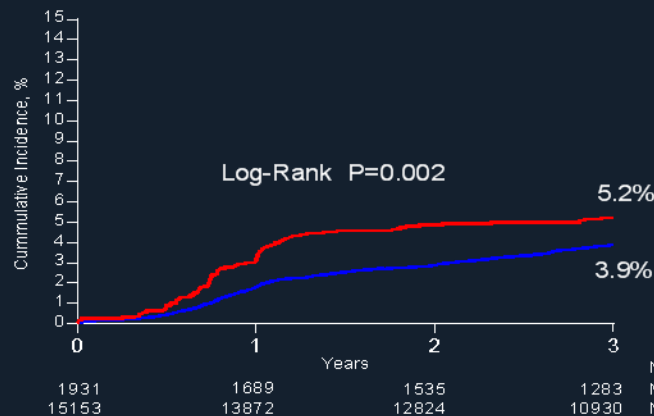
(A) Target-vessel failure



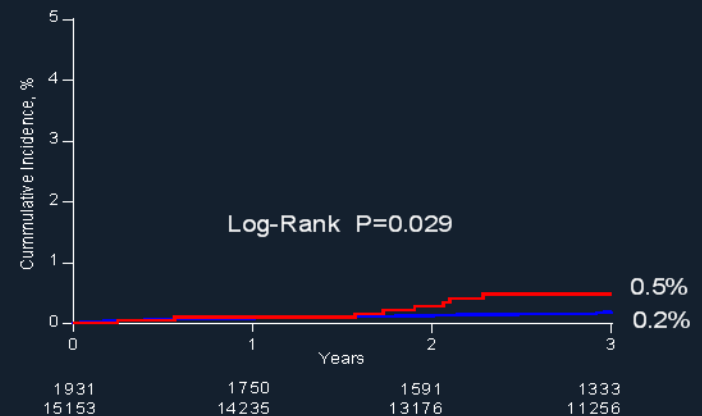
(B) Death or Myocardial infarction



(C) Target-lesion revascularization



(D) Definite or probable stent thrombosis



Data from IRIS-DES Registry

Summary

- Severe coronary calcification is a predictor of worse procedural and clinical outcome.
- Optimal lesion preparation is important.
- Intravascular Imaging is helpful to predict and assess the complication during PCI.



Thank You !!

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