



IVUS Application in Coronary CTO

Dr. Rami Barashi
Cardiology Department
Meir Medical Center
Kfar Saba, Israel



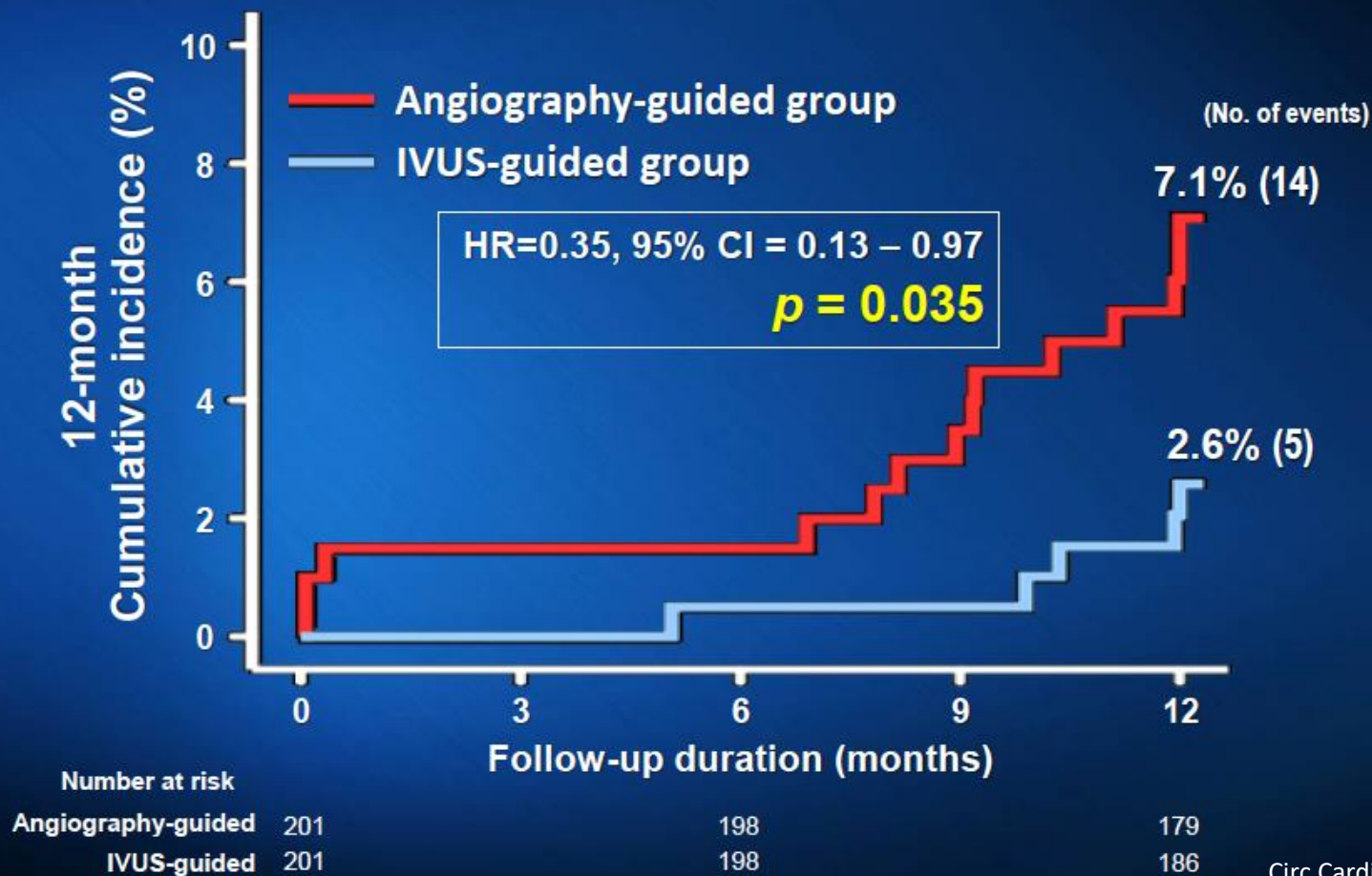
**Clinical impact of IVUS-guided CTO
intervention on the clinical outcomes after
new generation DES implantation;
*Randomized CTO-IVUS study***

Yangsoo Jang, M.D. Ph. D

On behalf of CTO-IVUS investigator

Division of Cardiology, Severance Cardiovascular Hospital
Yonsei University College of Medicine, Seoul, Korea

Primary endpoint (Cardiac death, MI, TVR)



IVUS Applications in CTO

Antegrade

- Re-entry
- Ambiguous cap

Retrograde

- Verify antegrade and retrograde wire position
- Balloon sizing for reverse CART

Stenting

- Stent optimization

IVUS Applications in CTO

Antegrade

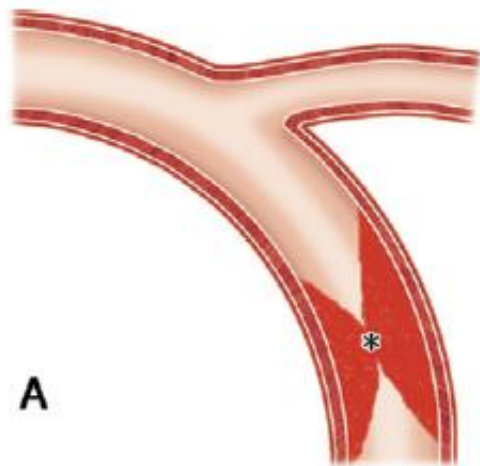
- Re-entry
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Retrograde

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- Balloon sizing for reverse CART

Stenting

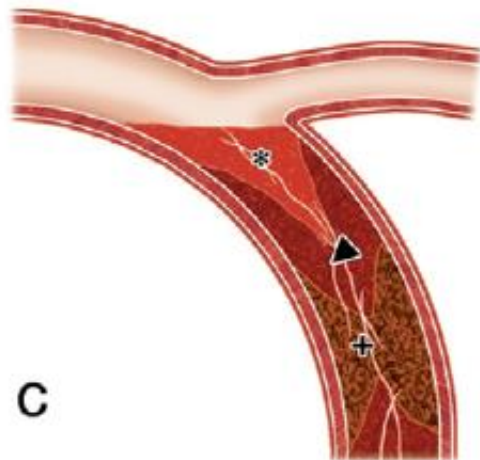
- Stent optimization



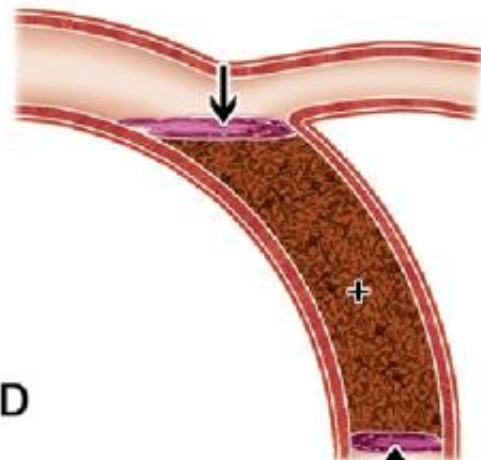
A



B



C

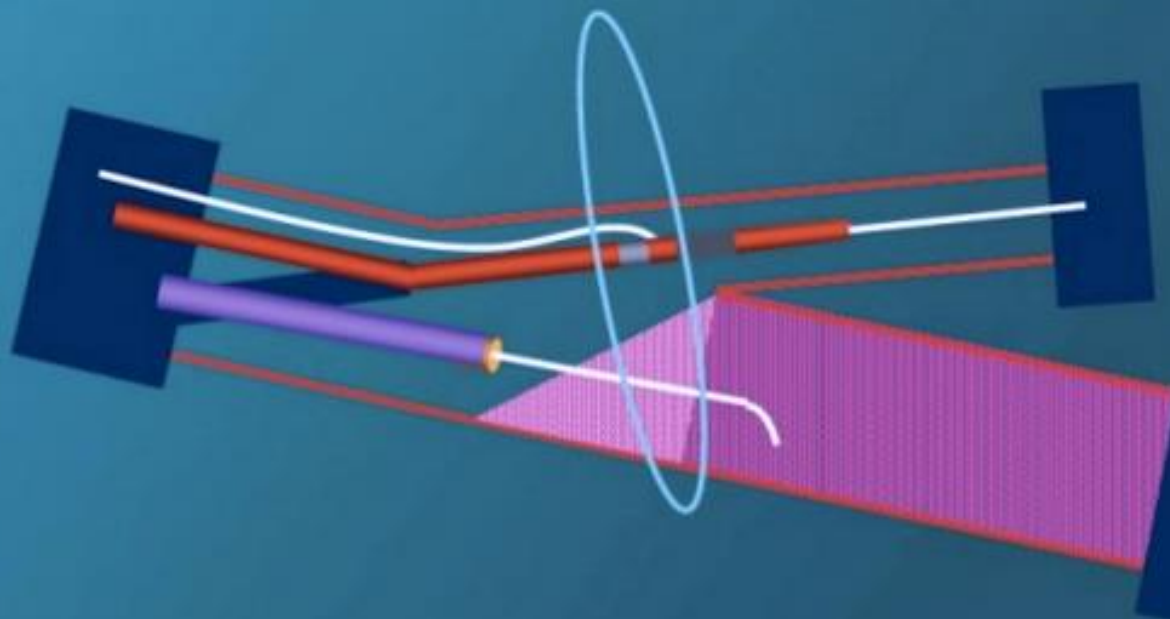


D

"IVUS GUIDED

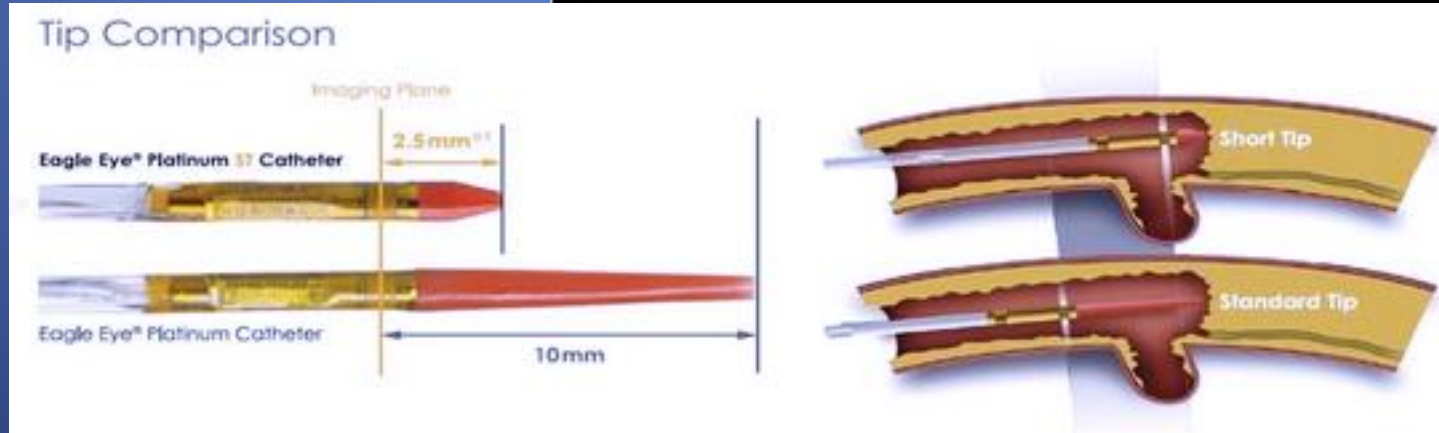
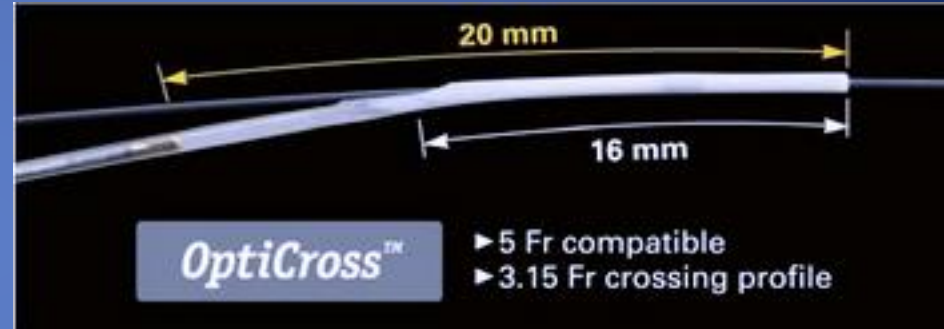


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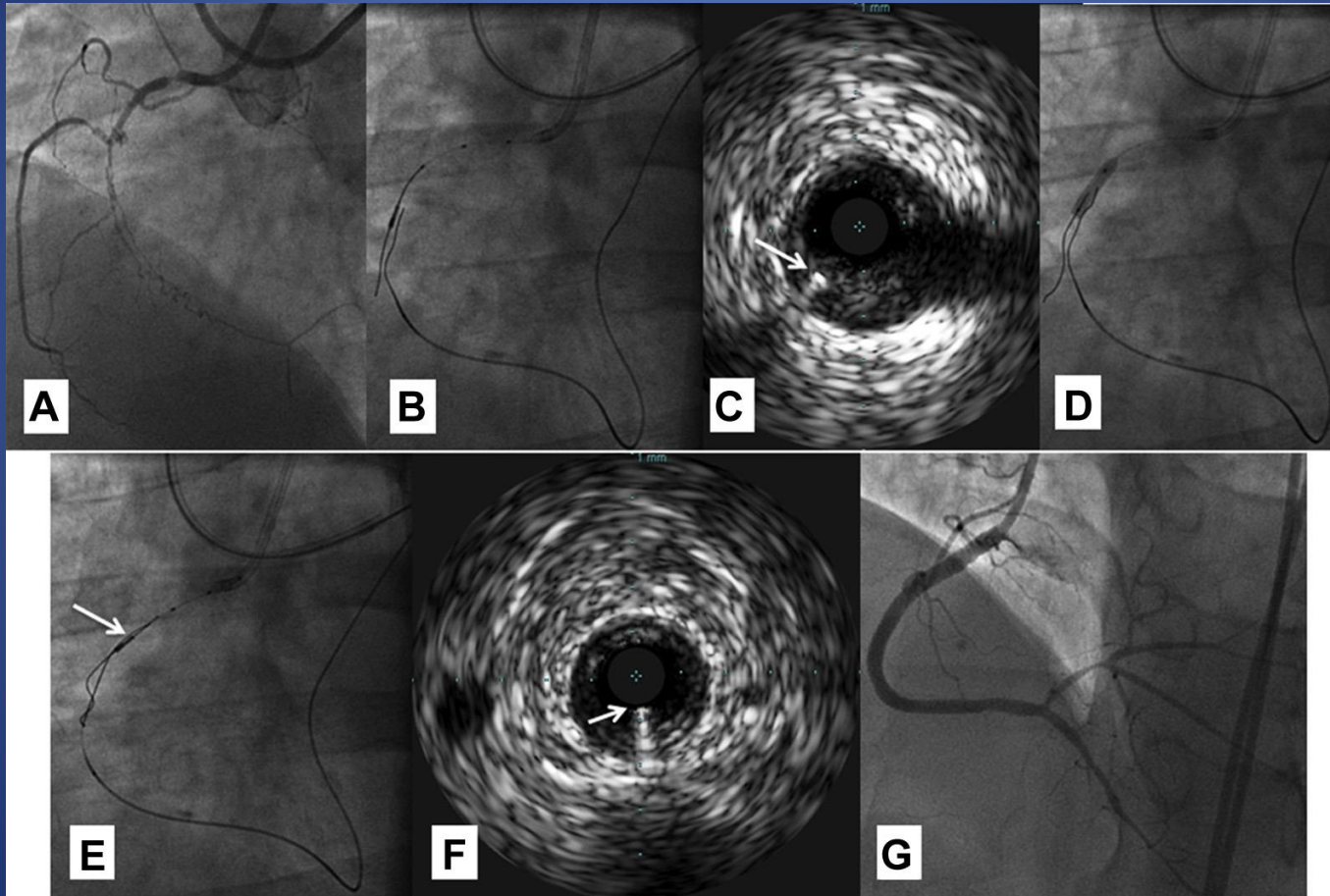


IVUS Catheters

- 7-8F Antegrade guide catheter
- IVUS catheter
- Microcatheter
- Ping-pong



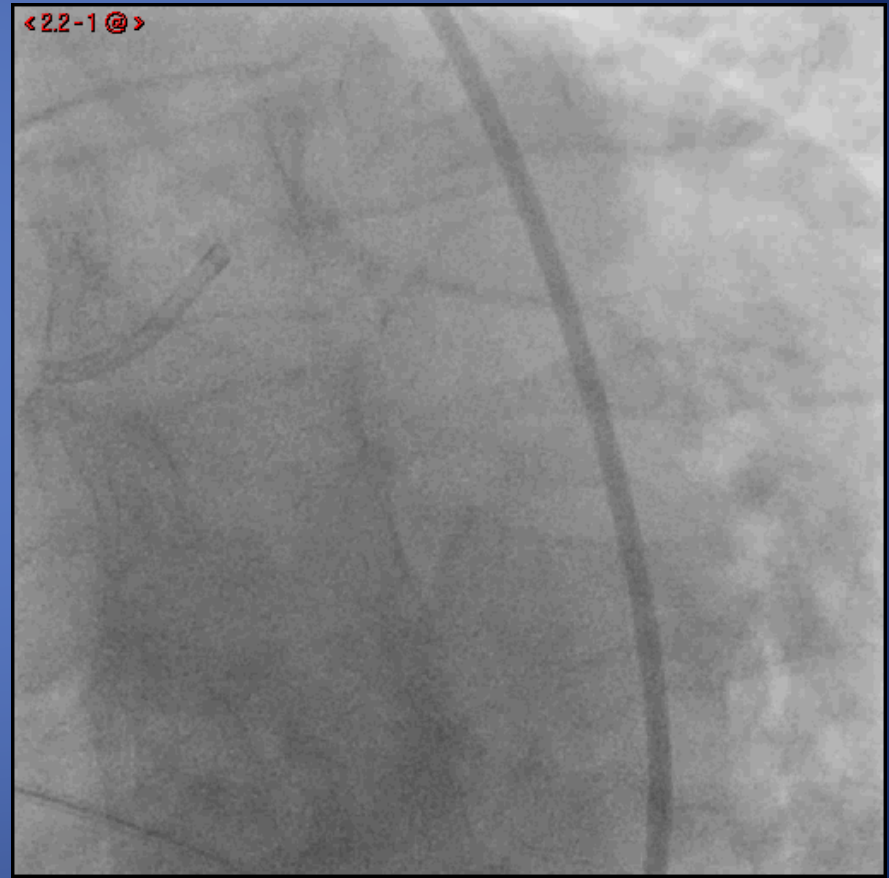
IVUS-Guided Reverse CART



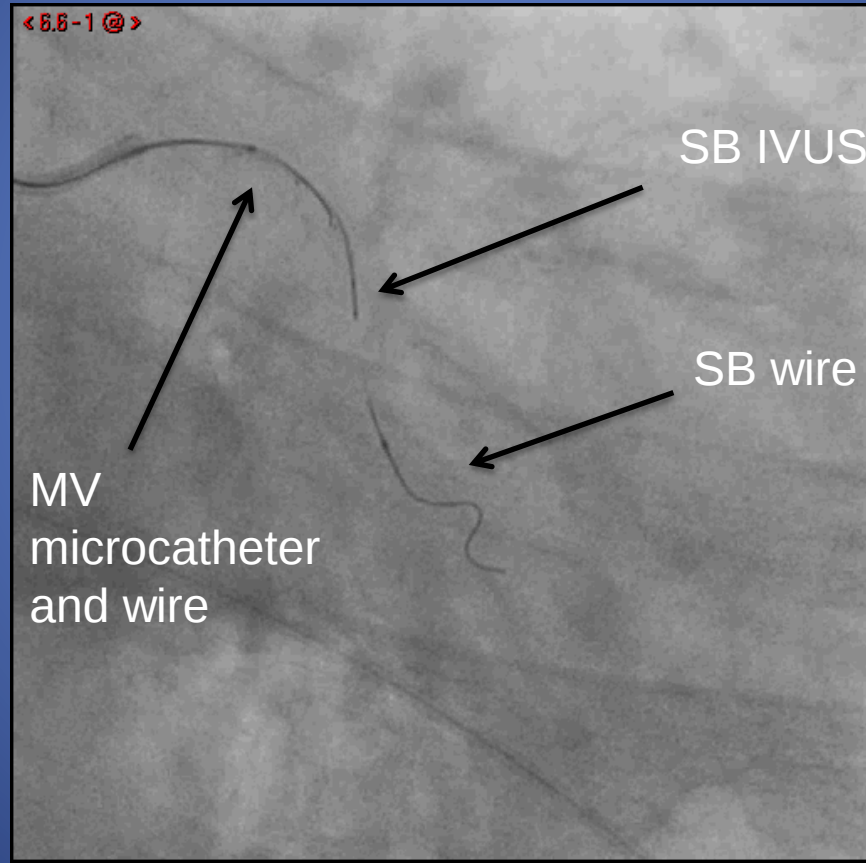
Case 1

- 60 y/o male
- Hypertension, Dyslipidemia, Afib
- PCI of 1st OM
- CCS II-III
- Occluded 2nd OM
- LVEF - 55%
- Moderate ischemia on SPECT in LCX territory

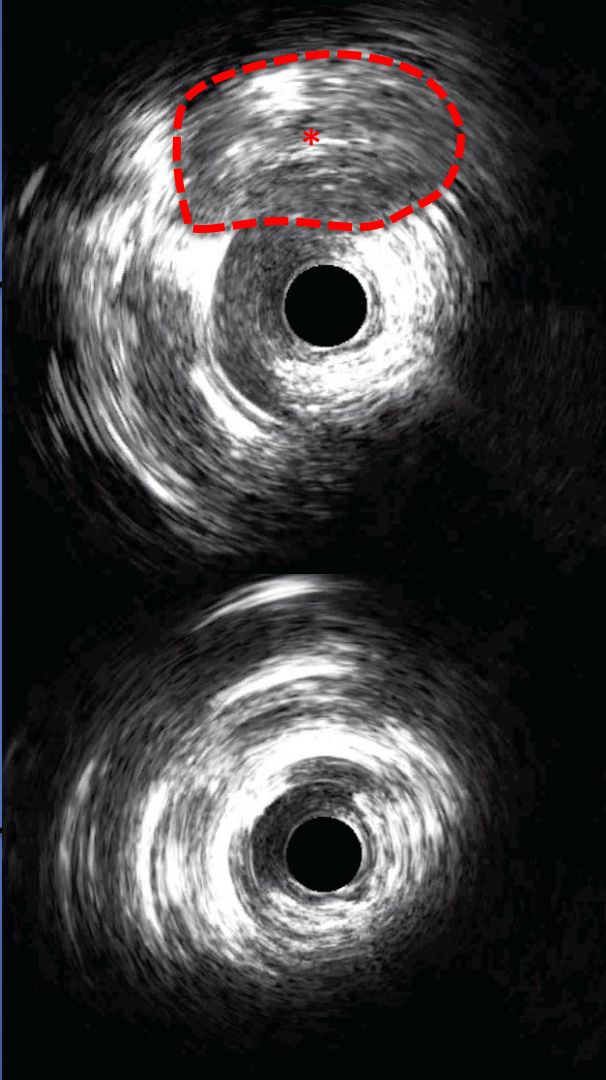
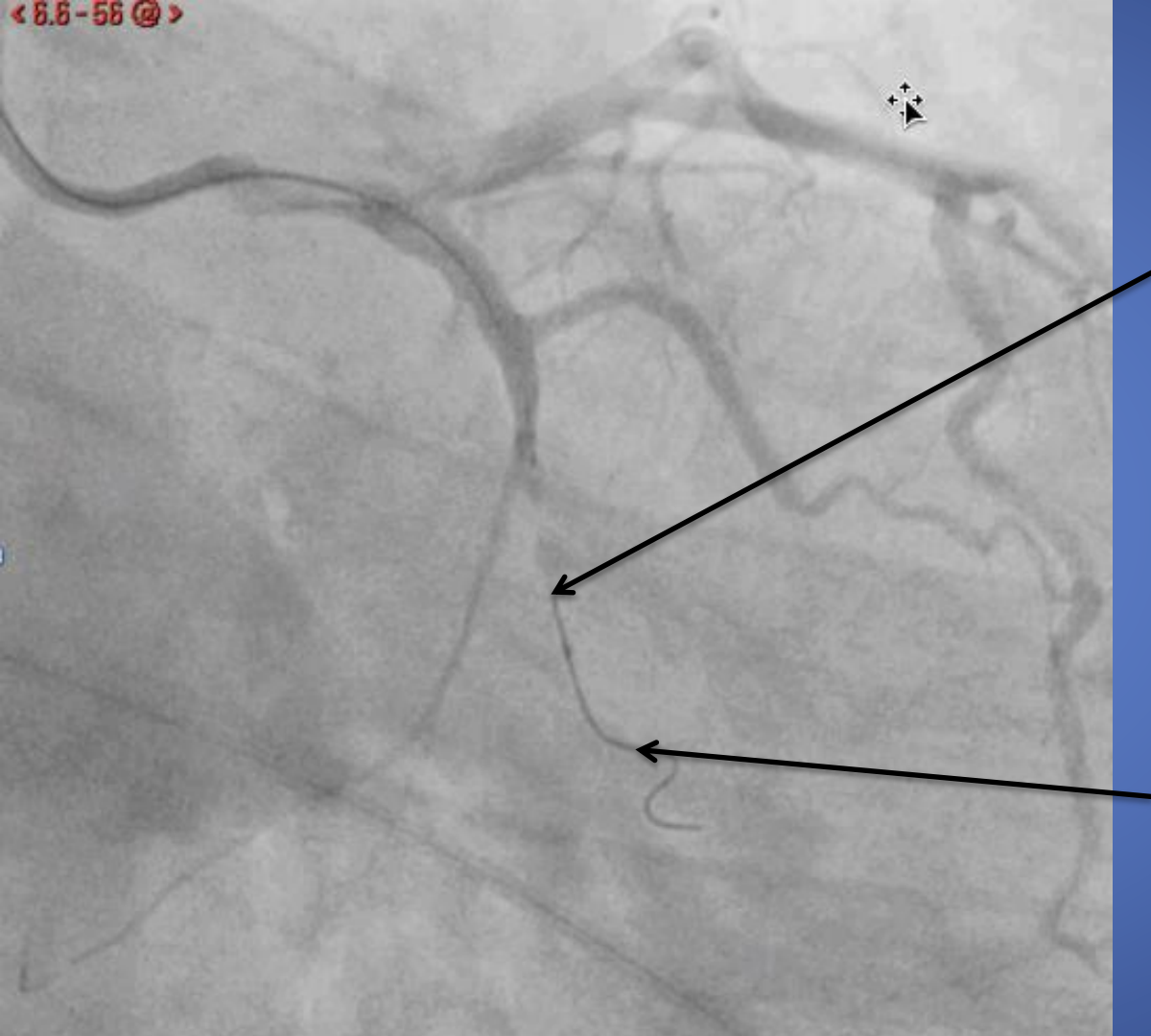
Baseline Angiogram



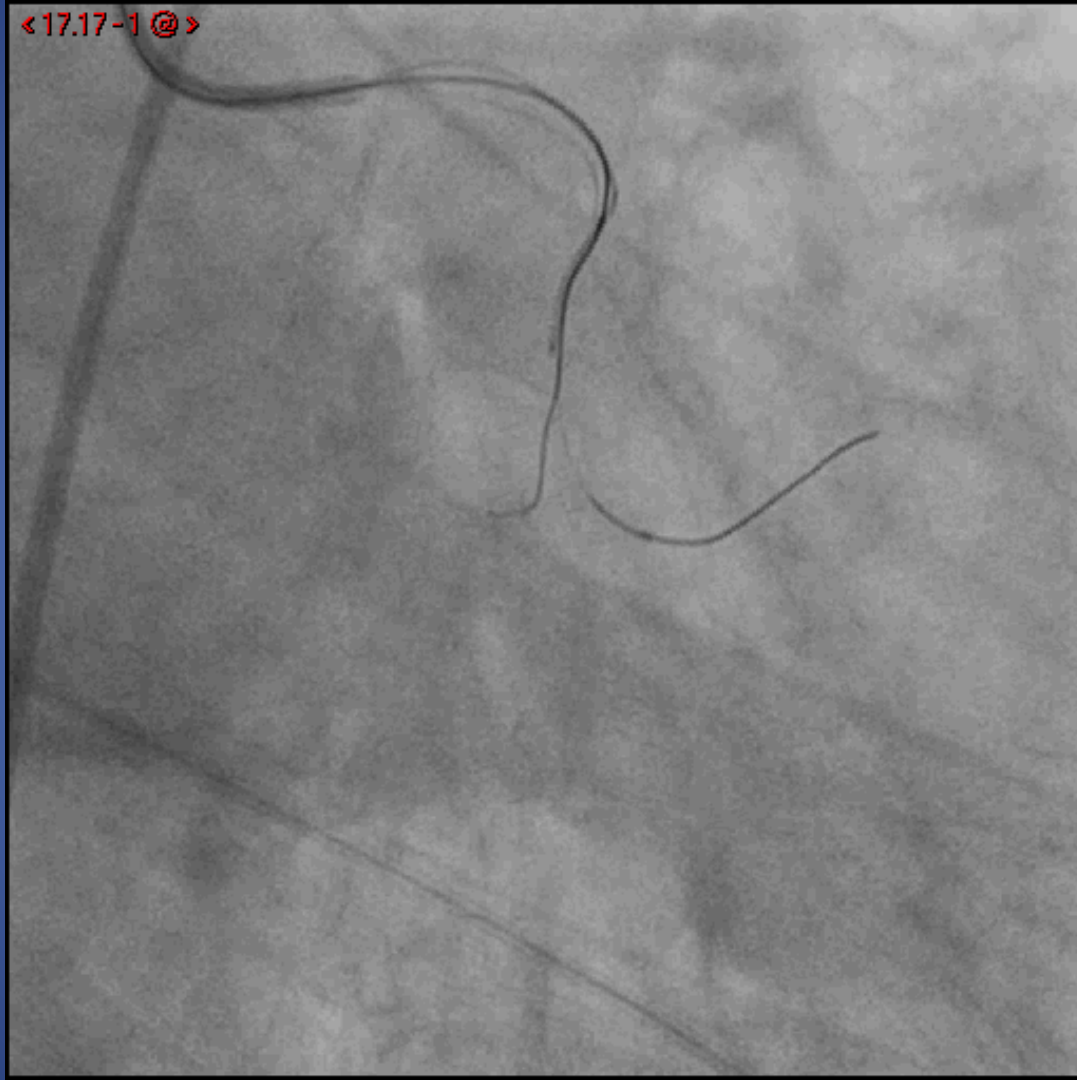
Equipment Setting



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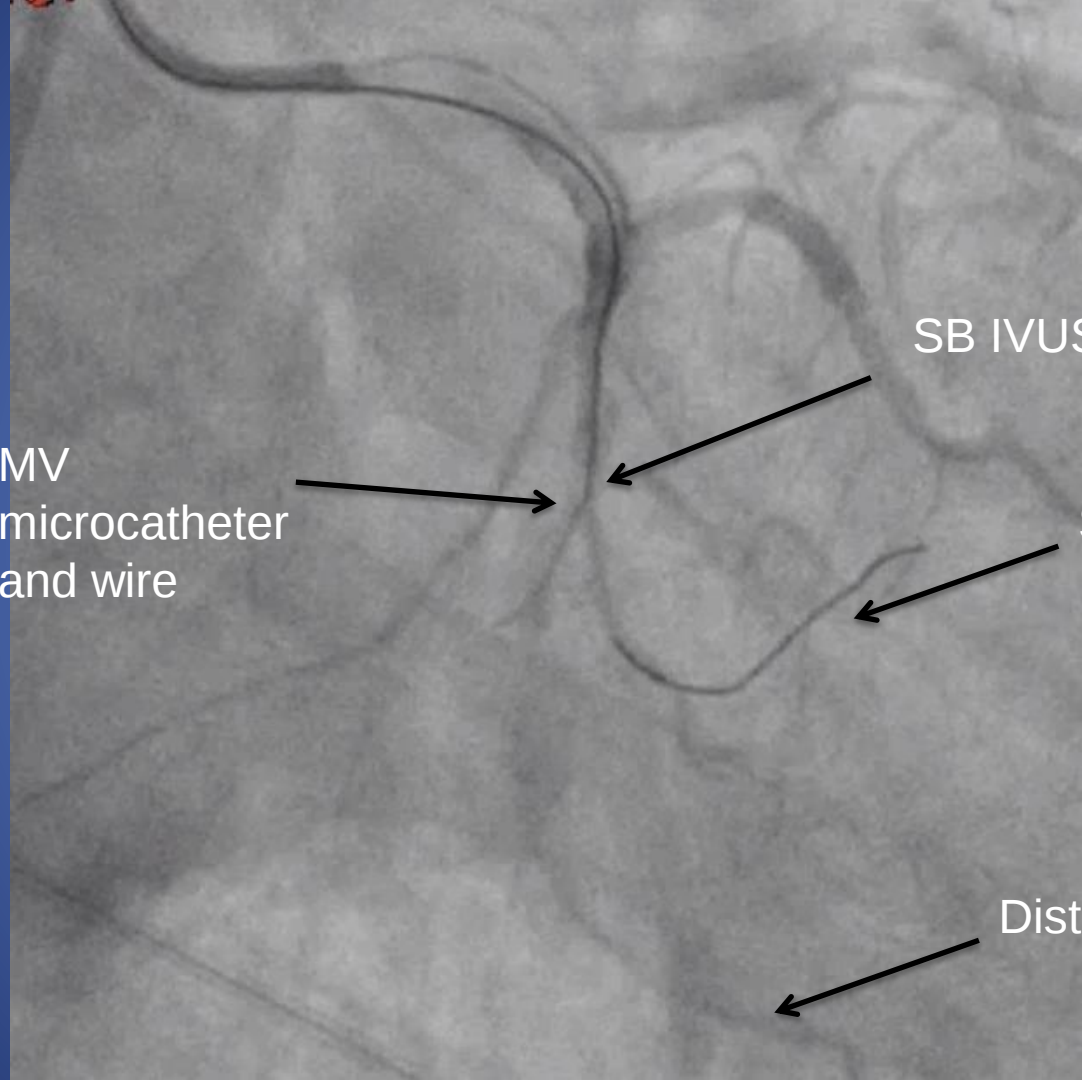


MV
microcatheter
and wire

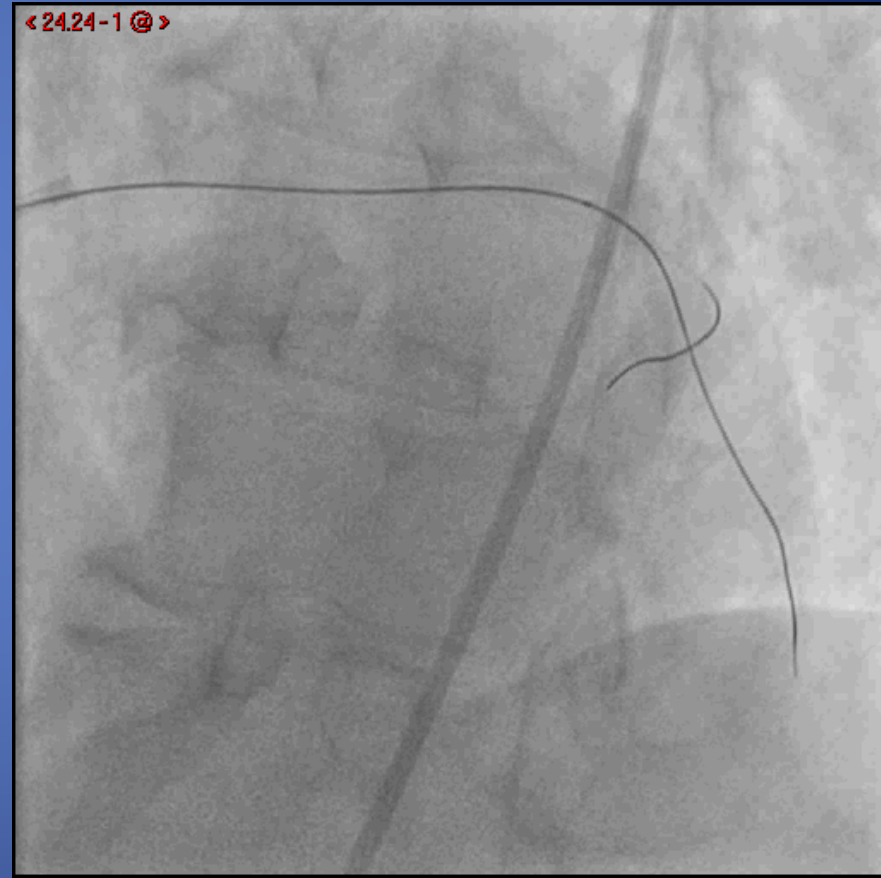
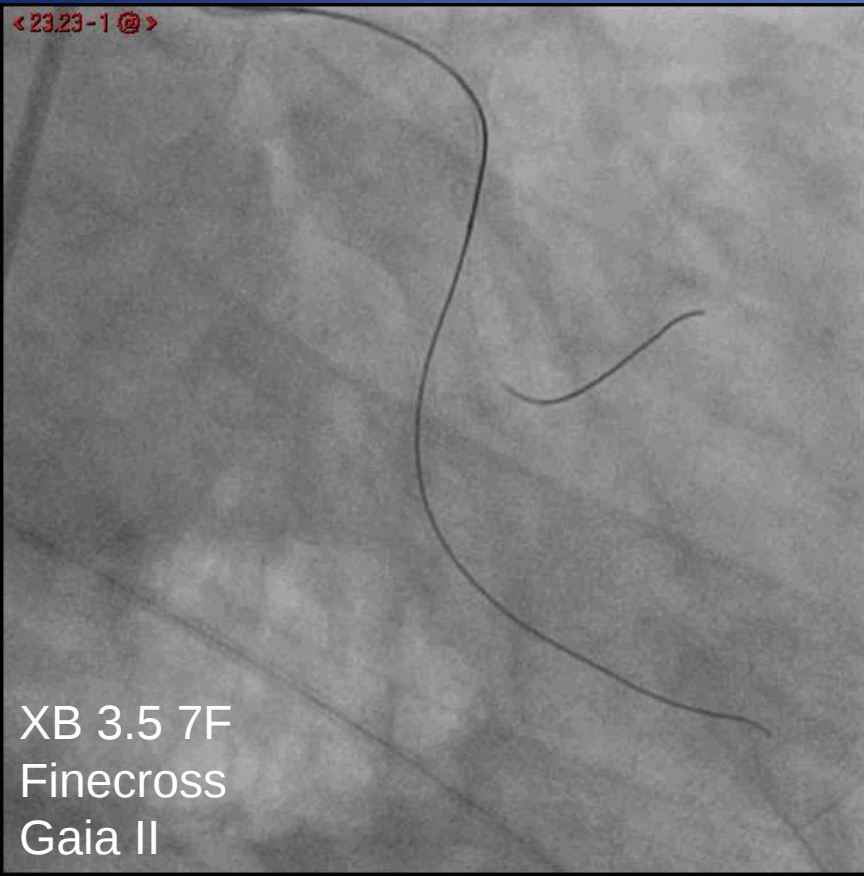
SB IVUS

SB wire

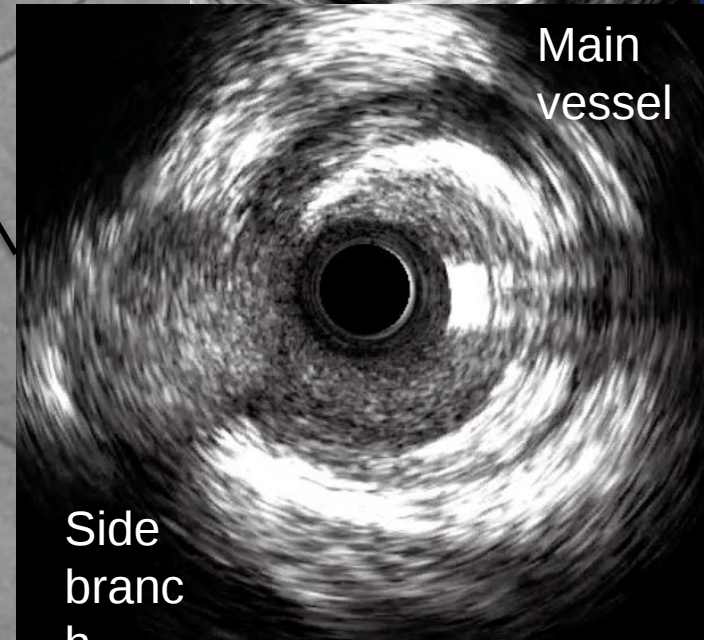
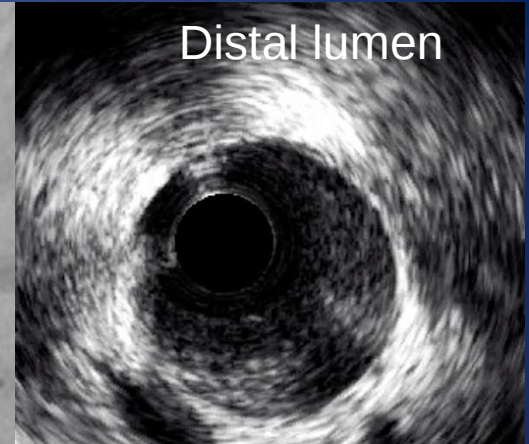
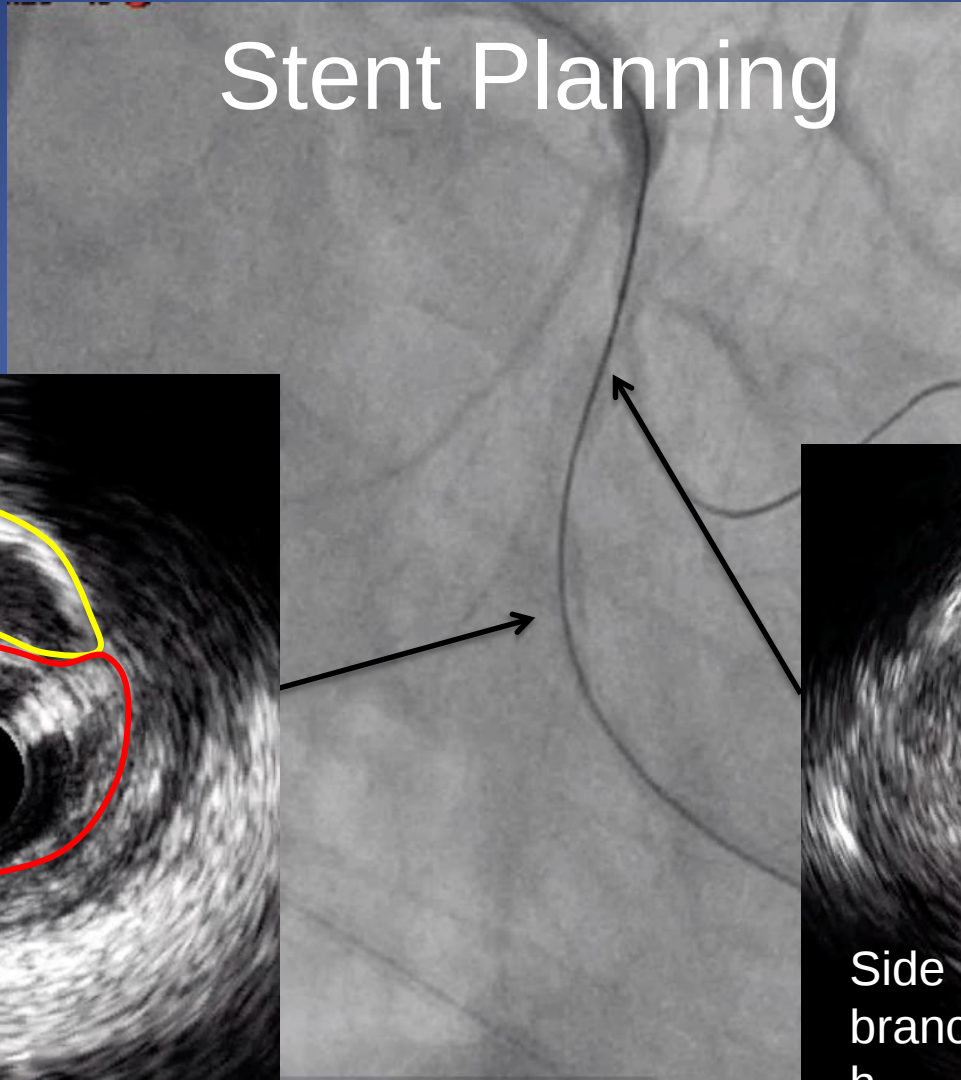
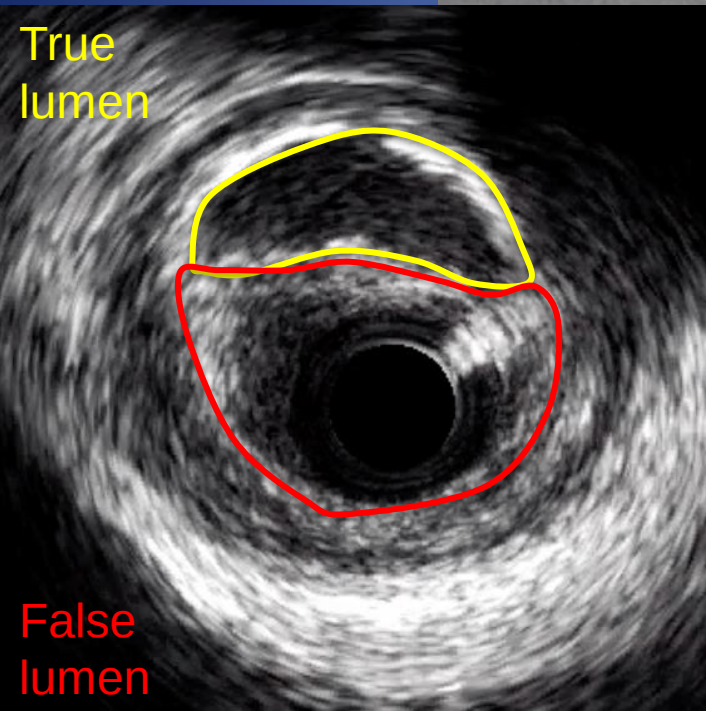
Distal vessel



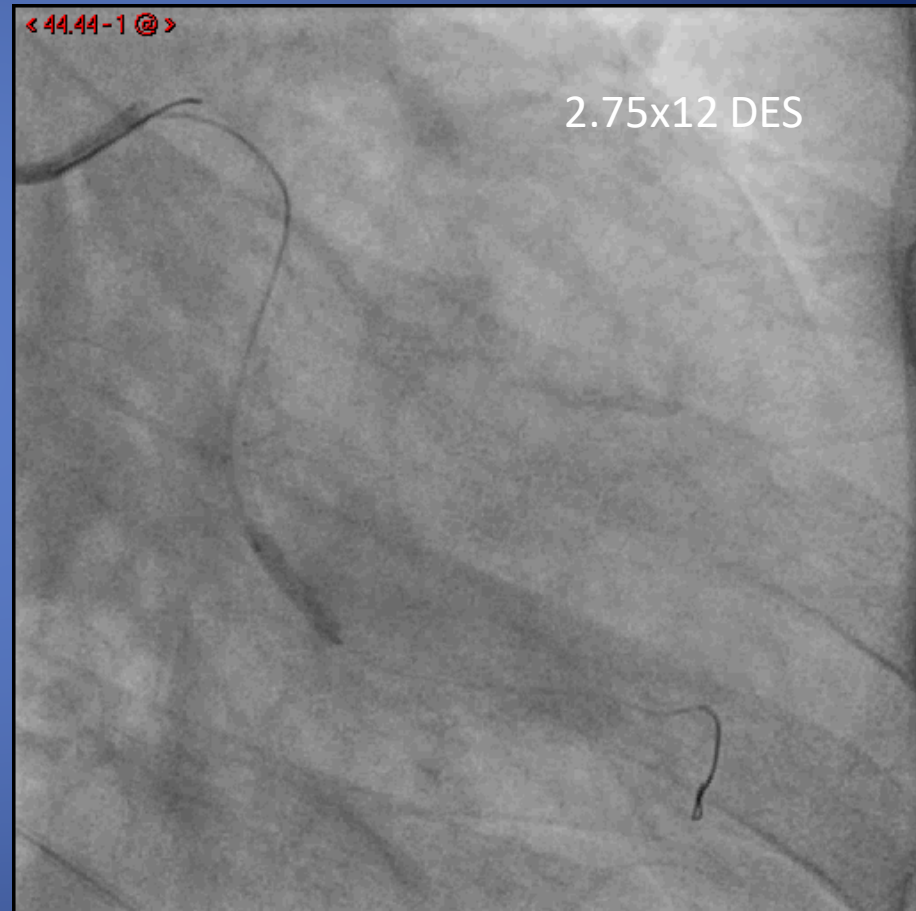
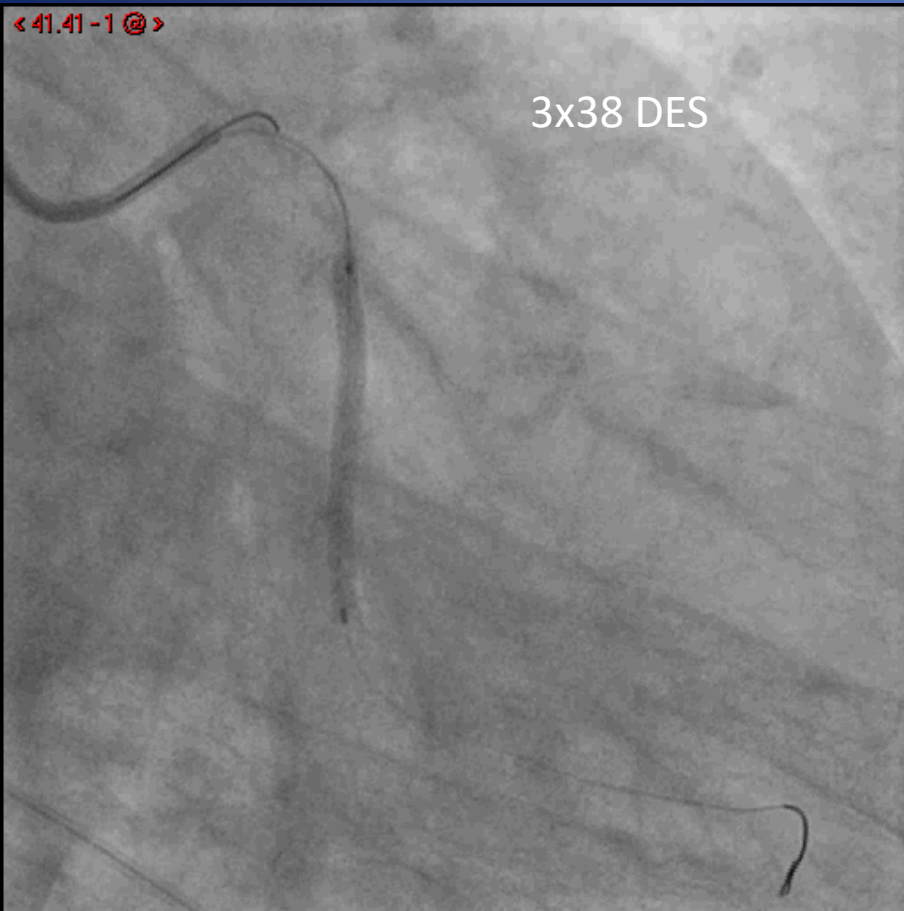
Re-entry



Stent Planning

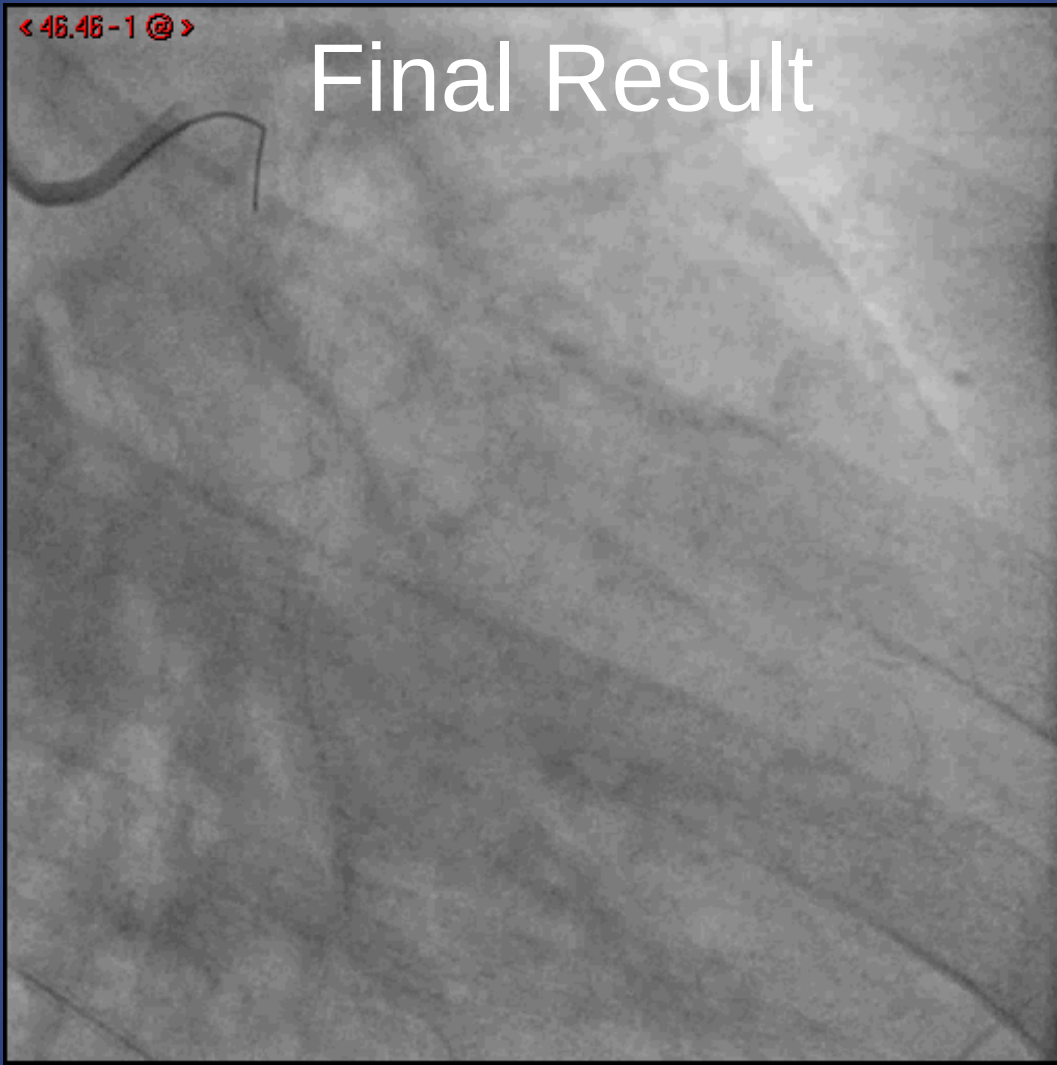


Stenting



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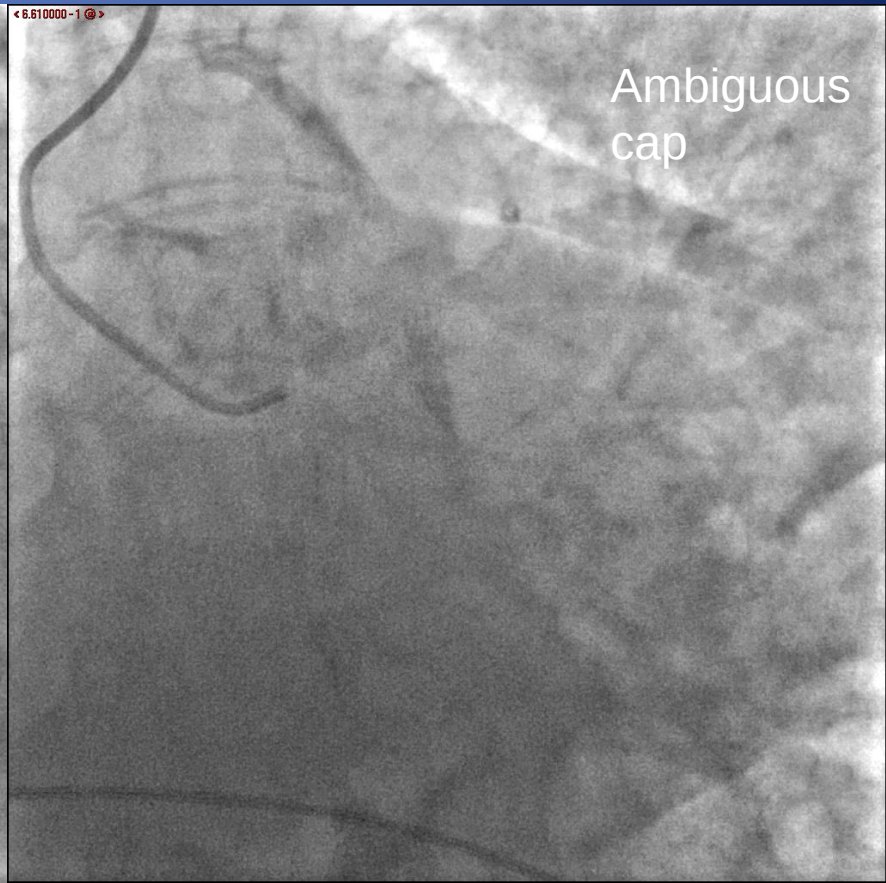
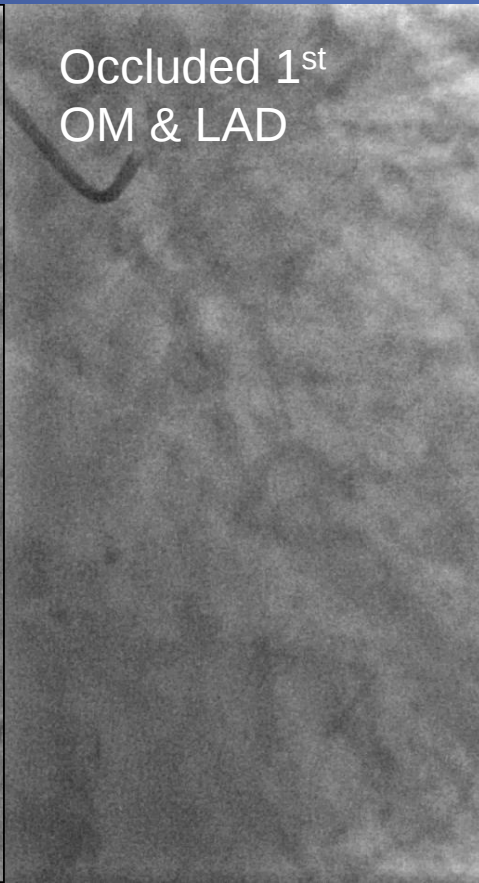
Final Result



Case 2

- 69 y/o female
- Diabetes, Hypertension, Hyperlipidemia, s/p CVA
- Admitted with pulmonary edema
- Severe LV dysfunction – LVEF 15-20%
- Hypokinetic RV

Angio

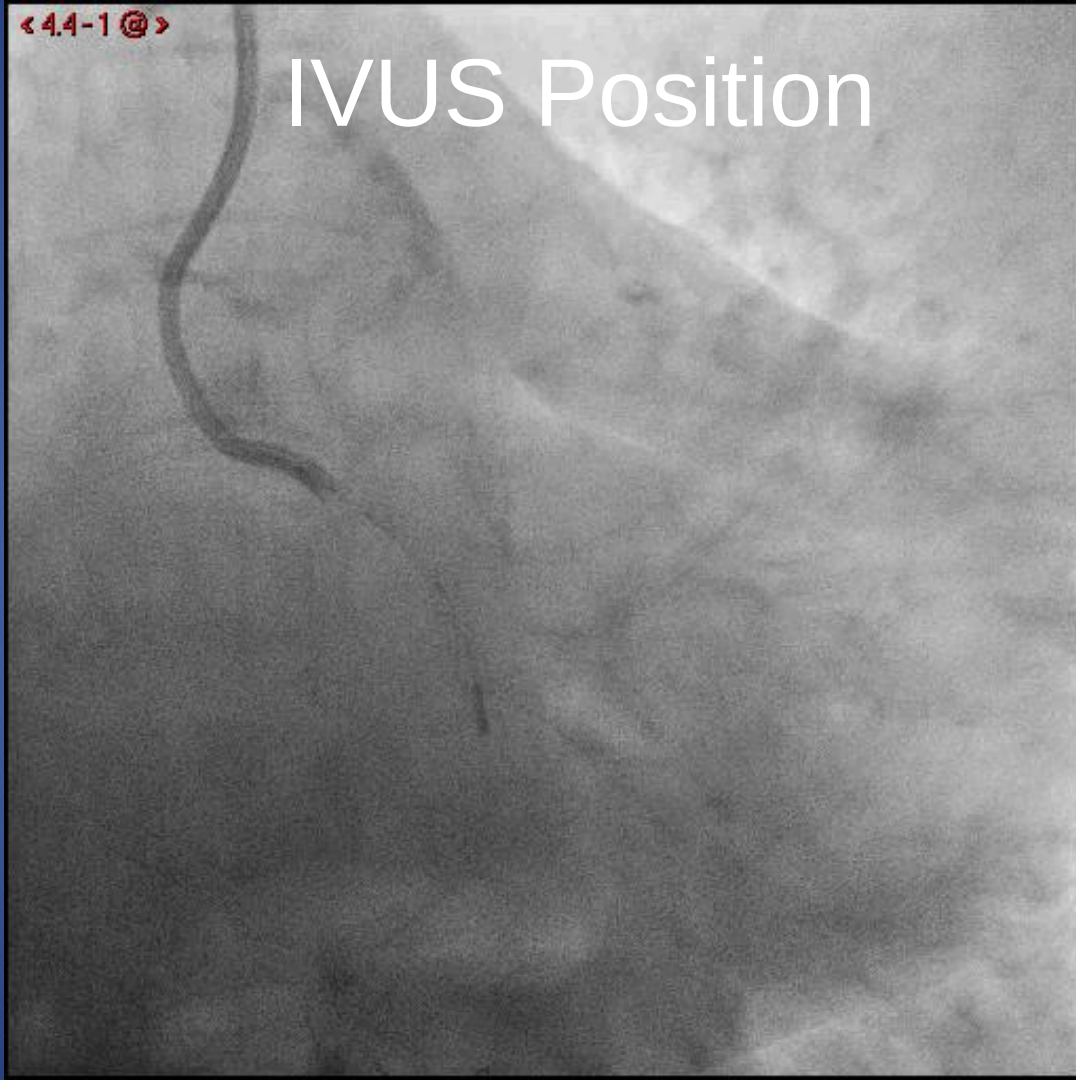


Heart Team

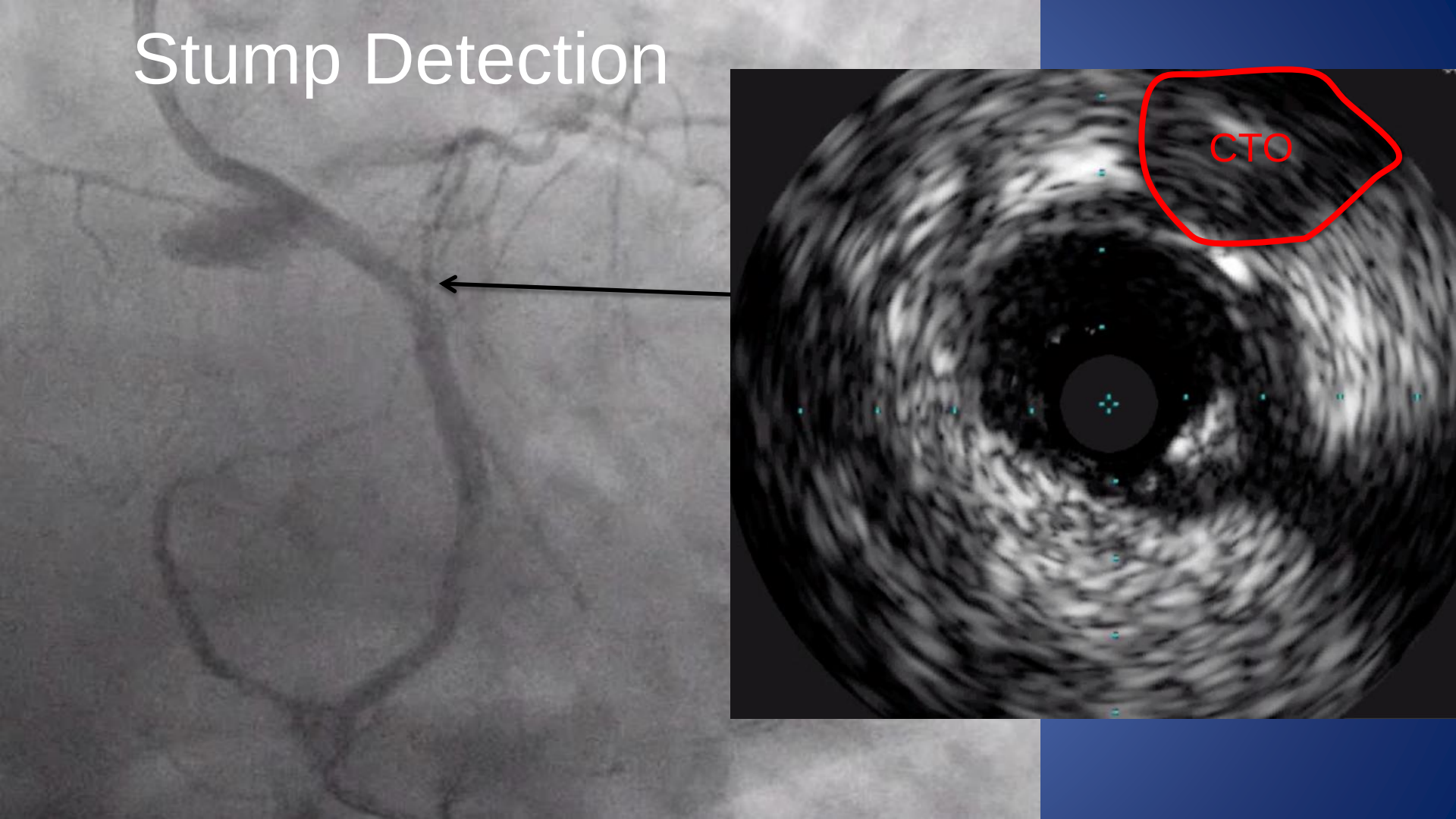
- No viability in LAD territory
- High-surgical risk
- Decision to revascularize LCX territory

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IVUS Position

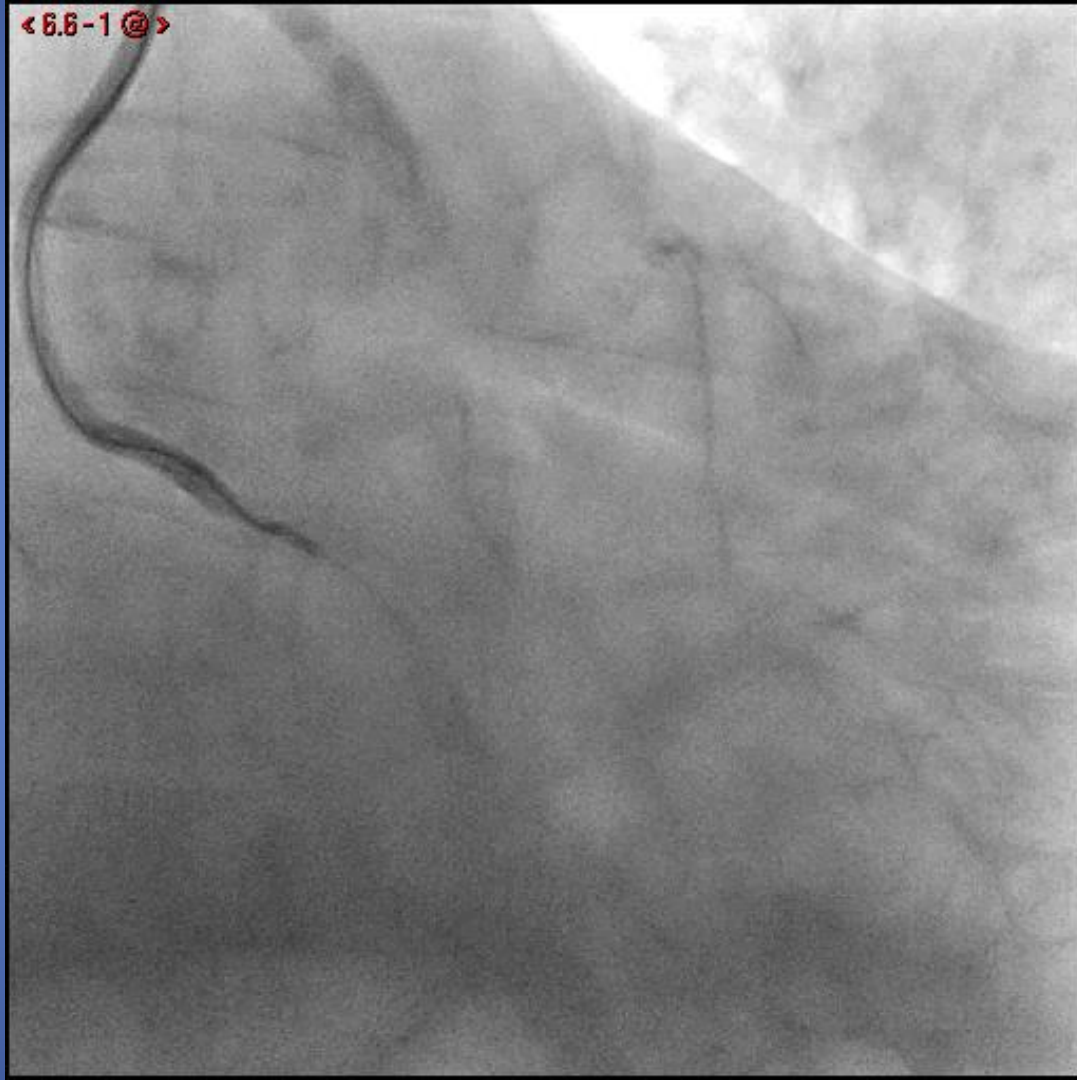


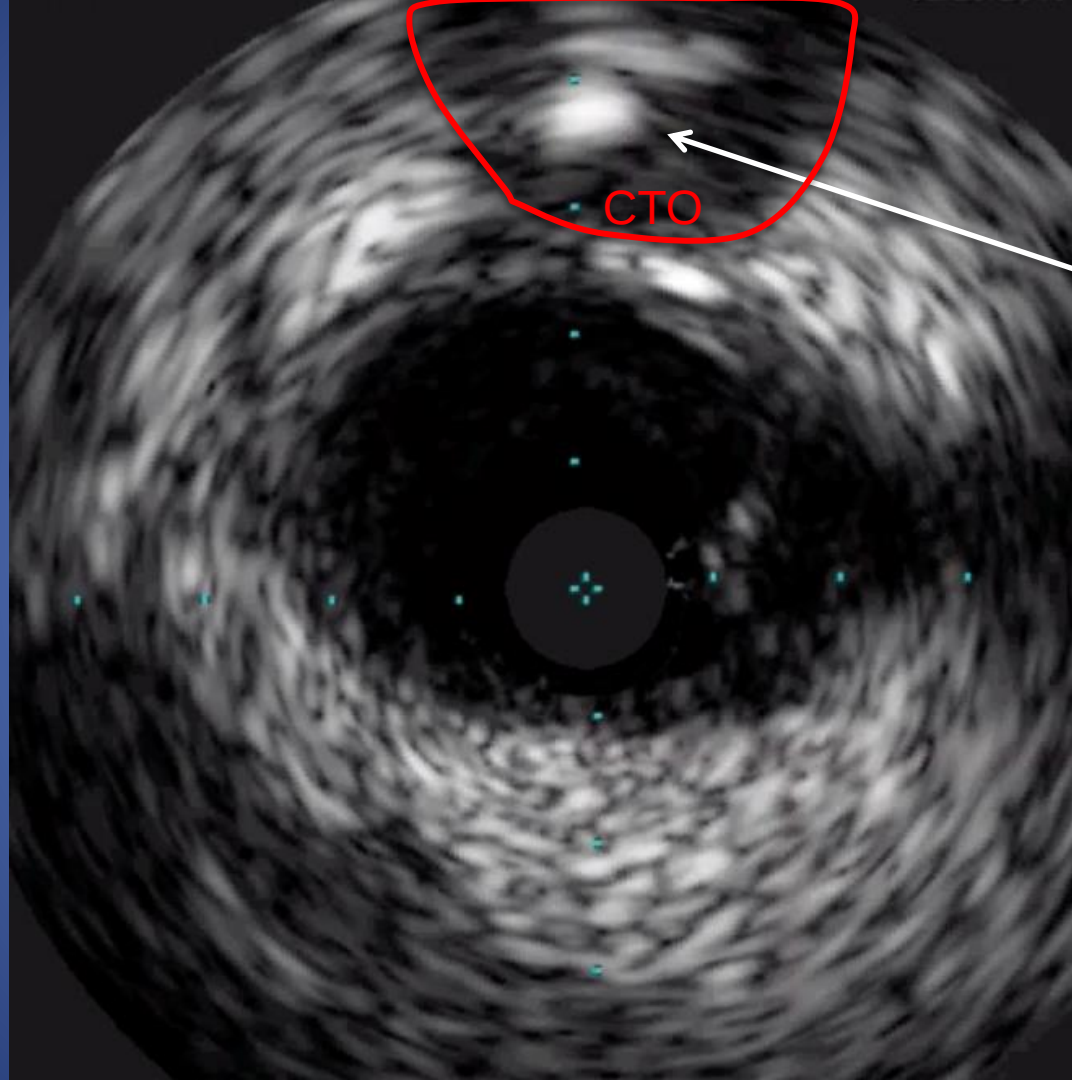
Stump Detection



IVUS Guidance

- AL 0.75 7Fr Guide
- Eagle eye IVUS in LCX
- Microcatheter & Gaia III
- Live IVUS wiring





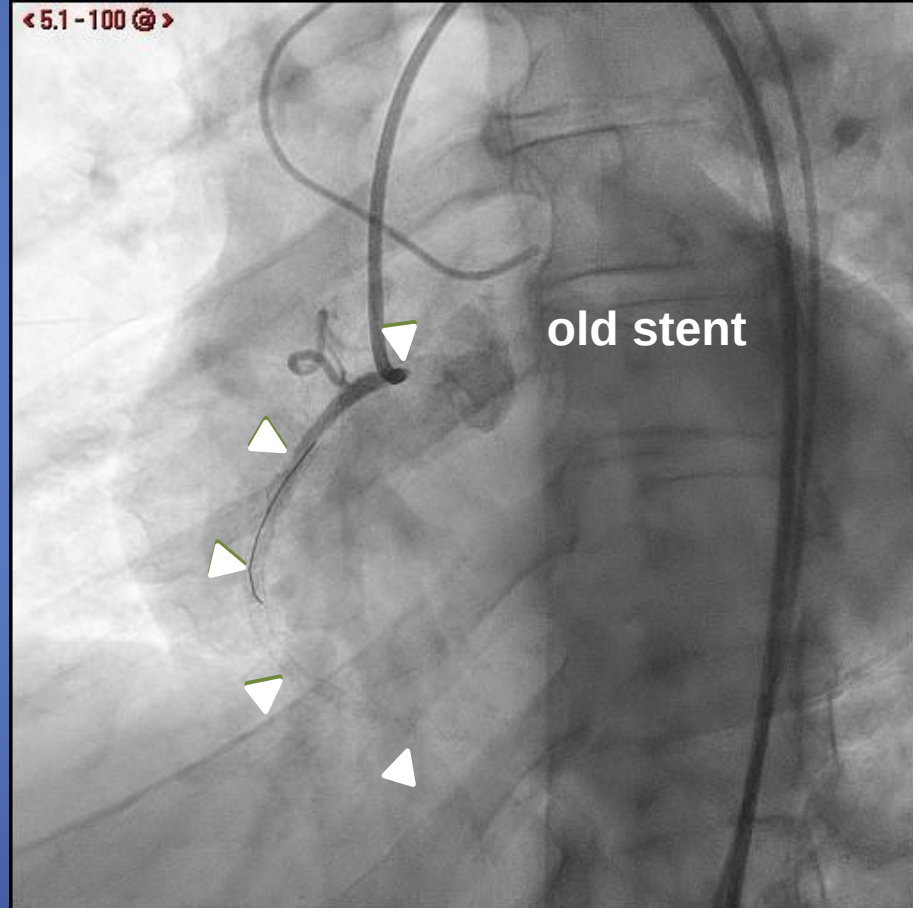
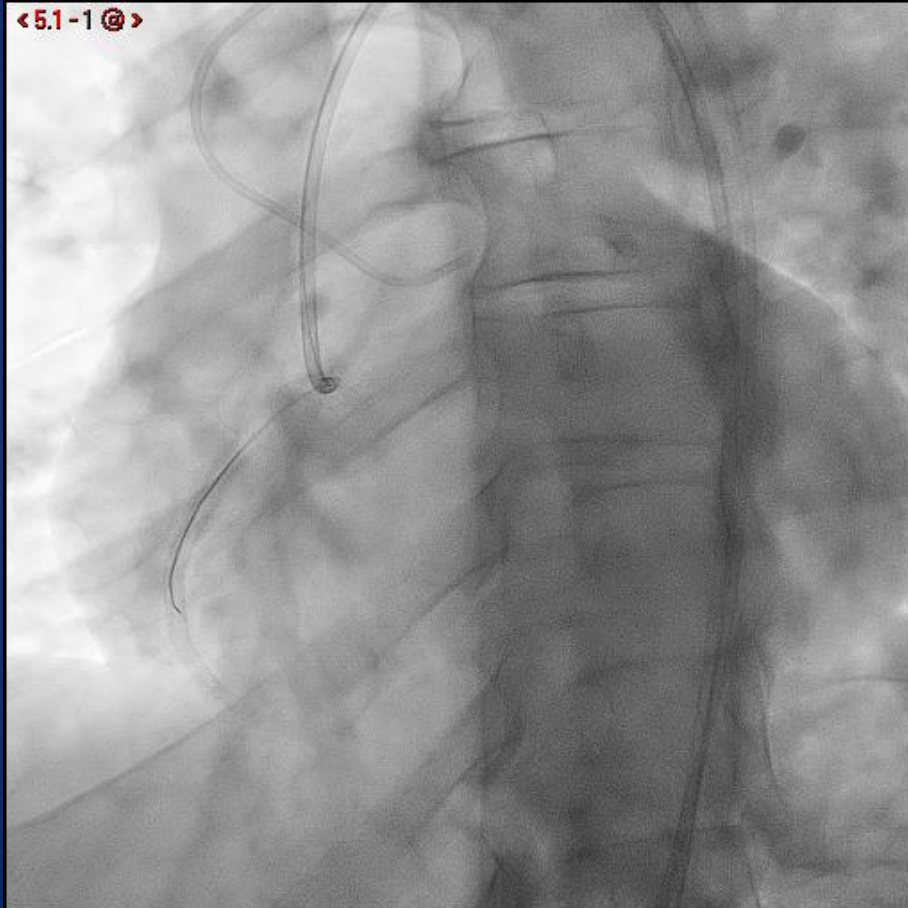
CTO

Wire

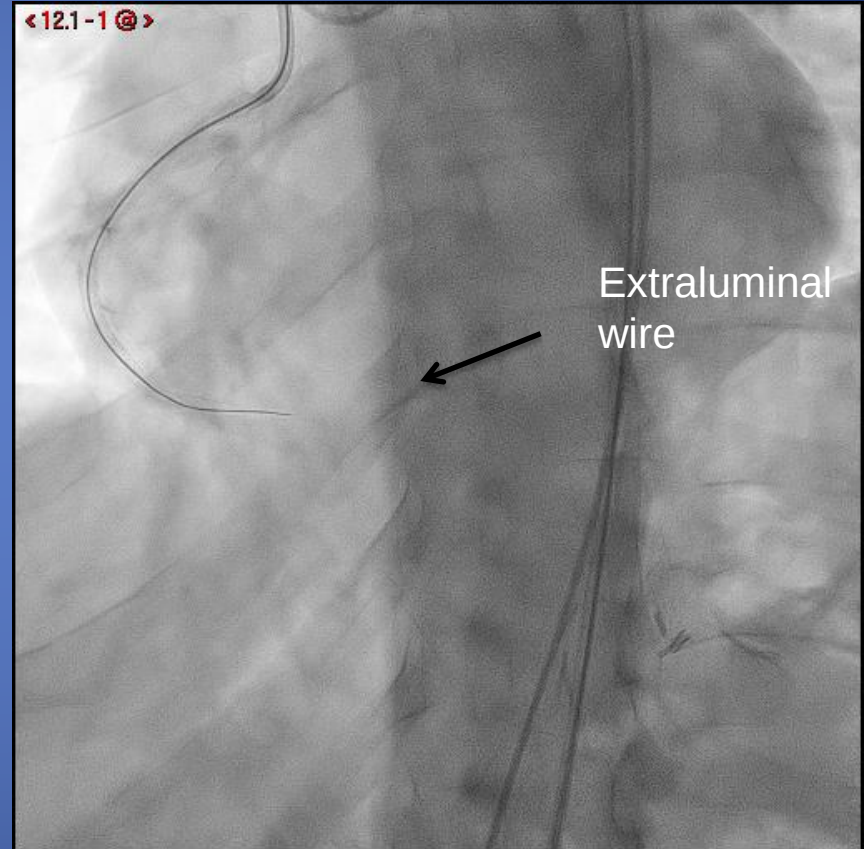
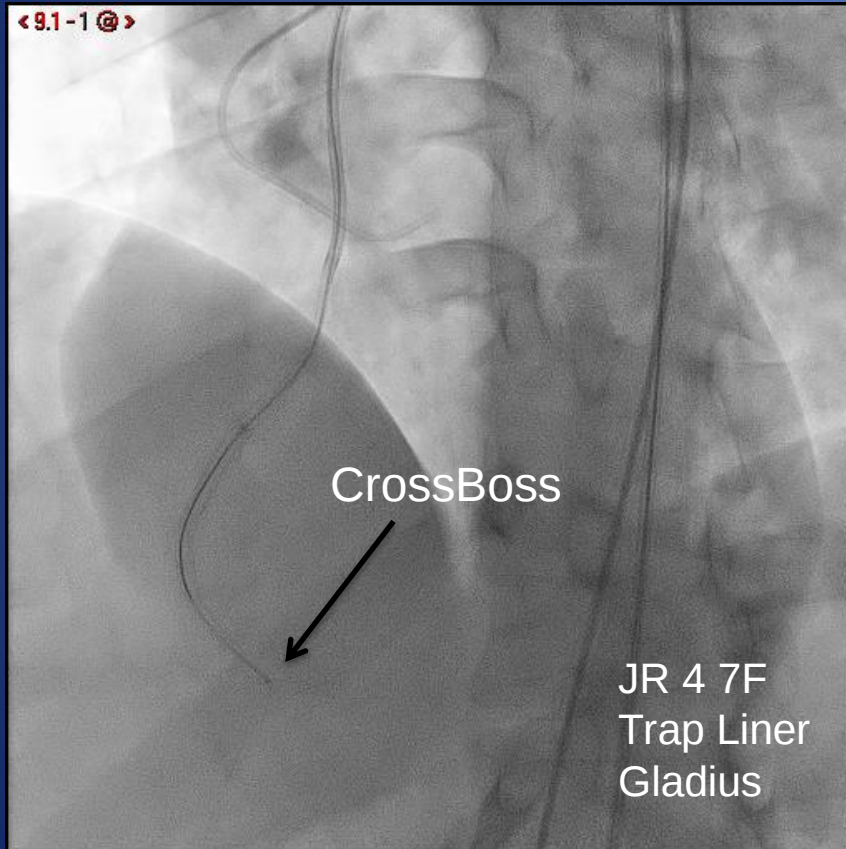
Case 3

- 52 y/o male
- Hypertension, Dyslipidemia, DM
- PCI of LAD & 1st OM, PCI of RCA (CTO)
- CCS II-III
- RE Occlusion of RCA In stent
- LVEF - 60%
- Moderate ischemia on SPECT in RCA territory

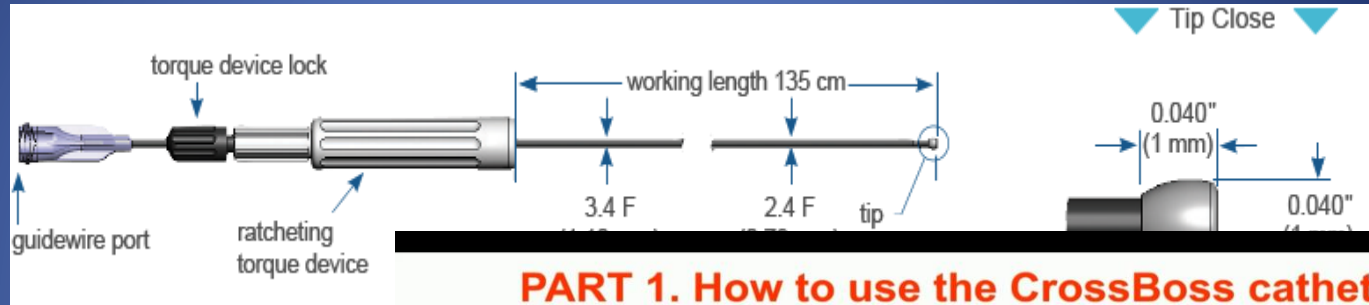
Baseline Angiogram



Antegrade approach with CrossBoss



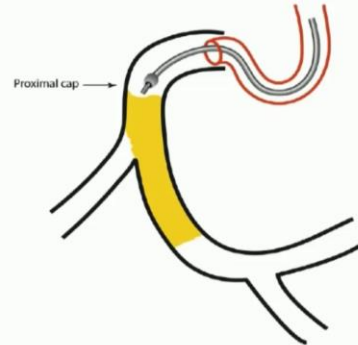
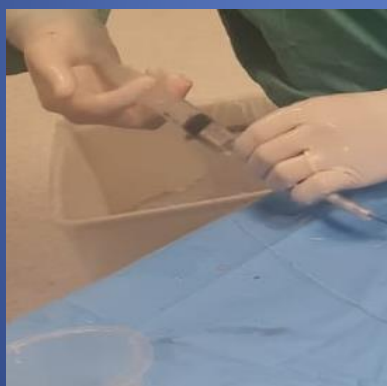
CrossBoss



PART 1. How to use the CrossBoss catheter

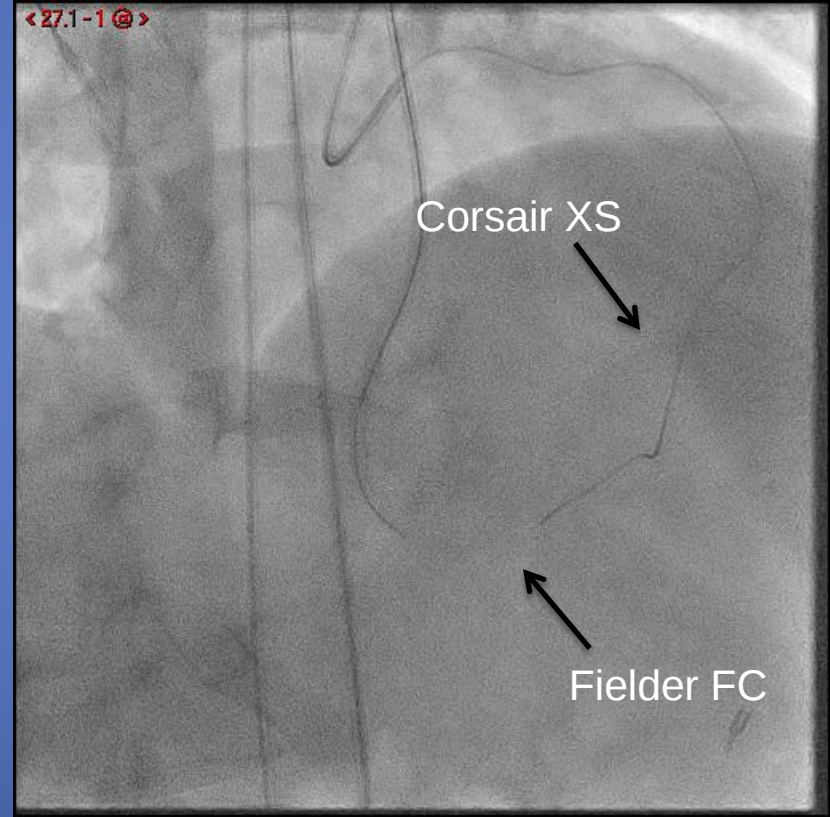
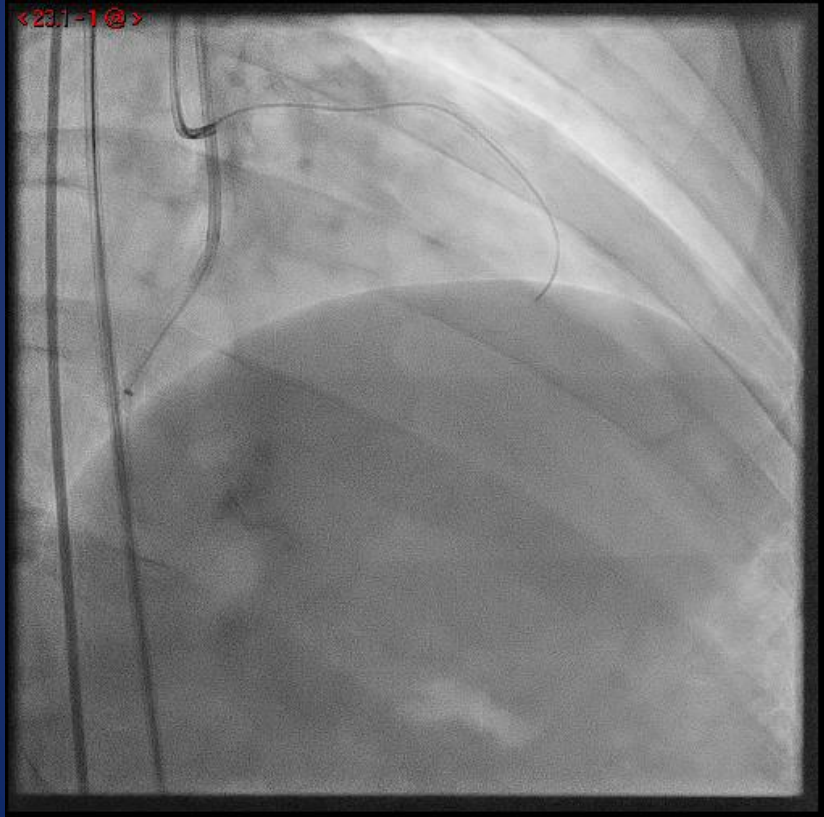
1. Proximal cap

2. Torquer attachment

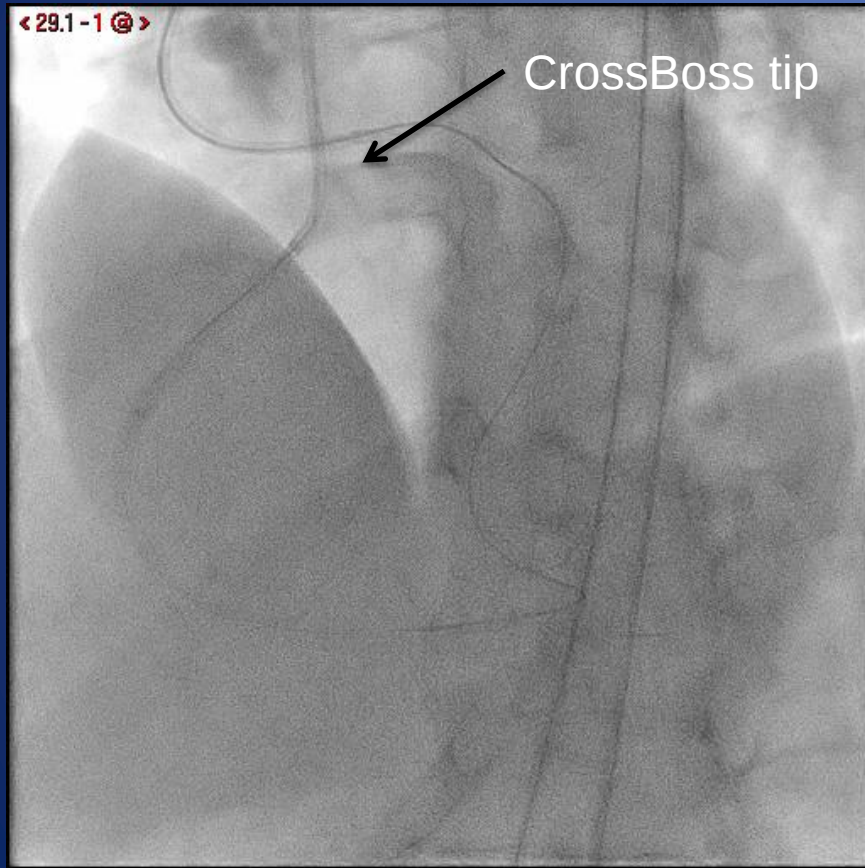


Retrograde Guide-wire crossing

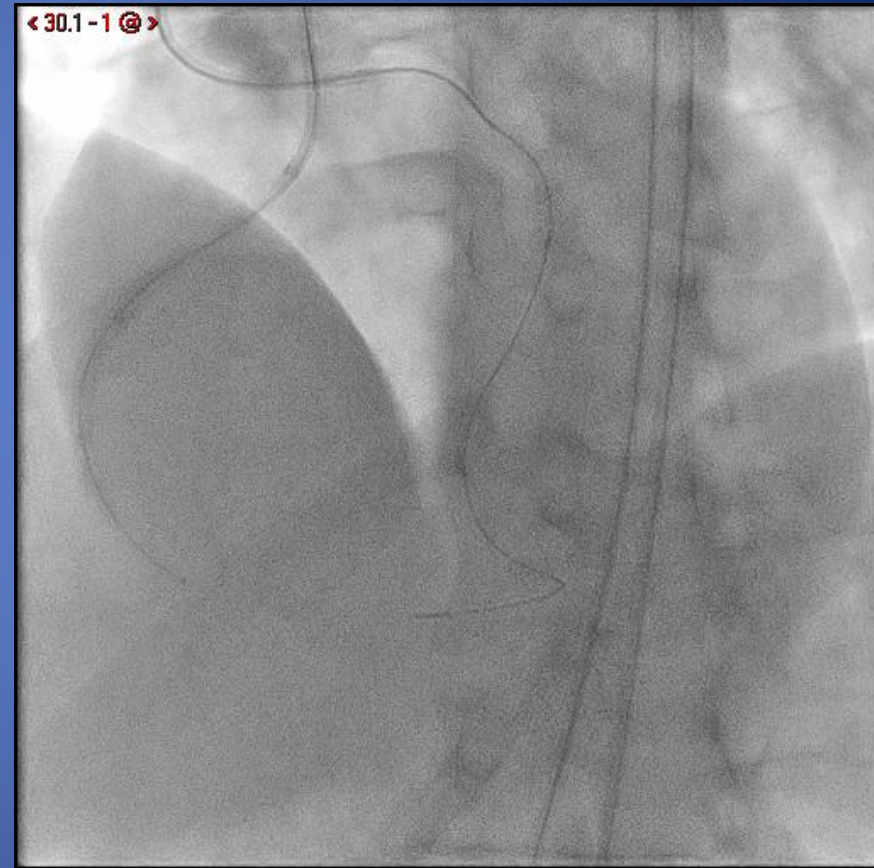
Selective injection in collateral artery



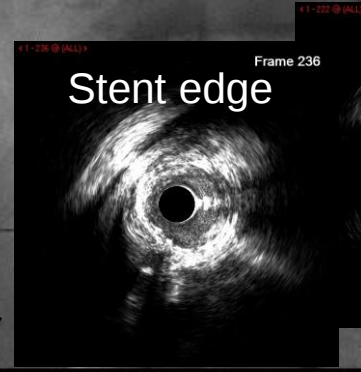
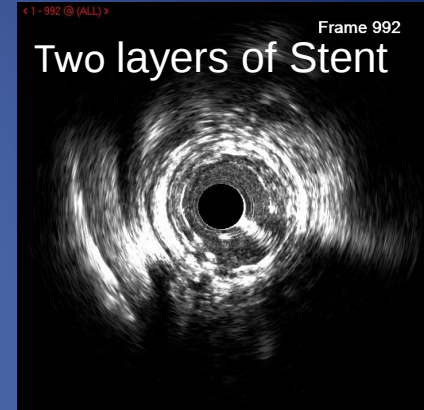
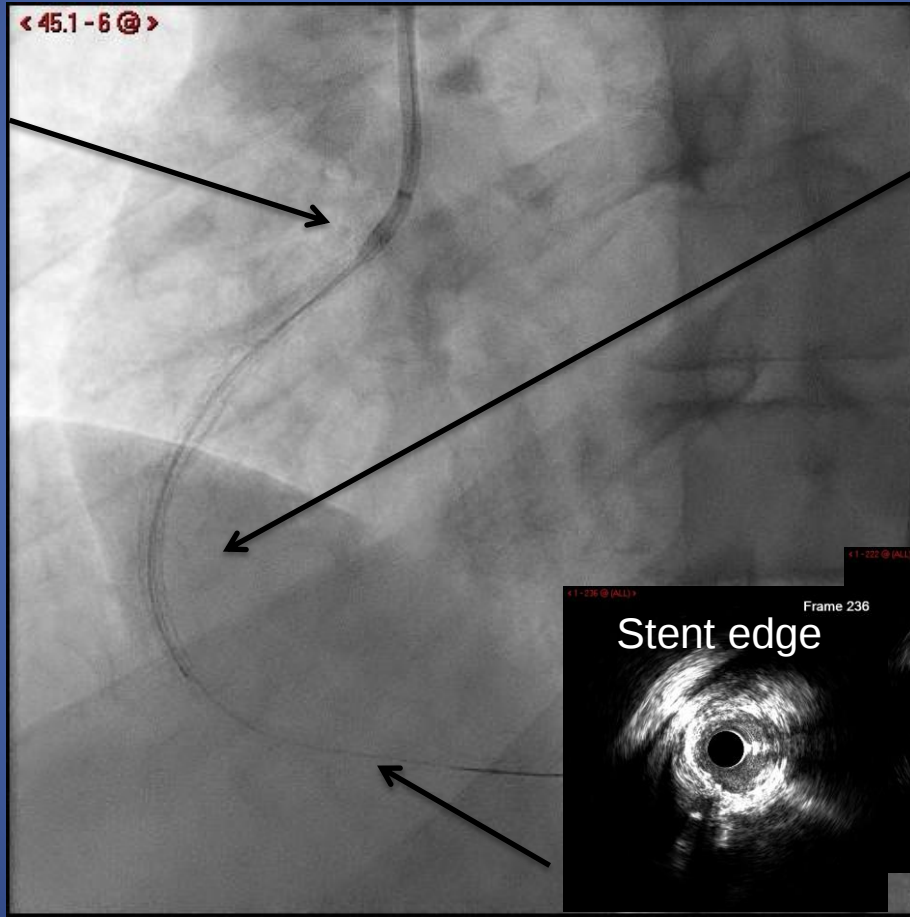
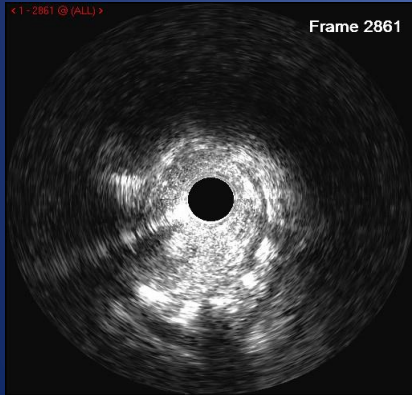
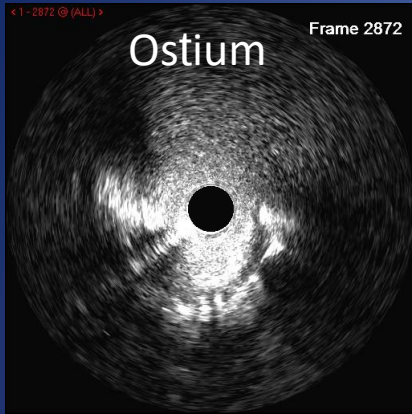
Tip-In for the CrossBoss
catheter



CrossBoss advancing on
retrograde wire



Stent Expansion Optimization using IVUS

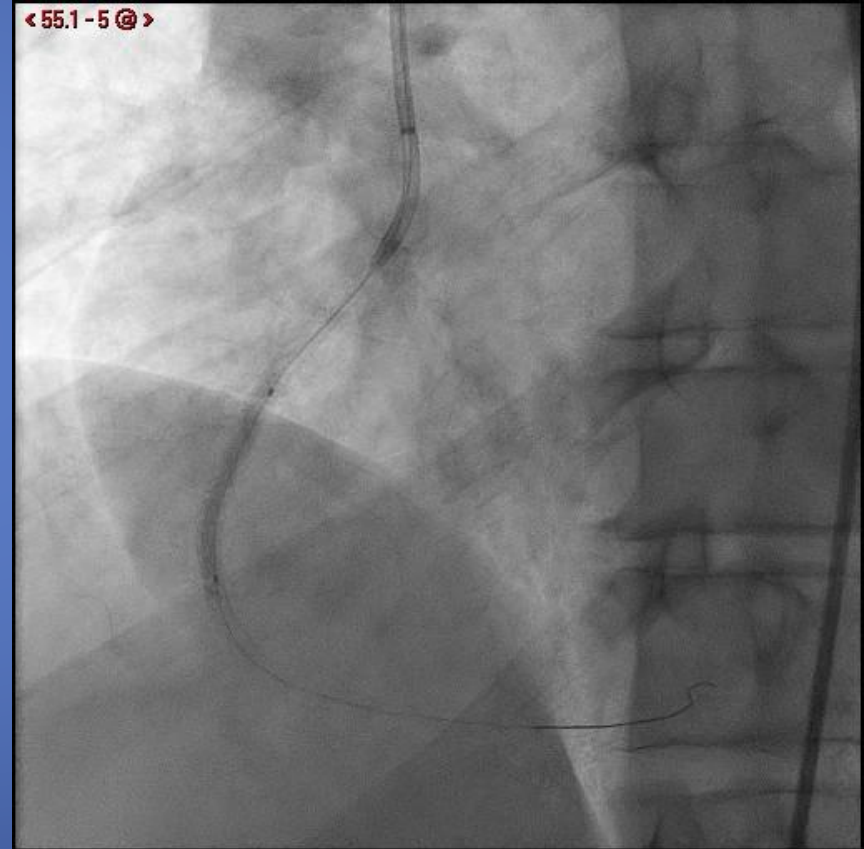


Balloon Angioplasty and DCB

<59.1-4@>

NC 2.5X12, 3X20
Wolverine 2.5X10
SeQuent Please 2.5X30 3X30

<55.1-5@>



Final Result



IVUS Applications in CTO PCI

- Can clarify ambiguous cap & guide wiring
- Can verify wire position for antegrade and retrograde approaches
- May improve outcome

The Main message

IVUS can make the difference between
failure and success,
and can transform a good procedure
into an excellent one



Thank You

