EMO GVM CENTRO CUORE COLUMBUS s.r.l.

ANGIOPLASY SUMMIT 2013
TCT ASIA PACIFIC
Seoul, Korea: 23-26 April 2013

Main Session VIII – Review year and future 3

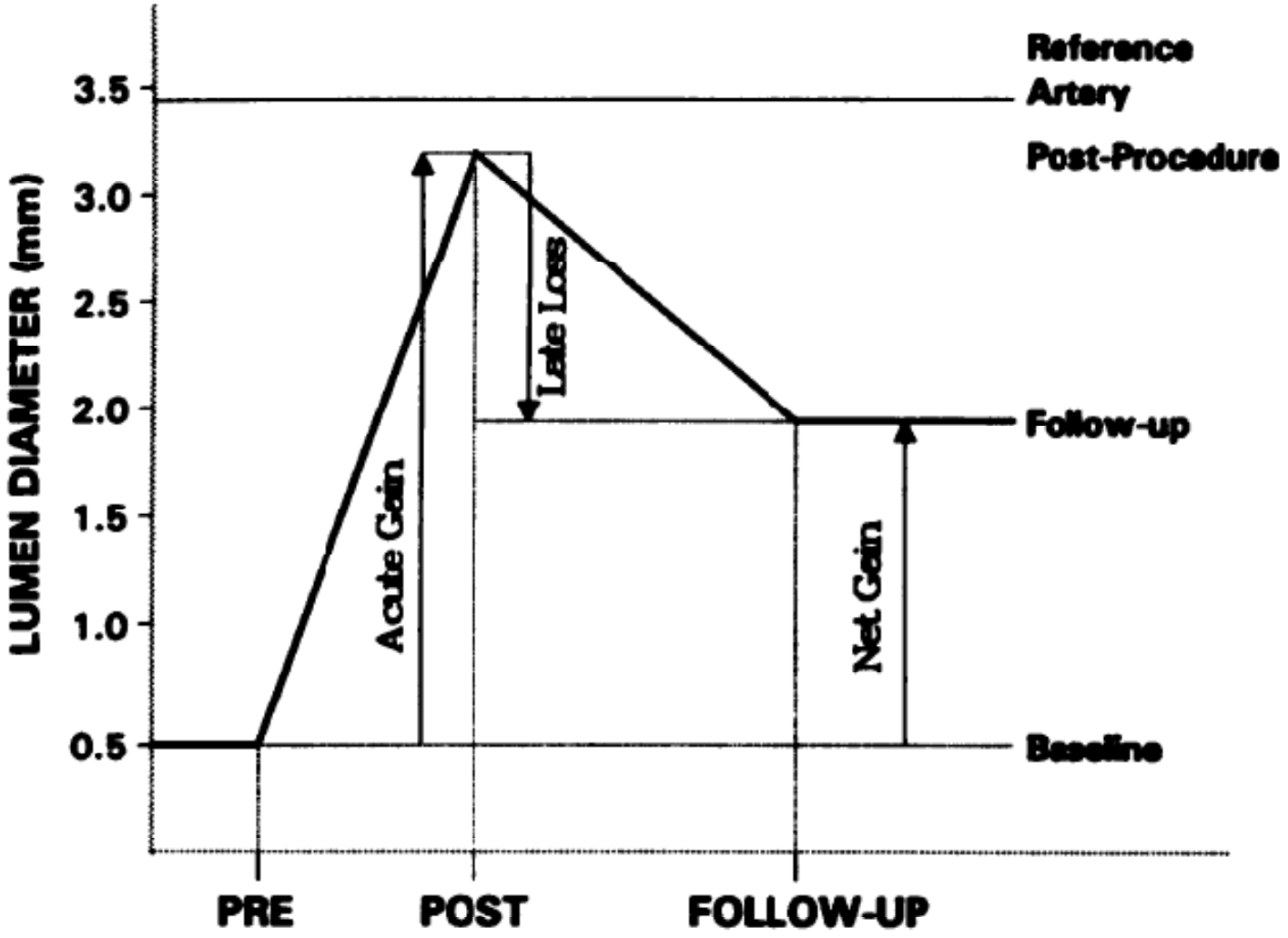
Master's rules: practical tips and tricks to enhance PCI outcomes in complex coronary disease

Speaker – 15'

Antonio Colombo

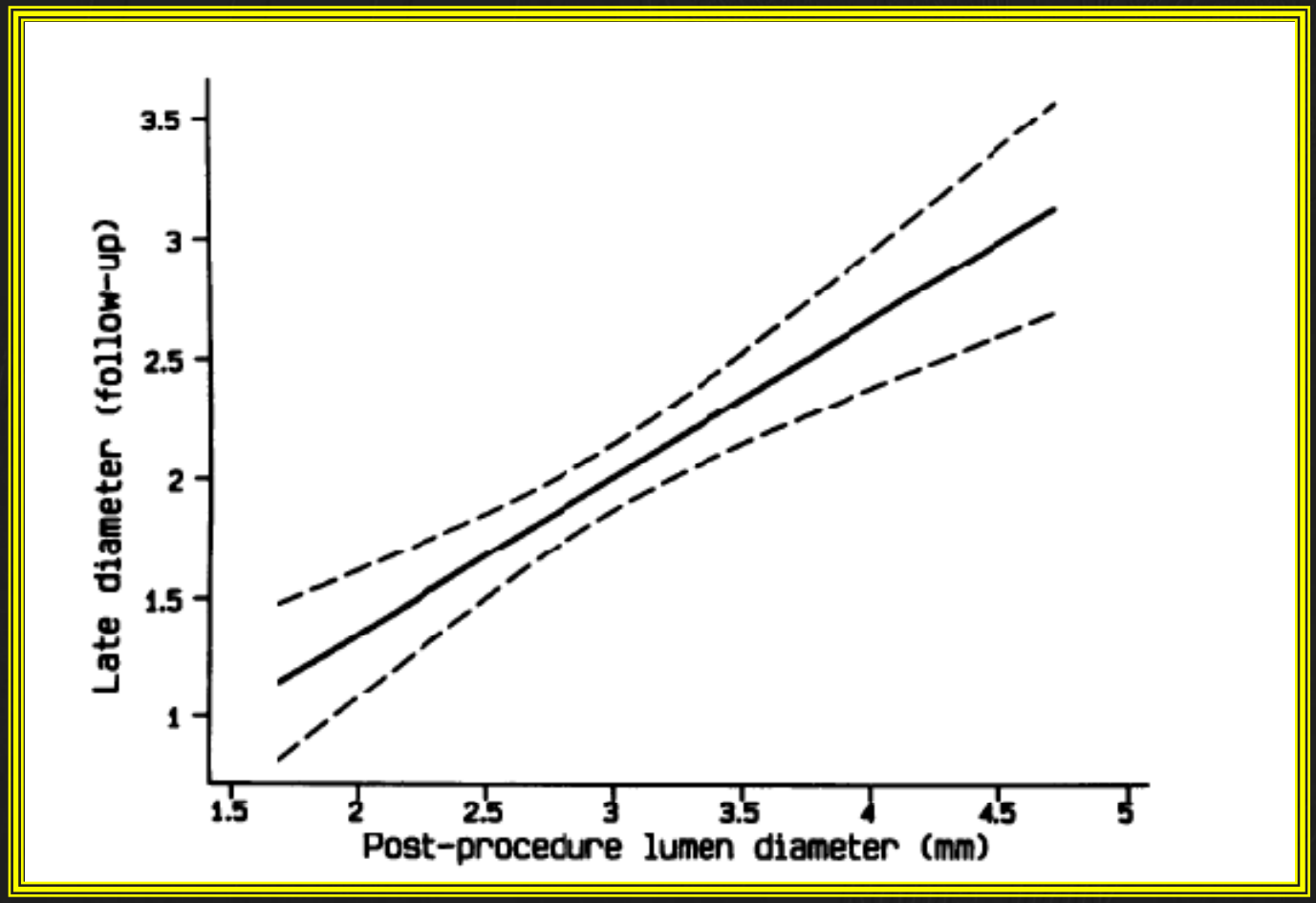
Centro Cuore Columbus and
S. Raffaele Scientific Institute, Milan, Italy

1993: the bigger the better !



RE Kuntz and DS Baim *Circulation* 1993;88;1310-1323

Plot of a geometric model relating acute postprocedure luminal diameter to the late luminal diameter



RE Kuntz and DS Baim *Circulation* 1993;88;1310-1323

EMO GVM
CENTRO
CUORE COLUMBUS s.r.l.

1995

Intracoronary Stenting Without Anticoagulation Accomplished With Intravascular Ultrasound Guidance

Antonio Colombo, MD; Patrick Hall, MD; Shigeru Nakamura, MD; Yaron Almagor, MD;
Luigi Maiello, MD; Giovanni Martini, CCP; Antonio Gaglione, MD;
Steven L. Goldberg, MD; Jonathan M. Tobis, MD

(*Circulation*. 1995;91:1676-1688.)

359 patients unselected pts. (only exclusion ST elevation AMI) on Aspirin + Ticlopidine+ IVUS evaluation

- **Aspirin + Ticlopidine**
- **Average balloon pressure** **14.9 atm**
- **Balloon artery ratio** **1.17**
- **Thrombosis** **0.9%**

Colombo et al Circulation 1995

Almost 20 years later we are still debating!

IVUS guidance may have less impact on events following BMS implantation compared to DES implantation.
The issue could be: reduction in Late and Very Late Stent Thrombosis

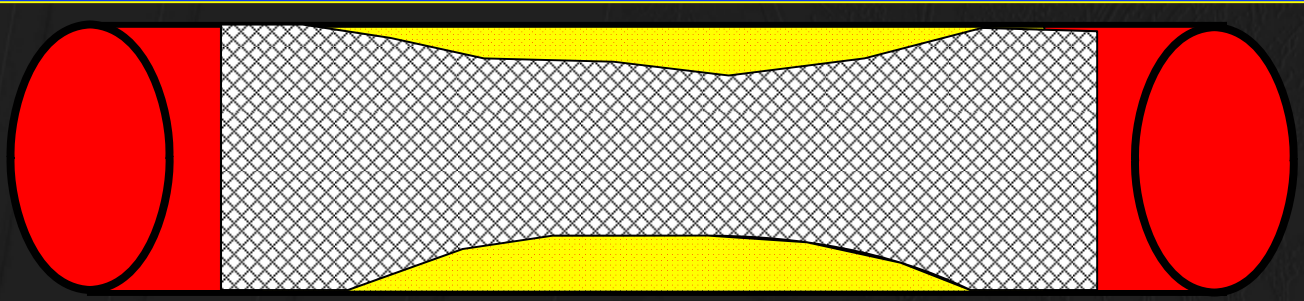
IVUS does not work by intention to treat

The fact the operator opened the IVUS catheter, inserted the catheter in the coronary does not mean the procedure is IVUS guided

It is important to know:

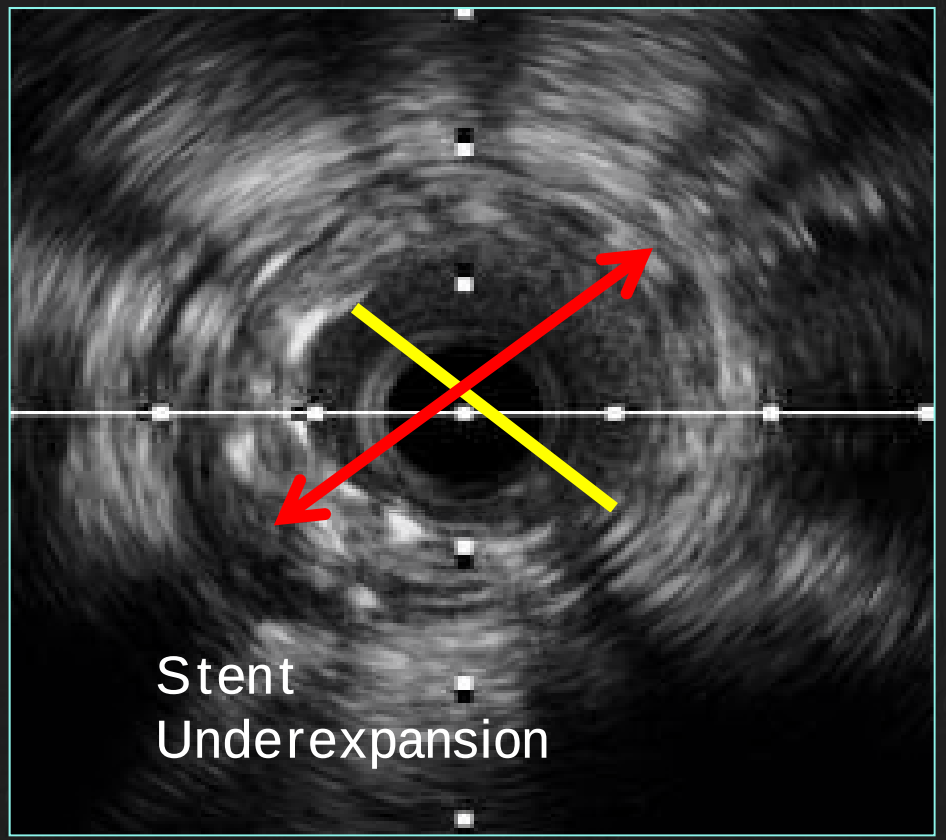
- The IVUS interpretetion
- Which action was taken
- The result achieved

Deploy Stent and Perform IVUS



Media-Media:
3.5 mm

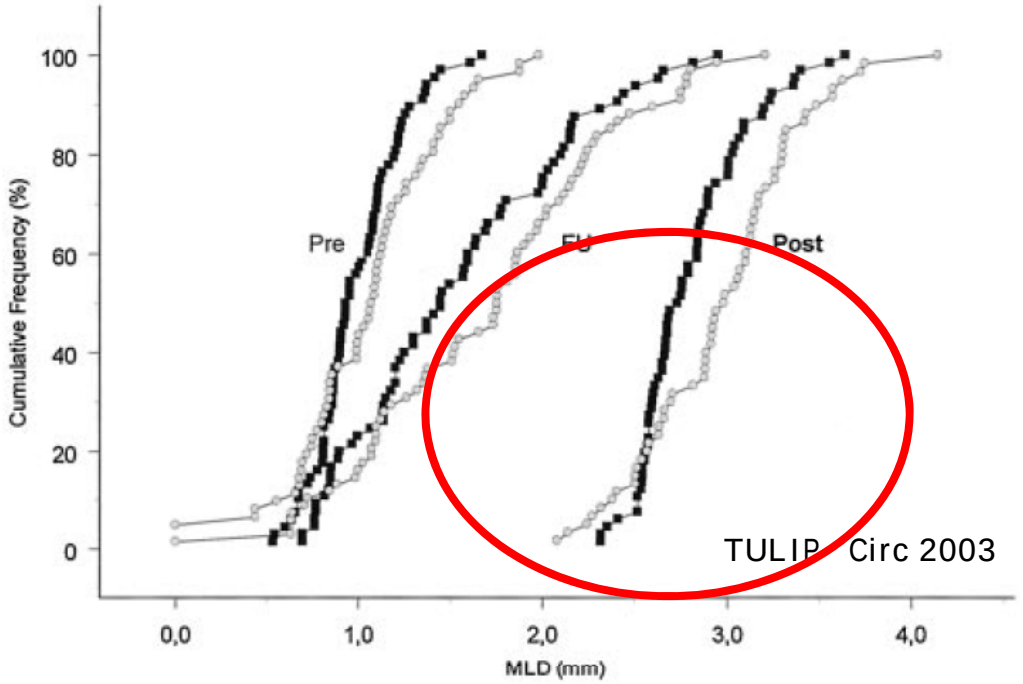
Postdilate
with 3.25-
3.0 mm



- Those criteria have been validated in the AVIO trial which randomized 284 pts. to IVUS guided DES implantation versus Angio guided.

- The IVUS guided group had a final MLD in the stented lesions which was 0.20 mm larger than the Angio group

- There was no statistical or numerical difference in adverse events between the 2 groups



VIO criteria

Final MLD in IVUS Group 2.86 ± 0.46mm

2.51 ± 0.46mm

P<0.0001

Angio_PRE

Angio_POST

IVUS_PRE

IVUS_POST

Cumulative F

40

20

0

0

1

2

3

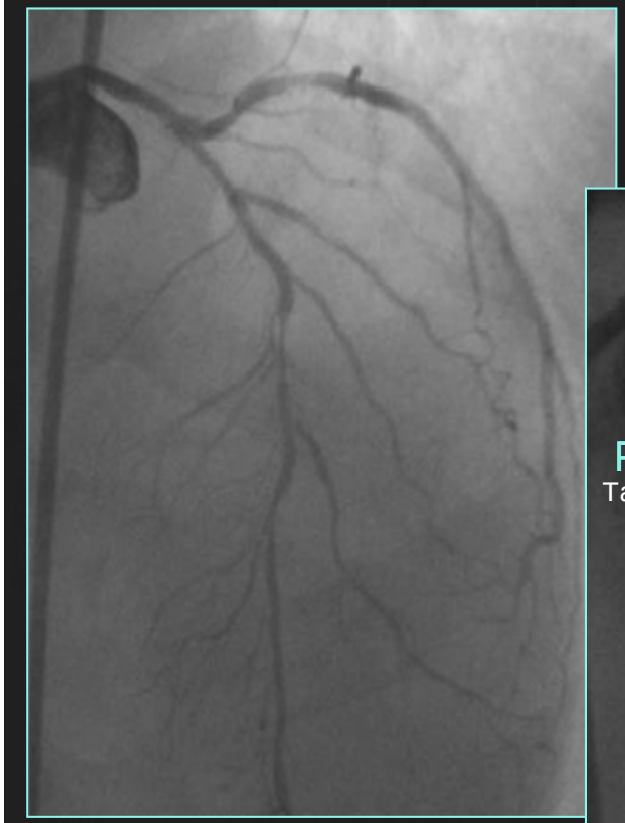
4

MLD (mm)

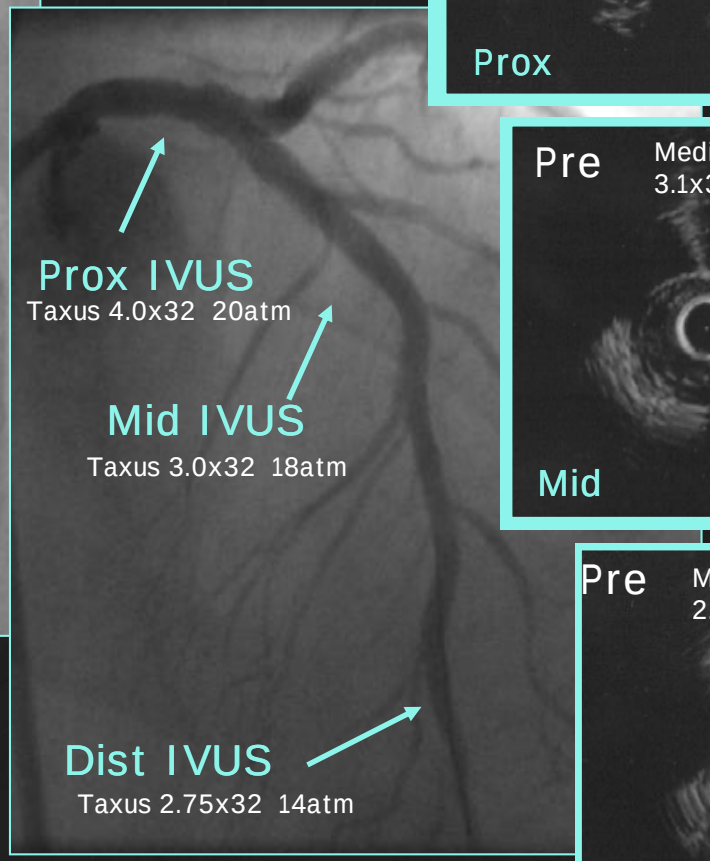
EMO GVM CENTRO CUORE COLUMBUS s.r.l.

DIFFUSE DISEASE

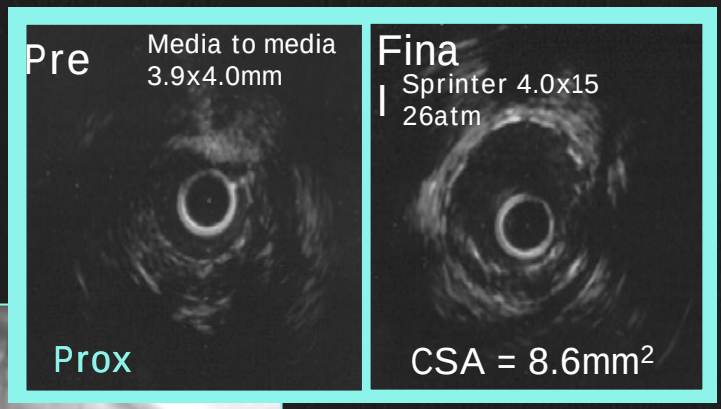
Vessel sizing

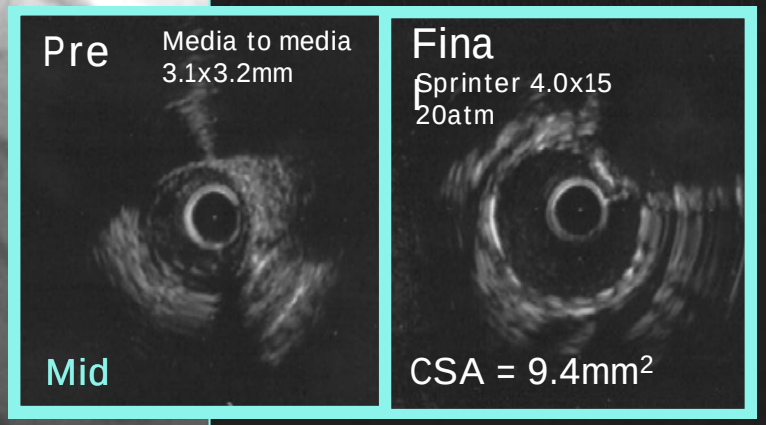


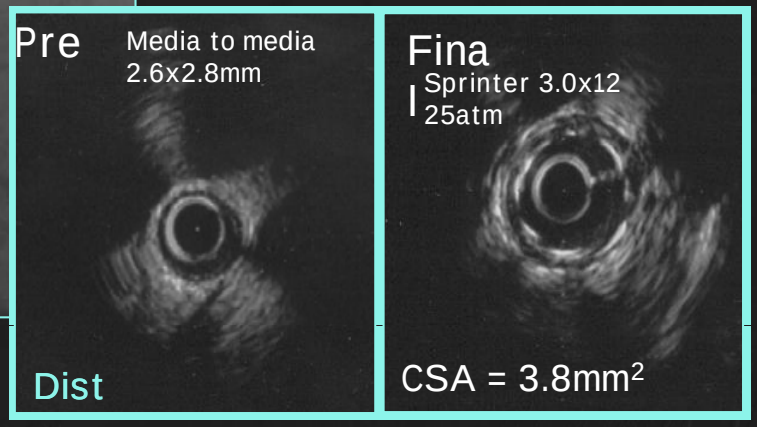
Baseline



Final Result





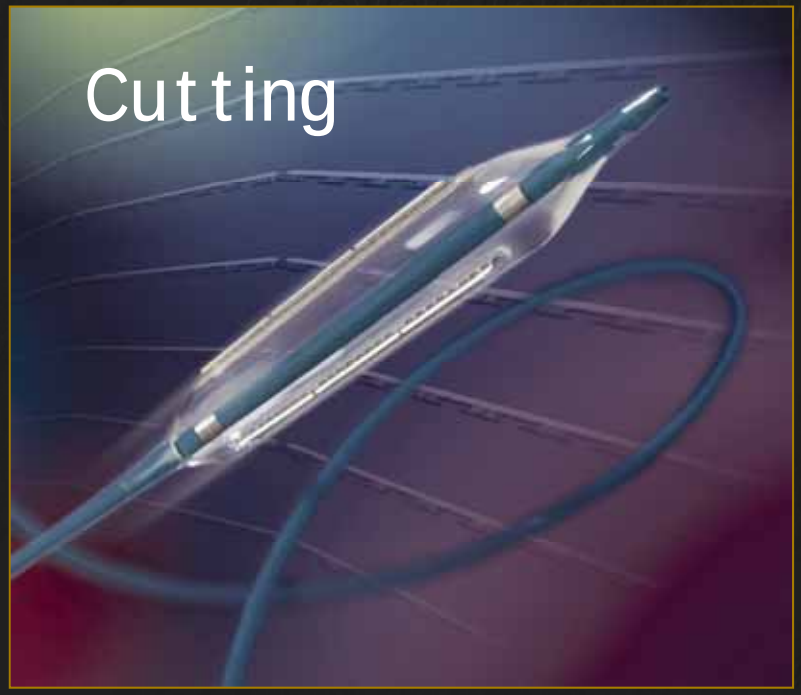


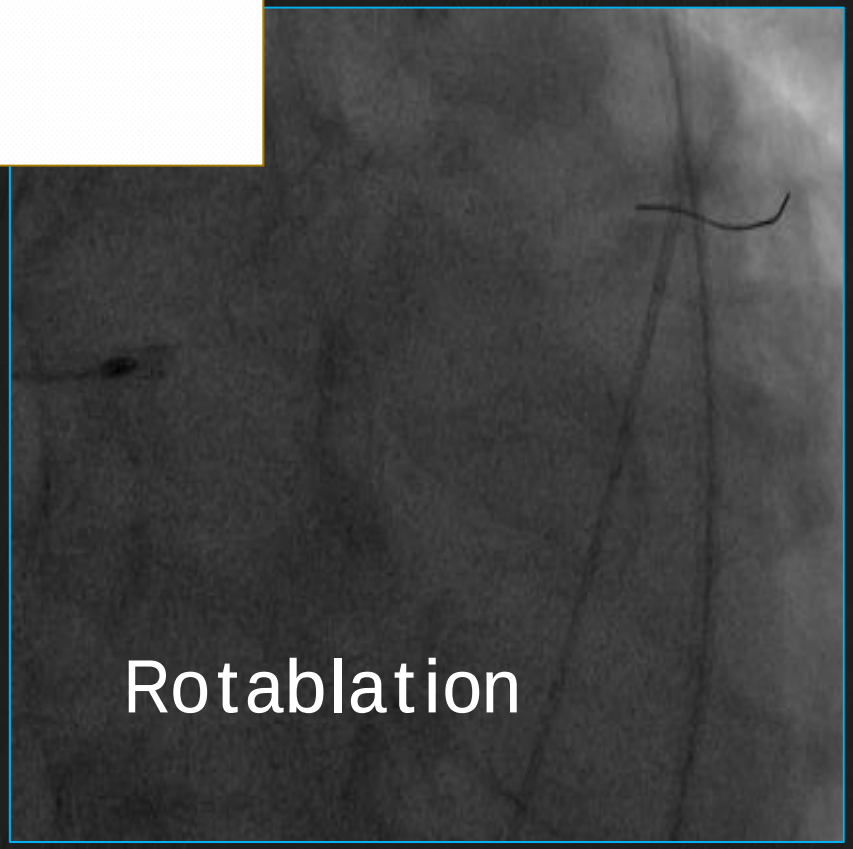
Cor08090

Vessel preparation

Angiosculpt

Cutting

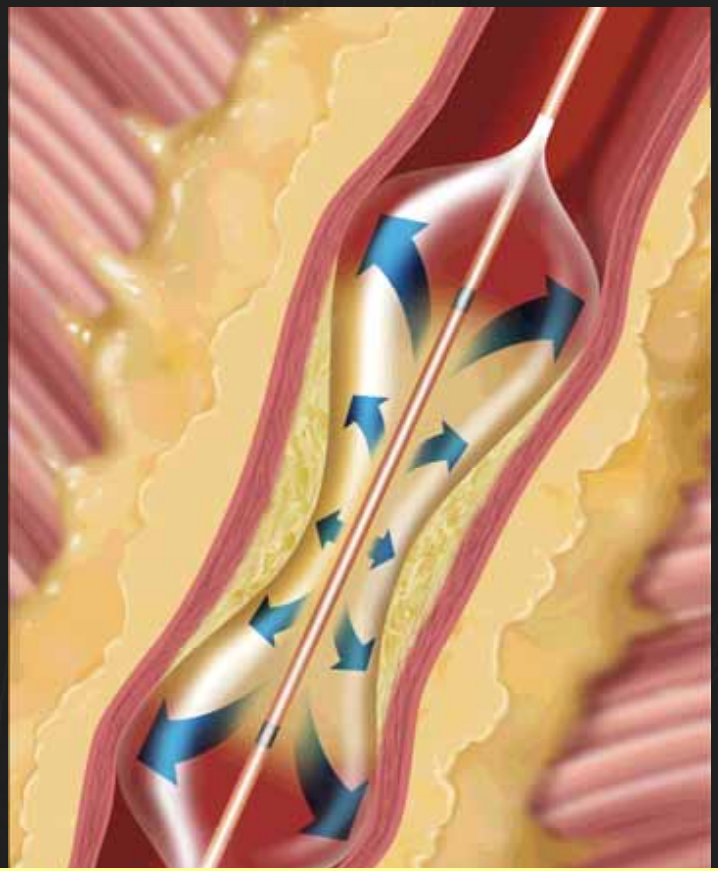




Rotablation

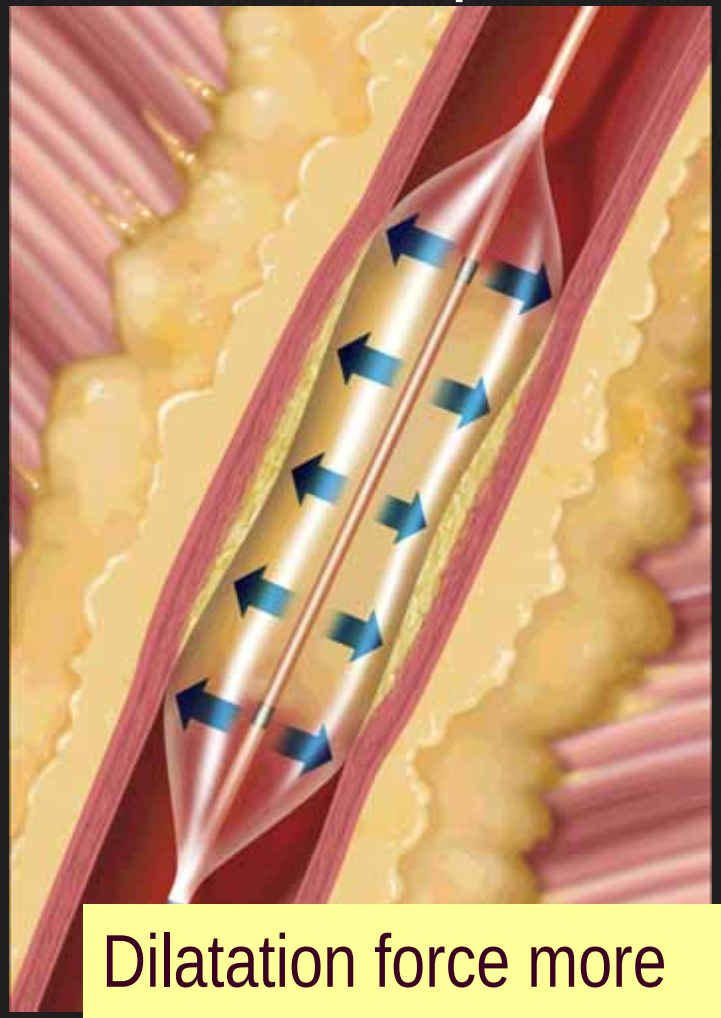
The Importance of a non-compliant balloon

Compliant / Semi-Compliant



Dilatation force not uniform, more vessel dilatation where not needed

Non-Compliant



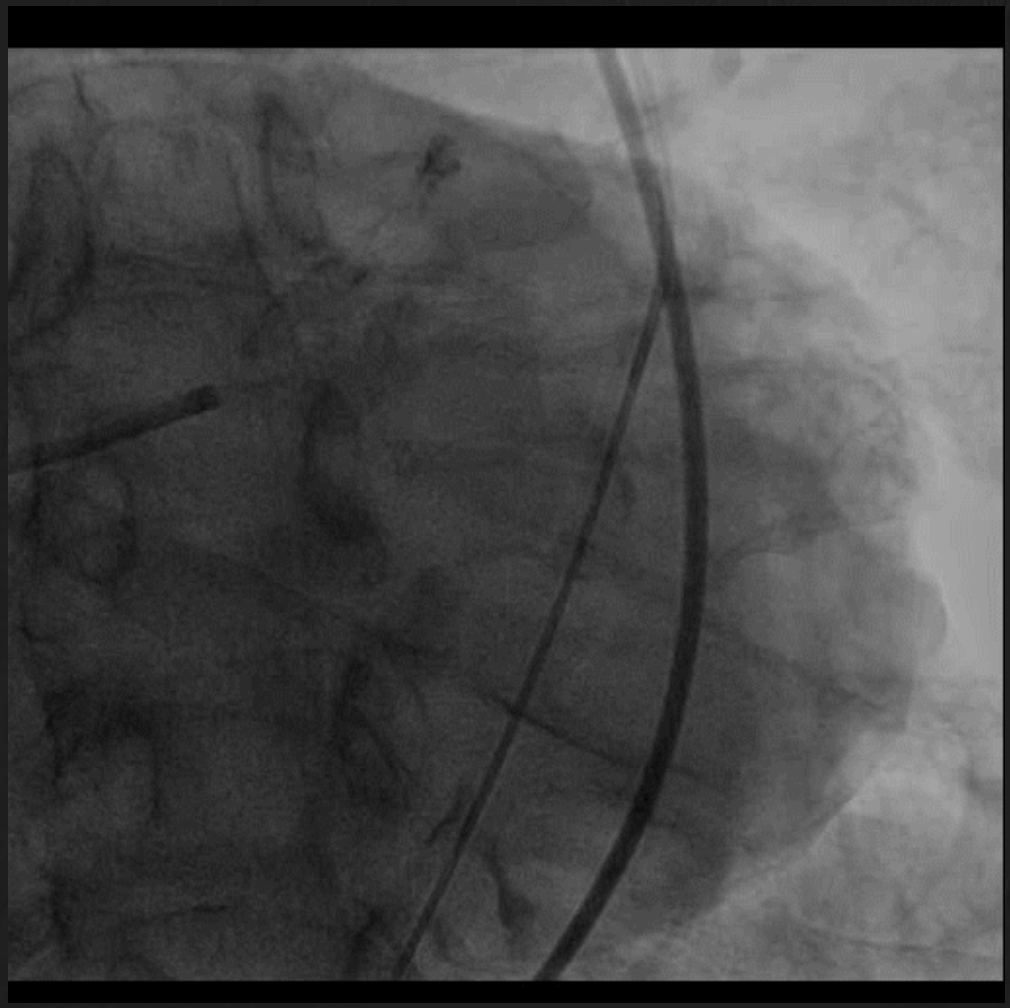
Dilatation force more uniform and where it is needed

Distal Left Main Bifurcation in a Patient with Low EF

History

- 87 Y old Gentleman High 160 cm –Weight 59 Kg
- Effort Angina Class III
- Hypertension
- No Diabetes
- Creatinine 2.0 mg%-ml
- No prior PCI
- No associated medical condition
- Positive Exsercise Test at Low Level
- EF 25%
- Mitral Insufficent grade III
- 45 mmHg Pulmonary Pressure

Distal Left Main Bifurcation in a Patient with Low EF



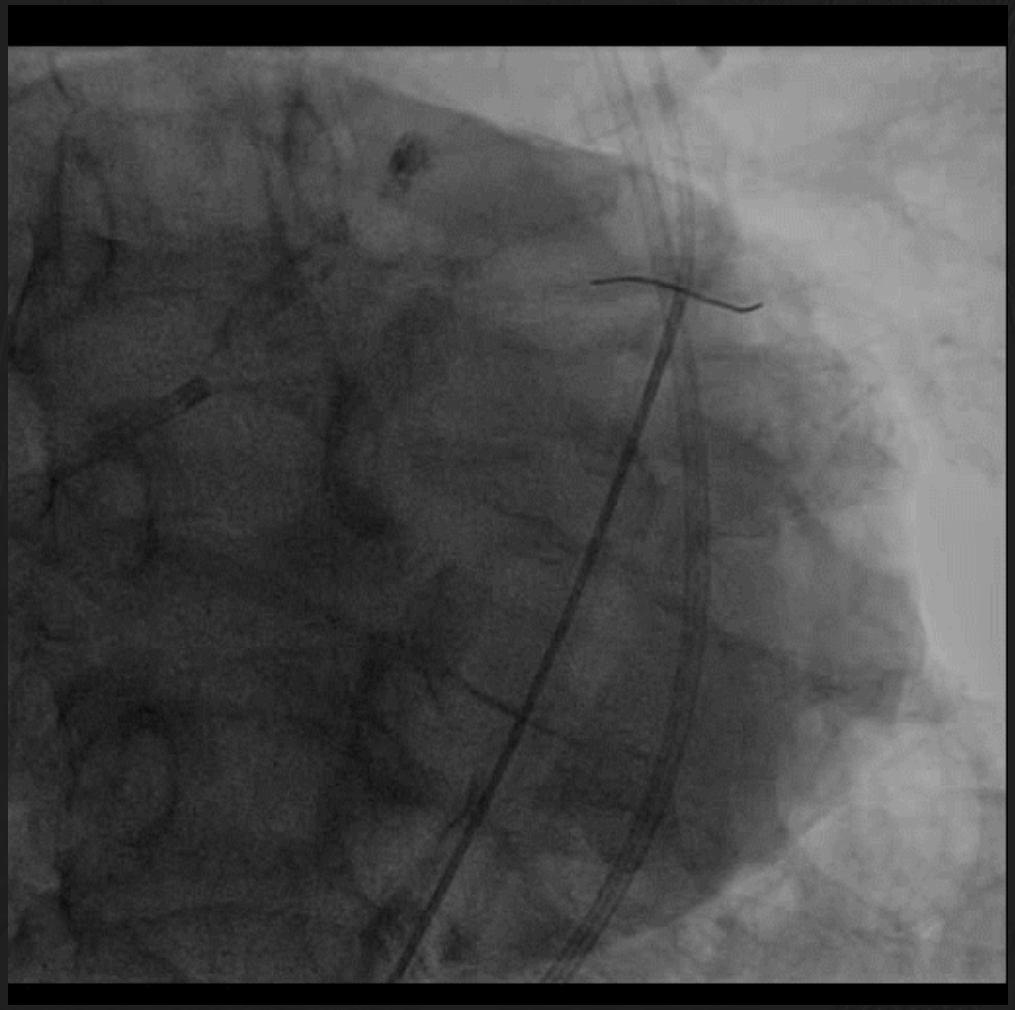
Baseline – IABP in place

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF

Rotablator – 1.5 mm BURR

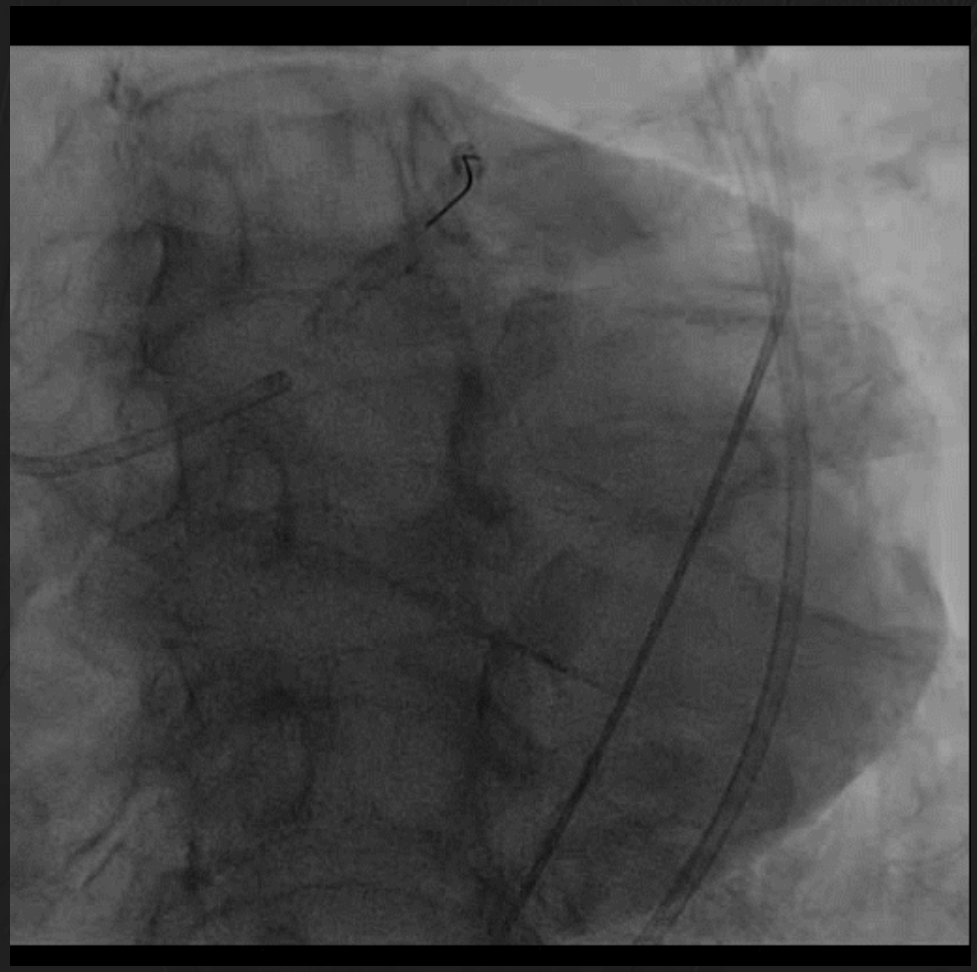
Distal Left Main Bifurcation in a Patient with Low EF



Following Rotablator toward LCX

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF



Following Rotablator toward LAD

67198/12 HSR

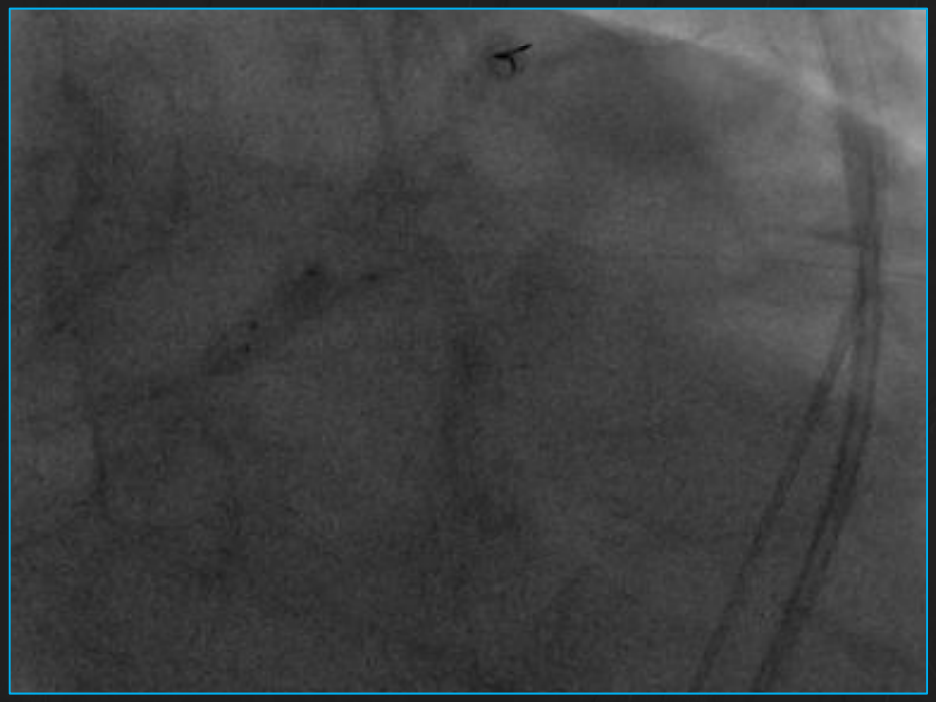
Distal Left Main Bifurcation in a Patient with Low EF

3.0mm NC Balloon to LAD

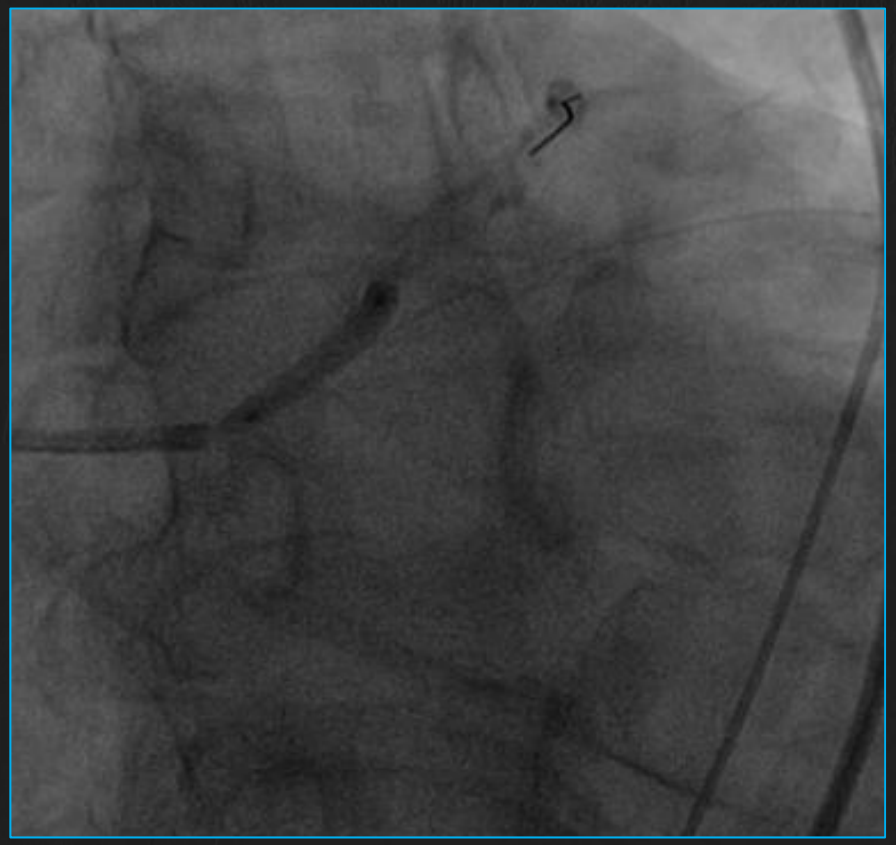
2.5 mm NC Balloon to LCX

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF



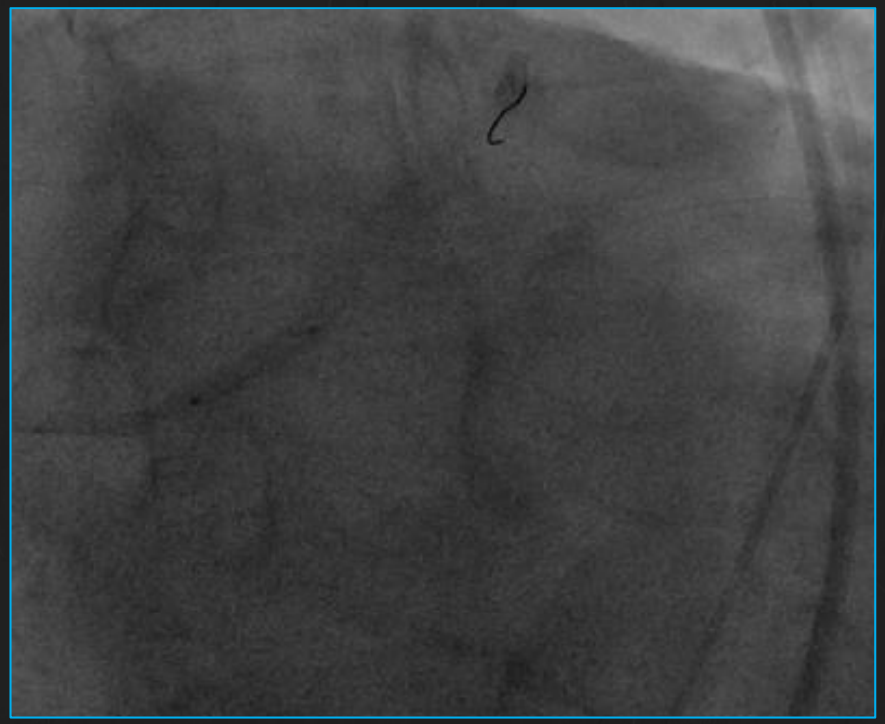
Kissing Balloon
3.0mm NC Balloon to LAD
2.5 mm NC Balloon to LCX



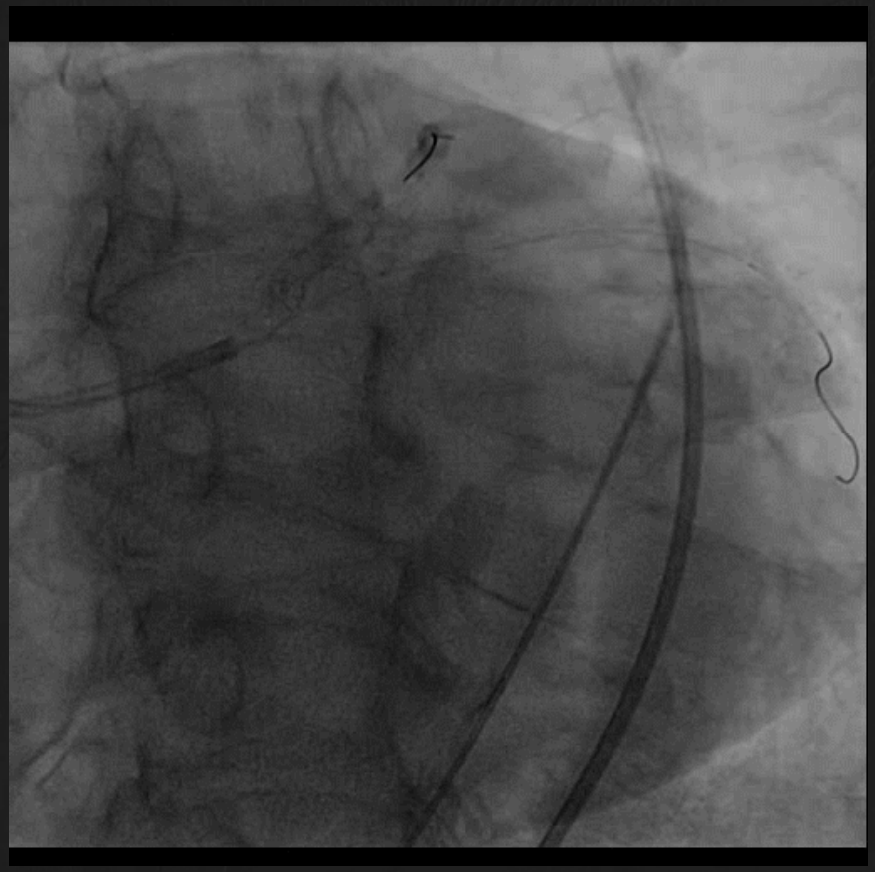
Stenting LAD
3.0 - 14 mm

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF



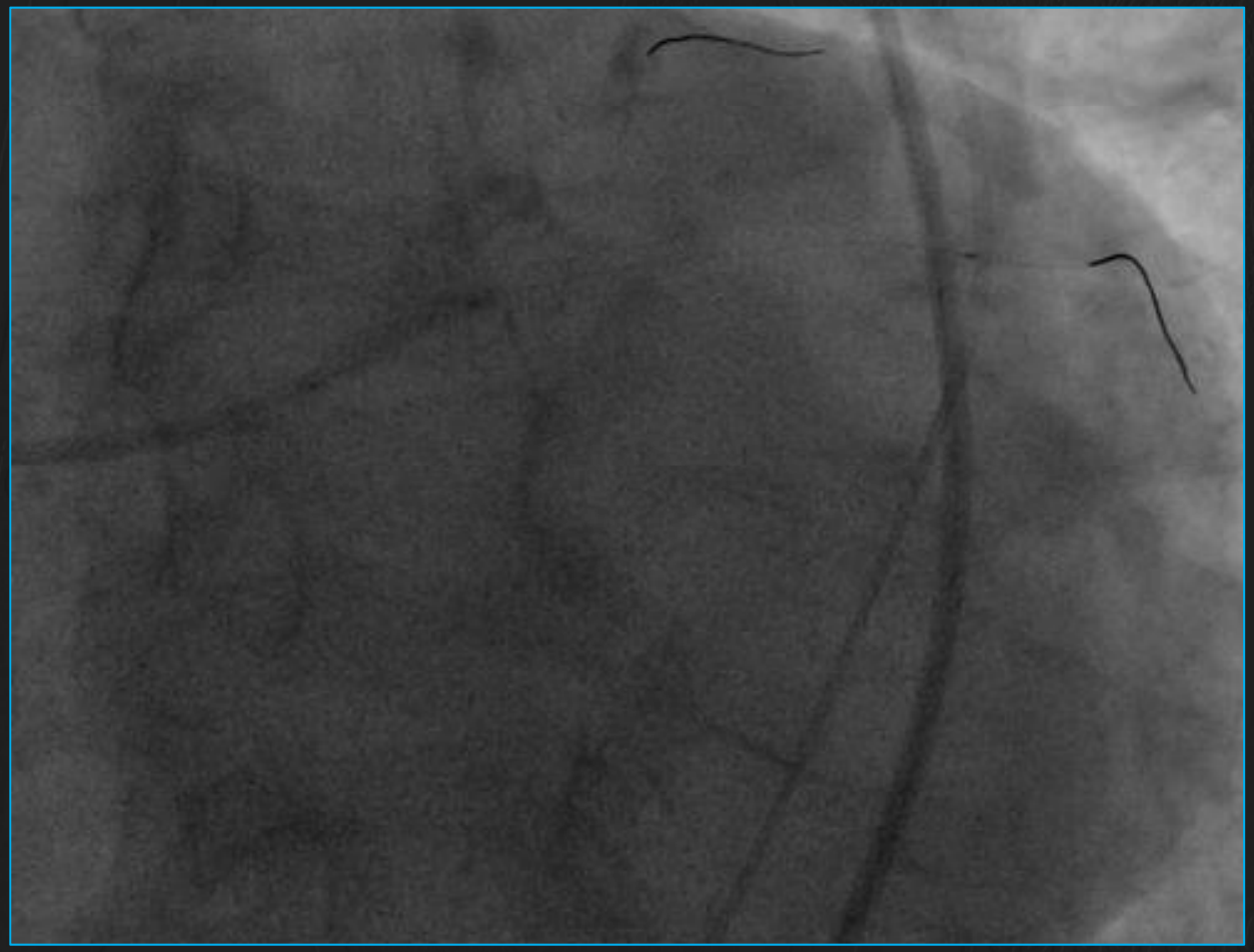
Post Dilatation
Prox-LAD Stent with
3.0 mm NC Balloon



Following LAD Post Dilatation

67198/12 HSR

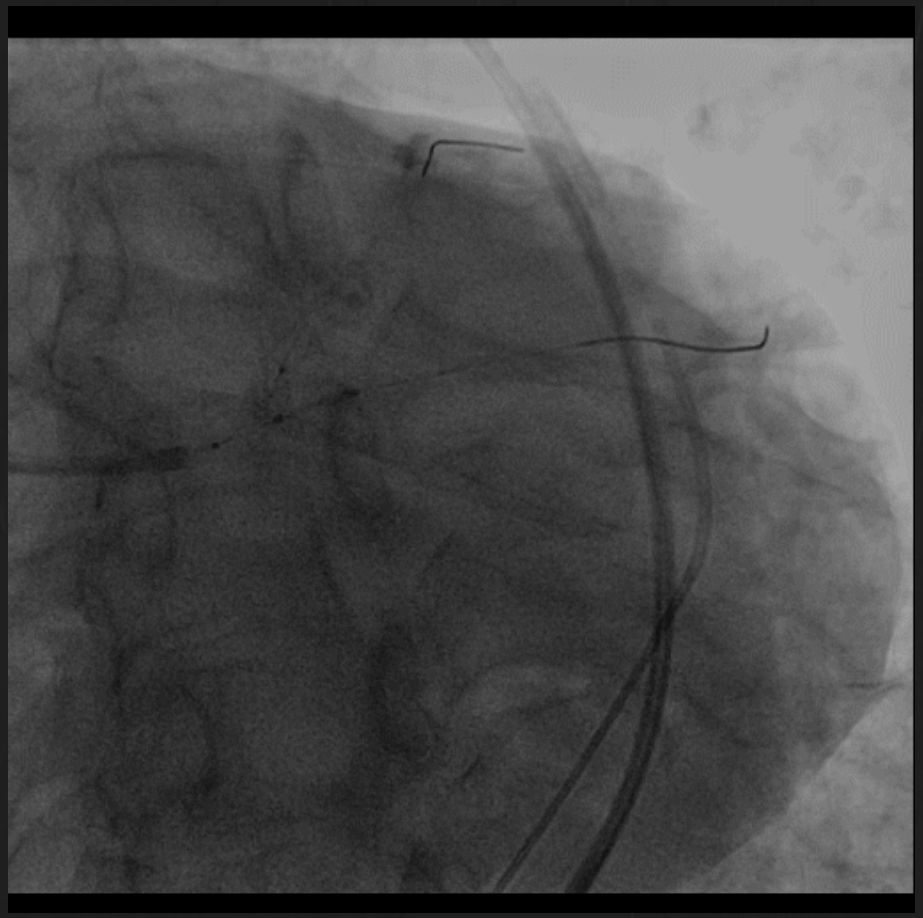
Distal Left Main Bifurcation in a Patient with Low EF

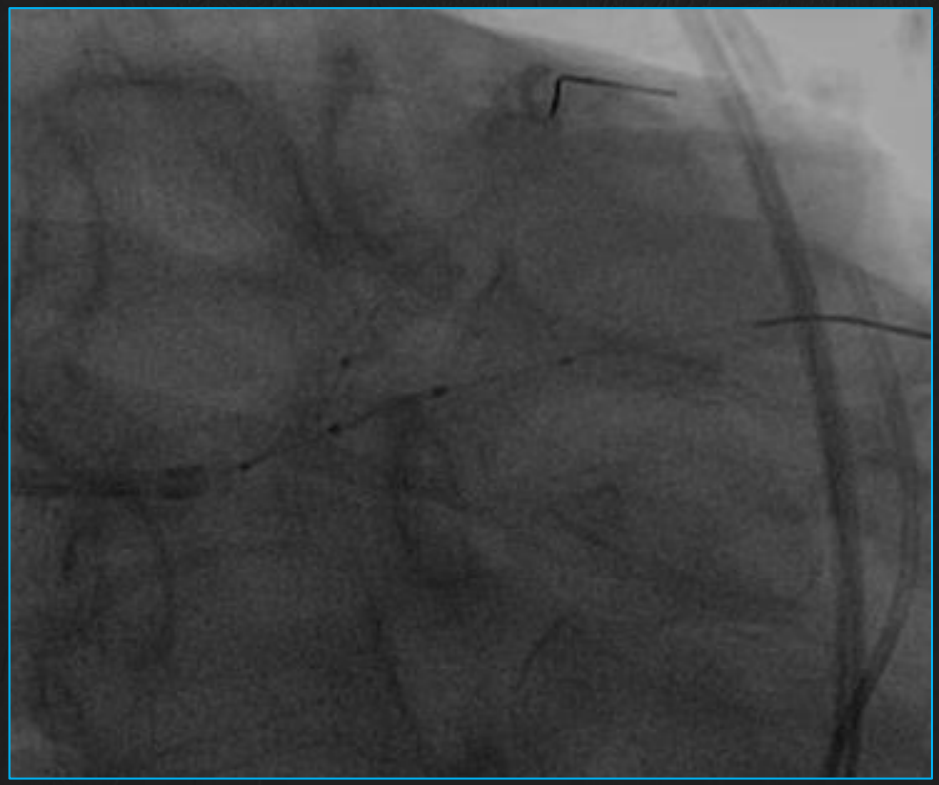


Struts open toward LCX

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF

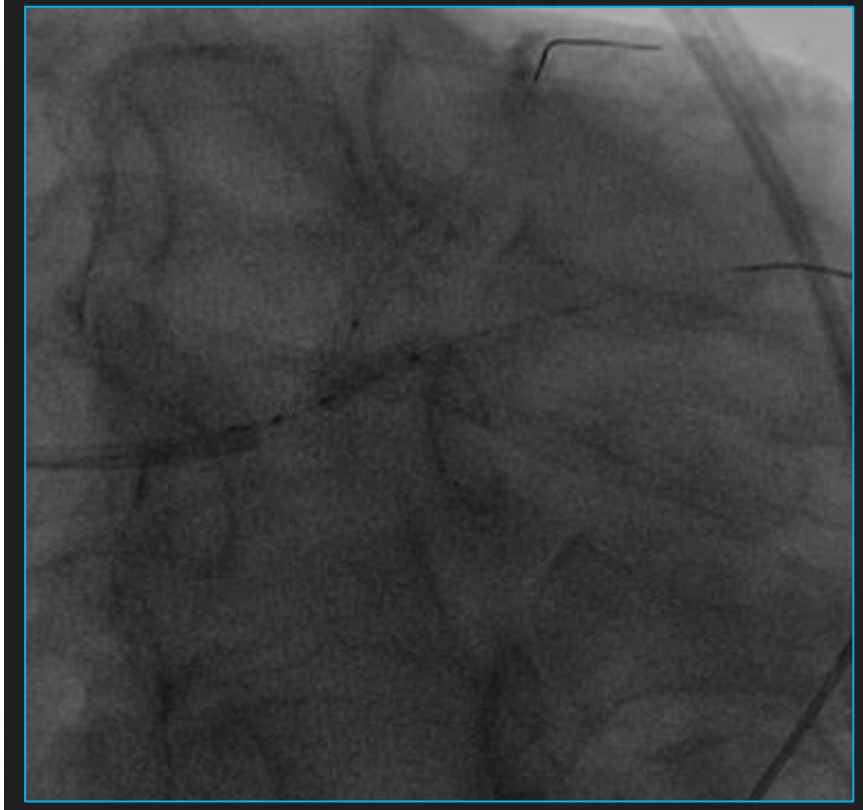




2.5 – 8 mm to LCX
With TAP Technique

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF

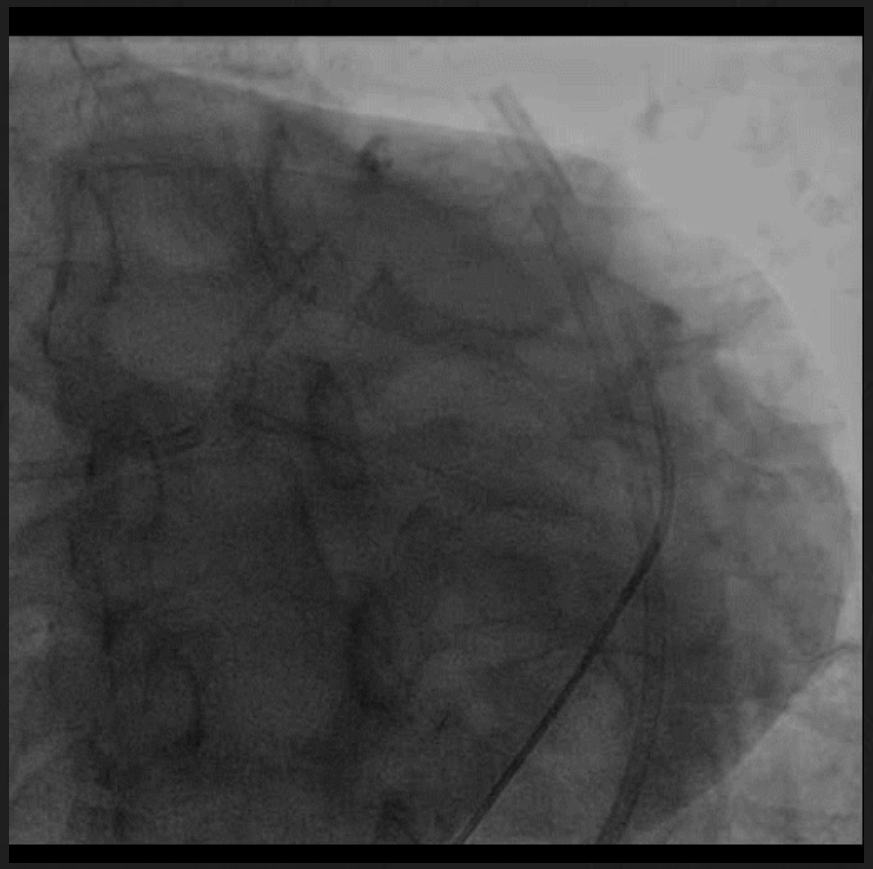


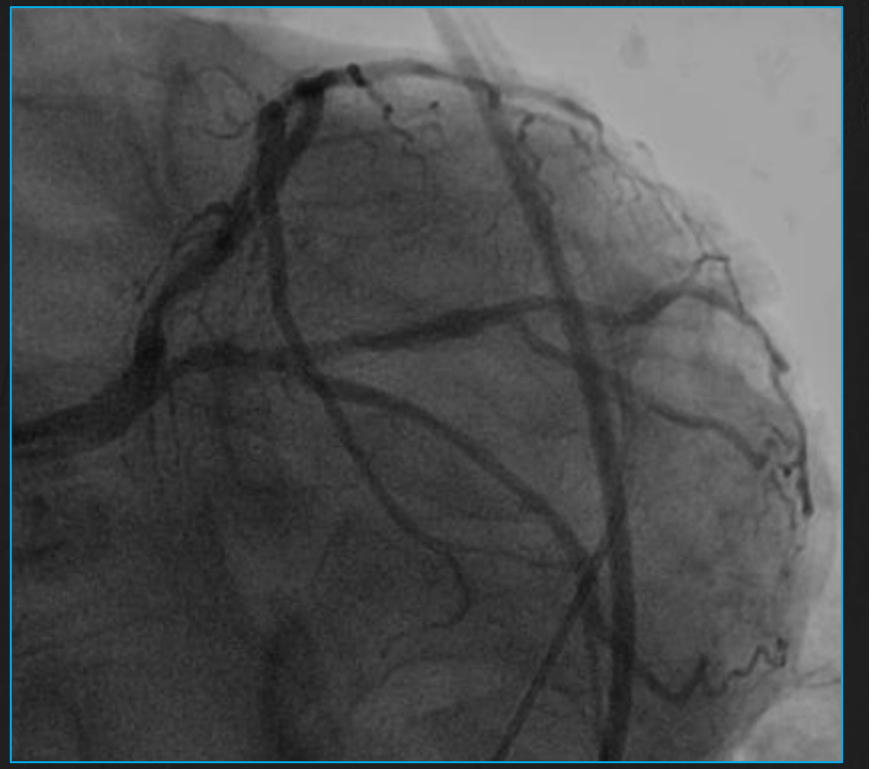
Stenting LCX

Kissing Balloon

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF

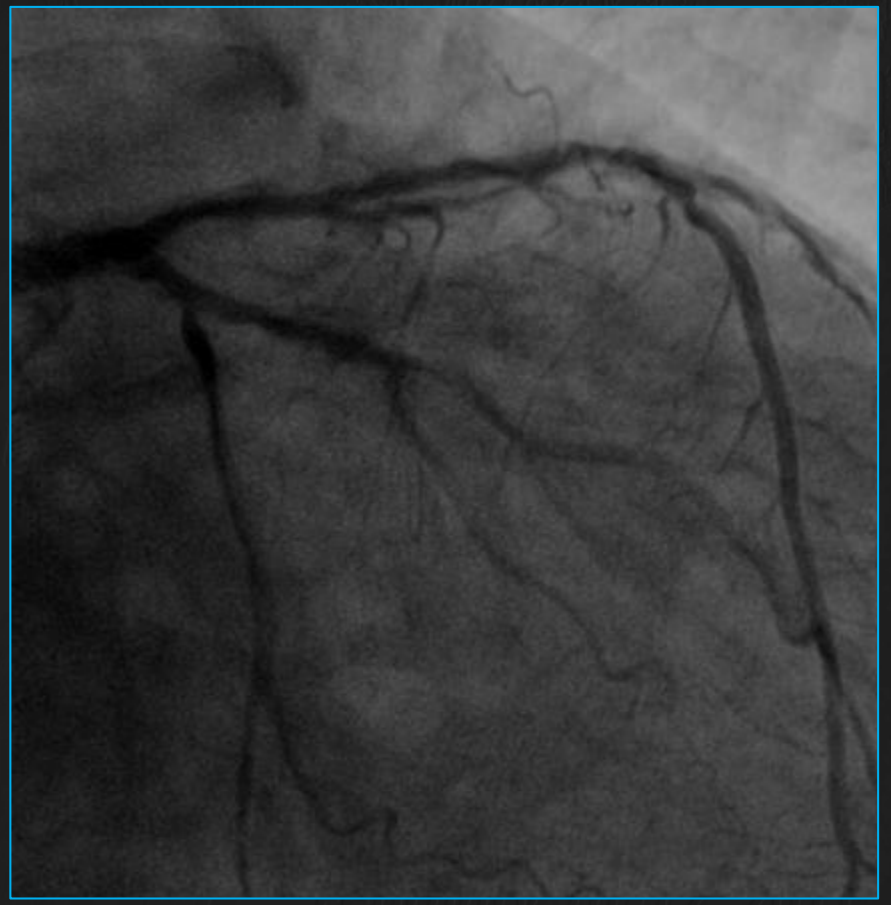




Final Result

67198/12 HSR

Distal Left Main Bifurcation in a Patient with Low EF



Final Result

67198/12 HSR

Bifurcation and Multivessel Disease

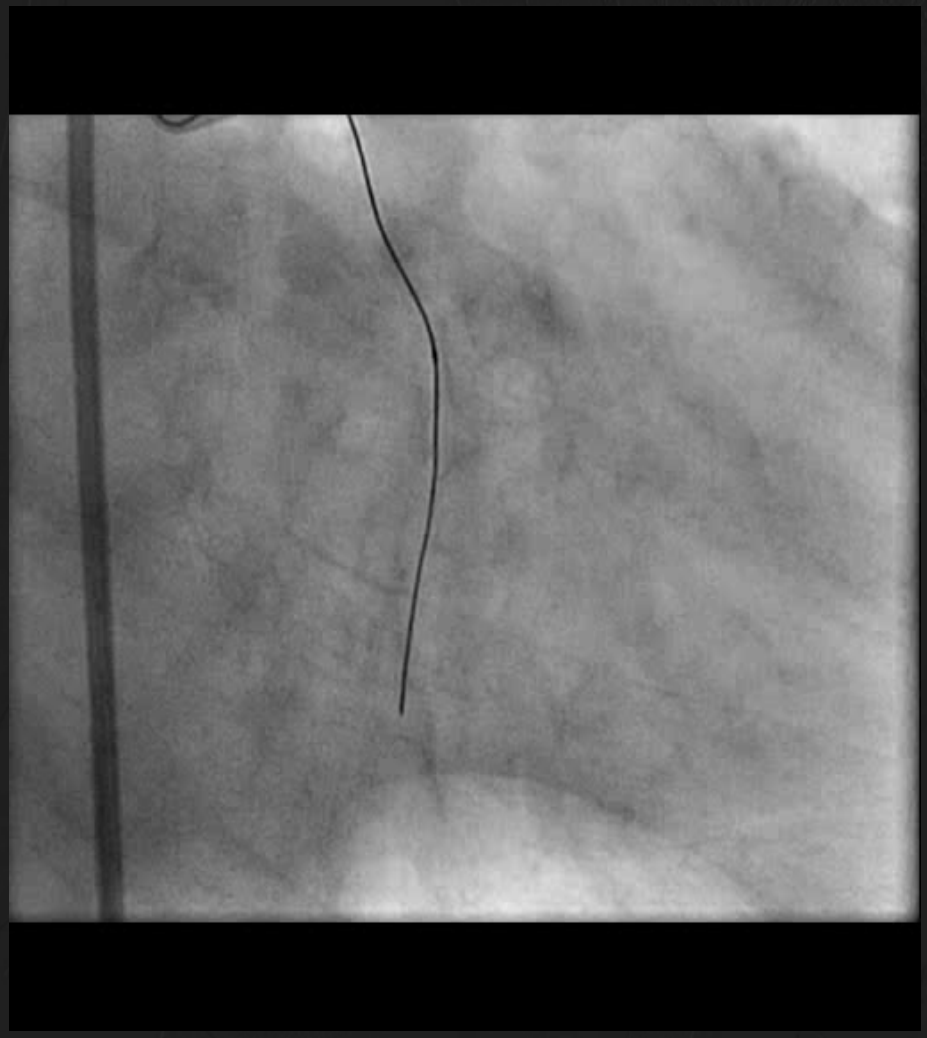
Acute Branch Occlusion and STAR reopening

Baseline

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

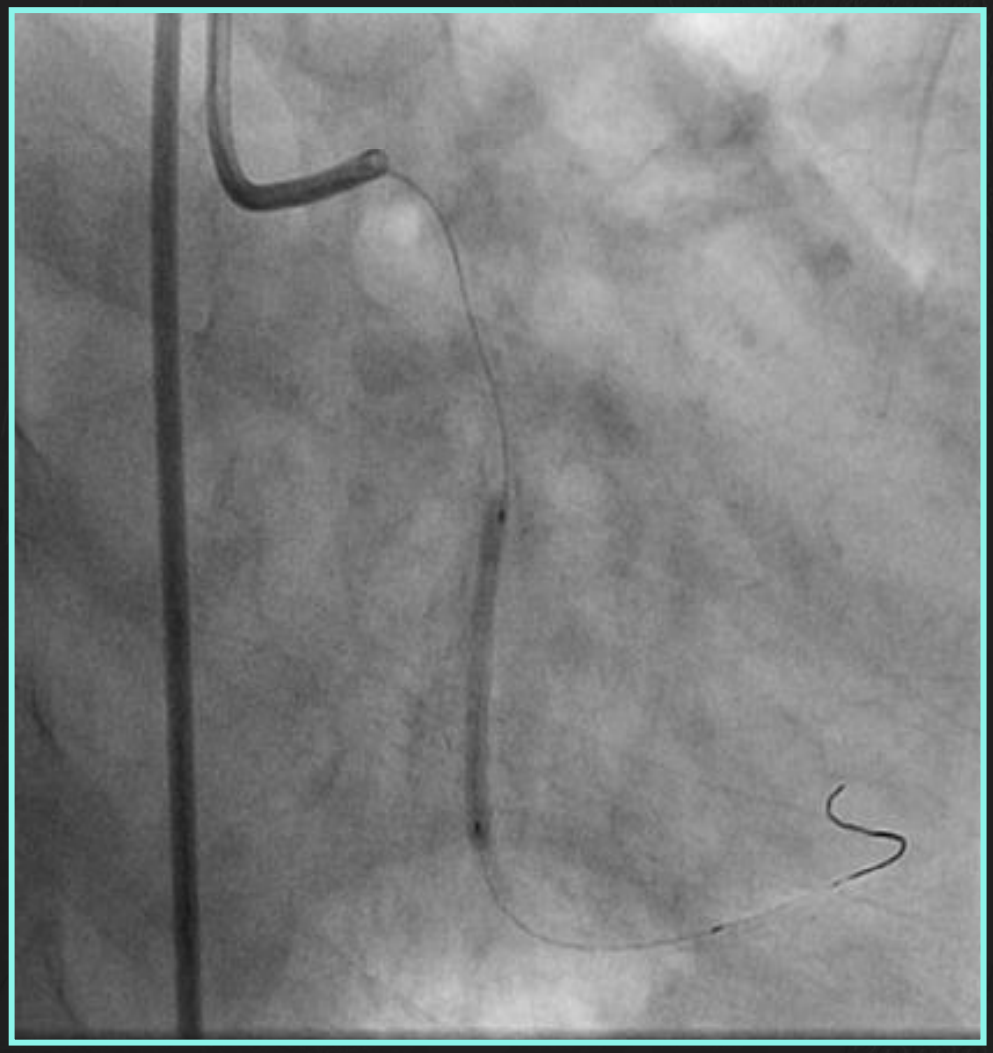


Crossing CTO with 1.5mm OTW 8 mm long and Miracle 3

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

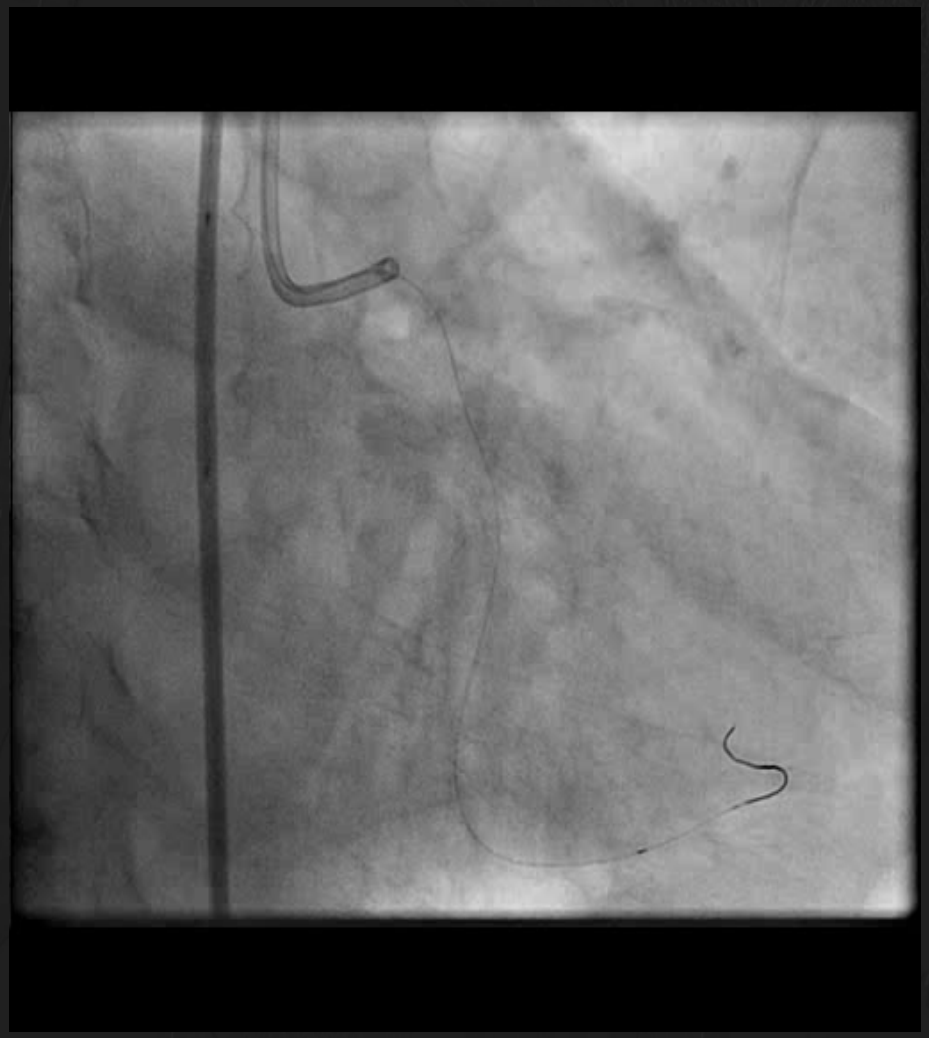


2.5x30mm 10 Atm
Predilatation

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

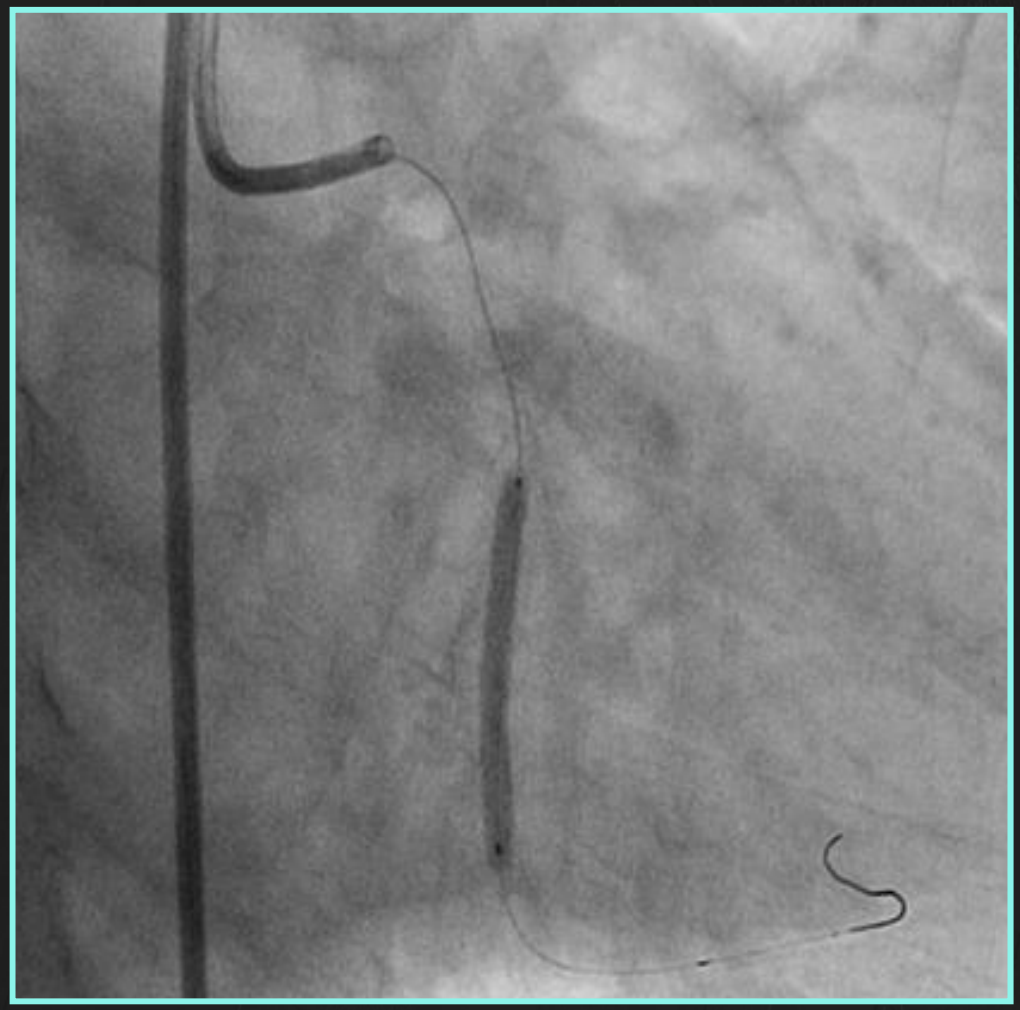


After pre-dilatation

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

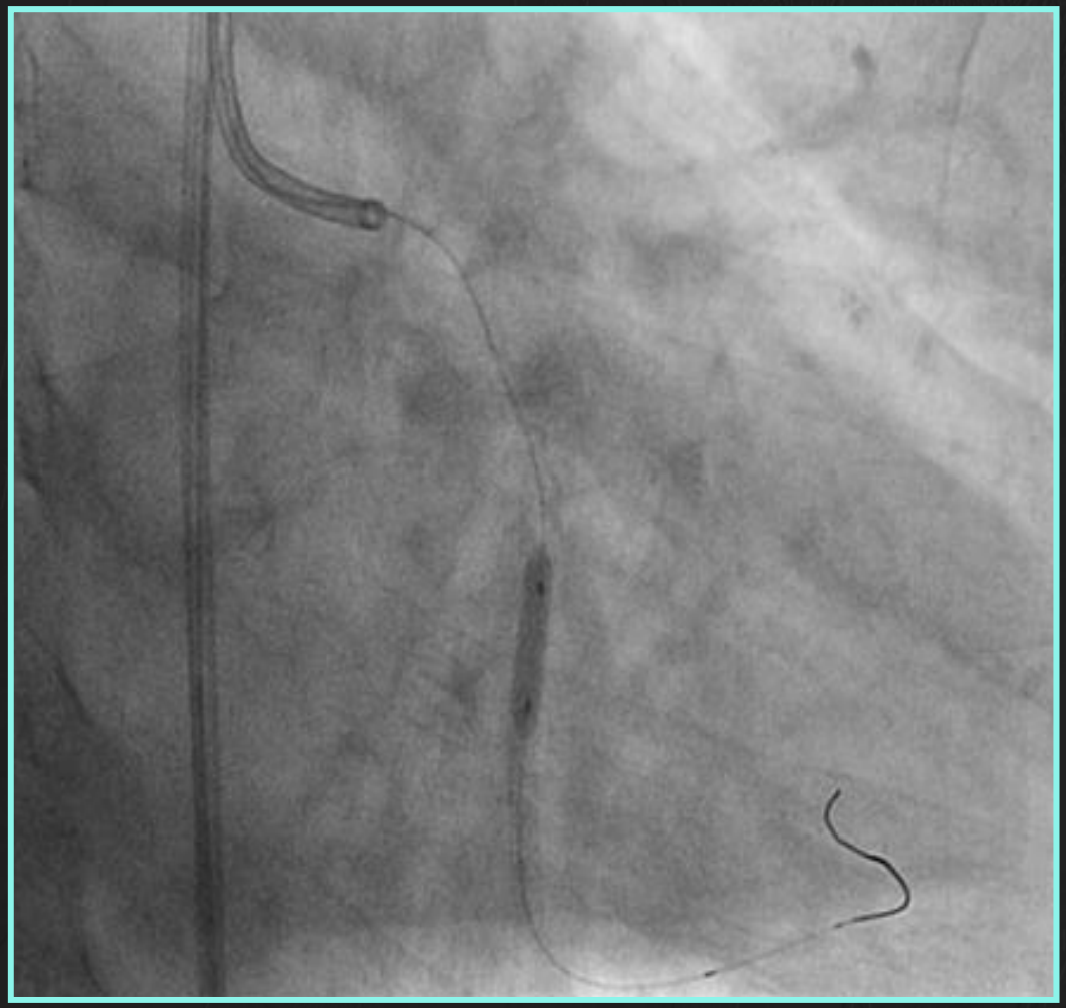


Implantation of Resolute 2.75x30mm

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

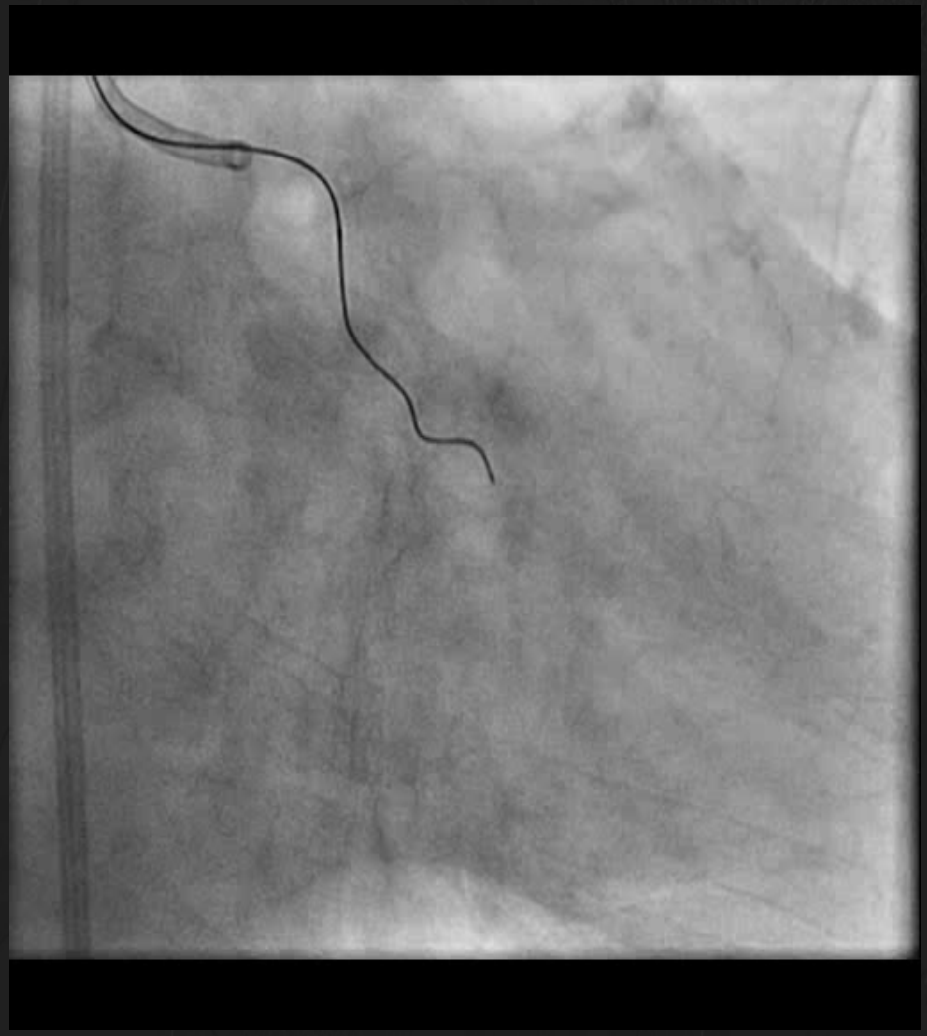


Post-dilatation Quantum 3.0mm

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

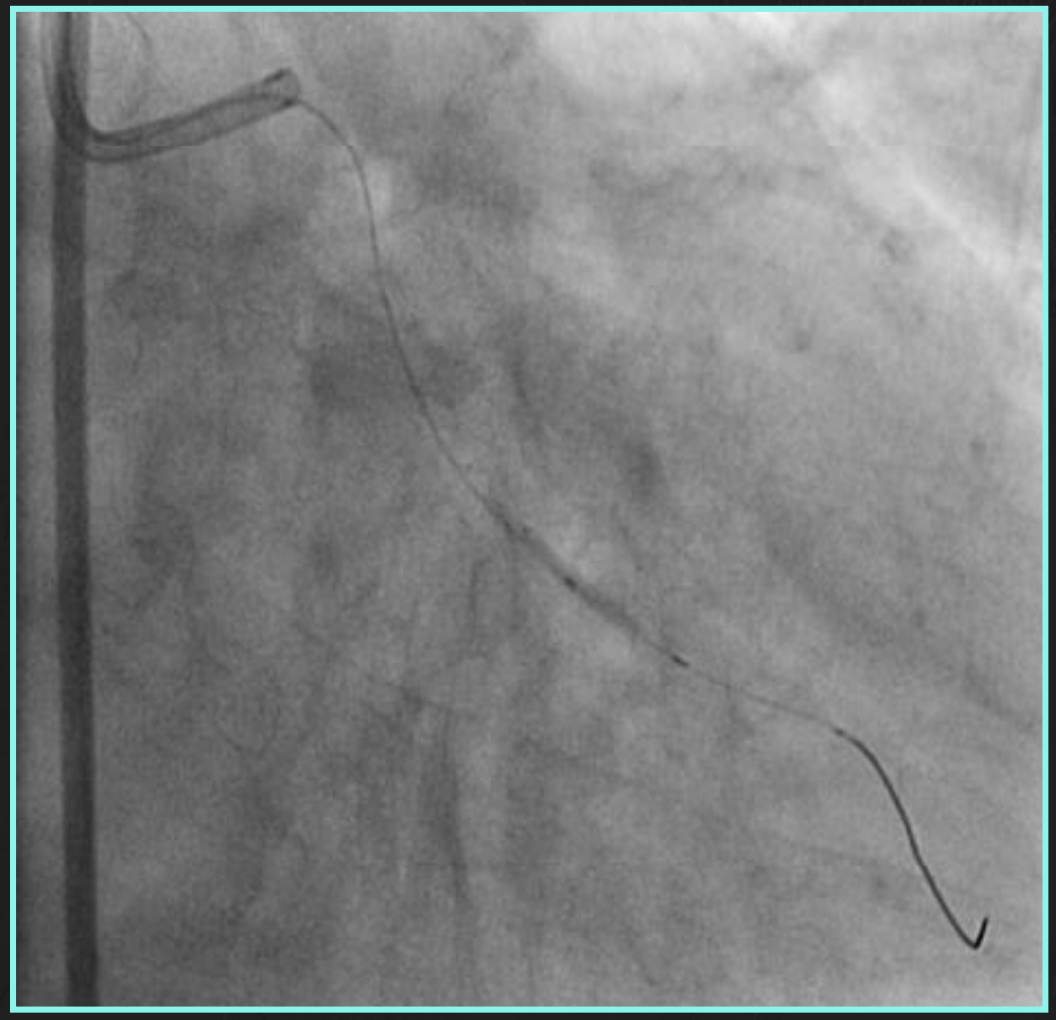


OTW 1.5x8mm with Conquest

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

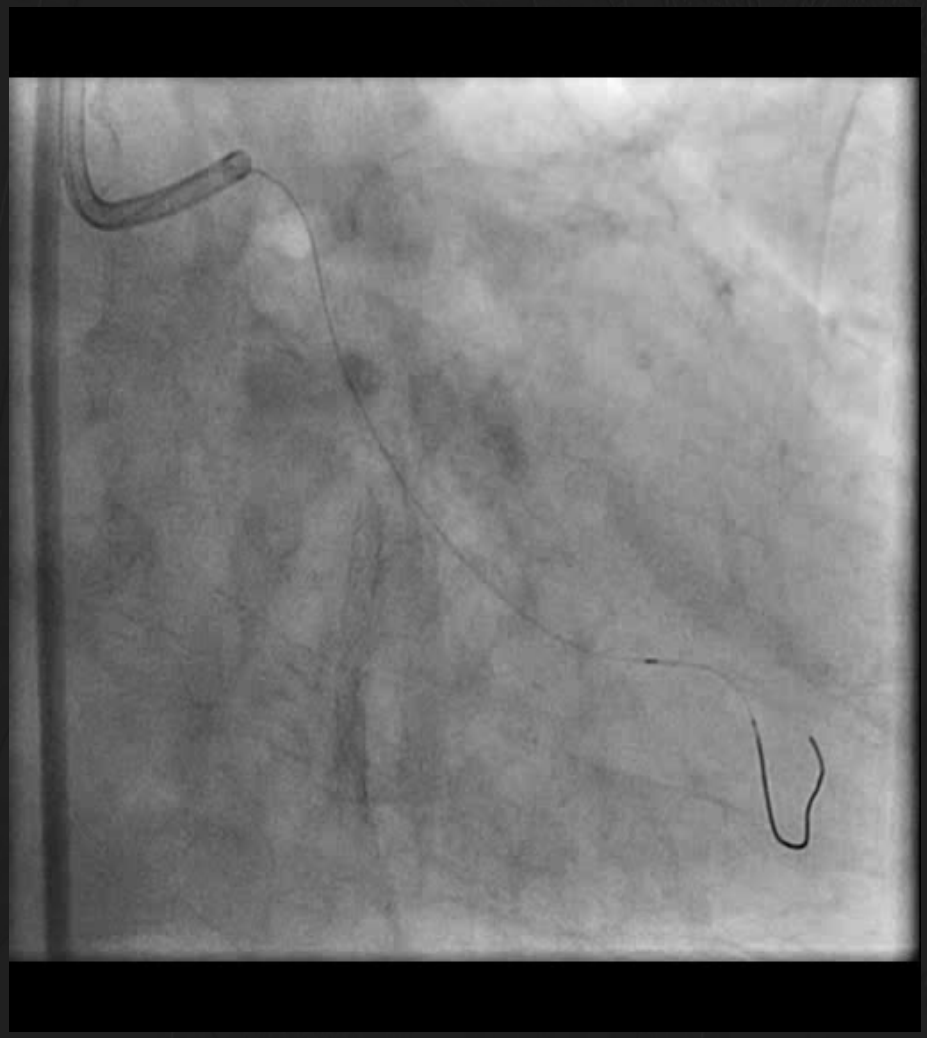


1.5mm Balloon dilatation after changing Conquest with Balance Universal

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

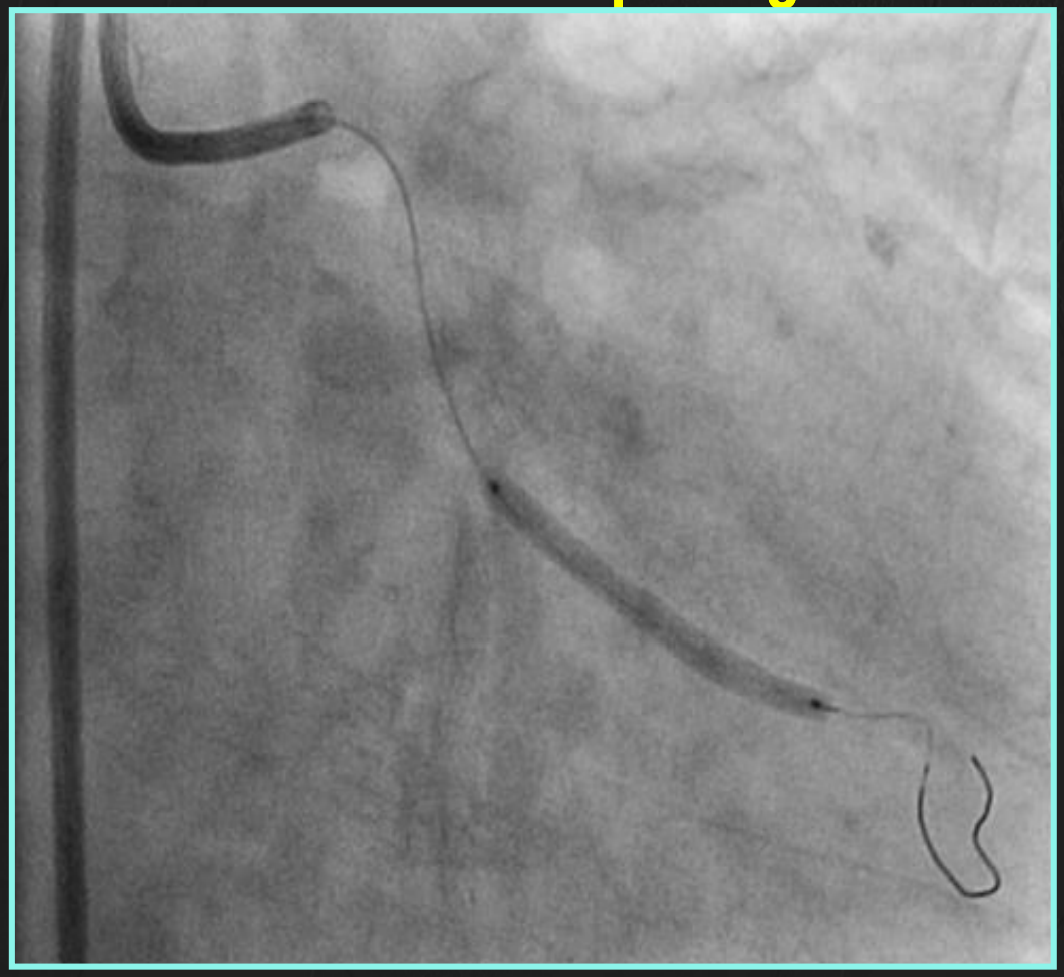


After pre-dilatation

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Resolute 2.5x30mm 12Atm

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

Following Stenting

27258/09C
CC

Bifurcation and Multivessel Disease

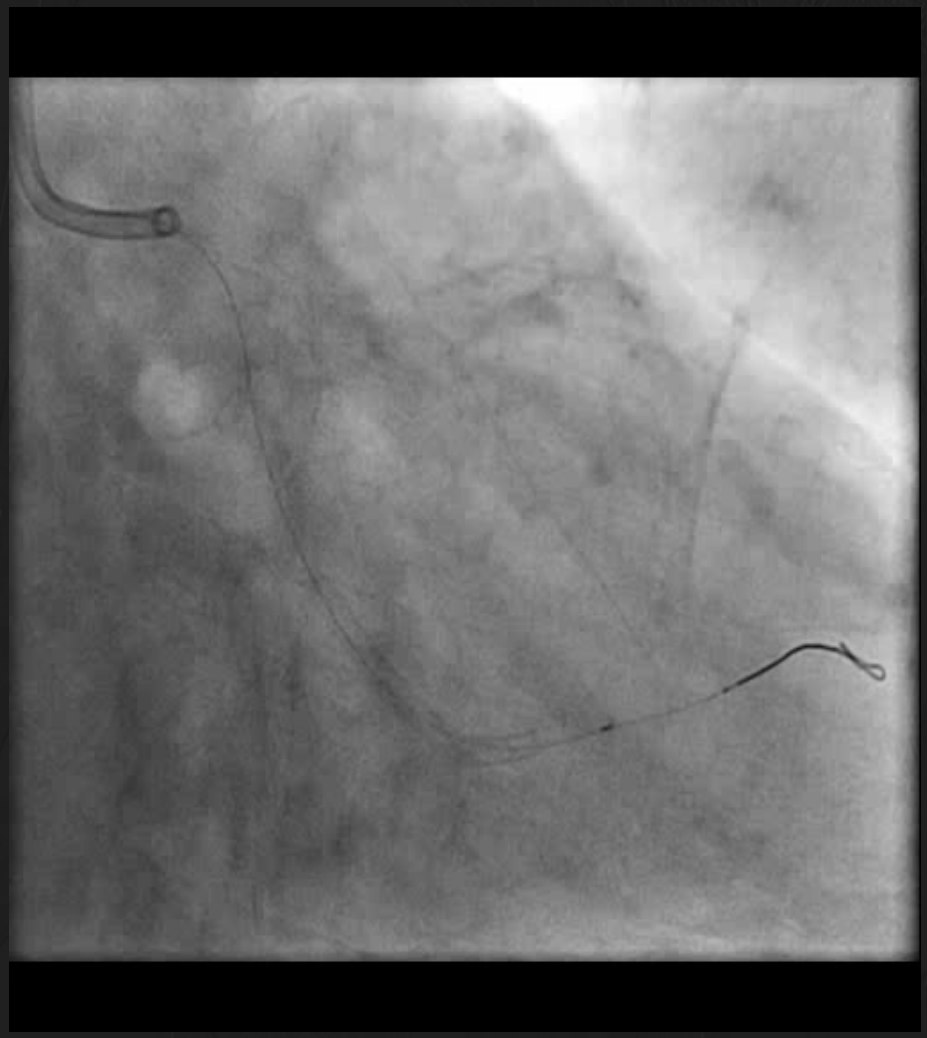
Acute Branch Occlusion and STAR reopening

2.0mm balloon low-pressure distal inflation

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Following Stent and distal inflation

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

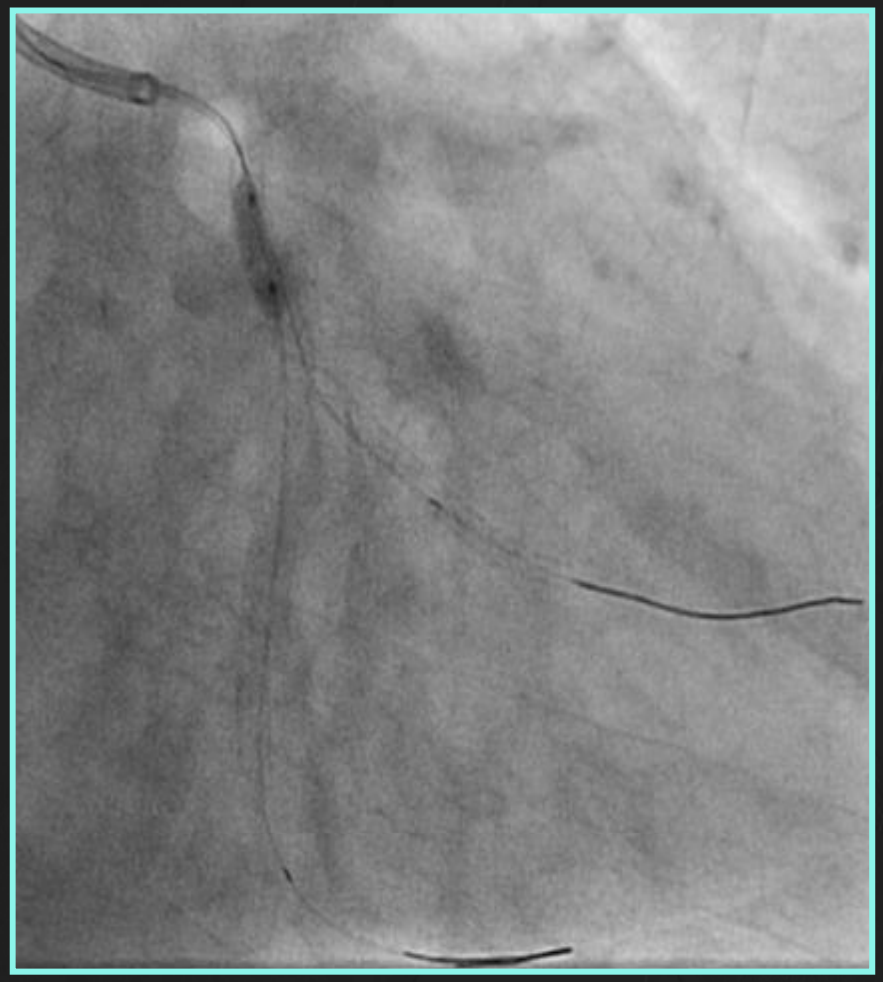
Resolute 2.75x30mm

27258/09C
CC

EMO GVM CENTRO CUORE COLUMBUS s.r.l.

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Post-dilatation
Quantum 3.0 28Atm

Kissing Maverick 2.5x30mm
10Atm

27258/09C
CC

International meeting

Bifurcation and Multivessel Disease

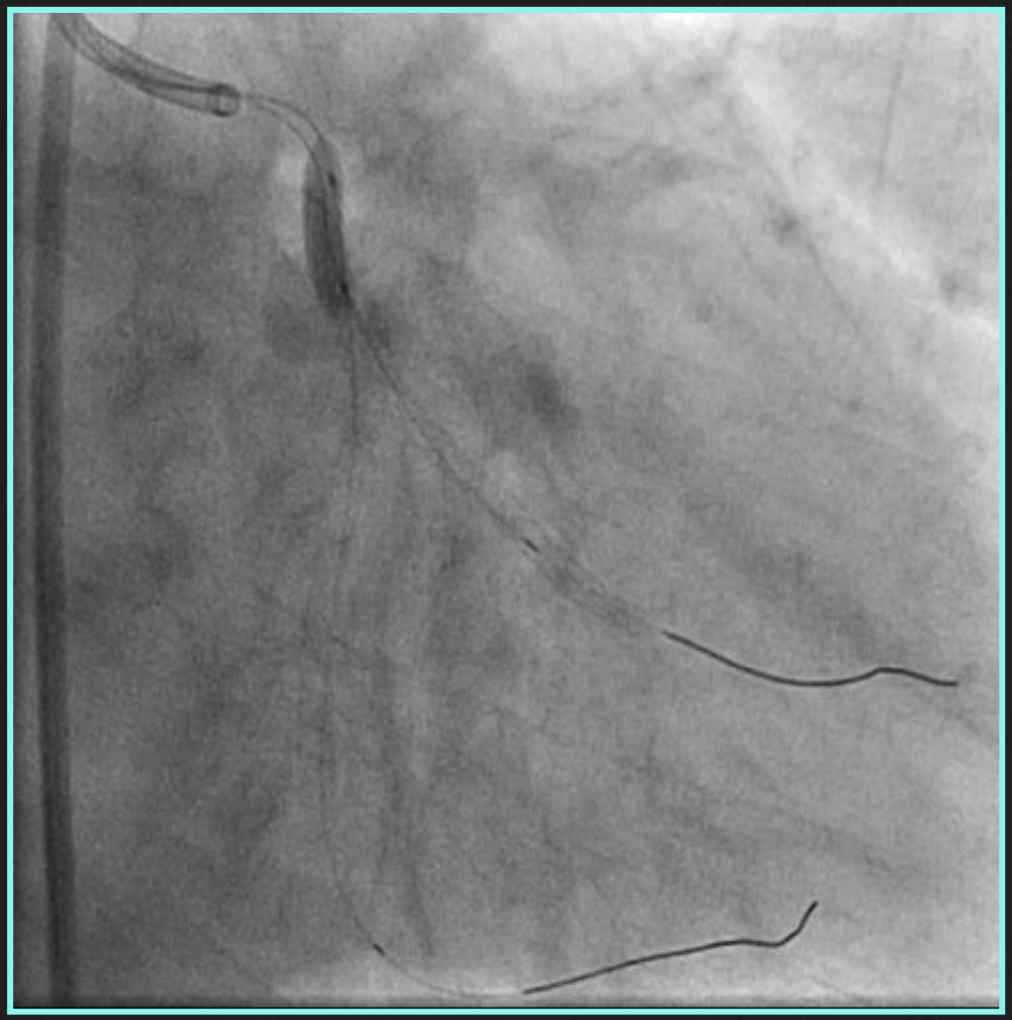
Acute Branch Occlusion and STAR reopening

After Kissing

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

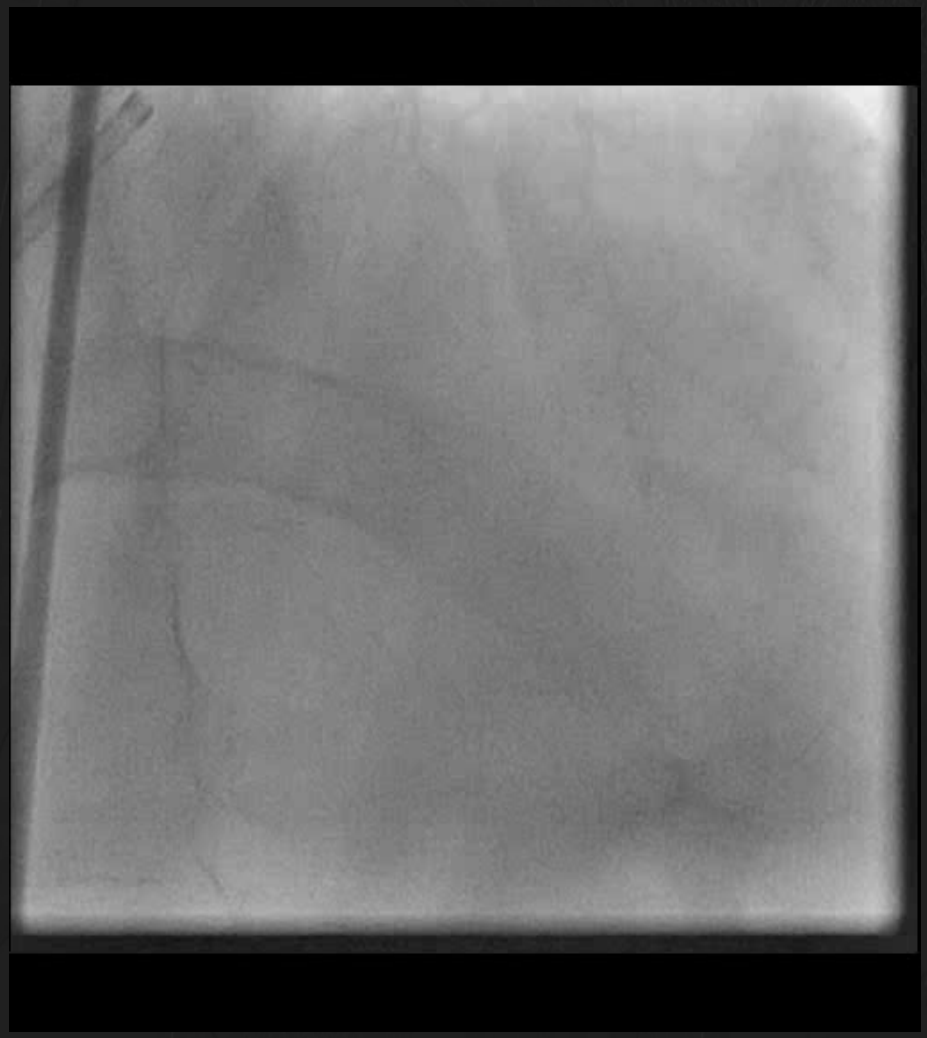


Quantum 3.5x15mm 15 Atm

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

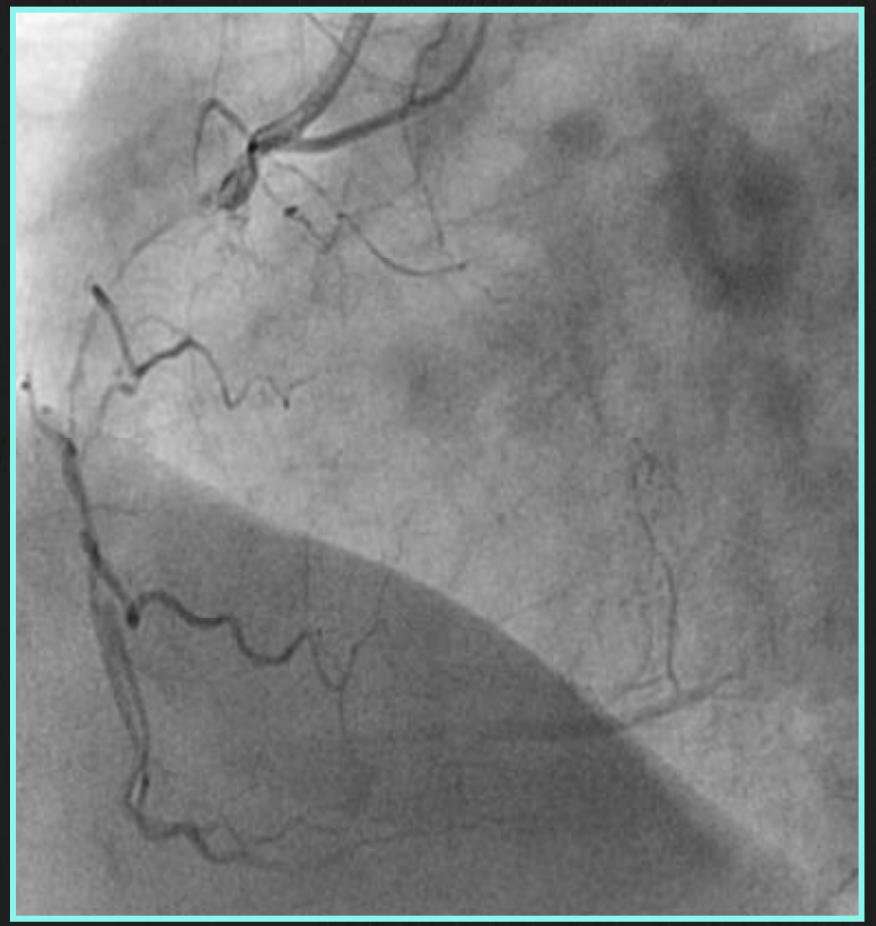


LAD to be treated after RCA Reopening

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



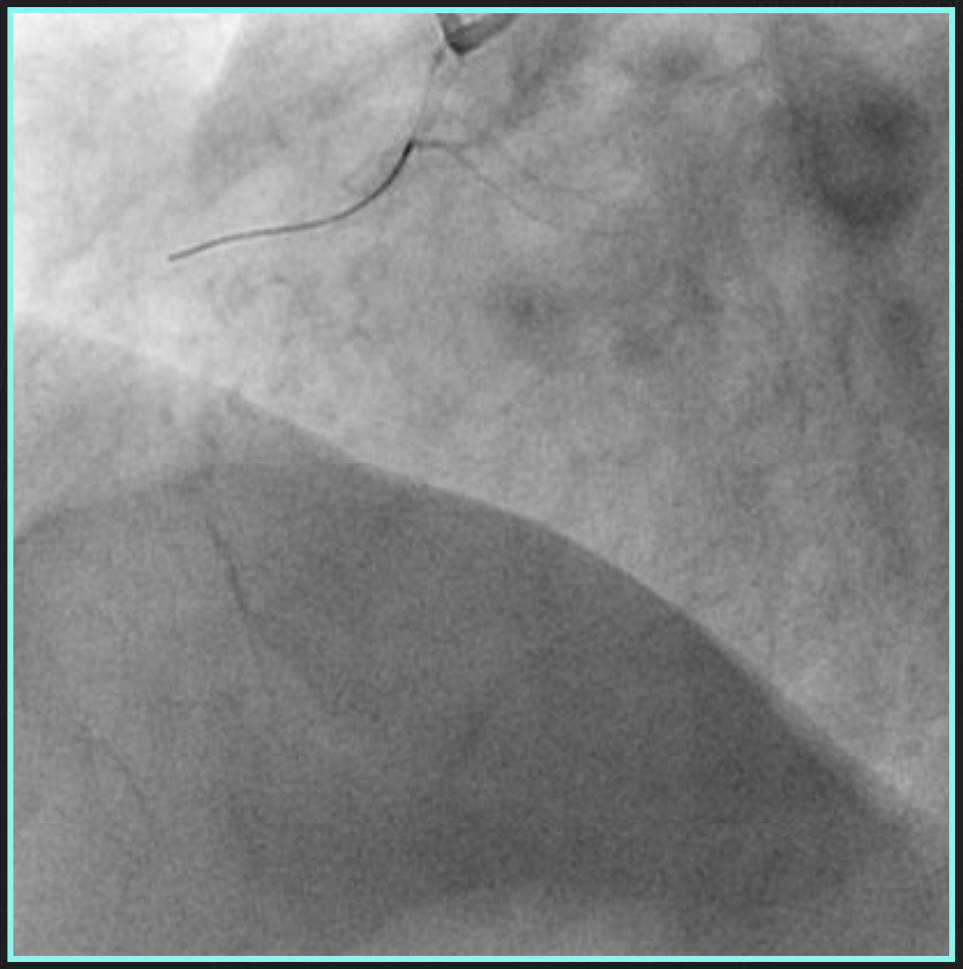
RCA Total Occlusion

27258/09C
CC

Rome, Italy
International Meeting

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



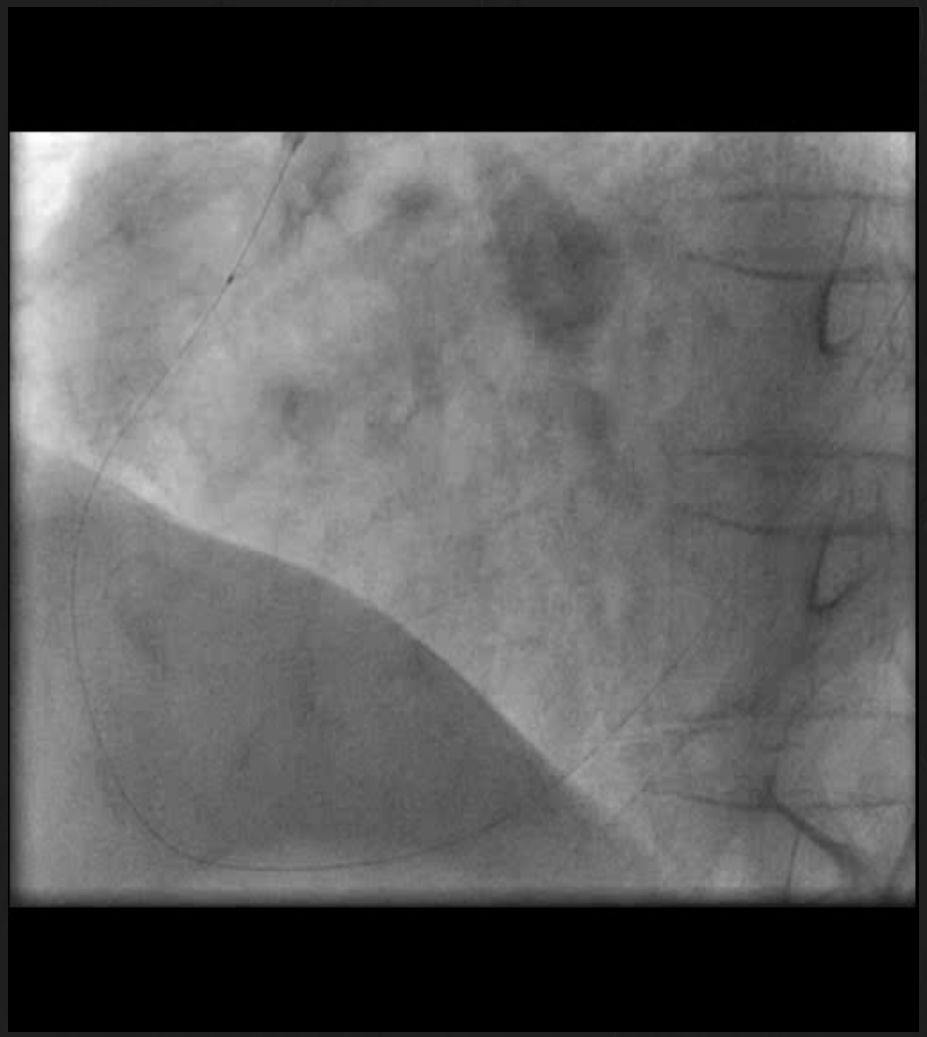
1.5x8mm OTW balloon and Universal wire

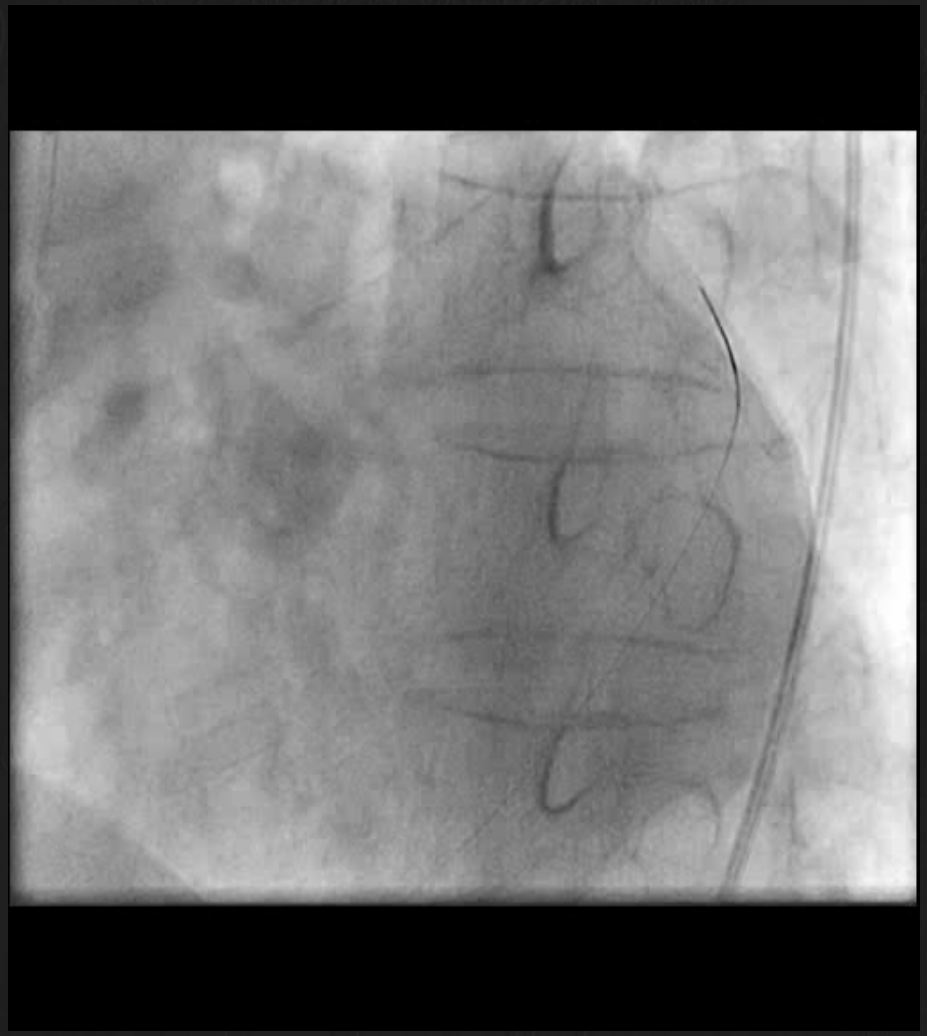
27258/09C
CC

EMO GVM CENTRO CUORE COLUMBUS s.r.l.

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening





Hydrophilic wire extraluminal and possibly in pericardial space

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

Following removal of the wire and checking extravasation

27258/09C
CC

Bifurcation and Multivessel Disease

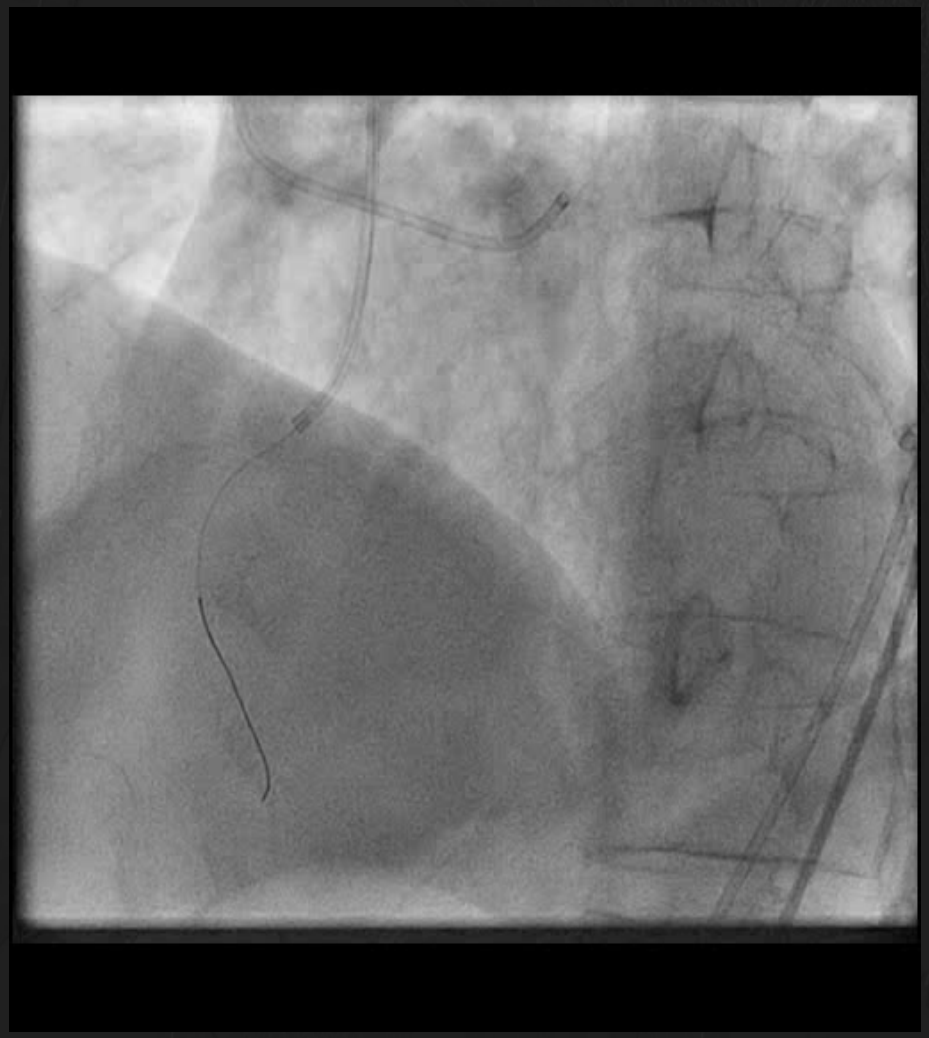
Acute Branch Occlusion and STAR reopening

Following removal of the wire and checking extravasation

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

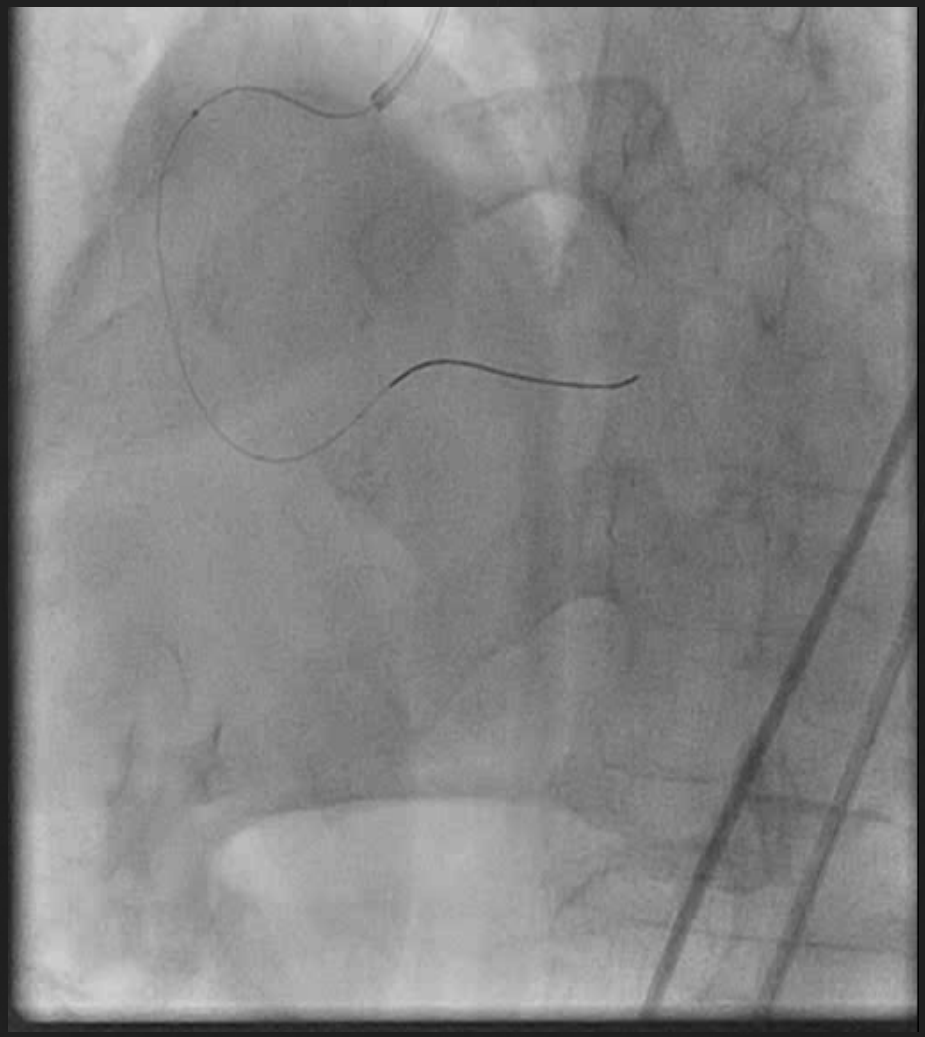


Contra-lateral injection Finecross support catheter and Intermediate wire

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

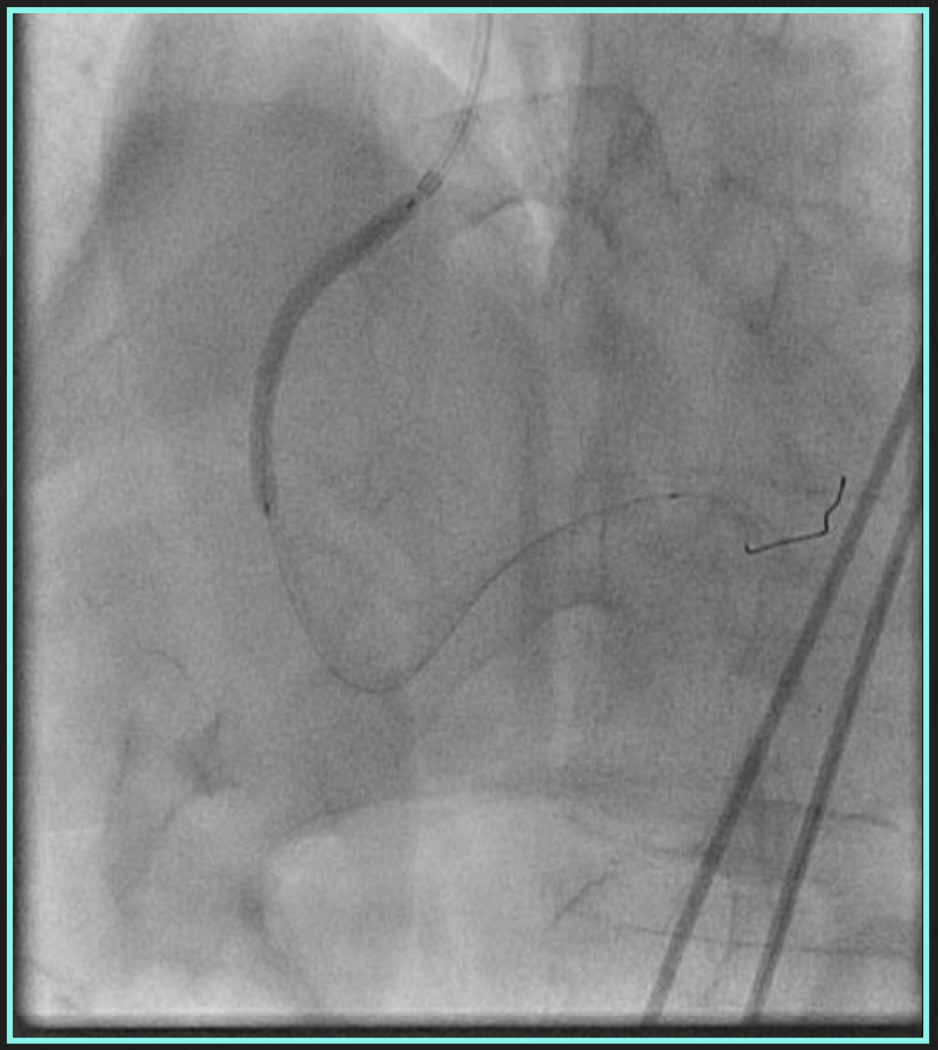


Final crossing with Intermediate wire

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Taxus 2.75x38mm

27258/09C
CC

Bifurcation and Multivessel Disease

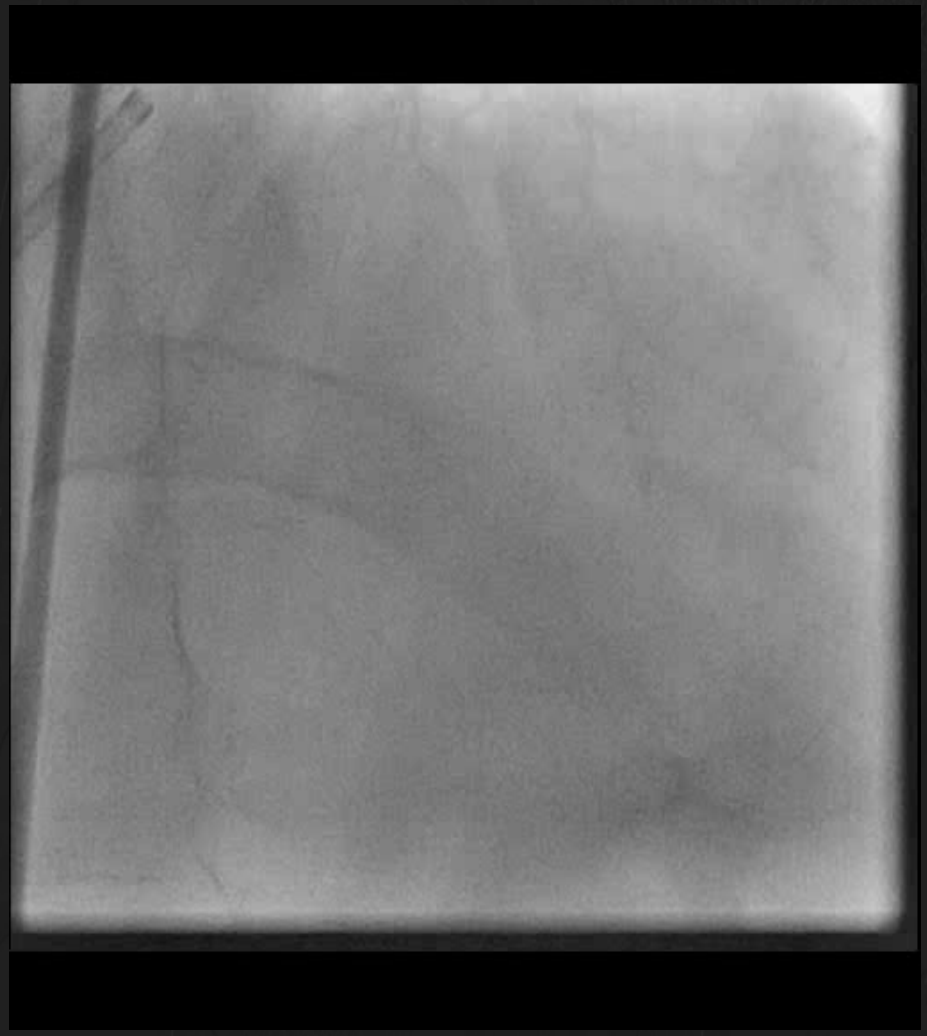
Acute Branch Occlusion and STAR reopening

After stenting RCA prox and mid

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Baseline LAD

27258/09C
CC

Bifurcation and Multivessel Disease

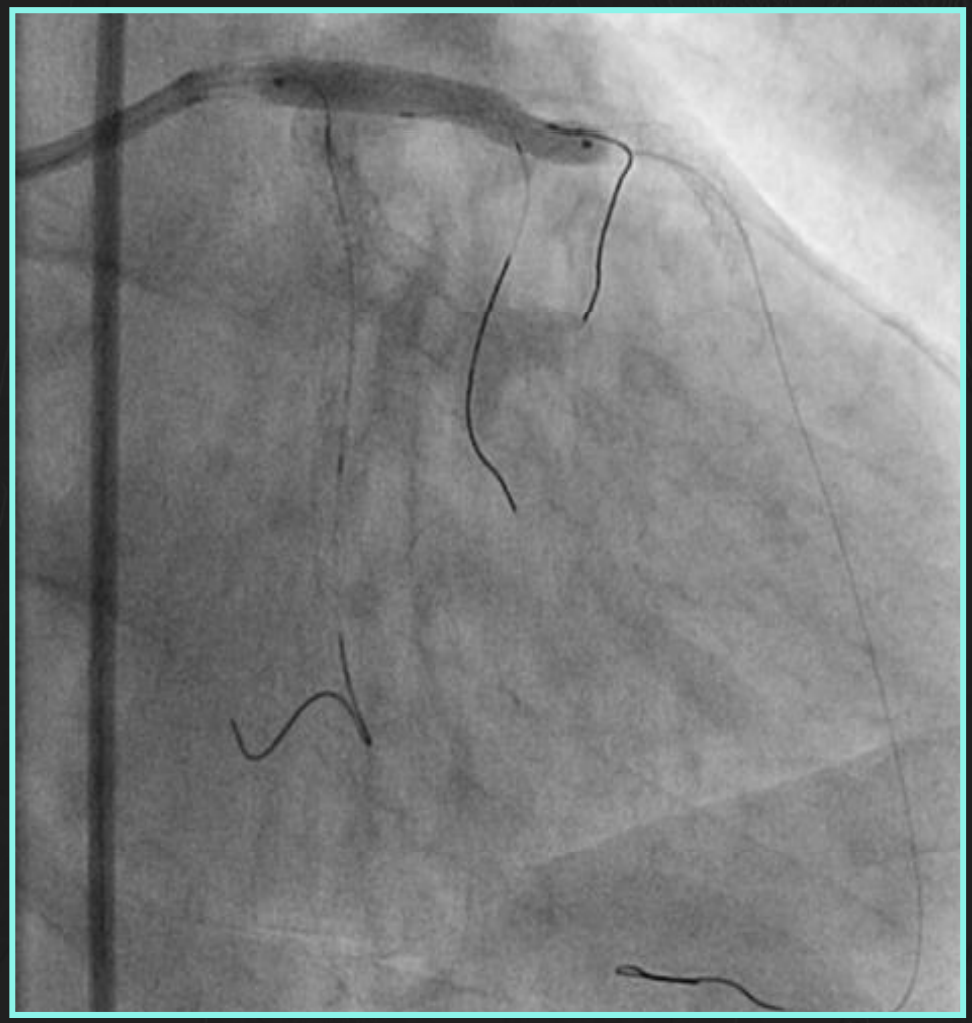
Acute Branch Occlusion and STAR reopening

Resolute 2.75x30 mm

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

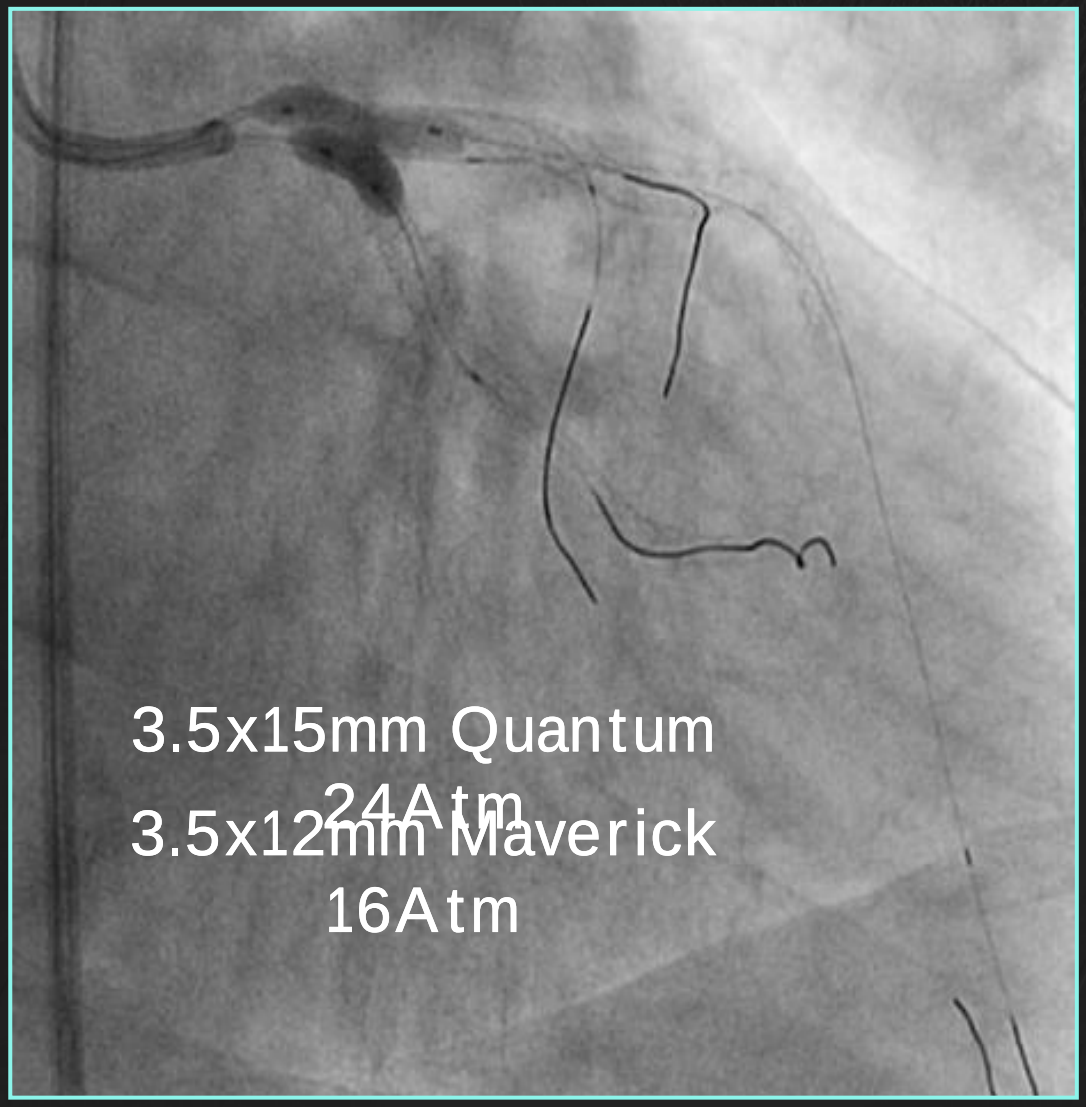


Resolute 4.0x30 mm

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

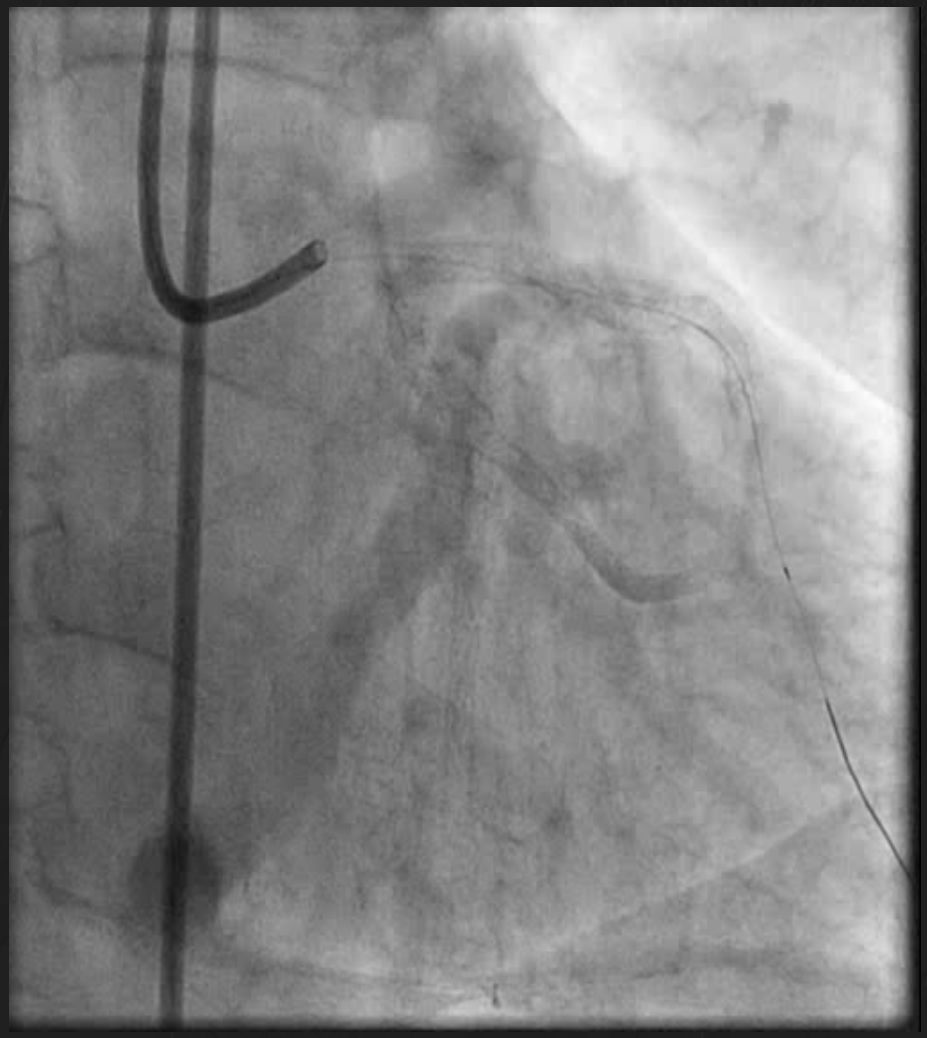


Kissing Balloon

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Occlusion Distal MO (PTCA site)

27258/09C
CC

Bifurcation and Multivessel Disease

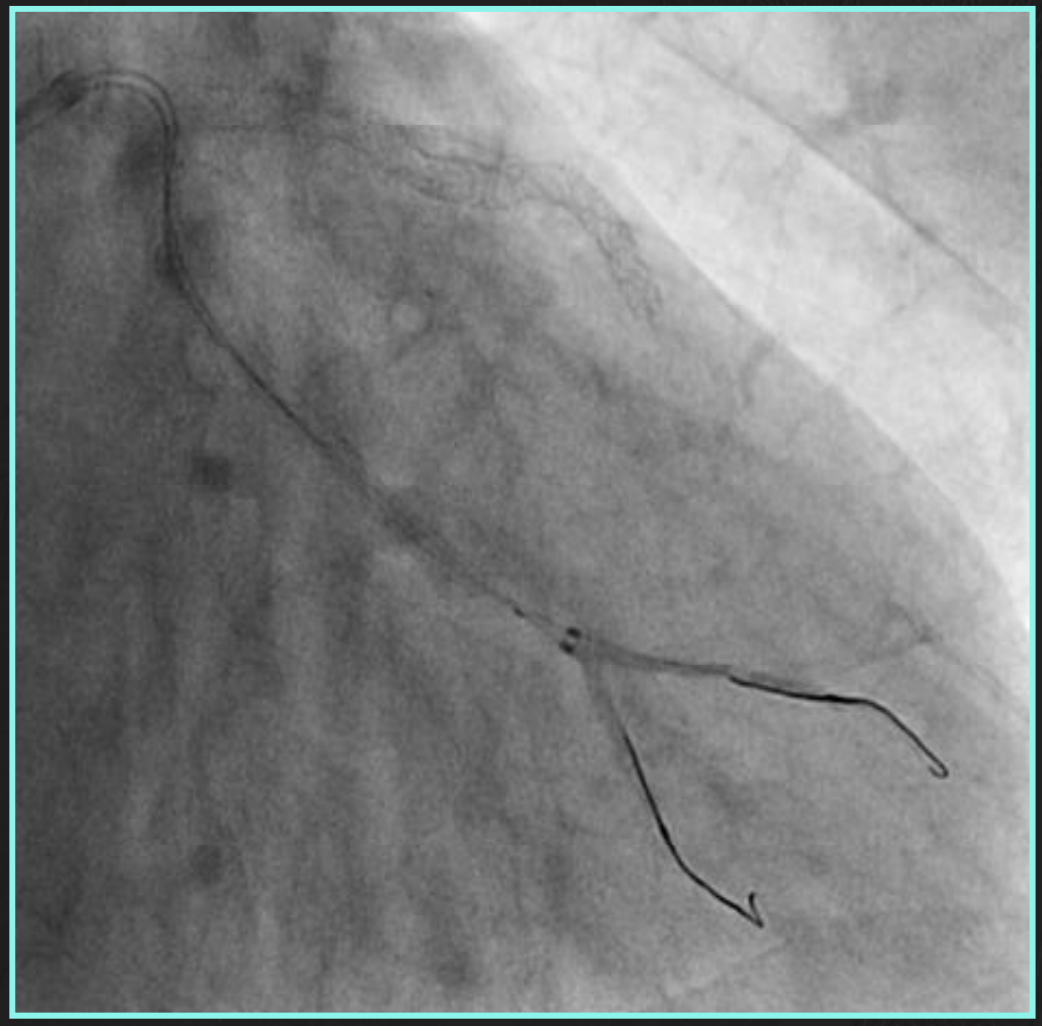
Acute Branch Occlusion and STAR reopening

Impossibility to cross in the true lumen
STAR on both branches distal OM

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening



Kissing Balloon after STAR

27258/09C
CC

Bifurcation and Multivessel Disease

Acute Branch Occlusion and STAR reopening

Final result on distal OM with clear STAR dissection on both distal branches

27258/09C
CC