

Complete Revascularization with Atherectomy and Left Main Bifurcation Stenting in an Acute Myocardial Infarction Patient

Carl Dominic P. Tolentino, MD

*Cardiovascular Institute, The Medical City
Philippines*

Objective

- Present a challenging combination of complex calcified left main bifurcation in a high-risk ACS setting

Salient Features

- Patient: AG, 77-year old diabetic male
- Chief Complaint: Dyspnea and angina of acute onset
- 12-L ECG: Inferolateral wall ST depression
- Troponin: elevated
- Echocardiogram: global hypokinesia with depressed
- Diagnosis: NSTEMI-ACS
- Plan: Early Invasive Therapy; but did not consent
- Day 2 of medical therapy: progressive dyspnea and hypotension

CORONARY ANGIOGRAPHY AND INTERVENTION

Left Coronaries

LM: 50-60% mid stenosis

LCx: 80% ostial, 90% distal; OM1 70% ostial, OM4 90% proximal stenoses

LAD: diffuse and calcified 80% proximal, 70% mid, 90% distal stenoses



Right Coronaries

RCA: diffuse 80-90% ostioproximal, 60-70% distal; PDA 50-60% mid stenoses



Right Coronary Artery

Guide: 6F JR4

Guidewire: Asahi Sion Blue

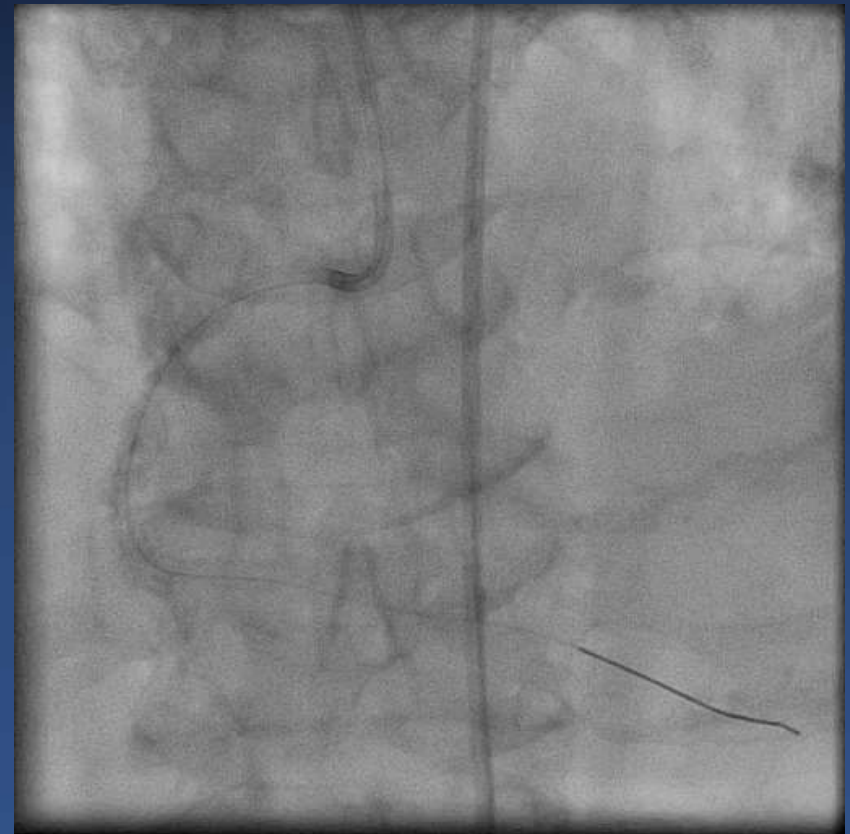
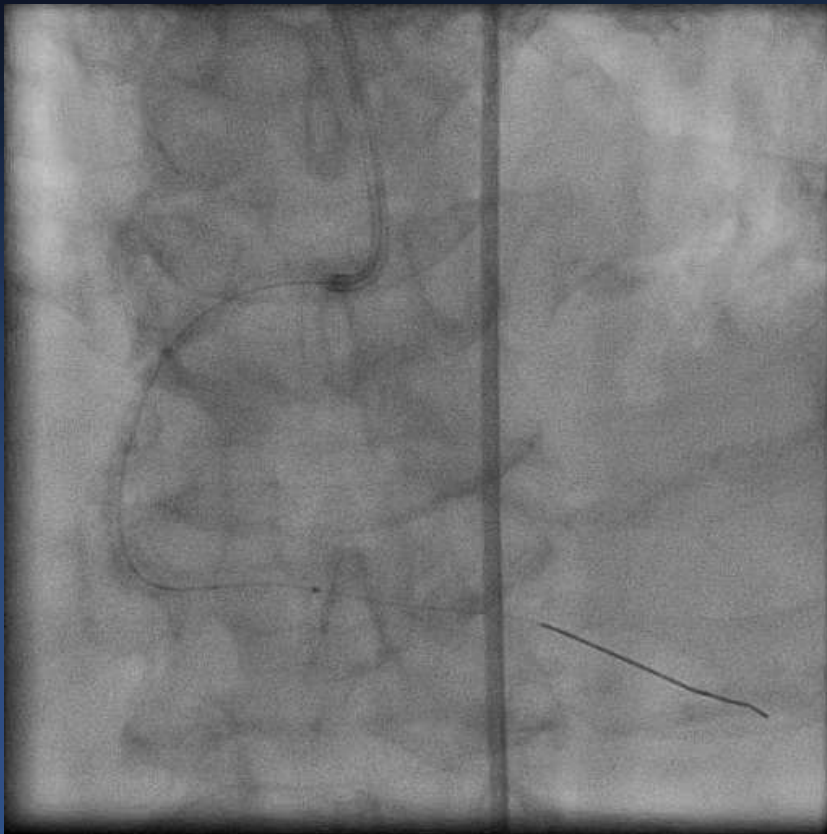
**Predilation: 2.0 x 20 mm com-
pliant balloon at 10-16 ATM**



Right Coronary Artery

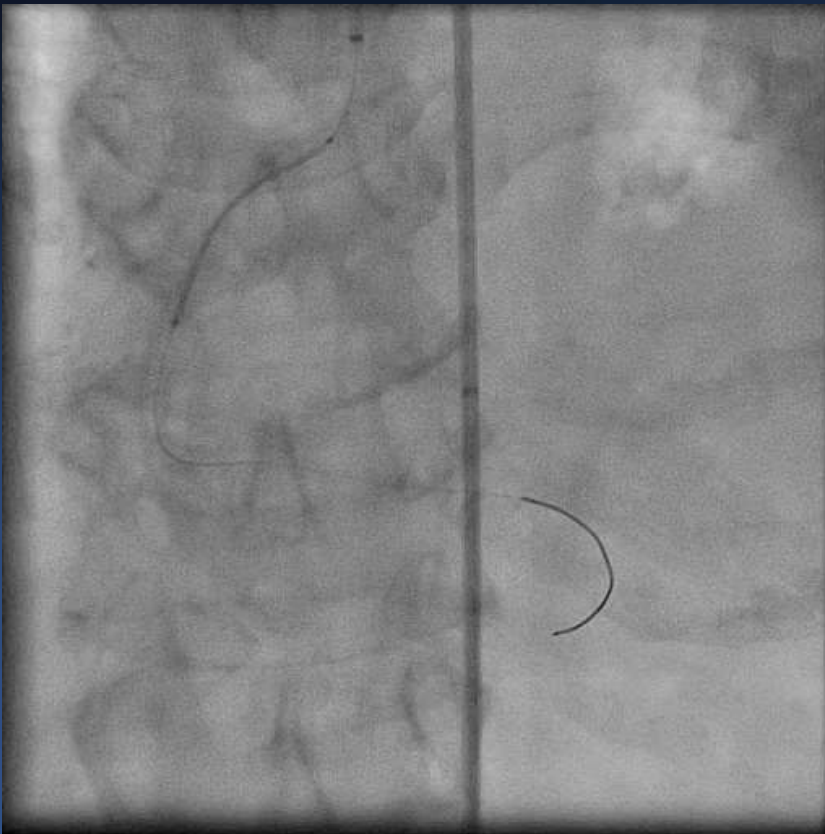
Predilation: 1.5 x 20 mm compliant balloon at 12-20 ATM

Post-Predilation



Right Coronary Artery

Stent: Onyx 2.0 x 30 mm proximal RCA at 16 ATM



Stent: Onyx 3.0 x 15 mm ostial RCA at 10 ATM



Right Coronary Artery

Post-dilation



Final Shot



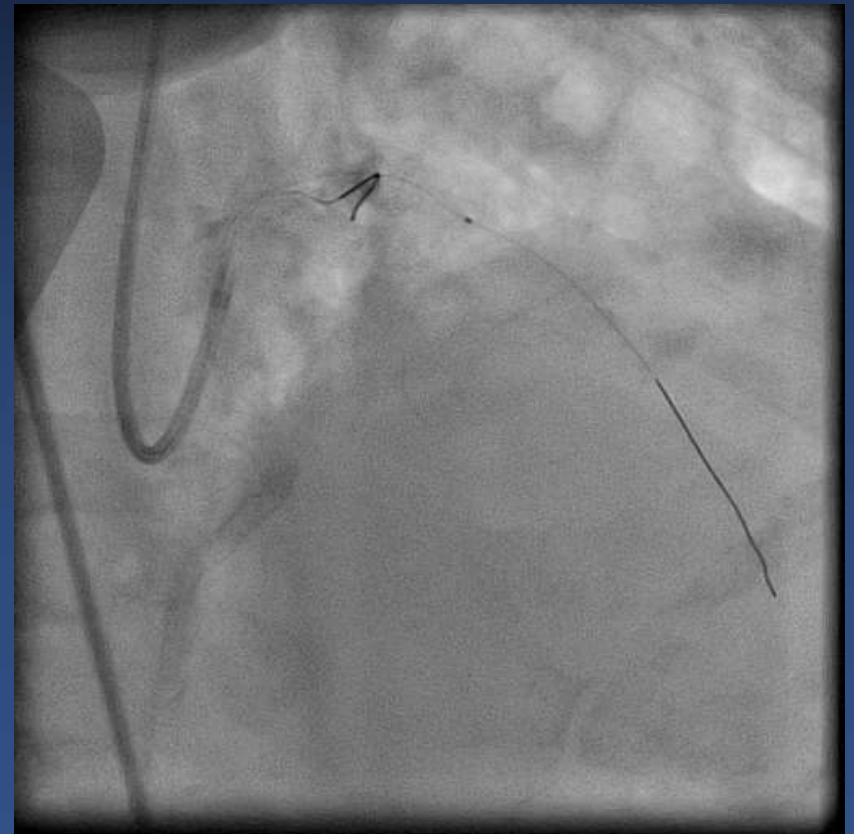
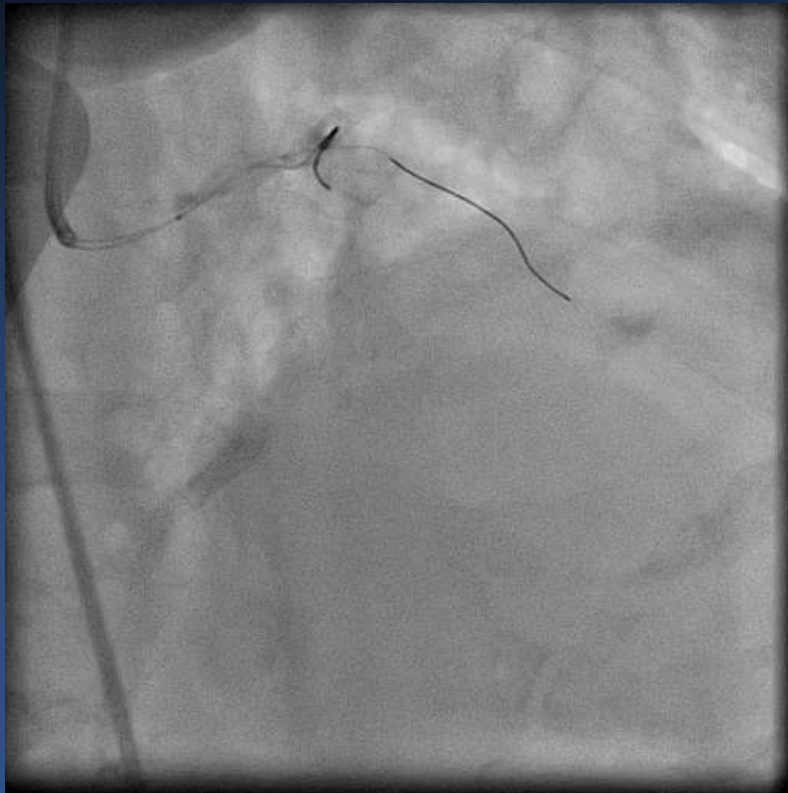
Left Coronaries

Guide: 6F EBU 3.5

Guidewire: Asahi Sion Blue LAD and LCx

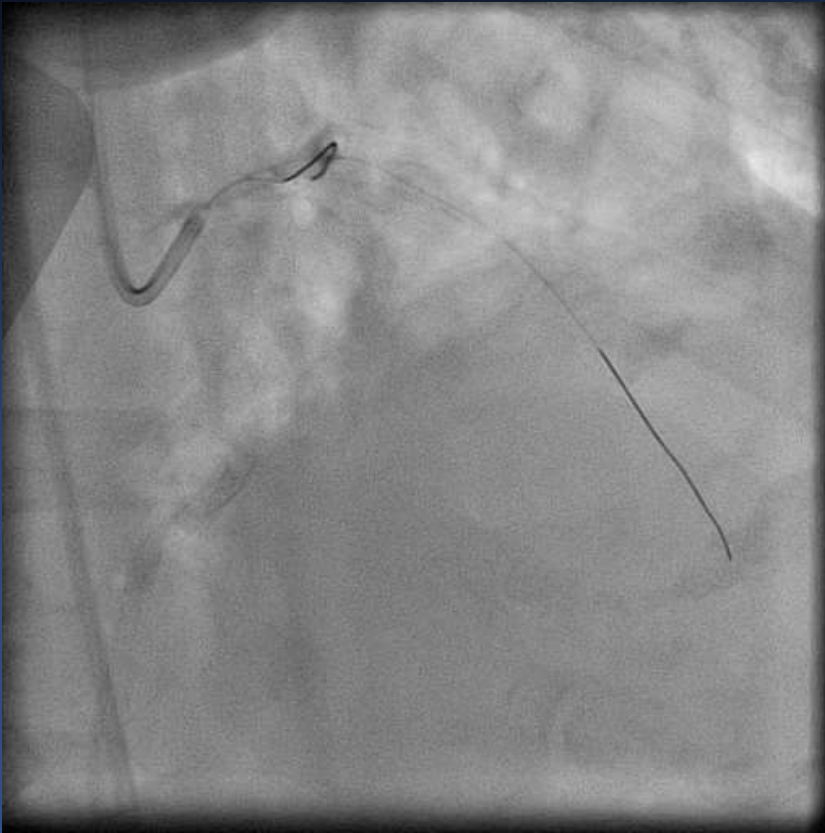
**Predilation: 2.0 x 20 mm compliant balloon
left main at 20-25 ATM**

**Predilation: 1.2 x 8 mm proxi-
mal to mid LAD at 22-25 ATM**

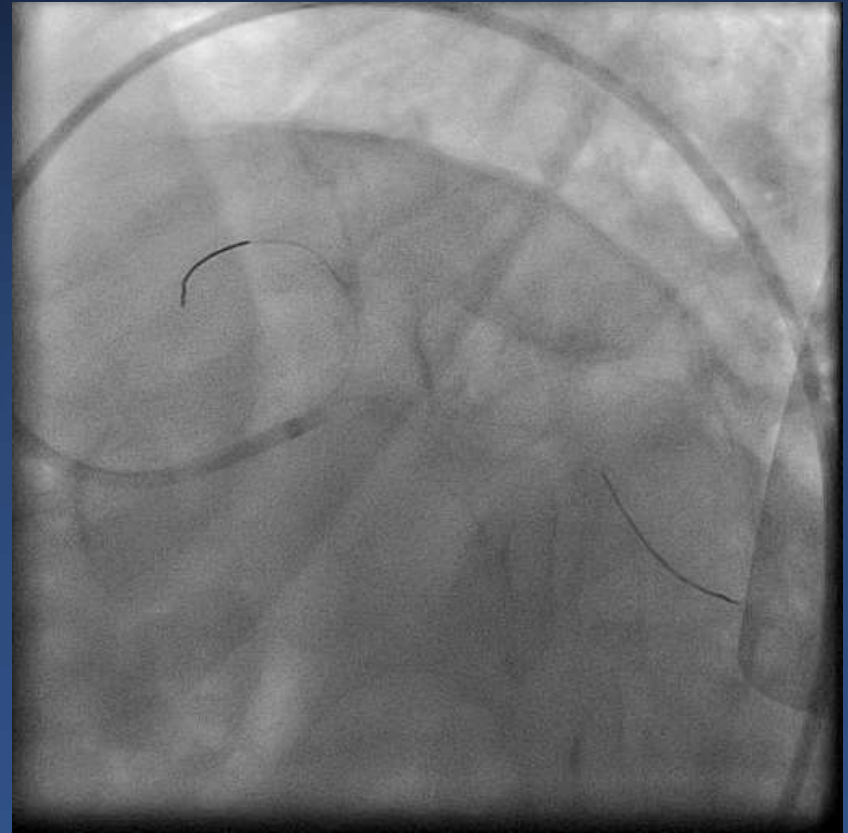


Left Coronaries

Post-Predilation

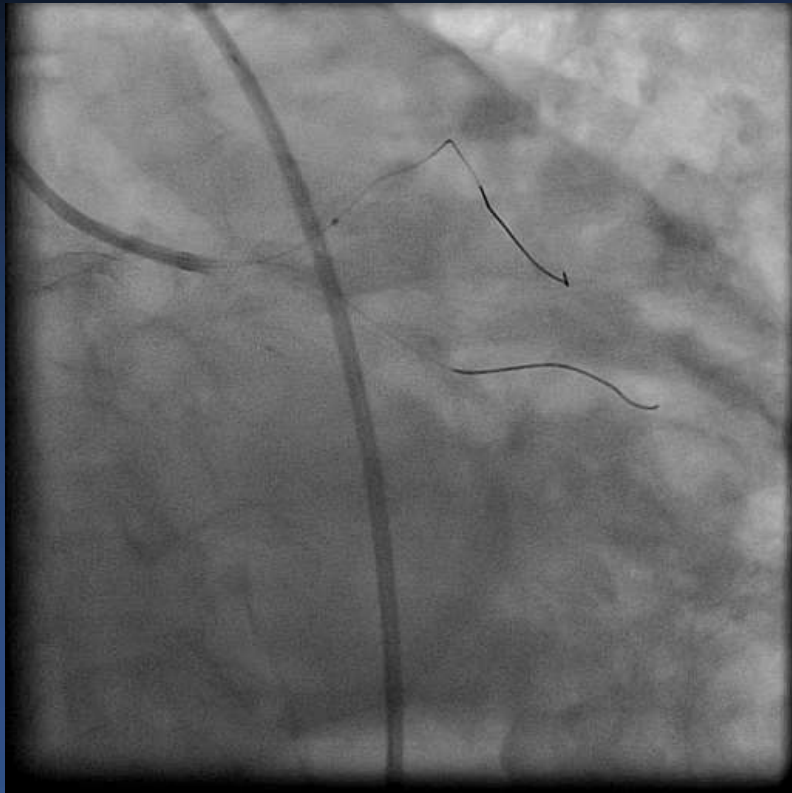


Post-Predilation



Left Coronaries

Predilation: 1.5 x 15 mm compliant balloon at 22-25 ATM

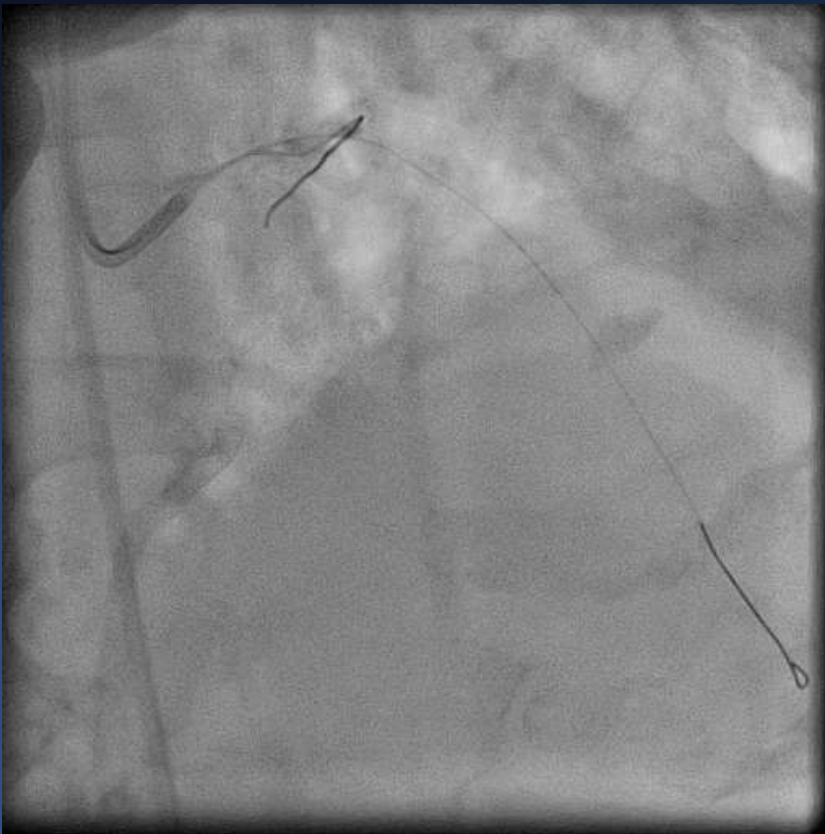


Predilation: 1.2 x 8 mm compliant balloon at 22-25 ATM



Left Coronaries

Post-Predilation



**Rotablation: direct wiring
with Rotawire Floppy, burr 1.5**



Left Coronaries

Rotablation: Left main, proximal and mid LAD:

Speed: 150,000-175,000 rpm

Duration: 30 seconds

Pecking Motion

No Reflow

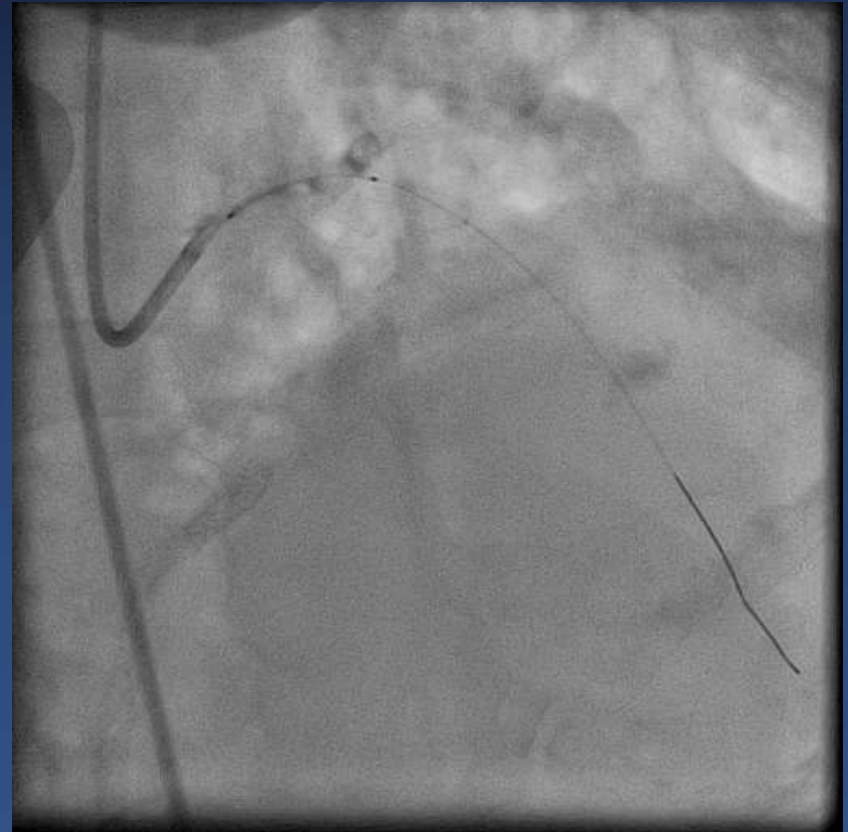


Left Coronaries

Predilation: 1.5 x 15 mm, 1.2 x 8 mm, 2.0 x 20 mm balloons at 16-25 ATM



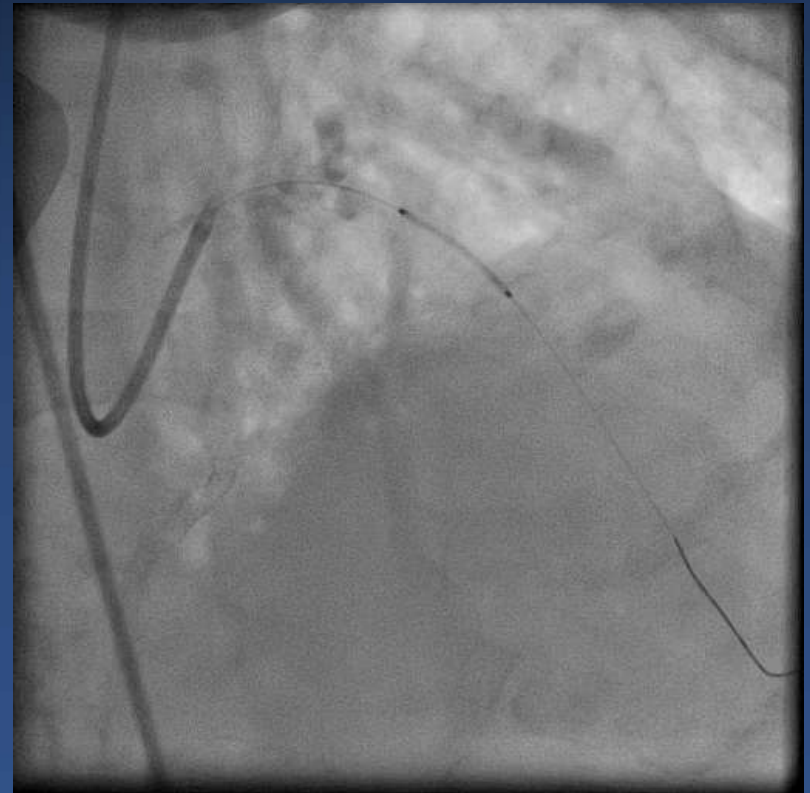
Predilation: 1.5 x 15 mm, 1.2 x 8 mm, 2.0 x 20 mm at 16-25 ATM



Left Coronaries

Post-Predilatation

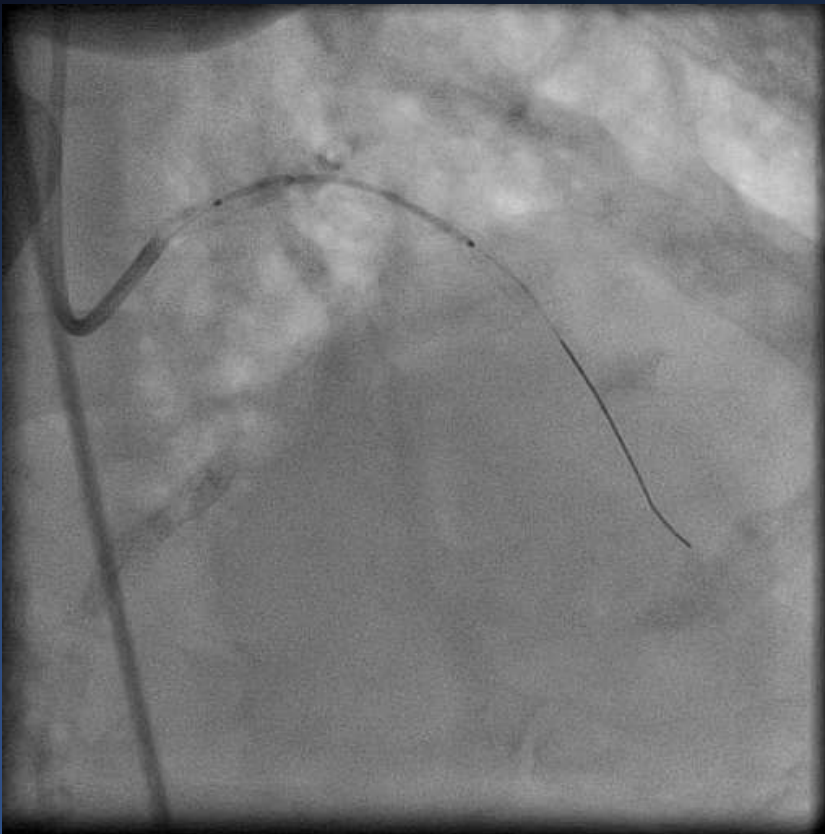
**Stent: Xience Xpedition 2.25 x
18 mm mid LAD at 14 ATM**



Left Coronaries

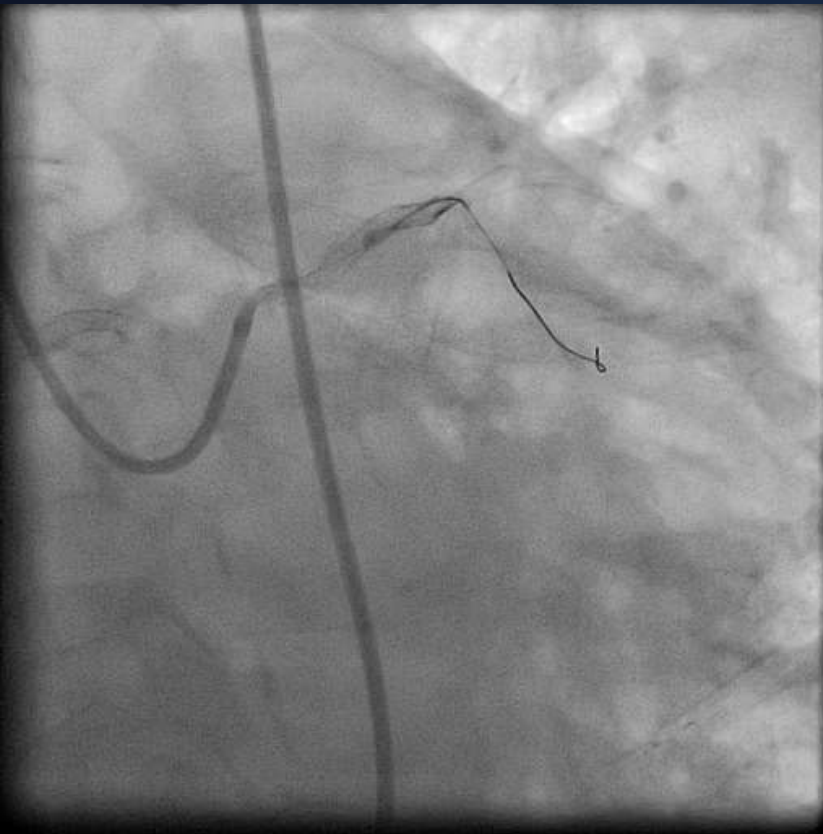
Stent: Synergy 3.0 x 32 mm left main to proximal LAD at 18 ATM

Post-Stent deployment

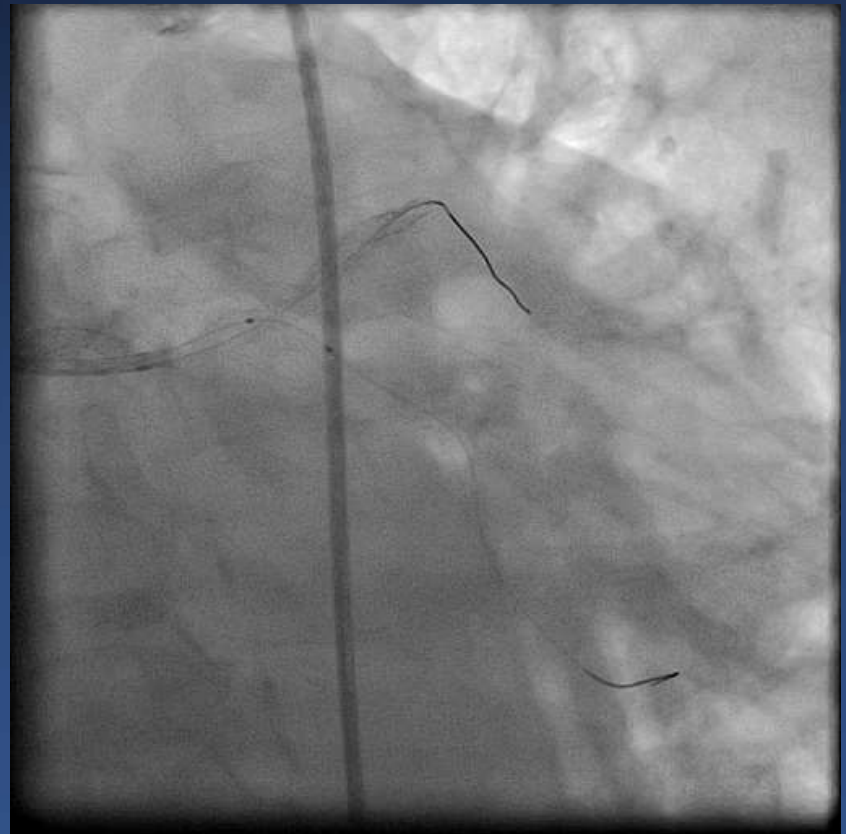


Left Coronaries

Post-Stent deployment



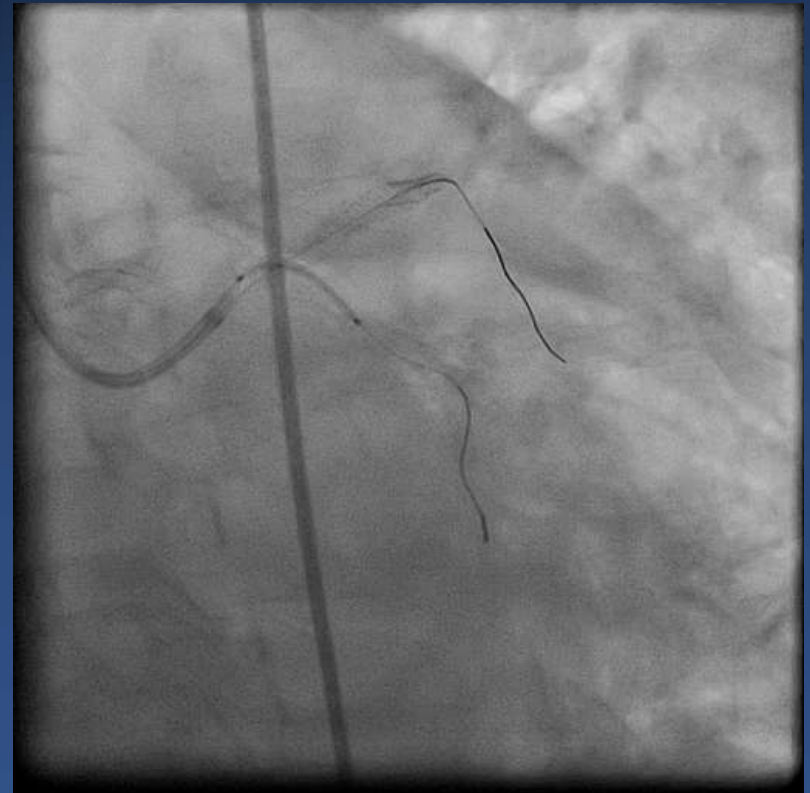
Predilation: 2.0 x 12 mm compliant balloon left main to ostial LCx at 12 ATM



Left Coronaries

Post-Predilatation

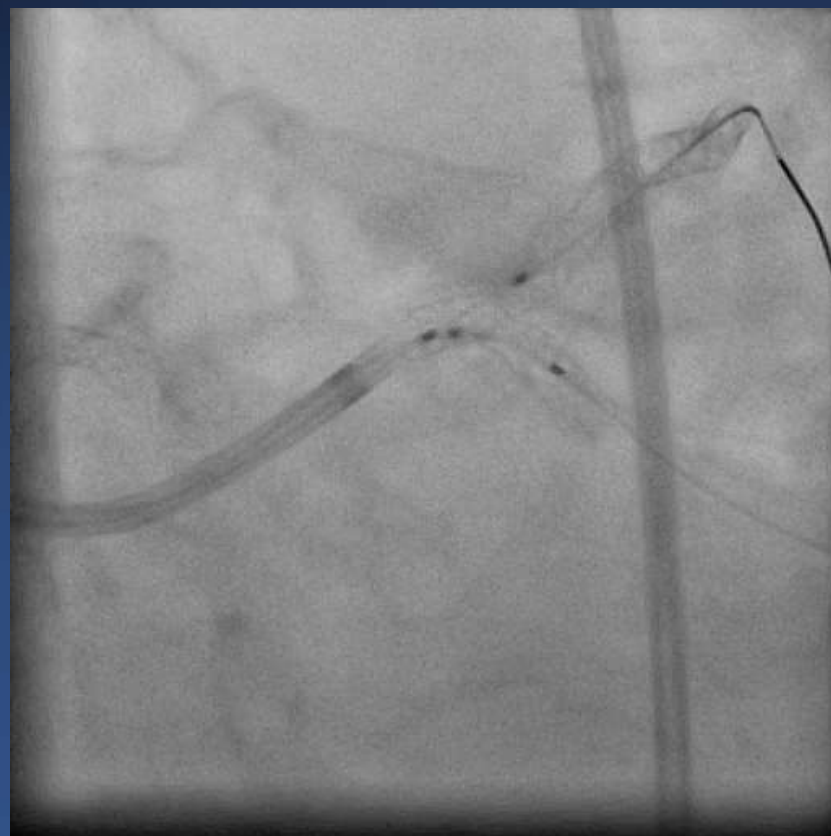
Stent: Synergy 3.5 x 16 mm in the left main to ostial LCx at 16 ATM



Left Coronaries

Post-Stent deployment

Final kissing balloon inflation: 3.0 x 18 mm non-compliant balloons left main to ostial LAD and ostial LCx at 12 ATM



Left Coronaries

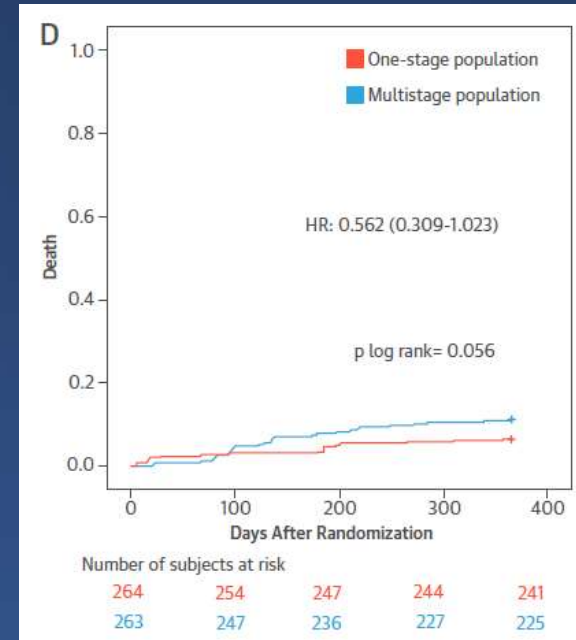
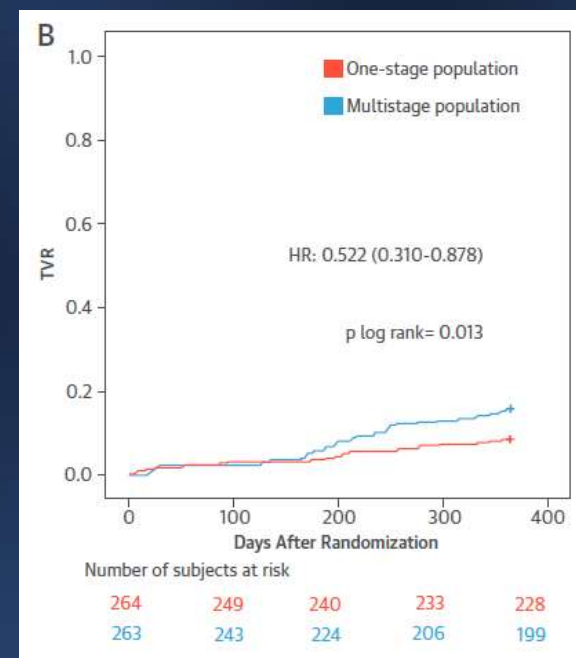
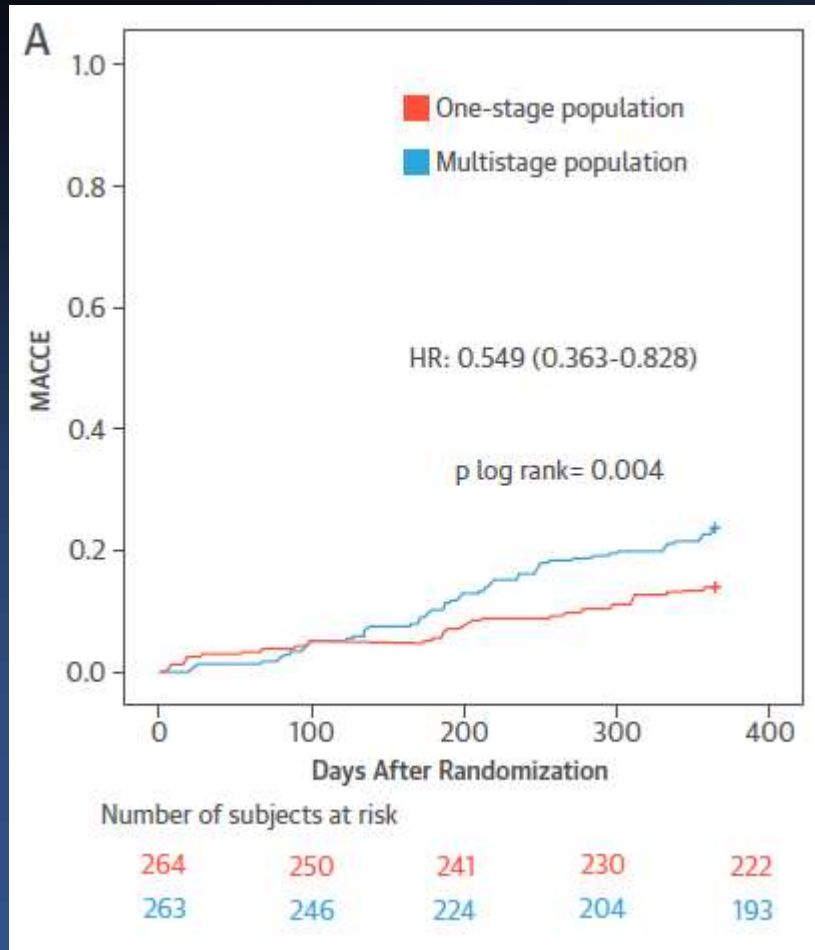
Final Shot



Final Shot

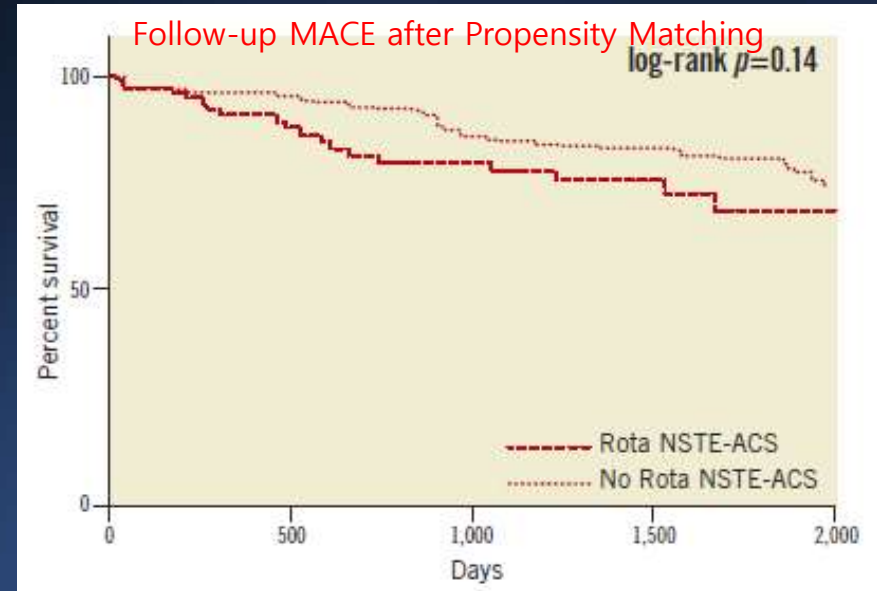
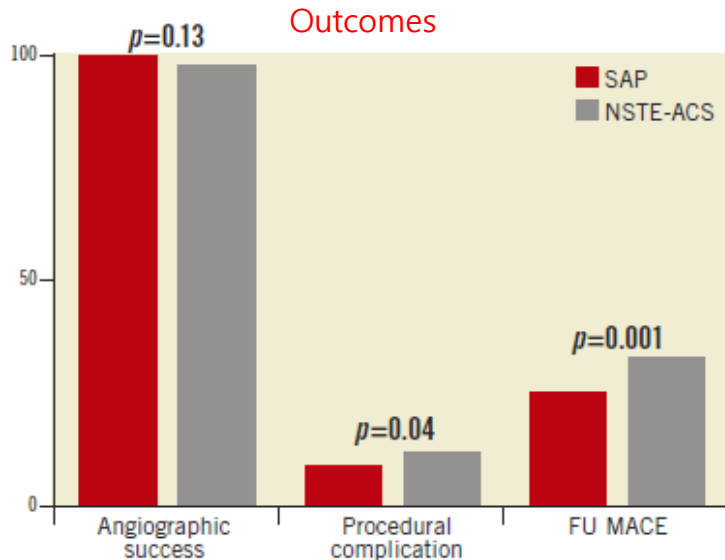


The SMILE Trial: 1-Stage versus Multi-stage Revascularization in NSTEMI-ACS



Reference: Sardella et al. Impact of Different Treatment in Multivessel Non ST Elevation Myocardial Infarction [NSTEMI] Patients: One-Stage Versus Multistaged Percutaneous Coronary Intervention [PCI] [SMILE]: NCT01478984, J Am Coll Cardiol 2016;67:264-72

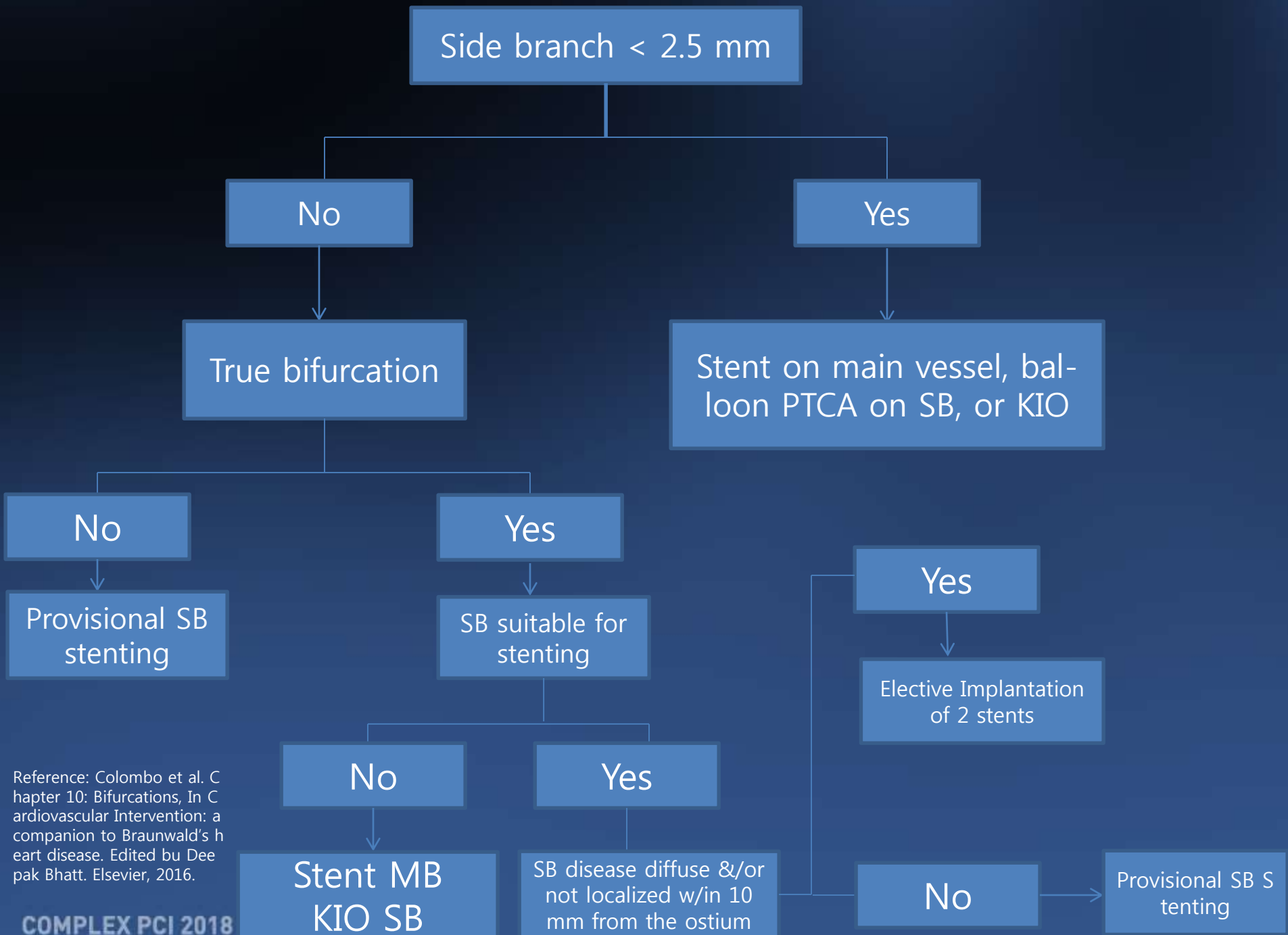
ROTATE Registry: ROTational AThErectomy in ACS: early and midterm outcomes from a multicenter registry



	NSTE-ACS (484)	SAP (824)	RR	CI (95%)	p-value
Procedural complications, n (%)	55 (11.3)	66 (8)	1.42	1.1-1.99	0.04
Perforation, n (%)	6 (1.2)	4 (0.5)	2.55	0.72-9	0.14
Slow flow/no-flow, n (%)	16 (3.3)	12 (1.4)	2.27	1.08-4.75	0.03
Burr entrapment, n (%)	3 (0.6)	6 (0.7)	0.85	0.21-3.38	0.82
Periprocedural MI (%)	3 (1.2)	4 (0.4)	0.86	0.36-2	0.94
In-hospital death, n (%)	6 (1.2)	3 (0.3)	3.4	0.85-13.55	0.08
MACE, n (%)	33 (6.8)	50 (6)	1.17	0.76-1.79	0.46

MACE: major adverse cardiovascular events; MI: myocardial infarction; NSTE-ACS: non-ST-elevation acute coronary syndrome; RA: rotational atherectomy; SAP: stable angina patients

In-Hospital Outcomes



Reference: Colombo et al. Chapter 10: Bifurcations, In Cardiovascular Intervention: a companion to Braunwald's heart disease. Edited by Deepak Bhatt. Elsevier, 2016.