

# Upfront 2-stent is better- **BIG** side branch (2.5 mm in diameter)

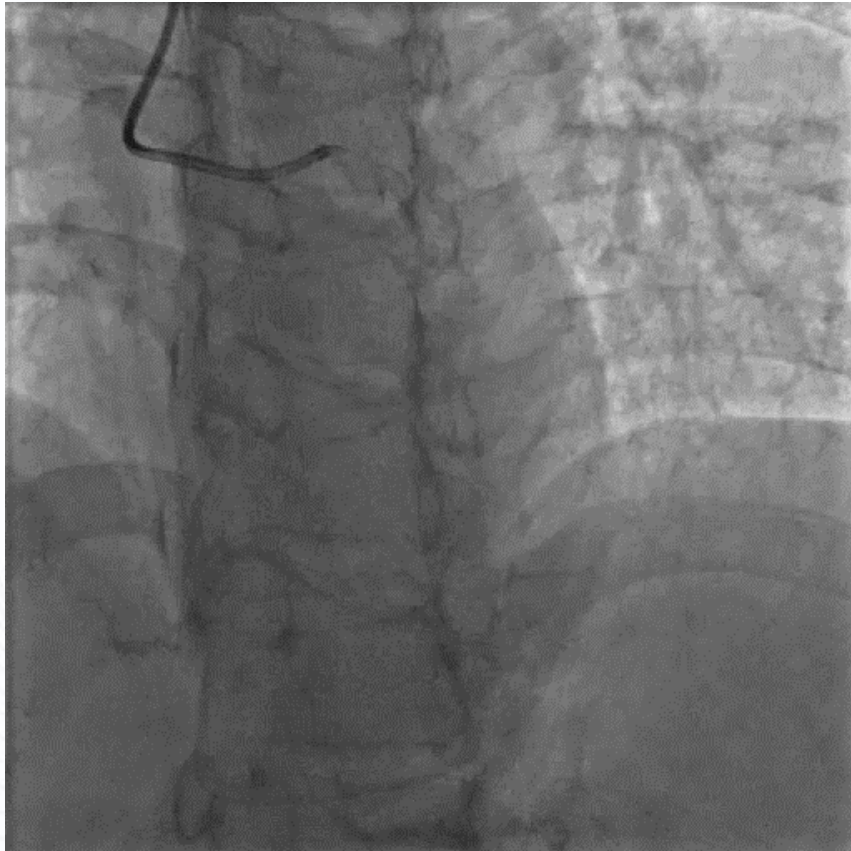
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# Disclosure

I, (Shao-Liang Chen), have nothing to disclose

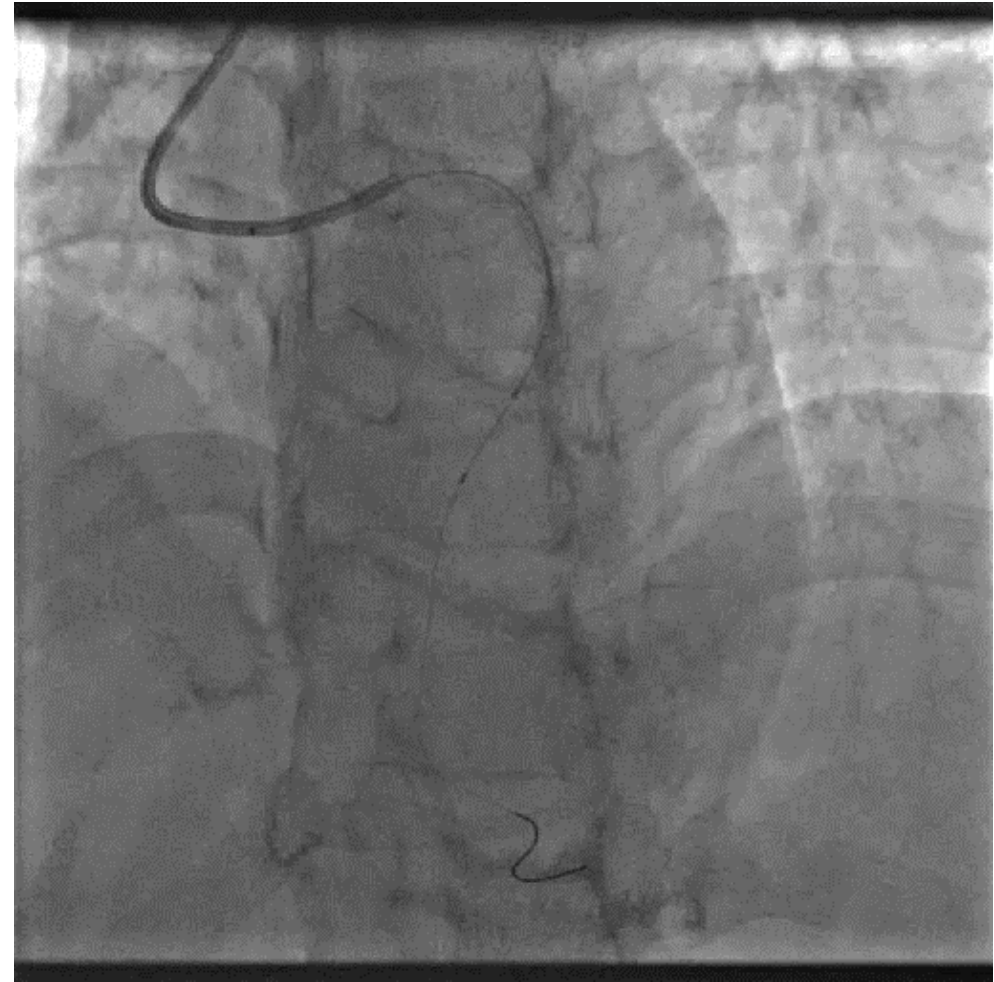
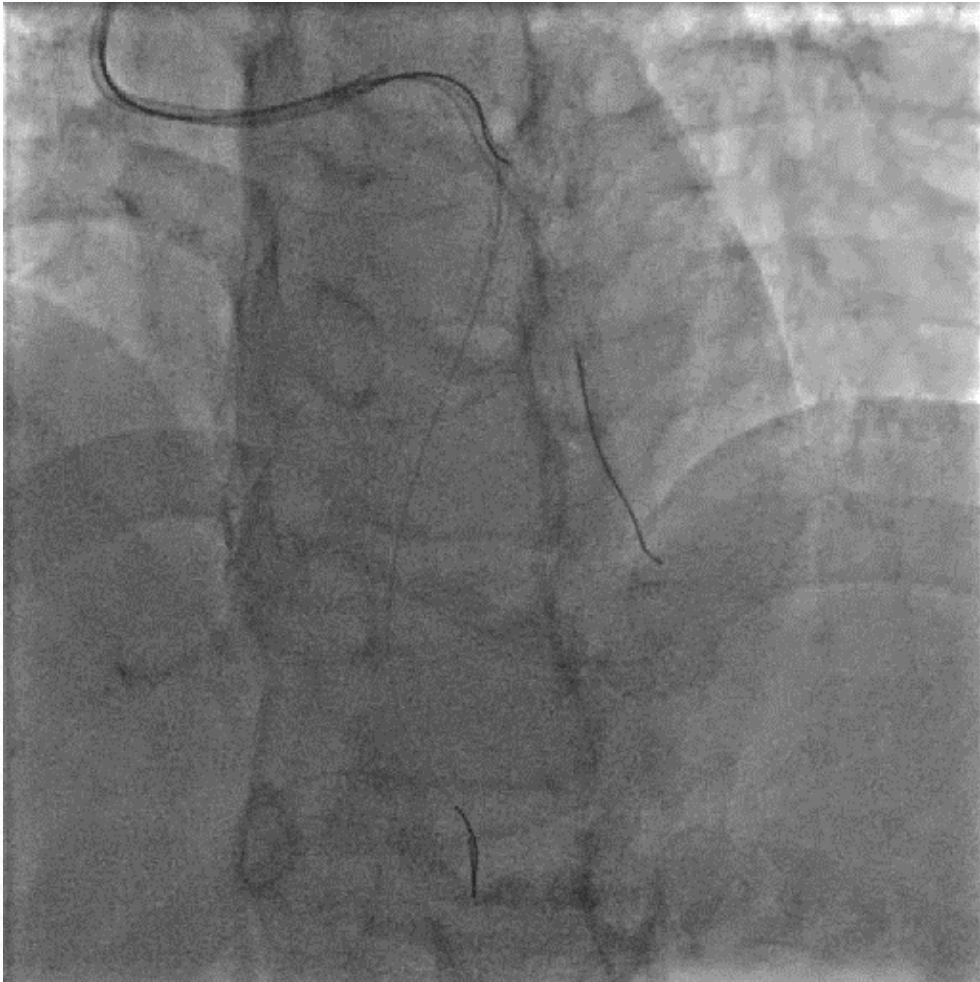
# Case 1

*SB pinched after stenting main vessel*



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# How important of SB lesion length?

## DKCRUSH II + DKCRUSH V+DKCRUSH VI trials

702 lesions were treated using provisional stenting from intention

1-year F/U	Cardiac death	TVMI	TLR	TLF	ST
SB lesion length < 5-mm	0.8%	0	2.1%	2.5%	0
SB lesion length = 5 mm but <10-mm	1.3%	3.3%	4.5%	6.6%	0
SB lesion length ≥10 mm	2.2%	6.1%	8.4%	13.4%	2.7%

Gioia et al. JACC: CVINT. 2020;13:1432-1444  
A clinical benefit of 2-stent techniques was observed over  
provisional stenting in bifurcation with side branch lesion length ≥10 mm



# DEFINITION criteria (SB $\geq$ 2.5-mm)

## Major criteria:

### ➤ For left main bifurcation

- SB lesion length  $\geq$ 10-mm, and
- SB diameter stenosis  $\geq$ 70%

### ➤ For non-left main bifurcation

- SB lesion length  $\geq$ 10-mm, and
- SB diameter stenosis  $\geq$  90%

1 major

+

2 minor

=

Complex

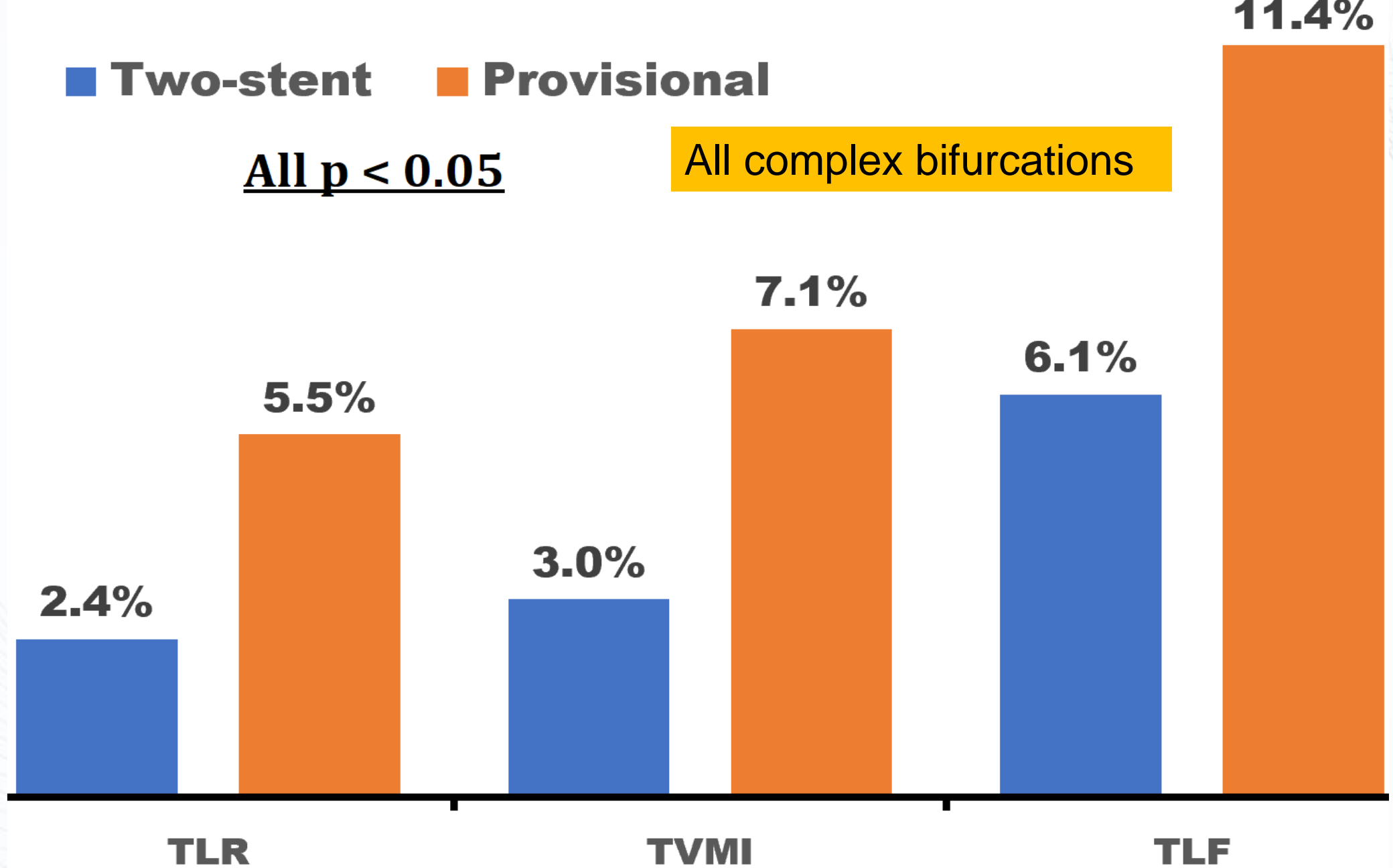
## Minor criteria:

- mild calcification
- Multiple lesions
- bifurcation angle  $< 45^{\circ}$  or  $> 70^{\circ}$
- MV-RVD  $< 2.5$ -mm
- MV lesion length  $\geq 25$ -mm
- Thrombus-containing lesions

■ Two-stent ■ Provisional

All p < 0.05

All complex bifurcations

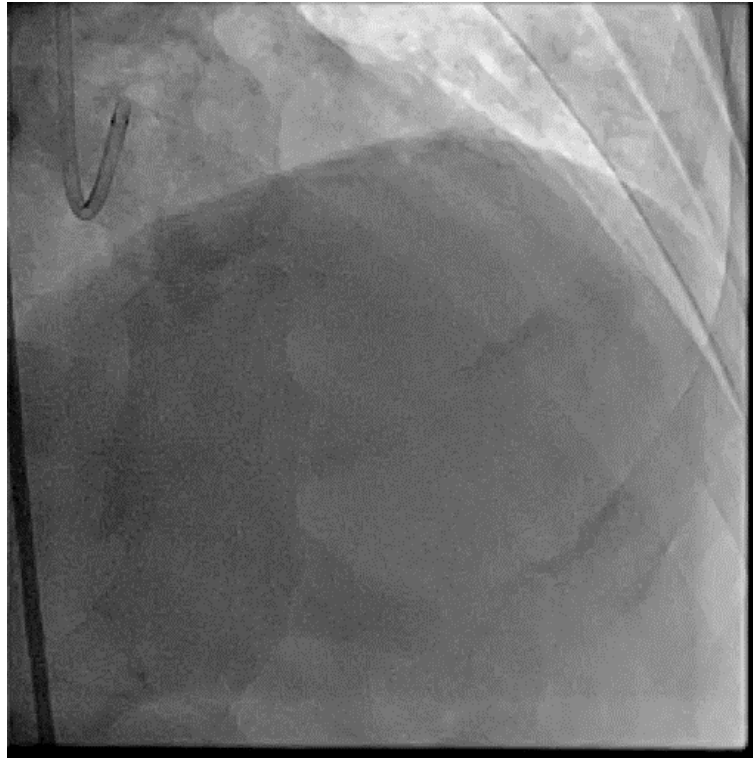


Zhang, et al. Eur H J 2020

# Baseline angiography of left coronary artery



AP caudal



RAO cranial



Spider view

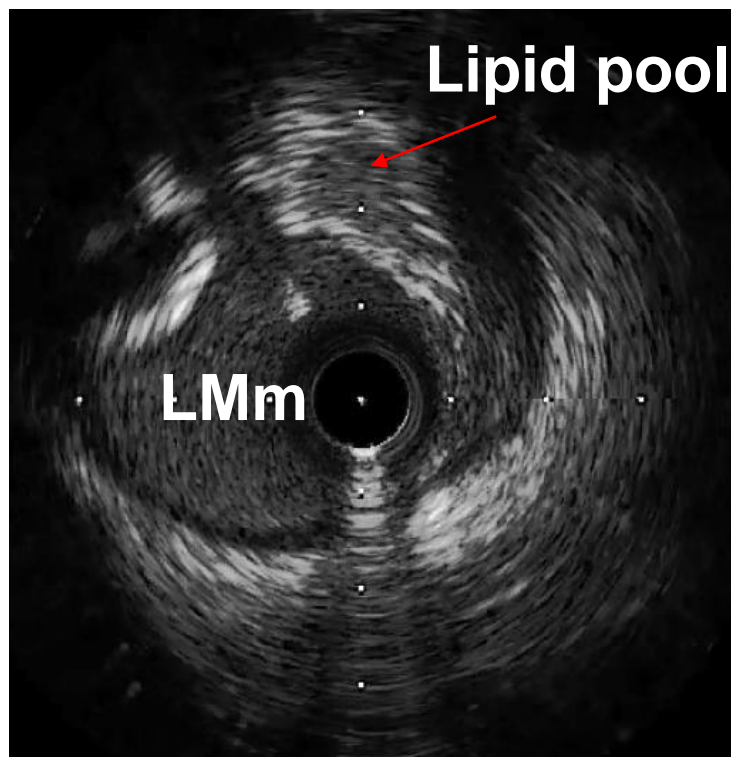
Trans femoral approach, 6F guiding



# Lesion preparation and IVUS assessment

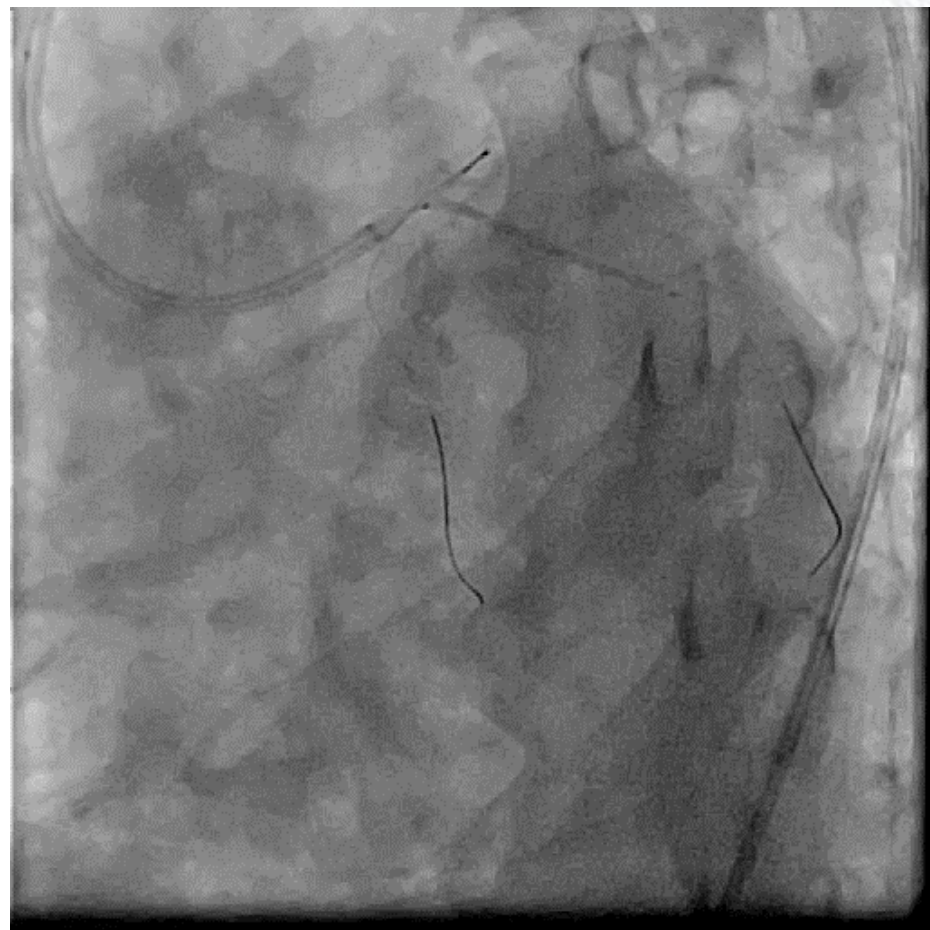
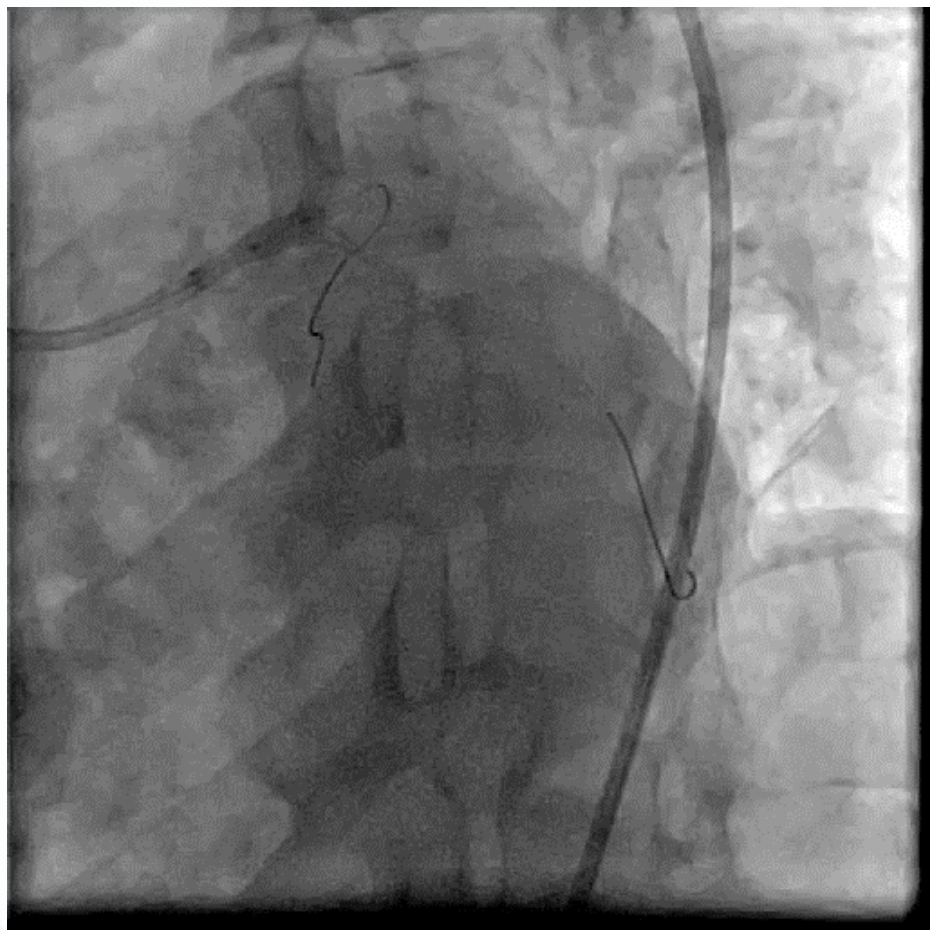


3.0 x 15 mm balloon



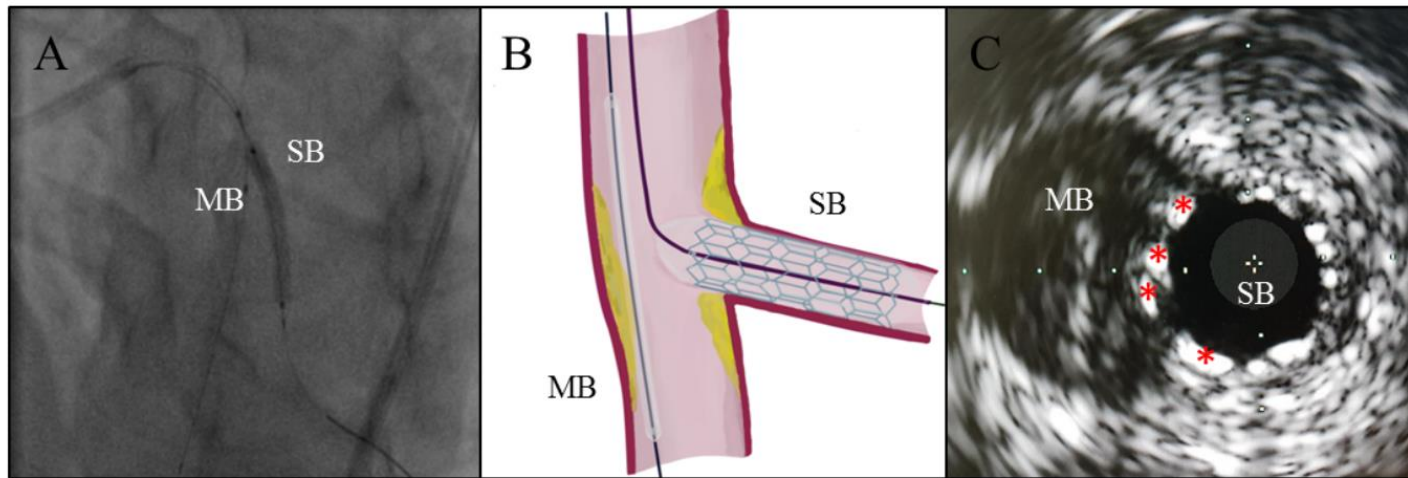
2 BMW wires, Ilab-IVUS



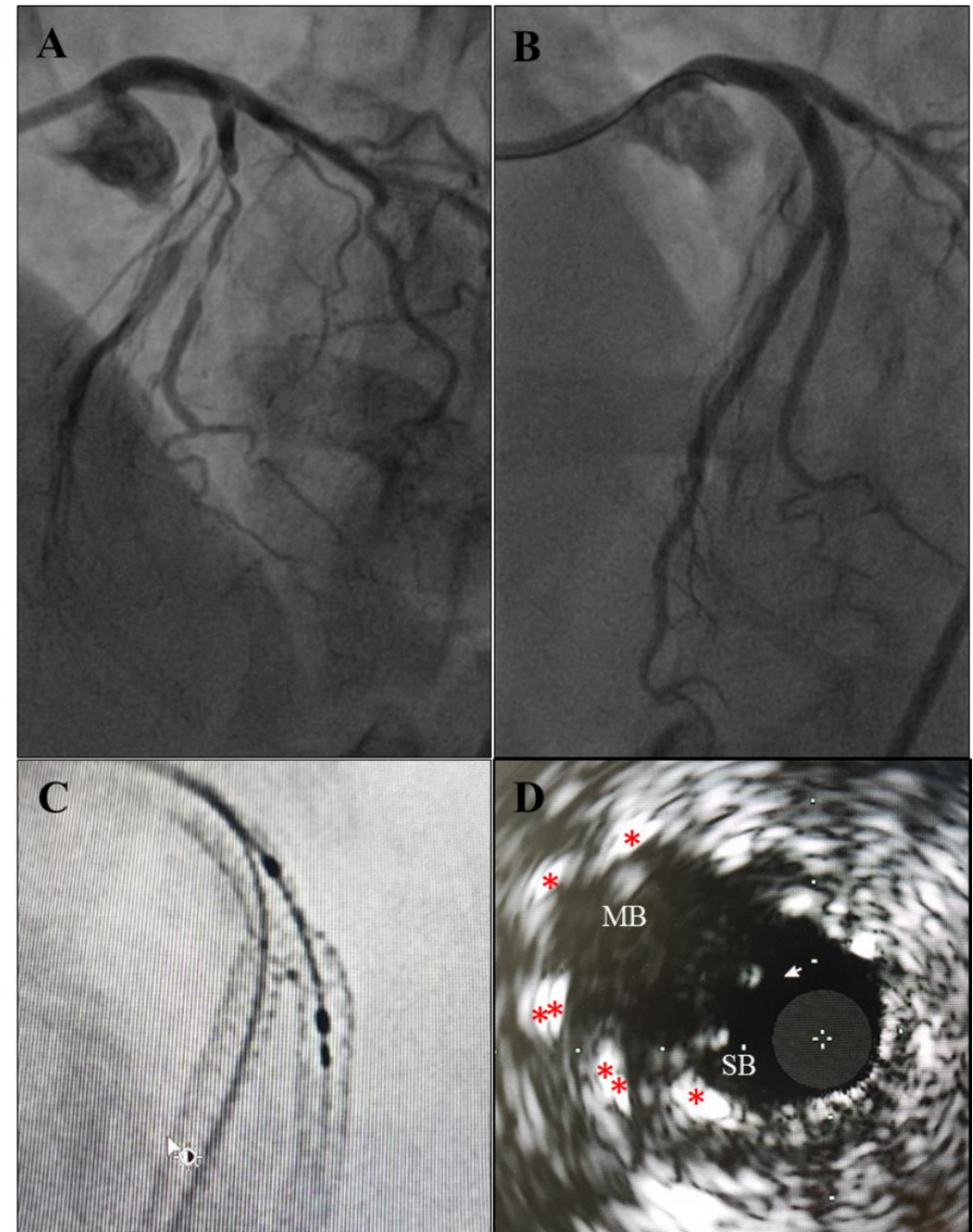
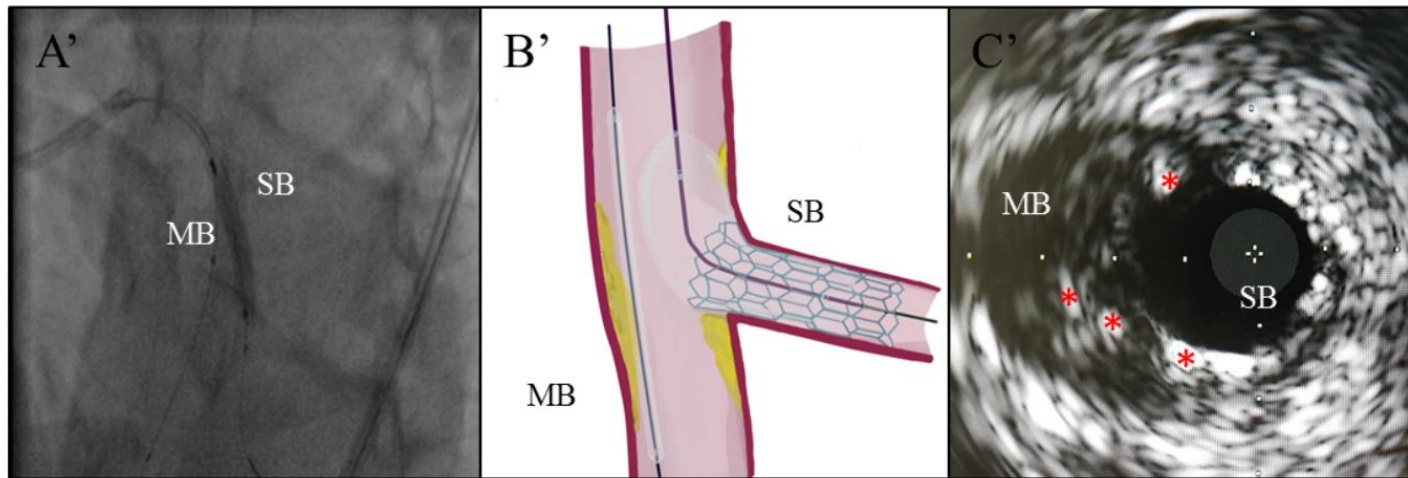




## DK Crush conventional



## DK Crush PSO modification



Courtesy of Dr. Francesco Lavara

# Clinical outcomes at 1- and 3-year follow-up

	DKCRUSH III (DK vs Culotte) Primary endpoint = MACE		DKCRUSH V (DK vs PST) Primary endpoint = TLF	
	One-year	Three-year	One-year	Three-year
	1 <sup>o</sup> EP, %	6.2 : 16.3	8.2 : 23.7	5.0:10.7
-CD,%	1.0 : 1.0	1.4 : 2.9	1.2 :2.7	3.3 : 5.0
-MI,%	3.3 : 5.3	3.4 : 8.2	0.4 : 2.9	1.7 : 5.8*
-TLR,%	2.4 : 6.7	3.8 : 14.0	3.8 : 7.9	5.0 : 10.3
Def/Pro ST,%	0 : 1.0%	0.5 : 3.9	0.4 : 3.3	0.4 : 4.1

Chen SL, et. JACC 2013; Chen SL, et al. JACC 2017



# Conclusion

- Complex coronary bifurcation lesions features by true bifurcations with large ( $\geq 2.5$  mm) and longer lesion length in the SB
- DEFINITION criteria function to differentiate complex from simple bifurcations
- Upfront 2-stent is **MUCH better** than provisional stenting for complex bifurcation lesions
- Intravascular imagines is critical to stenting selection, to assess technical quality and to predict clinical events