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17th

How to Perform Provisional Stenting in Complex Bifurcations: A Roadmap for Success

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Disclosure Statement of Financial Interest

I, Alaide Chieffo, DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

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Do we really need an individualized approach to bifurcations?

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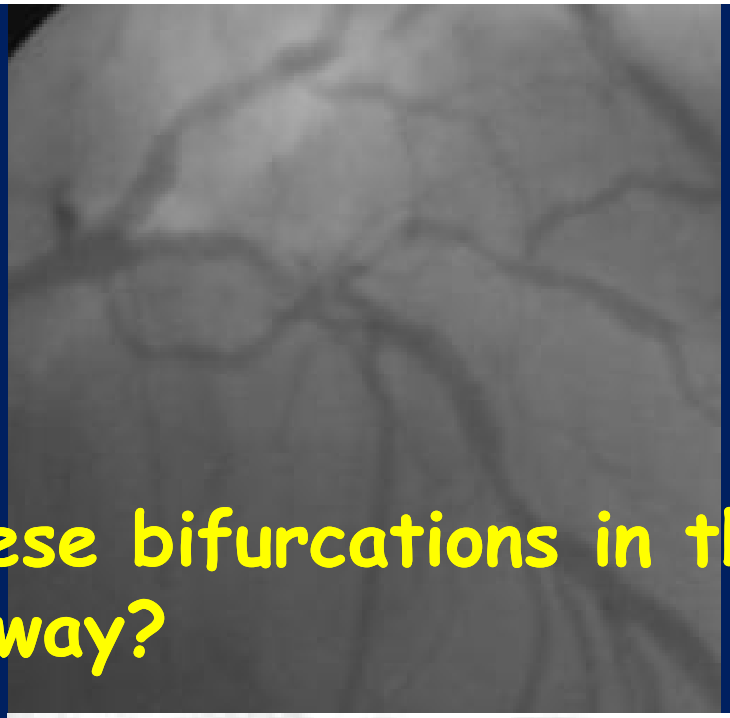
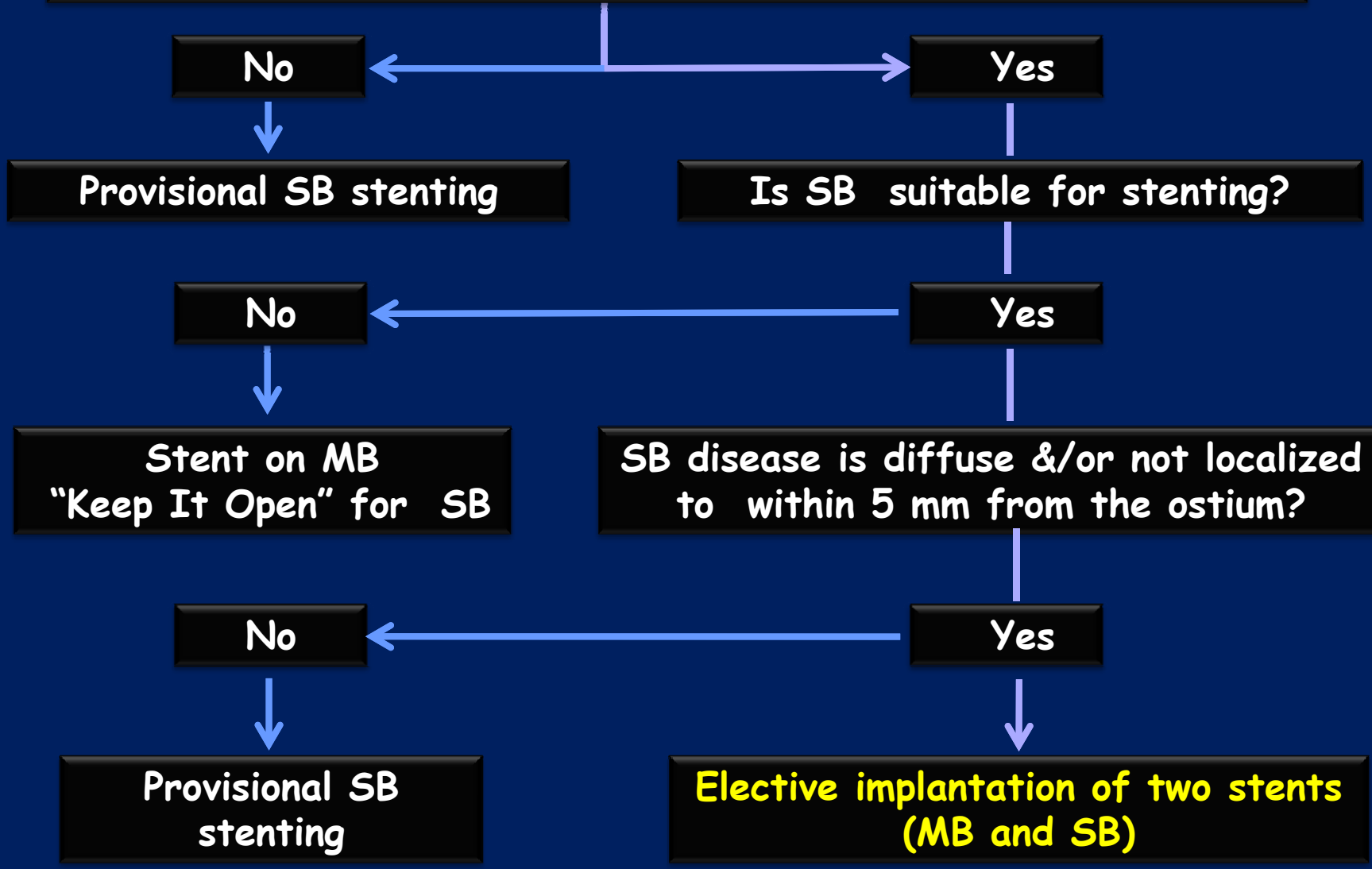


Can you treat all of these bifurcations in the same way?

True Bifurcation

(significant stenosis on the main and side branches)



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Our proposed strategy to Bifurcation PCI

- Keep it Open
- Provisional
- Two stents

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Keep It Open (KIO)

When the SB has ostial or diffuse disease AND when the SB *is not suitable* (too small) for stenting or clinically not relevant

- *6 Fr guiding catheter*
  1. Wire both branches
  2. Dilate MB if needed
  3. Stent MB and leave wire in the SB
  4. Post-dilatation of MB with jailed wire in SB

➡ Do not re-wire SB or post or predilate SB

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Provisional

When SB has minimal disease or only at the ostium AND when *SB is suitable for stenting*

- *6 Fr guiding catheter (7F if using Xience-Promus)*
  1. Wire both branches
  2. Dilate MB and SB if needed
  3. Stent MB leaving a wire in the SB
  4. Re-wire SB and then remove jailed wire
  5. Kissing balloon inflation
  6. Stent SB only if suboptimal result (TAP, reverse crush, culotte)

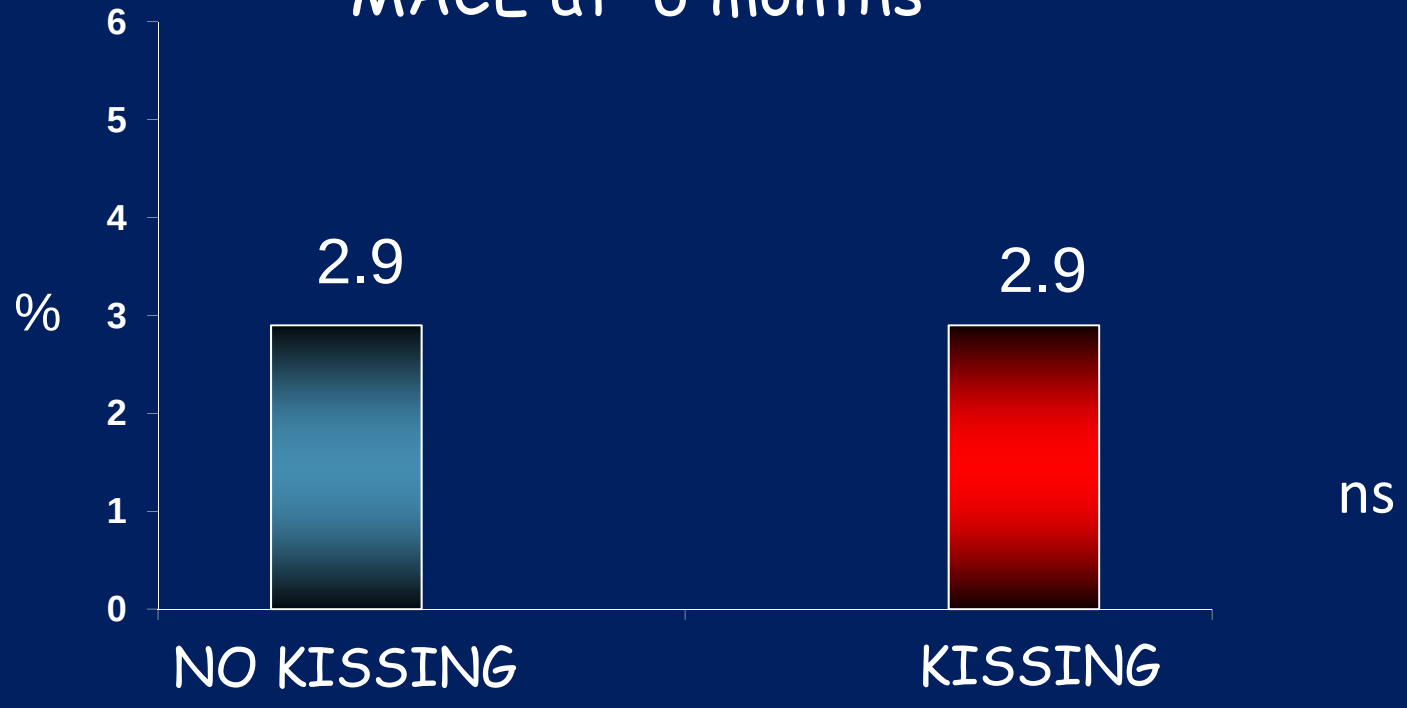
NORDIC 3

RCT on FKB vs no FKB in All Bifurcations

Only 50 % of the cases had a True Bifurcation Lesion!!

Primary end point

MACE at 6 months



ns

Niemela et al Circulation 2011 (123): 79-86

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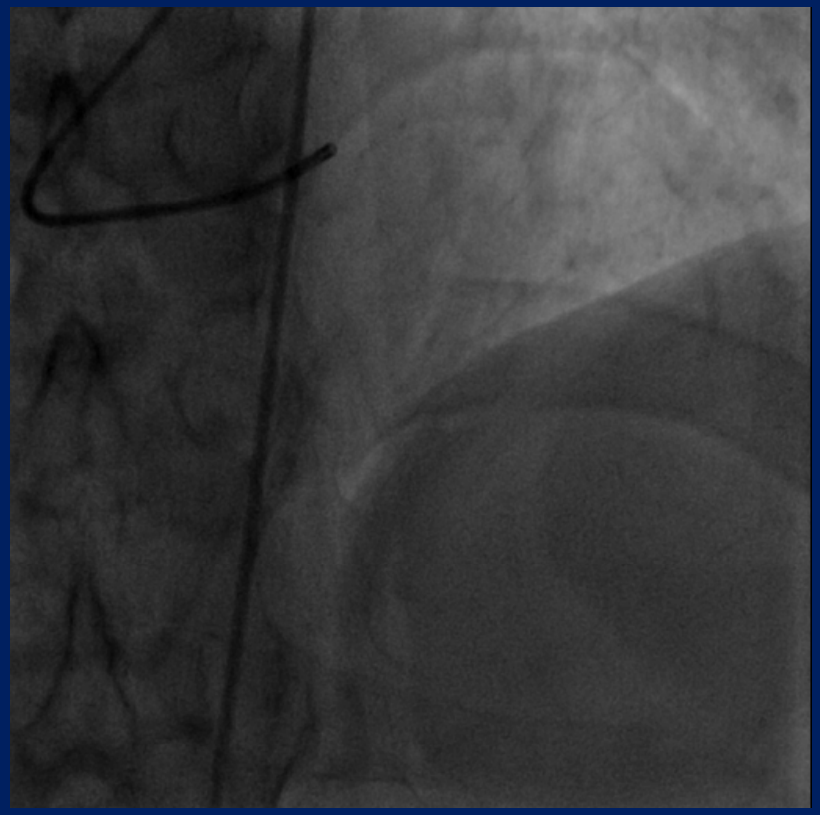
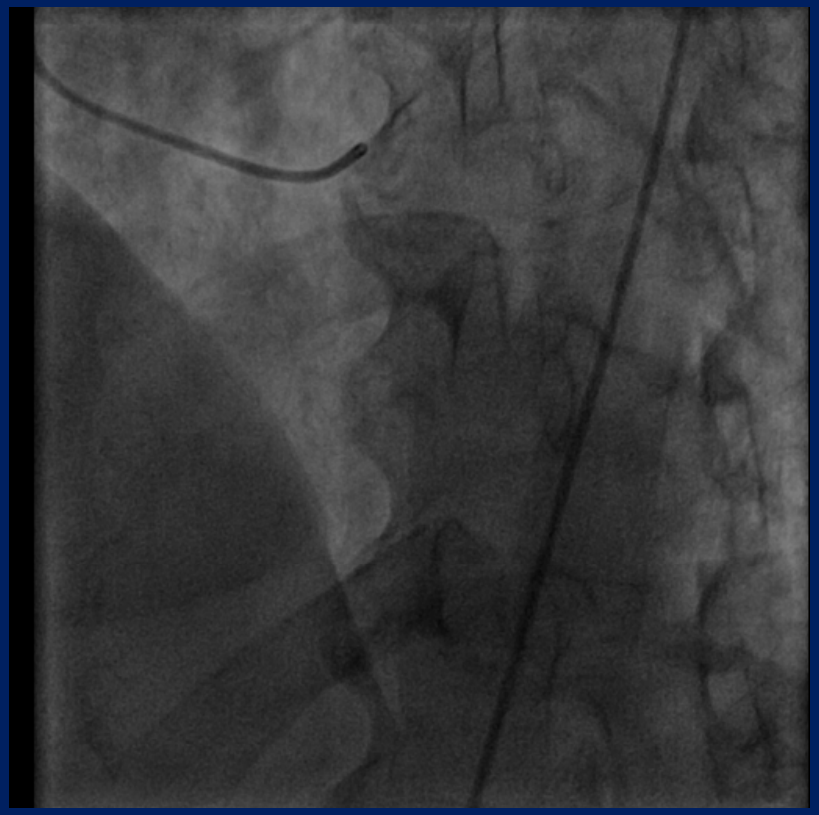
Case 1. Provisional





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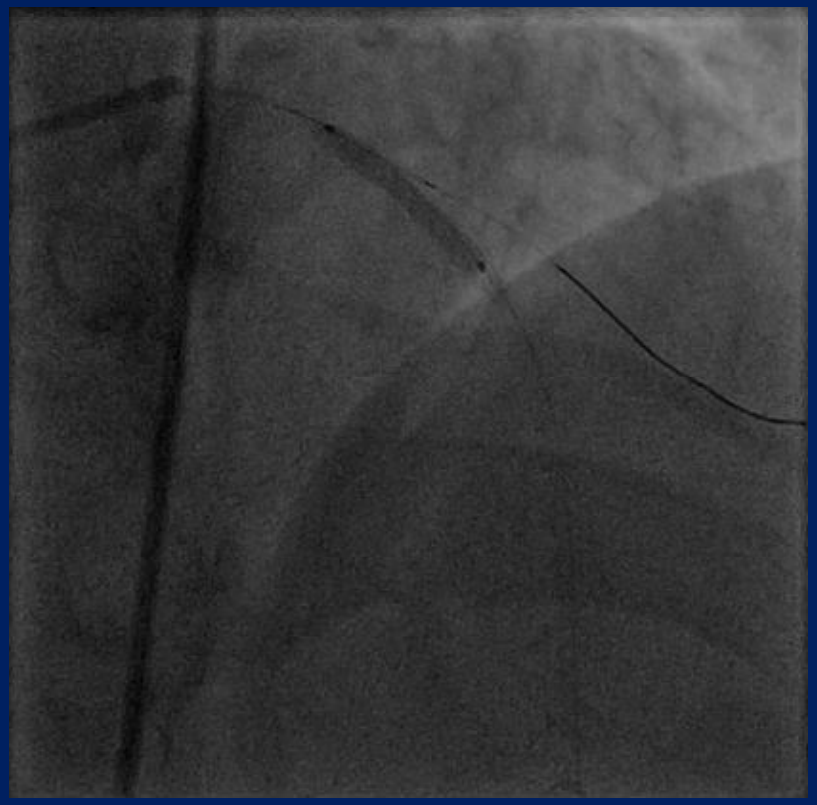
Case 1. MB Stenting



BES 3.0 x 18 mm, atm 12

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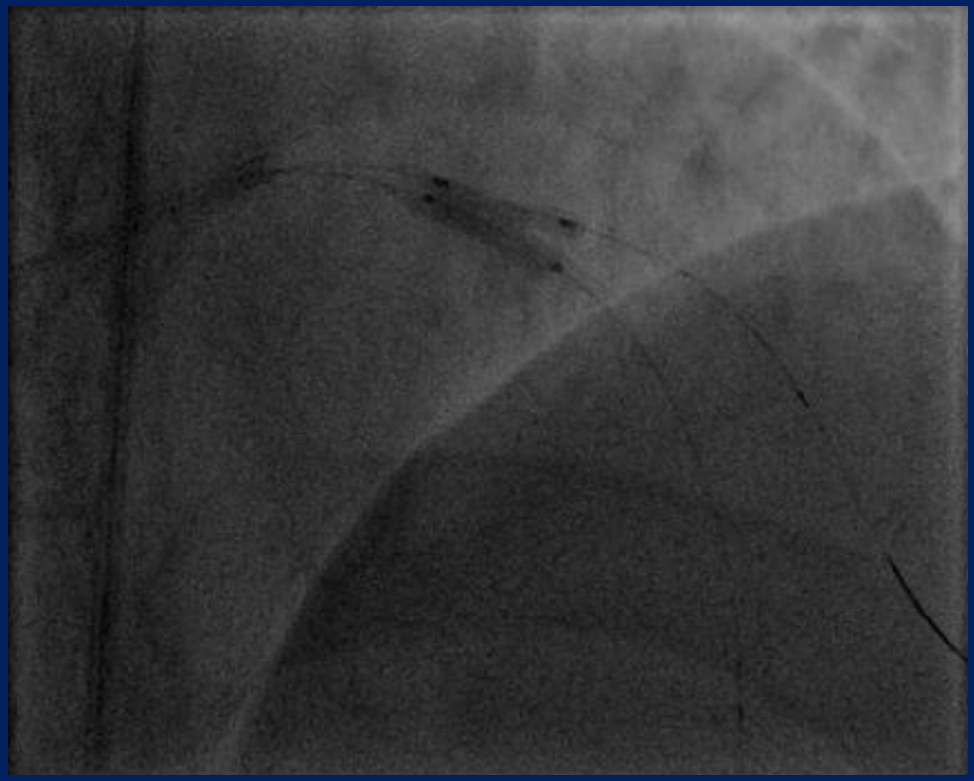
Case 1. FKB



POBA with 2.5 x 12 mm on SB >>
FKB (3.0 on MB and 2.5 on SB)

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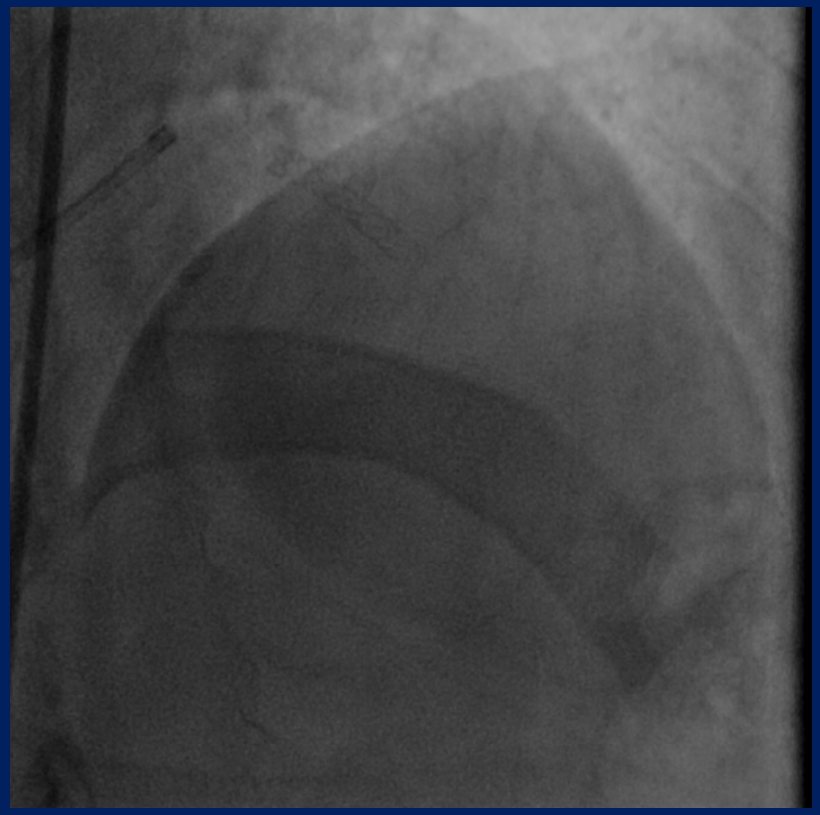
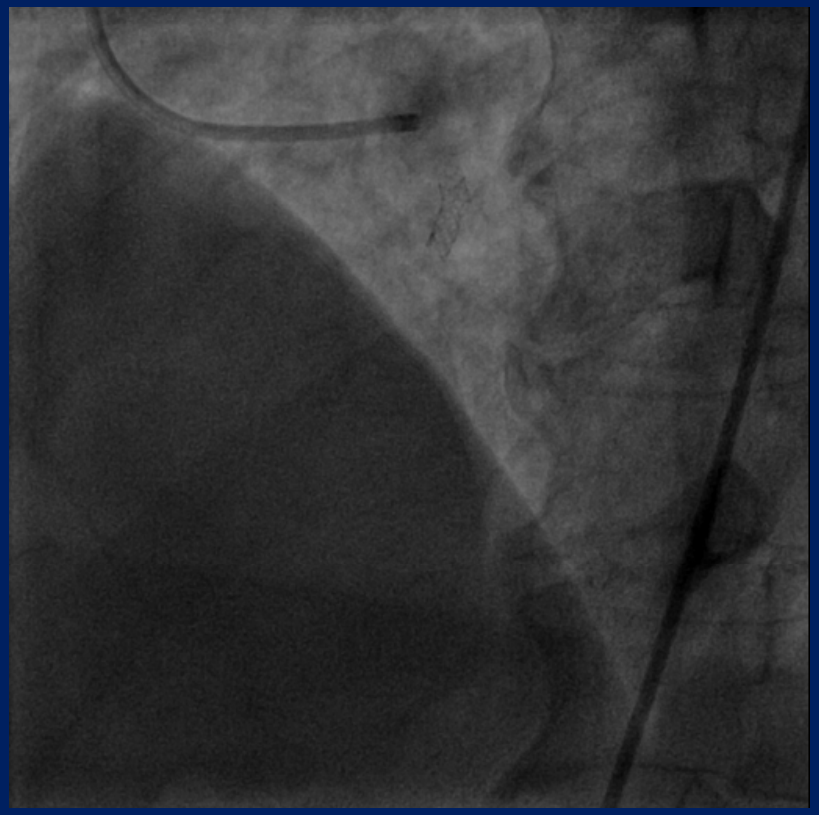
Case 1. Final Angio





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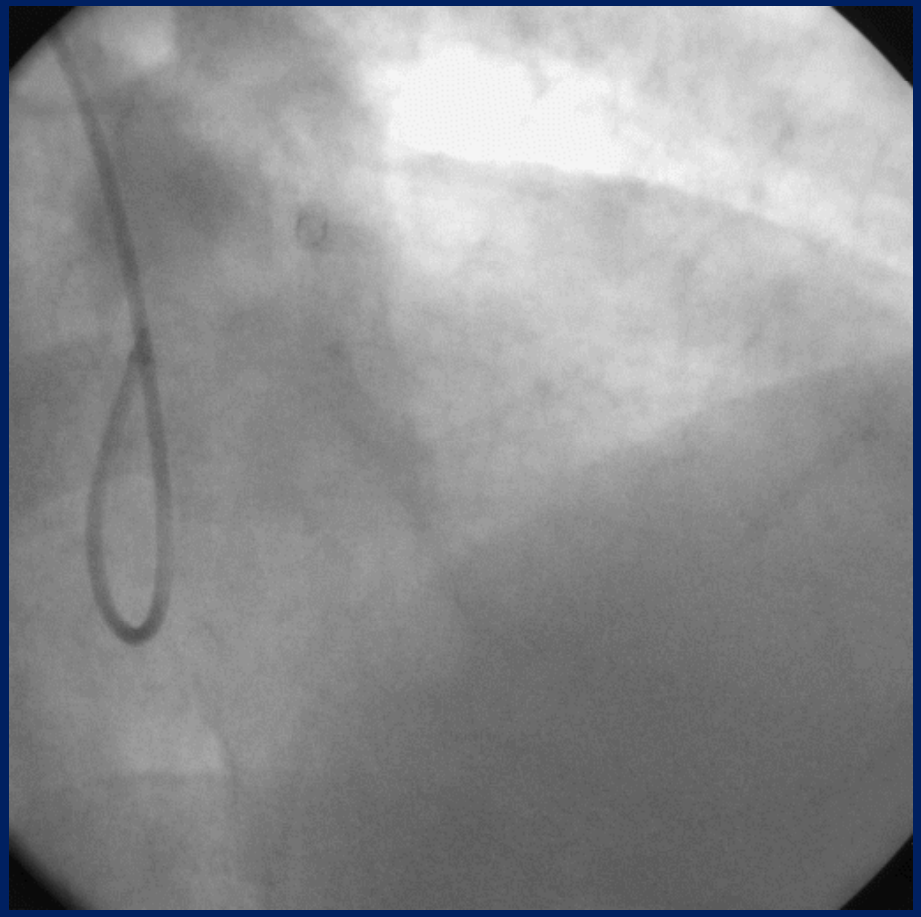
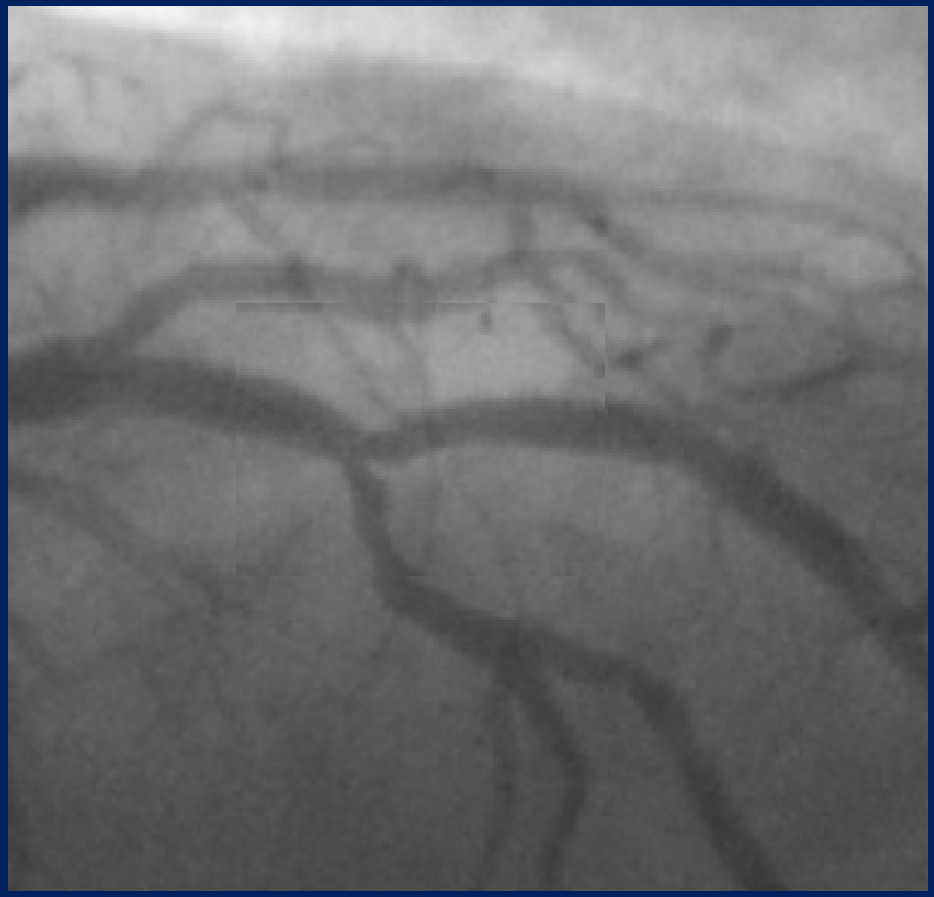
Case 2





How would you treat this bifurcation?
Would you wire both branches?

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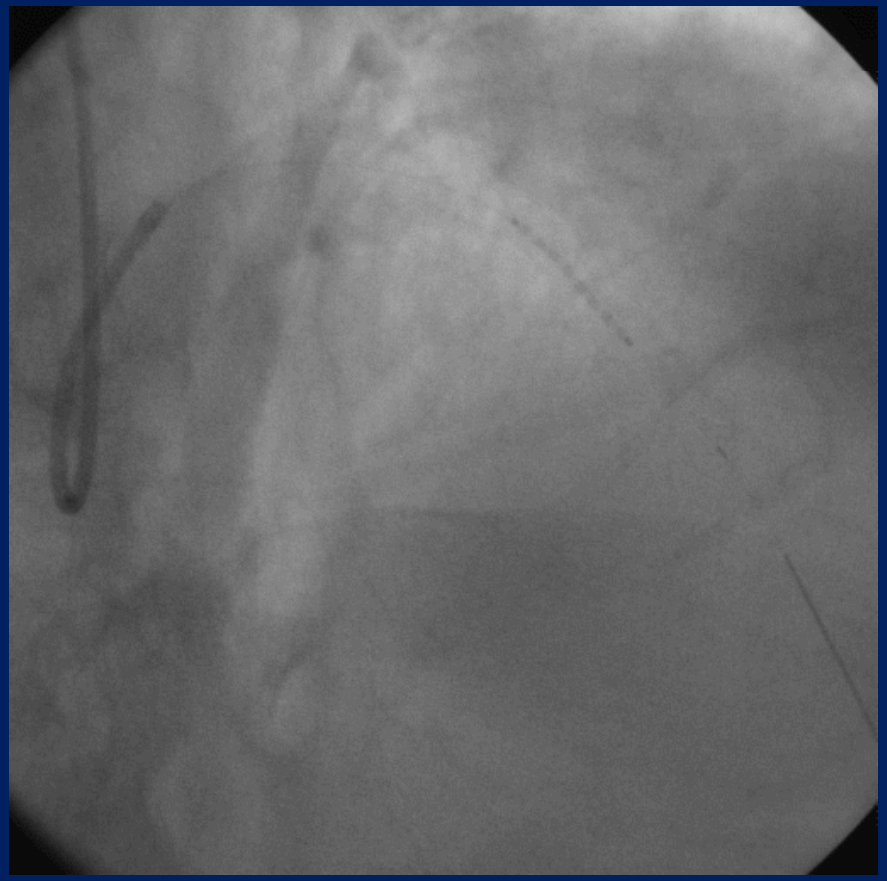
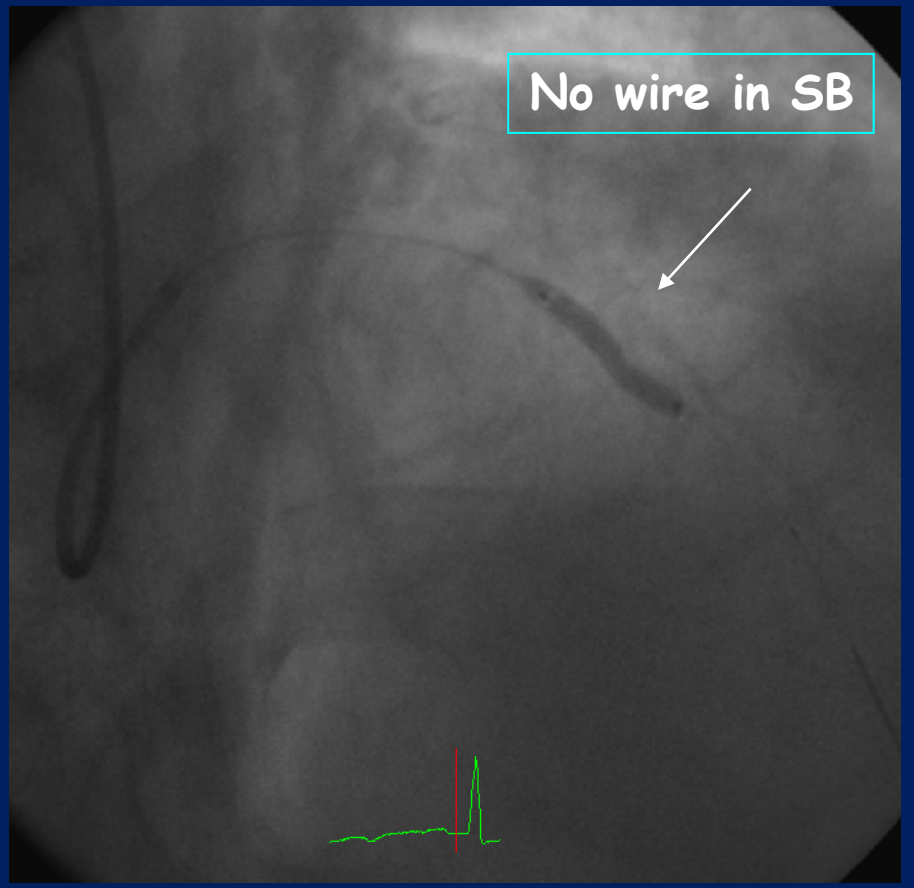
Case 2





EES 3.0x18mm

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Case 2

After Stenting the MB.. Occlusion of SB>>
Pt started to complain angina and at EKG ST elevation in lateral leads..

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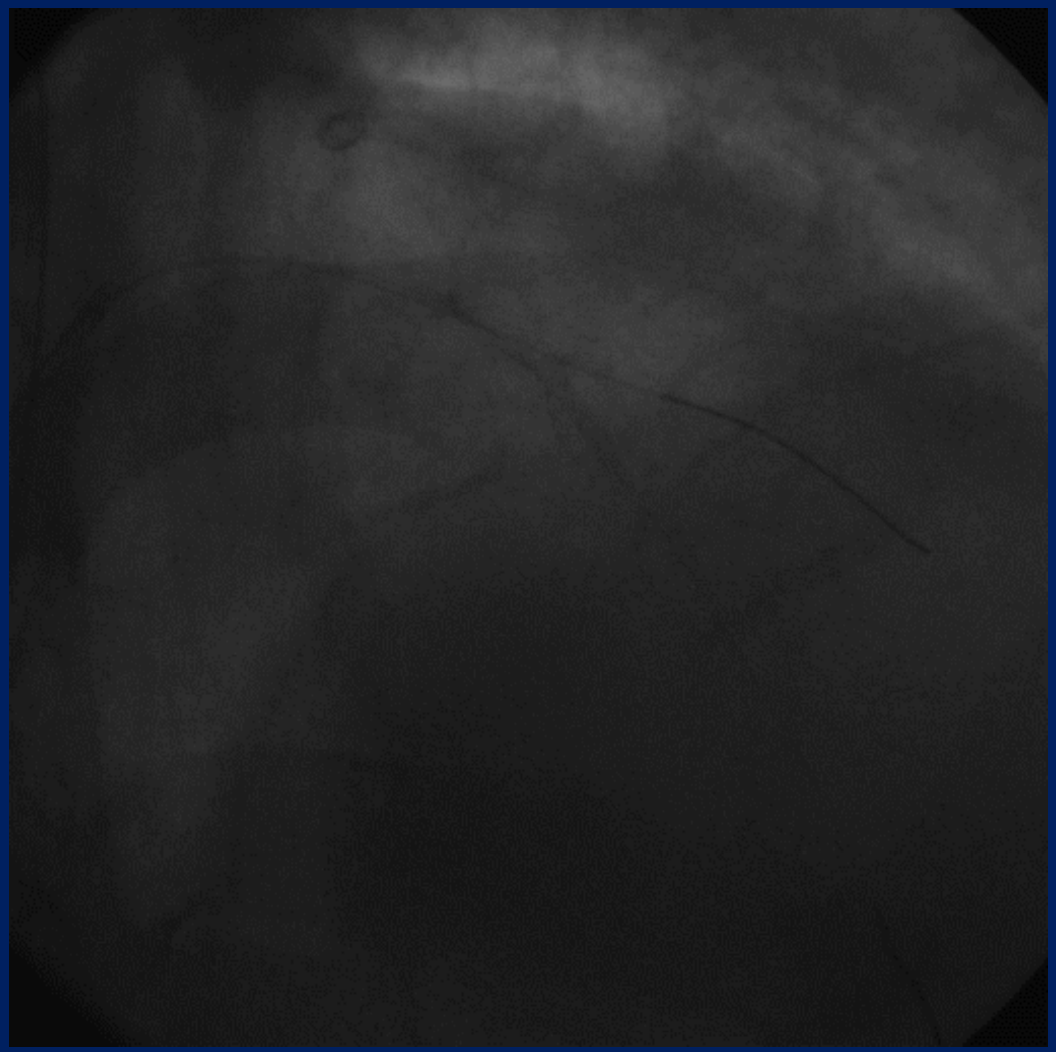
Case 2



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Why wire both branches?

- Protects SB from closure due to plaque shift and/or stent struts during MB stenting
- Jailed SB wire facilitates re-wiring of the SB:
  - widening the angle between the MB and SB
  - by acting as a marker for the SB ostium if SB occludes
  - changing the angle of SB take-off
- In the Tulipe multicenter study, absence of this jailed wire was associated with a higher rate of re-interventions (OR:4.26; 1.27-14.35) during follow-up
- CAUTION WHEN REMOVING JAILED WIRES!

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Why Protect SB's?

- Occlusion of SB's >1mm associated with 14% incidence of Myocardial Infarction
  - Arora RR et al. Cathet Cardiovasc Diagn 1989;18:210-2.
- SB closure associated with large periprocedural MI
  - Chaudhry EC et al. J Thromb Thrombolysis 2007.

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Case 3. Provisional can be risky

Baseline

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Predilatation

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After predilatation

HSR

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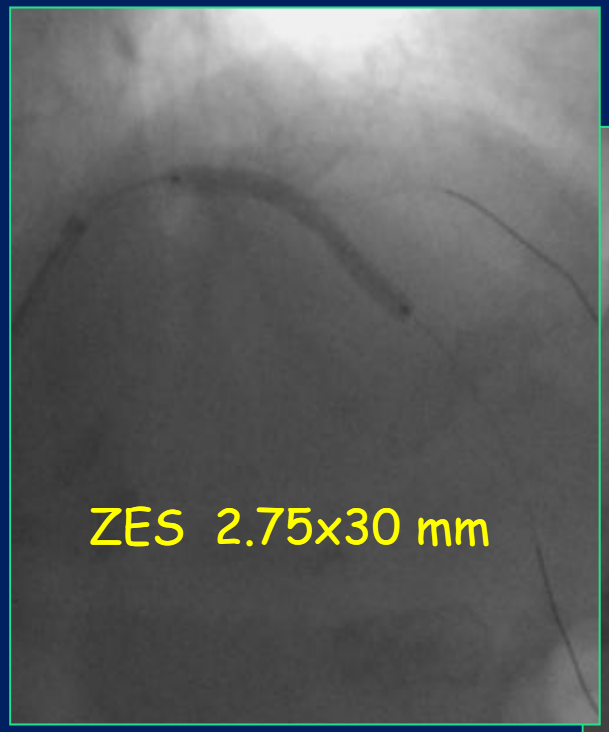
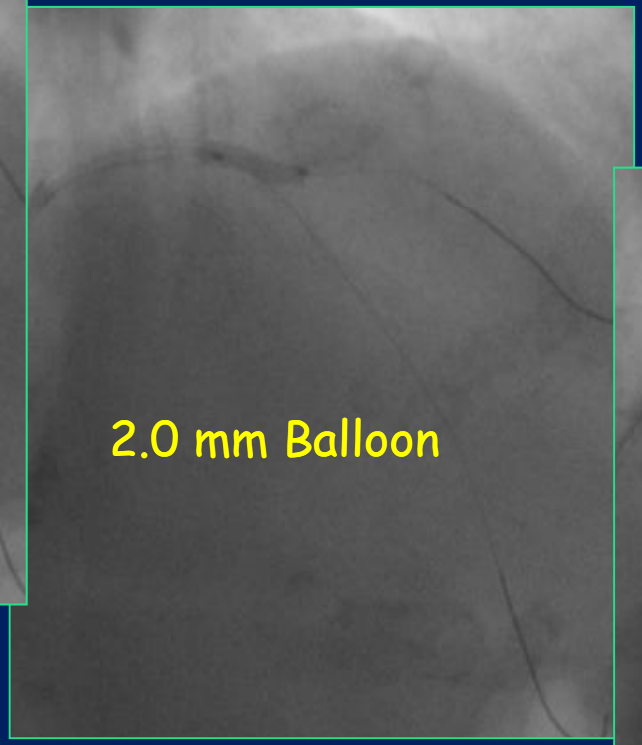
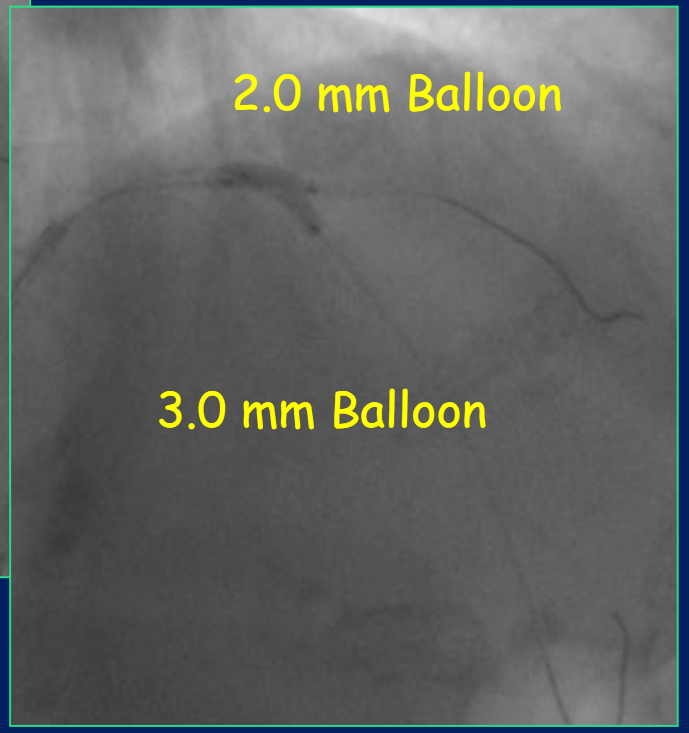
Provisional can be risky



Stenting
LAD



Dilatation to
Ostial Diagonal



FKB

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Provisional can be risky

After Kissing – Severe haemodynamic compromise

HSR

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True Bifurcation

(significant stenosis on the main and side branches)

No

Yes

Provisional SB stenting

Is SB suitable for stenting?

No

Yes

Stent on MB
"Keep It Open" for SB

SB disease is diffuse &/or not localized to within 3 mm from the ostium?

No

Yes

Provisional SB stenting

Elective implantation of two stents (MB and SB)

?

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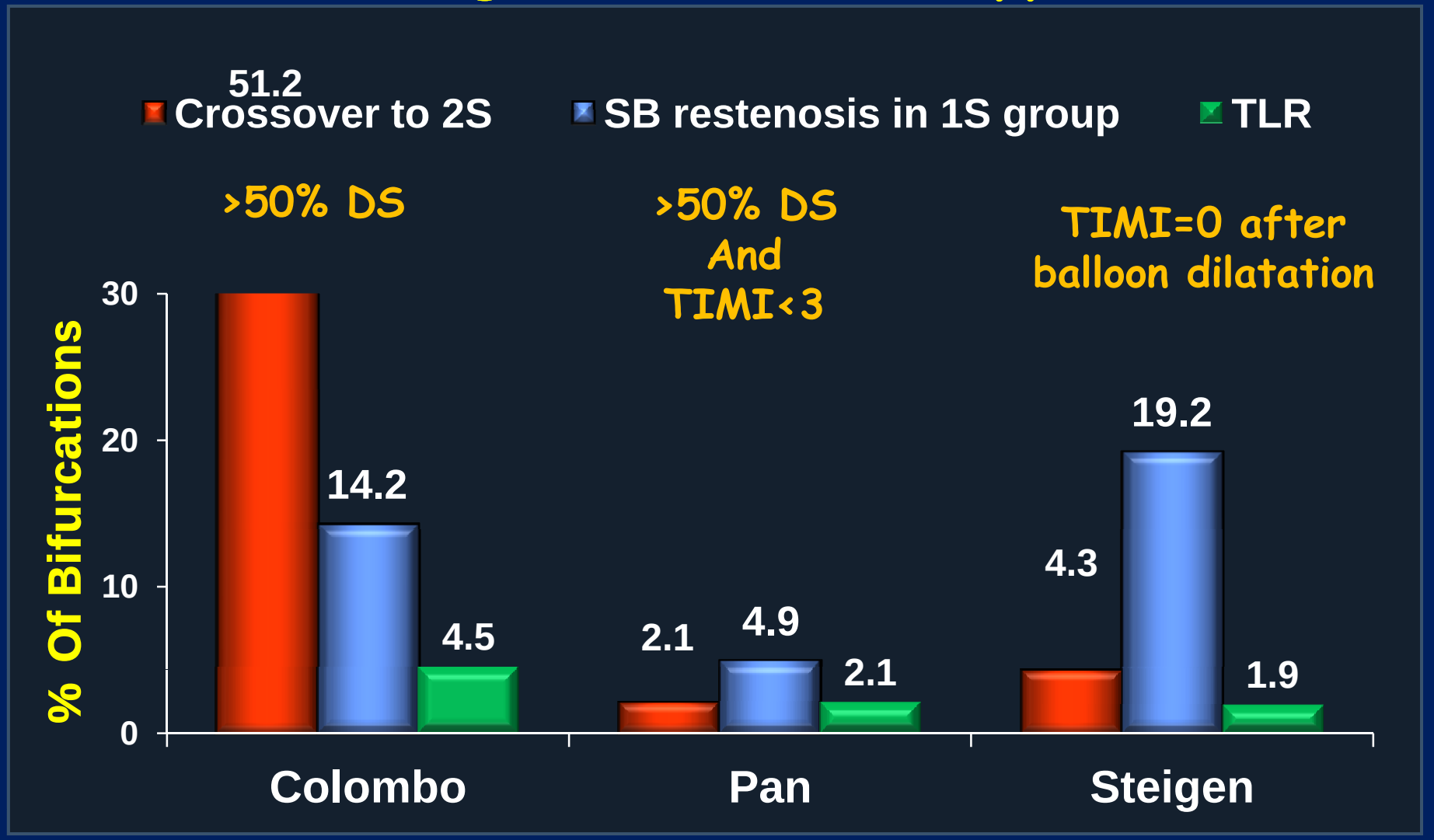
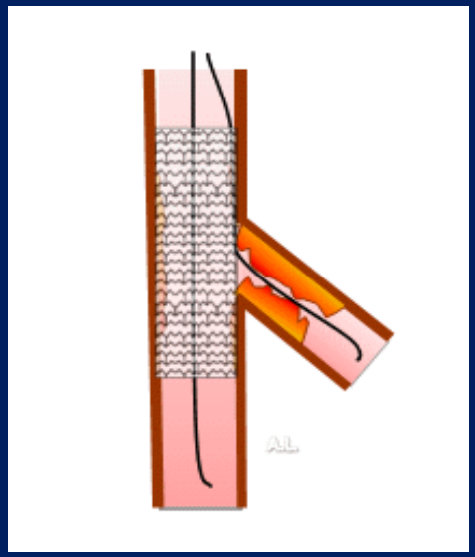
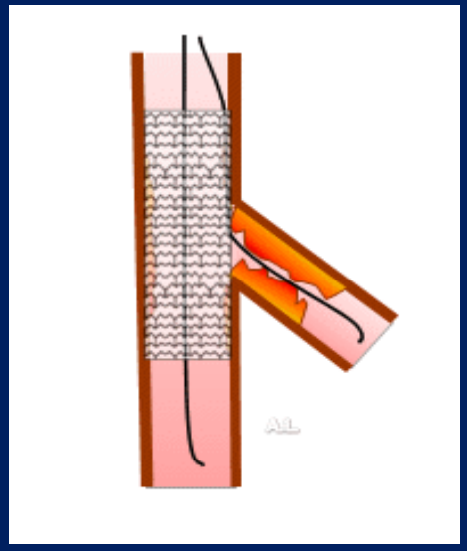
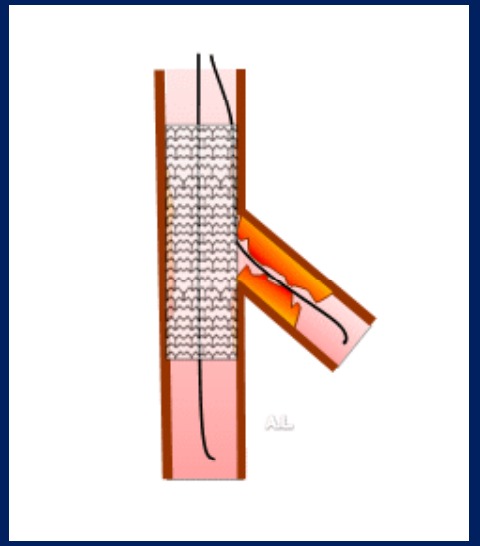
How often do we need a second stent when using the Provisional approach?



•Colombo A, et al. Circulation 2004;109:1244-9
•Pan M, et al. Am Heart J 2004;148:857-64.
•Steigen TK, et al. Circulation 2006;114:1955-61.

Provisional Approach -requiring a 2nd stent in the SB

	TAP	Reverse Crush	Culotte
			
Advantages	Easy to perform No recrossing	Complete coverage of ostium Any anatomy	Complete coverage of ostium
Disadvantages	Struts protruding into MB	Recrossing into SB 3 layers of struts	More labourious Rewiring both branches Double stent layer

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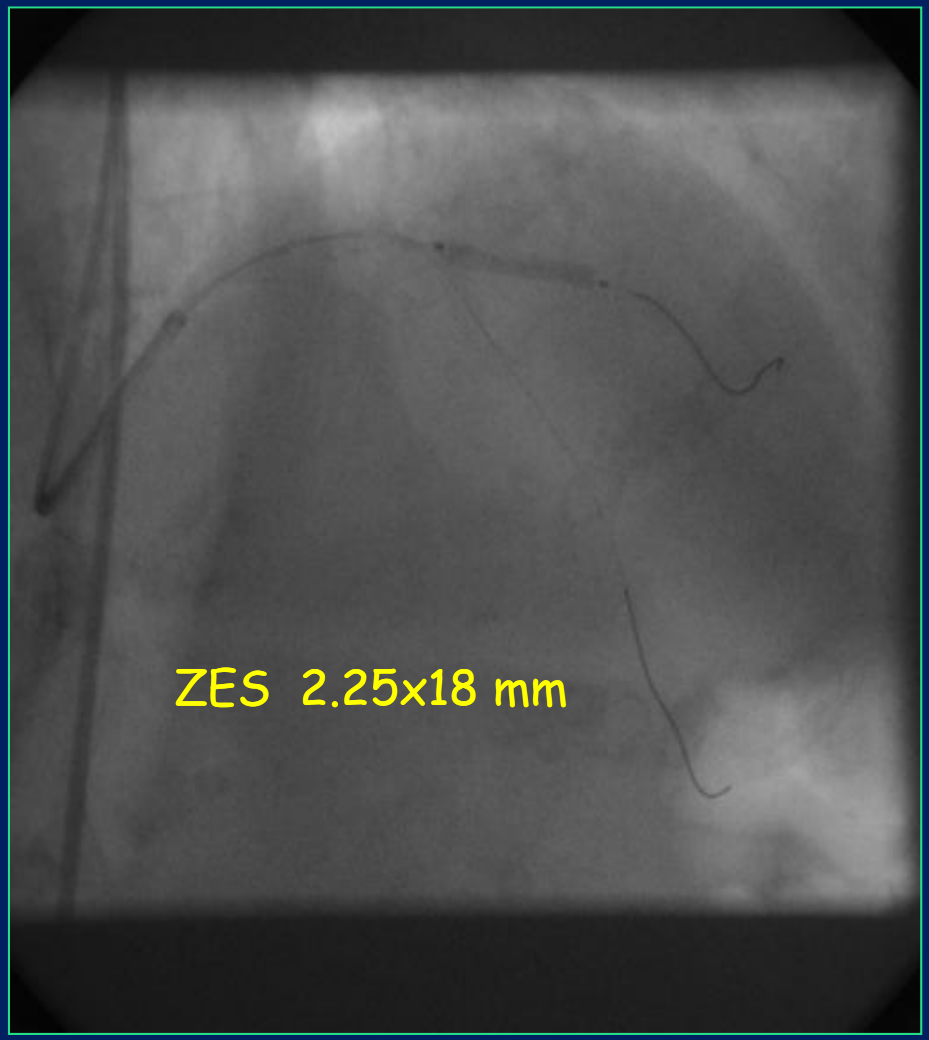
Provisional can be risky



TAP

HSR

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Provisional can be risky

After Side-Branch
Stenting

HSR

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Kissing

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Provisional can be risky

Final Result

HSR

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Conclusions

- No two bifurcations are identical and an individualized approach is appropriate.
- Strategy is determined by the size, importance and extent of disease as well of the take off of the SB.
- The provisional strategy (or KIO) is appropriate in the majority of true and non-true bifurcations.
- When performing provisional approach it is advisable to leave a wire in the SB.
- Consider that there is a crossover rate to 2 stents (depending on operator threshold) from 5-30%.