COMPLEX PCI 2022

How to treat Left-Main and non Left-Main bifurcation PCI

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Disclosure

- None

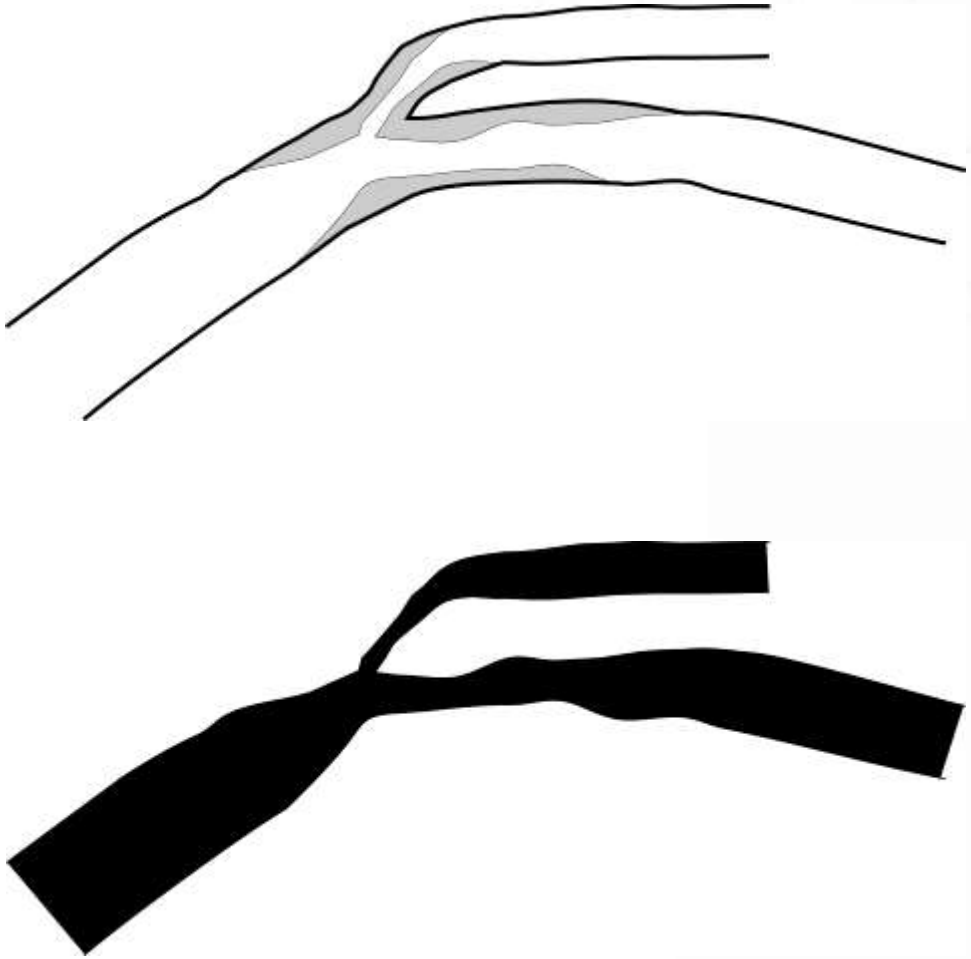
General rules for bifurcation PCI

(as for all complex PCI)

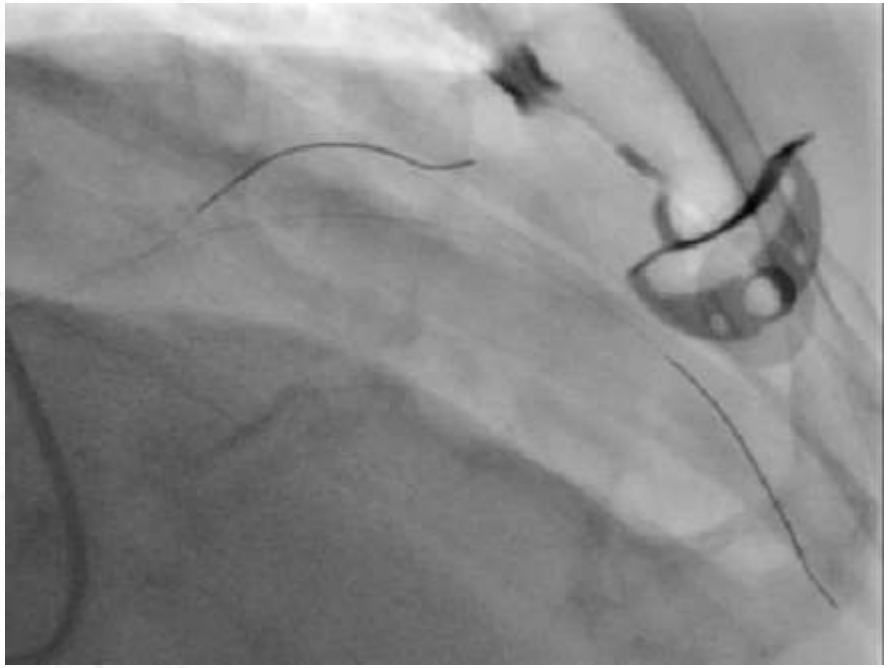
- Plan the case (No had hoc PCI), control of ACT (>300).
  - Strategy, back-up strategy, IC imaging?
- Back-up support is crucial
  - Prefer EBU/AL/3DR
  - Use workhorse wires
- Wire the side branch
  - Good marker of bifurcation
  - Facilitate wire recrossing, especially if the SB is occluded after stenting.

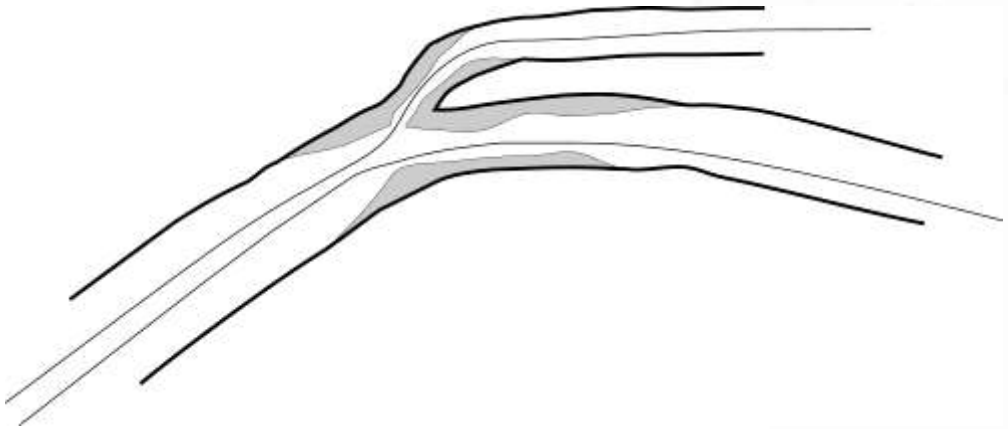
- POT is mandatory
- Kissing should be done easily

Provisional stenting
Baseline

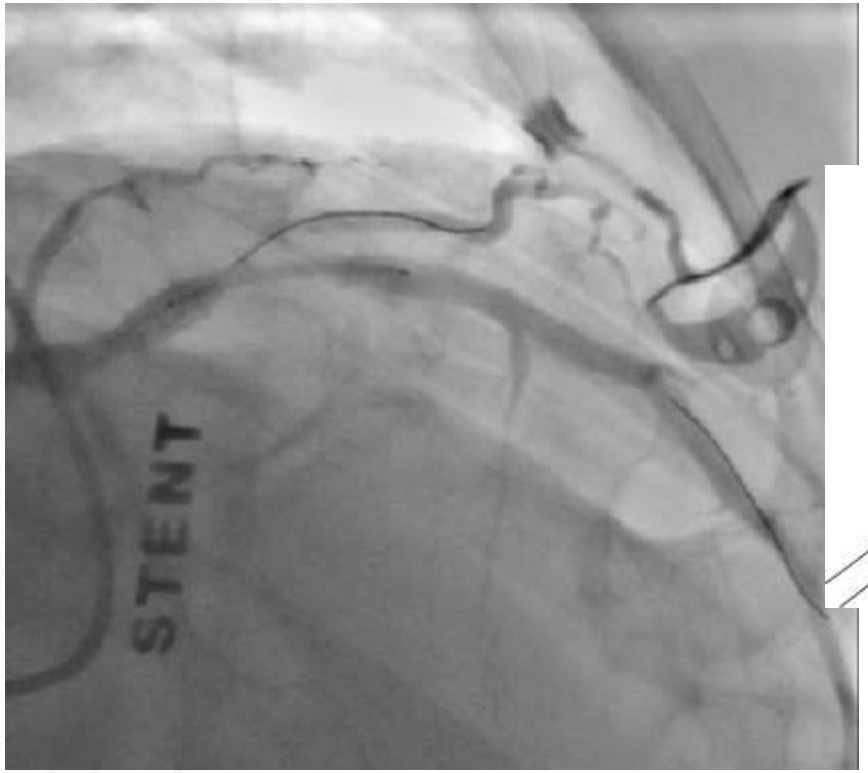


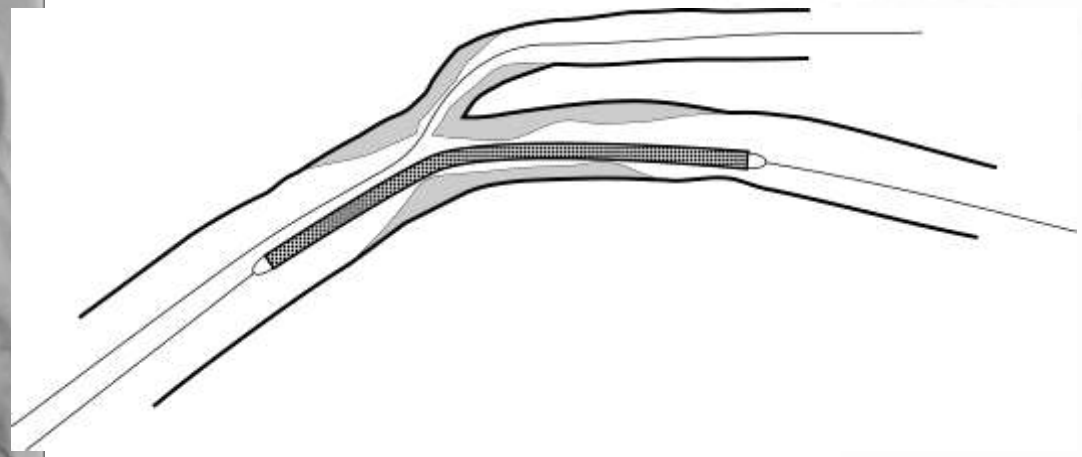
Wiring of both branches



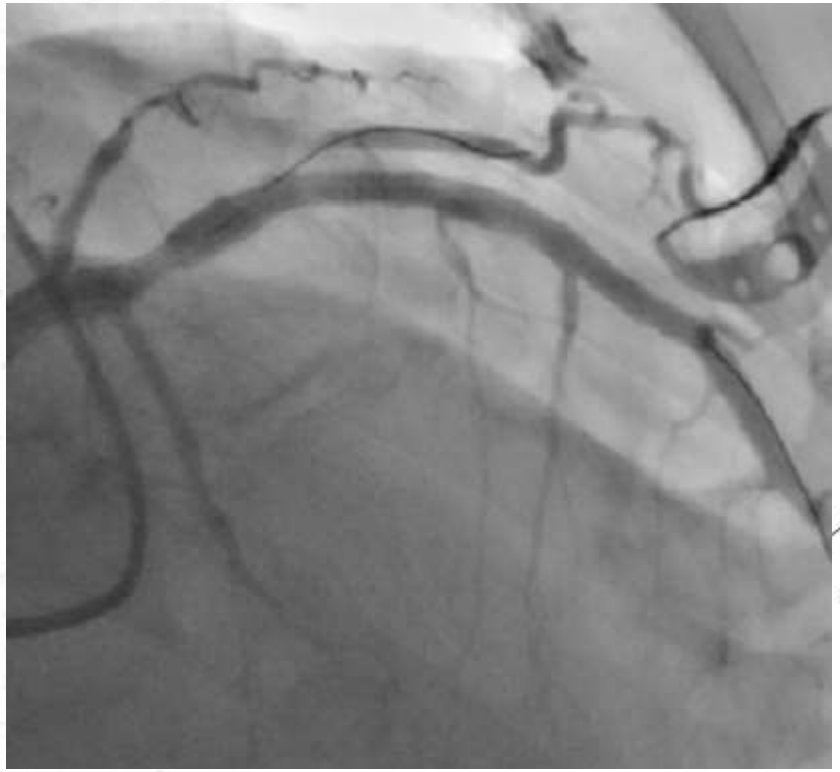


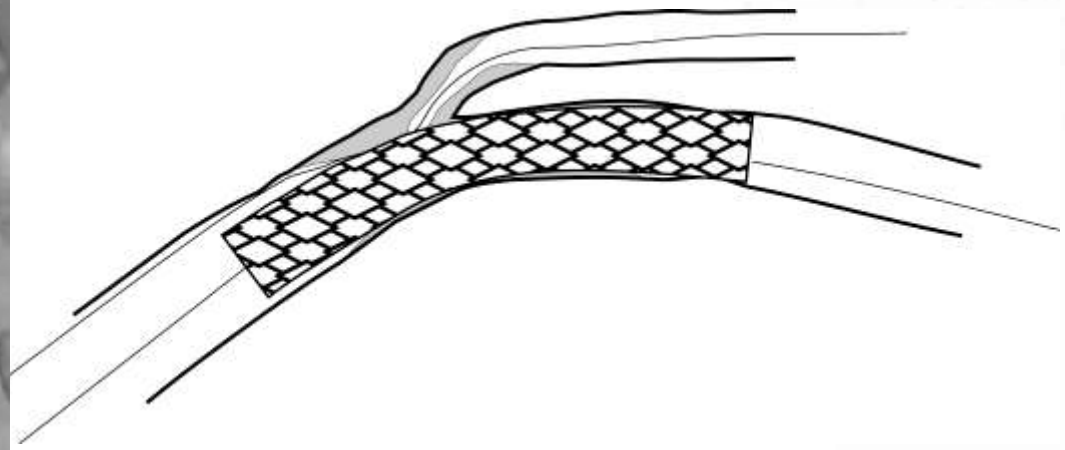
Main branch stent positioning and deployment



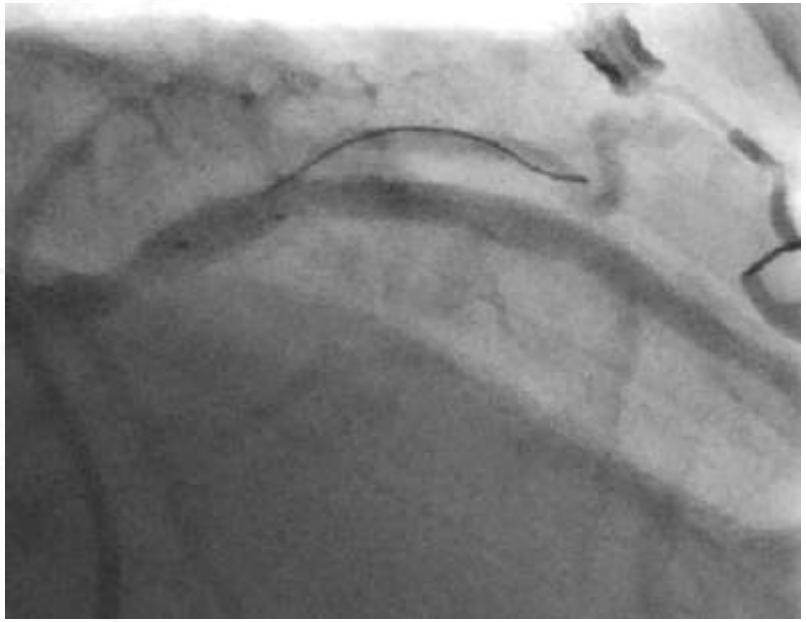


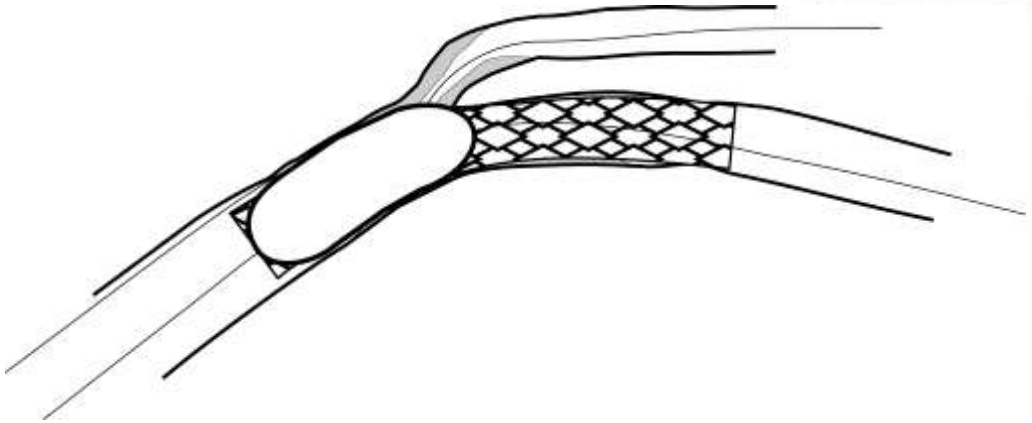
Result after main branch stent deployment



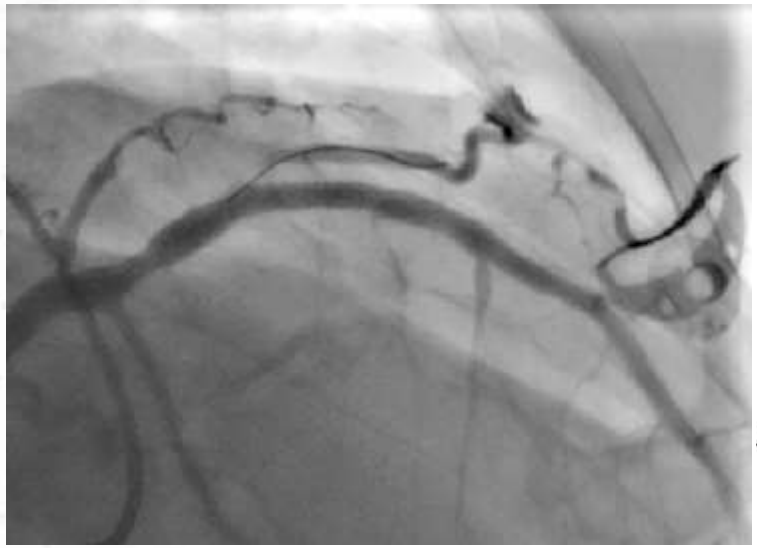


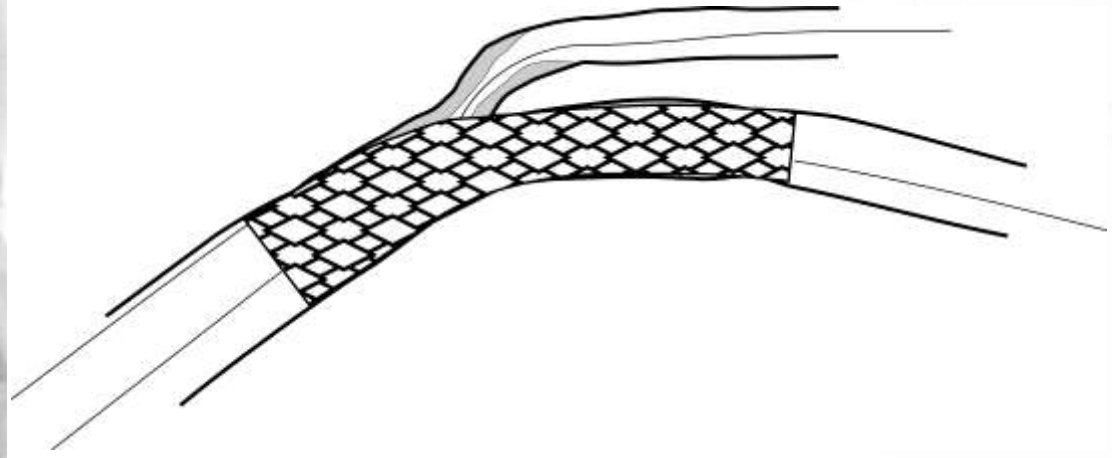
Proximal optimisation – POT



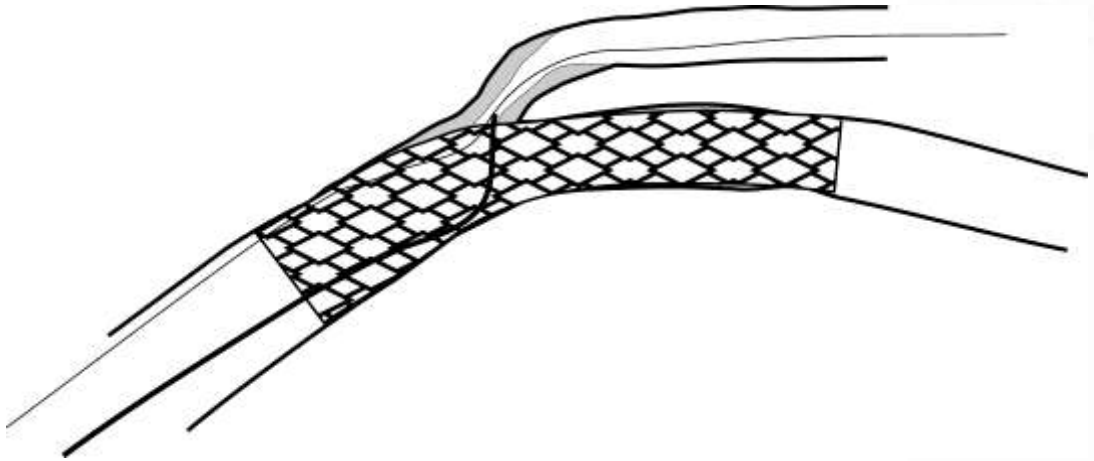


Result after POT

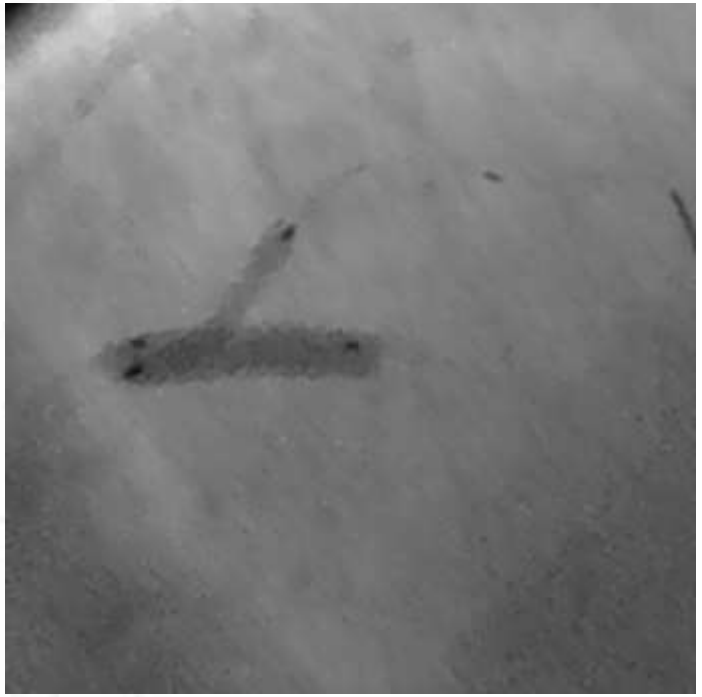


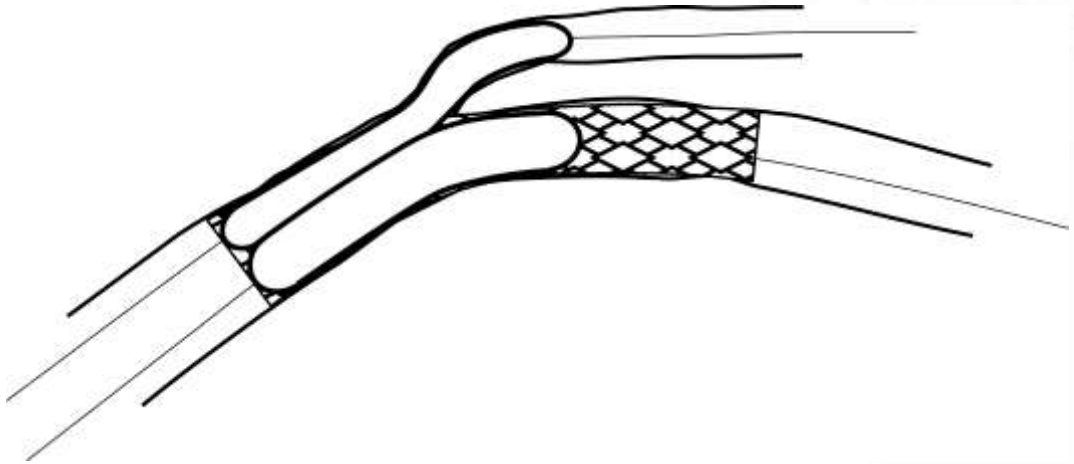


Side branch rewiring

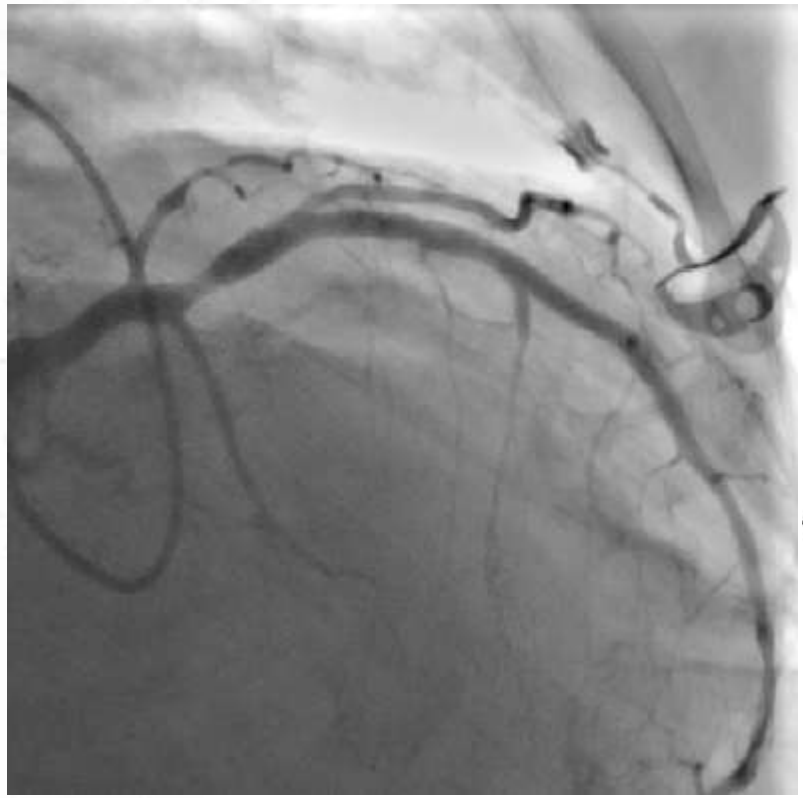


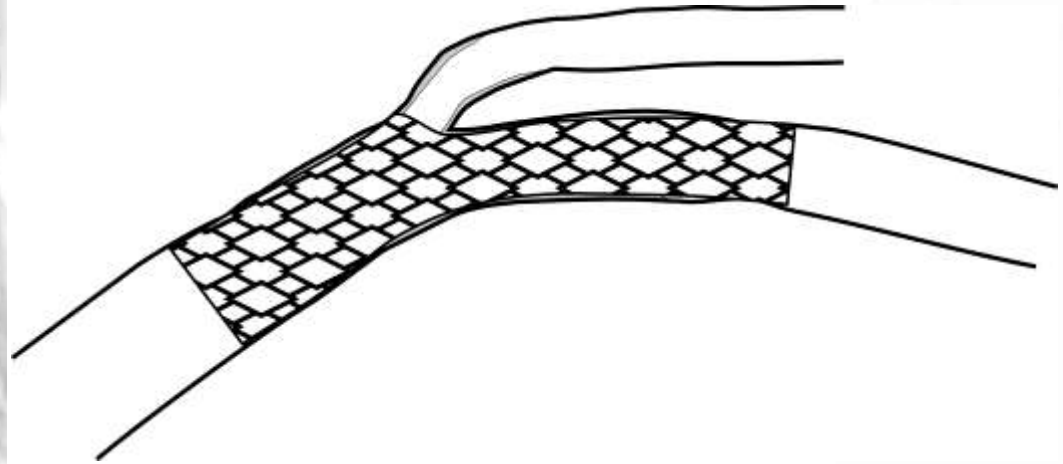
Final kissing





Final result





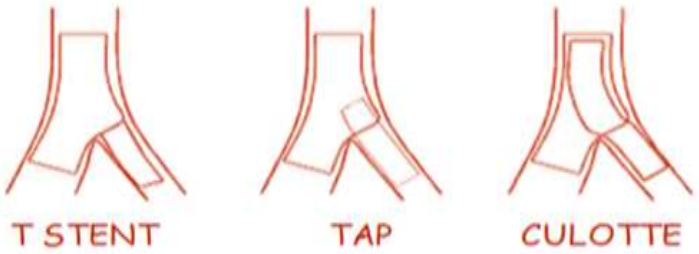
Main technical options for elective double stent implantation

“True” bifurcation lesion with an important SB > 3-5 mm lesion lenght

No risk of loosing the SB after MB stenting

Major concerns regarding the SB after MB stenting

MB stenting followed by planned SB implantation



Always end with a Final Kiss !

Main technical options for elective double stent implantation

“True” bifurcation lesion with an important SB > 3-5 mm lesion lenght

No risk of loosing the SB after MB stenting

Major concerns regarding the SB after MB stenting

Mini DK-CRUSH

Inv. MB stenting accross SB

POT, distal MB rewiring, MB dilation

Inv. Culotte

Inv. Elective T stenting

Inv. TAP

Always end with a Final Kiss !

What is different with the LM ?

- ✓ Older patients, more calcifications
- ✓ T-shape angulation
- ✓ Ostium involved
- ✓ SB not small

What is different with the LM ?

1. More calcifications:

- ✓ Lesion preparation
- ✓ Stent capacity

Stent Characteristics

	Synergy	Xpedition	Res. Onyx	Ultimaster	BioMatrix A	Orsiro
2.25	Small vessel (8 crowns, 2-4 connectors)	Small vessel (6 crowns, 3 connectors)	Small vessel (6.5 crowns, 2 connectors)	Small vessel (8 crowns, 2 connectors)	Small vessel (6 crowns, 2 connectors)	Small vessel (6 crowns, 3 connectors)
2.50						
2.75			Medium vessel (8.5 crowns, 2 connectors)			
3.00	Workhorse(8 crowns, 2-4 connectors)					
3.50		Large vessel (9 crowns, 3 connectors)	Large vessel (9.5 crowns, 2.5 connectors)	Large vessel (8 crowns, 2 connectors)	Large vessel (9 crowns, 3 connectors)	Large vessel (6 crowns, 3 connectors)
4.00	Large vessel (10 crowns, 2-5 connectors)					
4.50			Extra-Large vessel (10.5 crowns, 2.5 connectors)			
5.00						

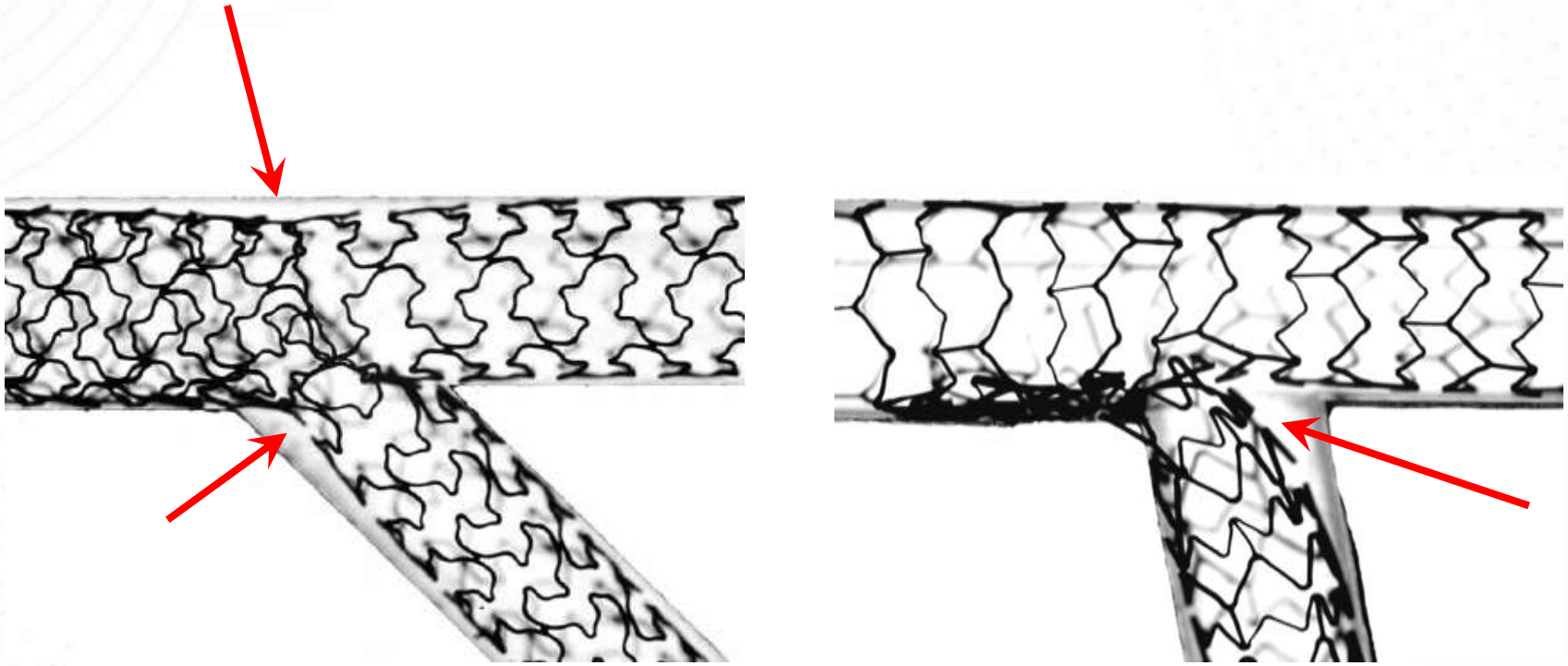
N. Foin et al. *Int J cardiol 2016*

What is different with the LM ?

2. T-shape angulation

- ✓ Sb access more difficult
- ✓ Crush or Culotte not optimal

What is different with the LM ?



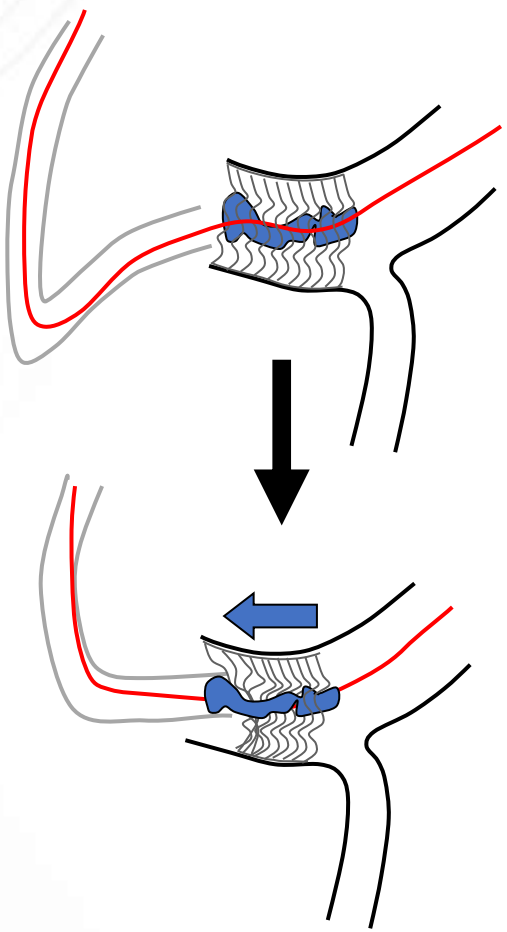
Courtesy of John Ormiston

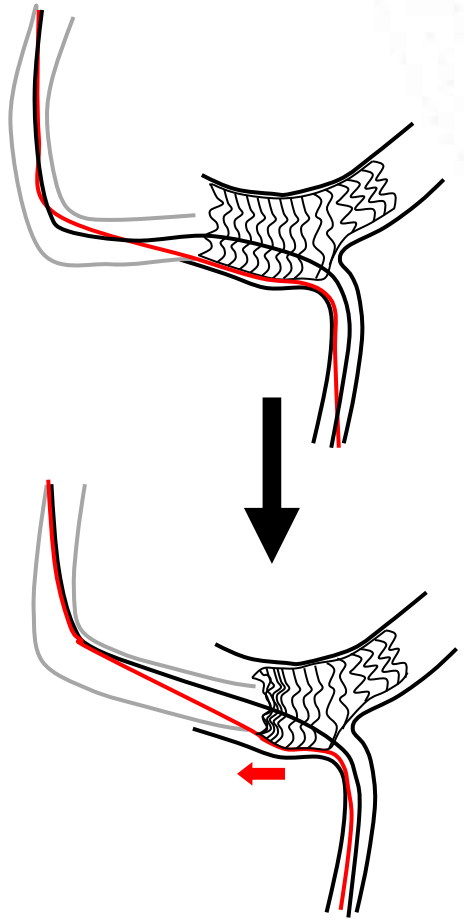
What is different with the LM ?

3. Ostium involved

- ✓ Risk of geographical miss
- ✓ Risk of longitudinal compression
- ✓ Risk of wiring under the stent

Longitudinal compression





What is different with the LM ?

4. Side branch not small

- ✓ Should stay open

  Murray’s law

  Start with 2 wires

- ✓ Role of POT
- ✓ Treshold for SB stenting
- ✓ Role of IC imaging ++

Conclusion

- Provisional strategy is the gold standard for most bifurcation PCI even LM bifurcation.
- Be prepared for complex PCI but try to keep it simple as possible (not simpler)
- More important than the issue of whether a one-stent or a two-stent should be used is to ensure that **the procedure is done to a high standard**

with **a good understanding of the role of adjunctive techniques**

such as **proximal optimisation, kissing balloon,**

and intra-coronary imaging