BVS For Long, Heavily Calcified True Bifurcation Stenosis (Medina 1,1,1)

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Potential Advantages Of BVS over DES
They Do Their Job & Disappear

- Elimination of chronic sources of vessel inflammation → reduced or abolished late stent thrombosis
- Less late stent malapposition
- Freedom from strut fracture-induced restenosis.
- Restoration of natural physiologic vasomotion & vascular remodelling
- Reduced neoatherosclerosis (which is more prevalent with DES > BMS)
- Freedom from side-branch obstruction by struts
- Facilitation of repeat treatments (CABG or PCI or pharmacologically induced plaque regression) to the same site
- Reduce life long DAPT
- Improved lesion imaging with CT or MRI
Long, Heavily Calcified True Bifurcation Stenosis
≈ Off-Label BVS Indication

How Can We Do It?

Lesion preparation

- Balloon:
  - semicompliant / non compliant / cutting balloon?
  - sequential or kissing?
- Rotablation

Stenting ("Scaffolding")

- Single or two BVS strategy?
- If two BVS: Cullote, Crush, Minicrush, DK crush, T/TAP, SKS?
- BVS only? Combination (BVS + BMS/DES/DEB/BVS)?
- To kiss or not to kiss? How to kiss?
Long, Heavily Calcified True Bifurcation Stenosis With Ectatic Proximal MV

Transradial approach: 7F GC

Baseline: 80% calcified, bifurcation stenosis (Medina 1, 1,1)
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Transradial approach:
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Baseline: 80% calcified, bifurcation stenosis (Medina 1, 1,1)
Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV

Mid-LAD

Note: concentric calcification (frames with *)
Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV

LAD bifurcation

Note: calcifications (in all frames)
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LAD mid-bifurcation
Diagonal 2 (D2)

Note: calcifications (in all frames)
Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV

Diagonal 2 (D2)
Adequate lesion preparation after predilatation with high pressure balloon to LAD & D2.

Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV
After deployment of **BVS in LAD**, then kissing balloon inflation (LAD/D2)

Deployment of **BVS in D2**, followed by kissing balloon inflation (LAD/D2)

7F GC cannot take 2 BVSs

Final kissing balloon dilatation (high pressure balloon)

**Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV**
Dissection, distal to the BVS in LAD was fixed with another long 2.5x28 mm BVS.
Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV

Mid-LAD

Overlapped BVSs

Calcification
Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV

LAD bifurcation

Note: extensive calcifications (in all frames). Small, nonsignificant dissections noted

Kissing BVSs
Heavily Calcified Bifurcation Stenosis With Ectatic Proximal MV

Diagonal 2 (D2)

Kissing BVSSs, creating new carina
Summary:
Long, Heavily Calcified True Bifurcation Stenosis With Ectatic Proximal MV

- **BVS can be implanted** in long, heavily calcified, true bifurcation stenosis with excellent result
- **OCT is important** for assessment of before, during and after implantation:
  - Plaque burden, composition & distribution
  - Assessment of true luminal size
  - Selection of treatment strategy
  - Selection of the appropriate BVS size & length
  - Assessment of result & avoiding complication
- However, to date, **it is unknown**, what type of calcified and bifurcation lesion can be best & safely treated with BVS & what technique is the most suitable