New Double Stent Technique

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“New Double Stent Technique”

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Disclosure
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LESION ASSESSMENT (IVUS and FFR)

Does the lesion contain any of the following:
1) Bifurcation Angle > 70º
2) SB Diameter > 2.0 mm
3) Moderate to large area of myocardium supplied by SB
4) IVUS Eyebrow Sign

TREAT PRIMARY MB LESION

One-Stent Technique with Provisional SB Stenting

SB Diameter and Lesion Length

D: < 2.5 mm or L: < 10 mm

Two-Stent Technique

D: ≥ 2.5 mm and L: ≥ 10 mm

If YES, consider Jailed Balloon Technique

Does the following occur:
1) Chest Pain
2) < TIMI 3 Flow in the SB
3) Flow limiting dissection

Perform the following:
1) Proximal Optimization Technique
2) Provisional SB PTCA/Stenting

FKI/SMS and POST-PCI FFR /IVUS Imaging

Culotte‡
DK CrushΩ
Jailed Stent Balloon* Other-----
Jailed Stent Balloon - *Two Stent Technique (JSBT)*

*Step 1:*

Wire both MB/SB
Step 2: Angioplasty SB
Jailed Stent Balloon - Two Stent Technique (JSBT)

Step 3:
Angioplasty MB
Jailed Stent Balloon - *Two Stent Technique (JSBT)*

**Step 4:**

Deploy SB Stent
Step 5:

Partially Withdraw SB Stent Balloon and Deploy MB Stent
Jailed Stent Balloon - *Two Stent Technique (JSBT)*

**Step 6:**

Inflate SB Stent Balloon to Correct SB Stent Deformation
Step 7:

Inflate MB Stent Balloon to Correct MB Stent Deformation

Jail SB Wire To Facilitate Recross
Step 8 Optional:

Recross SB if Needed and Pull Jailed Wire

Proximal Optimization of MB Stent
Step 9 Optional:
Recross SB and Pull Jailed Wire
“Kissing” OR Sequential “Side-Main” Inflation at Neo-Carina
Clinical Presentation

- The patient is a 78-year-old male with a history of hypertension, hyperlipidemia, peripheral artery disease with ulcers and neuropathy, hyperlipidemia, peripheral arterial disease, coronary artery disease status-post multi-vessel PCI in the past.
- He presented with acute coronary syndrome.
- He underwent a cardiac catheterization which revealed a high grade 95%+ subtotal occlusion of the distal left main with TIMI 2 flow in the left anterior descending coronary artery and also into the circumflex system.
- He developed cardiogenic shock and subsequently had an IABP placed and started on Levophed and Dobutamine.
- The patient was seen evaluated by CTS in consultation and it was felt that due to the patient's cardiogenic shock, severe depressed ejection fraction, renal insufficiency (Cr of 2.93) and recent myocardial infarction he was felt to be very high risk for death during surgery.
- After this was discussed with the family and CCU Attending, the decision was then made to proceed with complex percutaneous coronary intervention since this was the patient's only hope at achieving recovery.
Diagnostic Angiography
Diagnostic Angiography
Laser/Angioplasty
Laser/Angioplasty
Jailed-Stent Balloon Technique
Jailed-Stent Balloon Technique

9th European Bifurcation Club meeting - London, UK - 18th & 19th October 2013
Jailed-Stent Balloon Technique
Jailed-Stent Balloon Technique
Proximal Optimization
S,M Post-Dilitionation
S,M Post-Dilitionation
Final Kissing Inflation
Final Angiography
Clinical Presentation

• The patient is a 48-year-old white male with a history of hypertension. He presented to the emergency room with acute onset of chest discomfort radiating to the back.
• His initial EKG showed diffuse ST segment changes.
• He underwent a CT scan to rule out dissection which was negative.
• Subsequent EKG showed ST segment elevation in the anterolateral leads with reciprocal changes and hence was referred for emergent cardiac catheterization.
Diagnostic Angiography
Intervention
Intervention
Intervention
Intervention
Intervention
Intervention
Intervention
Intervention
Intervention
Jailed-Stent Balloon Technique
Jailed-Stent Balloon Technique
Jailed-Stent Balloon Technique
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Jailed-Stent Balloon Technique
Intervention
Proximal Optimization
S,M Post-Dilitionation
S,M Post-Dilation
Final Kissing Inflation
Conclusions

- Our experience with the “jailed-stent balloon technique” for double stent bifurcation lesions results in:
  - ~30 patients since January 2013
    - QCA Ongoing
  - Excellent procedural success
  - 100% patency of the SB
  - Preservation of the bifurcation angle Post-PCI
  - Very low rates of TLR
  - Low incidence of adverse cardiac events

- Improved long-term outcomes with the use of the JSBT primarily through lower rates of TLR
Summary

• Pre-treatment IVUS and FFR is strongly encouraged.
• Sizing the MB stent to the distal MB reference diameter is crucial.
• POT and S,M or FKI should be performed in all double stenting cases.
• Post-treatment IVUS should be used to optimize the results.
Thank You

Questions

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