OCT for BVS implantation in bifurcation lesions

Robert-jan van Geuns, MD, PhD
Thoraxcenter, ErasmusMC
Rotterdam, The Netherlands
OCT for bifurcations

- Coverage and Tissue bridges
- Deformation of struts in provisional strategy
  - Deformation or strut fractures?
- Sustained effect or recoil of polymere backbone?
- Deformation in two stent/scaffold strategy
Bifurcations

Okamura et al.
EHJ 2010

9th European Bifurcation Club meeting - London, UK - 18th & 19th October 2013
Provisional strategy with BVS

71 year old male, Stable Angina. MVD

Pre-procedure

pre-dilatation: Abbott Trek® 2,5 x 20 mm

BVS Absorb® scaffold 3,0 x 18 mm
Provisional strategy with BVS

LCA

Pinched side branch

Haziness

Angiogram

BVS Absorb® scaffold 3,5 x 18 mm

Result distal scaffold

Opening struts: Abbott Trek® 2,5 x 12 mm

POT: Trek 3.5 x 15 NC

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Provisional strategy with BVS

LCA

OCT distal scaffold final result (2)

A

B diagonal

C

Distal << Proximal, 54.0 mm, 20.0 mm/sec

St. Jude Lightlab Illumien® Dragonfly®
Provisional strategy with BVS

OCT scaffolds 3D reconstruction (1)
Sustained effect?
Case CTO + Bif

**Baseline procedure**

- Pre-procedure
- Wire passage
- Pre-dilatation 2.5 x 20mm
- Scaffold positioning
Case CTO + Bif

Baseline procedure

Scaffold implanted
3.0 x 28mm

Final result

Postdil. Diagonal
2.0 x 12 mm

Postdil. LAD
2.75 x 15mm
Case description

CTO & Bifurcation

Baseline OCT post procedure

Proximal marker

Distal marker

Septal diagonal

Suspected spasm
Case description

CTO & Bifurcation

Ostium post-dilatation

0.49 >> 1.13 mm²

QCU-CMS® Medis Medical Systems Leiden NL
Case description

CTO & Bifurcation
Case description
CTO & Bifurcation

2 mth follow up procedure
Case description

CTO & Bifurcation

2 mth follow up OCT 3D reconstruction

1.13 >> 1.61 mm²
- Sustained effect of deformation?
- Case CTO + Bif

**OCT 3D reconstruction**

*Opening carina diagonal*

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**Baseline**

**2 mth Follow up**

*Intage realia® Cybernet systems Japan*
Two scaffolds for bifurcation

CLS 3.5
Pilot 50. Ryujin 1.25x10

Re-canalization & pre-dilatation
Abbott Trek™ 2.0 x 15 mm

Miracle 3
BVS Absorb in CTO and bifurcation: Culotte technique

- **BVS 2,5 x 18mm**
- **Recross+ pre-dil**
- **BVS 3.0 x 28**
BVS Absorb in CTO and bifurcation: Culotte technique

BVS 2.5 x 18 distal
Sequential Balloons
Final result

BVS Absorb™ 2,5 x 18mm*
BVS Absorb™ 3,0 x 28mm#
BVS Absorb™ 2,5 x 18mm$
BVS Absorb in CTO and bifurcation: Culotte technique

**OCT final LCX**

St. Jude Medical C7™ Dragonfly™

Actual pullback speed 20mm/sec
BVS Absorb in CTO and bifurcation: Culotte technique

OCT LCX final

Proximal edge

Proximal

Overlap

distal

Bifurcation MO
BVS Absorb in CTO and bifurcation: Culotte technique

OCT final LCX

St. Jude Medical C7™ Dragonfly™
BVS Absorb in CTO and bifurcation: Culotte technique

OCT Final LCX

Intage Realia™ Cybernet systems™, Japan
Flythrough

Carina with MO
BVS Absorb in CTO and bifurcation: Culotte technique

OCT Final LCX

Intage Realia™ Cybernet systems™, Japan
OCT of BVS in Bifurcations

- Strut coverage and neointima bridge occur
- Stent deformation happens like metallic stents
- Deformation remains over time
- Strut discontinuities not observed yet
- 2 Scaffold strategy possible
- 3D-OCT illustrative
Bifurcations

Sept 1\textsuperscript{st} 2012

- BVS only

Jan 1\textsuperscript{st} 2013

- BVS approach: Sequential Balloons

Okamura et al. 
EHJ 2010
Case description
CTO & Bifurcation

2 mth follow up OCT 3D reconstruction
Carina diagonal branch

Intage realia® Cybernet systems Japan
Case description
CTO & Bifurcation

Baseline OCT 3D reconstruction
Carina diagonal branch

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Case 24(2)

LCA

Angiogram

Final result

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Case 24(2)

LCA  OCT distal scaffold final result (2)

3D created with Intage Realia® Japan

4594385 Film 122527: 1-Nov-2012: RG

St.Jude Lightlab Illumien® Dragonfly®
Case description

CTO & Bifurcation

2 mth follow up procedure
Case description

CTO & Bifurcation

Ostium follow up

0.49 >> 1.13 >> 1.61 mm²

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