

Seoul, Korea: 26-29 April 2016

Complex PCI: Left Main & Bifurcation

**BRS in bifurcation lesions:
advantage/disadvantages
compared to DES**

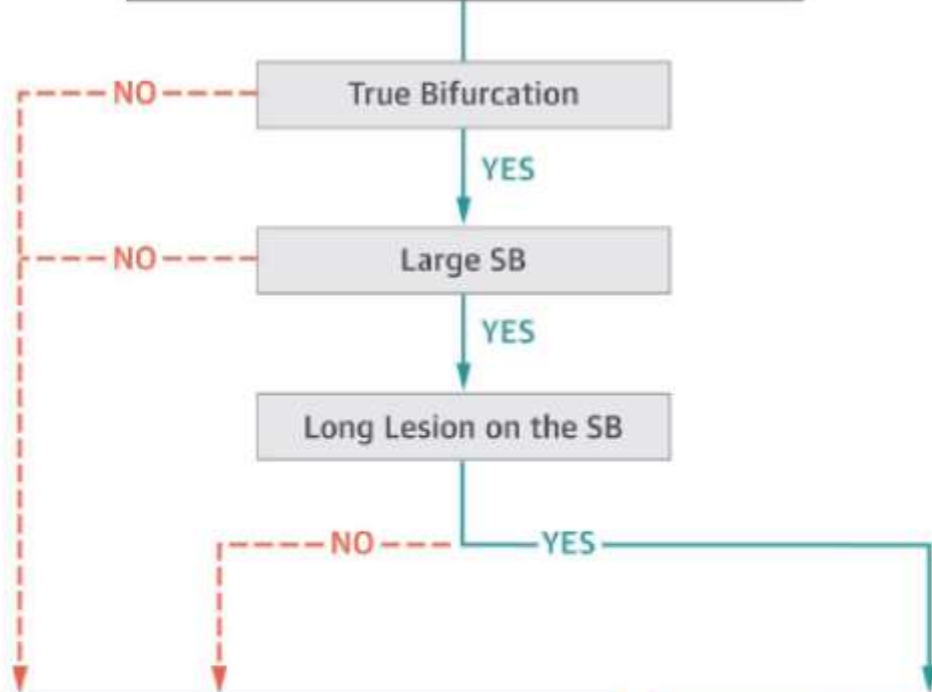
Speaker - 10'

Antonio Colombo

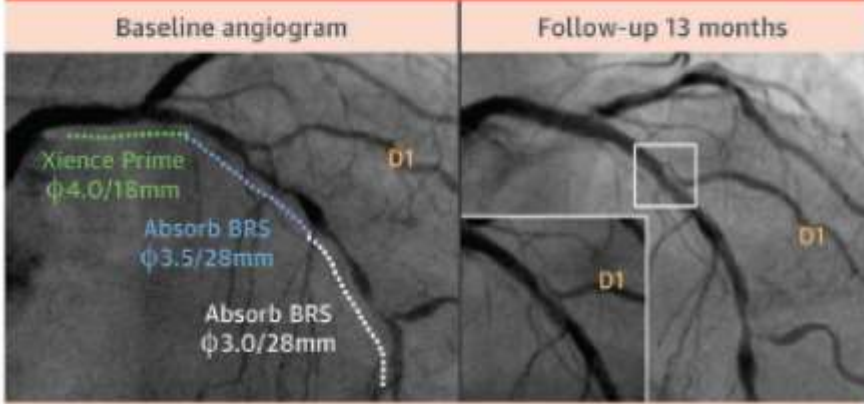
*Centro Cuore Columbus and
S. Raffaele Scientific Institute, Milan, Italy*

No conflicts to disclose

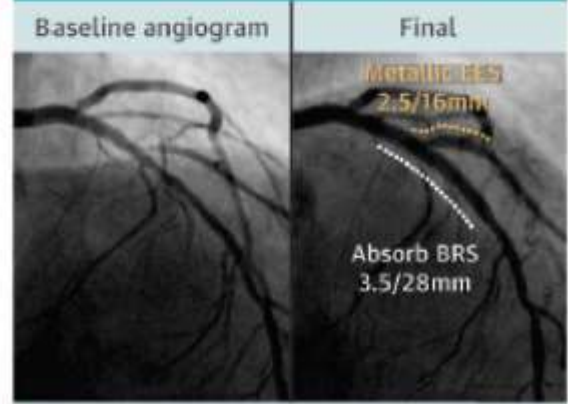
BRS IMPLANTATION TO BIFURCATION LESION



PROVISIONAL STRATEGY



ELECTIVE 2 BRS OR METALLIC DES ON SB



Provisional strategy: kissing and minimal protrusion only if SB has significant stenosis and is 2 mm or larger.

Cross-over to two stents with DES on SB with TAP

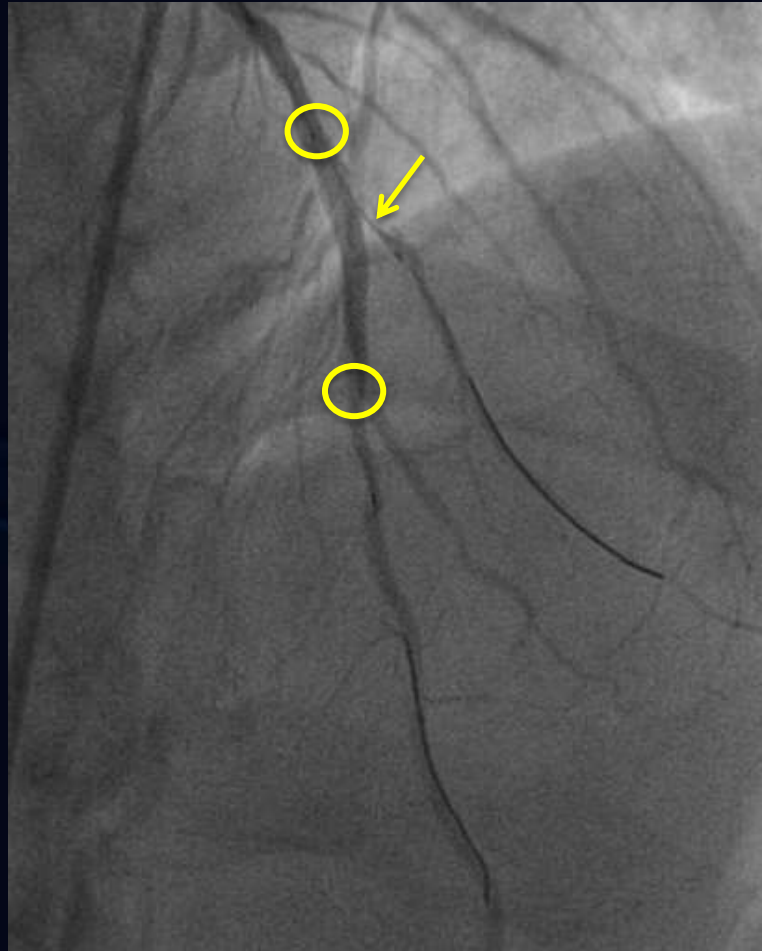
When two scaffolds are needed as intention to treat perform Mini-Crush with DES on SB and implant a scaffold on MB with only 1 kiss before implanting the scaffold on MB

Two scaffolds as intention to treat very rarely and only for large SB with close to 90° angle; SB scaffold implanted first without protrusion

Provisional and TAP with DES

January 12-14, 2015
London, Italy

TAP with BVS and metal DES

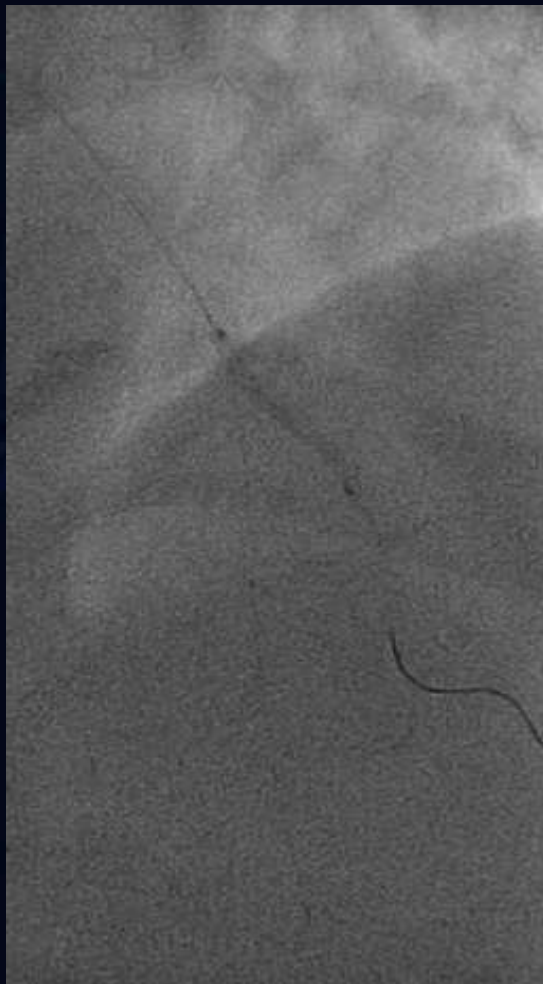


- BVS (3.0/28) implanted across diagonal (yellow circles point to proximal and distal markers)
- Significant stenosis at the ostium of diagonal

Suboptimal result following POBA at diagonal across the implanted BVS



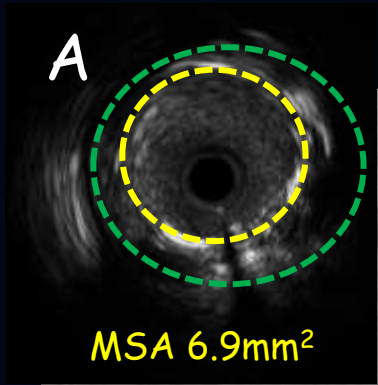
Dissection at D following DEB



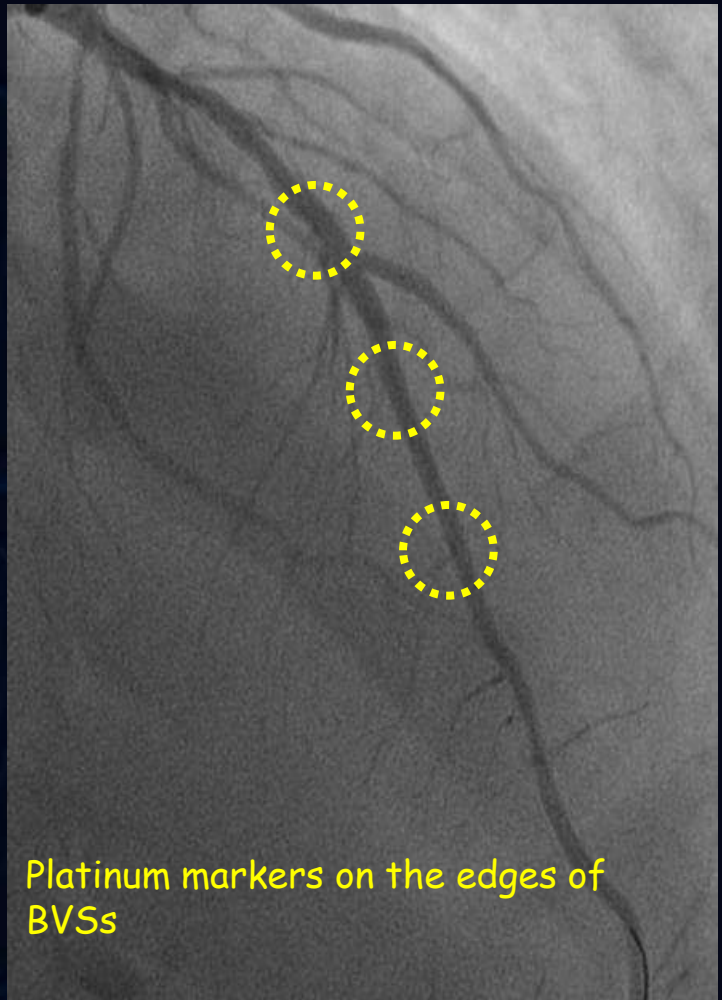
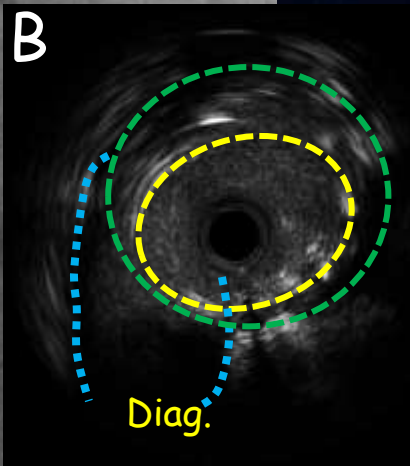
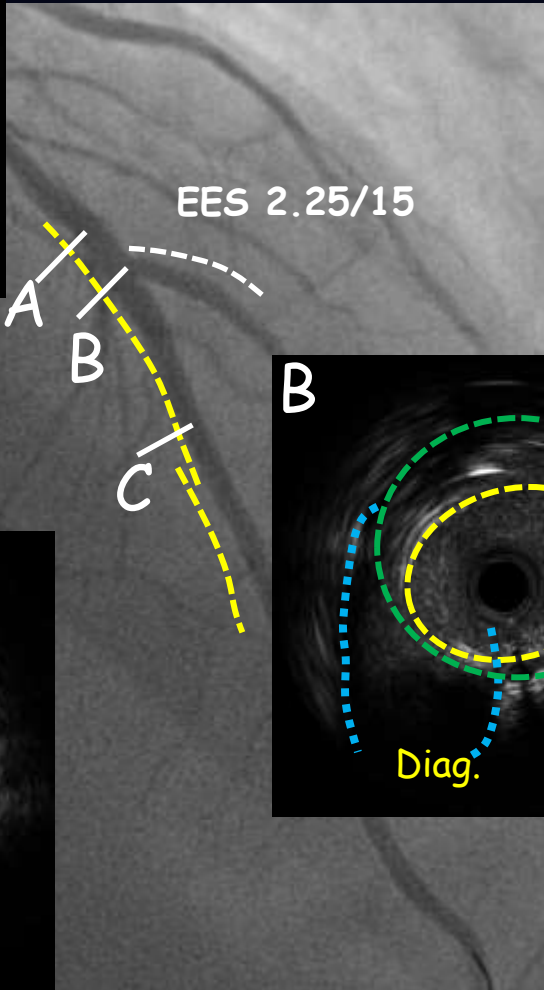
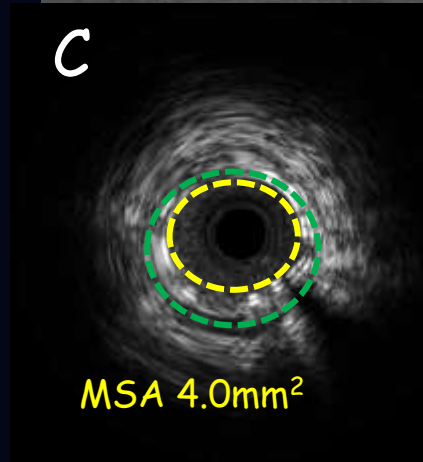
2.5mm balloon dilatation



Still dissection at D-ostium →
EES 2.25/15



BVS 3.0/28 and
BVS 2.5/18mm

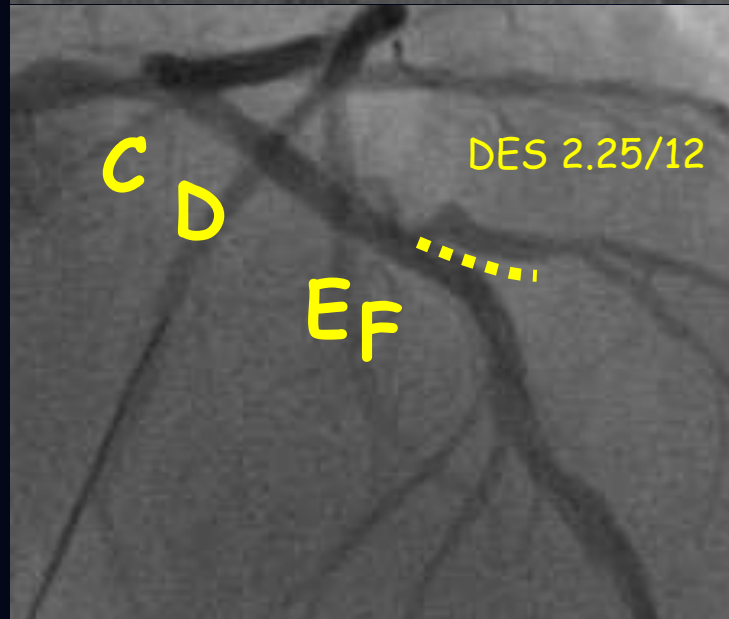
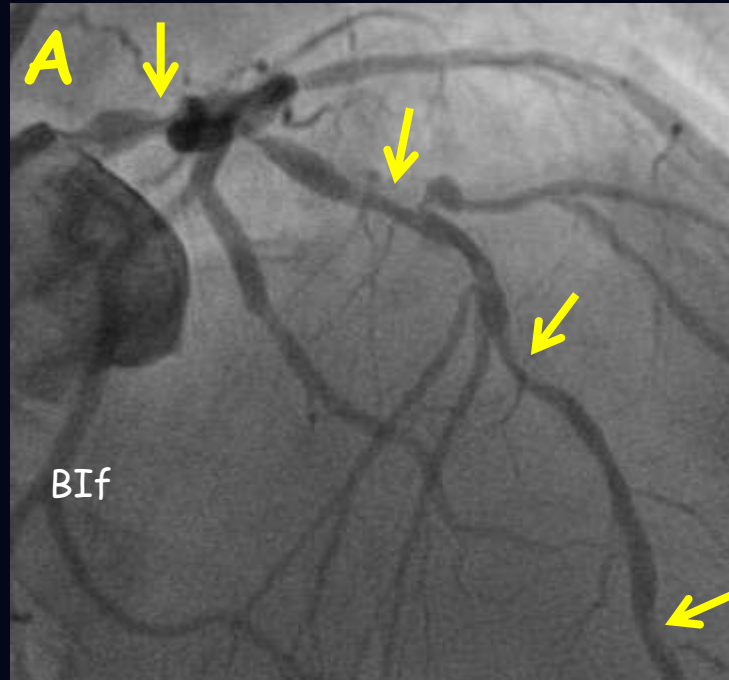


BRS on MB and DES SB as intention to treat

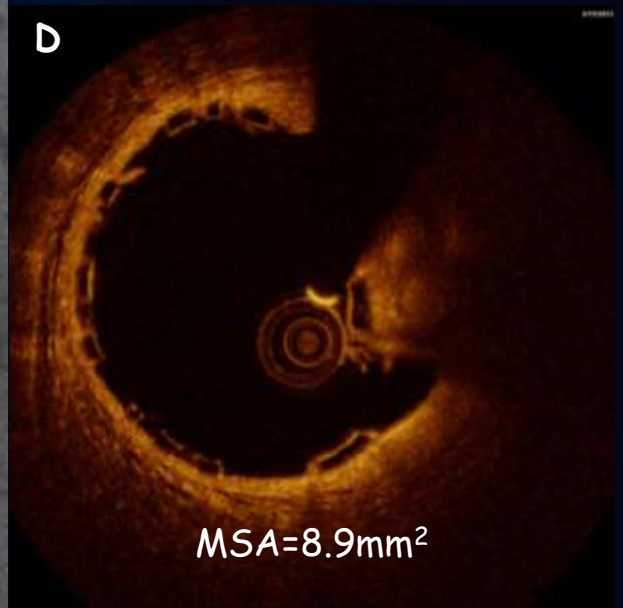
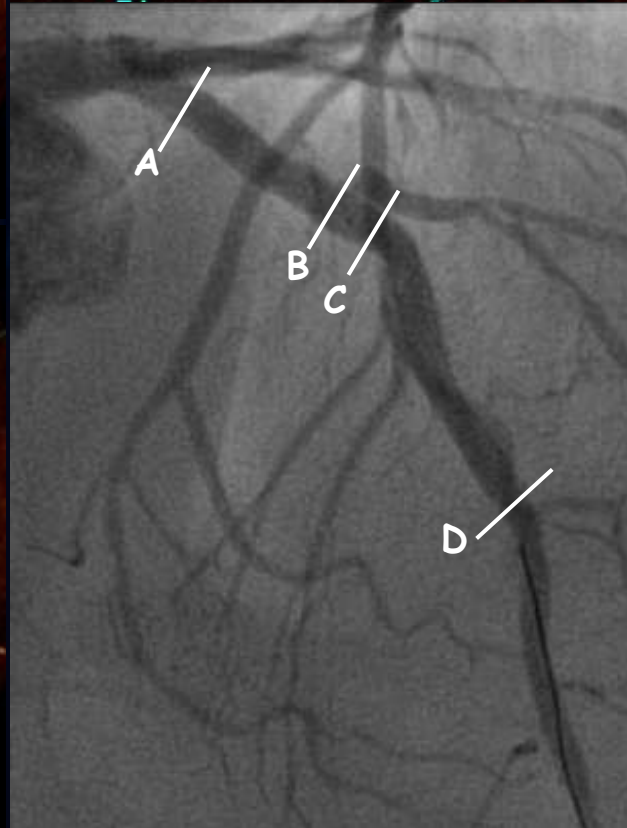
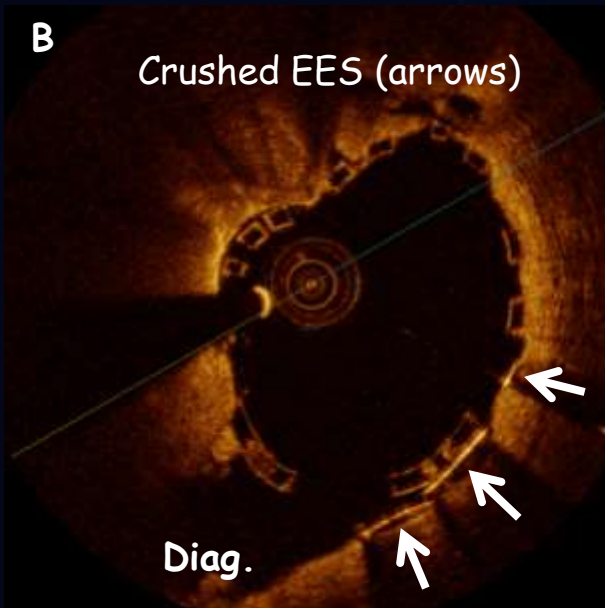
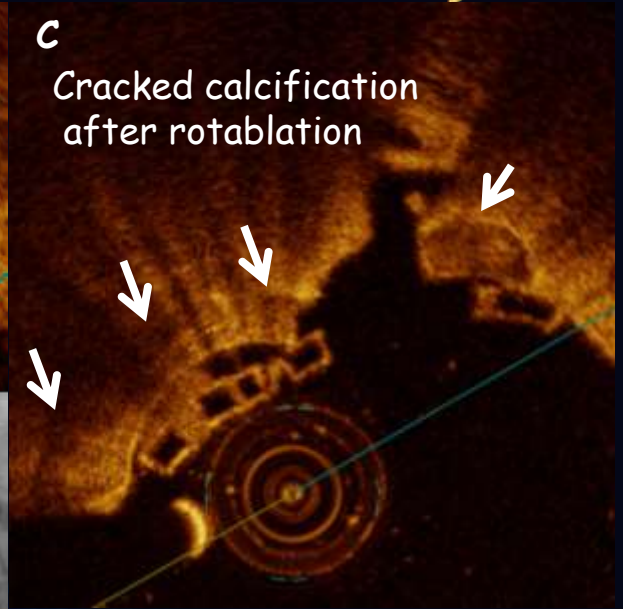
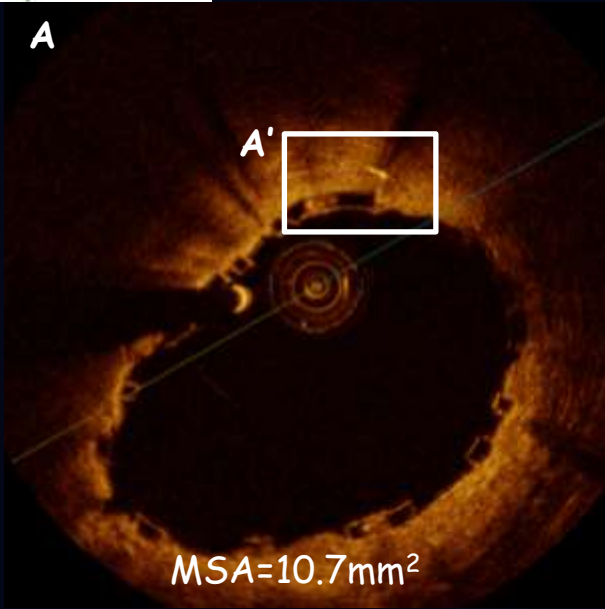
2015

10/10/2015

Mini-crush with BRS and EES



Mini Crush with metal DES on diagonal and 3 long BRS implanted on LAD without final kissing toward diagonal branch.



3 BRS in LAD with minimal overlap (3.5/28, 3.5/28 and 3.0/28)

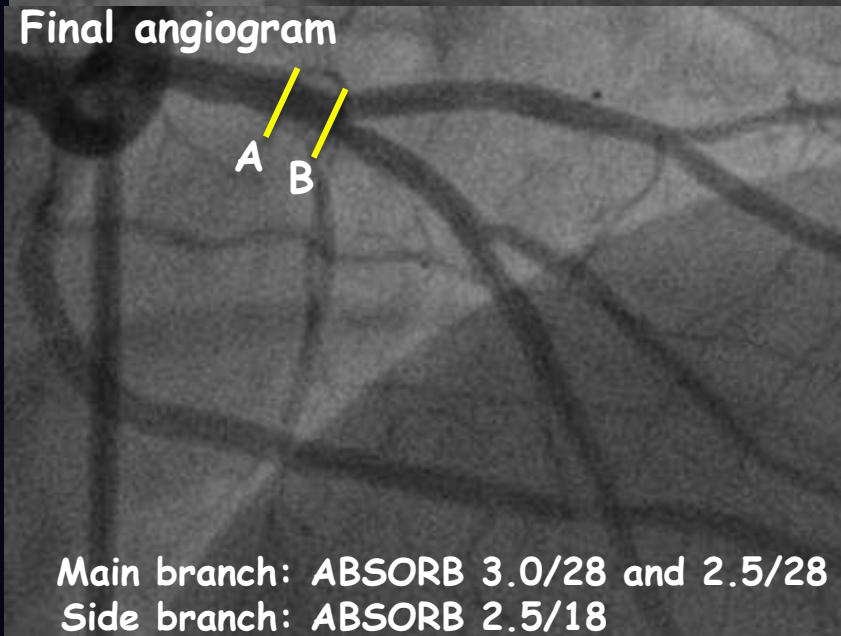
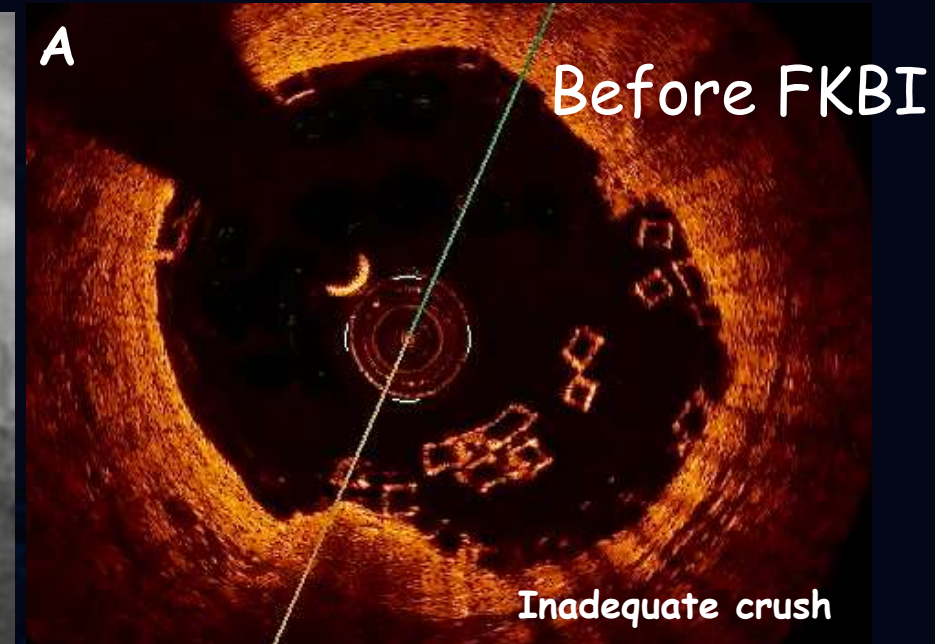
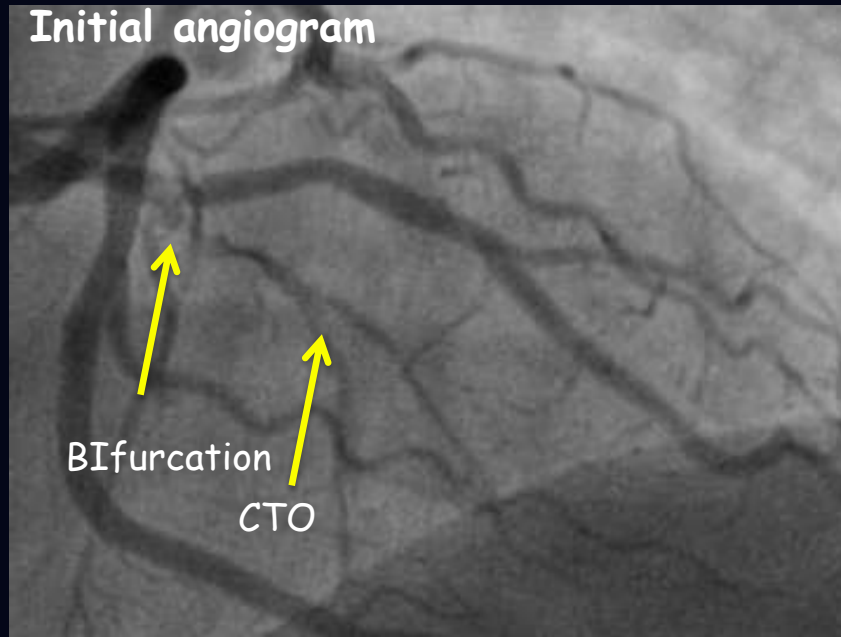
BRS on MB and SB as intention to treat

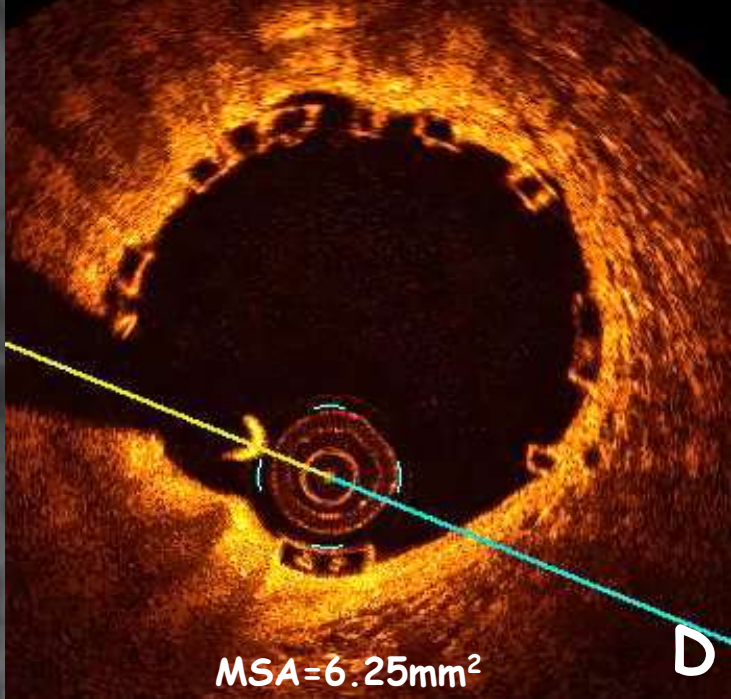
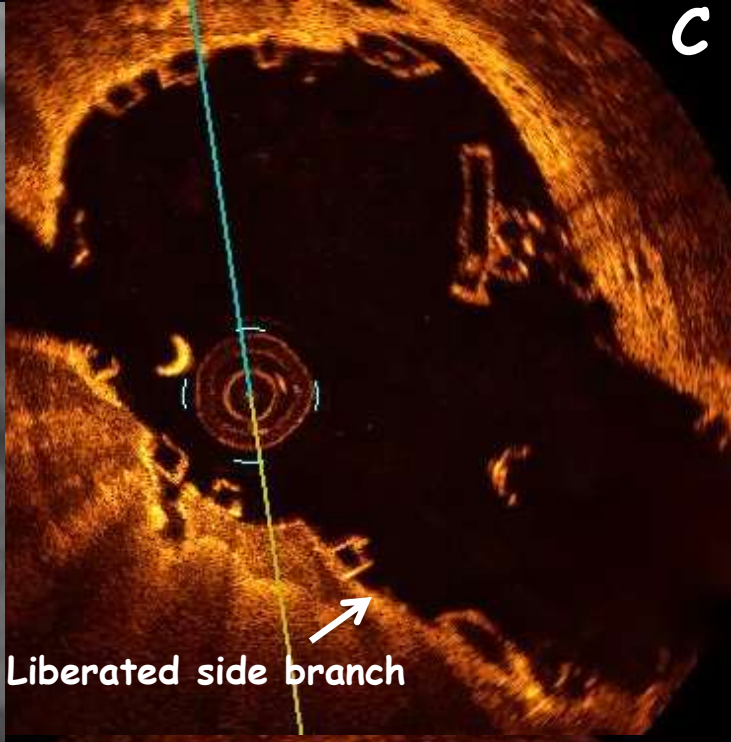
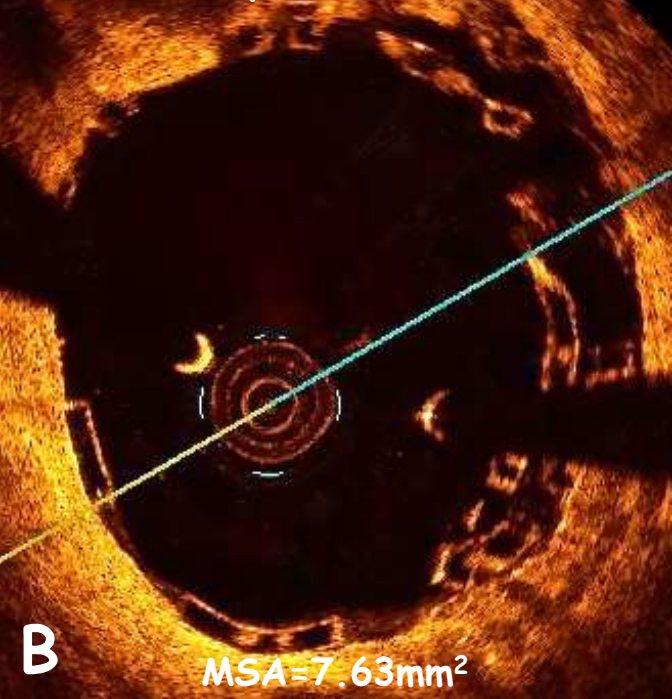
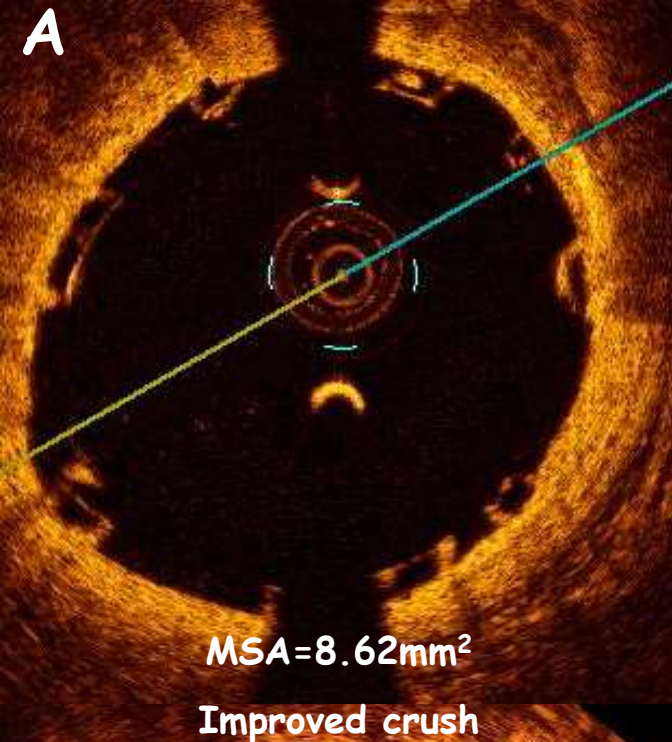
2015

January 15-16, 2015
San Raffaele

Insights from intravascular imaging

Case 1- Mini-crush with 2 BVS





A case treated with Absorb BRS for Left main and LAD bifurcations

2015

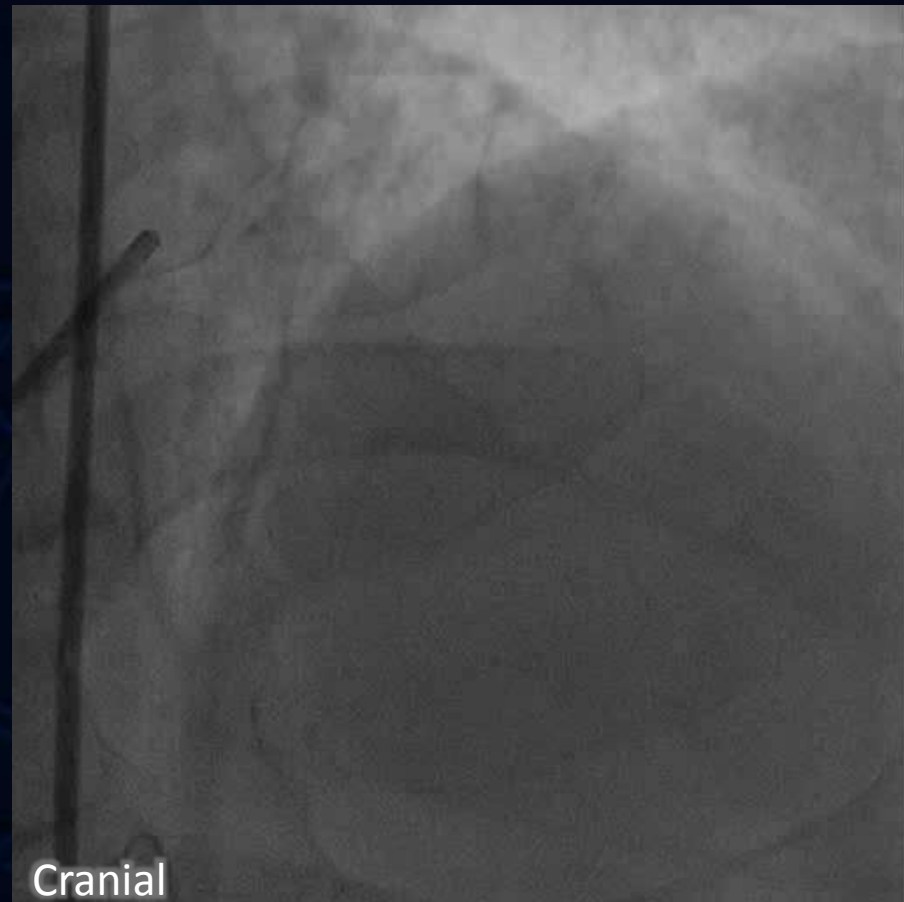
January 12-14, 2015
San Raffaele

Case: 59y, Male, Previous MI (EF 40%)
Hypertension, Dyslipidemia, DM (non-insulin)
Chronic Af (Vit.K antagonist), Becker muscular dystrophy
Syntax score 34 / EuroSCORE 3% / EuroSCORE II 0.96%

Baseline angiogram



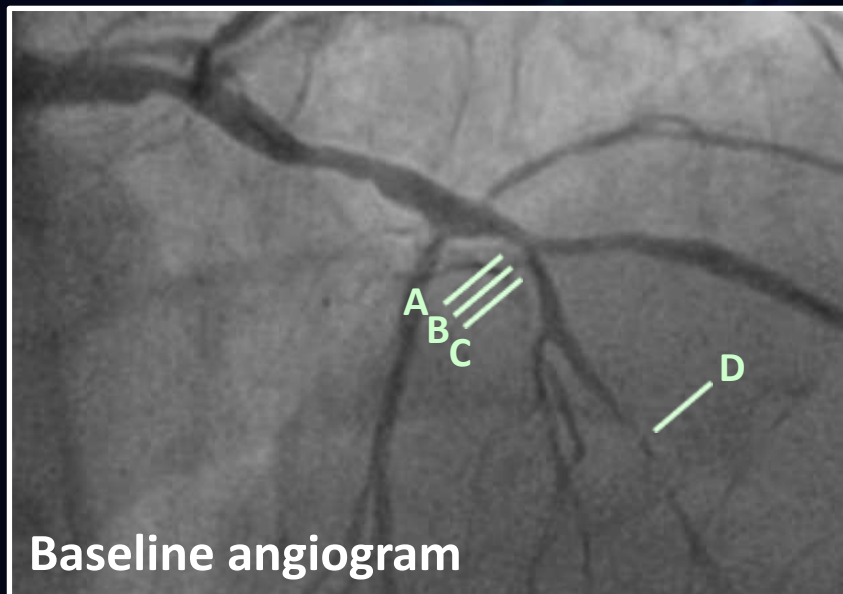
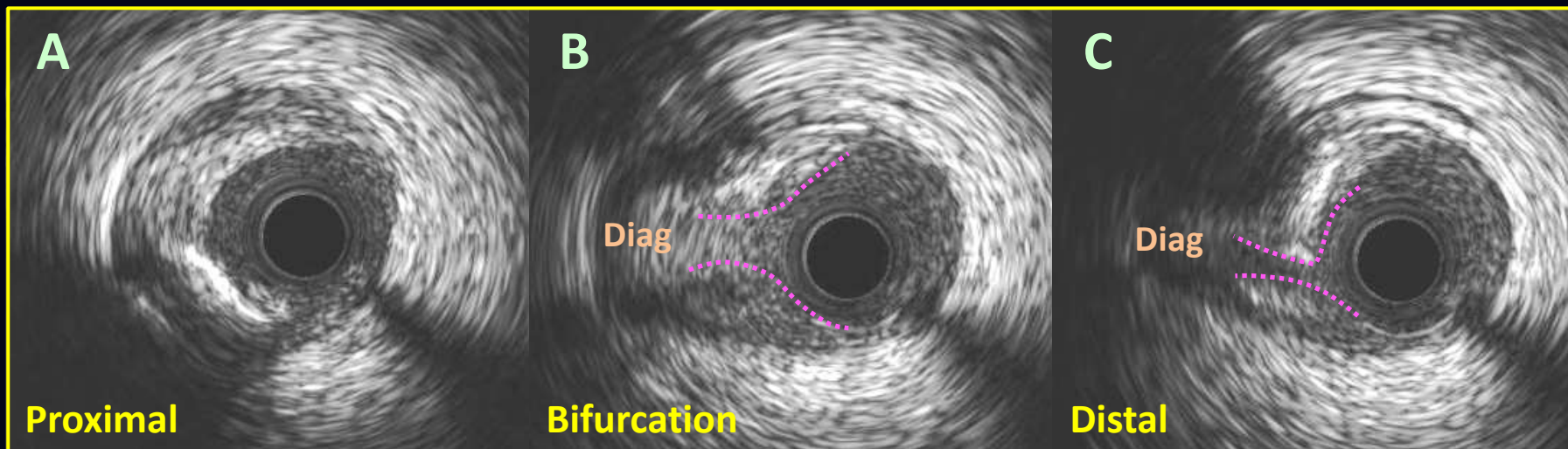
Distal LM disease



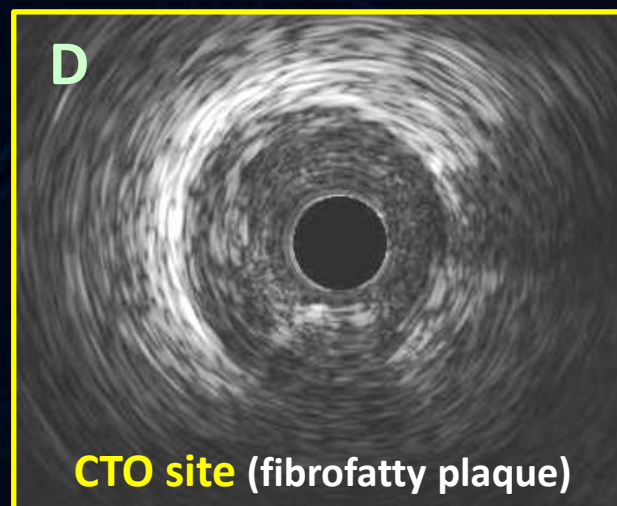
LAD prox: true bifurcation (1,1,1)
LAD mid: subtotal occlusion

PCI procedure (trans radial 6Fr.)

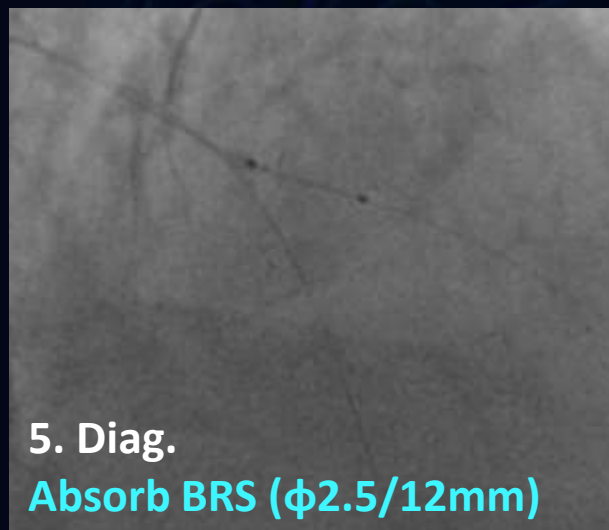
LAD: true bifurcation and subtotal occlusion



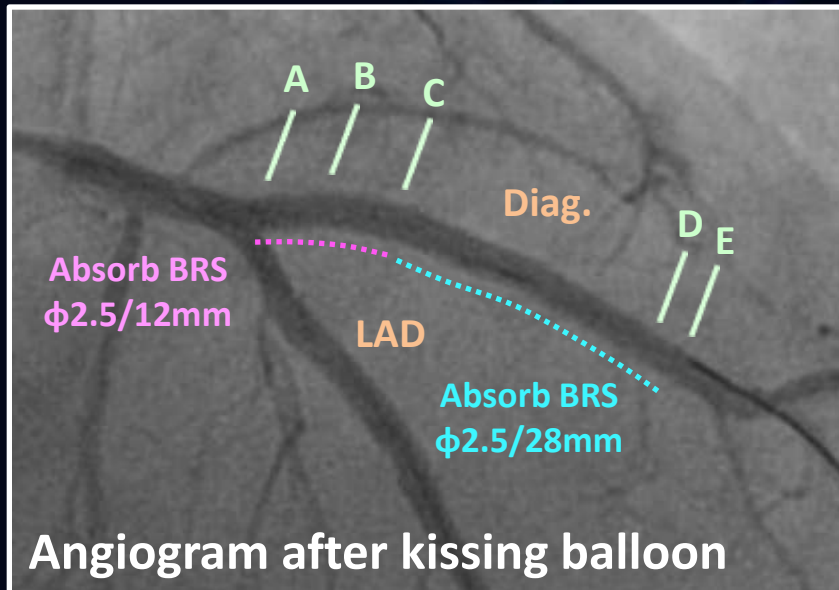
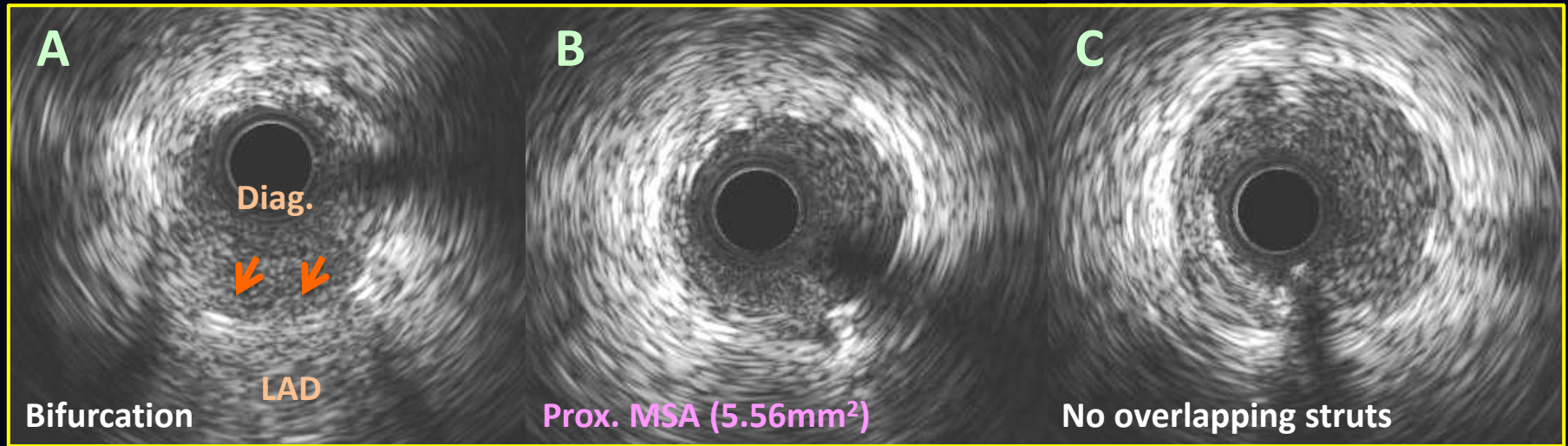
IVUS after pre-dilatation (SC ϕ 2.5mm)



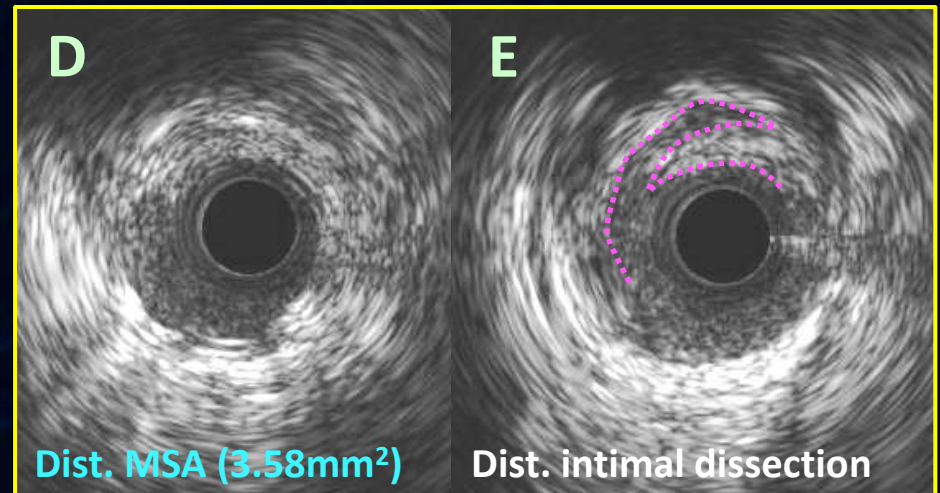
T stenting with 2 BVS



Diagonal pull-back before MB stenting



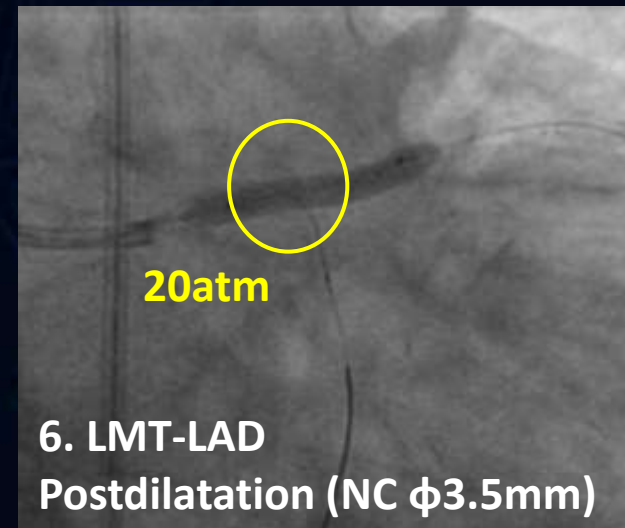
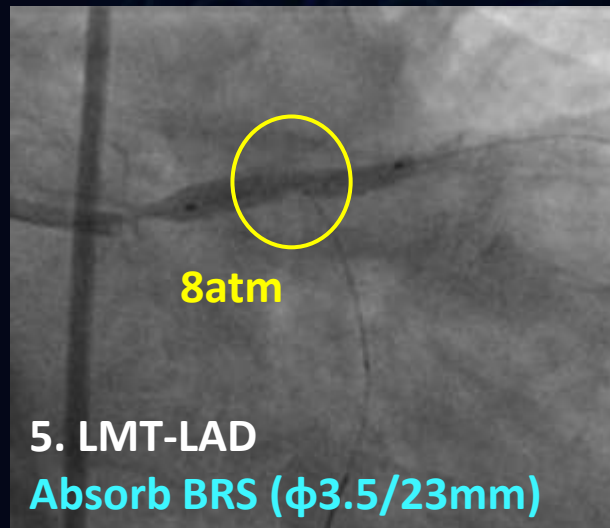
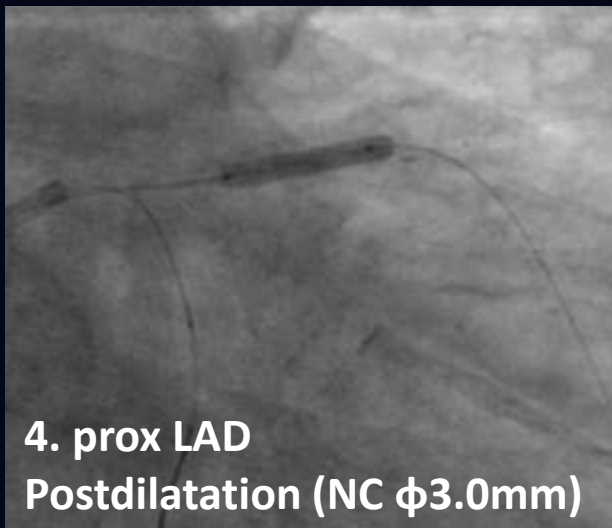
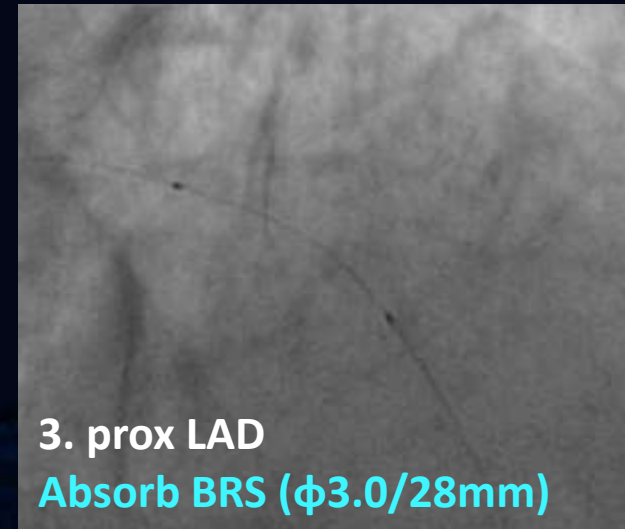
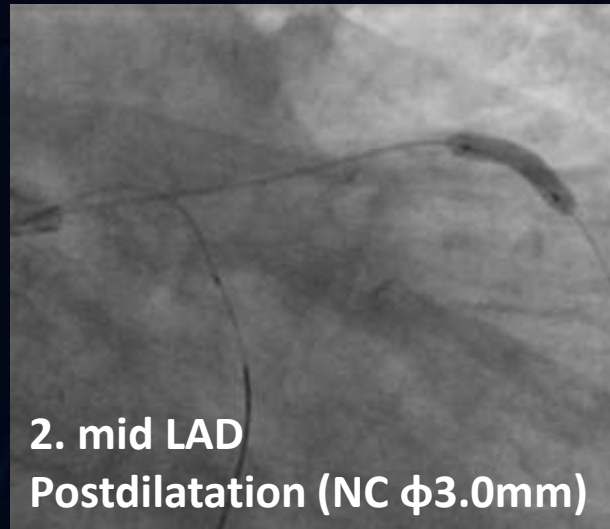
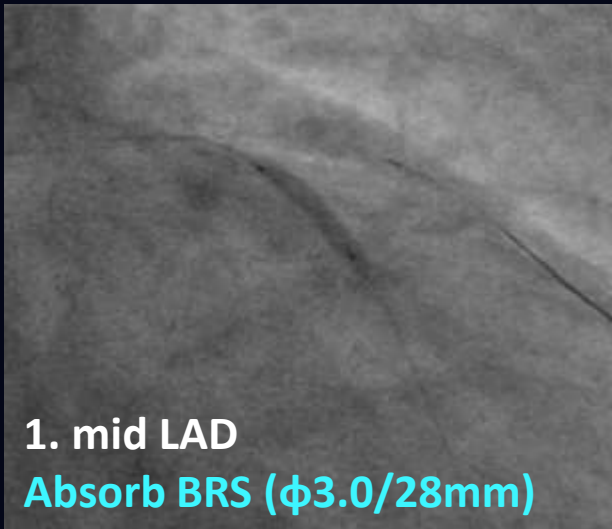
IVUS after 1st kissing balloon



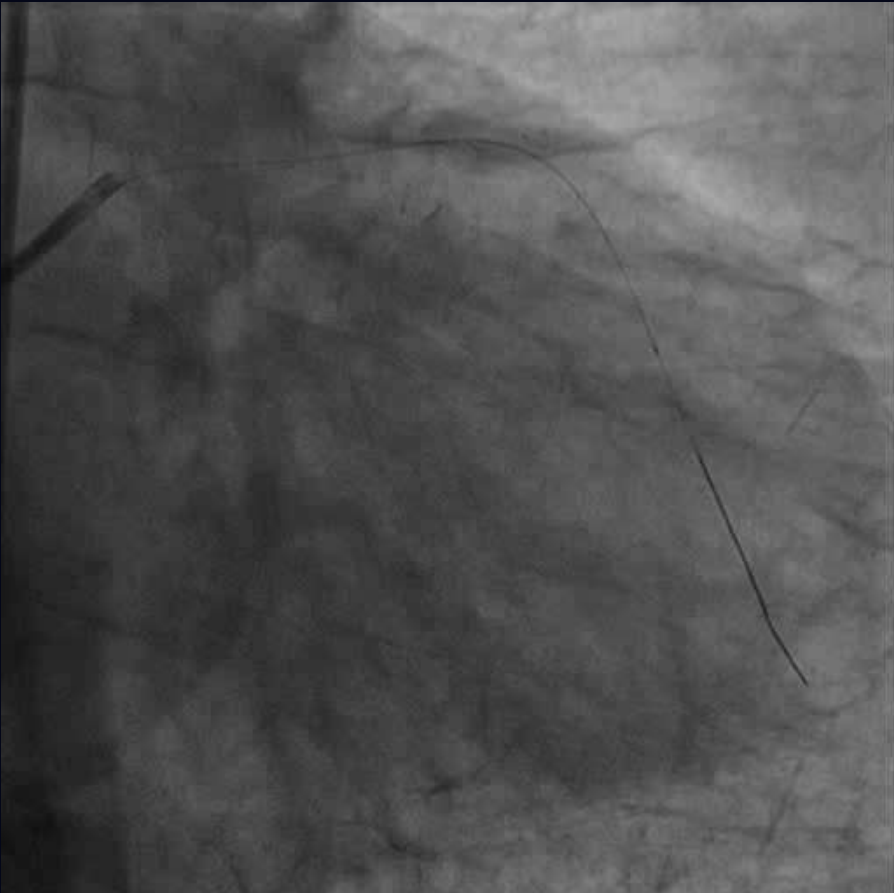
MB stenting (Left main – LAD)

LMT: single crossover

LAD/D: T stenting without final kissing



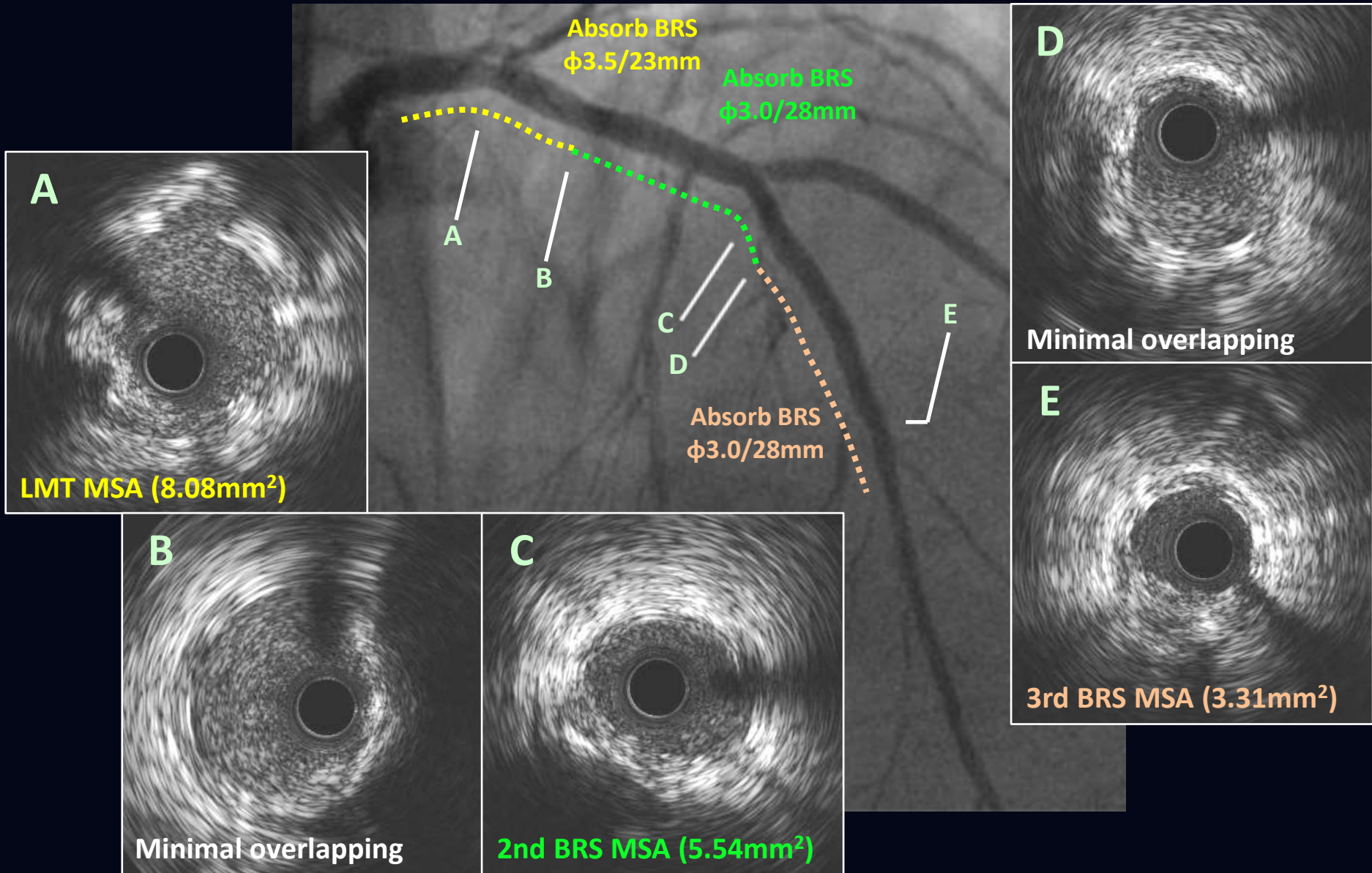
Final angiogram



LAD cranial

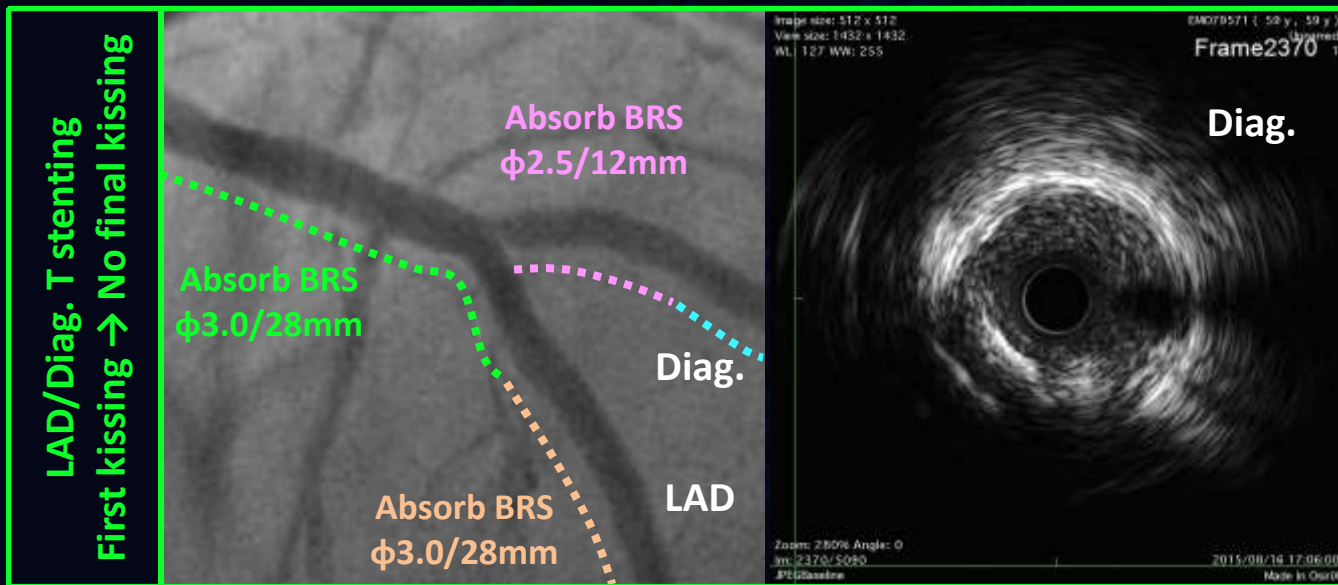
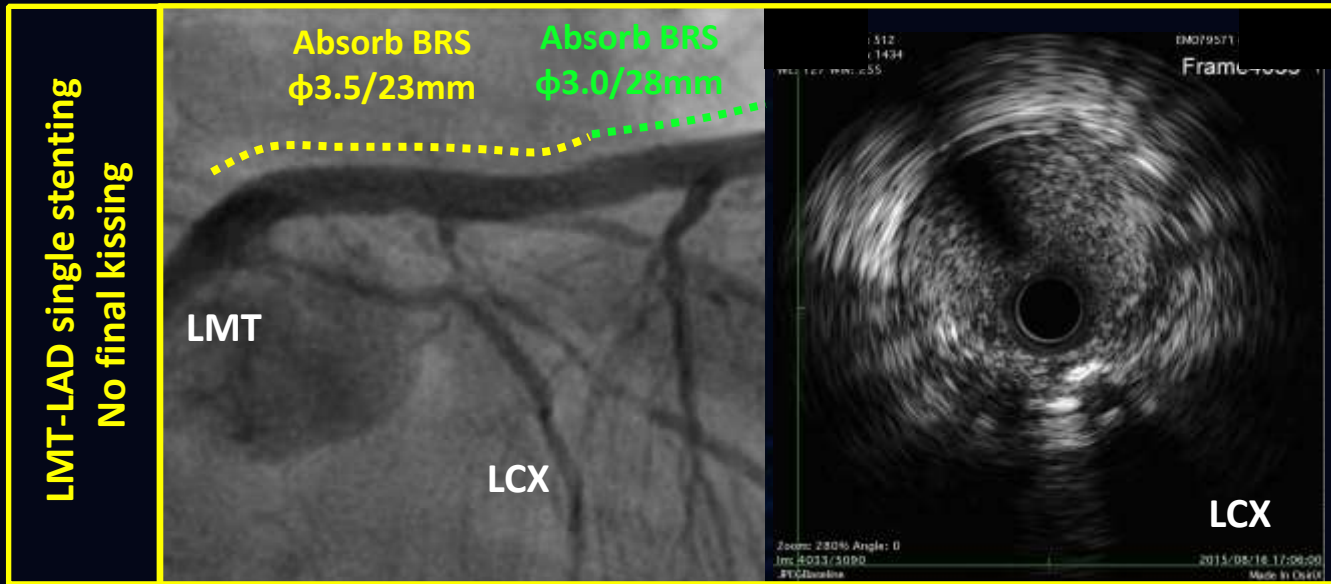
Final IVUS (LMT-LAD pullback)

3 BRS for LMT-LAD



Final IVUS (LMT-LAD pullback)

LMT and LAD bifurcations



LMT and LAD bifurcations

LMT-LAD single stenting
No final kissing

Absorb BRS $\phi 3.5/23\text{mm}$ Absorb BRS $\phi 3.0/23\text{mm}$

LMT ABC LCX

A (proximal)
LCX

B (bifurcation)
LCX

C (distal)
LCX

→ strut facing LCX ostium

LAD/Diag. T stenting
First kissing → No final kissing

Absorb BRS $\phi 2.5/12\text{mm}$
Absorb BRS $\phi 3.0/28\text{mm}$
Absorb BRS $\phi 3.0/28\text{mm}$

Diag. DEF LAD

D (proximal)
Diag.

E (bifurcation)
Diag.

F (distal)
Diag.

→ Strut facing diagonal ostium → struts of SB-BVS

184 bifurcations
(SB \geq 2.25mm)

Ostium BRS stenting
(n = 11)

**Provisional
single-stenting**
(n=136)

**Systematic
double-stenting**
(n=37)

**BRS on both MB
and SB (n=18)**

- T-stenting (n=12)
- Mini-crush (n=3)
- V-stenting (n=3)

**BRS on MB and DES
on SB (n=19)**

- T-stenting (n=2)
- Mini-crush (n=16)
- Crush (n=1)

VS.

Dilate MB BRS struts toward SB
(total n=45, 24.4%) (\leq 8 atm. in SB)

Final kissing inflation
(n=10)

**Finish
procedure**
(n=101)

**T-stenting with
minimal protrusion**
(2 BVS or 6 DES on SB)
(n=8)

Mini-Kissing inflation
(n=18)

**Dilatation at
SB-ostium**
(n=9)

Main differences for bifurcation lesions treated with BRS versus metallic stents

When performing provisional be conservative regarding the need for kissing inflation

When crossing -over from 1 stent to 2 stents prefer metal stent on side branch and use TAP technique

For elective implantation of 2 stents:

- Privilege metal stents on side branch with mini-crush and kiss before main branch BRS;
- 2 BRS only for T technique