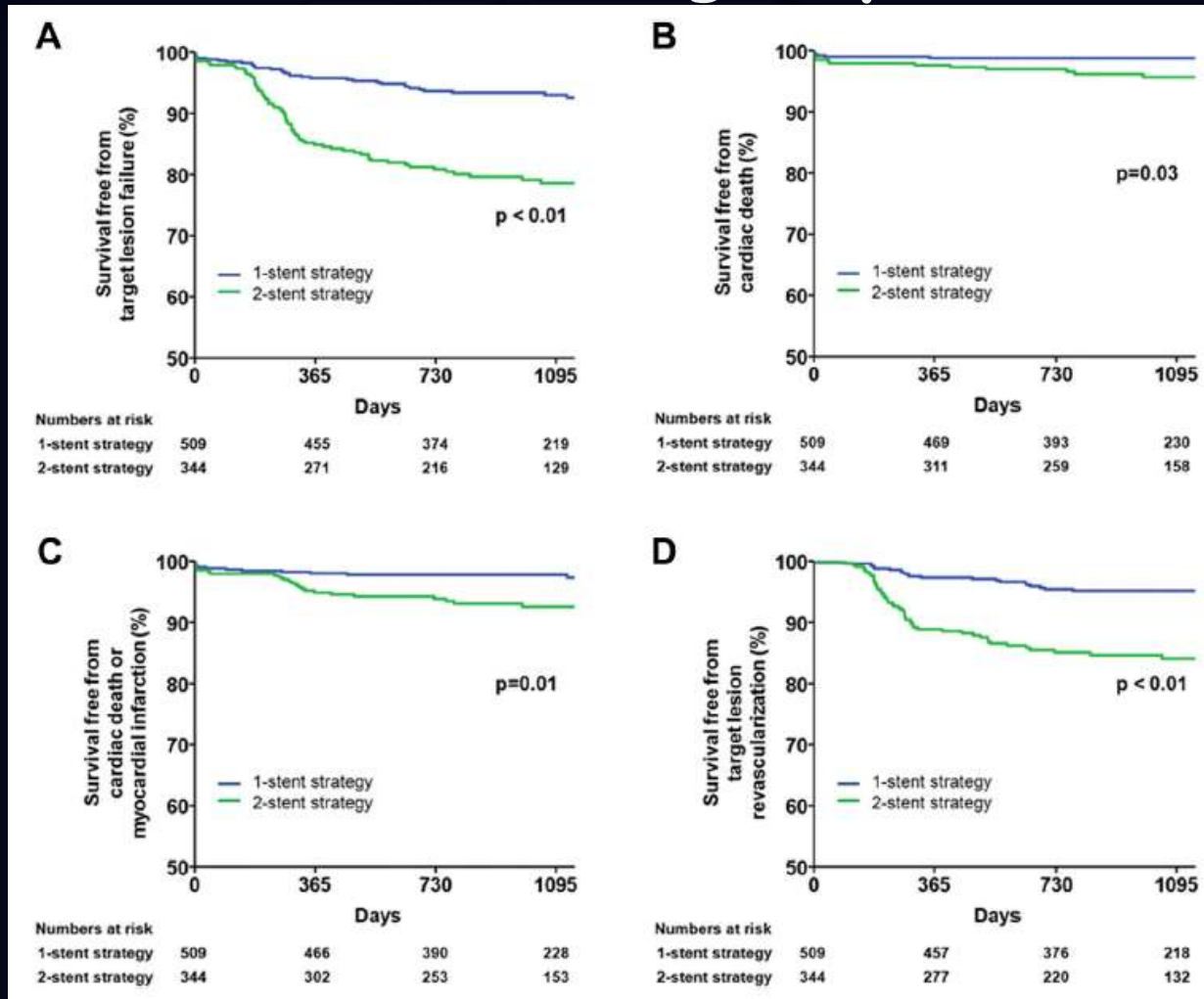


Complex PCI Left Main and Bifurcation

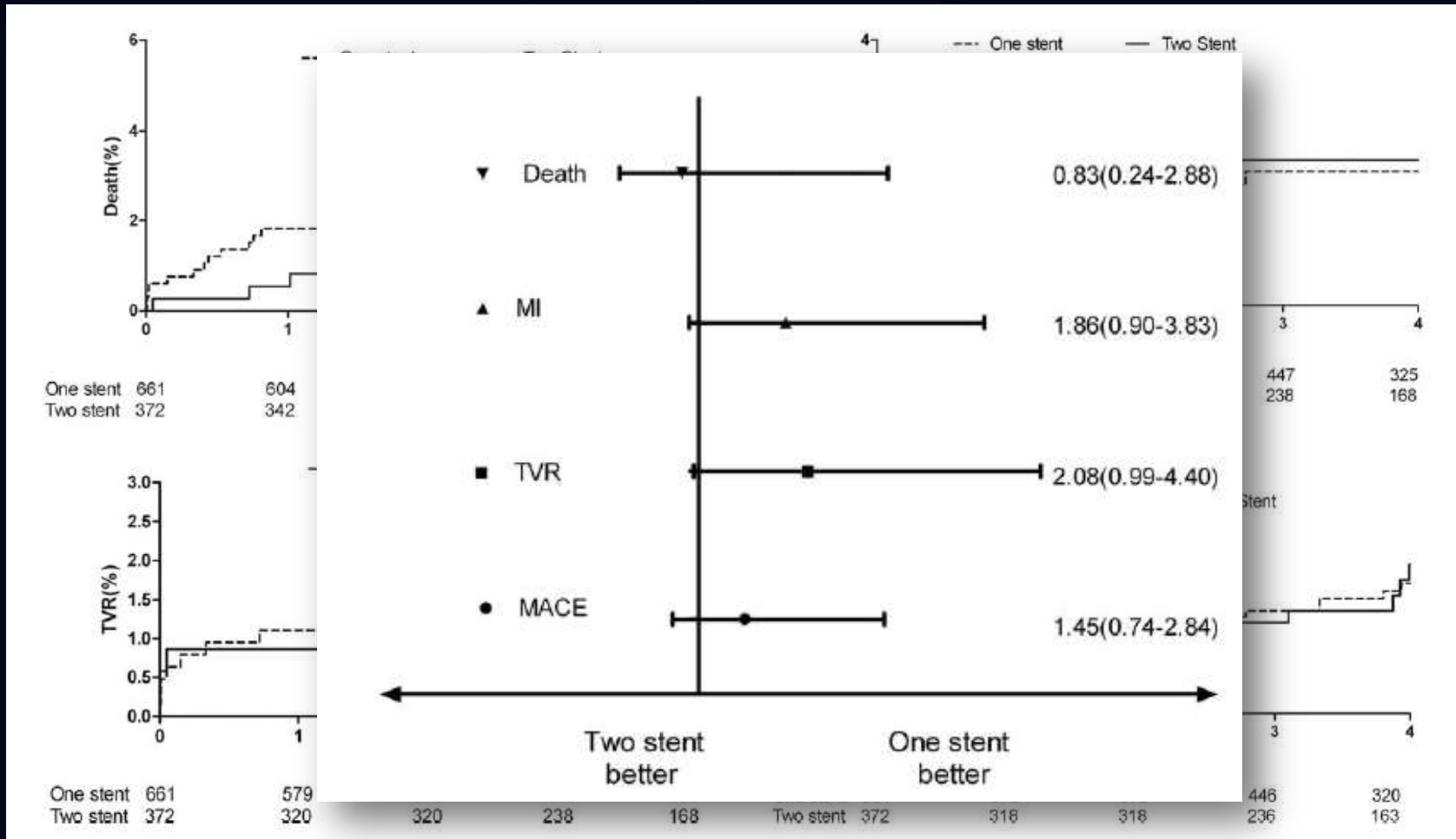
Alaide Chieffo, MD
Interventional Cardiology Unit
S. Raffaele Scientific Institute,
Milan, Italy

Provisional stenting still best option

COBIS Registry



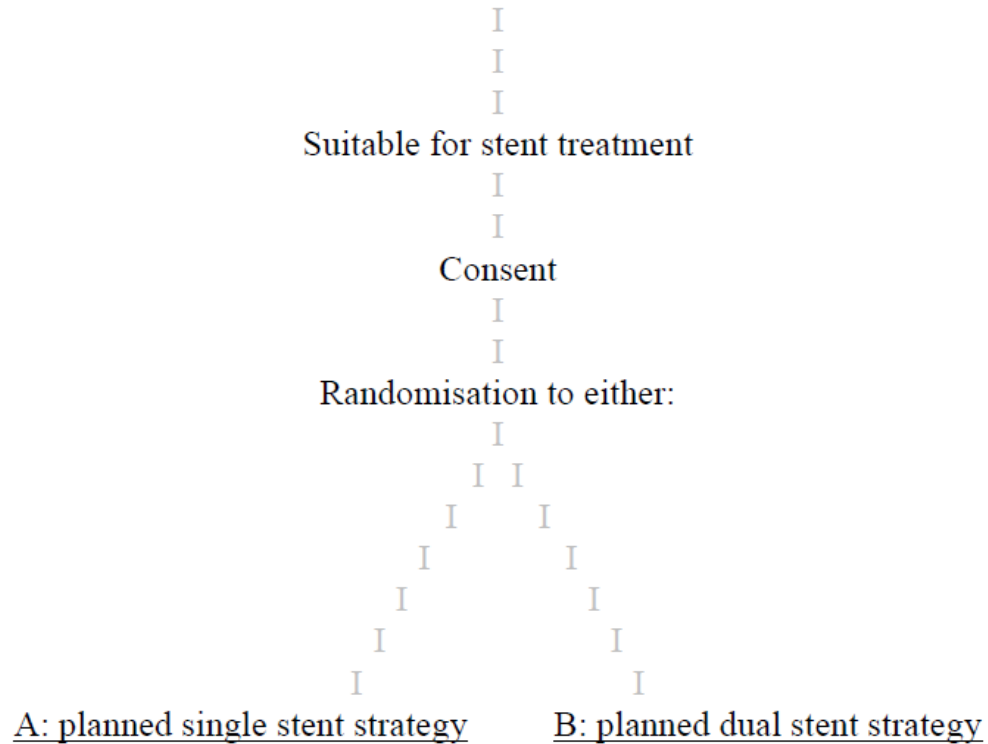
One- vs. 2-stent technique



EBC MAIN

450 pts

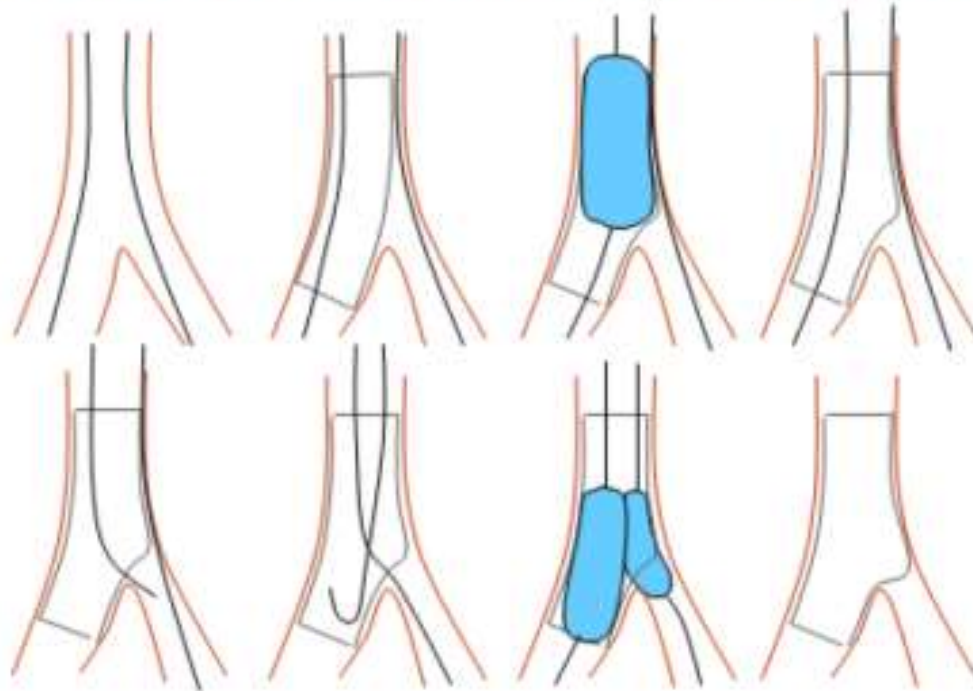
Patient with left main stem true bifurcation lesion (1,1,1 or 0,1,1)
(LAD and Cx both >2.75mm)



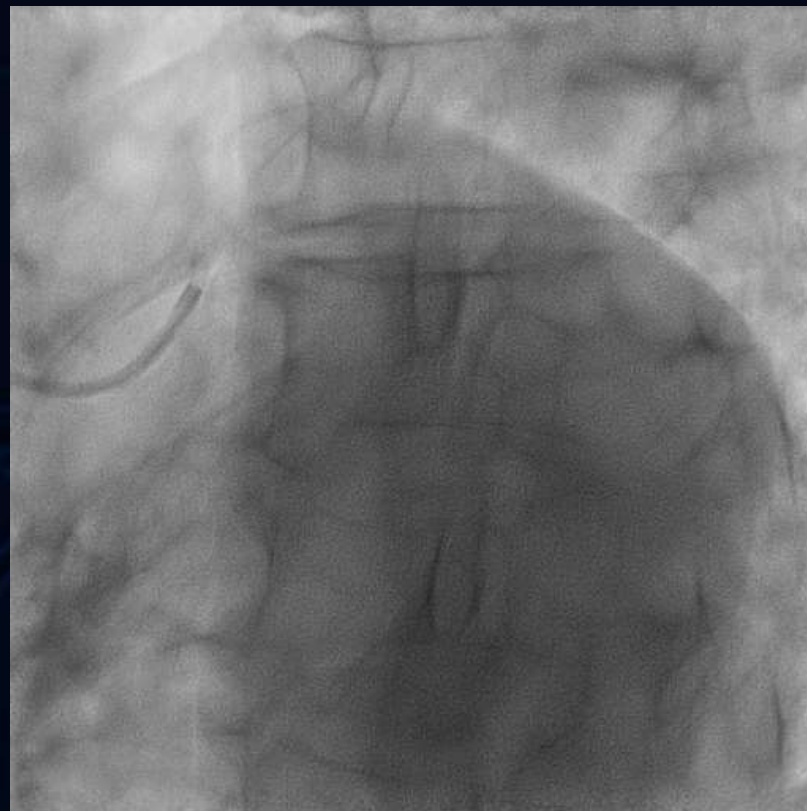
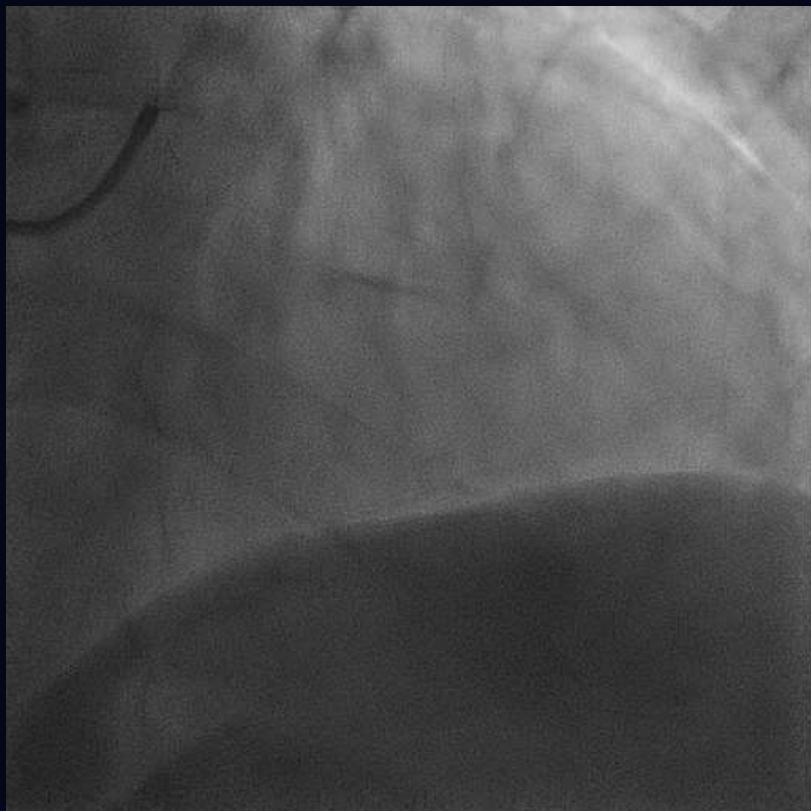
Endpoints

- **Primary:**
 - Death, Myocardial infarction and Target Lesion Revascularisation at 12 months
- **Secondary:**
 - Death, MI, TLR, individually
 - Angina status
 - Stent thrombosis
 - Death, MI, TLR at 3 yrs, 5 yrs
- **Procedural:**
 - Procedure success and MACE
 - In-hospital MACE
 - Procedure duration, fluoroscopy, and cost

Provisional Side Branch Stenting



CORONARY ANGIOGRAM

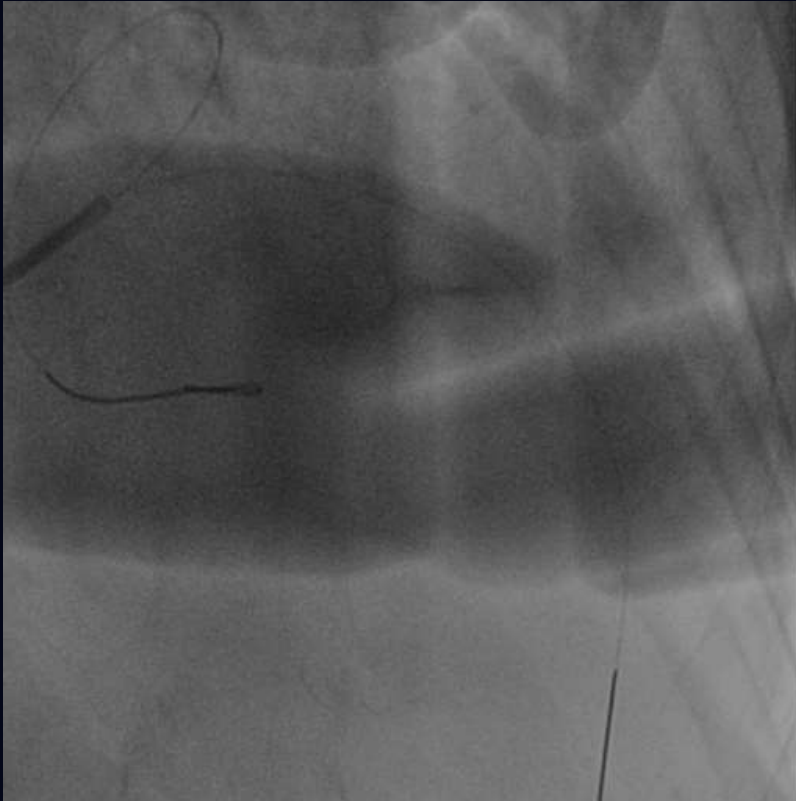


Medina Lesion 1,1,1

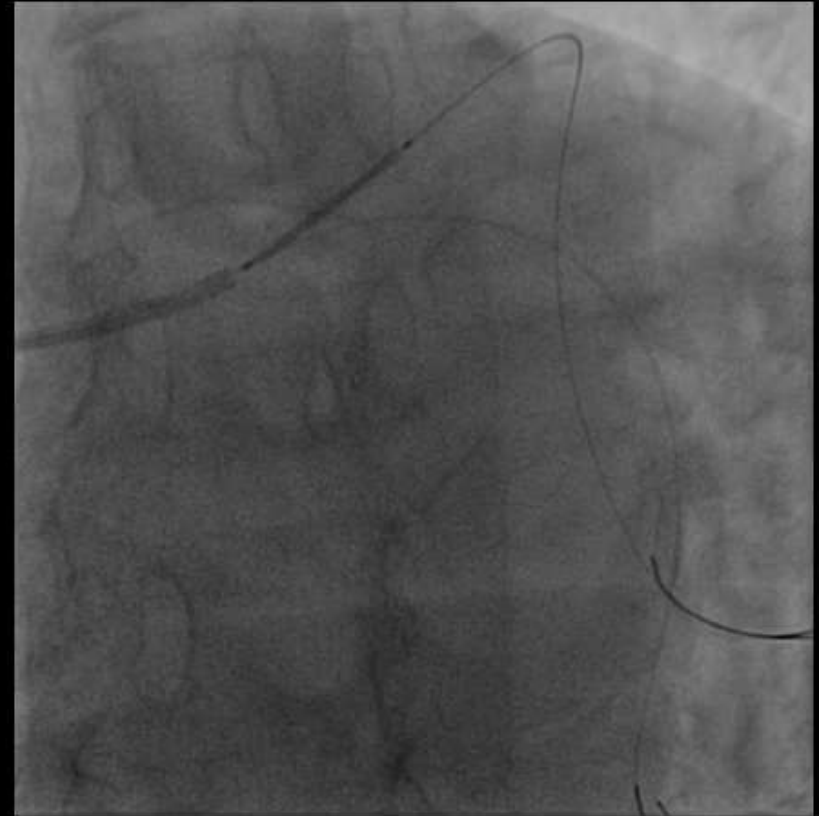
STRATEGY

- Radial approach
- Lesion preparation
- Patient was randomized to provisional stenting technique on MB
- POT Optimization and Kissing Balloon Inflation

Performing PCI

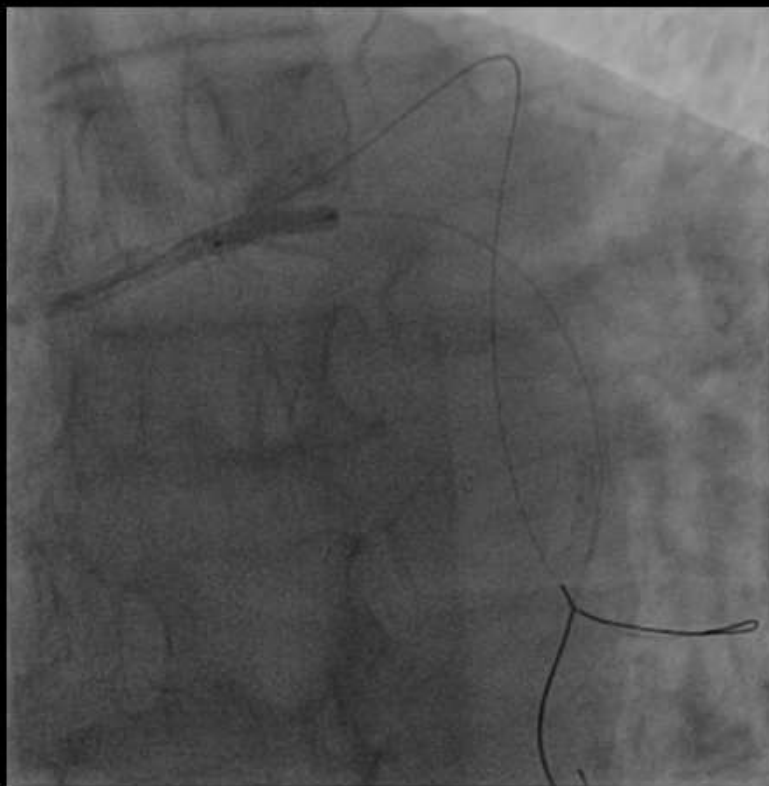


Predilatation on LM/LAD
with NC Balloon 3.0x15 mm



Stent deployment on LAD
(Resolute Onyx 3.5x18)

Performing PCI

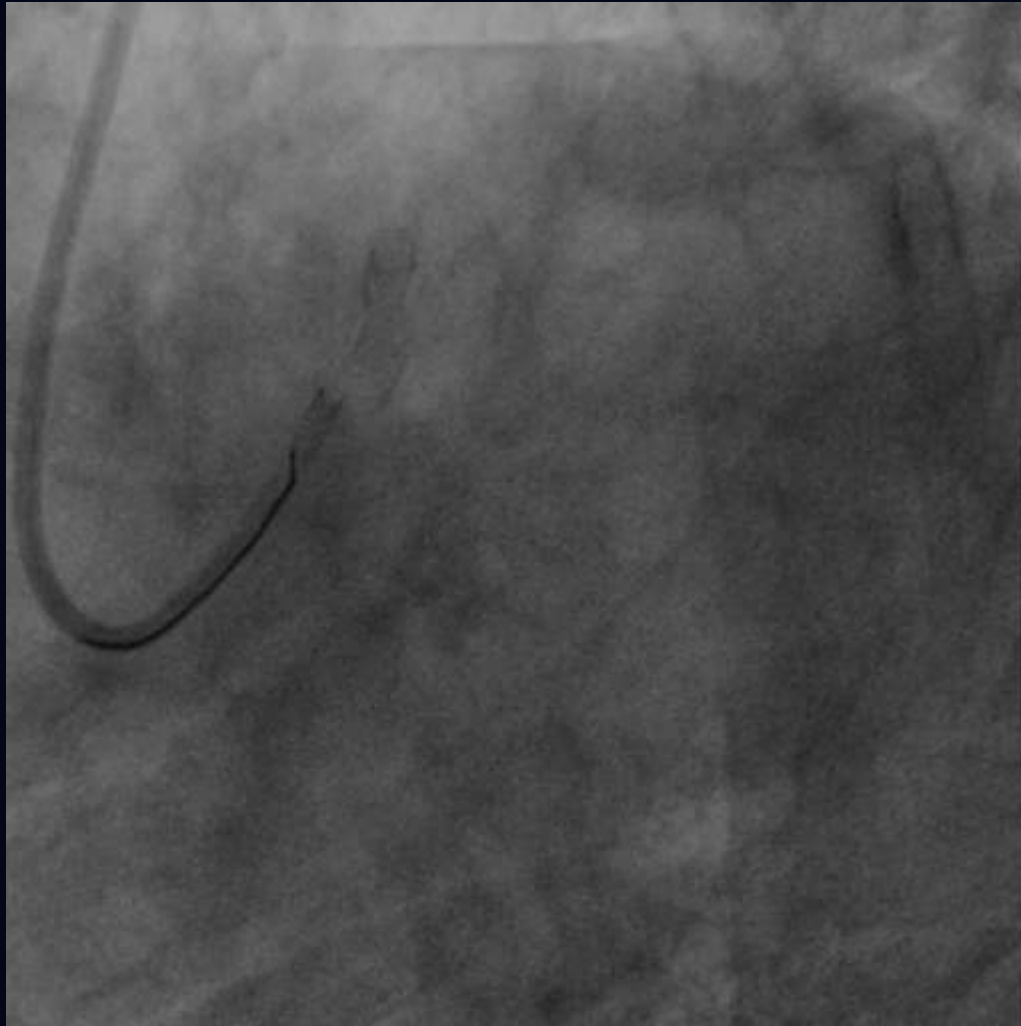


After rewiring, POT with
4.0x8 mm and NC balloon
3.5x12 mm on LM/Cx



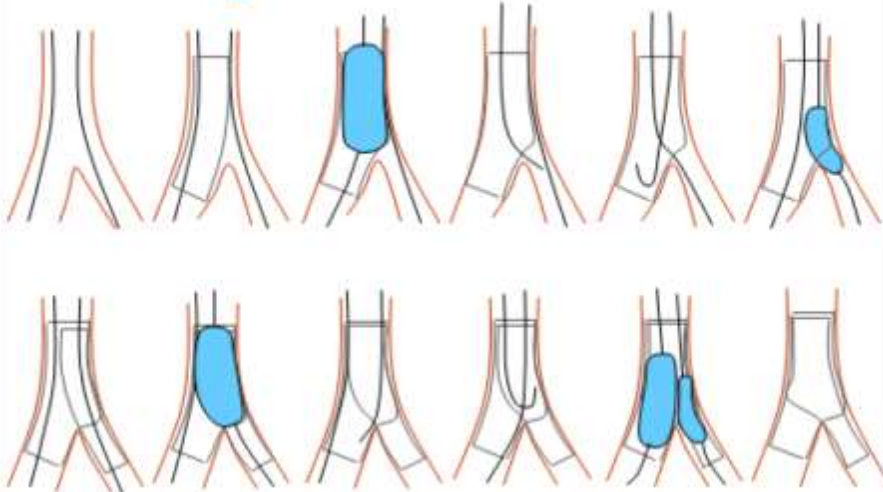
Final kissing balloon inflation
(2 NC Balloon 3.5x15 mm)

Performing PCI

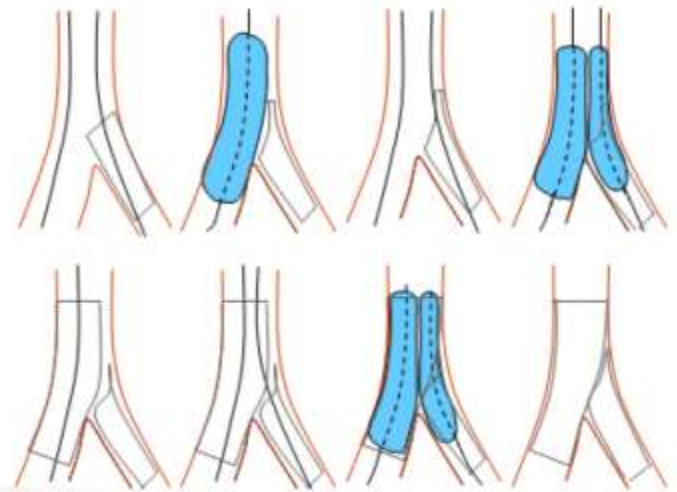


Final Angio

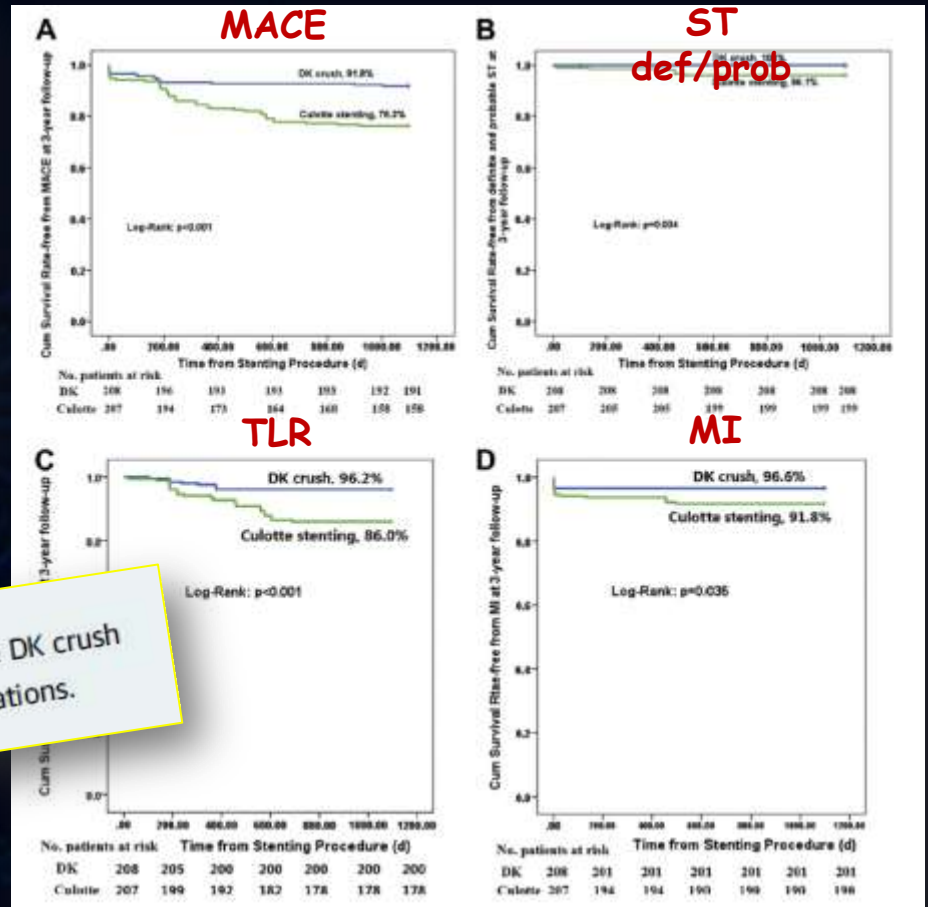
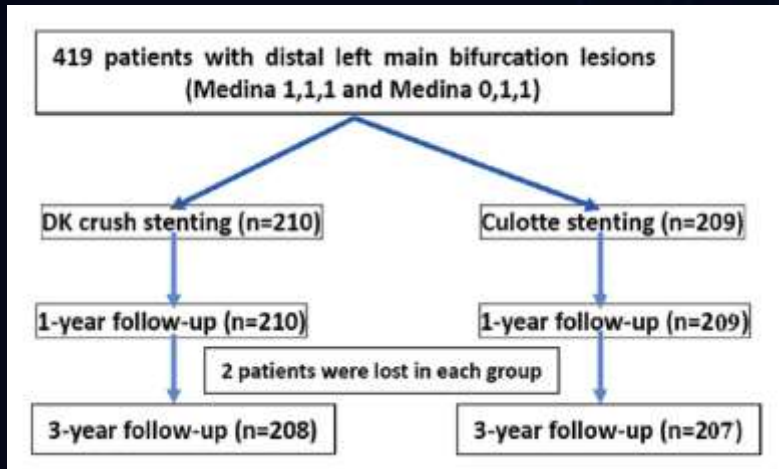
«Straight» Culotte



DK minicrush

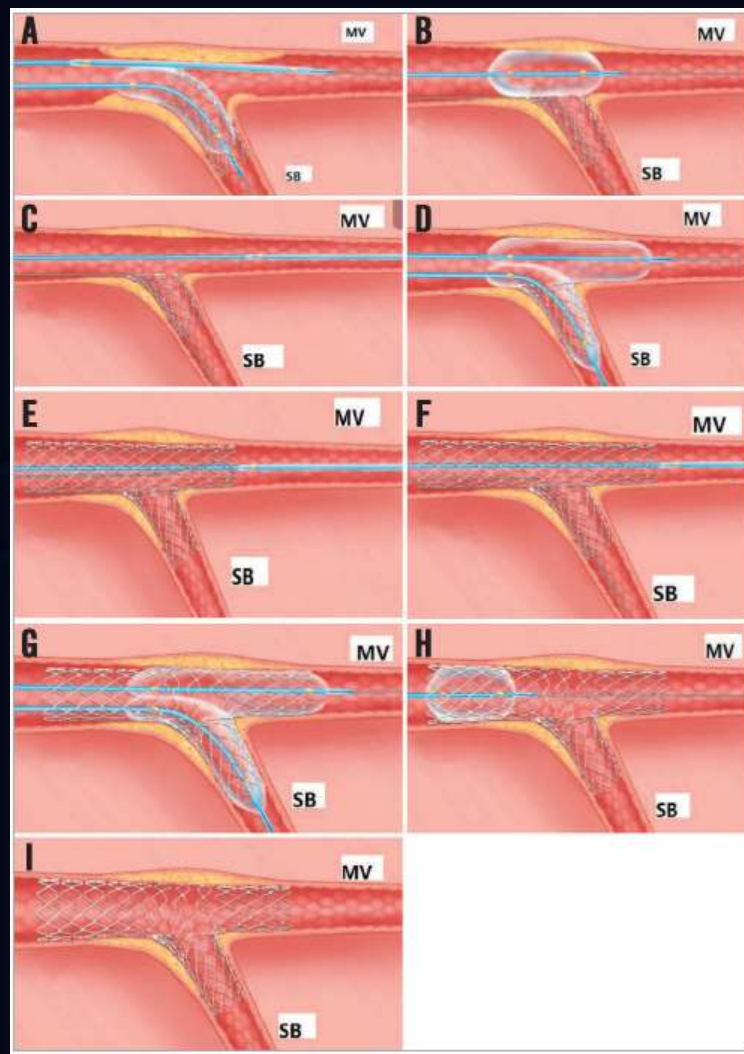


DK Crush vs. Culotte Stenting of Distal Left Main DKCRUSH-III



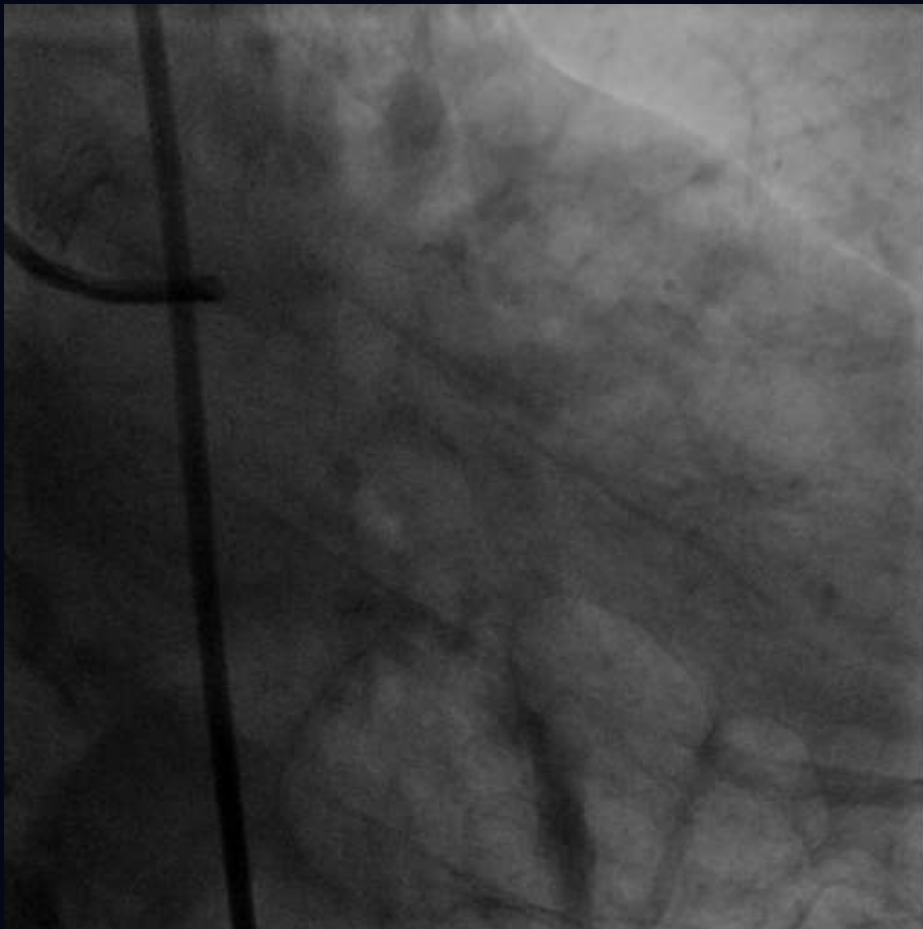
WHAT IS NEXT? Further study is required to compare DK crush stenting with provisional stenting for left main bifurcations.

DK Crush technique



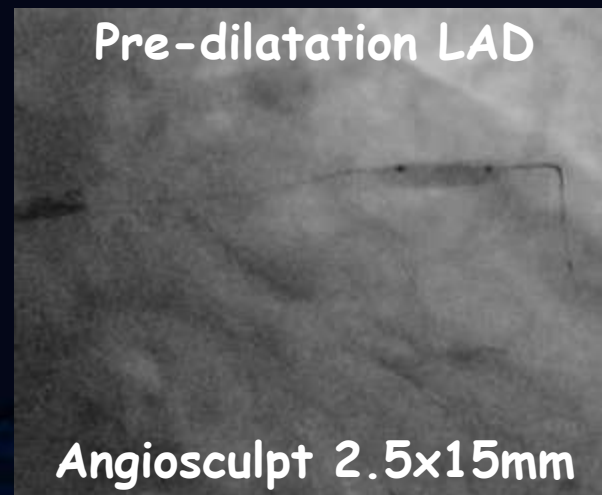
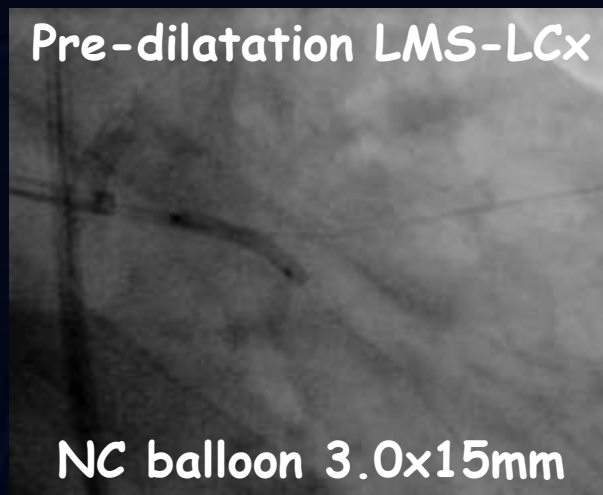
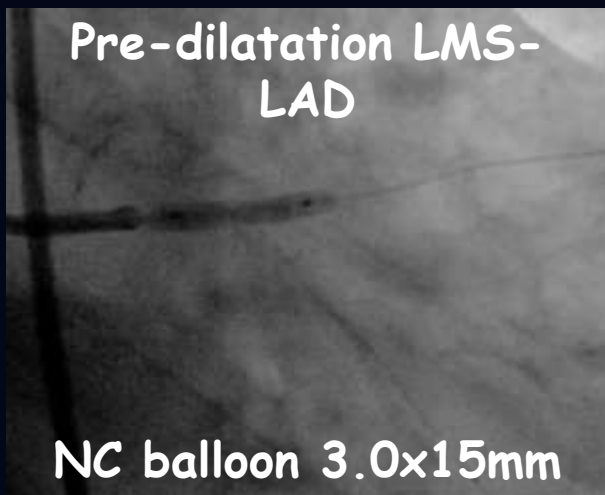
Baseline angiogram

LMS bifurcation, mid-LAD lesions

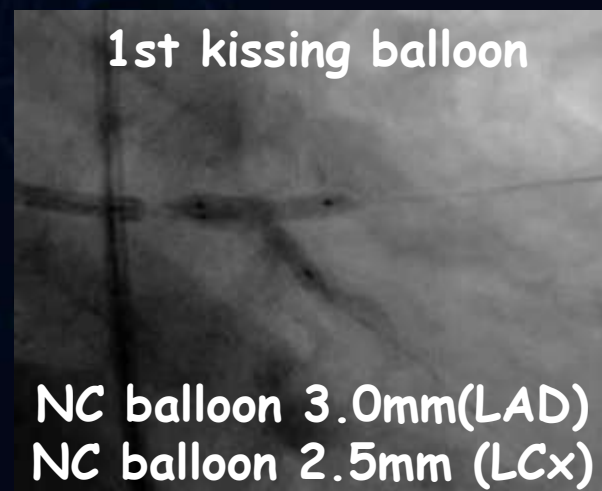
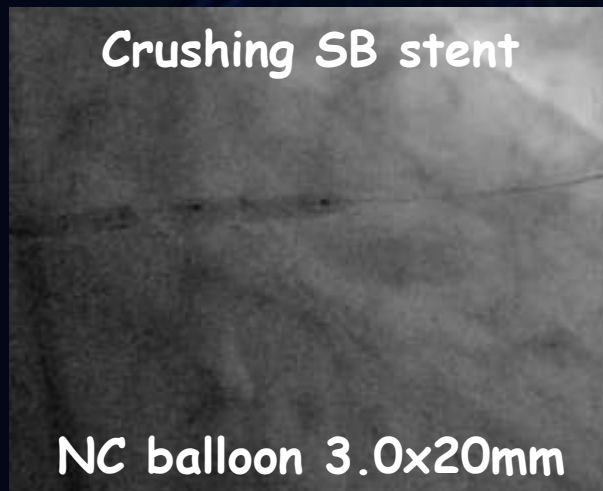
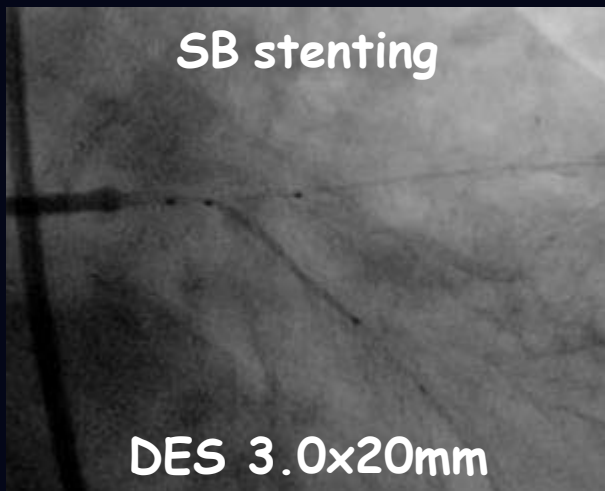


Medina 1,1,1

Pre-dilatation



SB stenting and 1st kissing balloon



LMS-LAD PCI

LMS-LAD stenting

DES 3.5x20mm

POT

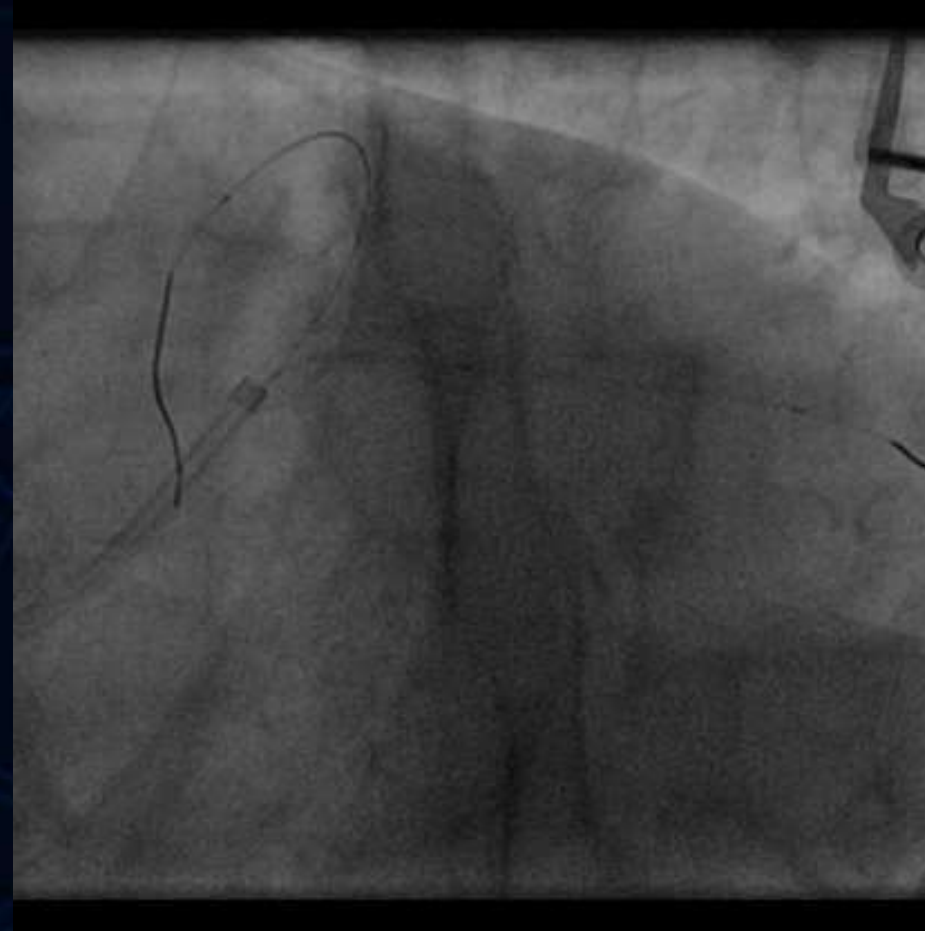
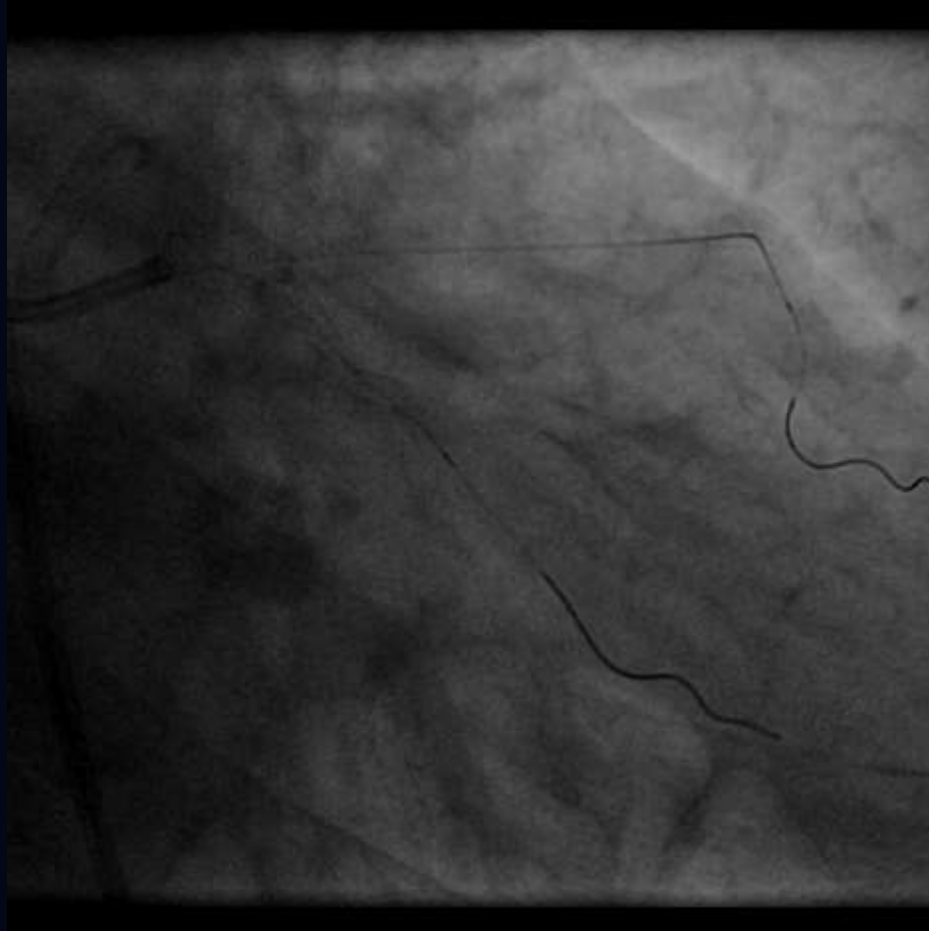
NC 4.0x15mm

2nd kissing balloon

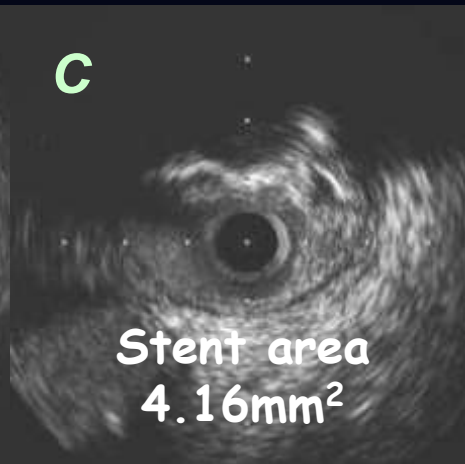
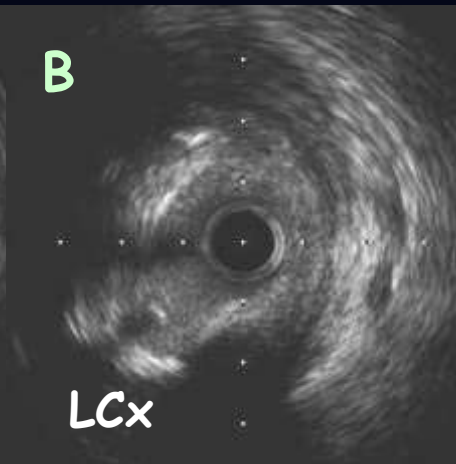
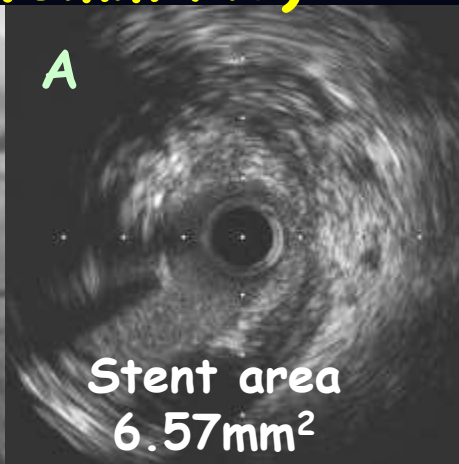
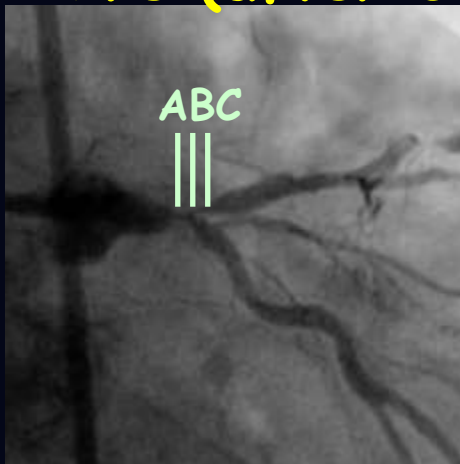
NC 3.5x15mm

NC 2.5x15mm

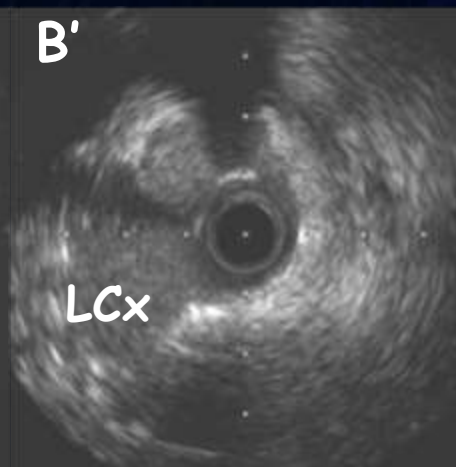
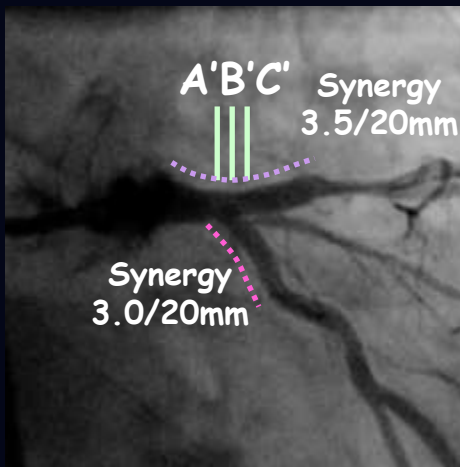
LMS - final result



Pre (after 3.0mm NC)



Final

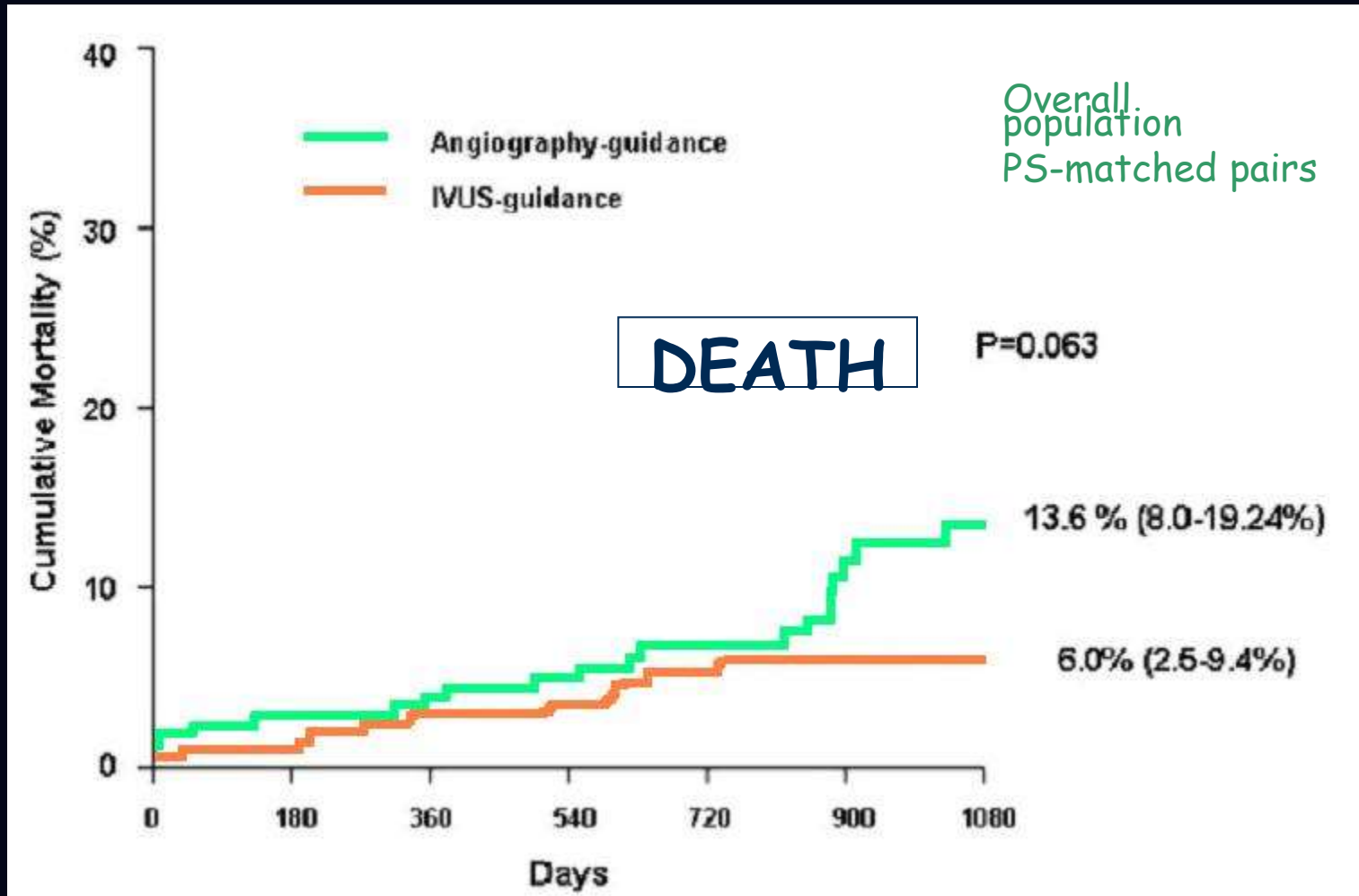


ESC Guidelines Revasc 2014

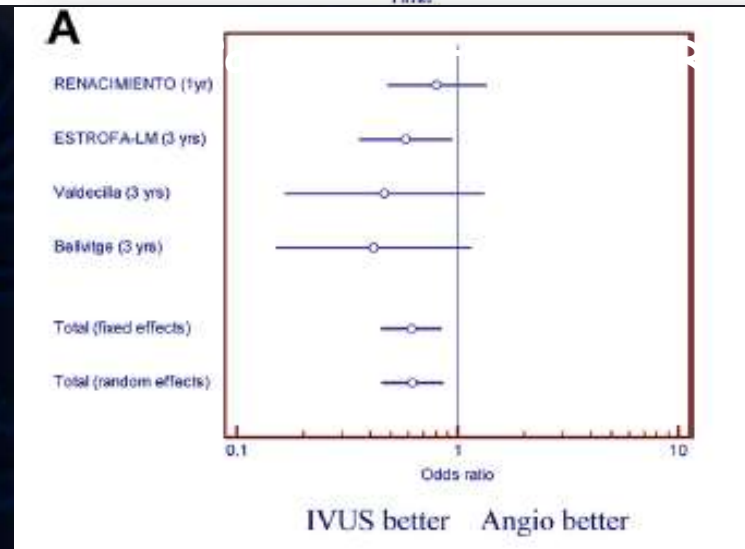
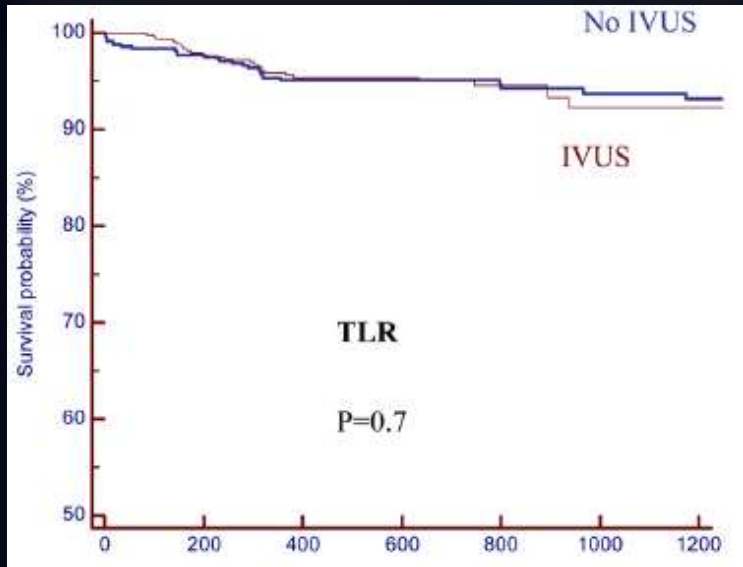
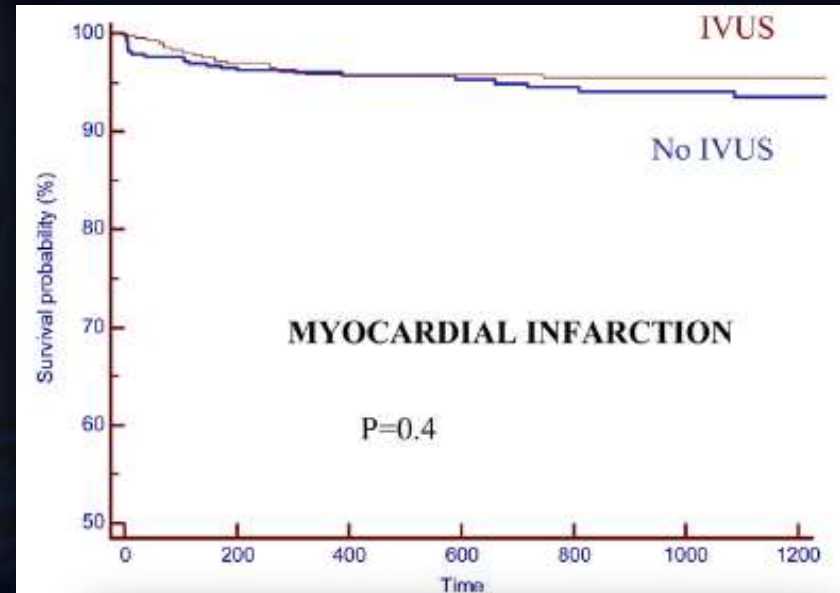
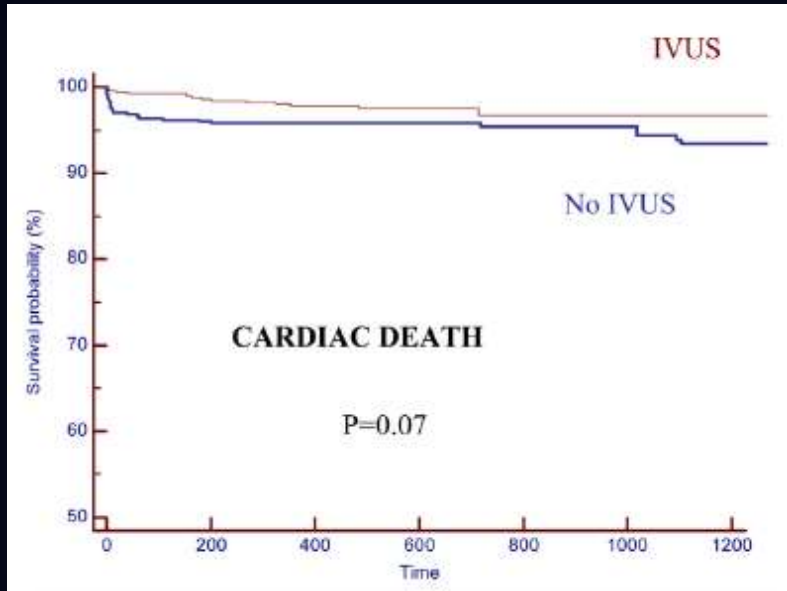
Recommendations	Class ^a	Level ^b	Ref. ^c
FFR to identify haemodynamically relevant coronary lesion(s) in stable patients when evidence of ischaemia is not available.	I	A	50,51,713
FFR-guided PCI in patients with multivessel disease.	IIa	B	54
IVUS in selected patients to optimize stent implantation.	IIa	B	702,703,706
IVUS to assess severity and optimize treatment of unprotected left main lesions.	IIa	B	705
IVUS or OCT to assess mechanisms of stent failure.	IIa	C	
OCT in selected patients to optimize stent implantation.	IIb	C	

IVUS-guided PCI

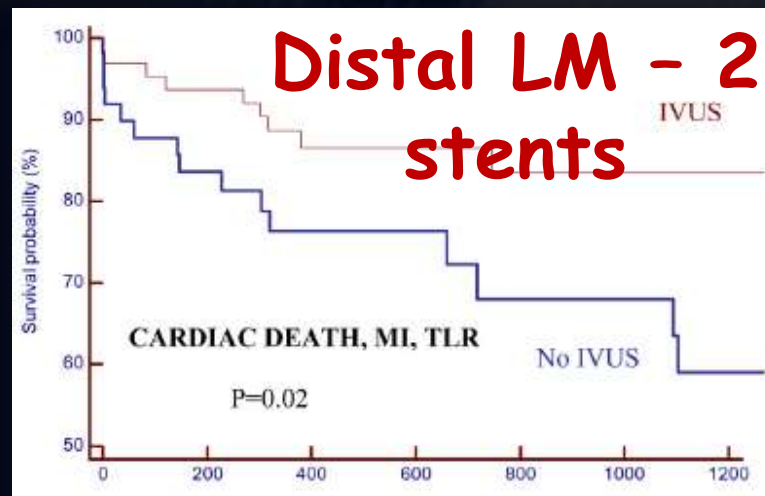
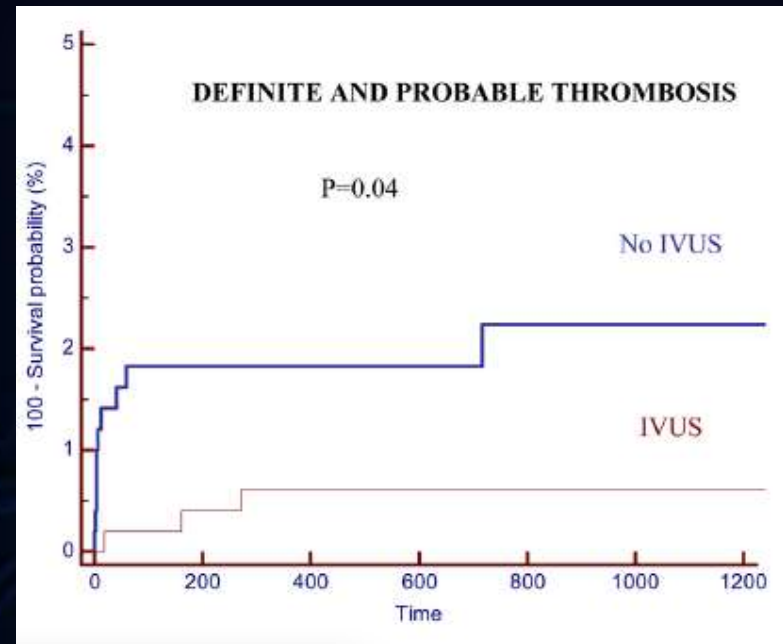
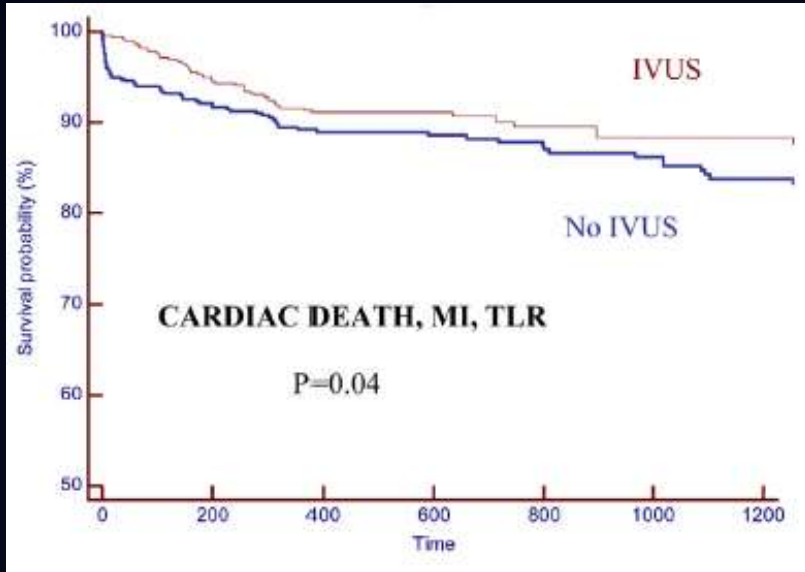
The MAIN-COMPARE registry



IVUS-guided PCI - IVUS-TRONCO study



IVUS-guided PCI - IVUS-TRONCO study



Conclusions

- Results from observational registries reported that provisional stenting should be the first line strategy to consider in LM bifurcations
- However no RCT so far has evaluated true distal LM bifurcation optimal stenting treatment
- EBC Main is currently evaluating 1 vs 2 stent strategy in true bifurcation lesions
- IVUS is recommended in complex LM bifurcation lesions with 2 stent strategy chosen as intention to treat