

Seoul, Korea: 29-30 November 2018

Complex PCI in Complex Situations

When PCI and when CABG
in the Year 2019

Speaker - 10'

Antonio Colombo

EMO GVM Cento Cuore Columbus Milan, Italy

No conflicts to disclose

Left Main interventions are frequently more dependent upon lesions outside the left main

Variables related to the patient

Variables related to the lesions

Variables related to the devices/procedure

Variables related to medical therapy

Complete versus incomplete revascularization

Variables related to the operator

I will skip HYBRID revascularization

Variables related to the patient

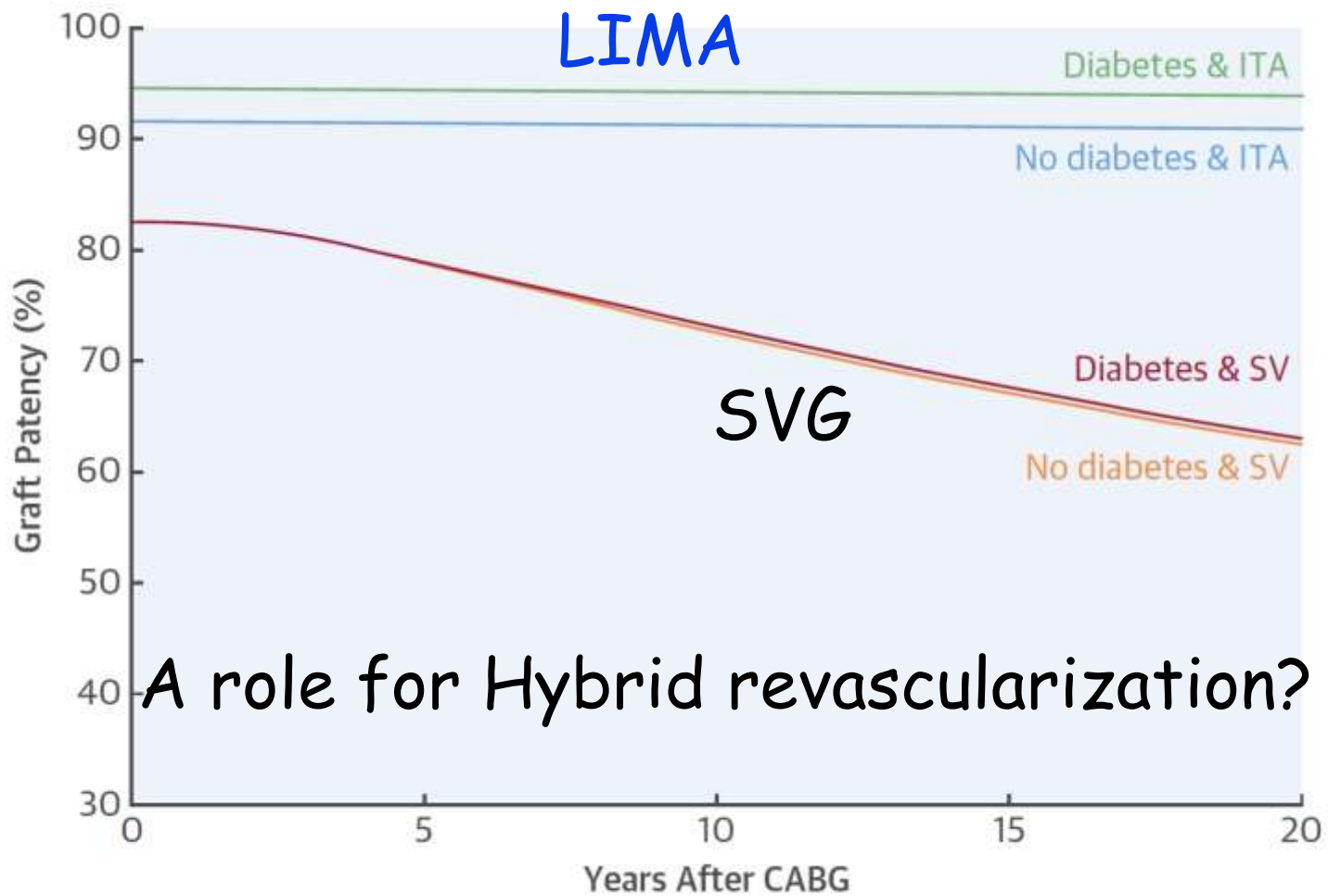
Diabetes: will favor CABG; the results of FREEDOM Trial remain a bench mark, nevertheless diabetes should not be considered a binary variable

Renal failure: may favor PCI

Low EF: neutral or site and operator dependent

Very low EF: may favor PCI **with support devices, IMPELLA (may allow more complete revascularization)**; limited role for IABP

Cleveland Clinic: LIMA and SVG patency in 1,372 pts. with diabetes vs. 10,147 pts. without diabetes



A role for Hybrid revascularization?

Raza, S. et al. J Am Coll Cardiol. 2017;70(5):515-24.

JACC 2017

Cherry-Picking Historical Data to Legitimize Contemporary Practice

Should Diabetic Status Influence Decision-Making in Complex CAD?*

Patrick W. Serruys, MD, PhD,^{a,b} Vasim Farooq, MBChB, PhD^c

It is more relevant to consider the consequences of diabetes (kidney function, EF, diffuse coronary disease, complex 3V disease) rather than the presence of diabetes as a dichotomous variable

Variables related to the lesions

Anatomical complexity such as SYNTAX score, number of stents, complex CTO are important but need specific evaluation.

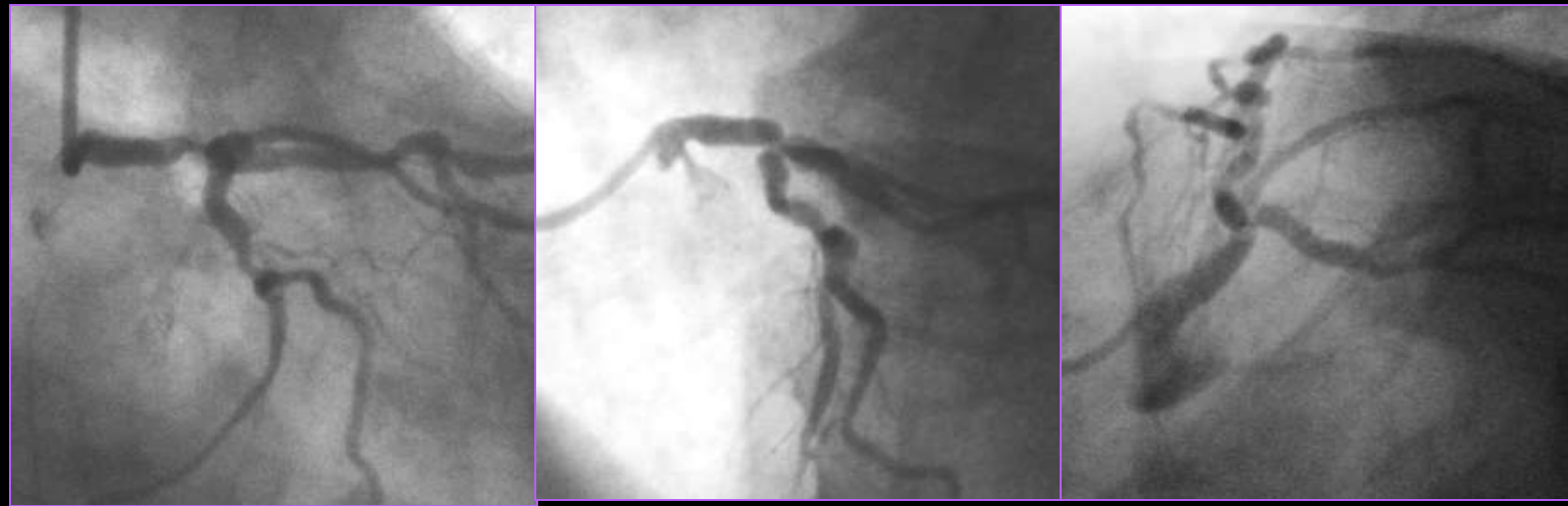
Anatomical variables are not only pertinent to PCI but to CABG as well.

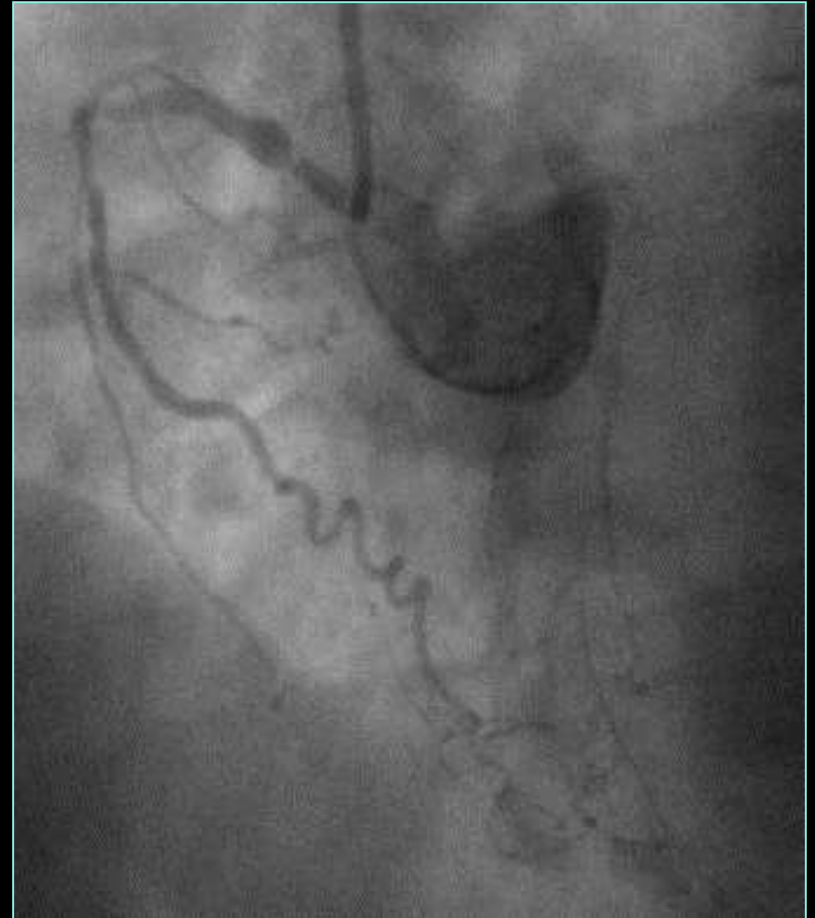
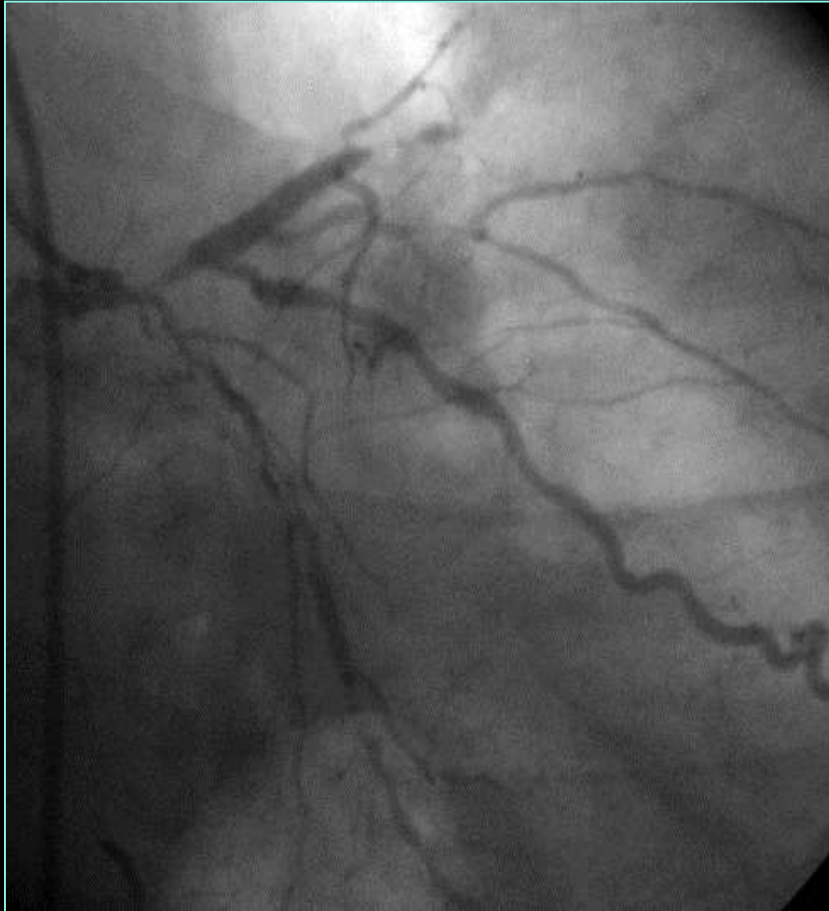
Left Main

EXCEL established PCI non inferior to CABG

NOBLE ??

“There is Left Main Disease and Left Main Disease”





Proximal LAD

PROTECT Trial: DES implanted on proximal LAD versus outside LAD

At 4 years follow-up incidence of myocardial infarction was 6.2% in prox. LAD stenting versus 4.9% for stents implanted outside the proximal LAD

Ariel Roguin JACC 2017

The "INTERMEDIATE" LAD
remains a weak segment for PCI

INTERMEDIATE: from ostium to distal

20 yrs. ago Richard Kuntz
proposed to routinely stent
LAD from ostium to mid

Variables related to the devices/procedure

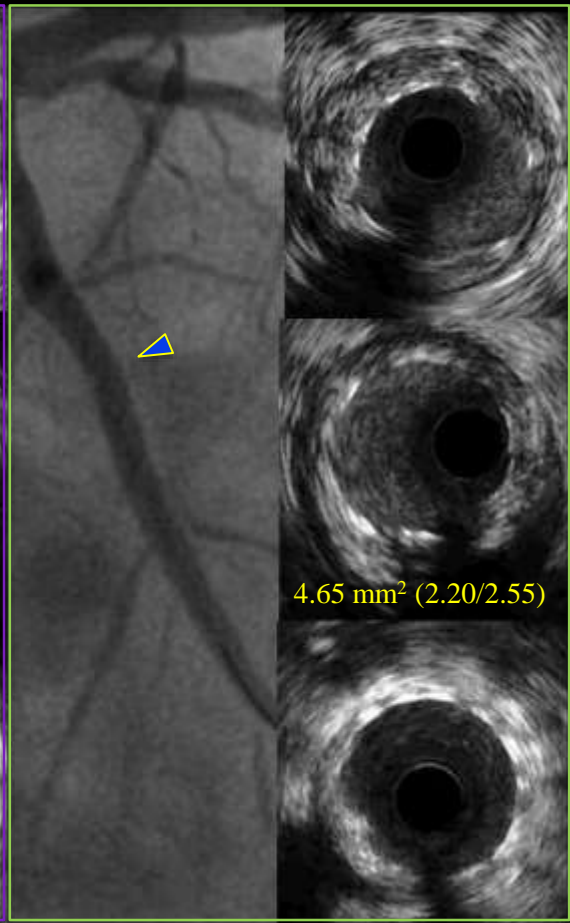
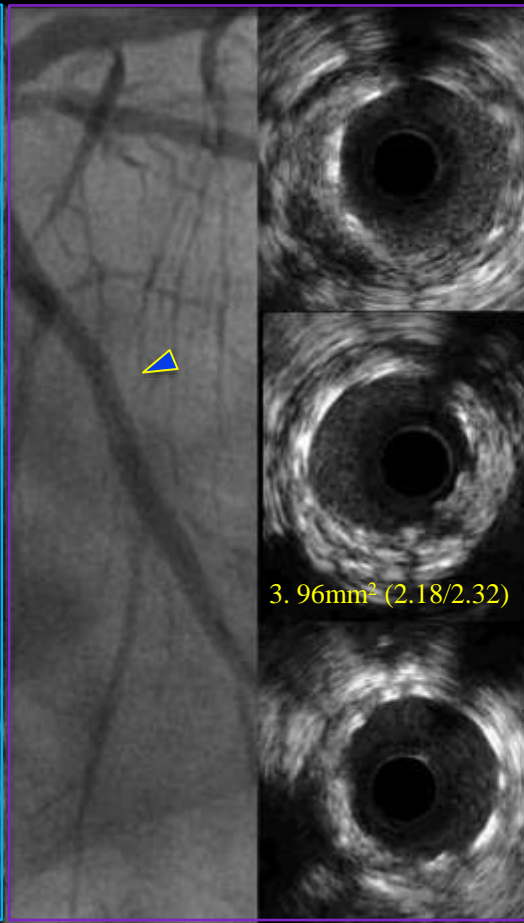
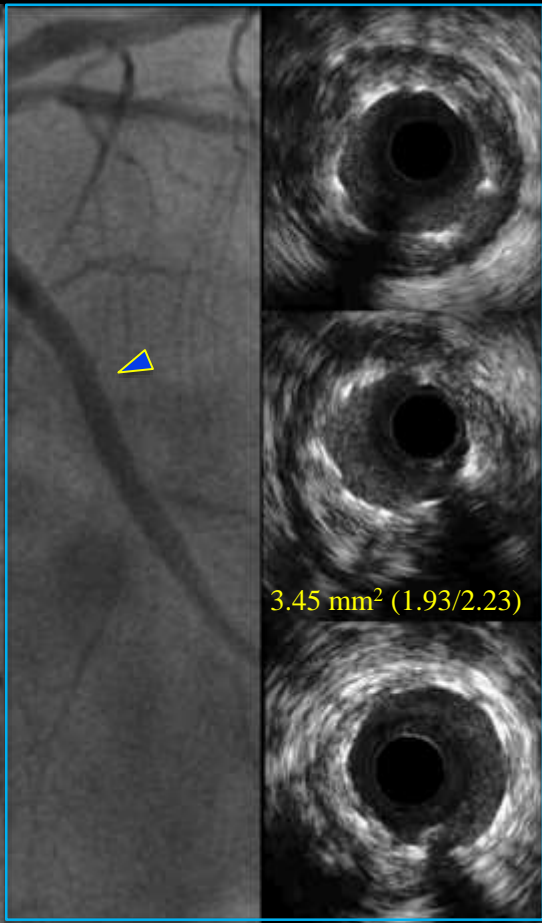
A different strategy for patients with complex lesions

IVUS and FFR guidance

New generation DES platforms

IVUS guided stent optimization

IVUS does not work by Intention to Treat



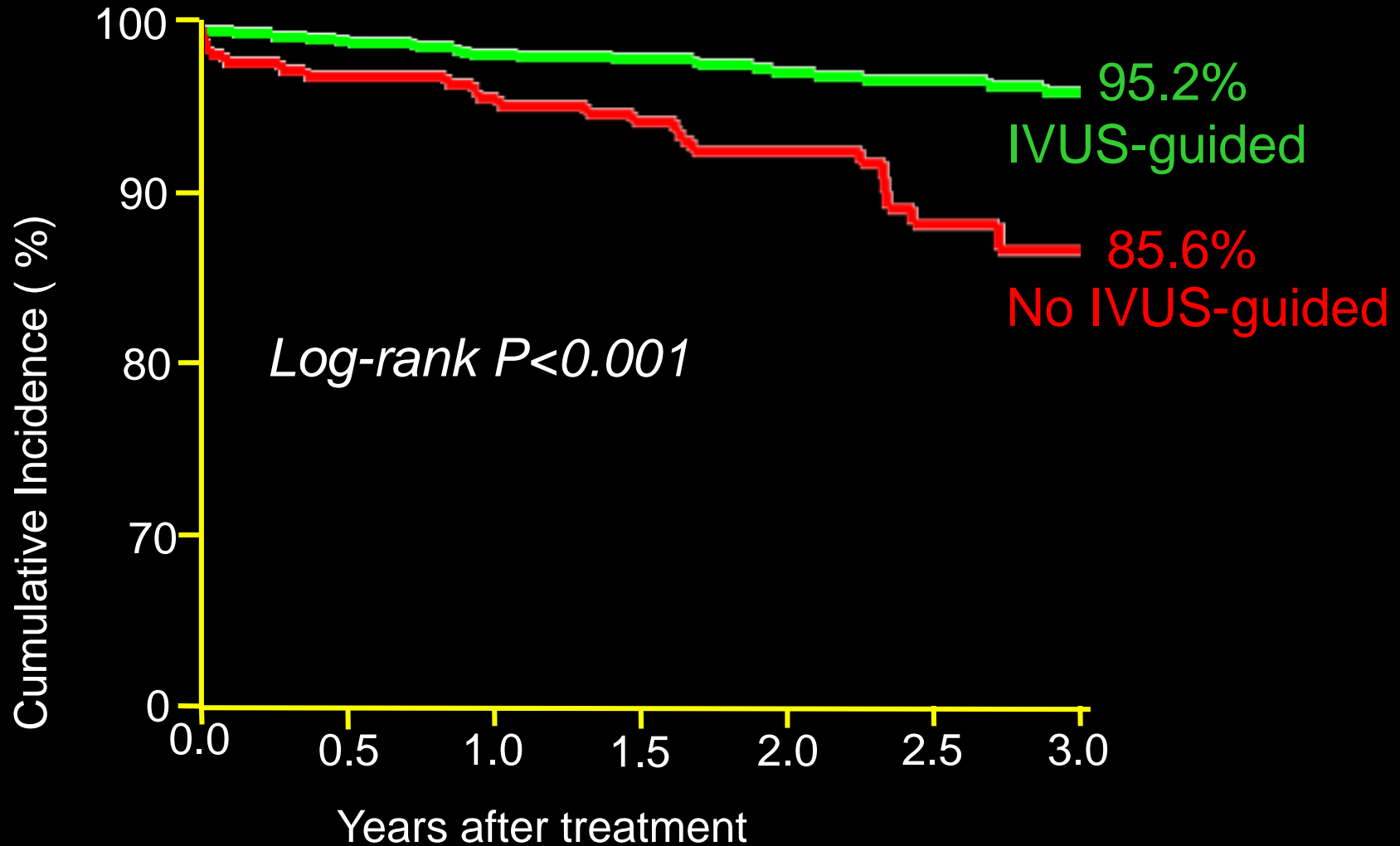
After recanalization

After stent implantation
(12 atm)

After 1st additional postdilatation
2.5 mm (18 atm)

After 2nd additional postdilatation
2.5 mm (24 atm)

All-Cause Mortality (DES patients) According to IVUS Guidance



S J Park, et al. MAIN COMPARE Registry (n=2311)

Meta-analysis of IVUS vs. Angio

	R	Non R	PTS	MAC E	Death	MI	ST	TLR	TVR	Year
Zang	3	17	29069	0.77 p<0.001	0.62 p<0.001	0.64 p<0.001	0.59 p<0.001	0.81 p<0.005	0.86 p<0.012	2015
Elgendy	8		3275	0.59 p<0.001	0.46 p<0.05	0.58 p<0.001	0.59 p<0.10	0.49 p<0.04		2016

Zhang YJ, Pang S, Chen XY, et al. Comparison of intravascular ultrasound guided versus angiography guided drug eluting stent implantation: a systematic review and meta-analysis. *BMC Cardiovasc Disord* 2015;15:153. -

Elgendy IY, Mahmoud A, Elgendy AY, Bavry A. Outcomes With Intravascular Ultrasound-Guided Stent Implantation: A Meta-Analysis of Randomized Trials in the Era of Drug-Eluting Stents. *Circ Cardiovasc Interv* 2016;9:e003700. -

Variables related to medical therapy

DAPT for how long ?
number needed to treat versus number needed to harm

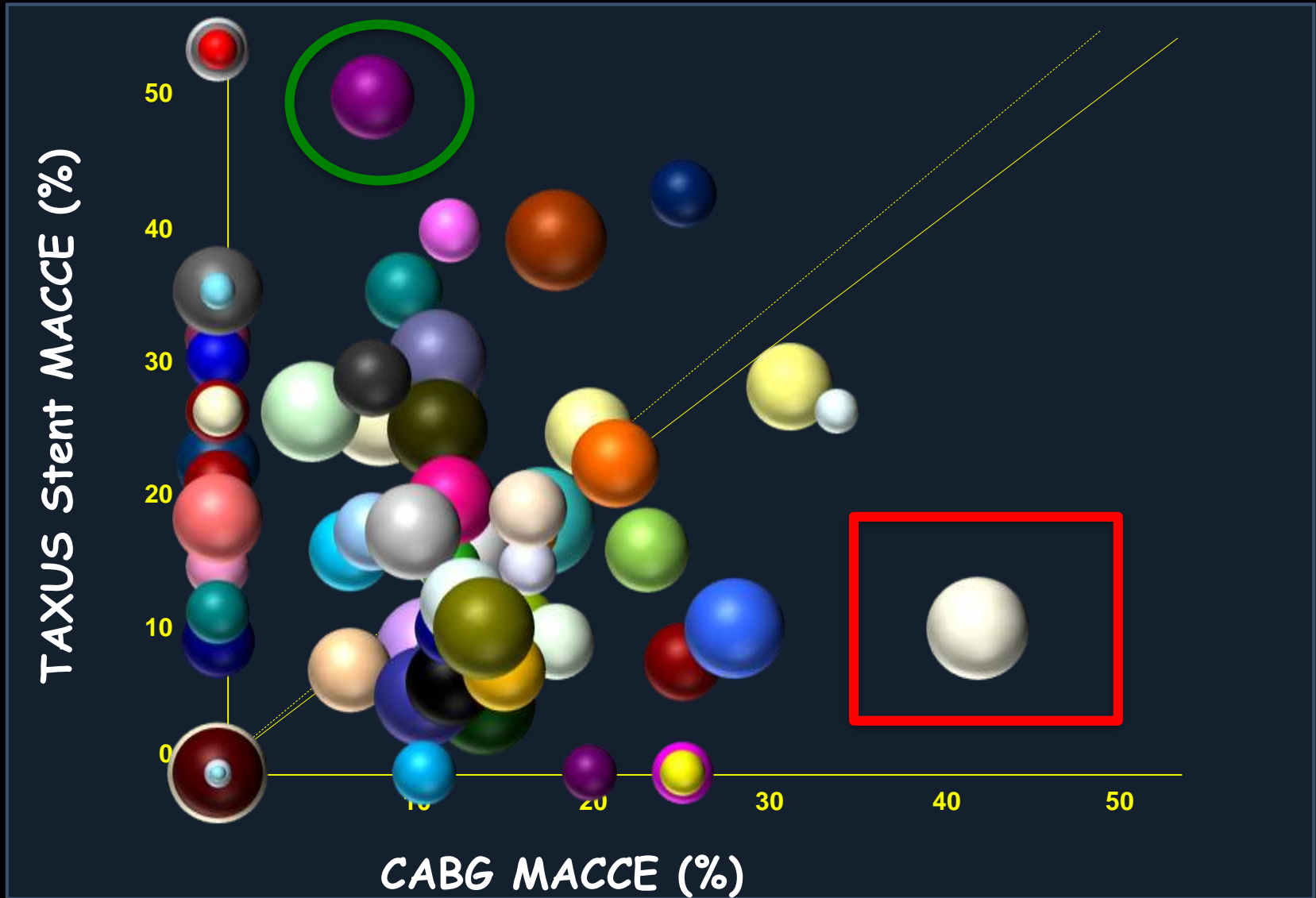
**The need to consider no polymer DES,
BMS or CABG**

Complete versus incomplete revascularization

CABG always demands for complete revascularization with PCI staged procedures are an option

Variables related to the operator

One-year MACCE Rates per site SYNTAX Trial



Guidelines are important
nevertheless we should be
guided by the patient in
front of us and by us
(what we can do)