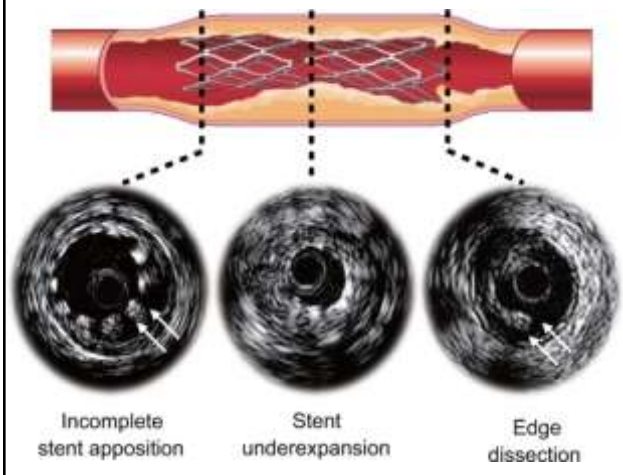
Disclosure Statement of Financial Interest

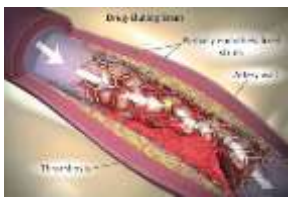
Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

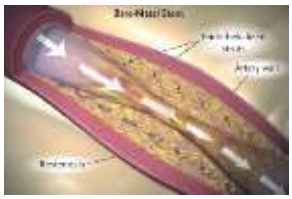
Affiliation/Financial Relationship	Company
• Consulting Fees/Honoraria	• Philips Volcano • Abbott Vascular • Terumo • MSD • Astra Zeneca • Siemens • Bracco • Balton

Case 1

IVUS Predictors of DES
Early Thrombosis & Restenosis







Case 2

Case presentation

60 years old, male
Risk factors: hypertension
STEMI inferior wall, 2 hours after chest pain onset
Directly transferred to the cathlab by Emergency System
SBP=90/60 mmHg, HR=110/min.
Echo-LVEF=35%

Medication:

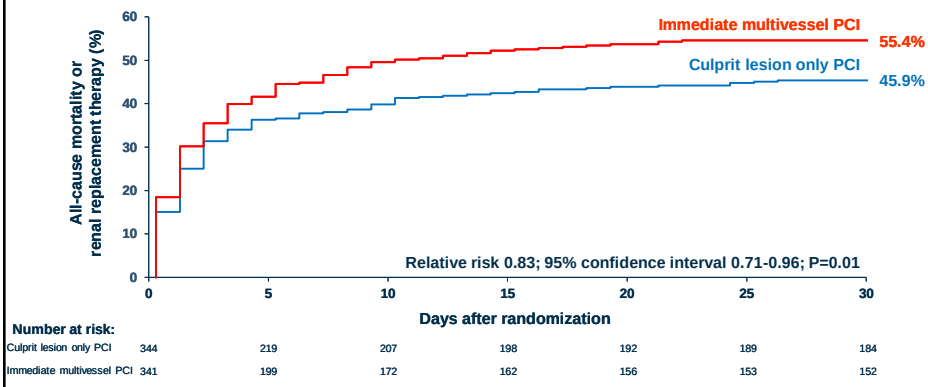
- ASA - 300 mg
- Ticagrelor - 180 mg
- UFH – 60U/kg i. v. bolus
- Norepinephrin – i.v. infusion

UNIVERSITÄT LEIPZIG HERZZENTRUM

PCI Strategies in Patients with Acute Myocardial Infarction and Cardiogenic Shock

Primary Study Endpoint

All-Cause Mortality or Renal Replacement Therapy



Number at risk:

Culprit lesion only PCI	344	219	207	198	192	189	184
Immediate multivessel PCI	341	199	172	162	156	153	152

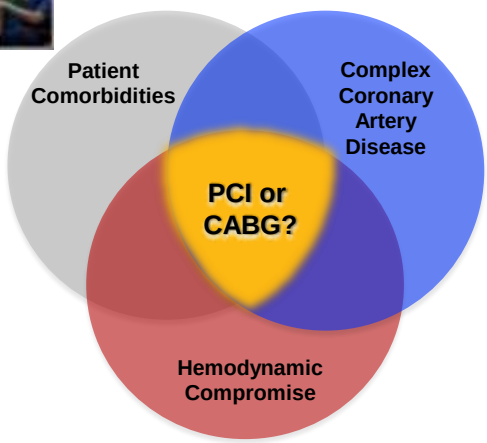
Thiele H, et al. N Eng J Med. 2017; DOI: 10.1056/NEJMoa1710261

tct2017

Cardiovascular Research Foundation

euro PCR

What should be the next step of revascularization? HEART TEAM

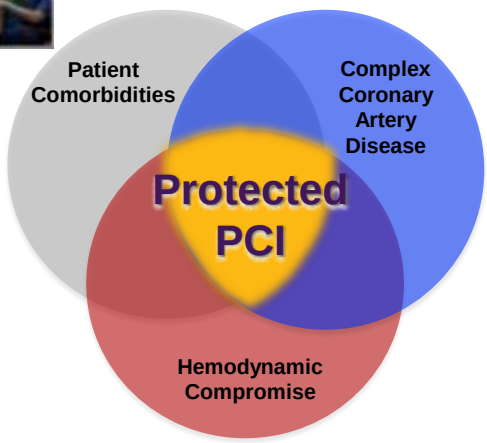


Heart failure, diabetes, advanced age, peripheral vascular disease, complex lesions, unstable angina/NSTEMI, prior surgery

Multi-vessel disease, Left Main disease

Depressed ejection fraction (LVEF≤35%)

What should be the next step of revascularization? HEART TEAM



Heart failure, diabetes, advanced age, peripheral vascular disease, complex lesions, unstable angina/NSTEMI, prior surgery

Multi-vessel disease, Left Main disease

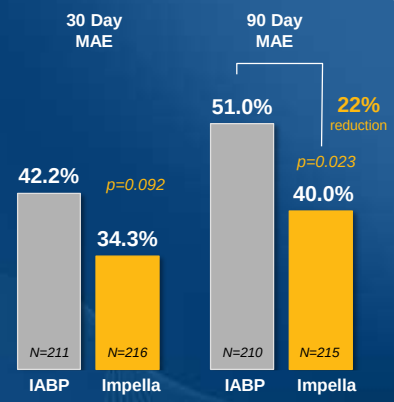
Depressed ejection fraction (LVEF≤35%)

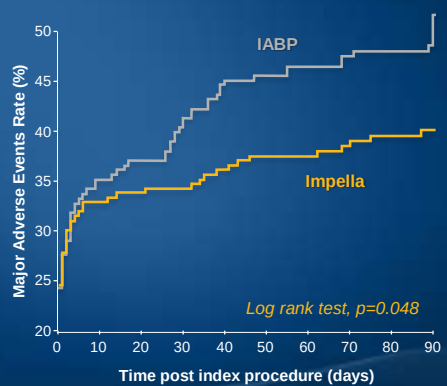
PROTECT II TRIAL

10

IMPELLA REDUCES MAJOR ADVERSE EVENTS

Per Protocol
(N=427)





MAE= Major Adverse Event Rate

O'Neill et al, Circulation. 2012;126(14):1717-27

Case Presentation – Left Main PCI with LVAD Support

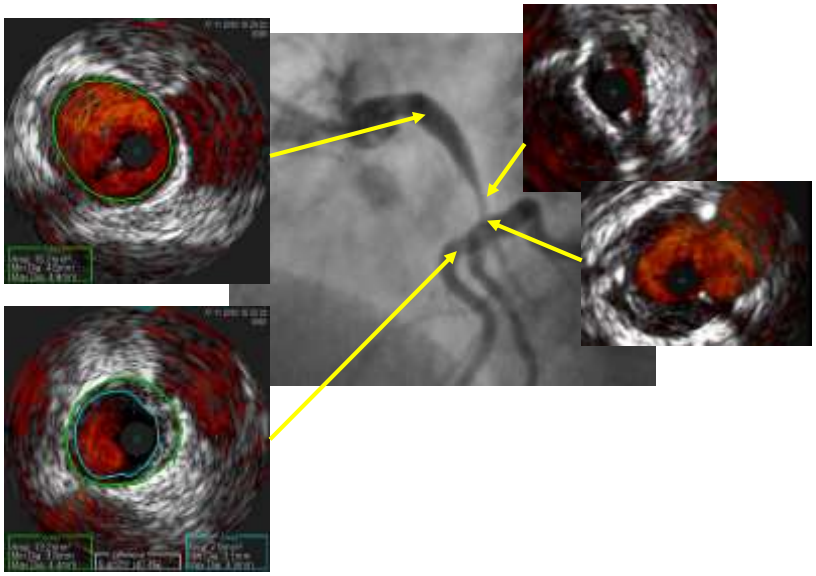
Legutko J, Hawranek M, Kleczynski P, Sobczynski R, Dudek D. University Hospital, Krakow, Poland
Dudek D, et al. Presented at TCT'2015
Presented at NFIC'2015

Pre-procedural IVUS assessment of the bifurcation lesion

1) measurement of a true lumen and vessel (external elastic membrane [EEM]) dimensions in the mother and daughter vessel,
2) analysis of atherosclerotic plaque burden (PB), morphology and longitudinal distribution,
3) stent landing zone and reference analysis,
4) stenosis severity and negative remodelling assessment (mainly at ostial location),
5) measurement of the lesion length (only during automatic pullback), and
6) detection of angiographically silent disease (LM stenosis, diffuse disease in reference segments).

Legutko J, et al. Eurointervention 2015; 11(Suppl.V):V59-V63

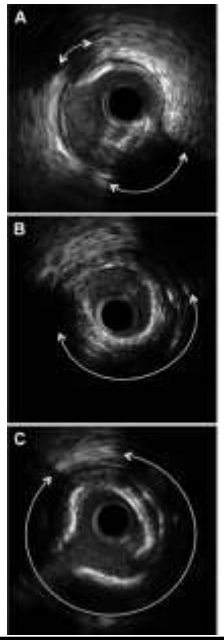
Case Presentation – Left Main PCI with LVAD Support



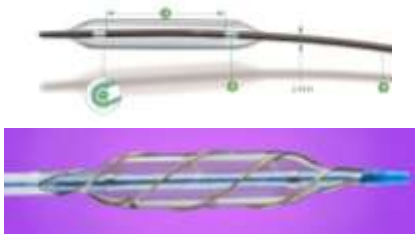
Legutko J, Hawranek M, Kleczynski P, Sobczynski R, Dudek D. University Hospital, Krakow, Poland
Dudek D, et al. Presented at TCT'2015
Presented at NFIC'2015

IVUS-guided Left Main PCI

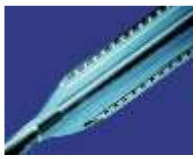
Lesion preparation



Mild

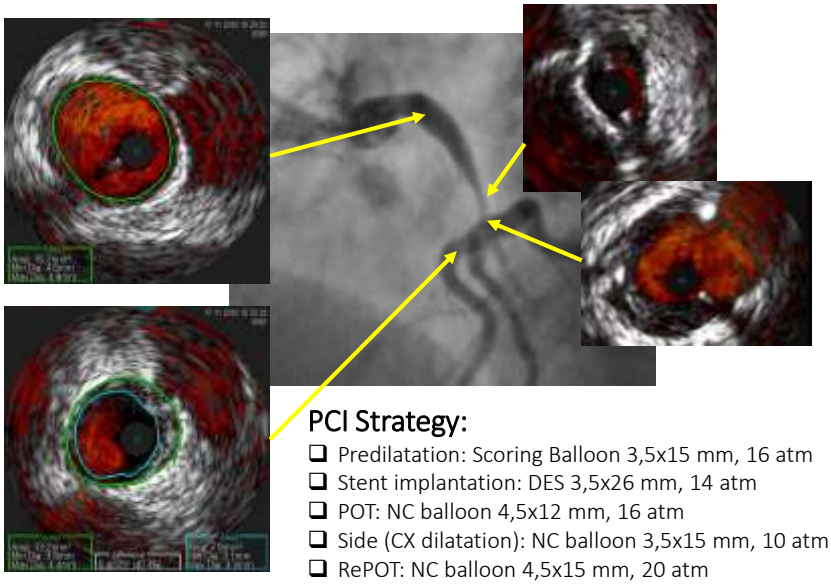


Moderate



Severe

Case Presentation – Left Main PCI with LVAD Support



PCI Strategy:

- ❑ Predilatation: Scoring Balloon 3,5x15 mm, 16 atm
- ❑ Stent implantation: DES 3,5x26 mm, 14 atm
- ❑ POT: NC balloon 4,5x12 mm, 16 atm
- ❑ Side (CX dilatation): NC balloon 3,5x15 mm, 10 atm
- ❑ RePOT: NC balloon 4,5x15 mm, 20 atm

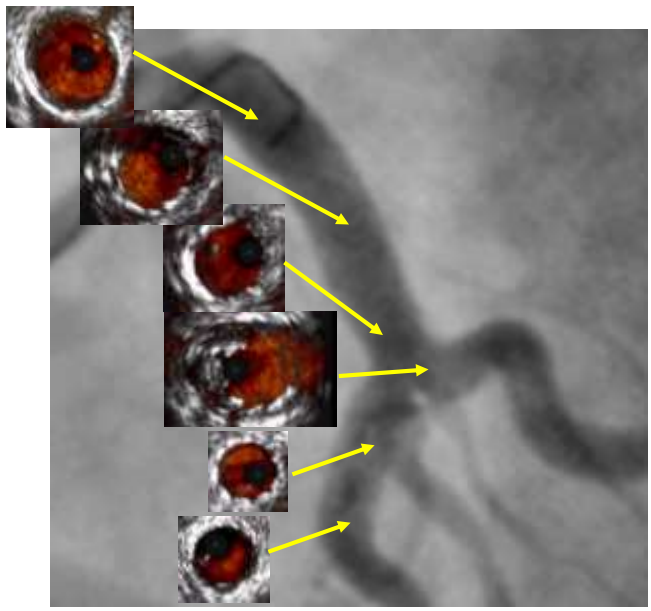
Legutko J, Hawranek M, Kleczynski P, Sobczynski R, Dudek D. University Hospital, Krakow, Poland
Dudek D, et al. Presented at TCT'2015
Presented at NFIC'2015

IVUS assessment of the bifurcation lesion during the procedure

1) direct control of wire re-crossing through the jailed SB,
2) assessment and optimisation of stent apposition (stent strut adherence to the vessel wall),
3) measurement and optimisation of stent expansion (ratio between minimum stent area and lumen area in adjacent reference segment of the vessel),
4) assessment of full lesion coverage by the stent (especially at the SB ostial location when using some double-stenting techniques such as T-stenting),
5) diagnosis and treatment of stent edge problems (geographic miss, secondary lesions, large plaque burden, dissection, etc.)

Legutko J, et al. Eurointervention 2015; 11(Suppl.V):V59-V63

Case Presentation – Left Main PCI with LVAD Support

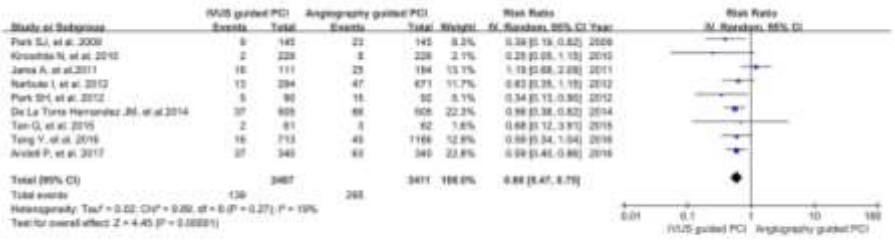


Legutko J, Hawranek M, Kleczynski P, Sobczynski R, Dudek D. University Hospital, Krakow, Poland
Presented at NFIC'2015

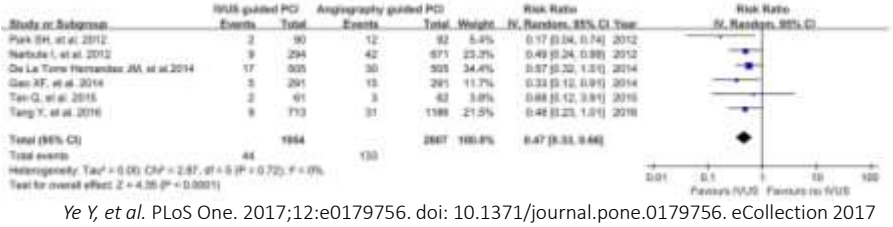
IVUS-guided PCI for Left Main Disease

Meta-analysis of available data

All-cause death



Cardiac death



Ye Y, et al. PLoS One. 2017;12:e0179756. doi: 10.1371/journal.pone.0179756. eCollection 2017

Left Main PCI remains a challenge

The 12th consensus document from the European Bifurcation Club

- LM PCI remains challenging and the entire team should be able to manage serious complications.
- Stent implantation involves the bifurcation in in 80-90% of LM stenting cases.
- Provisional stenting is the recommended strategy in most distal LM bifurcation lesions.
- Planned two-stent techniques may be indicated in cases with long LCX lesions, high risk of LCX compromise or difficult access.
- It is strongly recommended to have access to intravascular imaging modalities (IVUS/OCT/OFDI) during elective PCI of LM

Lassen JF, et al. Eurointervention. 2017.

Thank you for your attention!

jacek.legutko@uj.edu.pl