SOLACI 2024

LM

IVUS lesion analysis, when is it significant?

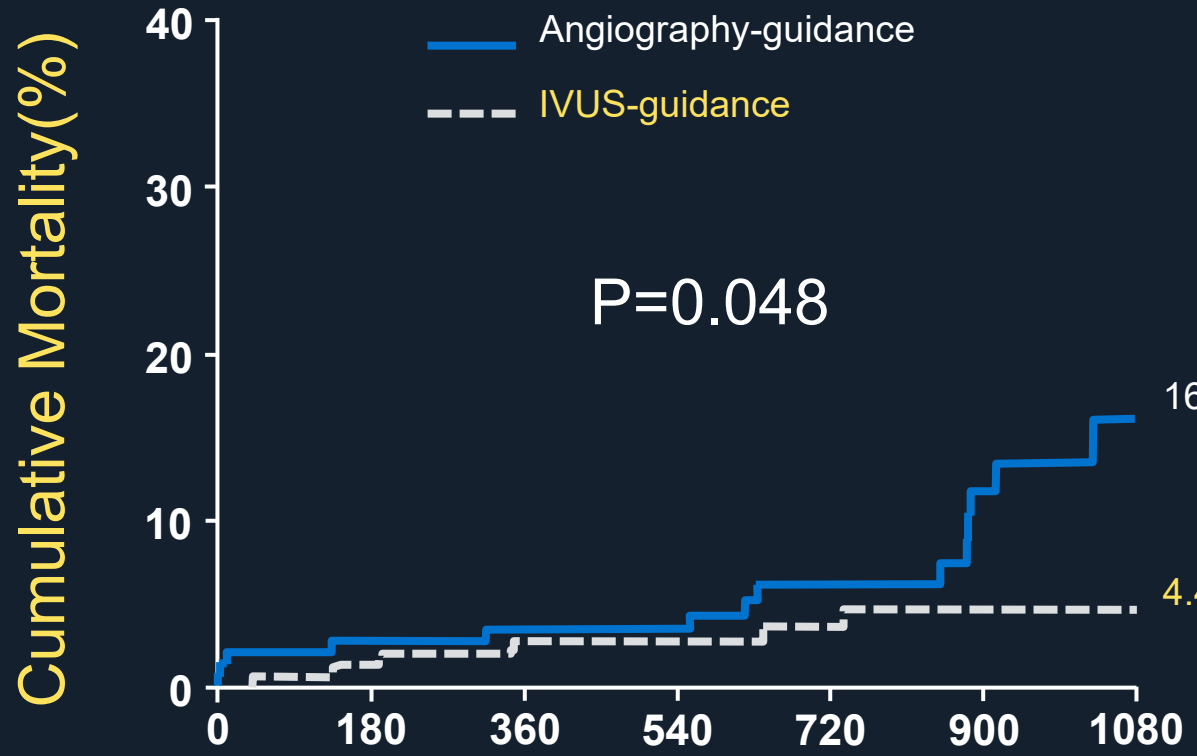
Prof. Dr. EXPEDITO E. RIBEIRO FACC
LIVRE DOCENTE CARDIOLOGIA FM USP
HEMODINÂMICA INCOR-HCFMUSP
SERVIÇO DE HEMODINÂMICA DO HOSP SAMARITANO PAULISTA
MÉDICO DO SERV HEMO HOSP SÍRIO-LIBANÊS E OSVALDO CRUZ

SEM CONFLITO DE INTERÊSSE COM ESSA APRESENTAÇÃO


1982

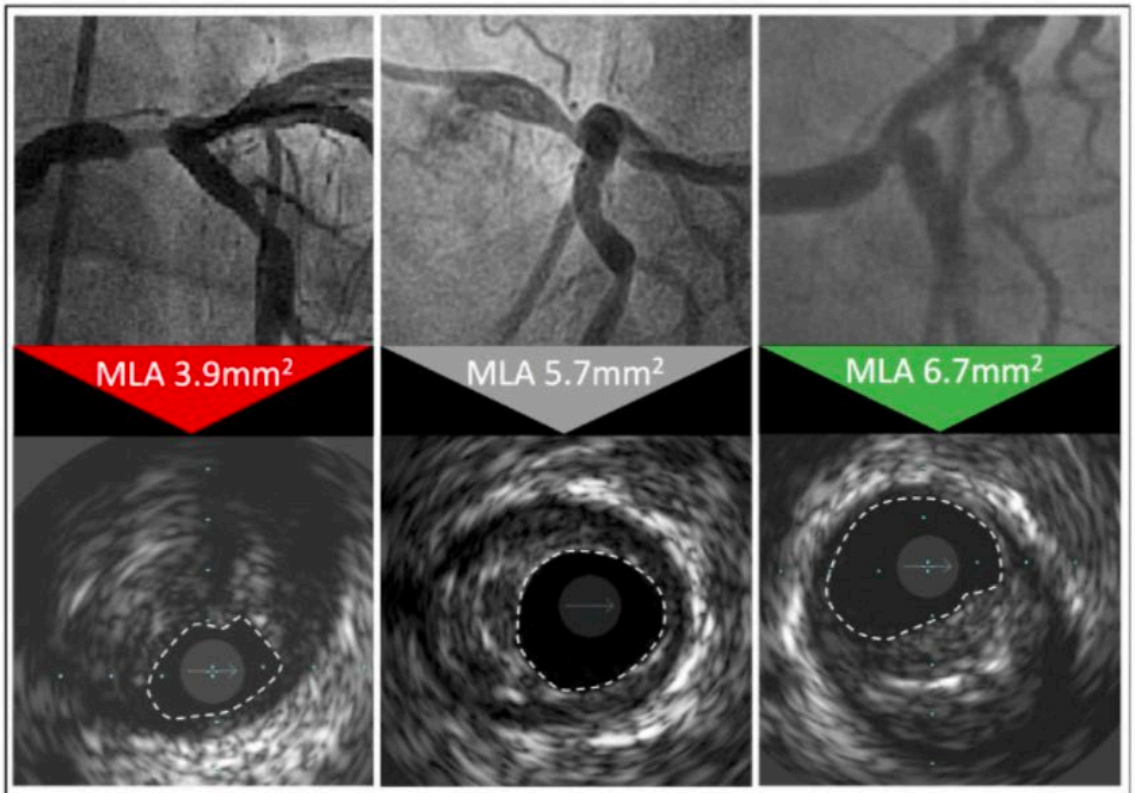

1996

IVUS Guidance Saved Lives !



Patients after risk				
IVUS-guidance	145	140	98	37
Angiography-guidance	145	137	88	29

Park SJ et al, Circulation. Cardiovasc Interv. 2009;2(3):167-77.



MLA < 4.5mm²
REVASCULARISE

MLA
4.5 - 6.0mm²

CONSIDER
PHYSIOLOGICAL
ASSESSMENT

MLA > 6.0mm²
CONSERVATIVE

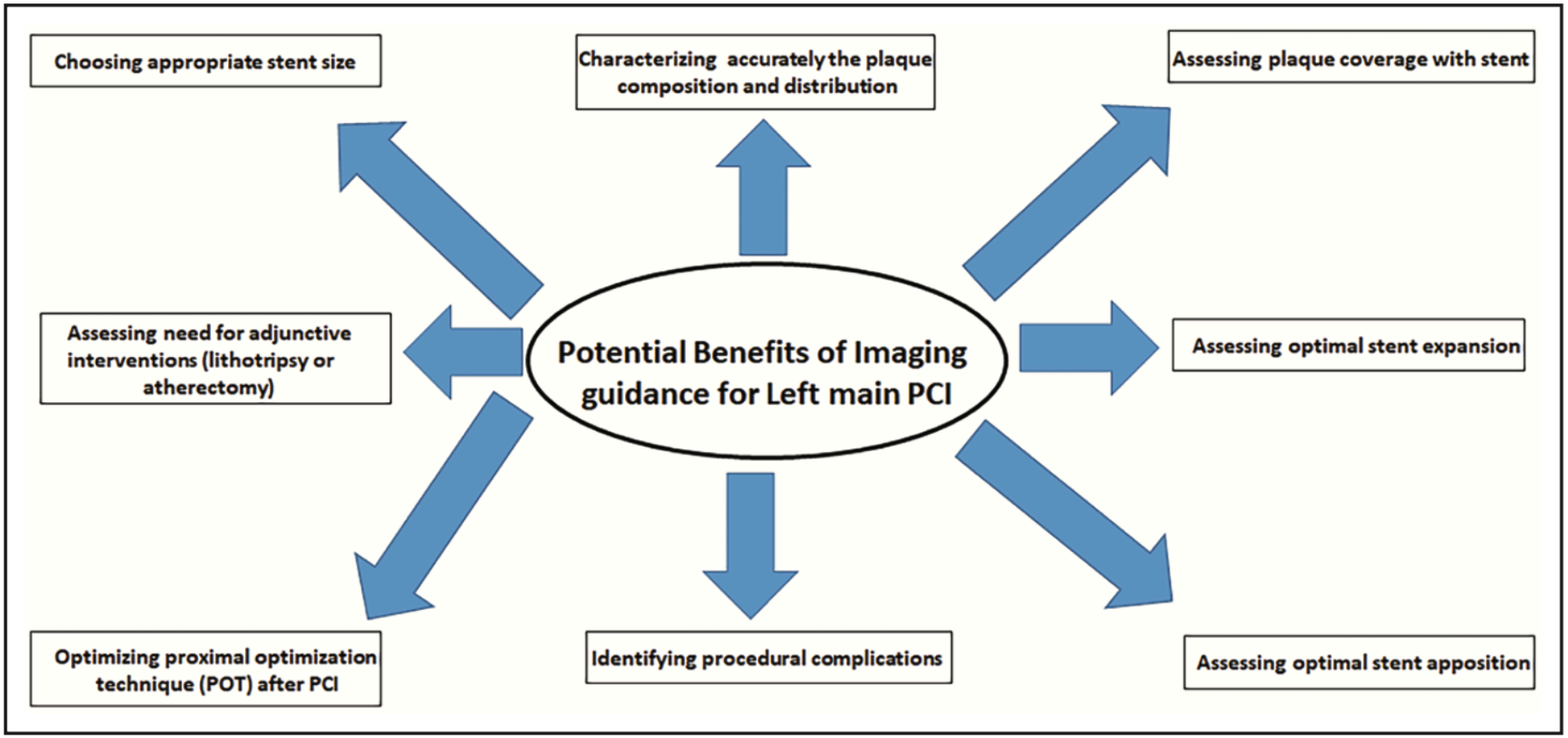


Figure. Potential mechanism of benefit and improved outcomes with image-guided left main percutaneous coronary intervention (PCI).

Circulation: Cardiovascular Interventions

EDITORIAL

Intravascular Imaging for Optimal Left Main Percutaneous Coronary Intervention: A Requirement Rather Than an Option

Debabrata Mukherjee, MD, MS

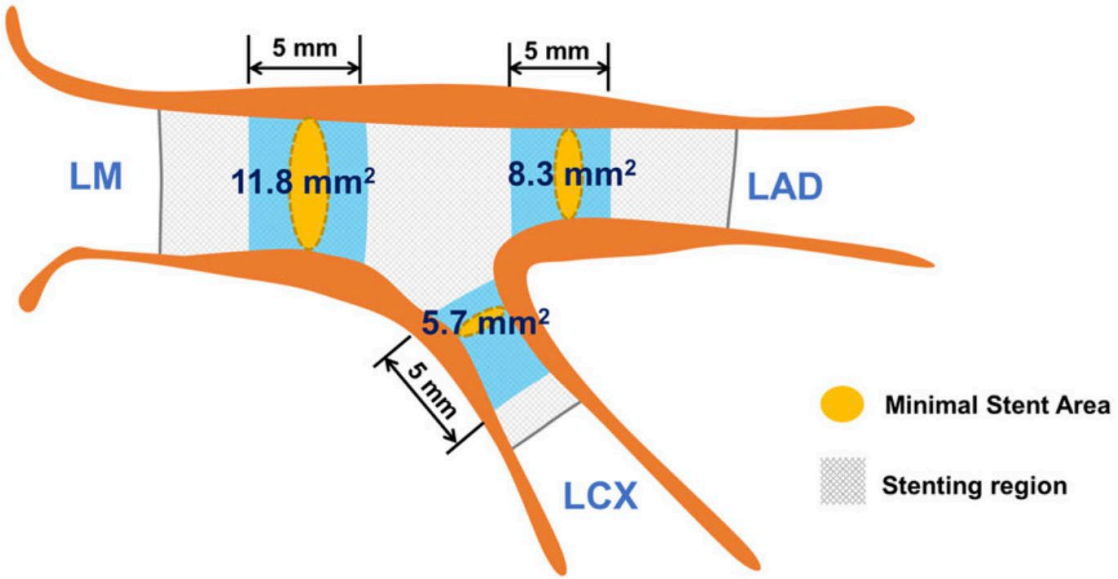
Circ Cardiovasc Interv. 2023;16:e013742. DOI: 10.1161/CIRCINTERVENTIONS.123.013742 December 2023

Optimal Minimal Stent Area and Impact of Stent Underexpansion in Left Main Up-Front 2-Stent Strategy

Ju Hyeon Kim, MD; Do-Yoon Kang, MD, PhD; Jung-Min Ahn, MD, PhD; Jihoon Kweon, PhD; Yeonwoo Choi, MD; Hoyun Kim, MD; Jinho Lee, MD; Jihye Chae, BS; Soo-Jin Kang, MD, PhD; Duk-Woo Park, MD, PhD; Seung-Jung Park, MD, PhD

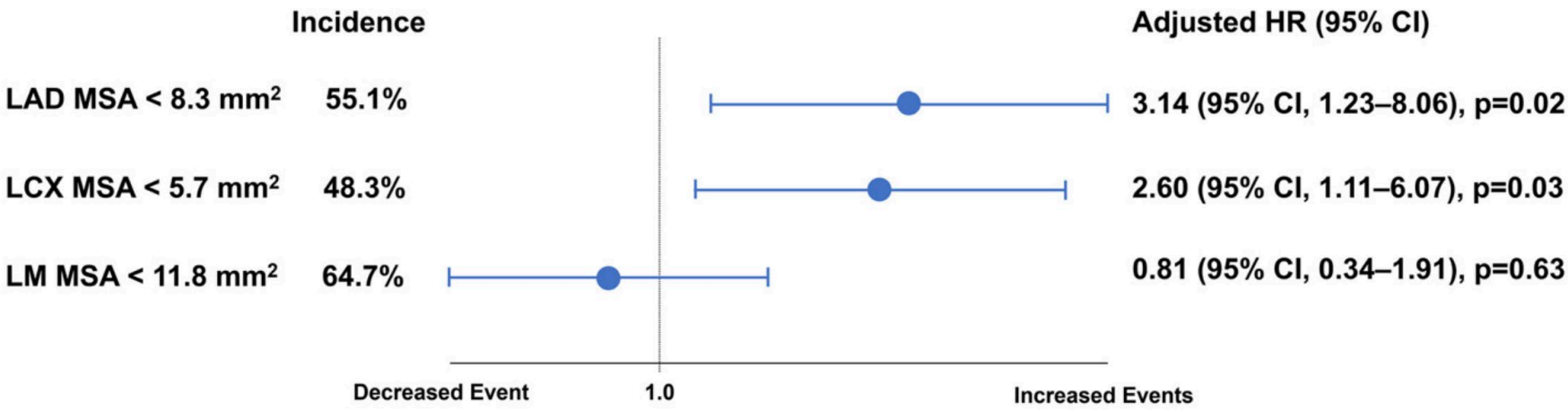
METHODS: We identified 292 consecutive patients with LM bifurcation stenosis who were treated using the crush technique. The final minimal stent area was measured in the ostial left anterior descending artery (LAD), ostial left circumflex artery (LCX), and distal LM. The primary outcome was 5-year major adverse cardiac events, including all-cause death, myocardial infarction, and target lesion revascularization.

The Optimal Minimal Stent Area within Each Left Main Segment



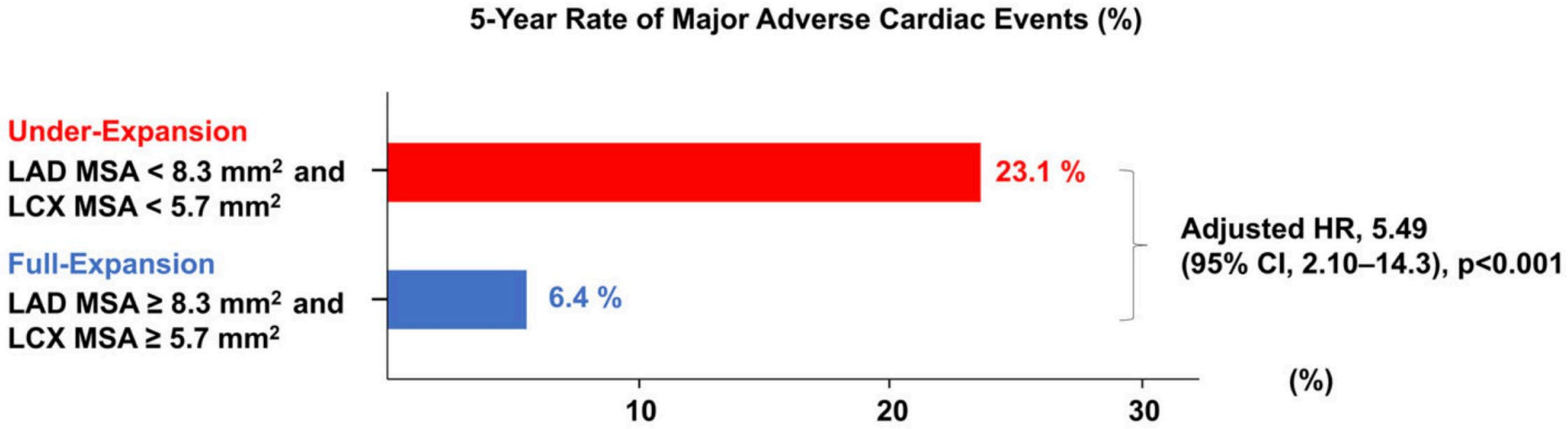
BRUGALETTA,S from EUROPCR adapted from PUBLICATION OF KIM et al

Stent Under-Expansion Criteria in LM Two-Stenting With the Crush Technique



BRUGALETTA,S from EUROPCR adapted from PUBLICATION OF KIM et al

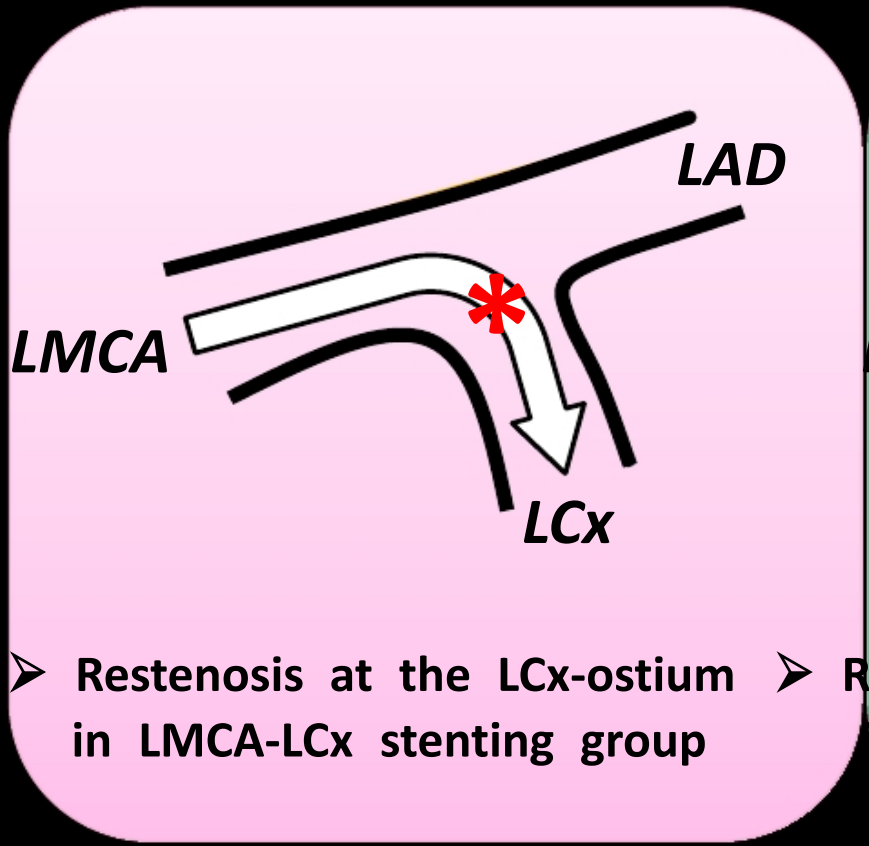
Major Adverse Cardiac Events at 5 Years according to Stent Under-Expansion



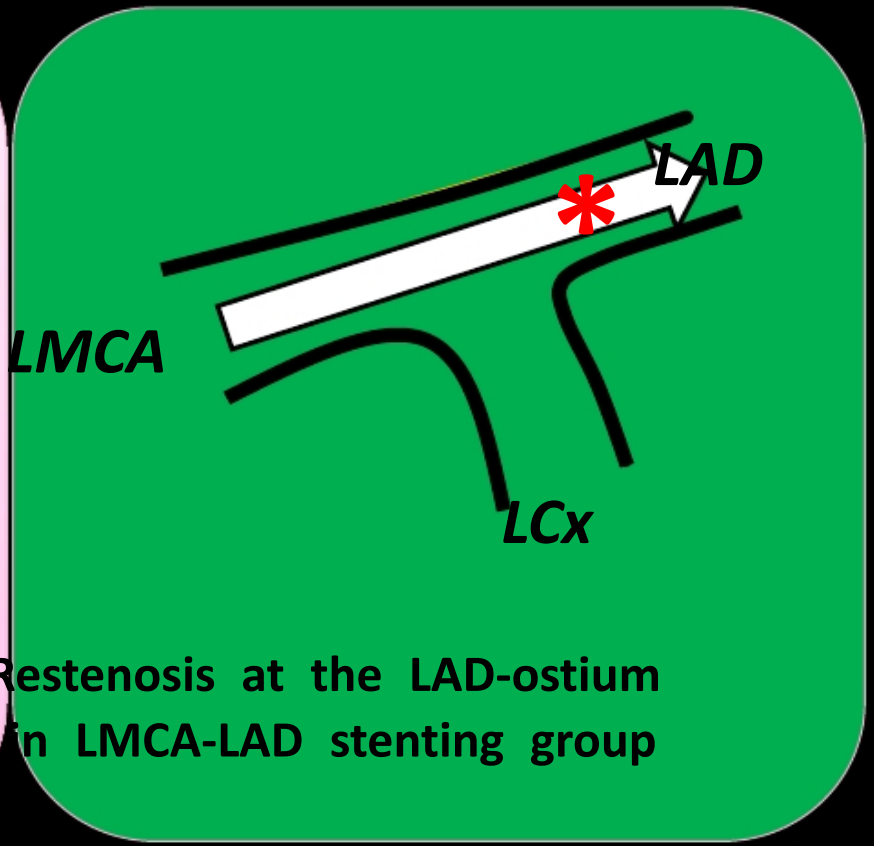
BRUGALETTA,S from EUROPCR adapted from PUBLICATION OF KIM et al

The Circumflex Ostium remains a problem.

ACHILLES' HEEL

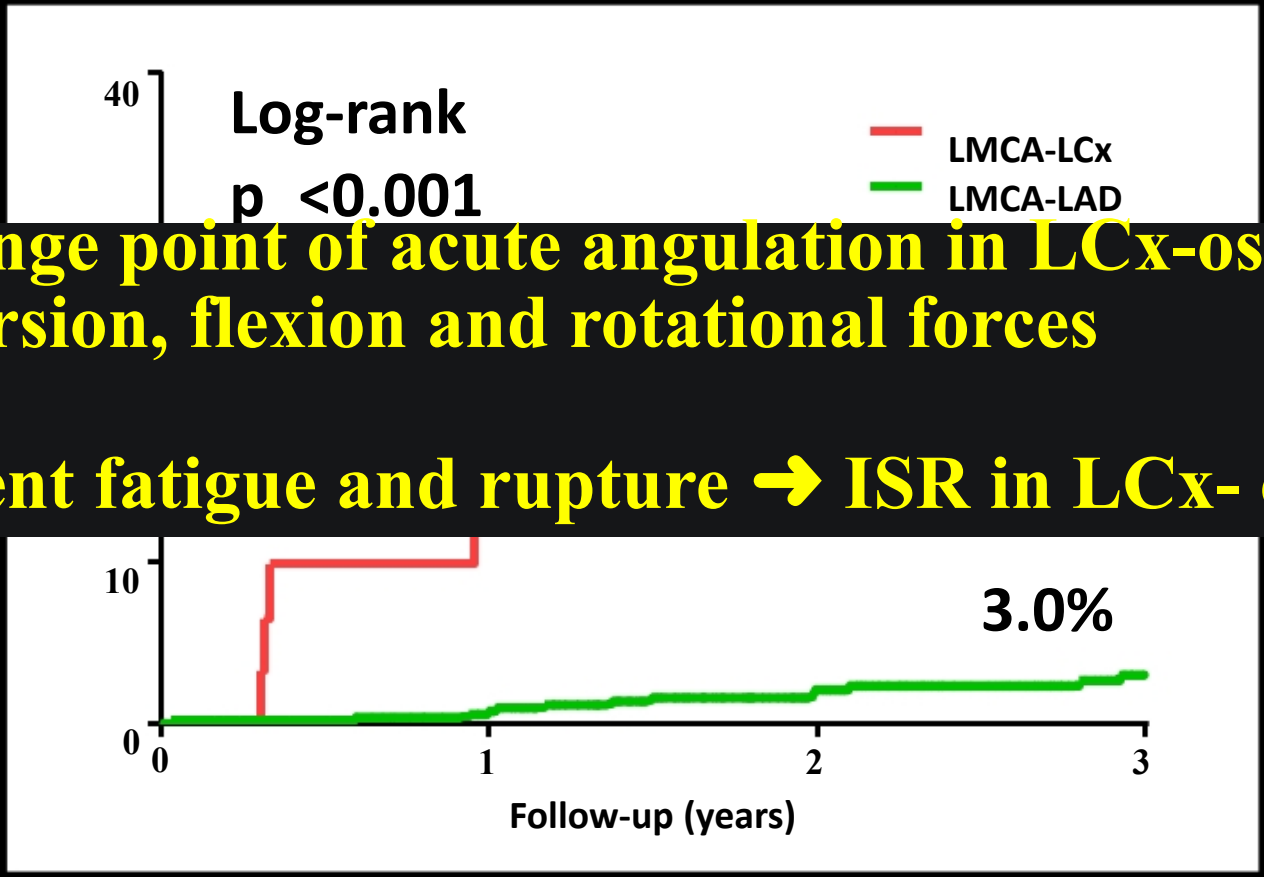


➢ Restenosis at the LCx-ostium in LMCA-LCx stenting group



➢ Restenosis at the LAD-ostium in LMCA-LAD stenting group

For restenosis at the ostium of the stented-branch



- Hinge point of acute angulation in LCx-ostium
- Torsion, flexion and rotational forces

- Stent fatigue and rupture ➜ ISR in LCx- ostium…

No. at risk				
LMCA-LCx	31	27	23	15
LMCA-LAD	553	512	400	279

From COLOMBO, A

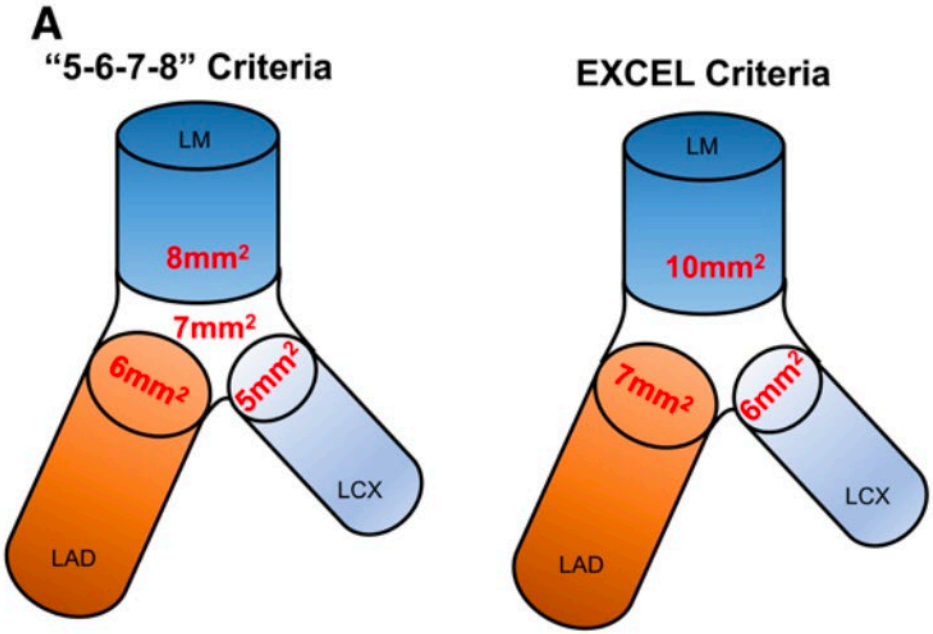
EDITORIAL

Intravascular Ultrasound Optimization Criteria for Left Main Coronary Artery Stenting: In Pursuit of the Magic Numbers!

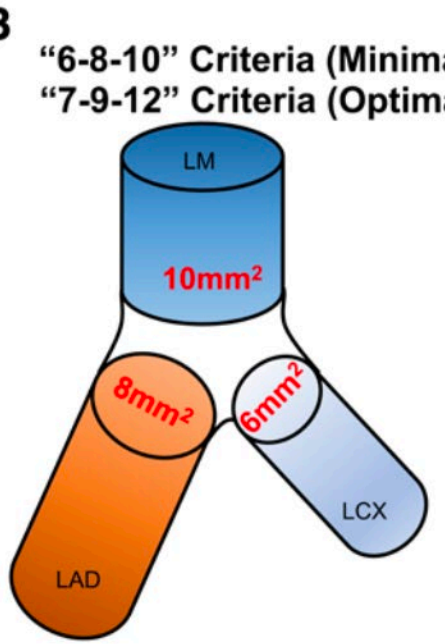
Sripal Bangalore, MD, MHA; Akiko Maehara, MD

Circ Cardiovasc Interv. 2024;17:e013691. DOI: 10.1161/CIRCINTERVENTIONS.123.013691

A


"5-6-7-8" Criteria
LM
8mm²
7mm²
6mm²
5mm²
LCX
LAD
EXCEL Criteria
LM
10mm²
7mm²
6mm²
LCX
LAD

B


"6-8-10" Criteria (Minimal)
"7-9-12" Criteria (Optimal)
LM
10mm²
8mm²
6mm²
LCX
LAD

grazzi
tanan
dakujem
efcharisto
havala
obrigada
dekuji
paldies
spasibo
ThankYou
MUITO OBRIGADO
kiitos
blagodarya
tack
Merci
dekui
gracias
dzieki
mułumesc
Danke
dank
grazie
koszi

Intravascular imaging-guided coronary drug-eluting stent implantation: an updated network meta-analysis

Gregg W Stone, Evald H Christiansen, Ziad A Ali, Lene N Andreasen, Akiko Maehara, Yousif Ahmad, Ulf Landmesser, Niels R Holm

www.thelancet.com **Vol 403 March 2, 2024**

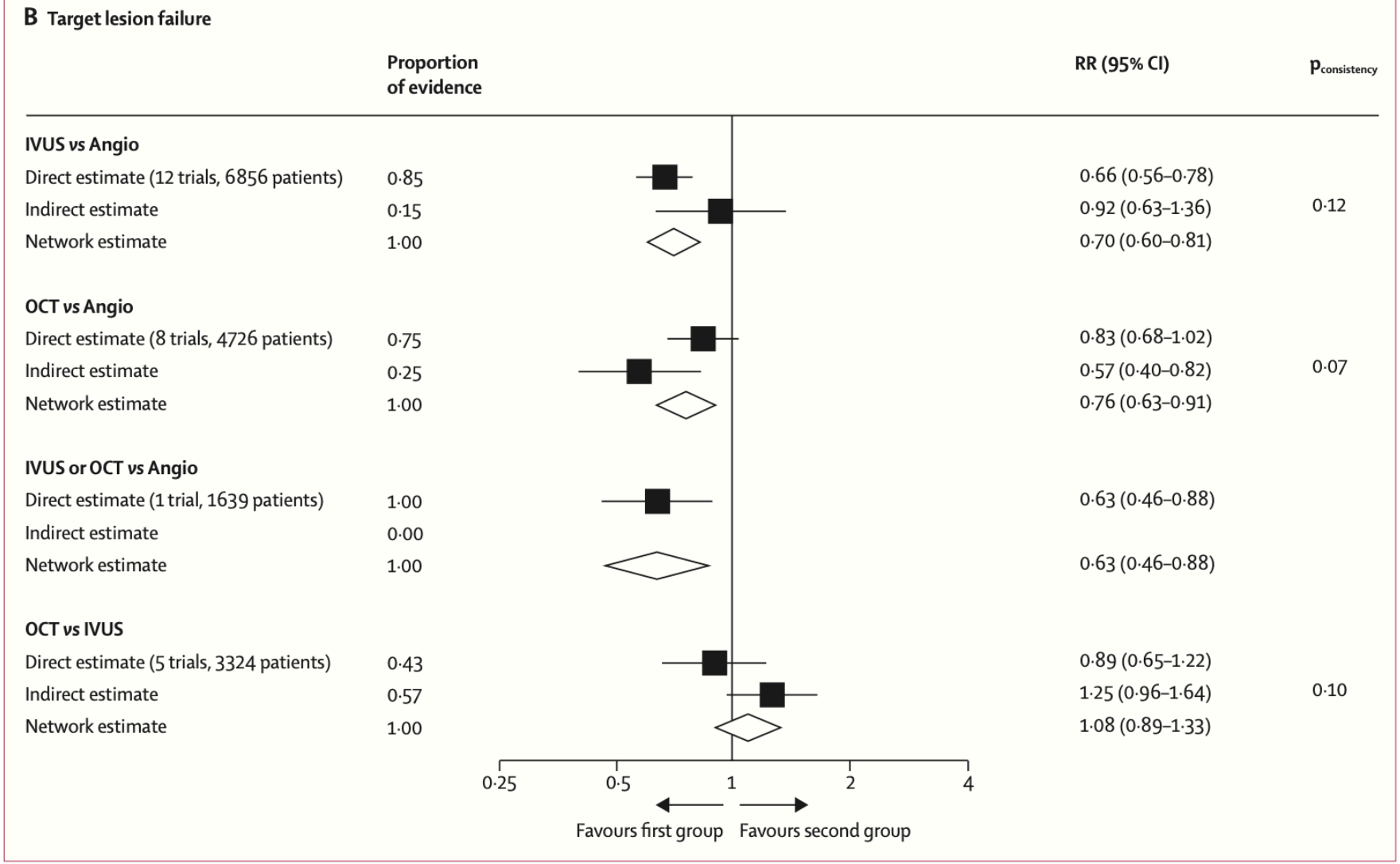
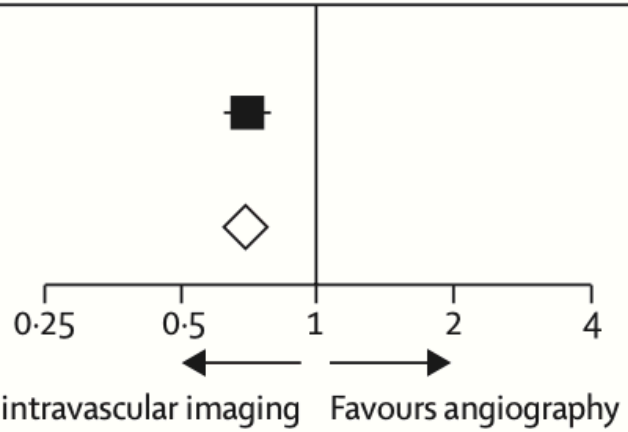


Figure 3: **Direct, indirect, and network treatment effect estimates for target lesion failure**

(A) Intravascular imaging (OCT or intravascular ultrasound)-guided PCI versus angiography-guided PCI. (B) Intravascular ultrasound-guided PCI versus angiography-guided PCI, OCT-guided PCI versus angiography-guided PCI, OCT or intravascular ultrasound (at operator discretion)-guided PCI versus angiography-guided PCI (from the RENOVATE-COMPLEX-PCI trial),[16] and OCT-guided PCI versus intravascular ultrasound-guided PCI. $P_{consistency}$ refers to the consistency of the RR (95% CI) between the direct and indirect data. Angio=angiography. IVUS=intravascular ultrasound. OCT=optical coherence tomography. PCI=percutaneous coronary intervention. RR=relative risk.

A Target lesion failure

	Proportion of evidence	RR (95% CI)
IVUS or OCT *vs* Angio		
Direct estimate (19 trials, 13 030 patients)	1·00	0·71 (0·63–0·80)
Indirect estimate	0·00	
Network estimate	1·00	0·71 (0·63–0·80)



A Stent thrombosis (definite or probable)