SAC.25

y el 21° Congreso Argentino de Cardiología Pediátrica

Revascularizacion Coronaria

Enfermedad coronaria aguda y cronica

Alfredo E Rodriguez, MD PhD
Centro de Estudios en Cardiologia Intervencionista (CECI)
Cardiologia Intervencionista Sanatorio Otamendi
Editor Asociado SCAI Journal

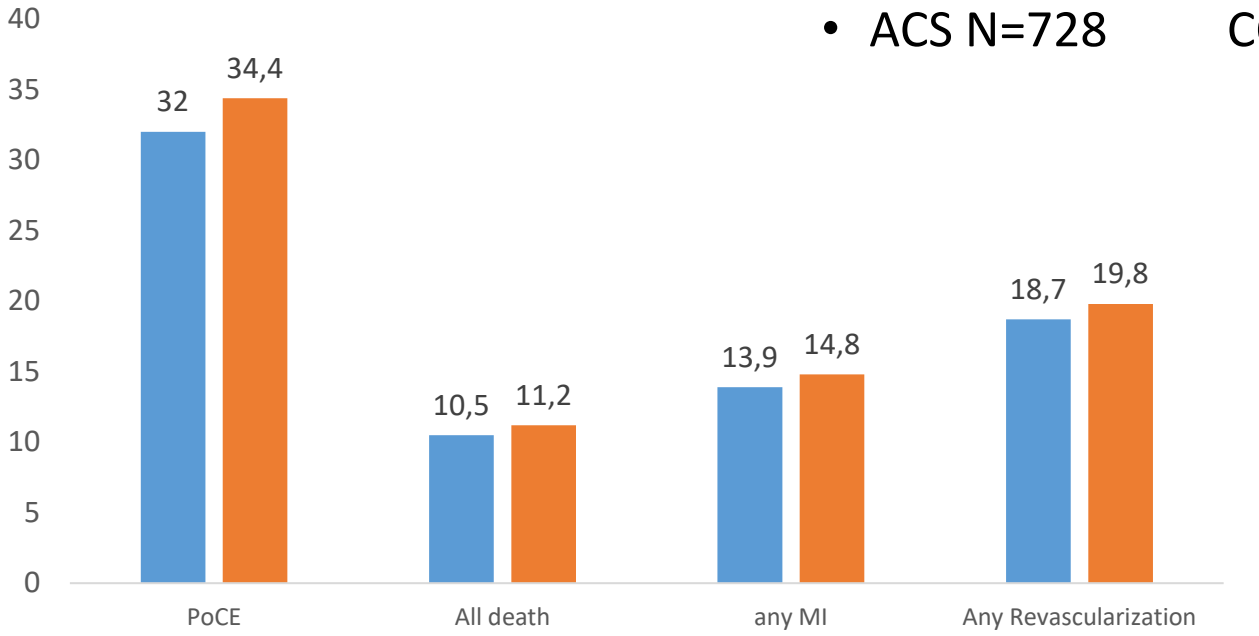
Alfredo E Rodriguez, MD,PhD

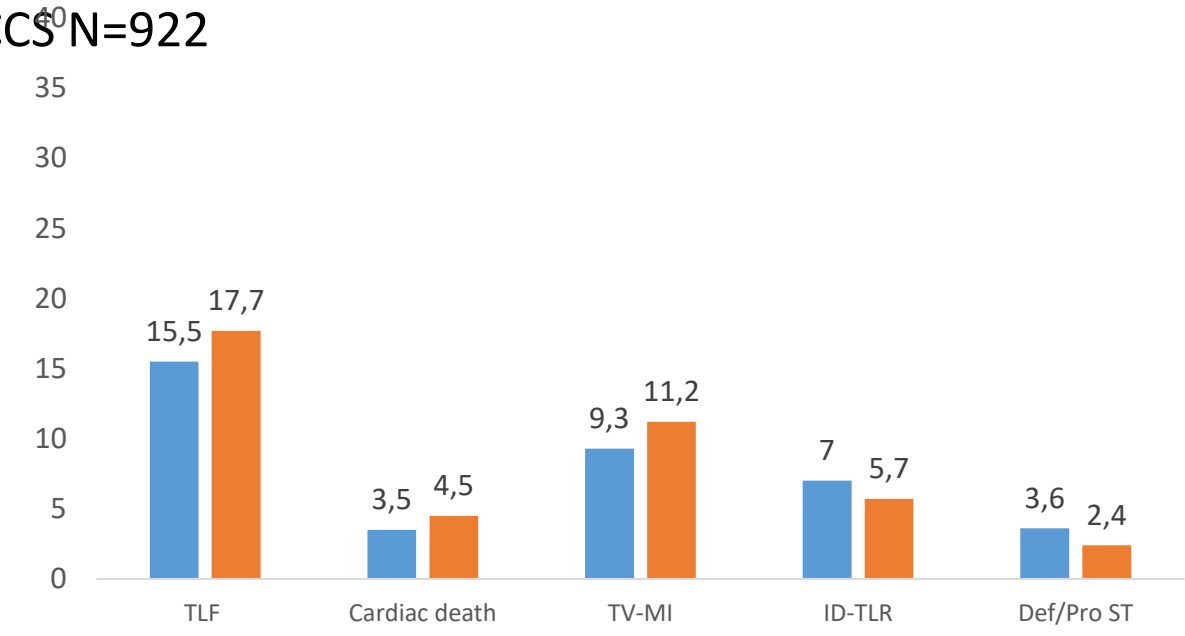
I have no relevant financial relationships

TARGET All Comers DES RCT

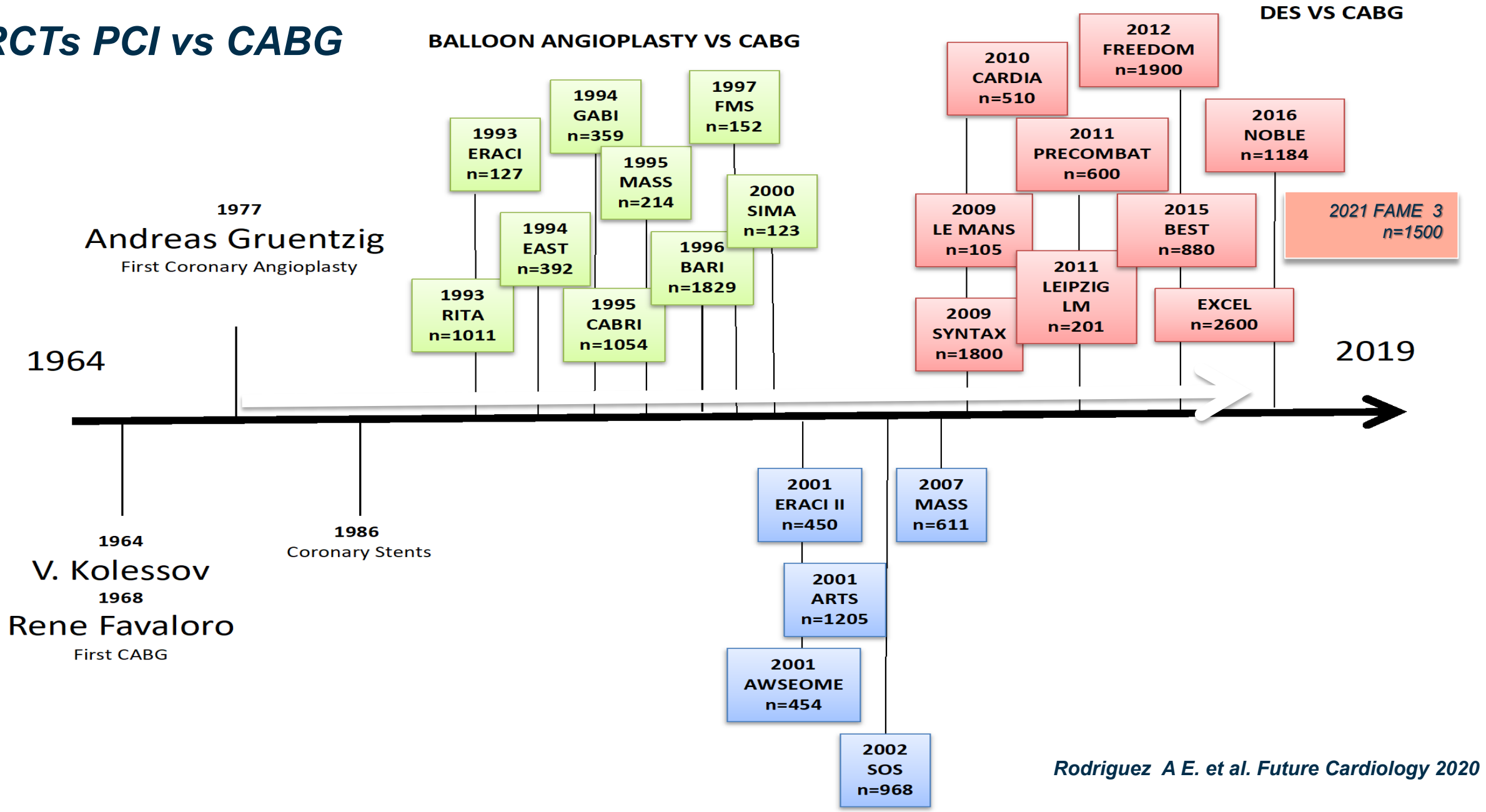
5-year Outcomes with DES Revascularization

- 1,656 patients 20 EU sites
- ACS N=728 CCS N=922





RCTs PCI vs CABG



Rodriguez A E. et al. Future Cardiology 2020

THE LANCET

INDIVIDUAL PATIENT-DATA POOLED ANALYSIS OF 11,518 PATIENTS FROM 11 RANDOMIZED TRIALS

Mortality after coronary artery bypass grafting versus percutaneous coronary intervention with stenting for coronary artery disease: a pooled analysis of individual patient data

Stuart J Head, Milan Milojevic, Joost Daemen, Jung-Min Ahn, Eric Boersma, Evald H Christiansen, Michael J Domanski, Michael E Farkouh, Marcus Flather, Valentin Fuster, Mark A Hlatky, Niels R Holm, Whady A Hueb, Masoor Kamalesh, Young-Hak Kim, Timo Mäkikallio, Friedrich W Mohr, Grigorios Papageorgiou, Seung-Jung Park, Alfredo E Rodriguez, Joseph F Sabik 3rd, Rodney H Stables, Gregg W Stone, Patrick W Serruys, Arie Pieter Kappetein

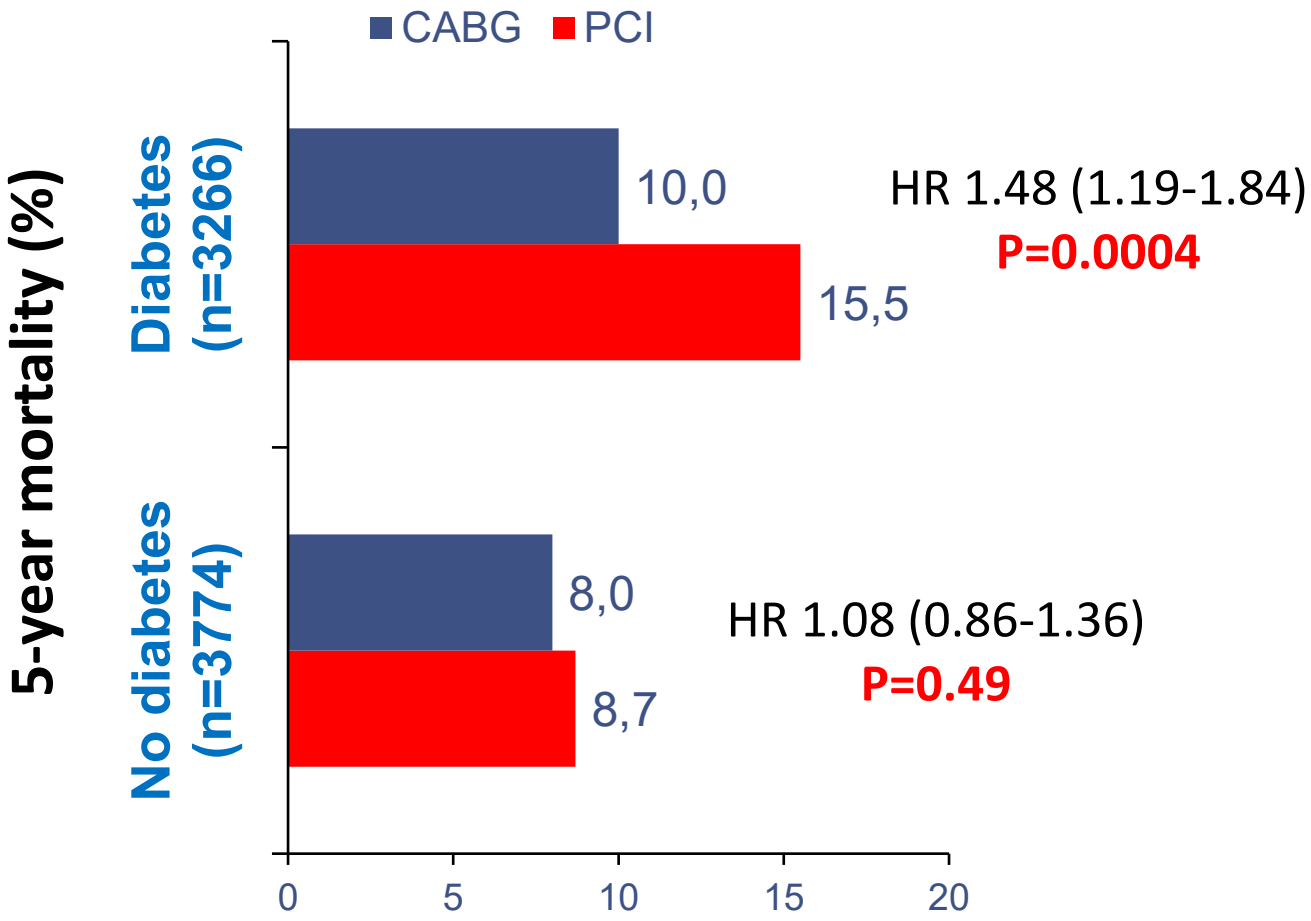
Summary

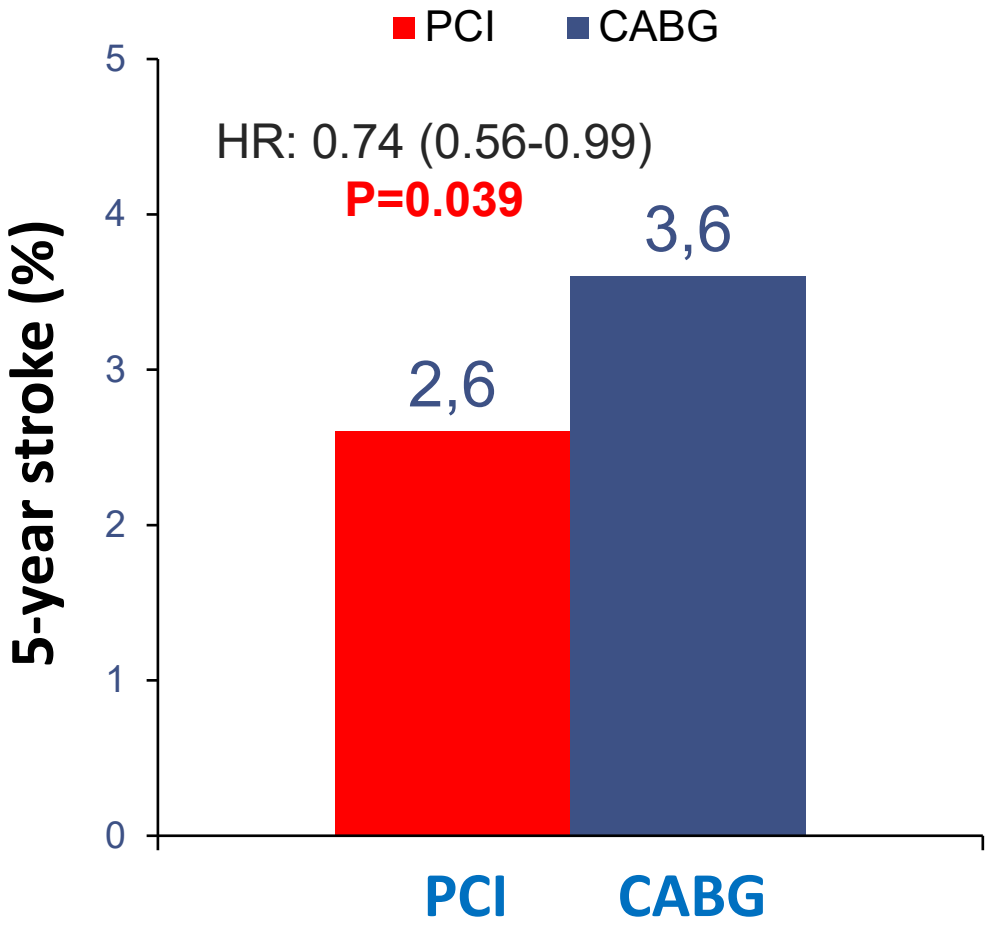
Background Numerous randomised trials have compared coronary artery bypass grafting (CABG) with percutaneous coronary intervention (PCI) for patients with coronary artery disease. However, no studies have been powered to detect a difference in mortality between the revascularisation strategies.

Published Online
February 22, 2018
http://dx.doi.org/10.1016/
S0140-6736(18)30423-9

PCI vs CABG in Multivessel Disease

Individual-patient-data pooled-analysis.





Head SJ et al. Lancet 2018;391:939-48; Head SJ et al. J Am Coll Cardiol 2018;72:386–98

Major Results of PCI vs CABG/OMT Trials (MVD and LMCA-1993/2023)

Pre-DES Era (1993/2009)

DES Era(2005/2023)

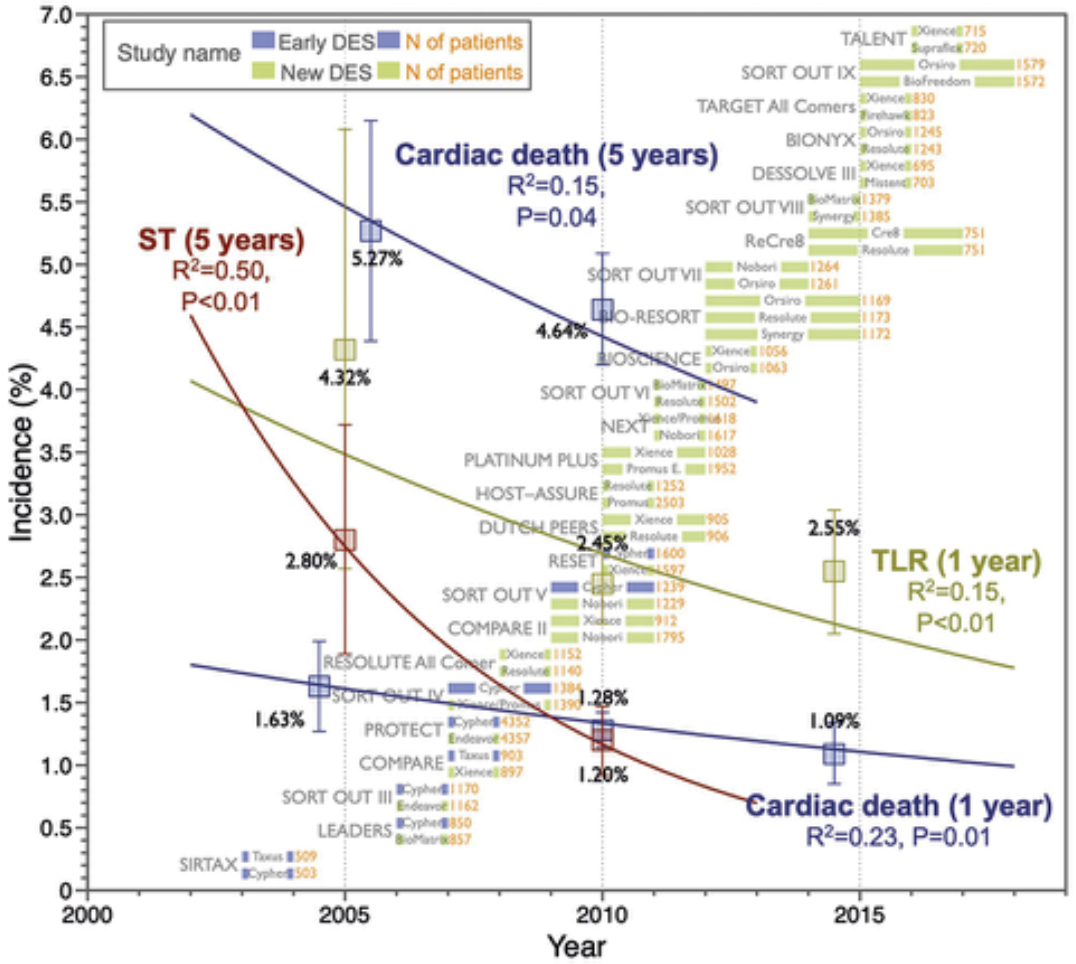
Why ???

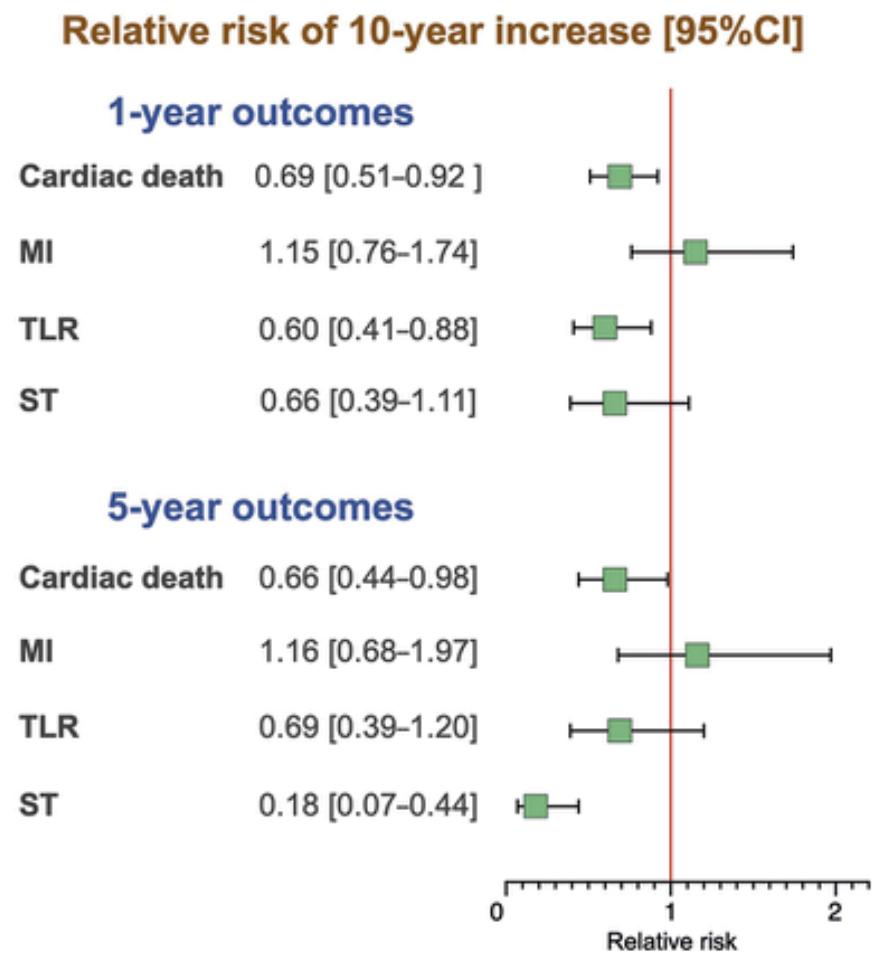
87% Favor to PCI

92.3% Negative to PCI

Trends in PCI Outcomes from RCTs

66,327 patients; 25 all comers RCTs





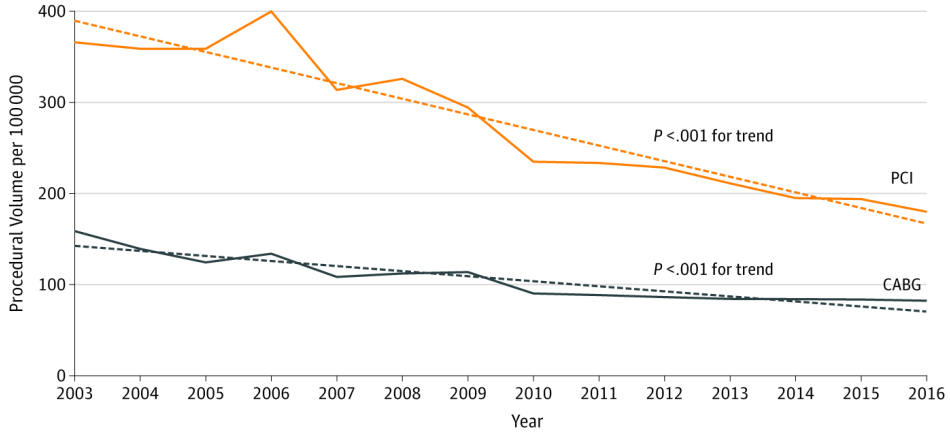
Taku Asano et al. EuroIntervention 2022;17:1318-1329

US Trends in Revascularization

National Inpatient Claims Database 2003-16

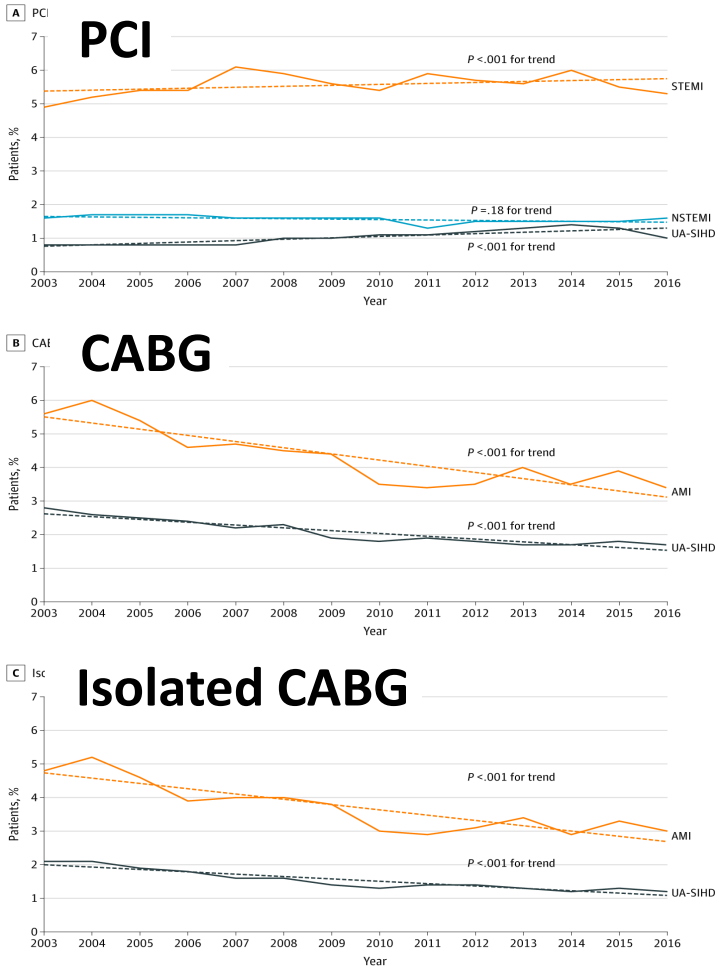
N=12 062 081 Revascularizations (72% PCI; 28% CABG)

Trends in Revascularization over time



- Increased comorbidities in all groups over time
- Reduced mortality in CABG over time
- Stable to slight increase in mortality in PCI

Risk Adjusted In Hospital Mortality



JAMA Netw Open. 2020;3(2):e1921326

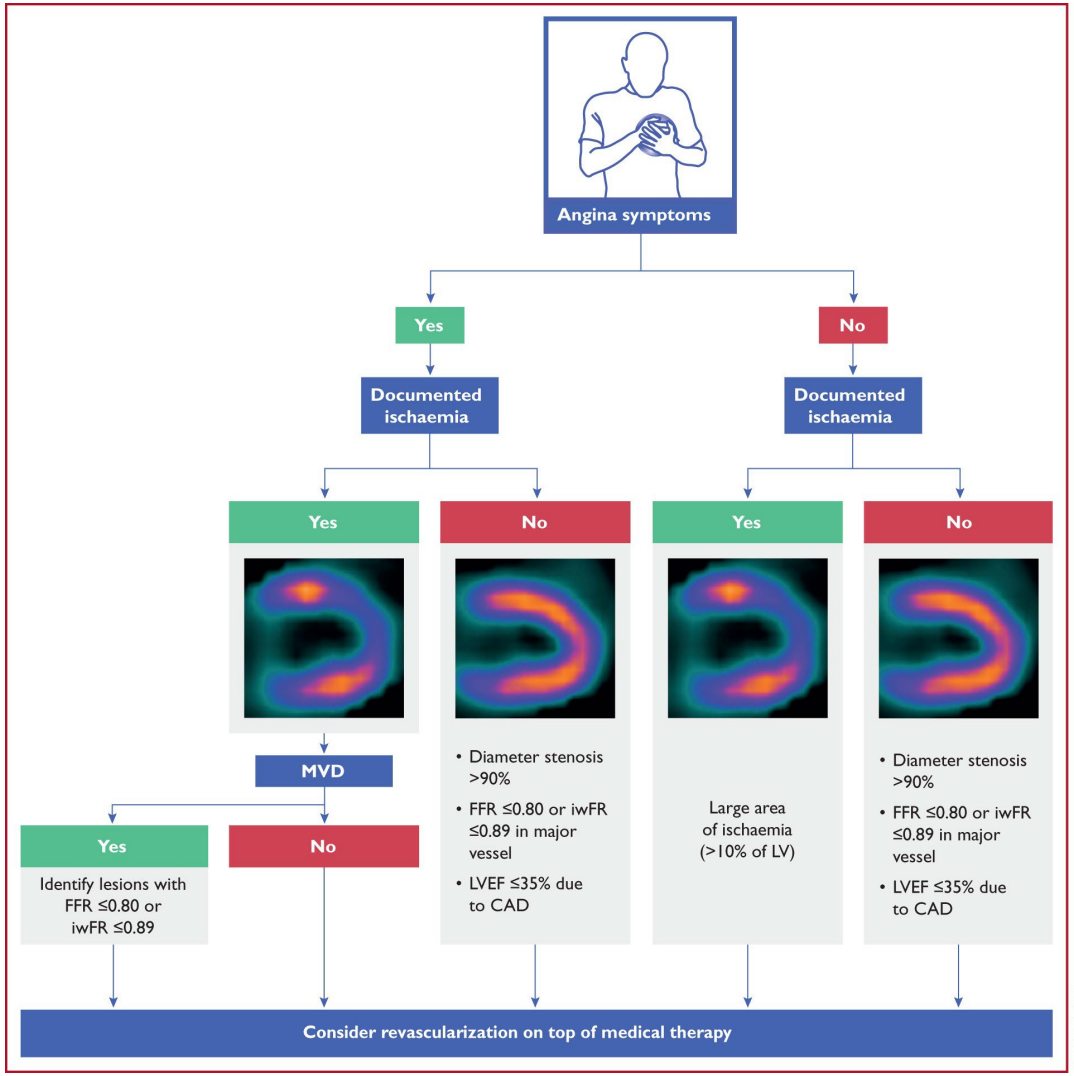
ESC Revascularization Guidelines in CCS

Decisions for revascularization (PCI or CABG) <u>as adjunct to Optimal Medical Therapy</u>

- **Symptoms assessment**
- **Ischemia assessment**
- **Stenosis severity (functional or anatomic)**

Goals of revascularization (PCI or CABG)

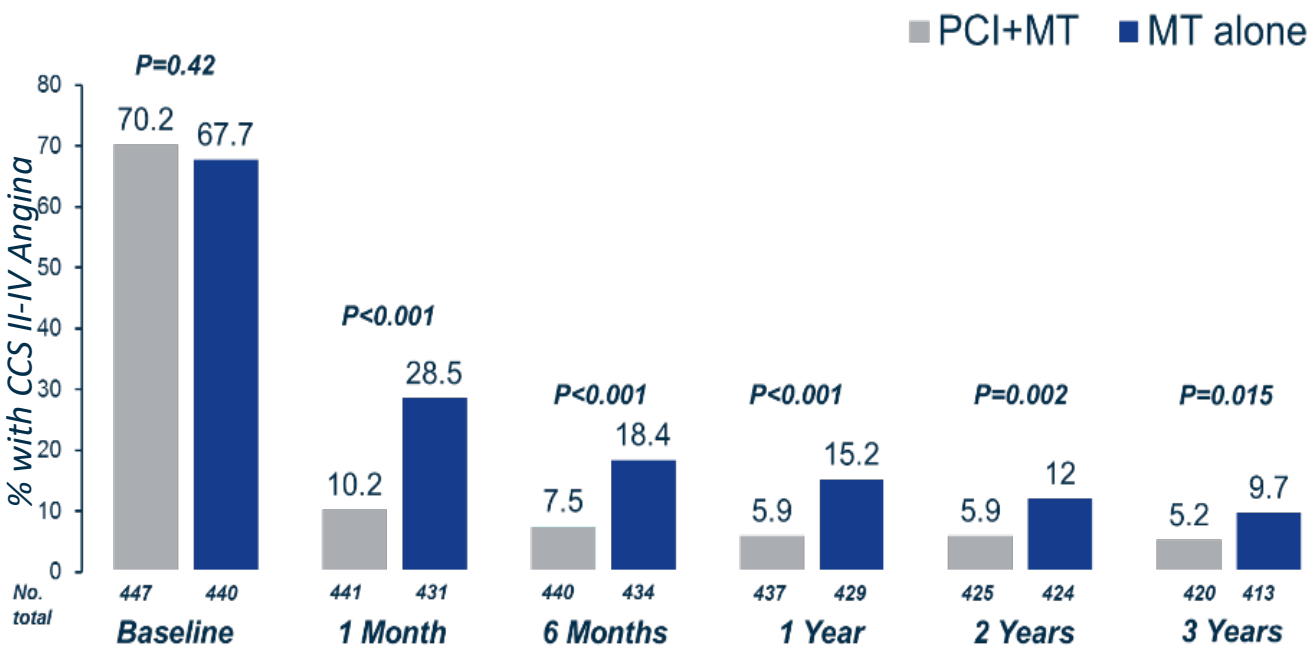
- **Angina/symptom relief**
- **Improved QoL**
- **Improve prognosis**



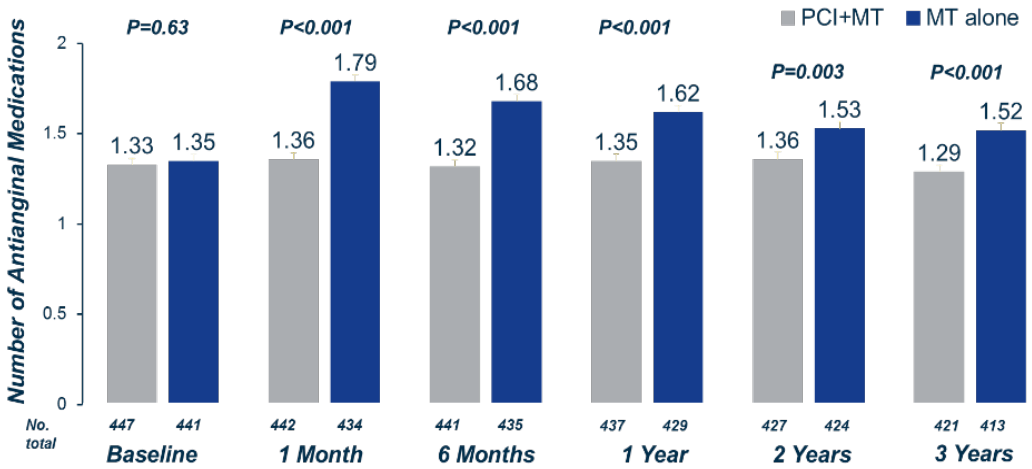
Eur Heart J, Volume 41, Issue 3, 14 January 2020, Pages 407–477

Revascularization Improves Angina and QoL in CCS
FAME 2

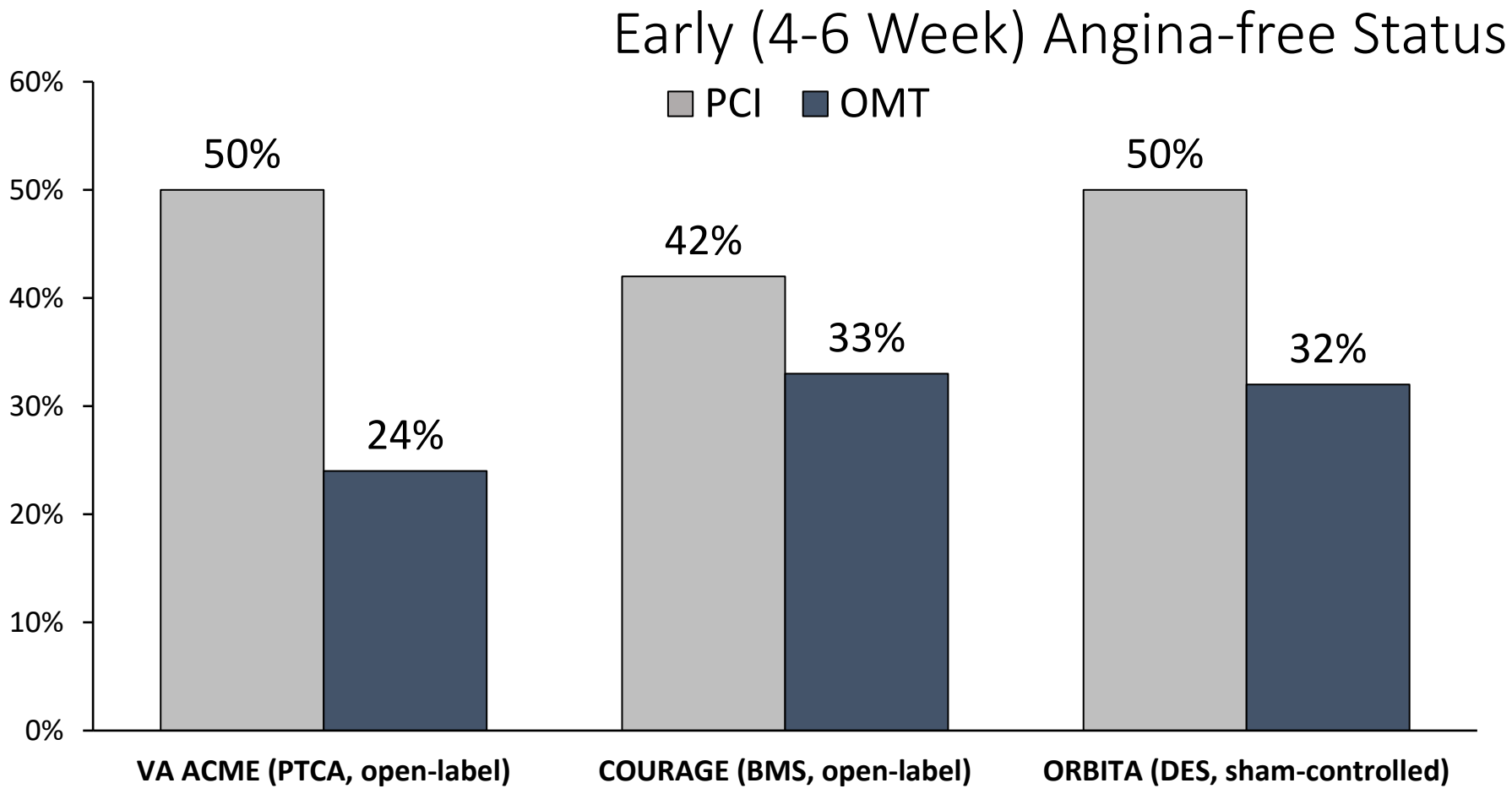
Less Class II-IV Angina at each Time Point



Less Antianginal Medications at each Time Point



Fearon et al, Circulation 2017



Parisi AF et al. N Engl J Med 1992;326:10-16; Weintraub WS et al. NEJM 2008;359:677-87
Al-Lamee R et al. Circulation. 2018:on-line


Goals of Revascularization
Better Prognosis

Causes of Death Following Coronary Revascularization in Patients with Diabetes

Lucas C. Godoy, MD PhD (1, 2), Valentin Fuster, MD PhD (3, 4), Louai Razzouk, MD MPH (5), George Dangas, MD PhD (3), Taye Hamza, PhD (6), Sanjum S. Sethi, MD MPH (7), Mandeep S. Sidhu, MD (8), Alfredo E. Rodriguez (9, 10), Scott D. Solomon, MD (11), Michael E. Farkouh, MD MSc* (1, 12)

(1) Peter Munk Cardiac Centre, University Health Network, University of Toronto, Toronto, Canada

(2) Instituto do Coracao (InCor), Faculdade de Medicina FMUSP, Universidade de Sao Paulo, Sao Paulo, SP, Brazil

(3) Zena and Michael Wiener Cardiovascular Institute, Icahn School of Medicine at Mount Sinai, New York, NY

(4) Centro Nacional de Investigaciones Cardiovasculares (CNIC), Madrid, Spain

(5) Leon H. Charney Division of Cardiology, Department of Medicine, NYU Grossman School of Medicine, New York, NY

(6) HealthCore, Watertown, MA

(7) Center for Interventional Vascular Therapy, Columbia University Irving Medical Center, New York, NY

(8) Division of Cardiology, Department of Medicine, Albany Medical College and Albany Medical Center, Albany, NY

(9) Interventional Cardiology, Otamendi Hospital, Buenos Aires, Argentina

(10) Cardiovascular Research Center, Buenos Aires, Argentina

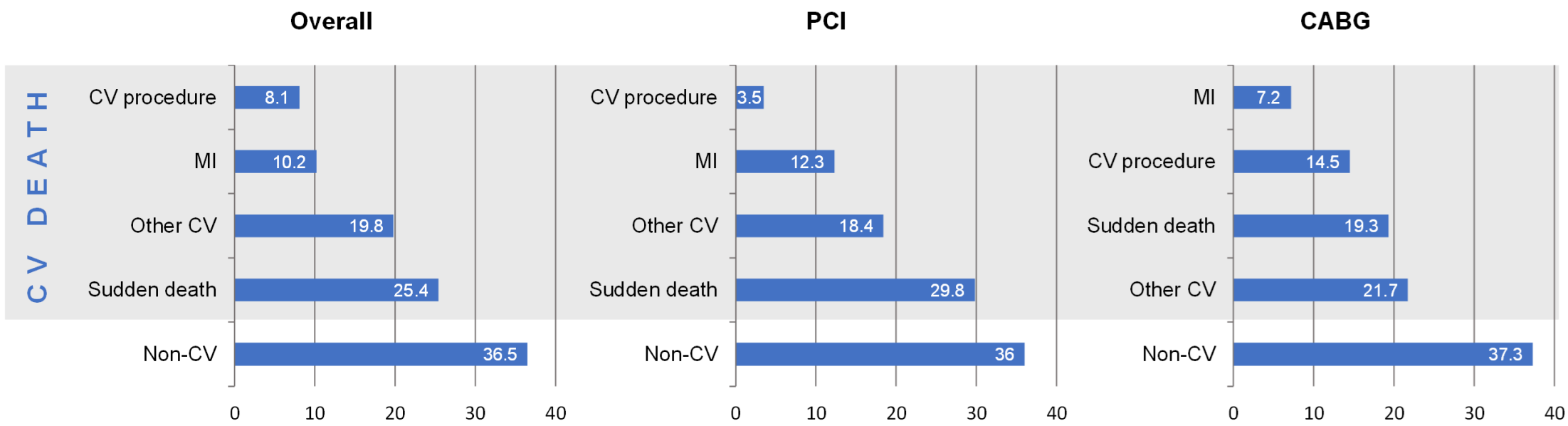
(11) Division of Cardiovascular Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA

(12) Cedars-Sinai Health System, Los Angeles, CA, USA

Brief title: Causes of Death in the FREEDOM Trial

Cause of death	Overall	PCI	CABG	HR (95% CI)	p
Cardiovascular mortality*	125 (8.71)	73 (10.59)	52 (6.73)	1.35 (0.95,1.93)	0.09
Sudden Death	50 (3.42)	34 (4.43)	16 (2.34)	2.04 (1.13,3.70)	0.02
Cardiovascular Procedure related death	16 (0.90)	4 (0.50)	12 (1.31)	0.32 (0.10,1.01)	0.05
Non-cardiovascular mortality	72 (5.01)	41 (5.72)	31 (4.26)	1.27 (0.80,2.02)	0.32
Other cardiovascular deaths	20 (1.77)	14 (2.69)	6 (0.81)	2.26 (0.87,5.87)	0.10
Non-cardiovascular mortality	72 (5.01)	41 (5.72)	31 (4.26)	1.27 (0.80,2.02)	0.32
Pulmonary diseases	9 (0.59)	5 (0.72)	4 (0.46)	1.20 (0.32,4.48)	0.78
Infection	12 (0.82)	5 (0.77)	7 (0.87)	0.68 (0.22,2.16)	0.52
Cancer	33 (2.36)	18 (2.48)	15 (2.25)	1.15 (0.58,2.28)	0.69
Other	18 (1.23)	13 (1.75)	5 (0.68)	2.49 (0.89,6.99)	0.08

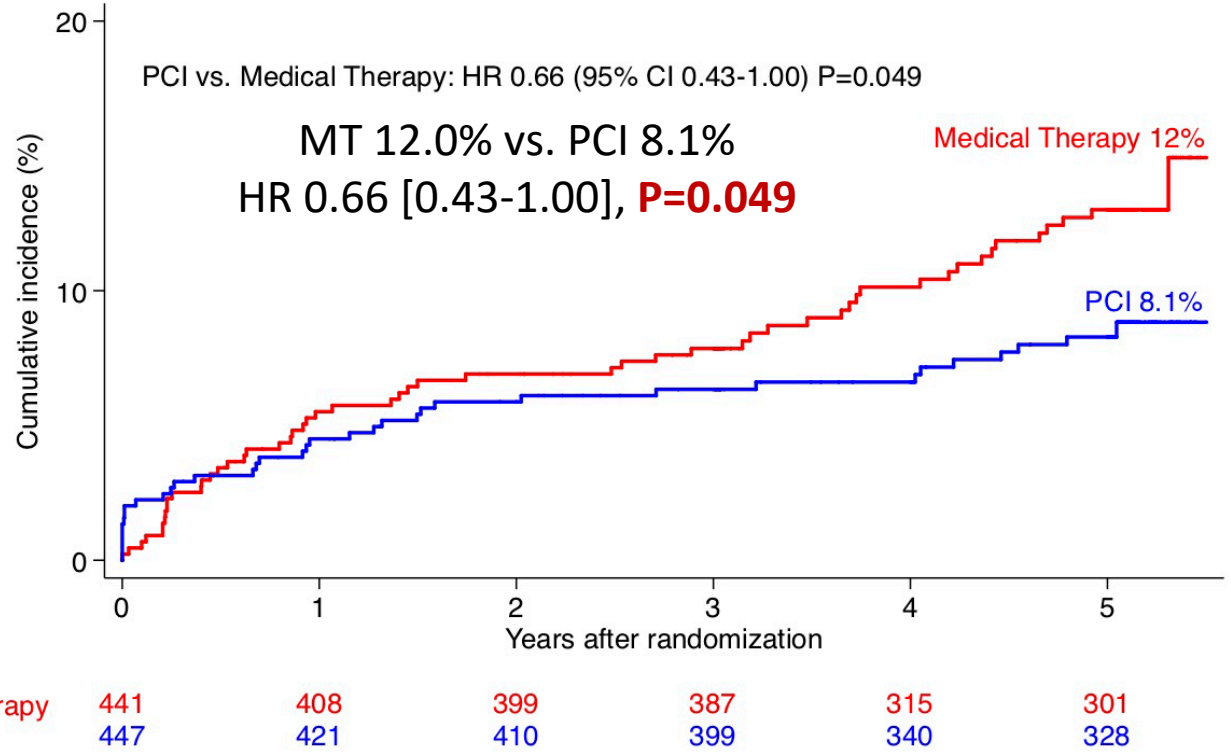
Figure 1


Overall
PCI
CABG
CV DEATH
CV procedure
MI
Other CV
Sudden death
Non-CV
8.1
10.2
19.8
25.4
36.5
3.5
12.3
18.4
29.8
36
7.2
14.5
19.3
21.7
37.3
0
10
20
30
40

FAME 2: 5-year Results

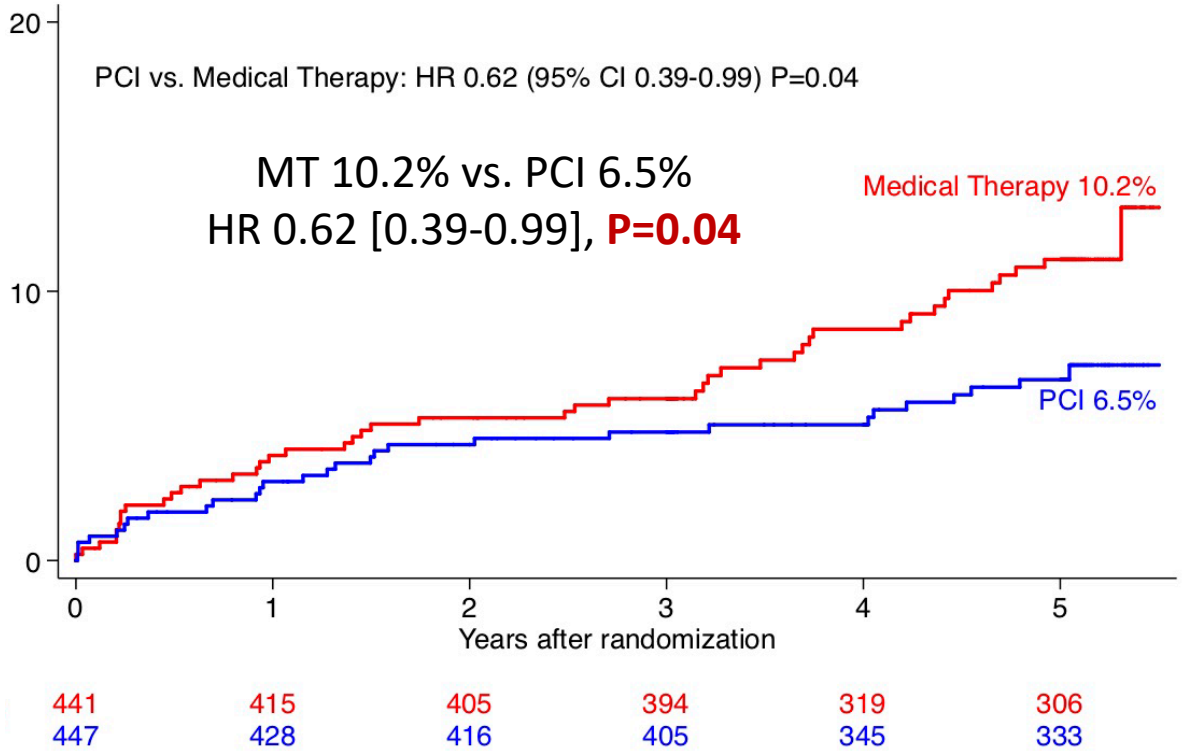
1120 pts with stable CAD and 1V, 2V or 3VD w/FFR ≤0.80 randomized to PCI vs. MT

All MI



rapy	441	408	399	387	315	301
	447	421	410	399	340	328

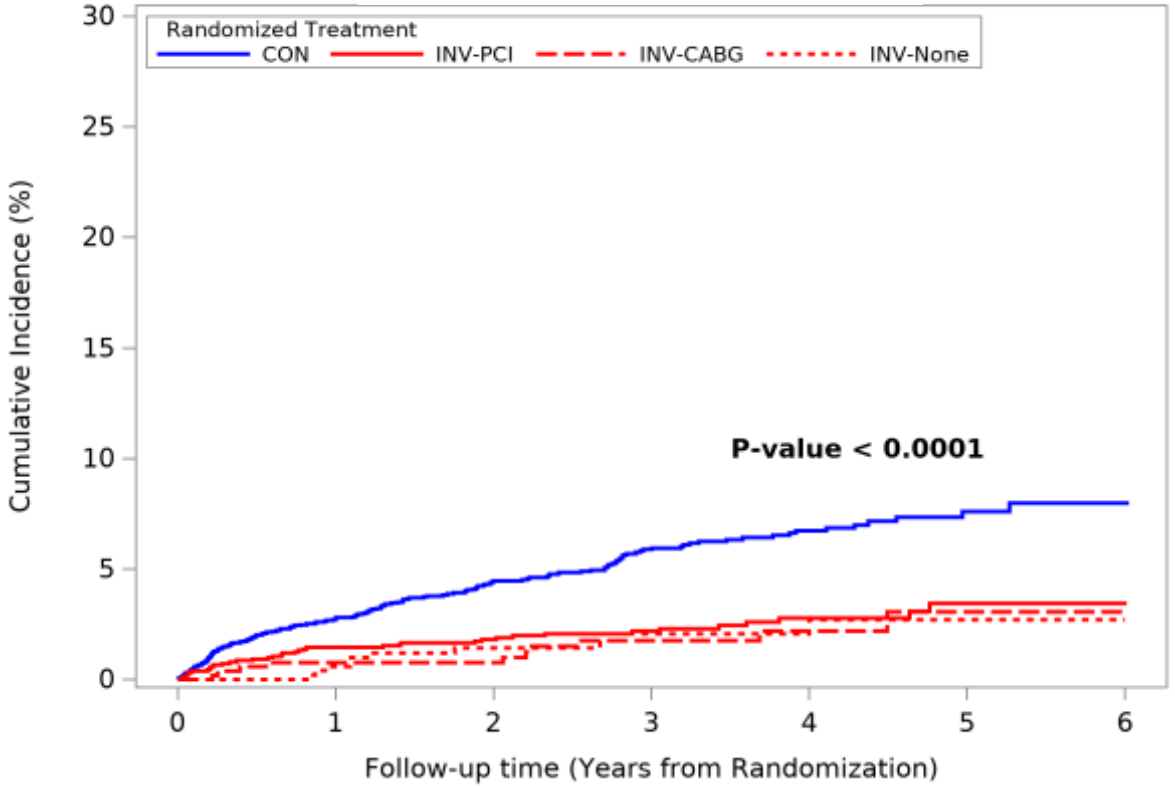
Spontaneous MI

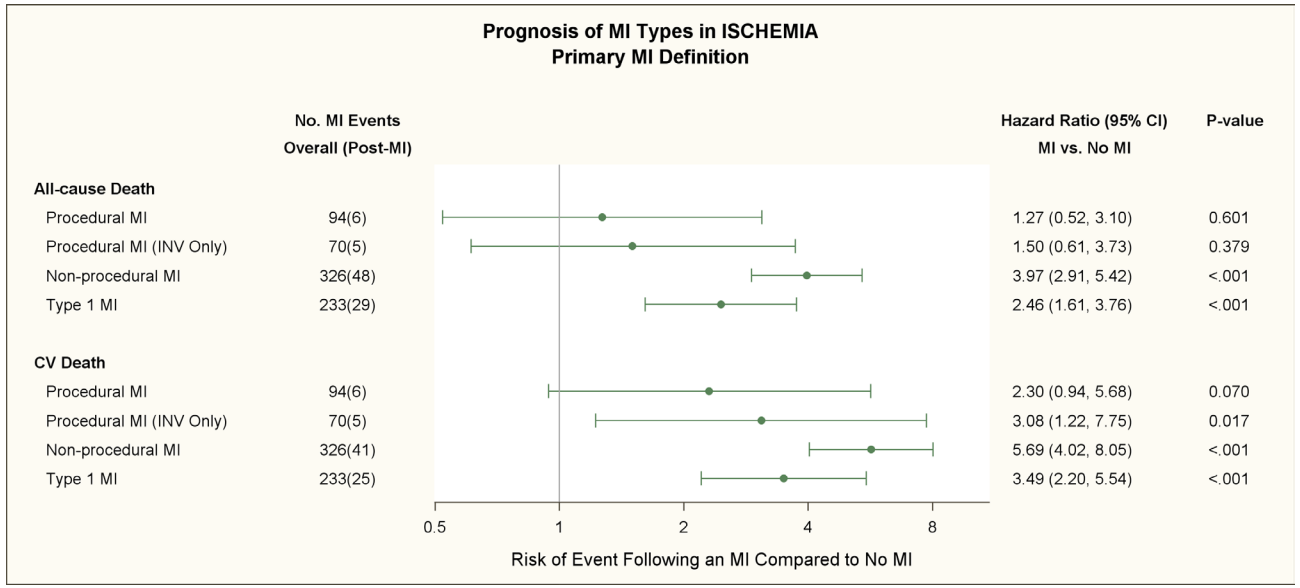


	441	415	405	394	319	306
	447	428	416	405	345	333

ISCHEMIA Trial

Spontaneous MI Reduced with Invasive Strategy (PCI or CABG)





Maron D. et al, N Engl J Med 2020;382:1395-1407
Chaitman et al. ACC 2020

Ischemia Severity

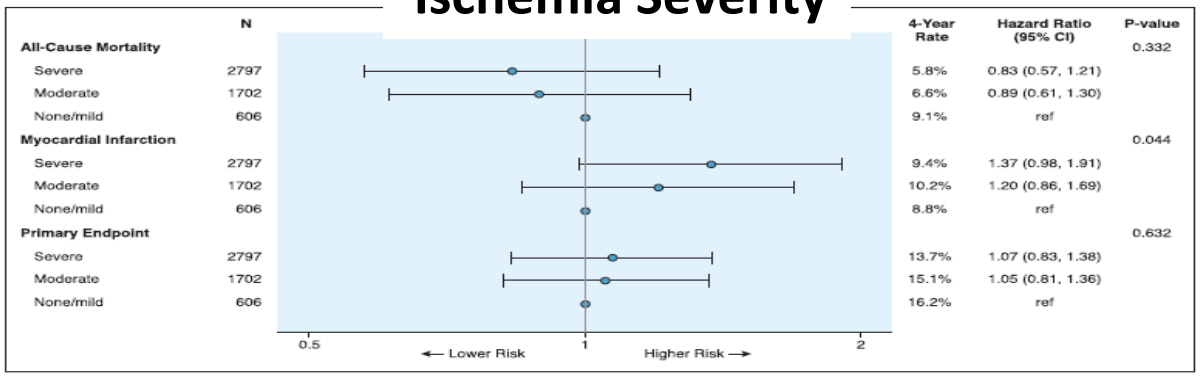


Figure 1. Association between ischemia severity and outcomes.

CAD Severity

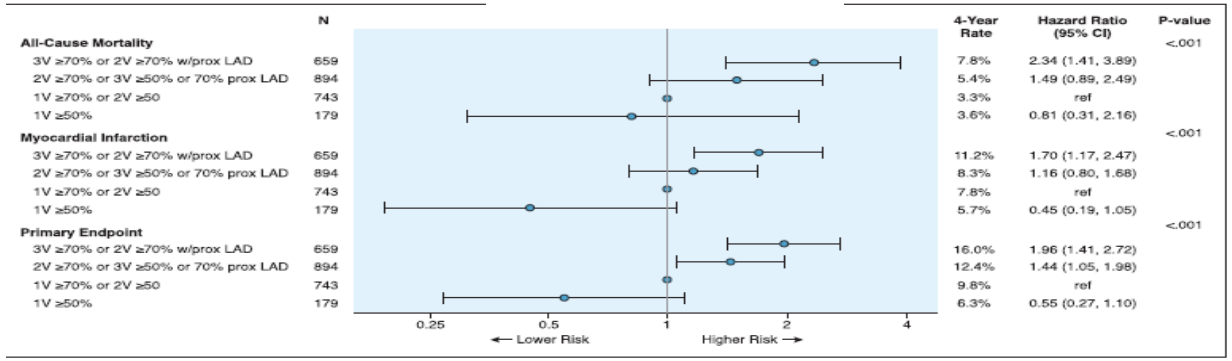


Figure 2. Association between CAD severity and outcomes.

Ischemia Severity did not predict MI and Mortality at 4 years

Severity of CAD predicted Mortality and MI at 4 years

ORIGINAL ARTICLE

Percutaneous Revascularization for Ischemic Left Ventricular Dysfunction

Divaka Perera, M.D., Tim Clayton, M.Sc., Peter D. O'Kane, M.D., John P. Greenwood, Ph.D., Roshan Weerackody, Ph.D., Matthew Ryan, Ph.D., Holly P. Morgan, M.B., B.Ch., Matthew Dodd, M.Sc., Richard Evans, B.A., Ruth Canter, M.Sc., Sophie Arnold, M.Sc., Lana J. Dixon, Ph.D., Richard J. Edwards, Ph.D., Kalpa De Silva, Ph.D., James C. Spratt, M.D., Dwayne Conway, M.D., James Cotton, M.D., Margaret McEntegart, Ph.D., Amedeo Chiribiri, Ph.D., Pedro Saramago, Ph.D., Anthony Gershlick, M.D., Ajay M. Shah, M.D., Andrew L. Clark, M.D., and Mark C. Petrie, M.D., for the REVIVED-BCIS2 Investigators*

ABSTRACT

BACKGROUND

Whether revascularization by percutaneous coronary intervention (PCI) can improve event-free survival and left ventricular function in patients with severe ischemic left ventricular systolic dysfunction, as compared with optimal medical therapy (i.e., individually adjusted pharmacologic and device therapy for heart failure) alone, is unknown.

METHODS

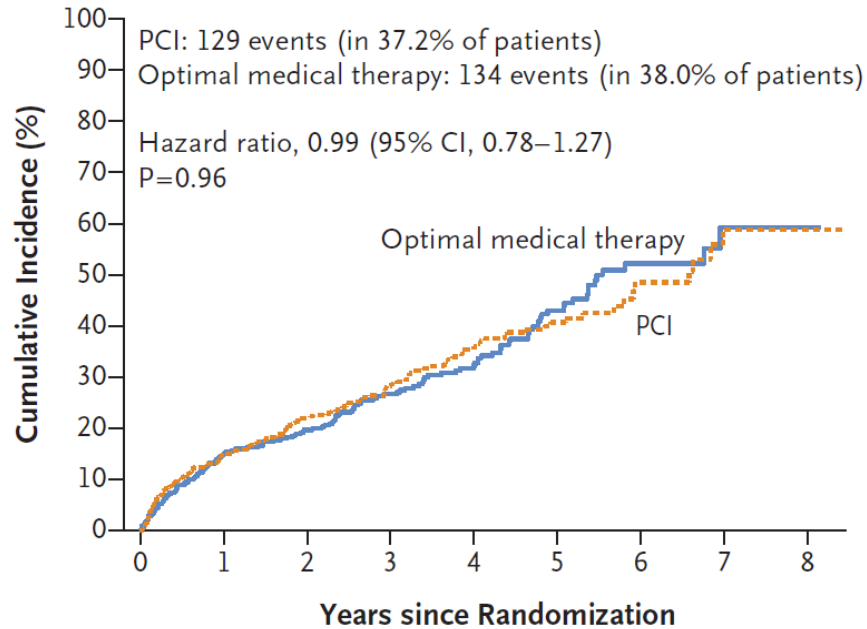
We randomly assigned patients with a left ventricular ejection fraction of 35% or less, extensive coronary artery disease amenable to PCI, and demonstrable myocardial viability to a strategy of either PCI plus optimal medical therapy (PCI group) or optimal medical therapy alone (optimal-medical-therapy group). The primary composite outcome was death from any cause or hospitalization for heart failure. Major secondary outcomes were left ventricular ejection fraction at 6 and 12 months and quality-of-life scores.

RESULTS

A total of 700 patients underwent randomization — 347 were assigned to the PCI group and 353 to the optimal-medical-therapy group. Over a median of 41 months, a primary-outcome event occurred in 129 patients (37.2%) in the PCI group and in 134 patients (38.0%) in the optimal-medical-therapy group (hazard ratio, 0.99; 95% confidence interval [CI], 0.78 to 1.27; P=0.96). The left ventricular ejection fraction was similar in the two groups at 6 months (mean difference, −1.6 percentage points; 95% CI, −3.7 to 0.5) and at 12 months (mean difference, 0.9 percentage points; 95% CI, −1.7 to 3.4). Quality-of-life scores at 6 and 12 months appeared to favor the PCI group, but the difference had diminished at 24 months.

CONCLUSIONS

Among patients with severe ischemic left ventricular systolic dysfunction who received optimal medical therapy, revascularization by PCI did not result in a lower incidence of death from any cause or hospitalization for heart failure. (Funded by the National Institute for Health and Care Research Health Technology Assessment Program; REVIVED-BCIS2 ClinicalTrials.gov number, NCT01920048.)



No. at Risk

PCI	347	295	262	179	130	80	32	14	3
Optimal medical therapy	353	299	276	191	142	82	33	10	1

Figure 1. Primary Outcome of Death from Any Cause or Hospitalization for Heart Failure.

Shown are Kaplan–Meier estimates of the cumulative incidence of death from any cause or hospitalization for heart failure in a time-to-first-event analysis. The overall incidence is based on the total number of events in each group in the intention-to-treat population over the entire follow-up period. PCI denotes percutaneous coronary intervention.

Table 2. Primary and Secondary Outcomes.

Outcome	PCI (N=347)	Optimal Medical Therapy (N=353)	Treatment Effect (95% CI)*
Primary outcome			
Death from any cause or hospitalization for heart failure — no. (%)†	129 (37.2)	134 (38.0)	0.99 (0.78–1.27)
Secondary outcomes‡			
Components of the primary outcome			
Death from any cause	110 (31.7)	115 (32.6)	0.98 (0.75–1.27)
Hospitalization for heart failure§	51 (14.7)	54 (15.3)	0.97 (0.66–1.43)
Death from cardiovascular causes — no. (%)¶	76 (21.9)	88 (24.9)	0.88 (0.65–1.20)
Acute myocardial infarction — no. (%)‖	37 (10.7)	38 (10.8)	1.01 (0.64–1.60)
Periprocedural — no. (%)**	14 (37.8)	0	
Spontaneous — no. (%)**	18 (48.7)	33 (86.8)	
Sudden death — no. (%)**††	5 (13.5)	5 (13.2)	
Unplanned revascularization — no. (%)‡‡	10 (2.9)	37 (10.5)	0.27 (0.13–0.53)
PCI — no. (%)§§	9 (90.0)	29 (78.4)	
CABG — no. (%)§§	1 (10.0)	8 (21.6)	
Major bleeding — no. (%)			
At 1 yr	10/319 (3.1)	2/316 (0.6)	4.95 (1.09–22.43)
At 2 yr	10/292 (3.4)	7/290 (2.4)	1.42 (0.55–3.68)

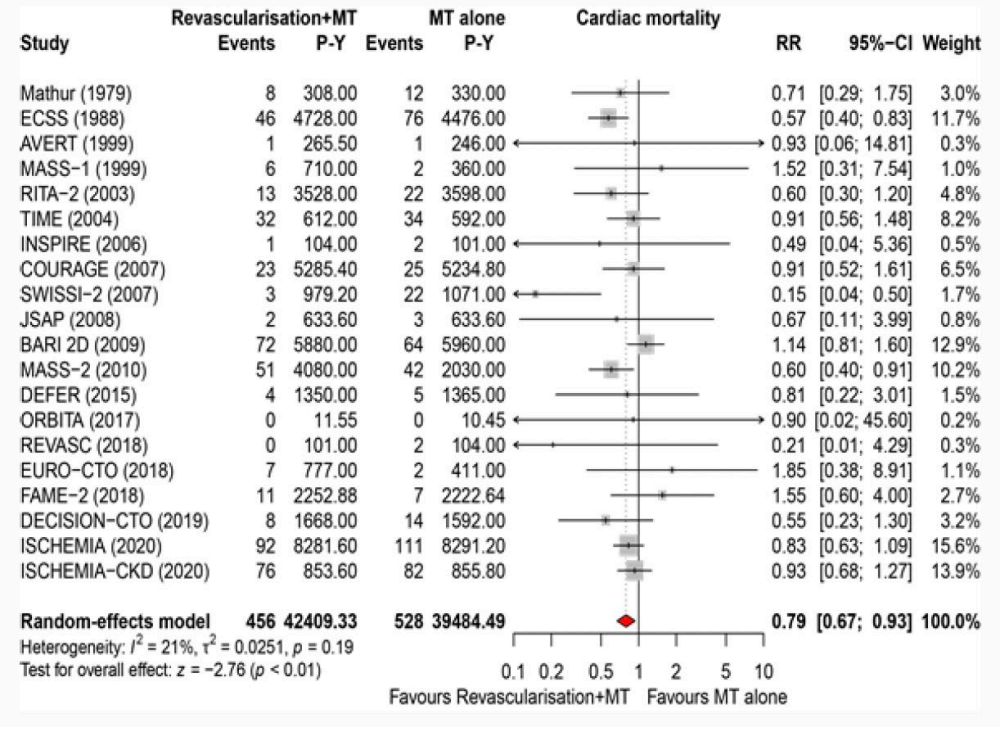
Table S14: Acute Myocardial Infarction and Unplanned Revascularisation

	PCI (n=347)	OMT (n=353)	Hazard ratio (95% CI)
Acute Myocardial Infarction	37 (10.7)	38 (10.8)	1.01 (0.64 to 1.60)
Peri-procedural MI	14 (37.8)	0 (0)	
Spontaneous MI	18 (48.7)	33 (86.8)	p<0.03
Sudden death	5 (13.5)	5 (13.2)	
Unplanned revascularisation	10 (2.9)	37 (10.5)	0.27 (0.13 to 0.53)
CABG	1 (10.0)	8 (21.6)	
PCI	9 (90.0)	29 (78.4)	

Improved Prognosis with Revascularization

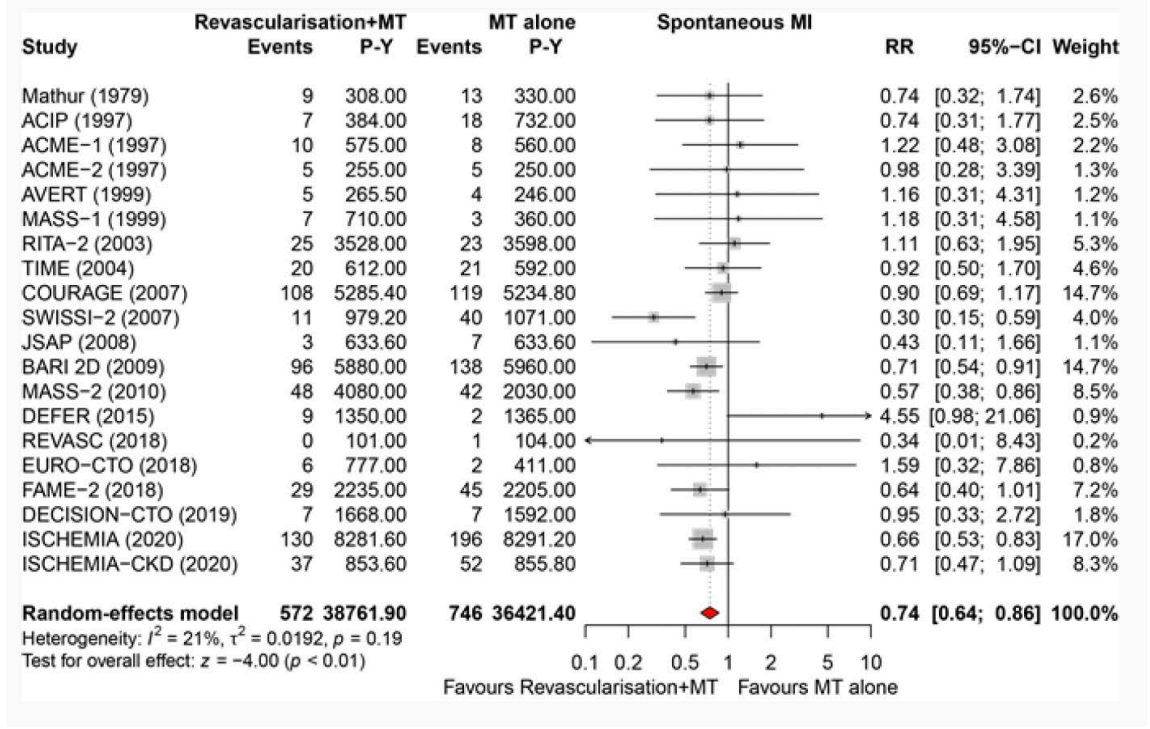
Meta-analysis of 25 RCTs (19 806 patients) of revascularization + OMT vs OMT in CCS between inception-2020 at median of 5.7 years

Cardiac Death



21% reduction

Spontaneous Non-fatal MI

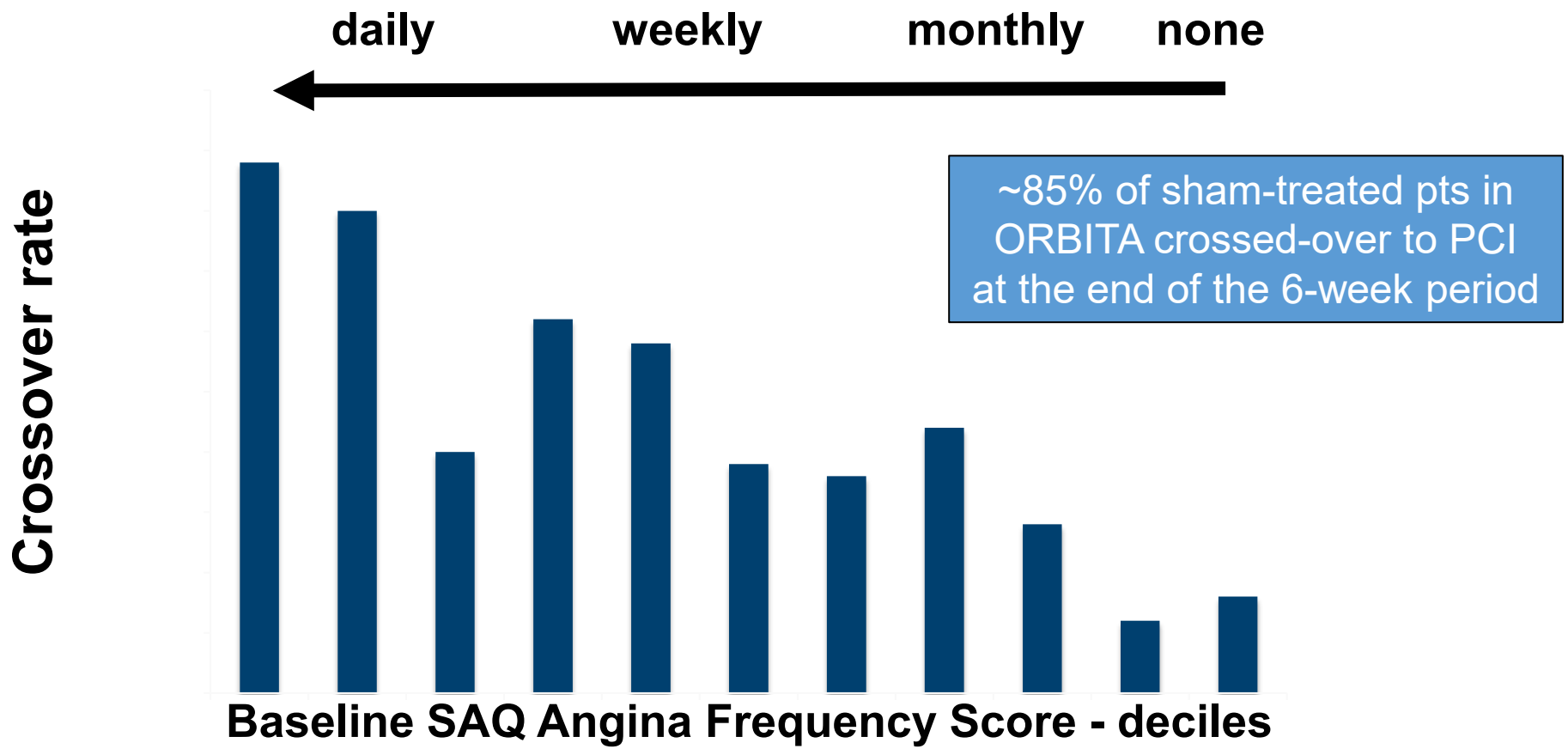


26% reduction

E Navarese et al. EHJ 2021;42:4638-51

Optimal Medical Therapy in RCTs: Cross Over Rates Option for Revascularization is Always Open

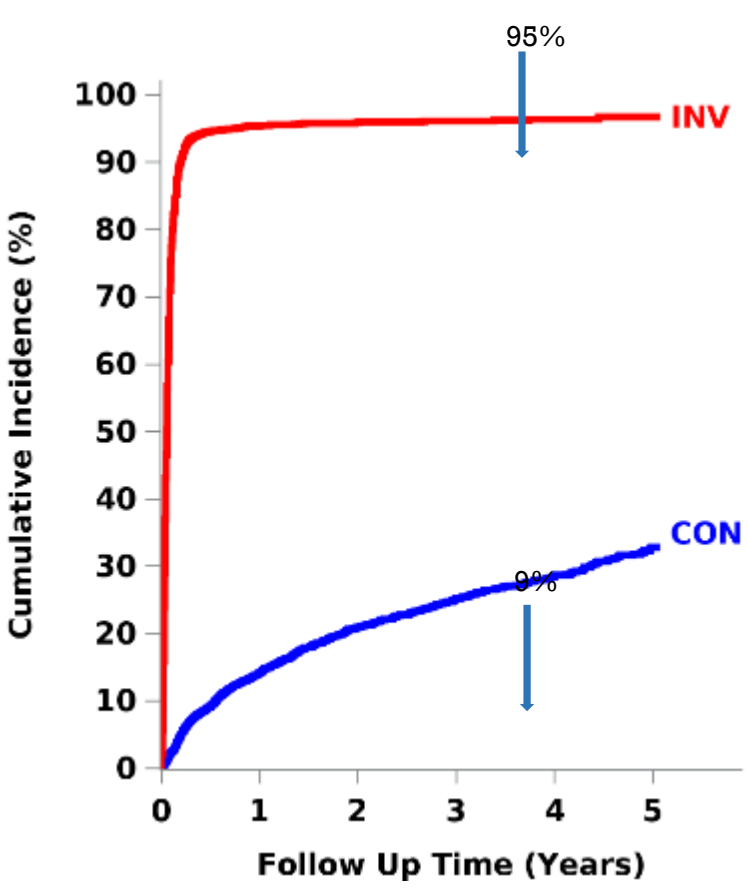
COURAGE: PCI in OMT Arm (Crossover 32% overall)



J. Spertus et al. TCT 2010 and Circ CV Qual Outcomes 2013

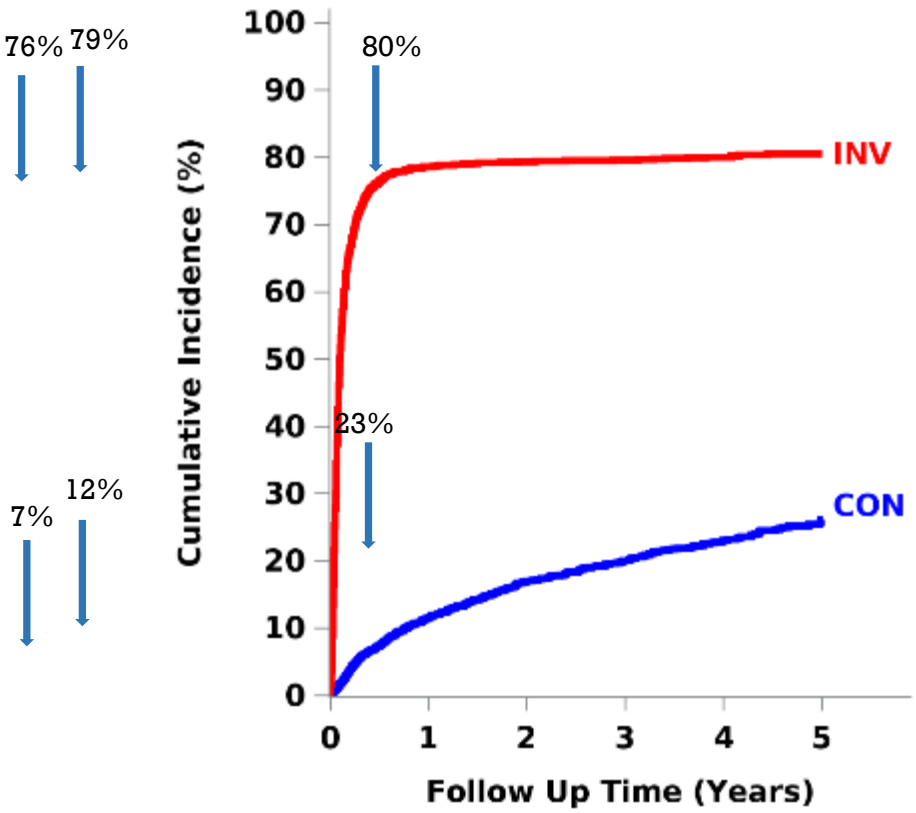
ISCHEMIA Trial
Cardiac Catheterization and Revascularization

Cardiac Catheterization



Indications for cath in CON
Suspected/confirmed event 13.8%
OMT Failure 3.9%
Non-adherence 8.1%

Revascularization



8% with LM disease excluded based on CTA

Underuse of High-Intensity Statins Among US Patients with ASCVD

DA VINCI: only one-third of patients receiving LLT achieved 2019 ESC/EAS LDL-C goals

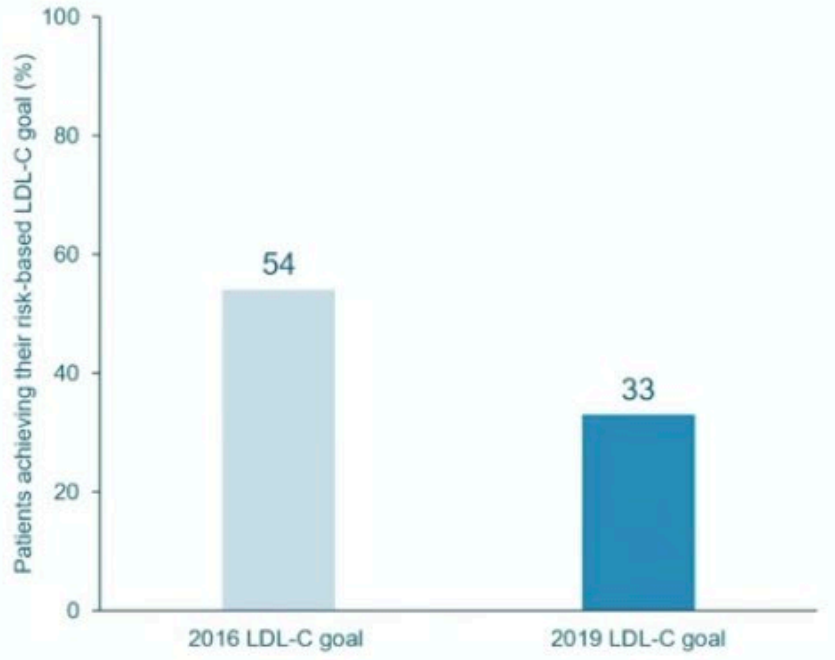
Current 2019 ESC/EAS guidelines recommend high-intensity statin monotherapy as the first-line of treatment for lowering LDL-C[1]

LDL-C goals may not be achievable with statins alone, and add-on therapy is associated with larger reductions in LDL-C

However, the DA VINCI study demonstrated that approximately half of all high- or very high-risk patients did not achieve the 2016 ESC/EAS risk-based LDL-C goals

Two-thirds of high- and very high-risk patients did not achieve the 2019 LDL-C goal[2]

As such, there remains a need for additional data on the effectiveness of LLT therapies



CV, cardiovascular; ; **ESC/EAS**, European Society of Cardiology/European Atherosclerosis Society; **LDL-C**, low-density lipoprotein cholesterol; **LLT**, lipid-lowering therapy

1. Mach F, et al. *Eur Heart J*. 2019;**41**:111–88;
2. Ray, KK et al. *Eur. J. Prev. Cardiol*. 2021;**28**(11):1279–89

Glucagon like peptide 1 (GLP-1): Hope for Improved Compliance?

Hollywood's Secret New We Drug, Revealed: The Hype a Ozempic

By Matt Donnelly

CNET Your guide to a better future

Wellness > Medical

What to Know About Ozempic, Wegovy and the New Weight-Loss Market

Ozempic is a drug for diabetes, but it's also being u off-label for weight loss. Its active ingredient has in a new class of weight-loss drugs.

Jessica Rendall
March 13, 2023 9:34 a.m. PT

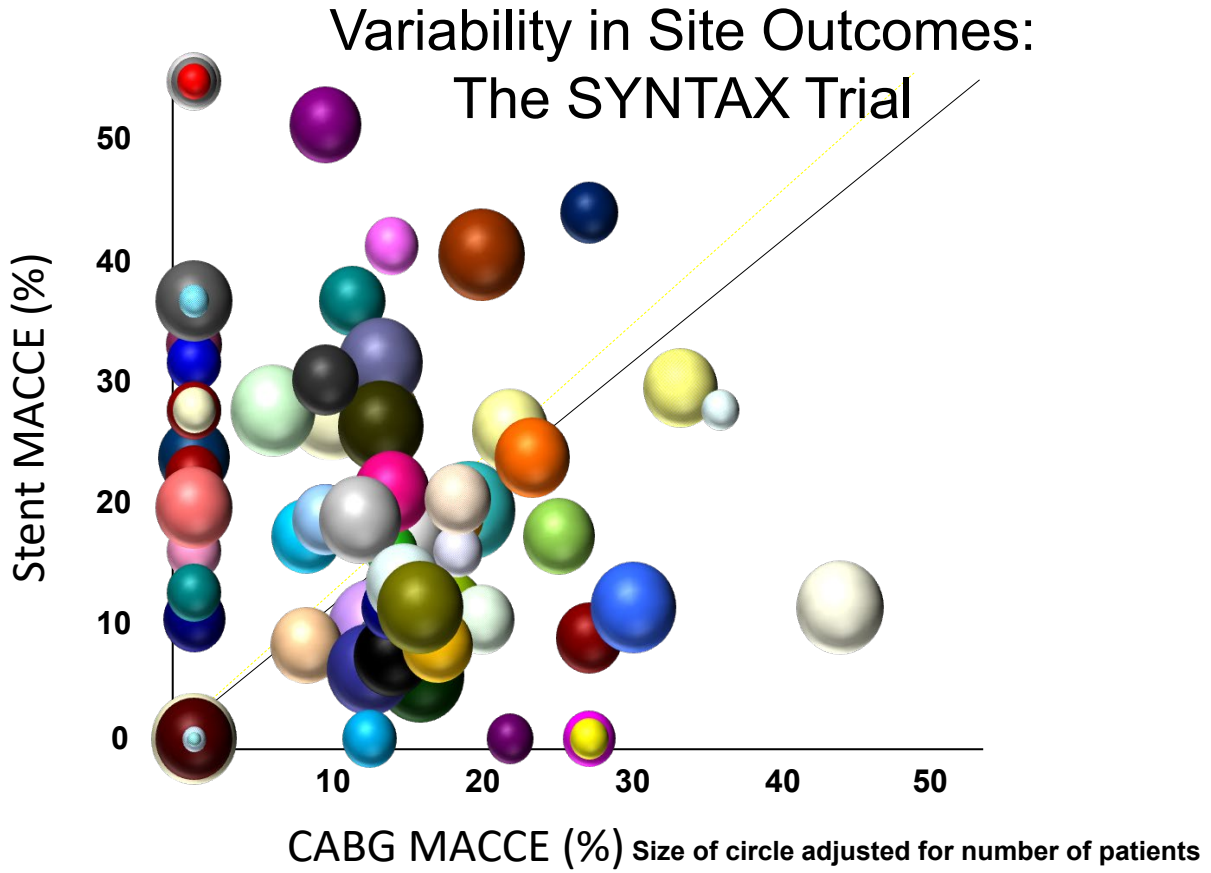
6 r

Patients should make an informed decision about their own medical care

Patient education and decision making

Heart Team discussion

- **Patient risk and comorbidities**
- **Angina Frequency and QoL**
- **Ischemia vs CAD severity and complexity**
- **Compliance to OMT**
- **Operative mortality vs long-term benefit**
- **Revascularization choice (PCI vs CABG)**
- **Technique, complete revascularization**



Mortalidad quirúrgica Argentina vs 1° mundo

Trial	Patient Inclusion	Trial Setup	Inclusion and Patients, n	Death
SYNTAX trial[6]	Multivessel or left main disease	PCI vs CABG	2005–2007 n=1800	11.4
MASS III trial[28]	Multivessel disease	On- vs off-pump	2001–2006 n=308	5.2–8.4
FREEDOM trial[7]	Multivessel disease, diabetics	PCI vs CABG	2005–2010 n=1900	10.9
PRECOMBAT trial[29]	Left main disease	PCI vs CABG	2004–2009 n=600	7.9
PREVENT IV trial[30]	All coronary artery disease	Prevention of graft failure with edifoligide	2002–2003 n=3014	10.9–12.5
BEST trial[31]	Multivessel disease	PCI vs CABG	2008–2013 n=880	5.0
NOBLE trial[32]	Left main disease	PCI vs CABG	2008–2015 n=1201	9
CORONARY trial[33]	All coronary artery disease	On- vs off-pump	2006–2011 n=4752	13.5–14.6
ART Trial[34]	Multivessel disease	Single vs double IMA use	2004–2007 n=3102	8.4–8.7

Tabla 3. Datos del postoperatorio

	n = 700
Ingreso intubado a sala de recuperación, %	53
Insuficiencia renal, %	12,1
Sangrado, %	8,3
Mortalidad intrahospitalaria, %	6,9
Días de internación, mediana (RIC)	8 (6-13)

RIC: rango intercuartílico 25-75 %.

La mortalidad general intrahospitalaria fue del 6,9 %, mayor que la reportada por el registro CONAREC XVI, que informó 4,3% para el grupo de CRM. Sin embargo, al comparar los pacientes con antecedentes de disfunción ventricular, vemos dos grupos claramente diferentes: la mortalidad de los pacientes con este antecedente tracciona la mortalidad general, ya que fue del 13,1 % versus 5,1 % en el resto; aun así, vemos mortalidad elevada en los pacientes con buena función ventricular. (18) En consonancia con

Subgroup	PCI (N=948) Events/total patients no.	PCI (N=948) Event rate %	CABG (N=957) Events/total patients no.	CABG (N=957) Event rate %	Odds Ratio (95% CI)
All patients	208/948	22.0	176/957	19.2	1.19 (0.95–1.50)
Age (median cutoff)					
≥67 yr	123/466	27.2	98/472	21.8	1.39 (1.02–1.89)
<67 yr	80/482	16.9	78/485	16.6	1.00 (0.71–1.40)
Sex					
Male	145/722	20.6	134/742	18.7	1.12 (0.86–1.46)
Female	58/226	26.3	42/215	21.1	1.39 (0.88–2.20)
Diabetes mellitus, medically treated					
Yes	72/256	29.0	62/249	25.5	1.24 (0.83–1.86)
No	131/692	19.4	114/707	16.9	1.17 (0.89–1.55)
Chronic kidney disease					
Estimated GFR ≤60 ml/min	54/164	34.0	37/144	27.6	1.44 (0.86–2.39)
Estimated GFR >60 ml/min	147/770	19.5	135/791	17.6	1.13 (0.87–1.47)
Left ventricular ejection fraction					
≥50%	158/782	20.6	144/796	18.7	1.14 (0.88–1.46)
<50%	33/111	31.5	26/115	24.2	1.35 (0.73–2.49)
Geographic region					
North America	89/381	24.2	61/371	17.3	1.57 (1.09–2.26)
Europe	111/534	21.1	102/541	19.6	1.09 (0.81–1.48)
Other	3/33	9.6	13/45	29.6	0.24 (0.06–0.96)
Non–left main diseased coronary arteries (core laboratory assessment)					
0	33/163	20.7	23/167	14.3	1.55 (0.86–2.78)
1	60/292	21.2	61/292	21.9	0.94 (0.62–1.40)
2	79/325	25.0	50/295	17.8	1.58 (1.06–2.36)
3	31/162	19.2	37/182	20.7	0.93 (0.54–1.59)
Left main bifurcation or trifurcation stenosis ≥50% (core laboratory assessment)					
Yes	171/771	22.7	136/741	19.0	1.24 (0.96–1.60)
No	32/171	19.2	35/195	18.9	1.05 (0.62–1.79)
SYNTAX score (site reported)					
≤22	119/560	21.9	106/588	18.7	1.21 (0.90–1.62)
23–32	84/386	22.2	70/366	20.0	1.16 (0.81–1.67)
SYNTAX score (core laboratory assessment)					
≤22	49/294	17.2	58/364	16.7	0.99 (0.65–1.51)
23–32	91/392	23.7	69/346	20.7	1.22 (0.85–1.74)
≥33	56/228	25.0	42/216	20.0	1.36 (0.86–2.15)

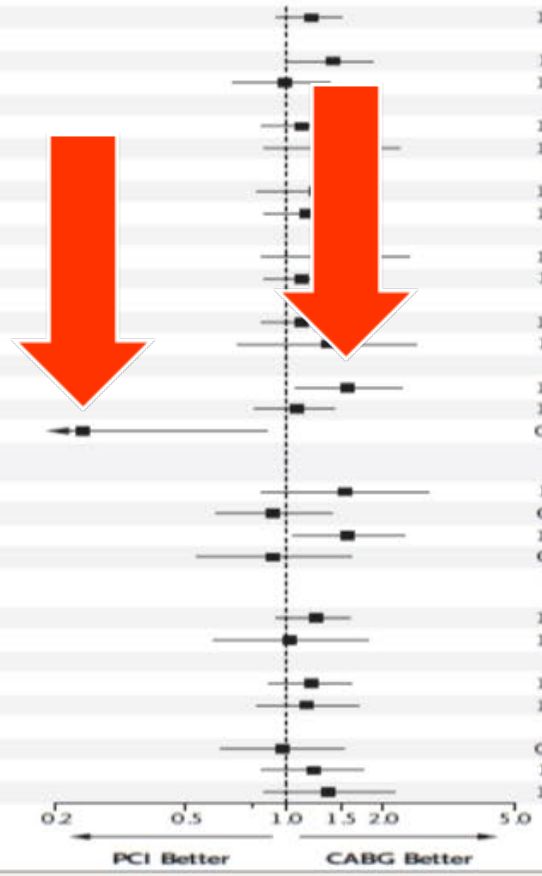


Figure 2. Subgroup Analyses of the Primary Composite Outcome at 5 Years.

Event rates were based on Kaplan–Meier estimates; thus, the rate is not the same as the ratio of the numerator and denominator. There were no significant differences between the relative risks of the treatment effects in any of the subgroups. The estimated glomerular filtration rate (GFR) was calculated by means of the Cockcroft–Gault equation. The Synergy between Percutaneous Coronary Intervention with Taxus and Cardiac Surgery (SYNTAX) score reflects a comprehensive angiographic assessment of the coronary vasculature, with 0 as the lowest score, and higher scores (no upper limit) indicating more complex coronary anatomy. The 95% confidence intervals for secondary outcomes have not been adjusted for multiple comparisons, and therefore inferences drawn from these intervals may not be reproducible.

5 years. (Funded by Abbott Vascular; EXCEL ClinicalTrials.gov number, NCT01205776.)

The NEW ENGLAND JOURNAL of MEDICINE

Composite of death from any cause, myocardial infarction, or stroke

ORIGINAL RI

Fraction
Bypass
Disease

Frederik M. Zimmerma
Albert H.M. van Strate
Samer Mansour, MD;
Keith G. Oldroyd, M
Oskar Angeras, MD, P
Kreton Mavromatis,
Evald H. Christiansen
Yuhei Kobayashi, M
Alan C. Yeung, MD; Be

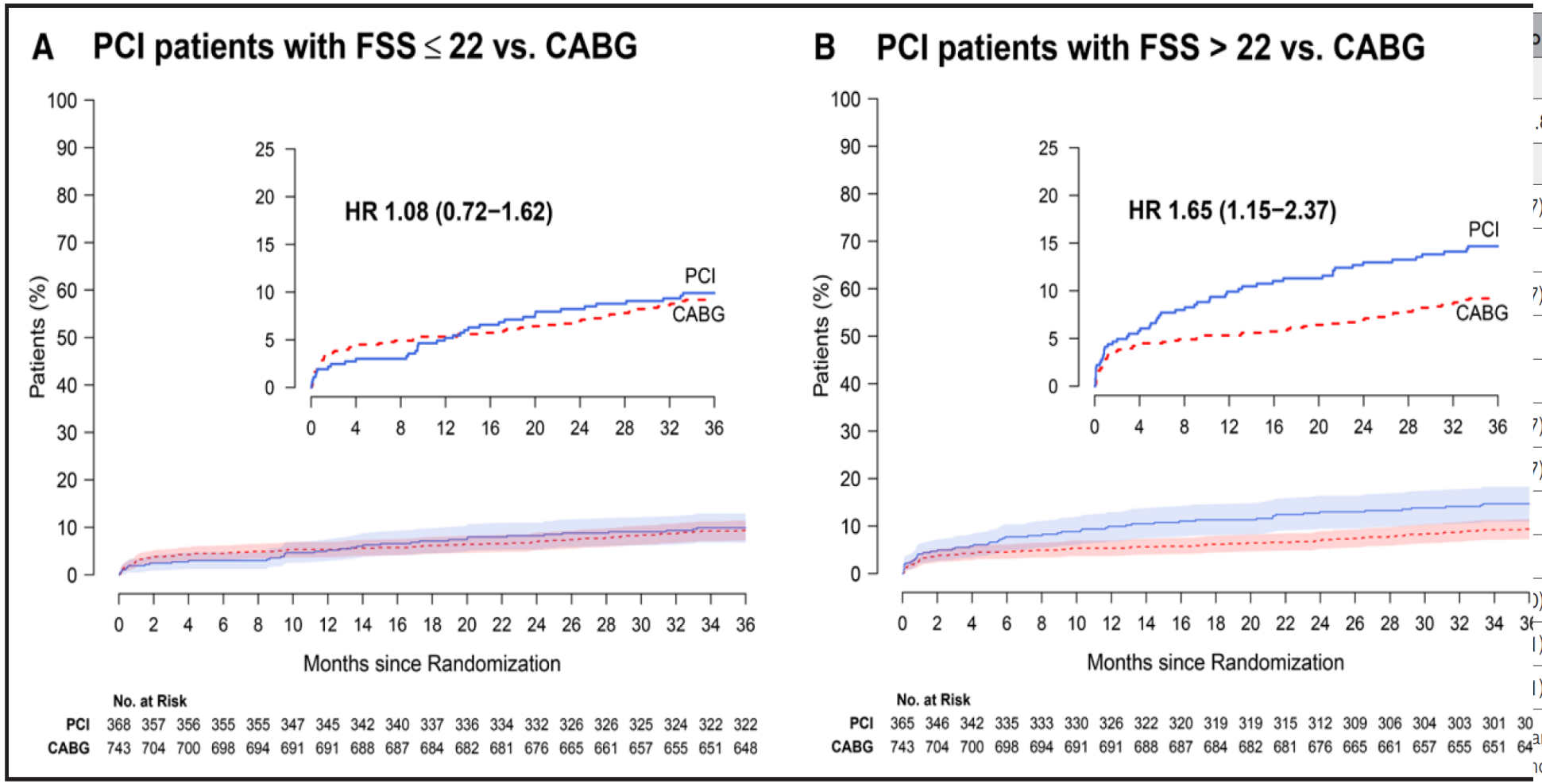
BACKGROUND: Previou
(CABG) in patients
death, myocardial inf
stents or fractional fl

METHODS: FAME 3 (
multicenter, internati
coronary artery) in 4
drug-eluting stents c
the composite of dea

RESULTS: A total of
patients in both gro
guided PCI compar
rates of death (4.1%
CI, 0.4–1.7]; *P*=0.5
1.1–2.7]; *P*=0.02).

CONCLUSIONS: At 3-y
FFR-guided PCI with
PCI compared with C
shared decision-mak

REGISTRATION: URL: h



	(95% CI)	*P* value
	.83)	0.07*
	7)	0.88
	7)	0.02
	7)	0.56
	7)	0.001
	))	0.002
	l)	0.05
	l)	0.19

analysis. CABG indicates
d SCAI, Society for Car-

use, myocardial infarction,

Figure 4. Kaplan-Meier curves for the composite of death from any cause, myocardial infarction, or stroke, stratified by FSS classification.

P values were not adjusted for multiplicity and should not be interpreted to inform definitive treatment effects.

American Heart Association.
Circulation

FAME
percut
f

s

The reason why in a population where 50% have low FSS, and where 24% of the lesions investigated did not have ischemia, have had 80 mm of stent length implanted is difficult to understand, suggesting that despite the use of FFR probably intermediate or small vessel lesions were included in revascularization strategy (1).

In summary, we want to highlight that the use of anatomical SS, which usually overestimates angiographic risk (1,3,5), may be one of the causes of unnecessary DES implantation, which may be the reason for the negative results of FAME 3.
The lack of recognition of the limitations of DES2, such as early neo-atherosclerosis and endothelial dysfunction (4), is probably the other.
Changing the PCI strategy seems mandatory (3).

Number of words: 500

V
F
c
p
(
(
A
ir

myocardial infarction (MI)(p=0.02) and repeat revascularization (0.002) in PCI.

Authors:
Alfredo Rodriguez (Otamendi Hospital)
Carlos Fernandez-Pereira (Otamendi Hospital)
Juan Mieres (Otamendi Hospital)

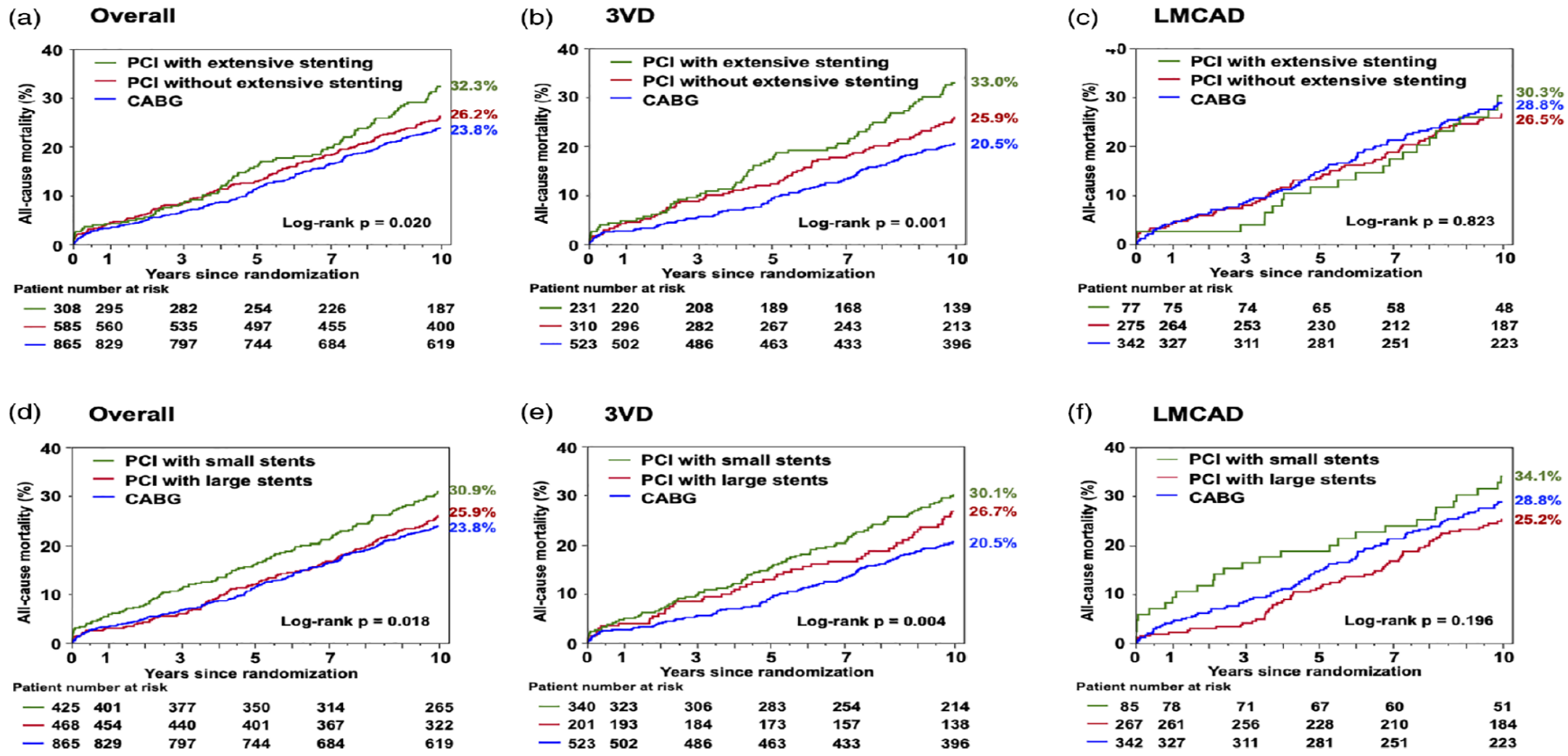
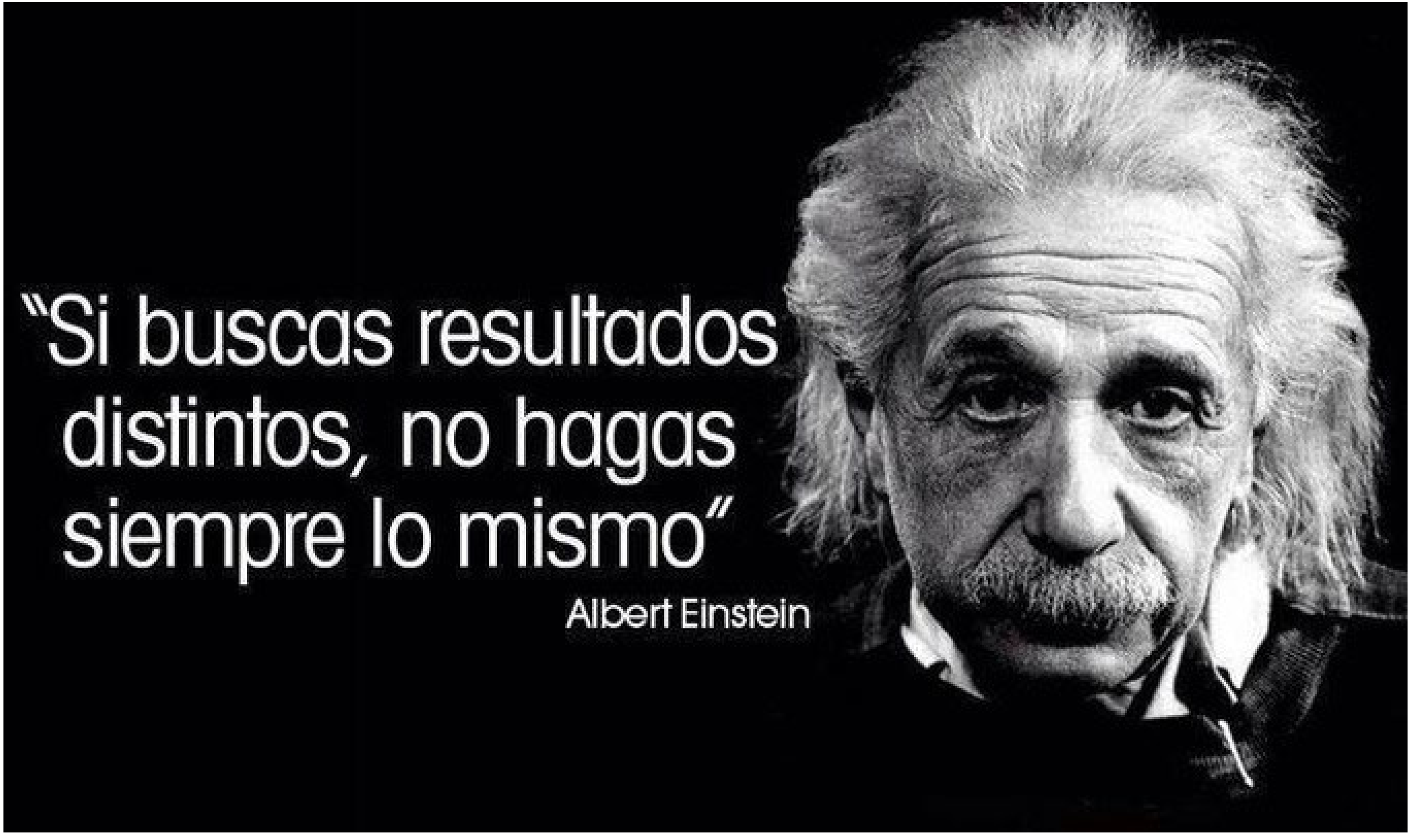


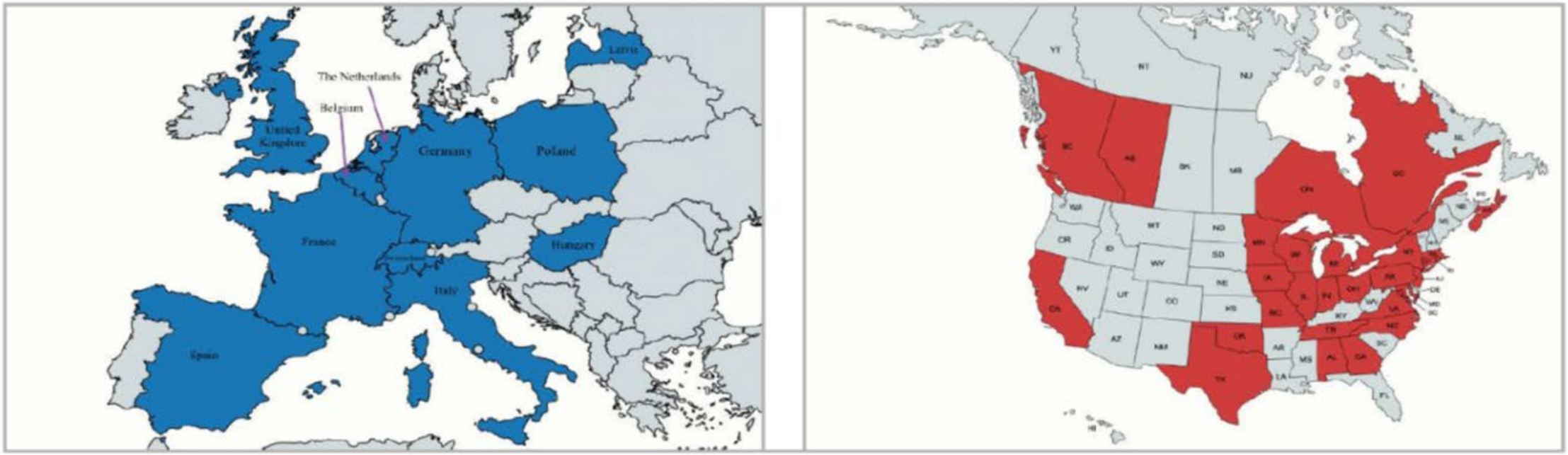
FIGURE 2 Kaplan–Meier curves for all-cause mortality at 10 years. (a–c) Mortality rates in patients with extensive stenting PCI, not-extensive stenting PCI and CABG. (a) The overall cohort. (b) Three-vessel disease (3VD) cohort. (c) Left main coronary artery disease (LMCAD) cohort. (d–f) Mortality rates in patients with small stenting PCI, large stenting PCI and CABG. (d) The overall cohort. (e) 3VD cohort. (f) LMCAD cohort. CABG, coronary artery bypass grafting surgery; PCI, percutaneous coronary intervention

Take Home Message

- **Revascularization decisions require integrated risk stratification and informed patient and heart team decision based on**
  - **Patient related Factors: Angina frequency; Comorbidities and procedure risk;**
  - **Anatomic Factors: Extent and complexity of disease; severity of ischemia; LVEF**
  - **Technical factors: complete revascularization, discard lesions <70%, avoid unnecessary DES implantation.**
  - **FFR guidance, invasive imaging, OCT, and IVUS, although randomized data against CABG/OMT are missing.**

Take Home Message





Outcomes	PCI vs CABG European Union (n=1,075)	Hazard ratio [95% CI]	PCI vs CABG North America (n=752)	Hazard ratio [95% CI]	Consistency EU vs NA
30 days					
Death/MI/Stroke	4.7% vs 8.5%	0.52 [0.32-0.87]	5.3% vs 5.7%	0.93 [0.49-1.74]	Yes (p_{int}=0.09)
IDR	0.6% vs 1.5%	0.37 [0.10-1.38]	1.1% vs 0.8%	1.31 [0.29-5.89]	–
Death/MI/Stroke/IDR	4.7% vs 9.0%	0.49 [0.30-0.80]	5.3% vs 6.0%	0.88 [0.47-1.65]	Yes (p_{int}=0.08)
5 years					
Death/MI/Stroke	21.1% vs 19.6%	1.09 [0.81-1.48]	24.2% vs 17.3%	1.57 [1.09-2.26]	Yes (p_{int}=0.07)
IDR	13.4% vs 9.3%	1.53 [1.03-2.27]	22.9% vs 10.9%	2.48 [1.63-3.78]	–
Death/MI/Stroke/IDR	28.5% vs 24.7%	1.22 [0.92-1.61]	36.9% vs 24.1%	1.91 [1.38-2.64]	No (p_{int}=0.02)

Composite of death from any cause, myocardial infarction, or stroke

ORIGINAL RI

Fraction
Bypass
Disease

Frederik M. Zimmerma
Albert H.M. van Strate
Samer Mansour, MD;
Keith G. Oldroyd, M
Oskar Angeras, MD, P
Kreton Mavromatis,
Evald H. Christiansen
Yuhei Kobayashi, M
Alan C. Yeung, MD; Be

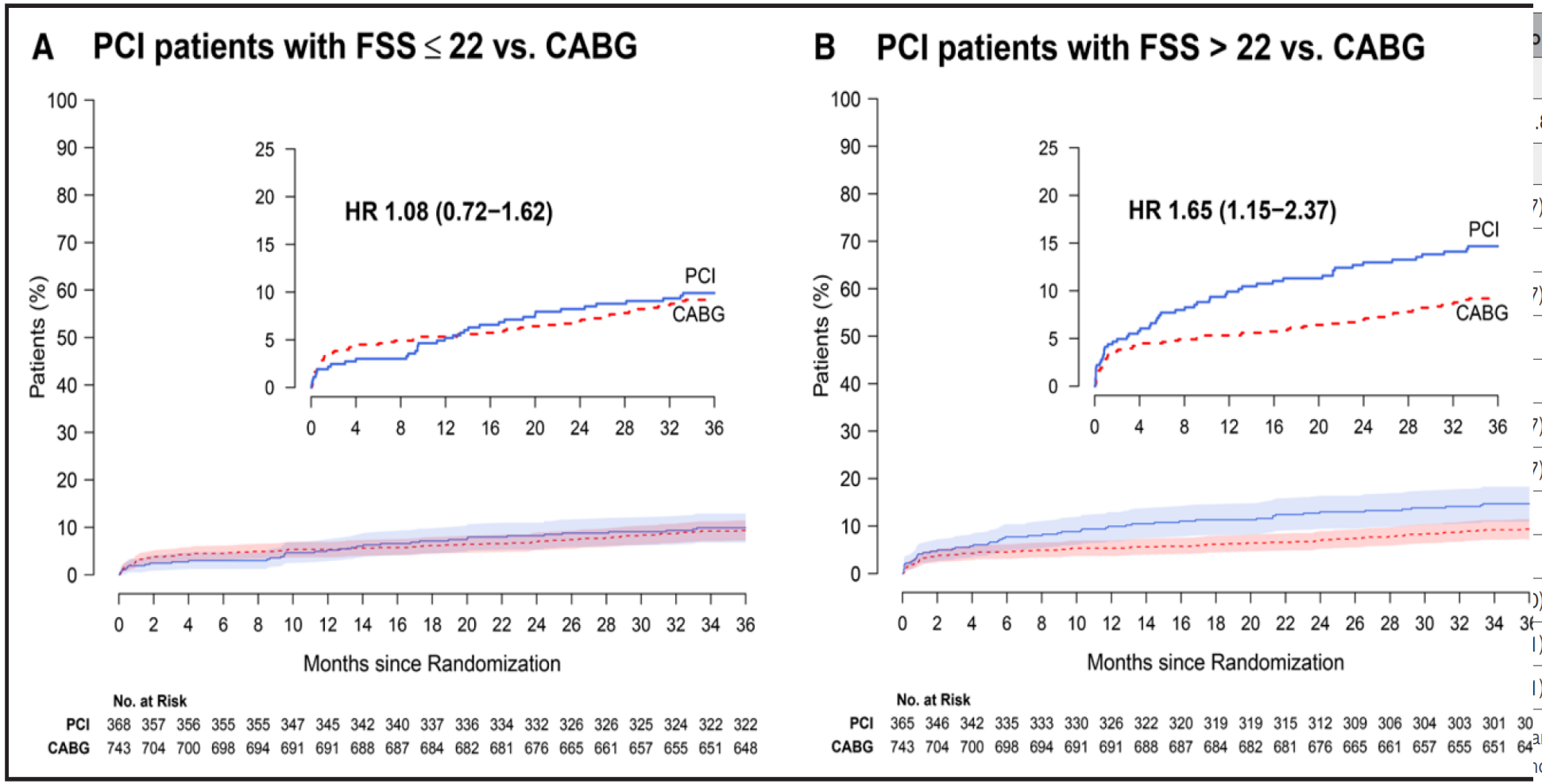
BACKGROUND: Previou
(CABG) in patients
death, myocardial inf
stents or fractional fl

METHODS: FAME 3 (
multicenter, internati
coronary artery) in 4
drug-eluting stents c
the composite of dea

RESULTS: A total of
patients in both gro
guided PCI compar
rates of death (4.1%
CI, 0.4–1.7]; *P*=0.5
1.1–2.7]; *P*=0.02).

CONCLUSIONS: At 3-y
FFR-guided PCI with
PCI compared with
shared decision-mak

REGISTRATION: URL: h



	(95% CI)	*P* value
	.83)	0.07*
	7)	0.88
	7)	0.02
	7)	0.56
	7)	0.001
	))	0.002
	l)	0.05
	l)	0.19

analysis. CABG indicates
d SCAI, Society for Car-

use, myocardial infarction,

Figure 4. Kaplan-Meier curves for the composite of death from any cause, myocardial infarction, or stroke, stratified by FSS classification.

P values were not adjusted for multiplicity and should not be interpreted to inform definitive treatment effects.

American Heart Association.

Circulation

FAME

percut

f

s

The reason why in a population where 50% have low FSS, and where 24% of the lesions investigated did not have ischemia, have had 80 mm of stent length implanted is difficult to understand, suggesting that despite the use of FFR probably intermediate or small vessel lesions were included in revascularization strategy (1).

In summary, we want to highlight that the use of anatomical SS, which usually overestimates angiographic risk (1,3,5), may be one of the causes of unnecessary DES implantation, which may be the reason for the negative results of FAME 3.
The lack of recognition of the limitations of DES2, such as early neo-atherosclerosis and endothelial dysfunction (4), is probably the other.
Changing the PCI strategy seems mandatory (3).

Number of words: 500

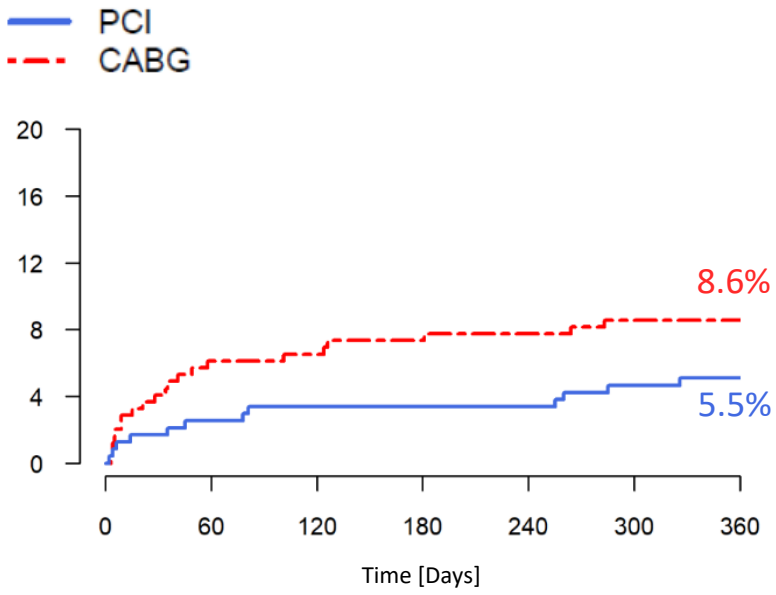
V
F
c
p
(
(
A
ir

myocardial infarction (MI)(p=0.02) and repeat revascularization (0.002) in PCI.

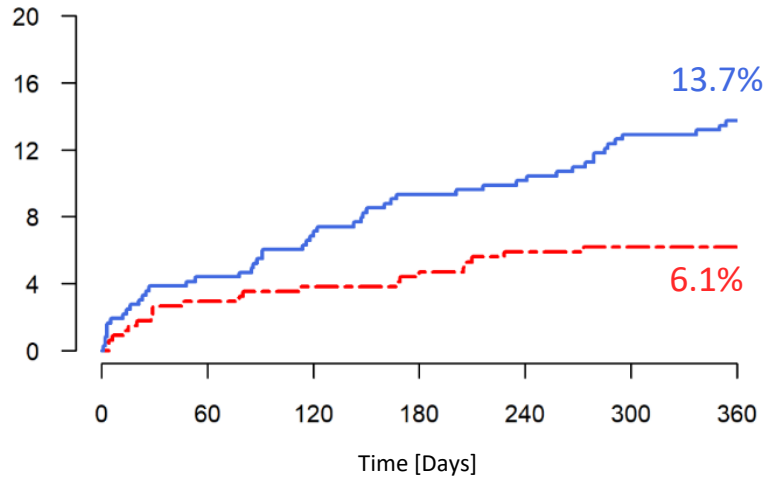
Authors:
Alfredo Rodriguez (Otamendi Hospital)
Carlos Fernandez-Pereira (Otamendi Hospital)
Juan Mieres (Otamendi Hospital)

Choice of Revascularization: CABG vs PCI
FAME 3: MACCE According to SYNTAX Score

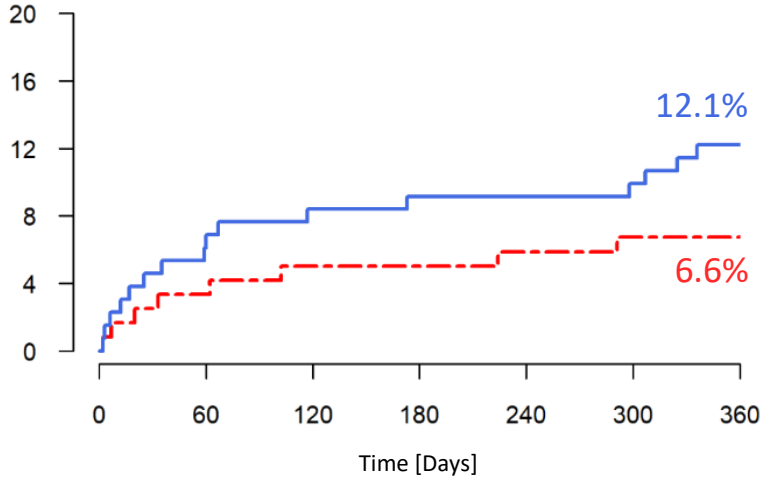
LOW (<23)
SYNTAX SCORE



INTERMEDIATE (23-32)
SYNTAX SCORE



HIGH (>32)
SYNTAX SCORE



Composite of death from any cause, myocardial infarction, or stroke

ORIGINAL RI

Fraction
Bypass
Disease

Frederik M. Zimmerma
Albert H.M. van Strate
Samer Mansour, MD;
Keith G. Oldroyd, M
Oskar Angeras, MD, P
Kreton Mavromatis,
Evald H. Christiansen
Yuhei Kobayashi, M
Alan C. Yeung, MD; Be

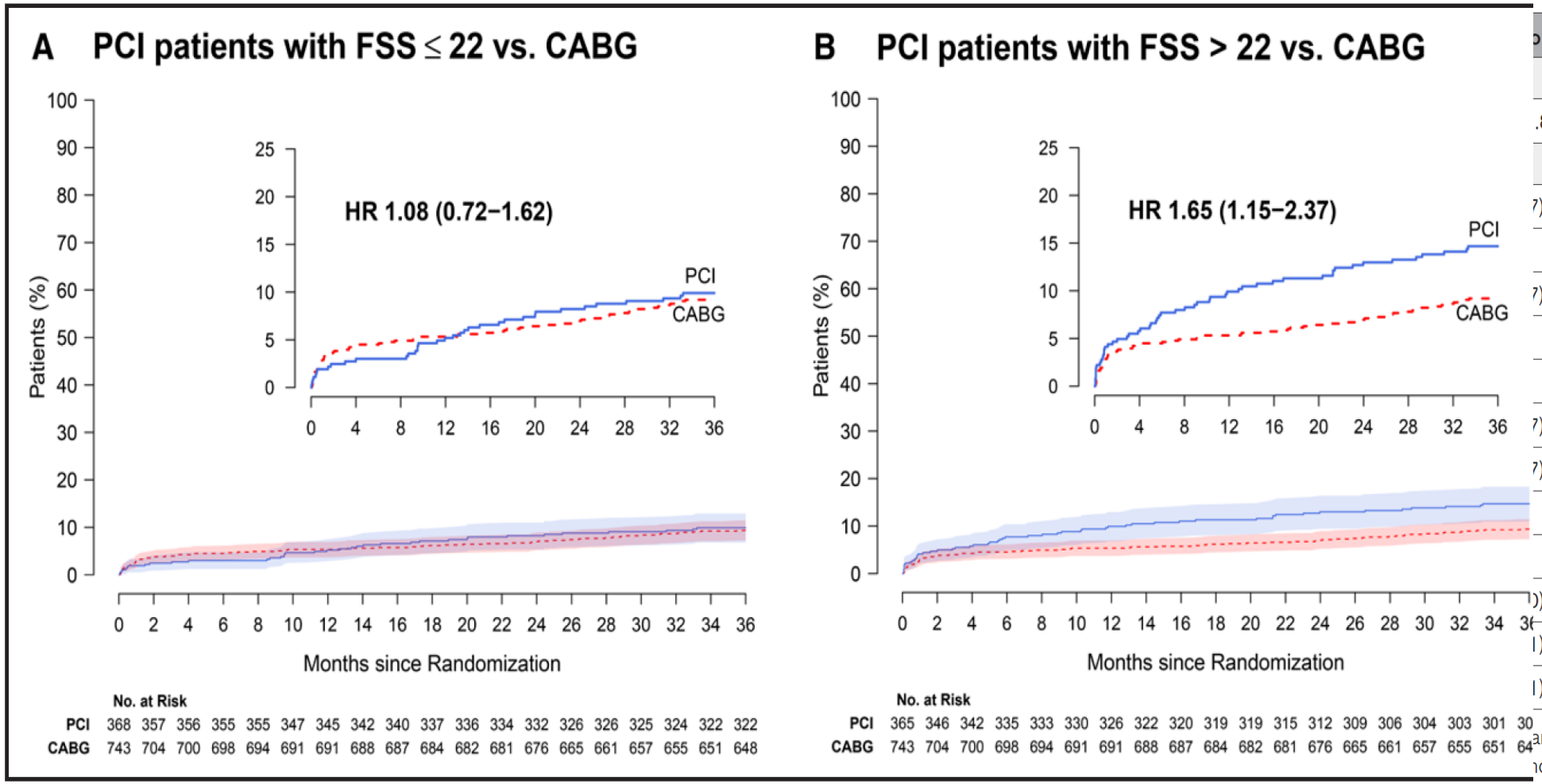
BACKGROUND: Previou
(CABG) in patients
death, myocardial inf
stents or fractional fl

METHODS: FAME 3 (
multicenter, internati
coronary artery) in 4
drug-eluting stents c
the composite of dea

RESULTS: A total of
patients in both gro
guided PCI compar
rates of death (4.1%
CI, 0.4–1.7]; *P*=0.5
1.1–2.7]; *P*=0.02).

CONCLUSIONS: At 3-y
FFR-guided PCI with
PCI compared with
shared decision-mak

REGISTRATION: URL: h



	(95% CI)	*P* value
	.83)	0.07*
	7)	0.88
	7)	0.02
	7)	0.56
	7)	0.001
	))	0.002
	l)	0.05
	l)	0.19

analysis. CABG indicates
d SCAI, Society for Car-

use, myocardial infarction,

Figure 4. Kaplan-Meier curves for the composite of death from any cause, myocardial infarction, or stroke, stratified by FSS classification.

P values were not adjusted for multiplicity and should not be interpreted to inform definitive treatment effects.

American Heart Association.

Circulation

FAME

percut

f

s

The reason why in a population where 50% have low FSS, and where 24% of the lesions investigated did not have ischemia, have had 80 mm of stent length implanted is difficult to understand, suggesting that despite the use of FFR probably intermediate or small vessel lesions were included in revascularization strategy (1).

In summary, we want to highlight that the use of anatomical SS, which usually overestimates angiographic risk (1,3,5), may be one of the causes of unnecessary DES implantation, which may be the reason for the negative results of FAME 3.
The lack of recognition of the limitations of DES2, such as early neo-atherosclerosis and endothelial dysfunction (4), is probably the other.
Changing the PCI strategy seems mandatory (3).

Number of words: 500

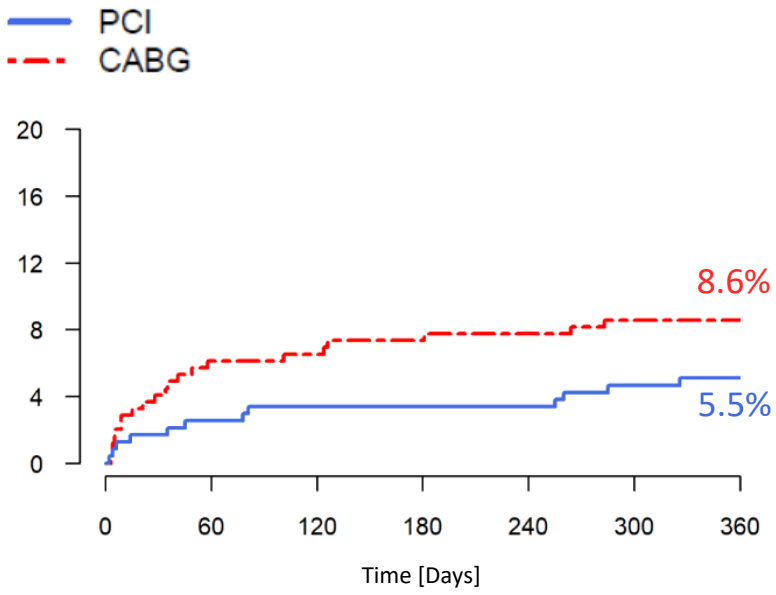
V
F
c
p
(
(
A
ir

myocardial infarction (MI)(p=0.02) and repeat revascularization (0.002) in PCI.

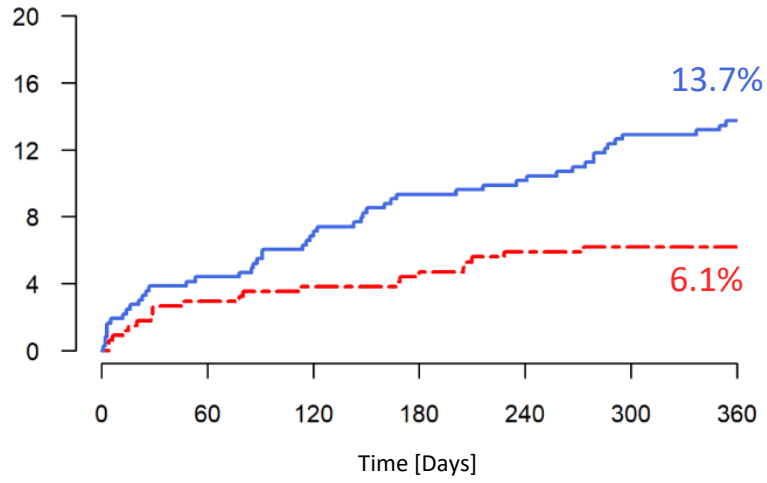
Authors:
Alfredo Rodriguez (Otamendi Hospital)
Carlos Fernandez-Pereira (Otamendi Hospital)
Juan Mieres (Otamendi Hospital)

Choice of Revascularization: CABG vs PCI
FAME 3: MACCE According to SYNTAX Score

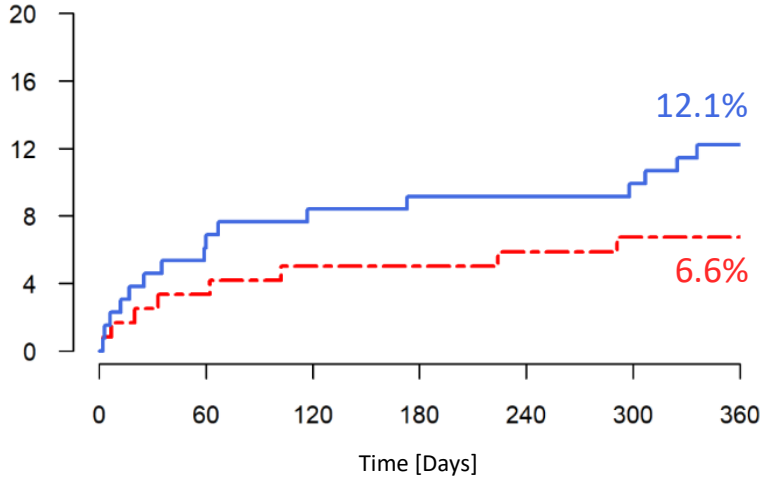
LOW (<23)
SYNTAX SCORE



INTERMEDIATE (23-32)
SYNTAX SCORE

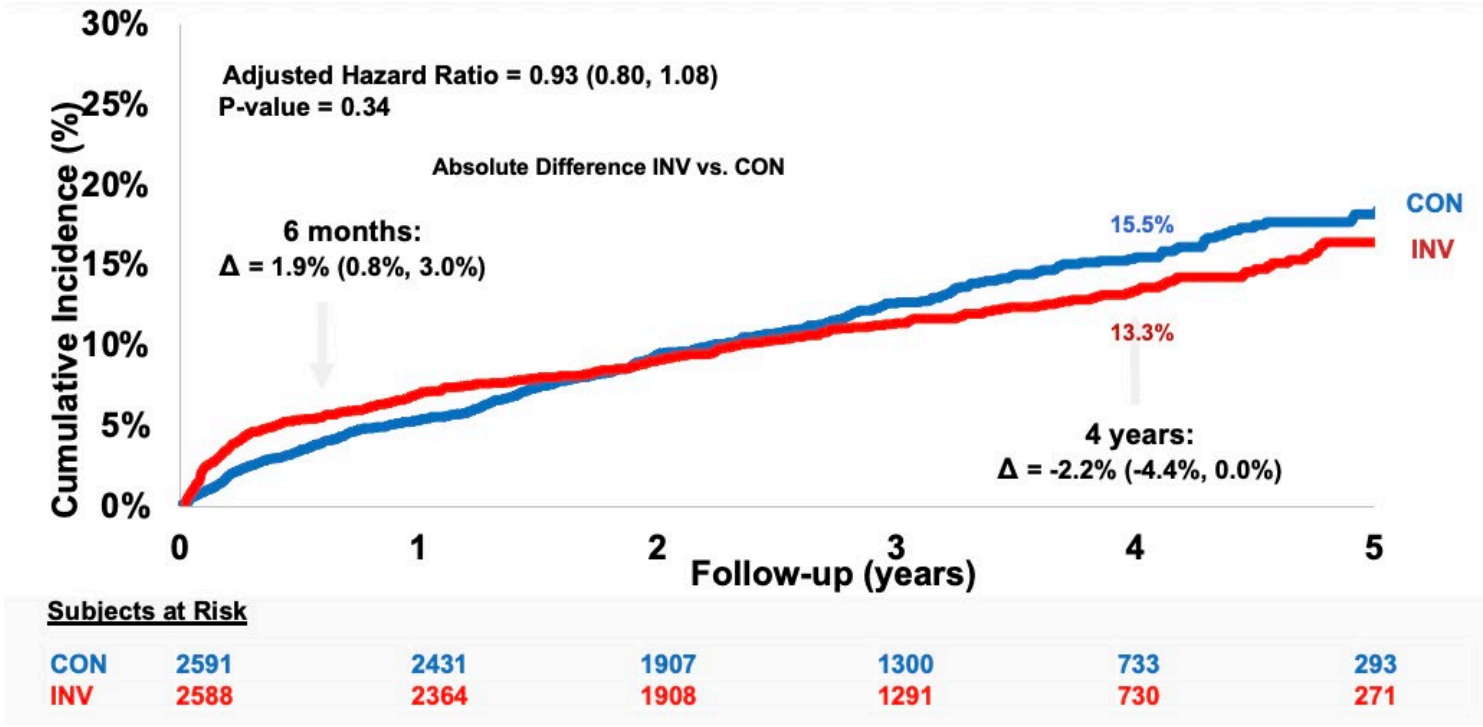


HIGH (>32)
SYNTAX SCORE



ISCHEMIA Trial: Primary Outcome

Stable patients **with at least moderate ischemia** on a stress test:
N=5,179; Median FU: 3.2 years



Maron D. et al, N Engl J Med 2020;382:1395-1407