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IX CONGRESSO NAZIONALE ECOCARDIOCHIRURGIA 2017

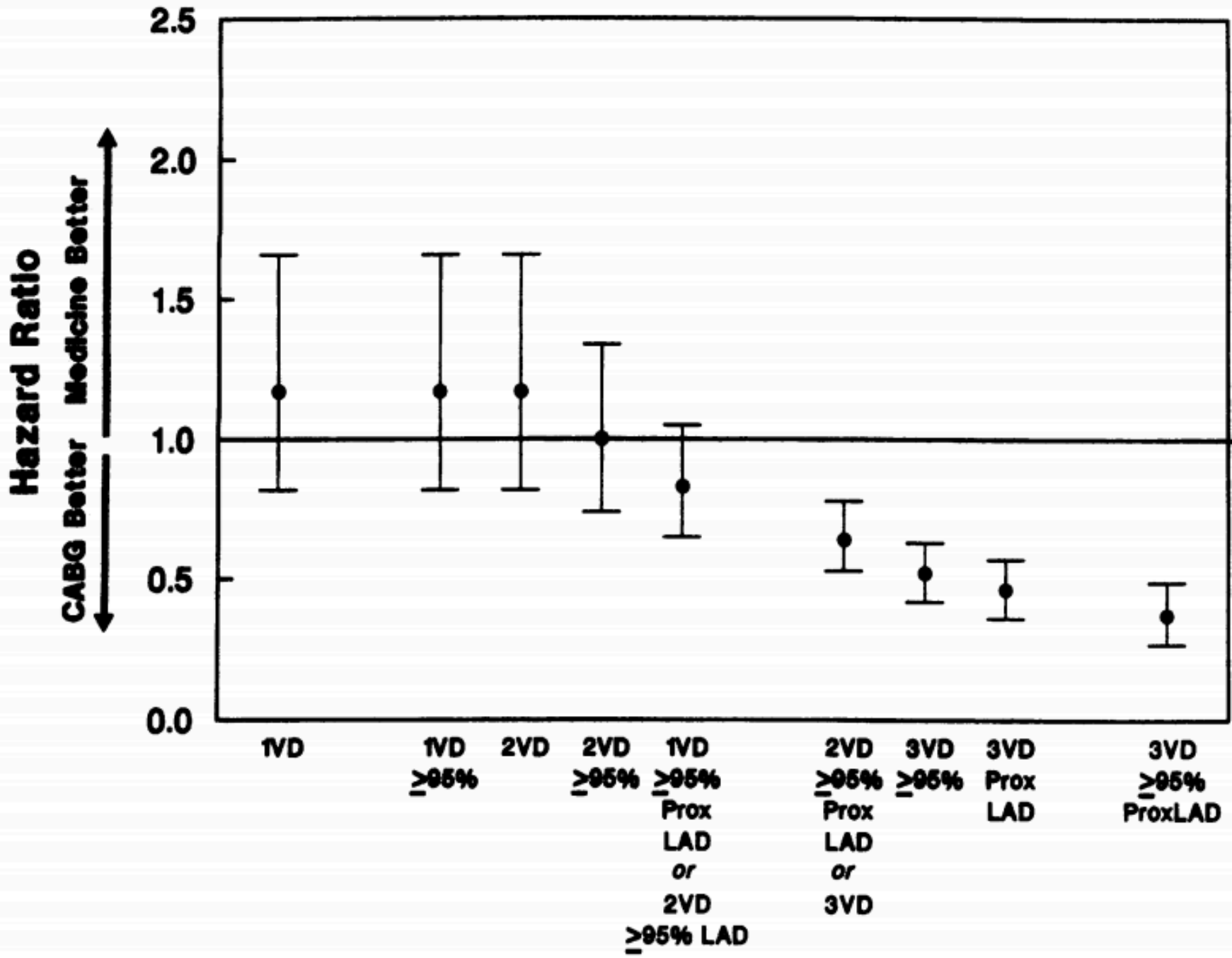
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Come Rivascolarizzare il paziente multivasale diabetico: una decisione tailored

Marco Ferlini

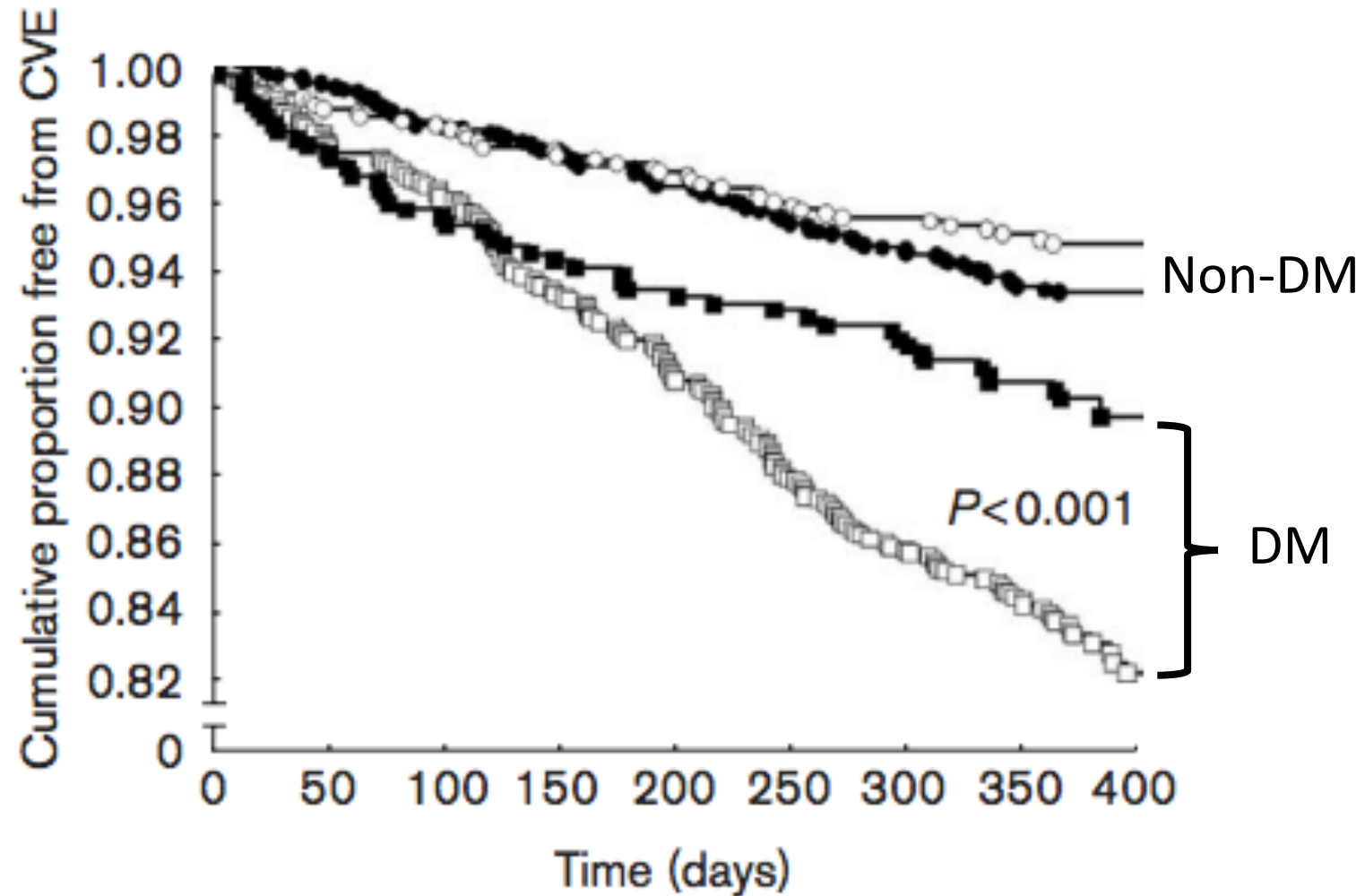
SC Cardiologia

Fondazione IRCCS Policlinico San Matteo, Pavia

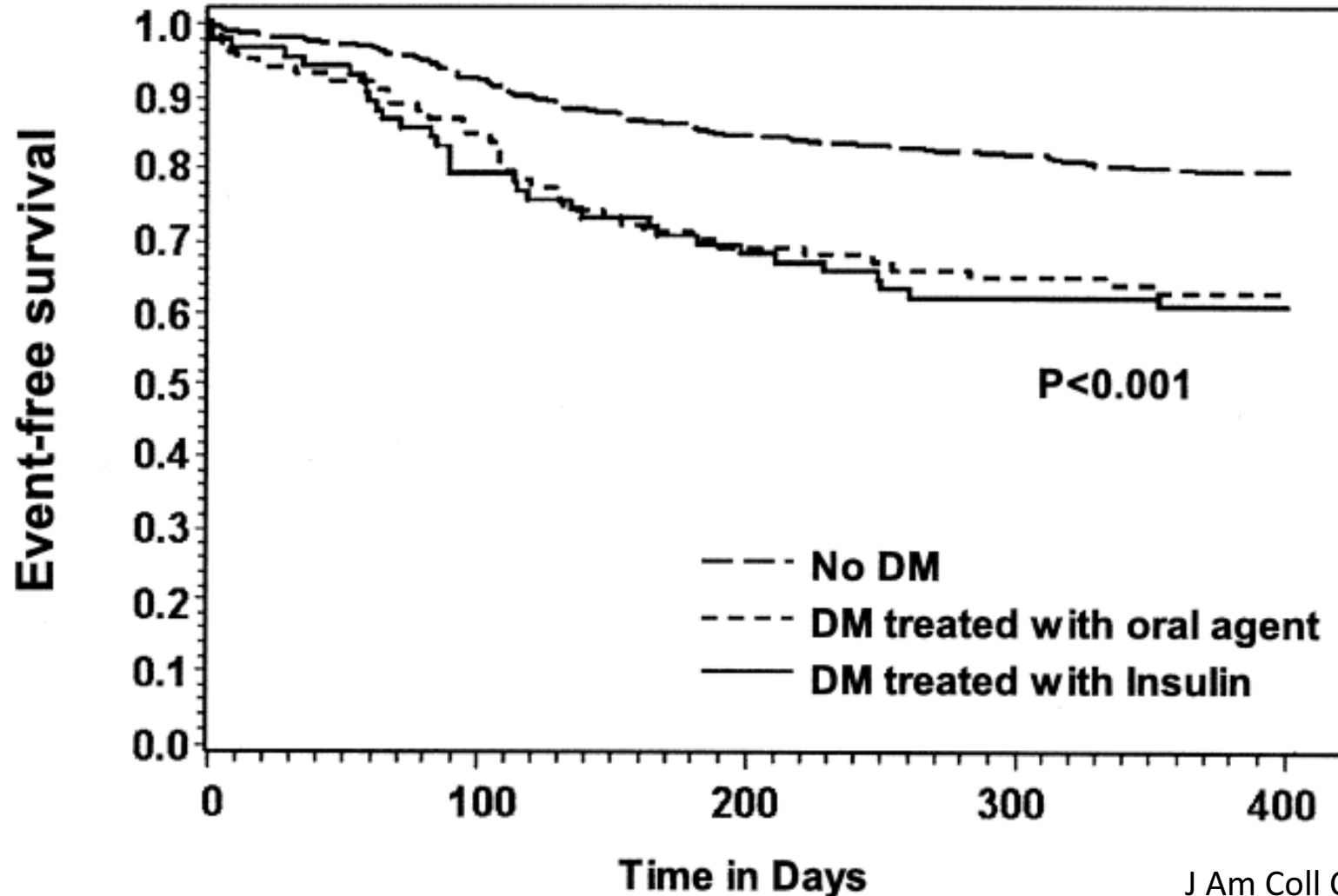


DM and CAD
 CAD > 1, 50% vs 40%
 CAD > 2 ± LM; 35% vs 16%

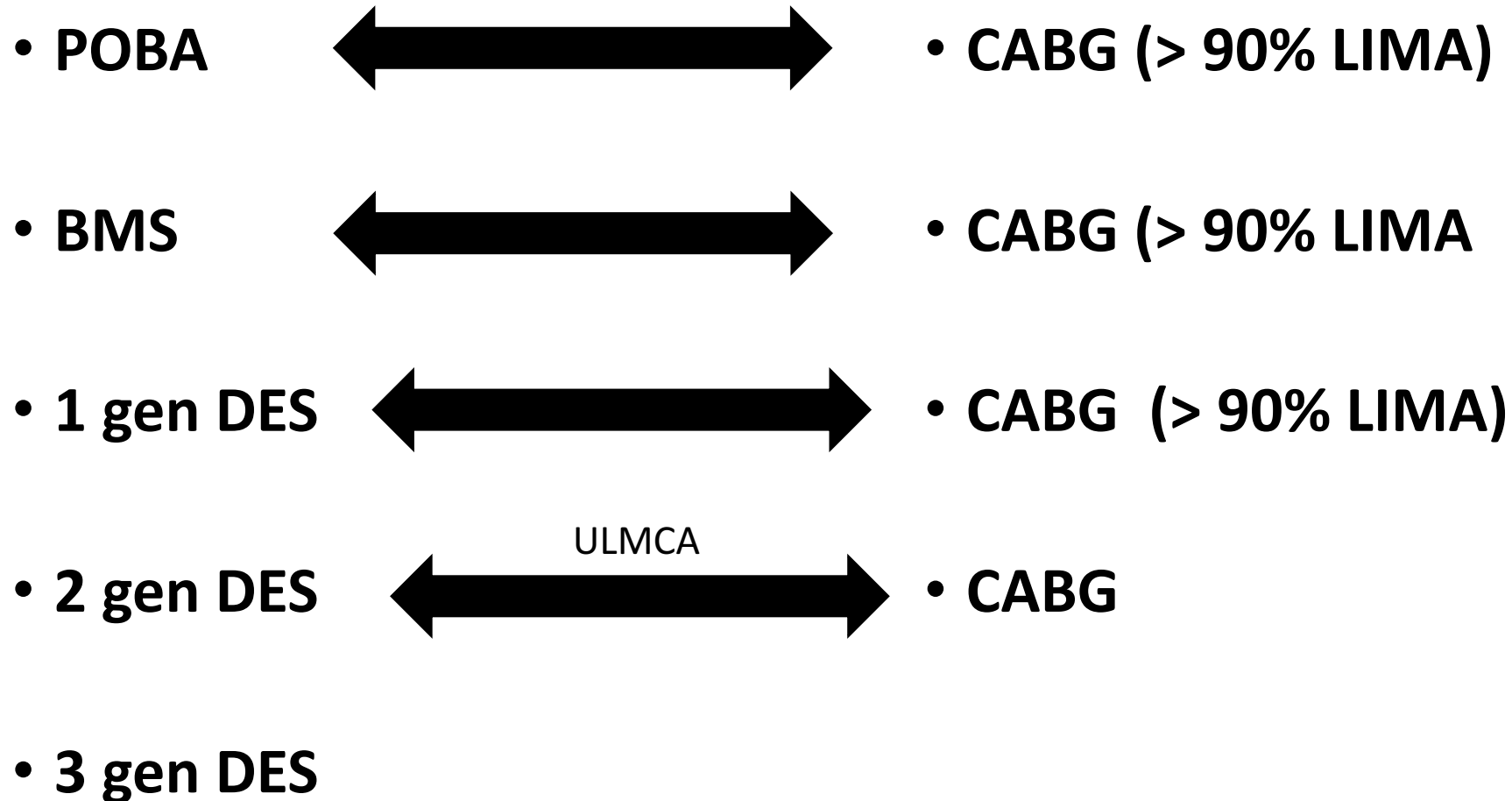
Revascularization in Diabetic patients vs Non-diabetic



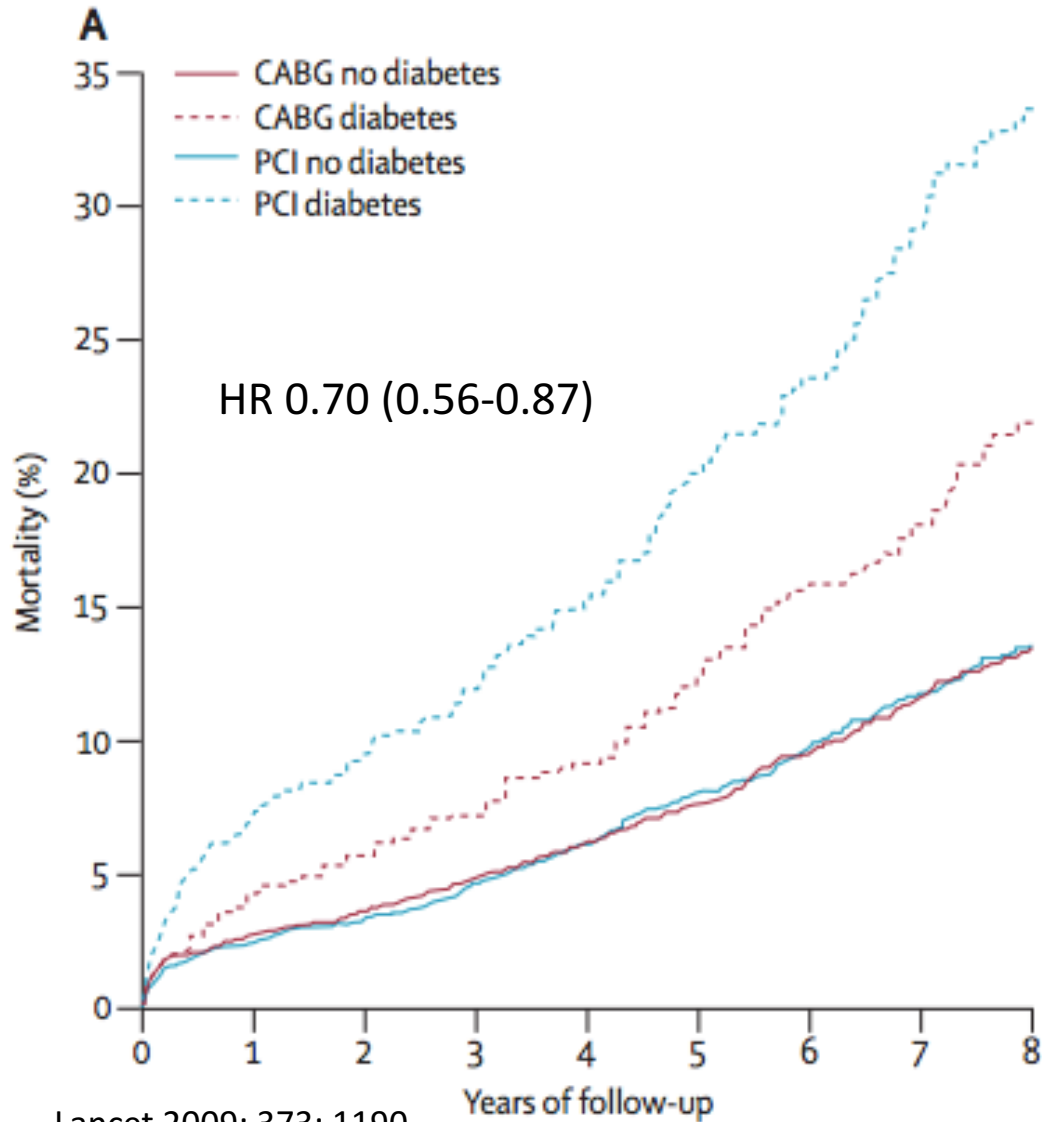
Clinical outcomes following myocardial revascularization both PCI or CABG are worse in DM patients compared to non-DM



Revascularization in DM: PCI vs CABG



CABG vs PCI in DM: POBA and BMS



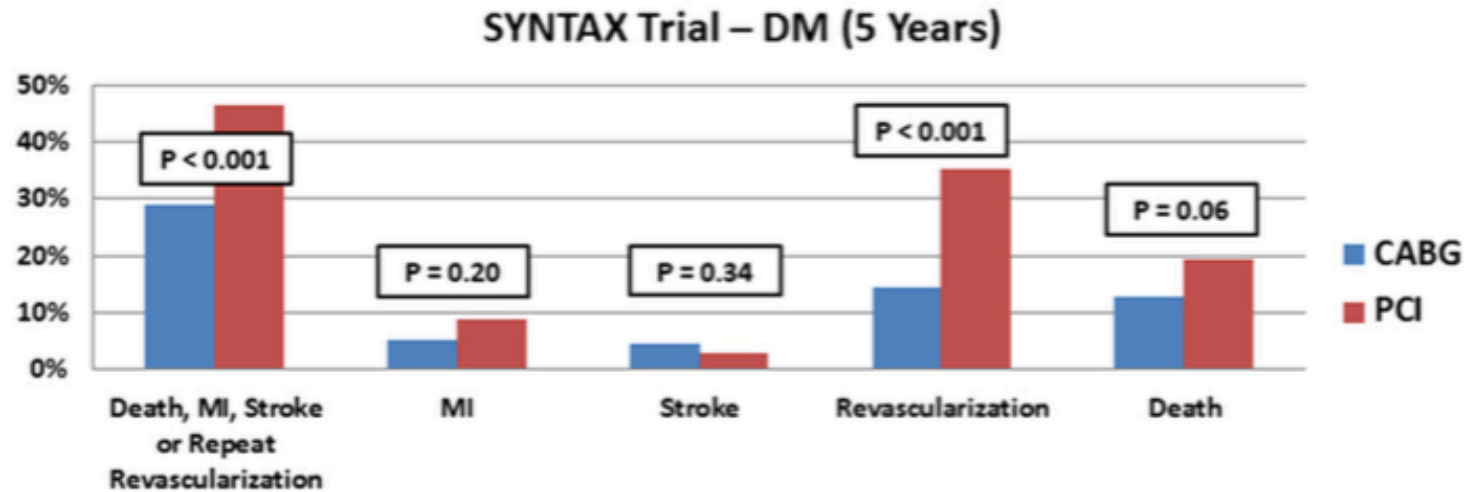
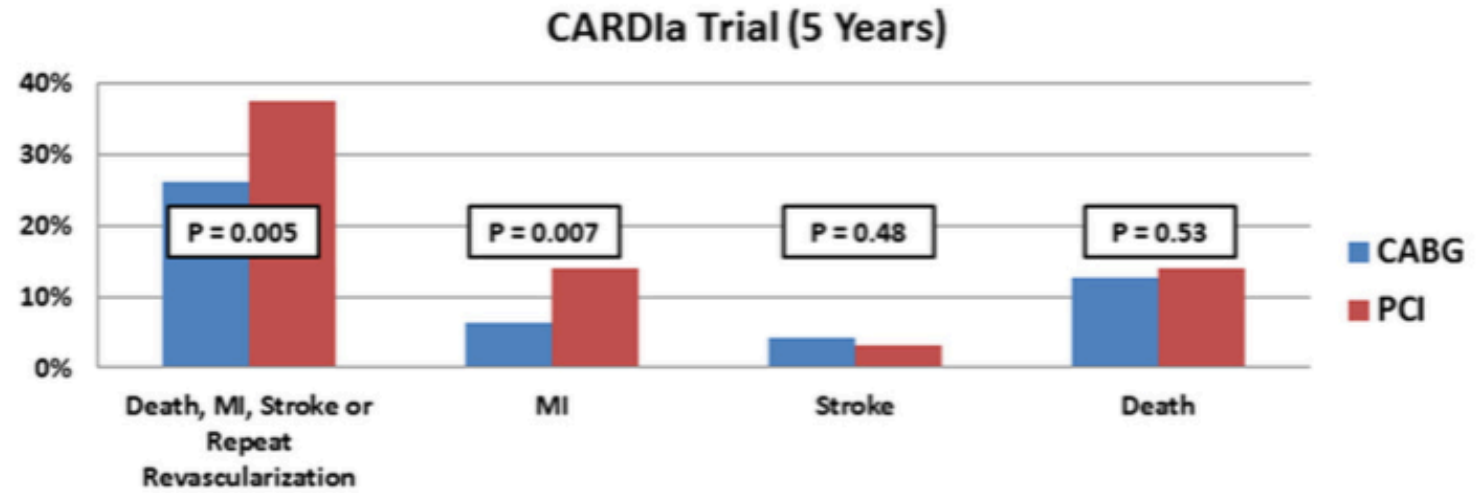
Lancet 2009; 373: 1190

- 6 trials with POBA
- 4 trials BMS

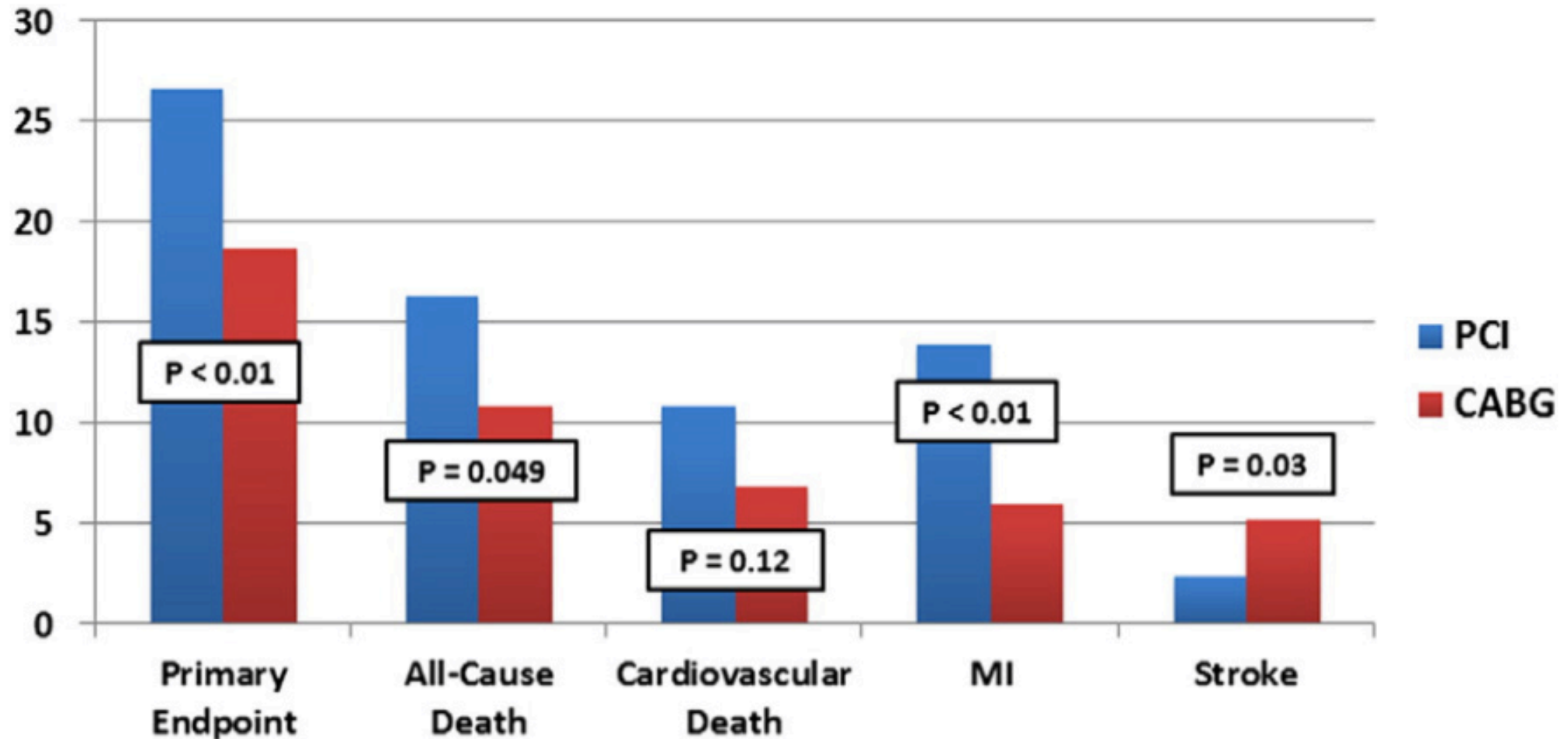
5 yrs fu	CABG	BMS	p value
Death	8.2%	8.6%	NS
Rev	6.3%	25%	<0.001

Circulation 2008; 118: 1146

1 gen DES



FREEDOM trial: 1900 pts rand to CABG vs PCI



Can FREEDOM results be generalized to entire DM population with CAD?

- Slow enrollment (Sample size calculated 3 times!)
- Only 10% of all screened patients were randomized (33000 screened, 1/10 eligible and 1900 randomized)
- LM exclusion criteria
- Low prevalence of female patients (28.6%)
- Low prevalence of patients with EF < 40% (2.5%)
- Low patients with SYNTAX Score < 22 (35%)
- Predominant use of 1 gen DES

Coronary anatomy

SYNTAX score
Targets adequate/not adequate for CABG
Lesions can/cannot be treated with PCI
Ischaemic burden

Clinical setting

Stable CAD
Non-ST-ACS
STEMI
Cardiogenic shock

Co-existing conditions

EUROSCORE
STS score
Ventricular function
Age
Valvular heart disease
Renal insufficiency
Pulmonary disease
Coagulation/bleeding disorders
Cerebrovascular disease
Peripheral vascular disease
Previous cardiac surgery
Life expectancy

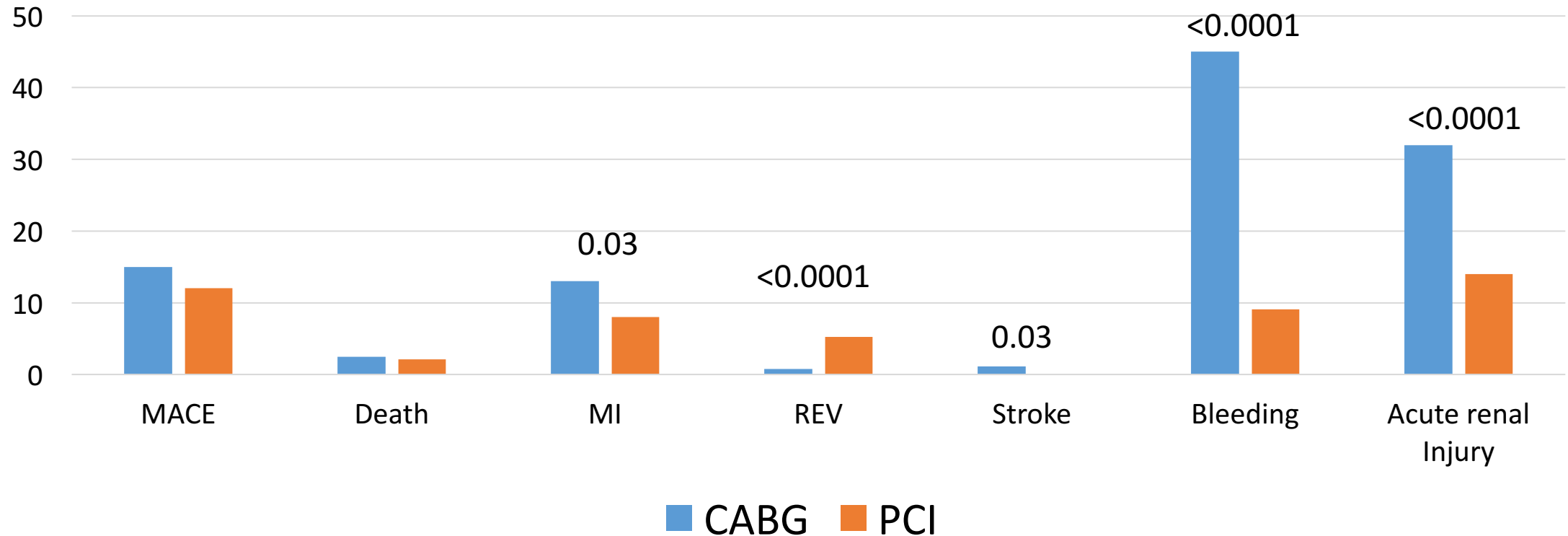
Risk of CV complications

Patient-related factors

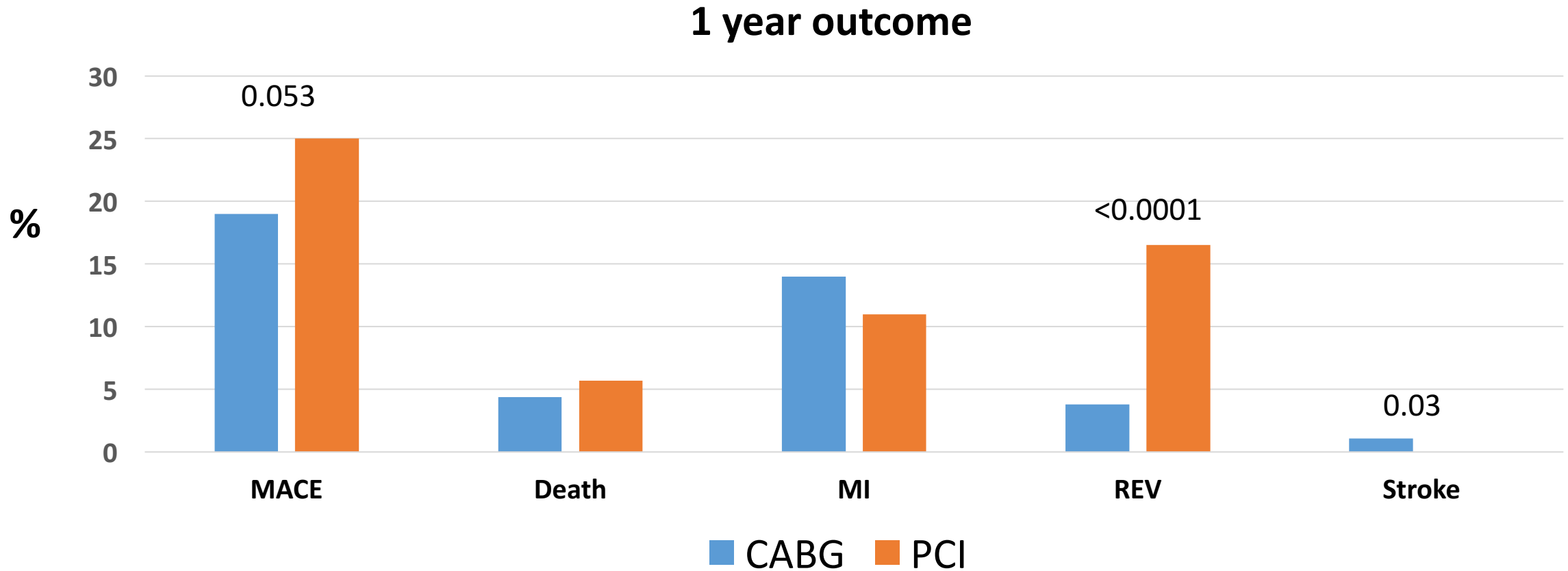
Frailty
Preference
Compliance to antiplatelet agents
Tolerance of dual antiplatelet therapy
Scheduled non-cardiac surgery
Need for anticoagulation

CABG vs PCI in patients with High Risk NSTEMI/ACS

1 months outcome



CABG vs PCI in patients with High Risk NSTEMI/ACS



characteristics. The SYNTAX score was found to be useful in the prediction of death, MI and revascularization among NSTEMI-ACS patients undergoing PCI and may help guide the choice between revascularization strategies.³⁸¹ PCI of the culprit lesion does not require a case-by-case review by the Heart Team when an ad hoc intervention is indicated based on clinical or angiographic grounds, such as ongoing ischaemia, haemodynamic instability, pulmonary oedema, recurrent ventricular arrhythmias or total occlusion of the culprit coronary artery requiring urgent revascularization. Following PCI of the culprit lesion, stabilised NSTEMI-ACS patients with multivessel CAD may be discussed within the Heart Team if delayed CABG of the non-culprit vessels is an option.

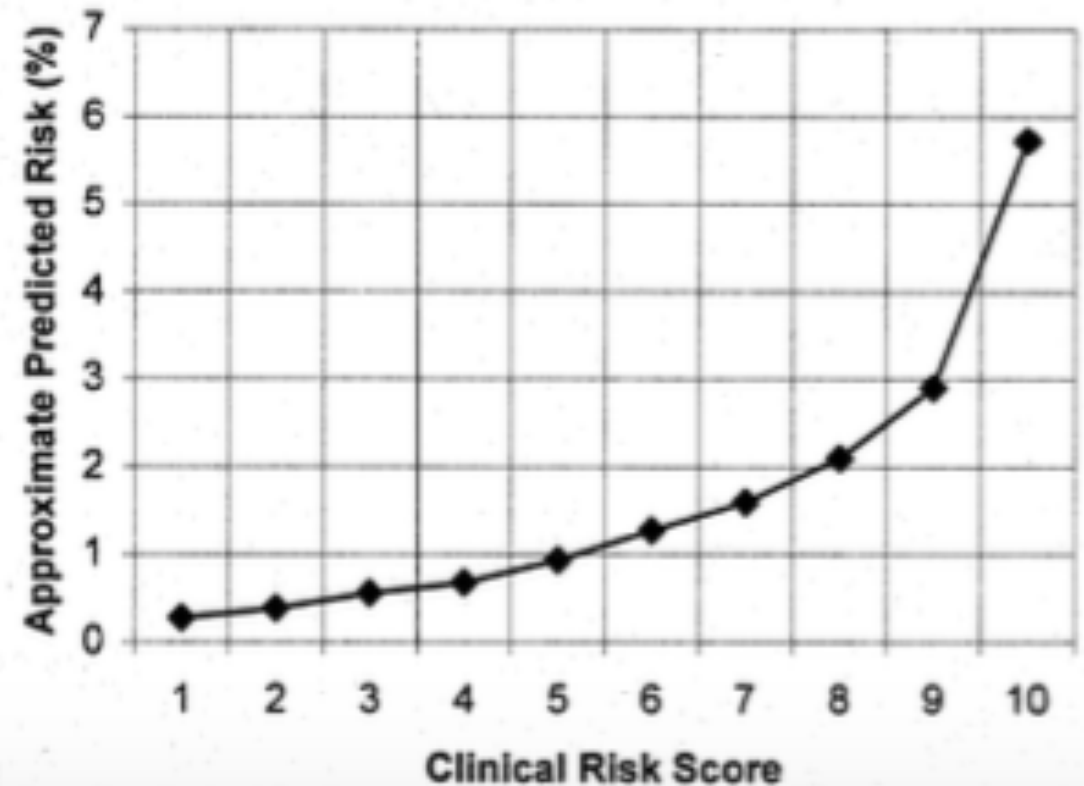
Risk of CABG related stroke

Pre-operative Calculation of Risk of Stroke in CABG Patients

For use in patients having isolated CABG surgery; not valve or aortic surgery

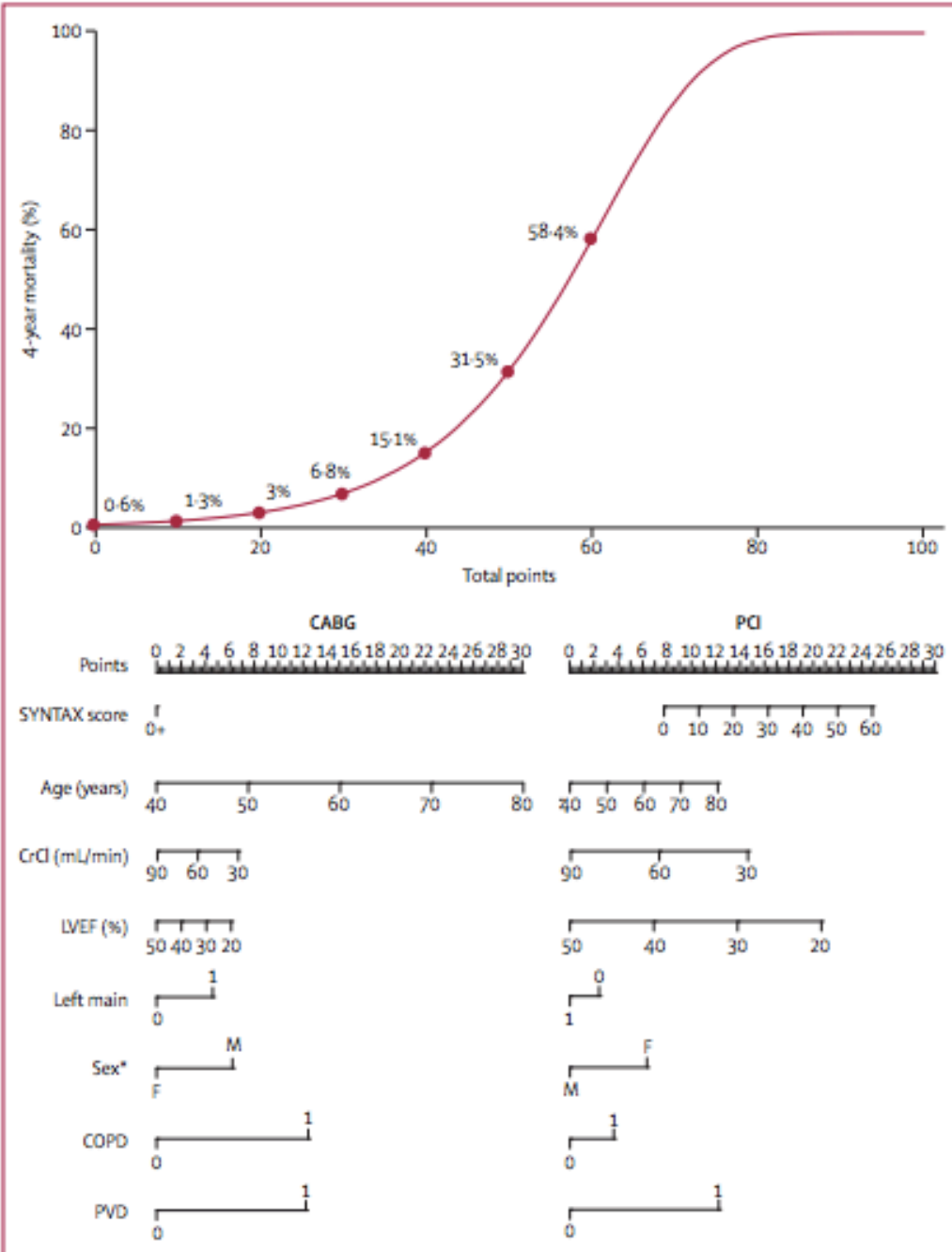
Variable	Stroke	Example
Age 55-59	1.5	(1) 80 yr. old, EF<40, Emergent. Total score = 5.5 + 1.5 + 2.5 = 9.5, look up risk on graph
Age 60-64	2.5	
Age 65-69	3.5	
Age 70-74	4	
Age 75-79	4.5	
Age ≥ 80	5.5	
Female	1	
Diabetes	1.5	
Vascular Disease	2	
Renal Failure or Creatinine ≥2mg/dl	2	
EF < 40%	1.5	
Urgent Surgery	1.5	
Emergent Surgery	2.5	

Risk Score and Predicted Probability



Northern New England Cardiovascular Disease Study Group 9/02

Anatomical and clinical characteristics to guide decision making between coronary artery bypass surgery and percutaneous coronary intervention for individual patients: development and validation of SYNTAX score II



4 year mortality favoring CABG compared to PCI

- Younger age
- Female sex
- Reduced LVEF

4 year mortality favoring PCI compared to CABG

- Older age
- COPD
- ULMCA



	Overall N=545	DM N=297	HG N=248	P-value
Revascularization, n (%)	460 (85)	236 (79)	224 (90)	0.001
PCI, n (%)	402 (87)	196 (83)	206 (92)	0.004
CABG, n (%)	38 (8.3)	31 (13)	7 (3)	<0.001
Hybrid, n (%)	5 (1.1)	1 (0.4)	4 (2)	0.16
Multistage, n (%)	15 (3)	8 (3)	7 (3.)	0.87
Percutaneous Revascularization				
• BMS, n (%)	61 (15)	22 (11)	39 (19)	0.025
• DES, n (%)	330 (82)	163 (83)	167 (81)	0.60
• BVS, n (%)	14 (4)	7 (4)	7 (4)	0.99
• DEB, n (%)	18 (5)	12 (6)	6 (3)	0.14
Surgical Revascularization				
• Arterial graft per patient (mean±SD)	1.18±0.7	1.15±0.36	1.2±0.46	0.72
Syntax Score	18.2 ± 13	18.4 ± 14.6	17 ± 11	0.59
Euroscore	10.3 ± 13.1	12.1 ± 14.2	8.2 ± 11.4	0.001
Heart Team discussion, n (%)	96 (20)	67 (23)	29 (12)	0.001
Complete revascularization, n (%)	313 (68)	154 (56)	159 (66)	0.01

BMS: bare metal stent; DES: drug eluting stent; BVS: bioresorbable vascular scaffold; DEB: drug eluting balloon; POBA: provisional optimal balloon angioplasty; DM: known diabetes; HG: hyperglycaemia (blood glucose ≥ 126 mg/dl at admission)

Conclusion

