

Stroke After PCI vs. CABG (All Pts. and Left Main Disease)

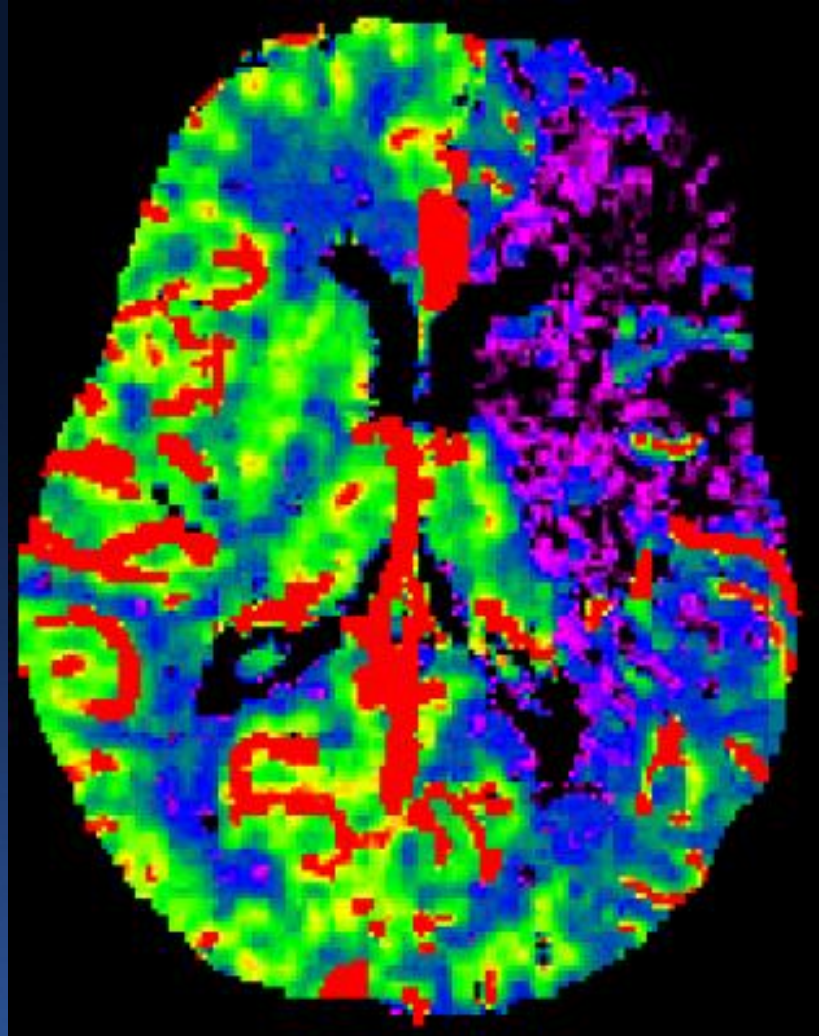
Tullio Palmerini, MD

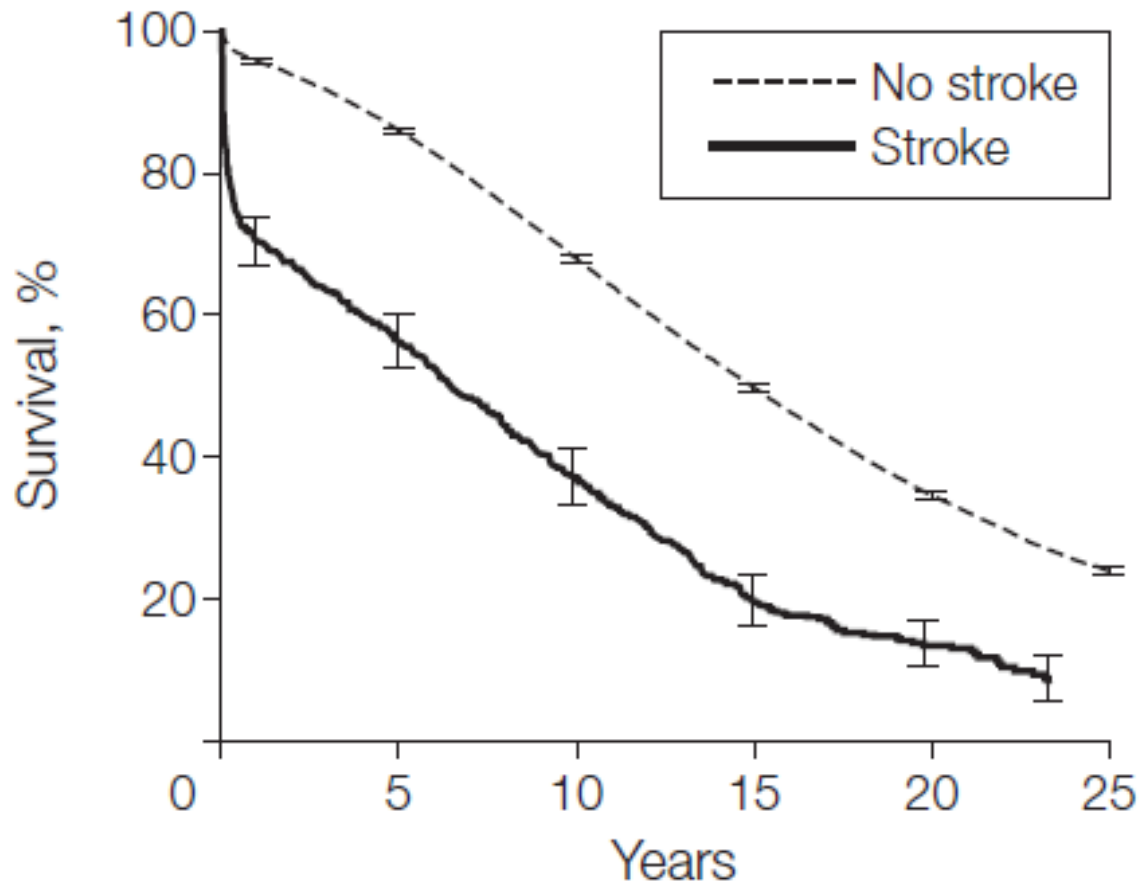
**Dipartimento Cardiovascolare, Policlinico
S. Orsola Bologna, Italy**

Disclosure Statement of Financial Interest

I, Tullio Palmerini DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

Risk of stroke: CABG vs PCI

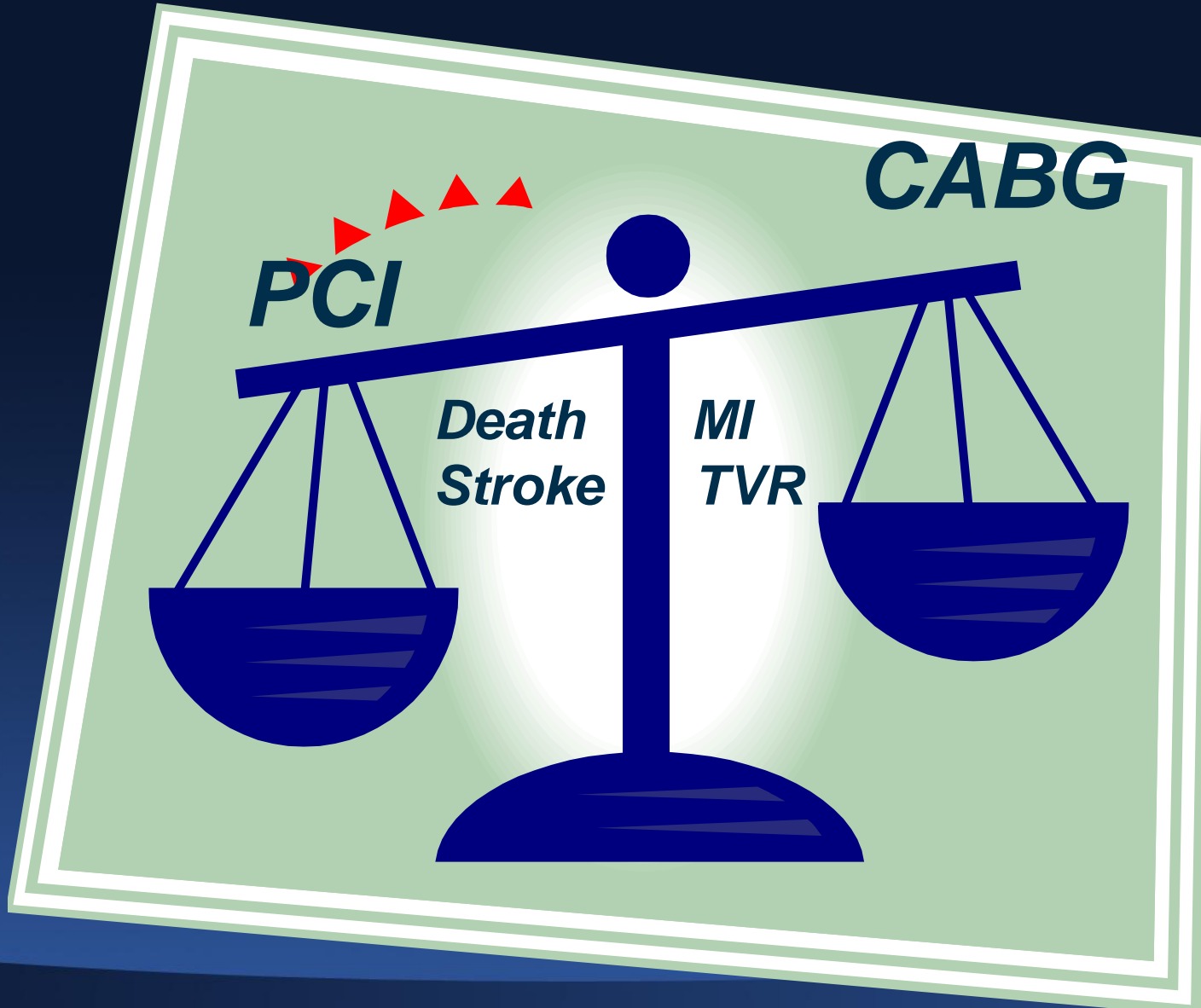




No. at risk

No stroke	44 727	32 047	21 790	12 290	5 903	1 864
Stroke	688	347	205	82	41	15

PE in RCT of PCI vs CABG



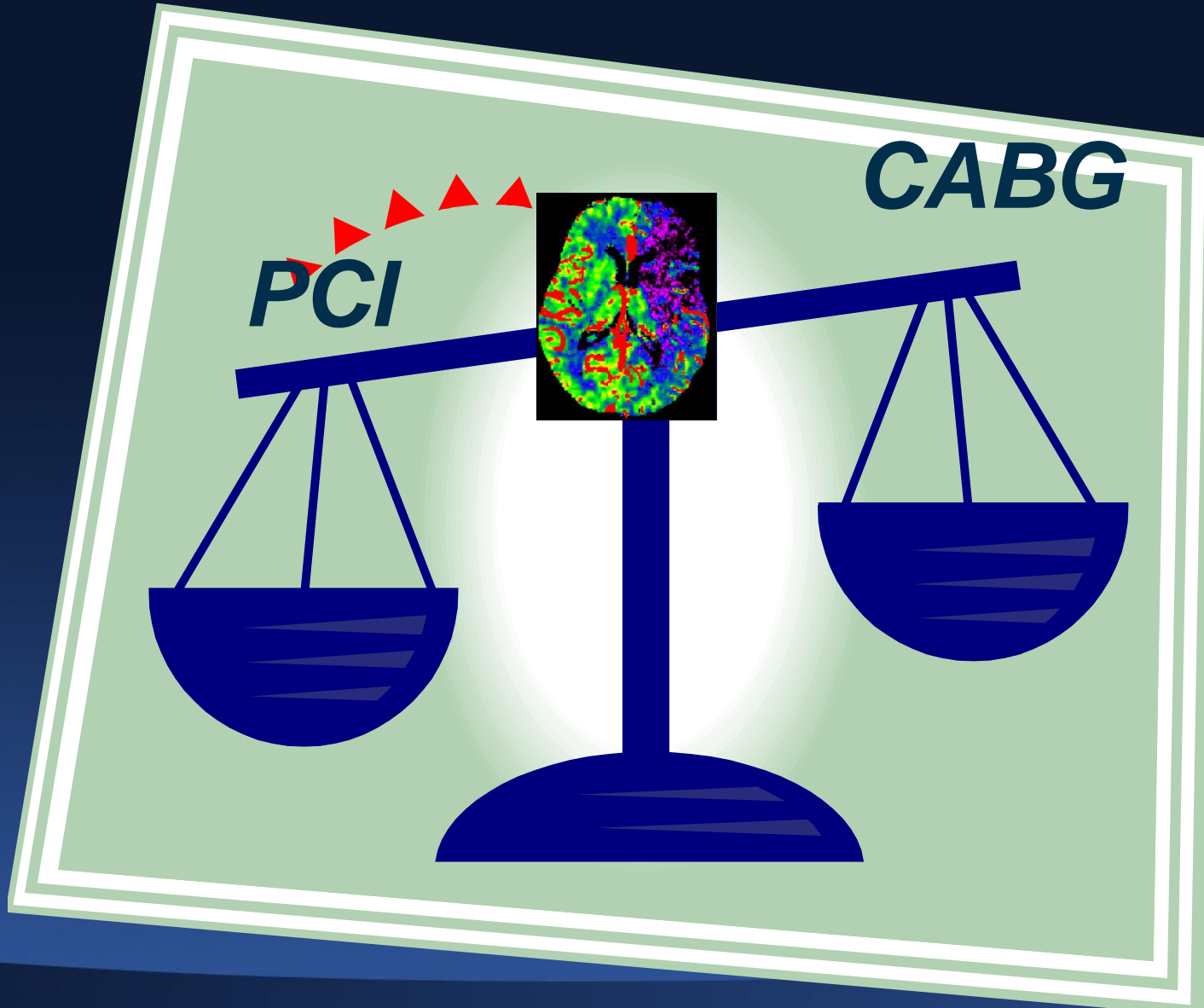
Percutaneous Coronary Intervention versus Coronary-Artery Bypass Grafting for Severe Coronary Artery Disease

Patrick W. Serruys, M.D., Ph.D., Marie-Claude Morice, M.D., A. Pieter Kappetein, M.D., Ph.D., Antonio Colombo, M.D., David R. Holmes, M.D., Michael J. Mack, M.D., Elisabeth Stähle, M.D., Ted E. Feldman, M.D., Marcel van den Brand, M.D., Eric J. Bass, B.A., Nic Van Dyck, R.N., Katrin Leadley, M.D., Keith D. Dawkins, M.D., and Friedrich W. Mohr, M.D., Ph.D., for the SYNTAX Investigators*

N Engl J Med 2009;360:961-72.

Variable	PCI <i>no./total no. (%)</i>	CABG <i>no./total no. (%)</i>	P Value	Relative Risk with PCI (95% CI)
Major adverse cardiac or cerebrovascular event				
In hospital	39/896 (4.4)	47/870 (5.4)	0.31	0.81 (0.53–1.22)
30 Days after procedure	54/895 (6.0)	45/866 (5.2)	0.45	1.16 (0.79–1.71)
6 Mo after randomization	111/893 (12.4)	85/860 (9.9)	0.09	1.26 (0.96–1.64)
12 Mo after randomization	159/891 (17.8)	105/849 (12.4)	0.002	1.44 (1.15–1.81)
Death, stroke, or MI	68/891 (7.6)	65/849 (7.7)	0.98	1.00 (0.72–1.38)
Death	39/891 (4.4)	30/849 (3.5)	0.37	1.24 (0.78–1.98)
From cardiac causes	33/891 (3.7)	18/849 (2.1)	0.05	1.75 (0.99–3.08)
From cardiovascular causes	1/891 (0.1)	3/849 (0.4)	0.36†	0.32 (0.03–3.05)
From noncardiovascular causes	5/891 (0.6)	9/849 (1.1)	0.24	0.53 (0.18–1.57)
Stroke	5/891 (0.6)	19/849 (2.2)	0.003	0.25 (0.09–0.67)
MI	43/891 (4.8)	28/849 (3.3)	0.11	1.46 (0.92–2.33)

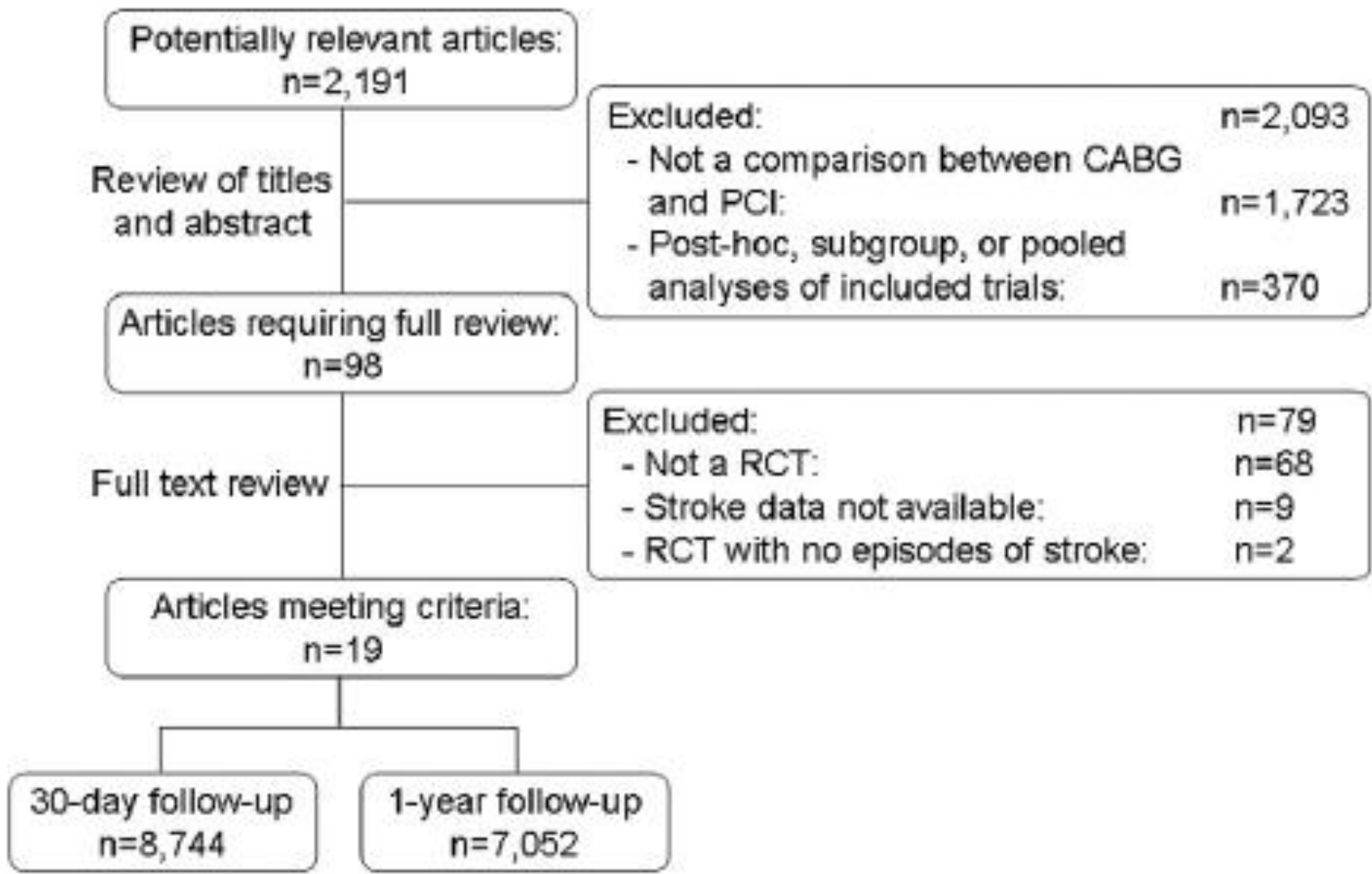
Risk of stroke: CABG vs PCI



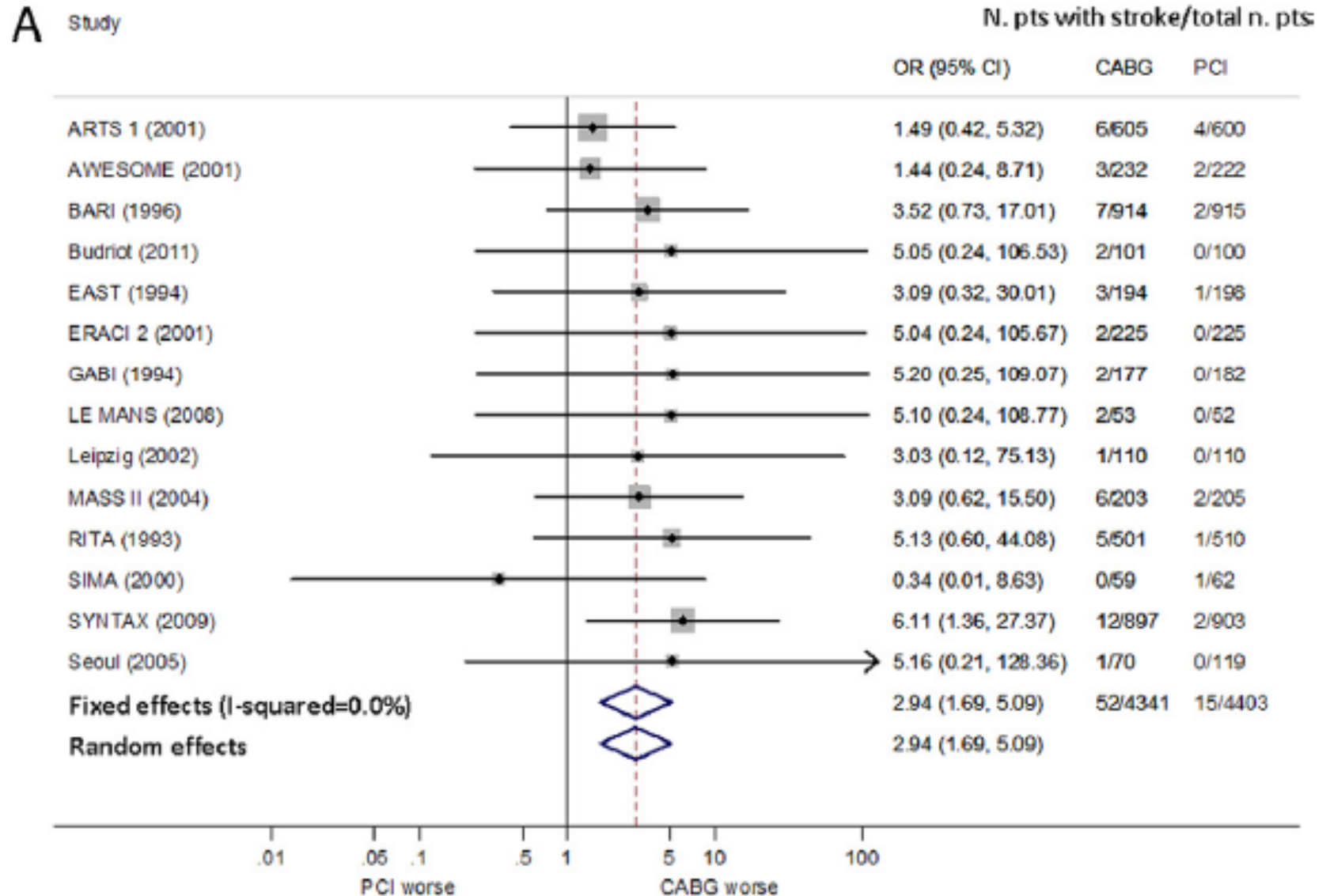
Risk of Stroke With Coronary Artery Bypass Graft Surgery Compared With Percutaneous Coronary Intervention

Tullio Palmerini, MD,* Giuseppe Biondi-Zoccai, MD,† Letizia Bacchi Reggiani, MSC,* Diego Sangiorgi, MSTAT,* Laura Alessi, MD,* Stefano De Servi, MD,‡ Angelo Branzi, MD,* Gregg W. Stone, MD§

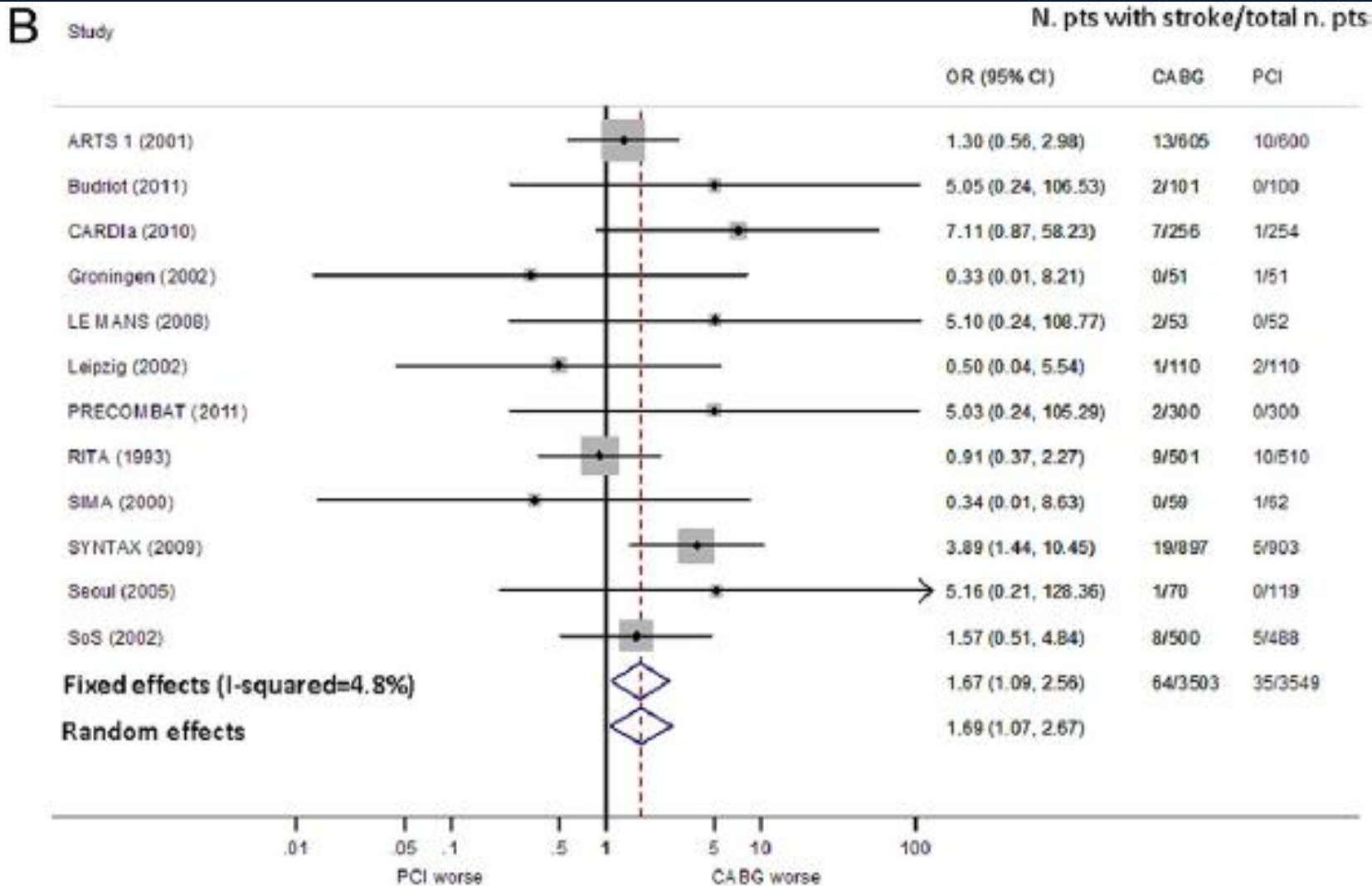
Bologna, Rome, and Legnano, Italy; and New York, New York



30-day follow up



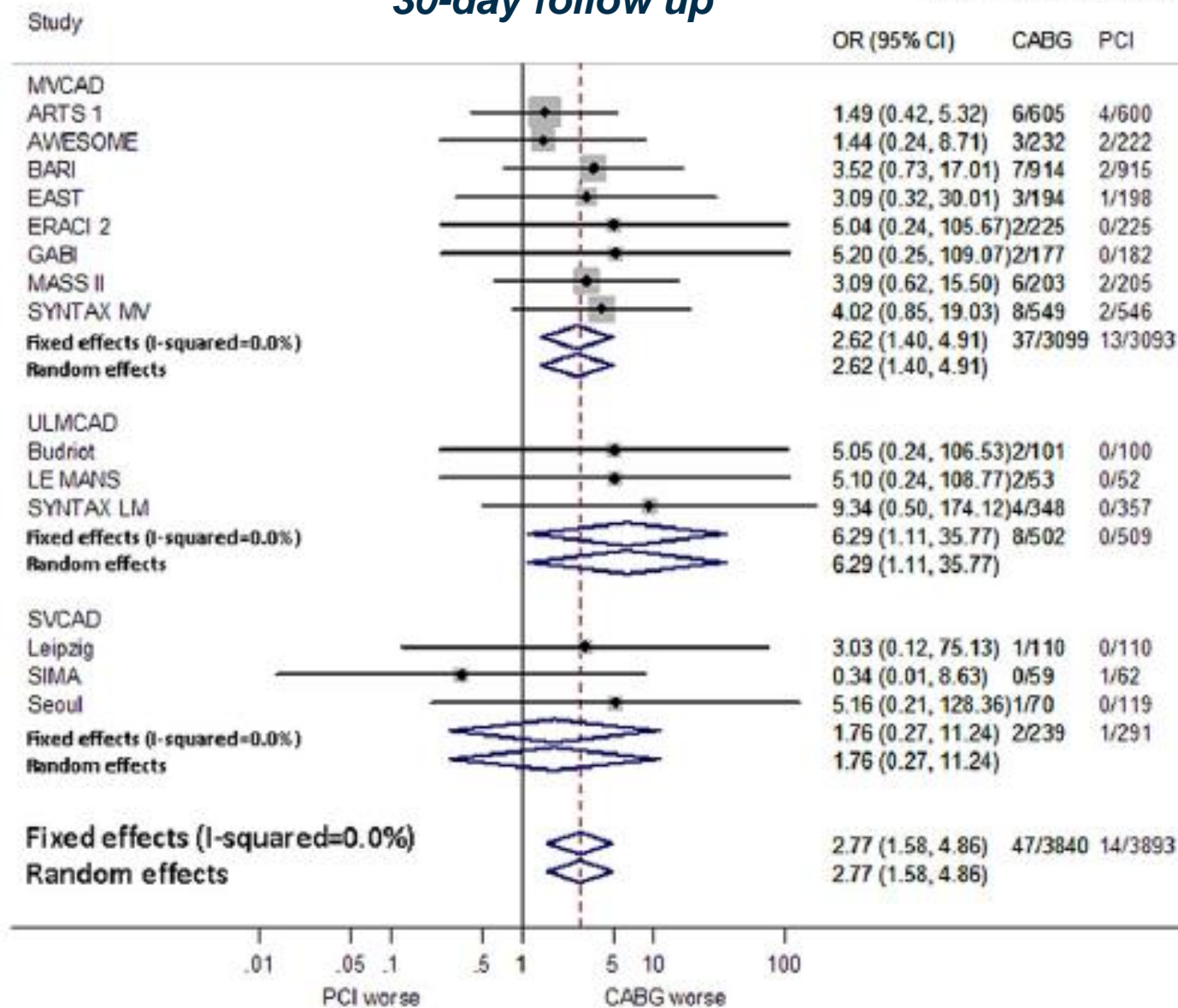
1-year follow up



A

30-day follow up

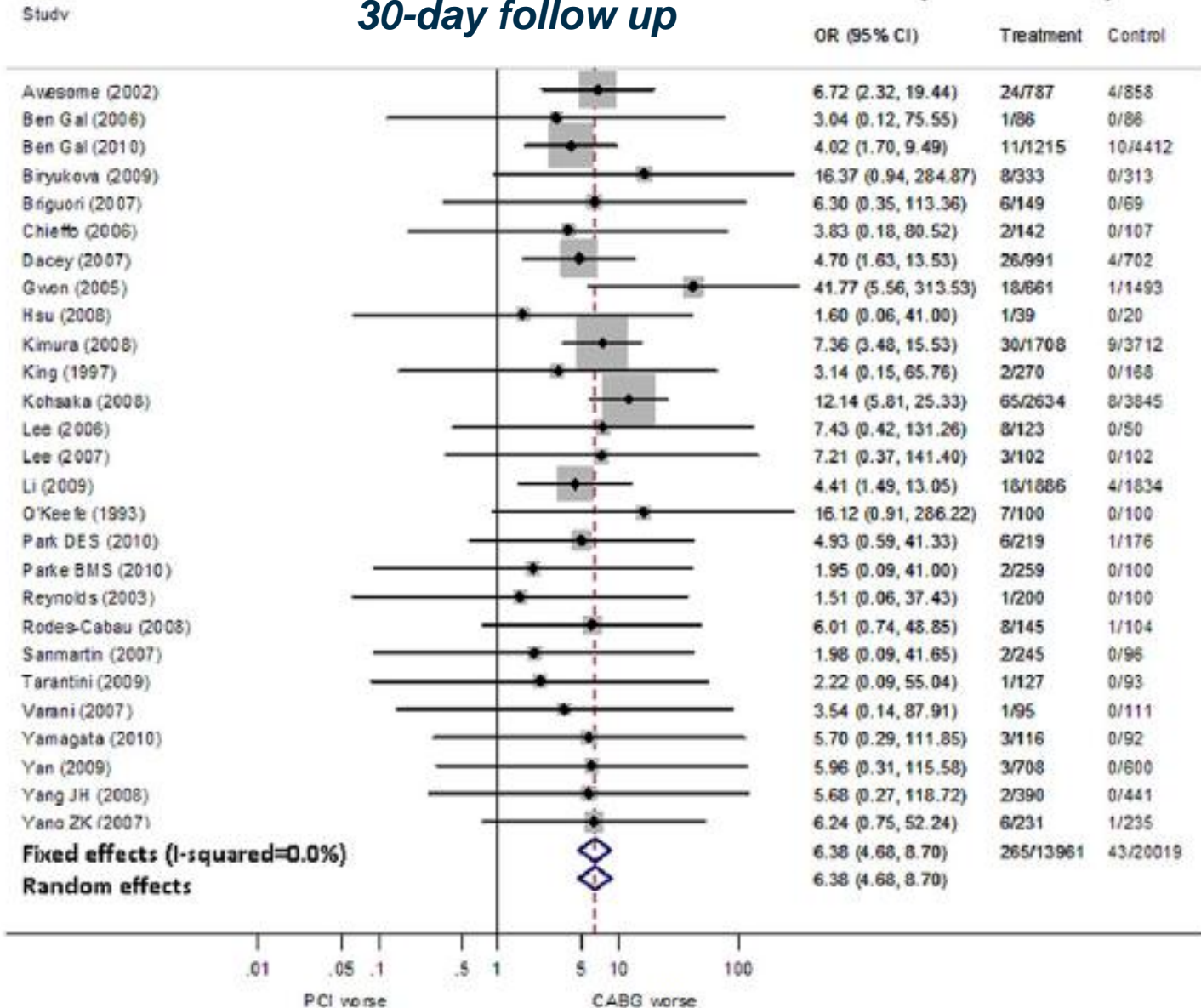
N. pts with stroke/total n. pts



A

30-day follow up

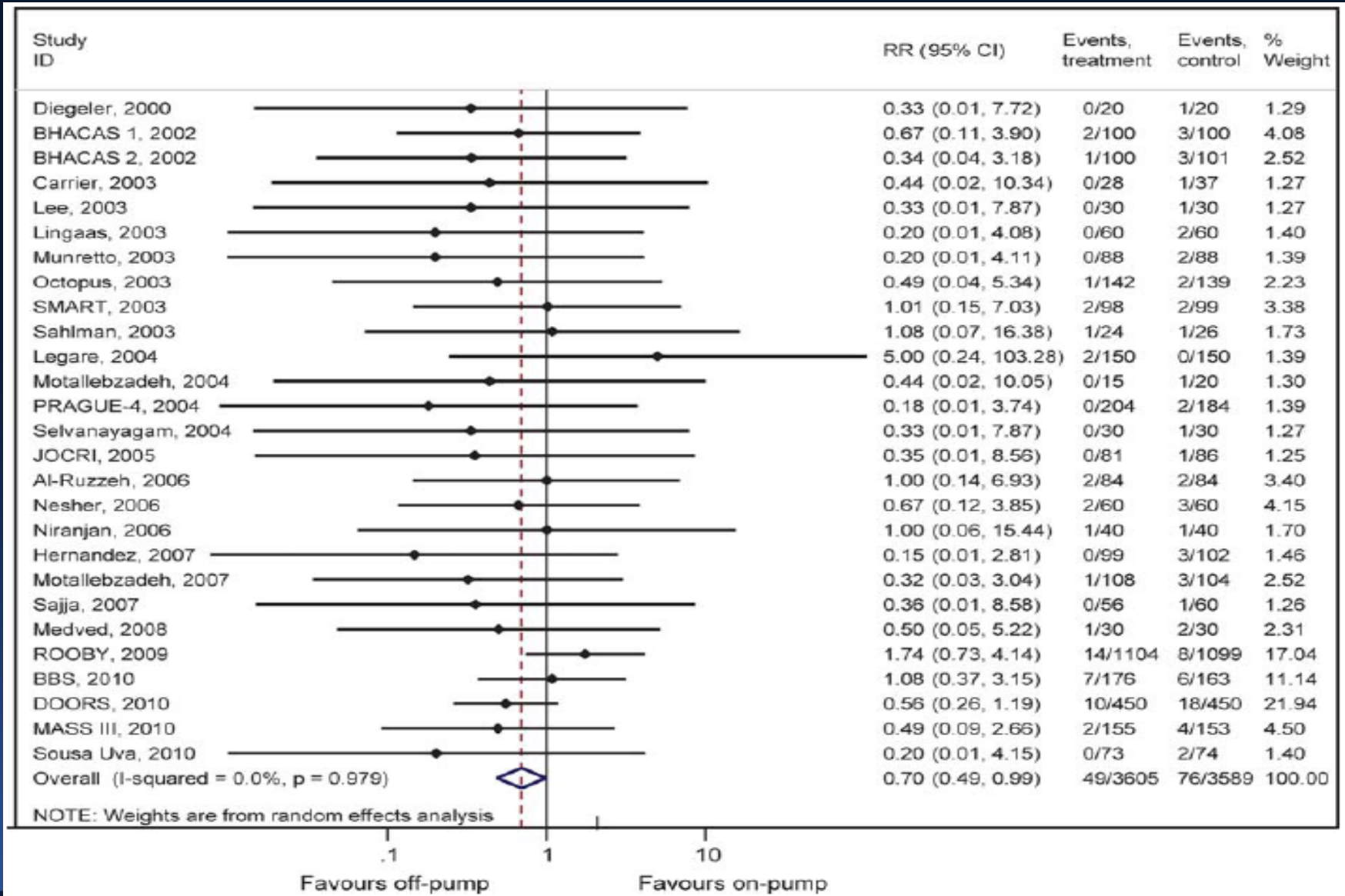
N. pts with stroke/total n. pts



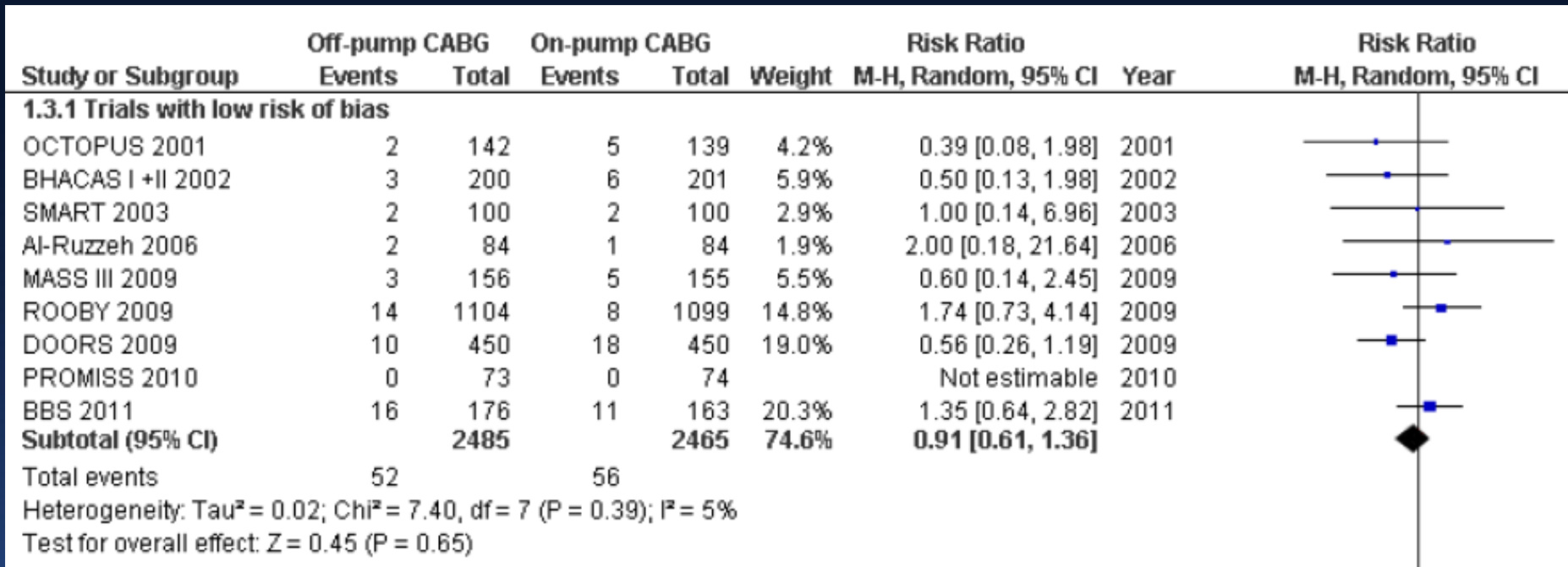
PCI vs off-pump CABG

?

Risk of stroke with on-pump vs off-pump CABG



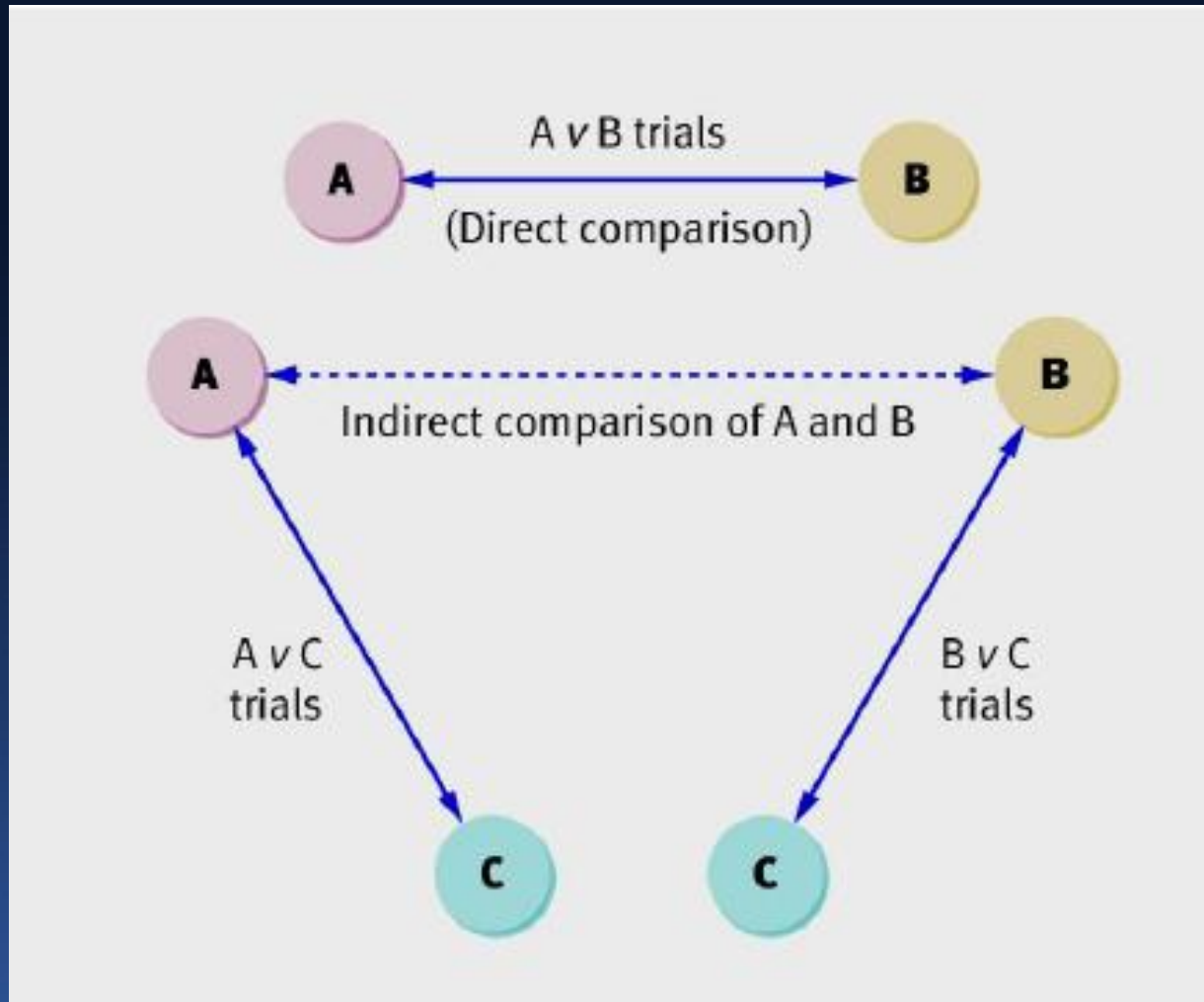
Risk of stroke with on-pump vs off- pump CABG



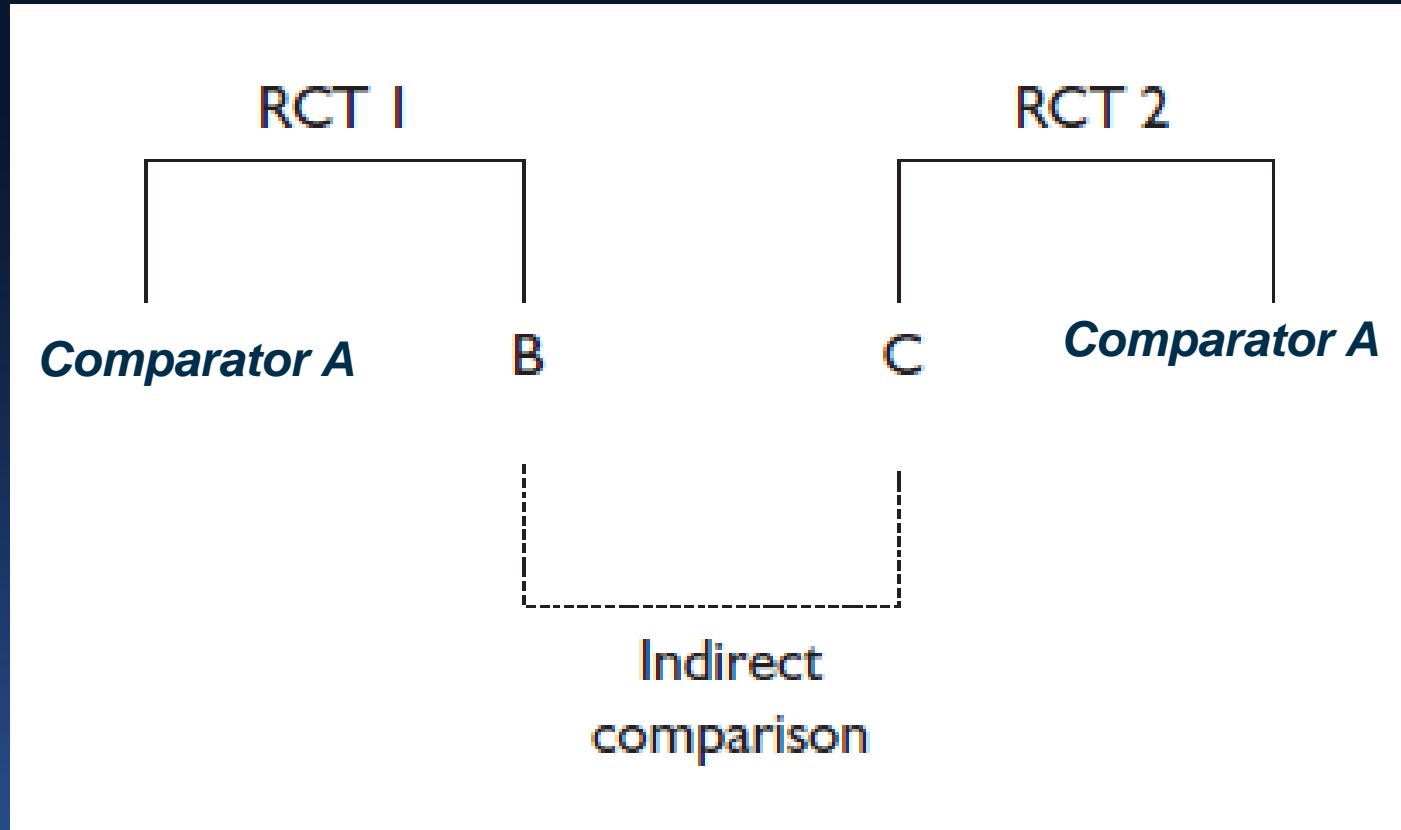
Risk of Stroke with Percutaneous Coronary Intervention Compared to On-pump and Off-pump Coronary Artery Bypass Graft Surgery: Evidence from a Comprehensive Network Meta-analysis

Tullio Palmerini, MD, Giuseppe Biondi-Zoccai, MD, Diego Della Riva, MD, Andrea Mariani, MD, Philippe Genereux, MD, Stefano De Servi, MD, Giacomo Frati, MD, Antonino G. M. Marullo, MD, PhD, Giovanni Landoni, MD; Teresa Greco, MSc; Angelo Branzi, MD, Gregg W. Stone, MD

Mixed treatment comparison



Indirect comparison



Potentially relevant articles:
n=2,666

Review of titles
and abstract

Not an RCT: n=2,153

Articles requiring full review:
n=513

Full text review

Post-hoc, subgroup, or pooled analyses
of included trials: 403

Articles meeting criteria:
n=110

RCTs not reporting 30-day
stroke rates: n=27

Articles finally included in
the meta-analysis:
n=83 (22,729 pts)

On-pump

CABG

Off-pump

CABG

66 RCTs with 13,496 patients

13 RCTs with 8,442 patients

4 RCTs with 791 patients

PCI

30-day stroke

Random effect
OR (95% CI)

PCI vs off-pump CABG



0.39 (0.19-0.83)

PCI vs on-pump CABG



0.26 (0.12-0.47)

Off-pump CABG vs on-pump CABG



0.67 (0.41-0.95)

0.1

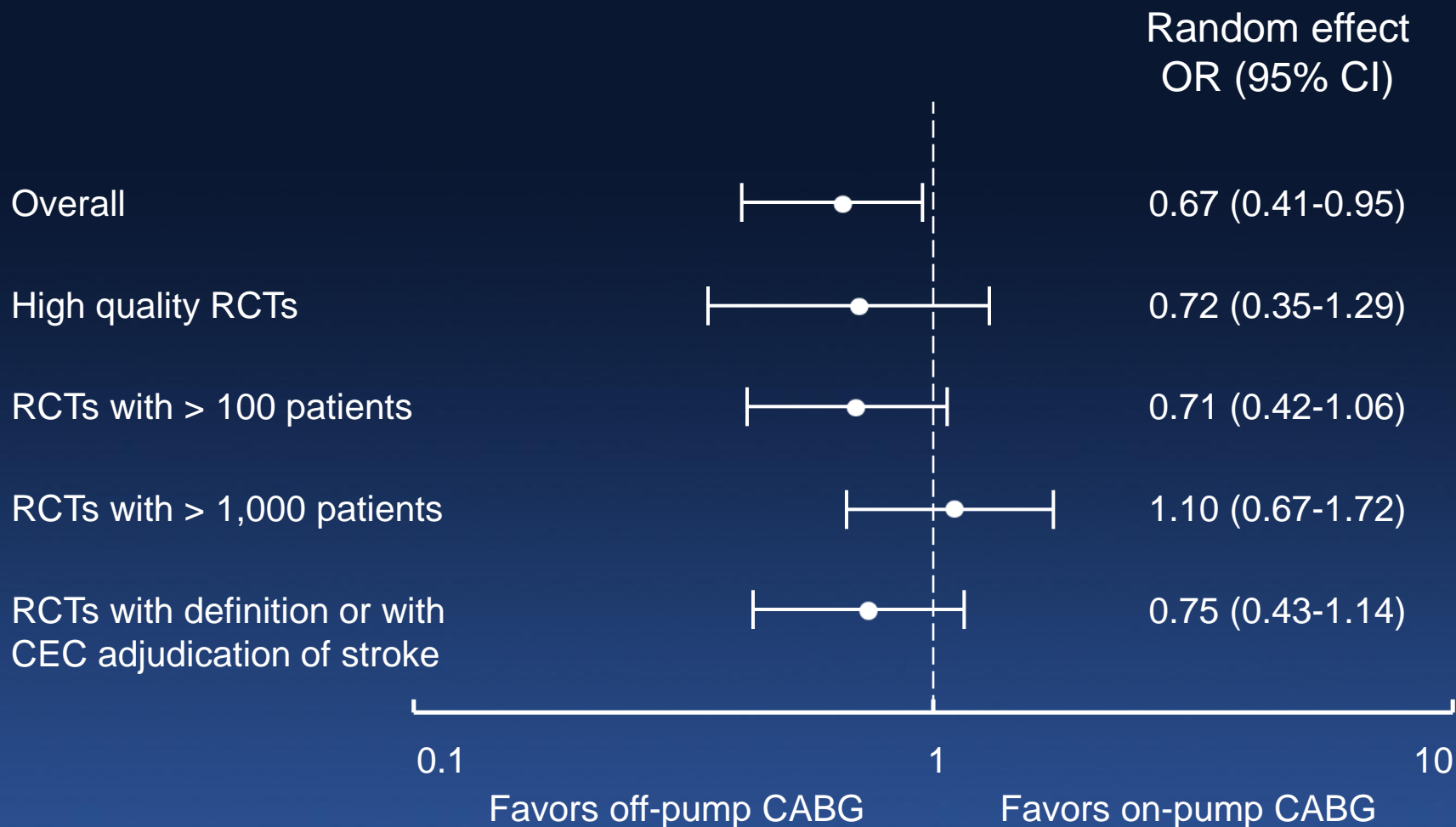
1

10

Favors treatment 1

Favors treatment 2

Sensitivity analyses



Conclusions

- Pooled data from meta-analyses suggest that PCI may be associated with lower risk of stroke than both on-pump CABG and off-pump CABG
- Although off-pump CABG seems to be associated with lower risk of stroke than on-pump CABG, this results is mainly driven by studies at high risk of bias