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# Excel and Noble Trials : What Is the Impact on Clinical Practice Two Years Later

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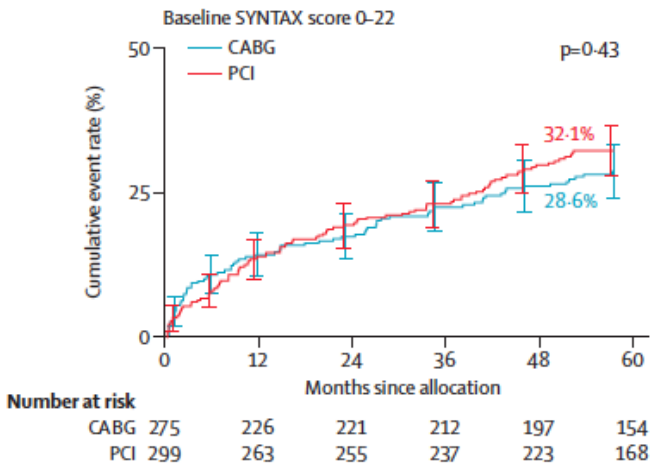
# *Before EXCEL and NOBLE…*

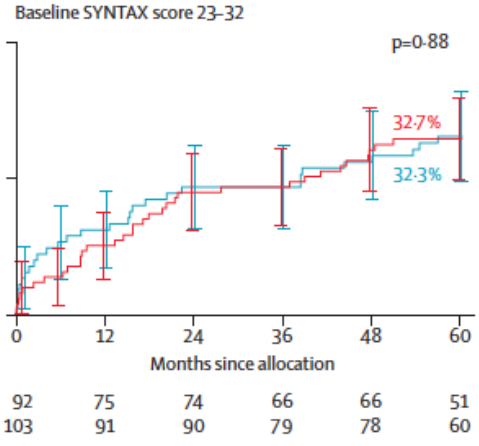
# SYNTAX Trial : LM

## 5yrs Outcome

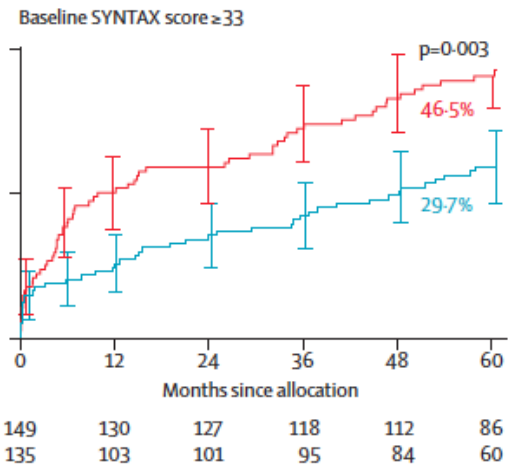
**SYNTAX Score 0-22**




**SYNTAX Score 23-32**




**SYNTAX Score ≥ 33**




Eur Heart J. 2014,35:2821-2830

**The Trial That Changed our Practice …**

# PCI vs CABG for LM Disease : 12 Meta-Analyses, 2009-2014

| Author | Journal | Year | RCT | Non-RCT | Pts | FU |
|---|---|---|---|---|---|---|

## DES vs. CABG *for LM Disease*

## *Consensus from trials and meta-analysis*

**1.Stoke is Higher in CABG.**

**2.TVR is Higher in PCI.**

**3.Outcomes of PCI with DES is Comparable with CABG in low and intermediate risk patients**

**4. CABG is superior in patients with diffuse disease**

European Heart Journal Advance Access published August 29, 2014

European Heart Journal
doi:10.1093/eurheartj/ehu278

ESC/EACTS GUIDELINES

# 2014 ESC/EACTS Guidelines on myocardial revascularization

**The Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)**

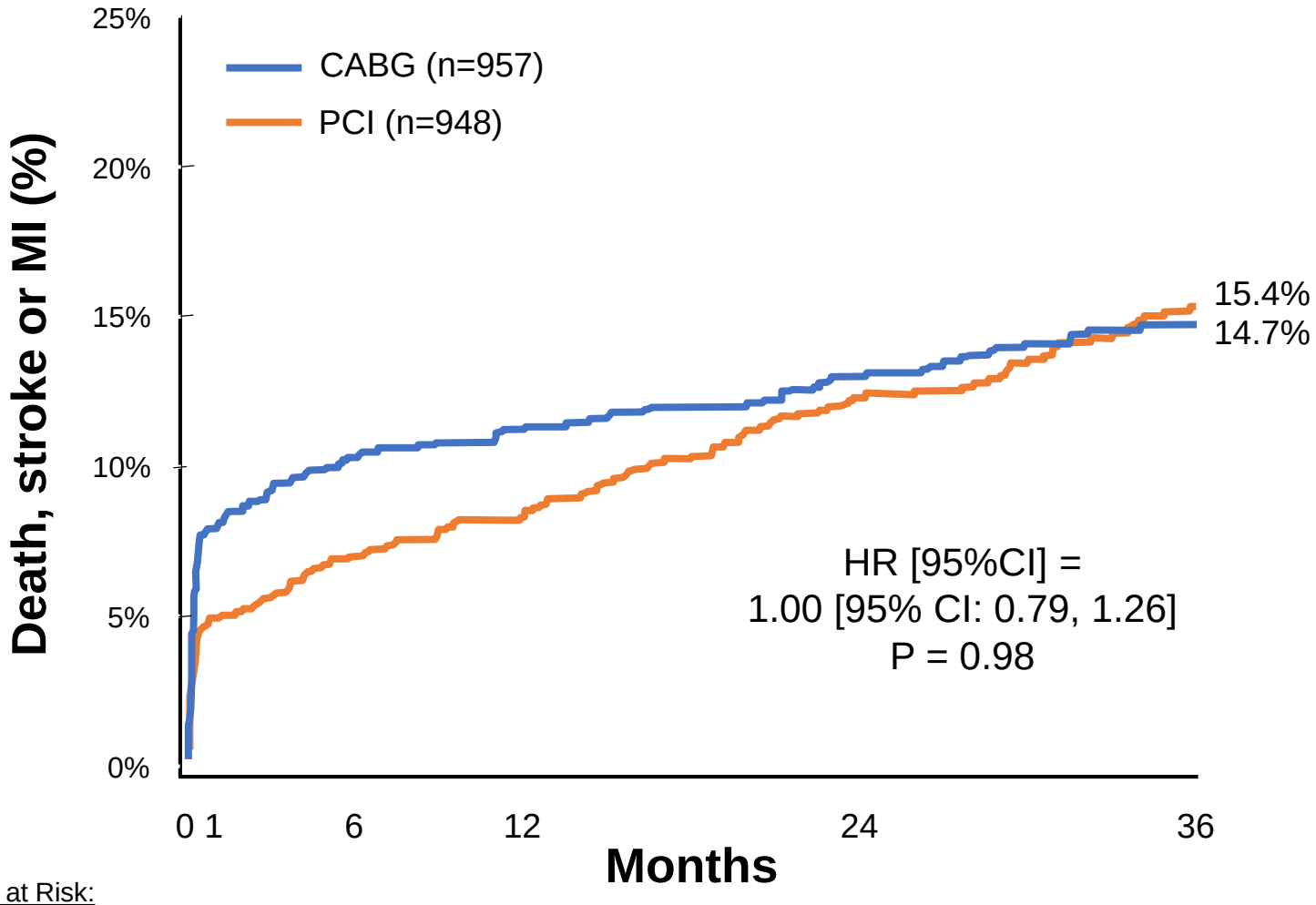
**Recommendation for the type of revascularization (CABG or PCI) in patients with SCAD with suitable coronary anatomy for both procedures and low predicted surgical mortality**

| | | | | | |
|---|---|---|---|---|---|
| Left main disease with a SYNTAX score ≤ 22. | I | B | I | B | 17,134,170 |
| Left main disease with a SYNTAX score 23–32. | I | B | IIa | B | 17 |
| Left main disease with a SYNTAX score >32. | I | B | III | B | 17 |

CABG = coronary artery bypass grafting; LAD = left anterior descending coronary artery; PCI = percutaneous coronary intervention; SCAD = stable coronary artery disease.
[a]Class of recommendation.
[b]Level of evidence.
[c]References.

# Primary Endpoint

## Death, Stroke or MI at 3 Years




No. at Risk:

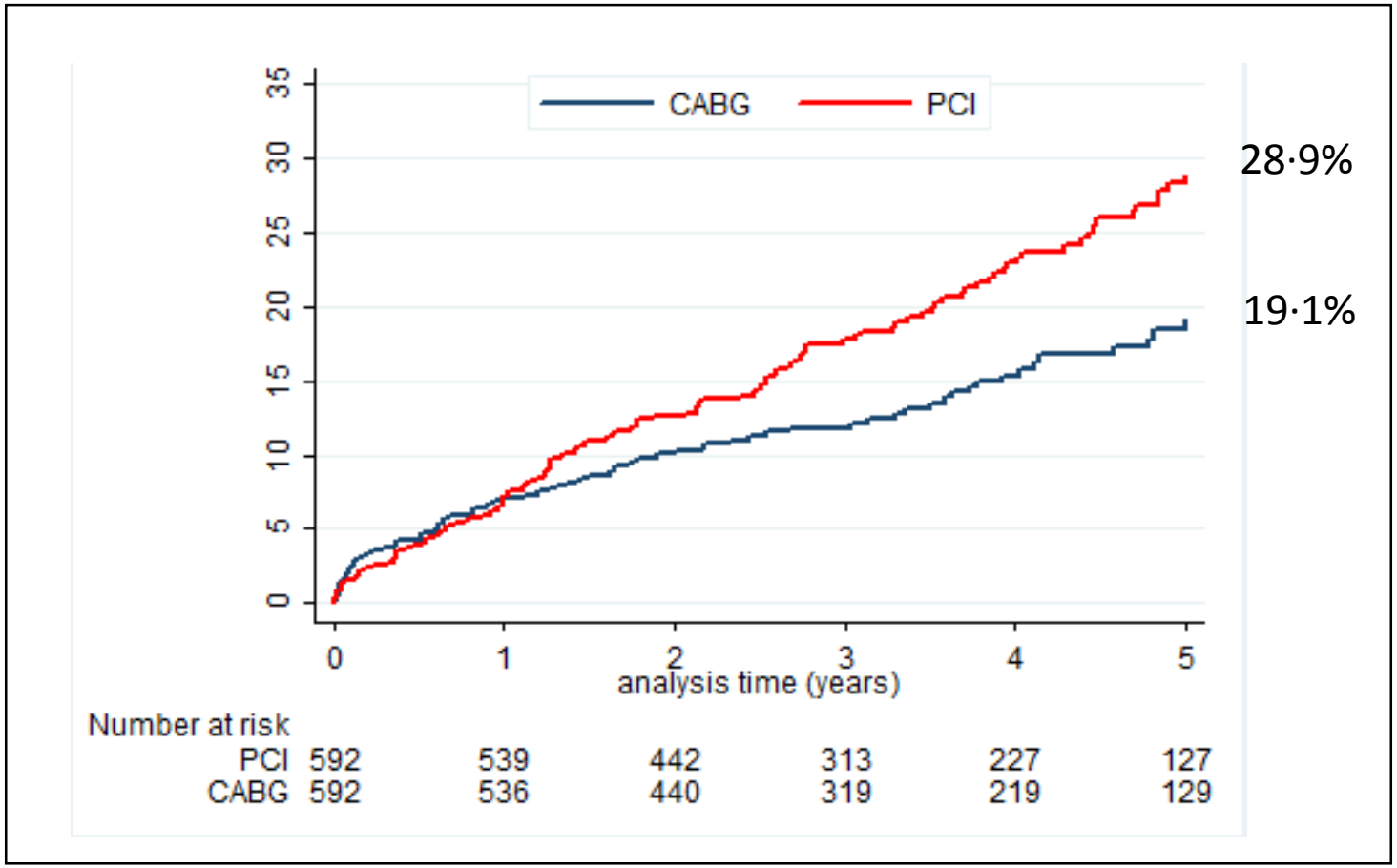
| | | | | | | |
|---|---|---|---|---|---|---|
| PCI | 948 | 896 | 875 | 850 | 784 | 445 |
| CABG | 957 | 868 | 836 | 817 | 763 | 458 |

GW Stone et al; N Engl J Med. 2016;375:2223–2235

NOBLE

# Primary endpoint: MACCE

## (All cuase-Mortality, Non-procedural MI, RR, Stroke )




T. Makikallio et al; Lancet. 2016;388:2743–2752

# EXCEL and NOBLE Trials : Similarities and Diferences

| Variables | NOBLE trial | EXCEL trial |
|---|---|---|
| Trial design | | |
| Patient characteristics | STEMI within 24 h excluded | All ACS eligible |
| Anatomic characteristics | ULMCAD stenosis >50% or FFR<0.80; no more than 3 additional lesion or complex addition lesion | ULMCAD stenosis >70% or if 50–70% then FFR<0.80; SYNTAX <32 |
| Primary endpoint | Death, spontaneous MI, stroke or revascularization | Death, any MI or stroke |
| Geographic region | 100% Europe | 56% Europe, 40% North America, 4% Other* |
| Sample size | 1,201 | 1,905 |
| Median follow-up time | 3.1 years | 3.0 years |
| Study population | | |
| SYNTAX score | 22.5±7.5 | 20.6±6.2 |
| ACS | 18% | 15% (1.4% STEMI) |
| LVEF | 60% (IQR 55–65%) | 57%±10% |
| Diabetes | PCI group: 15%; CABG group: 15% | PCI group: 32.2%; CABG group: 28.0% |
| Procedural characteristics | | |
| Stent used | 89% biolimus-eluting stent (BIOMATRIX™), 11% 1st Gen DES | 100% everolimus-eluting stent (XIENCE™) |
| Distal/bifurcation disease | 81% | 81% |
| IVUS guidance | Pre-stent evaluation: 47%; post-stent evaluation: 77% | IVUS guidance: 77% |
| 2-stents used | 37% | NR |
| 2-stent technique | Culotte: 24%; crush: 4%; other: 9% | NR |
| LIMA to LAD | 96% | 98.8% |
| Only arterial grafts used | 14.3% | 24.8% |

Holmes AA, Bangalore S. J Thorac Dis 2017;9(5):E451-E456.

# EXCEL and NOBLE Trials : Similarities and Diferences

| Variables | NOBLE trial | EXCEL trial |
|---|---|---|
| Trial design | | |
| Results: PCI *vs.* CABG | | |
| Primary endpoint | Favors CABG | No difference |
| All-cause-mortality | No difference | No difference |
| Cardiac mortality | No difference | No difference |
| Total MI | NR | No difference |
| Spontaneous MI | Favors CABG | No difference |
| Stroke | No difference | No difference |
| Total revascularization | Favors CABG | Favors CABG |
| Target-lesion revascularization | No difference | No difference |
| LMCA revascularization | No difference | NR |
| Stent thrombosis | 2%†, 0.8% (BIOMATRIX™ DES only)† | 0.7%‡ |

Holmes AA, Bangalore S. J Thorac Dis 2017;9(5):E451-E456.

# *After EXCEL and NOBLE : 2016 ……*

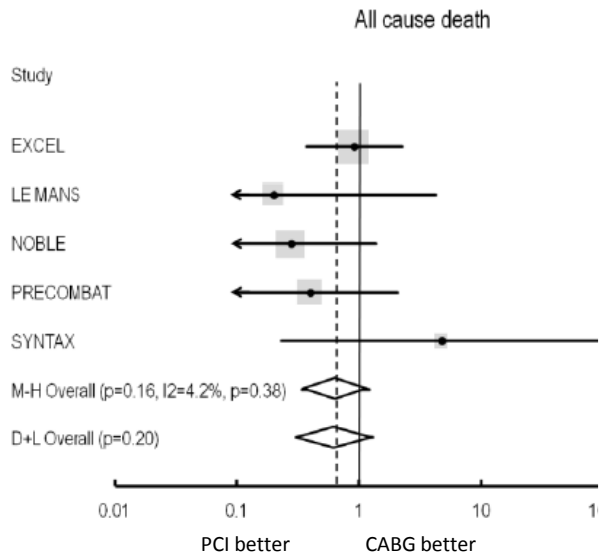
# Summary of Major Clinical Trials Endpoints Evaluating PCI vs CABG for Management of Unprotected Left Main Coronary Artery Disease

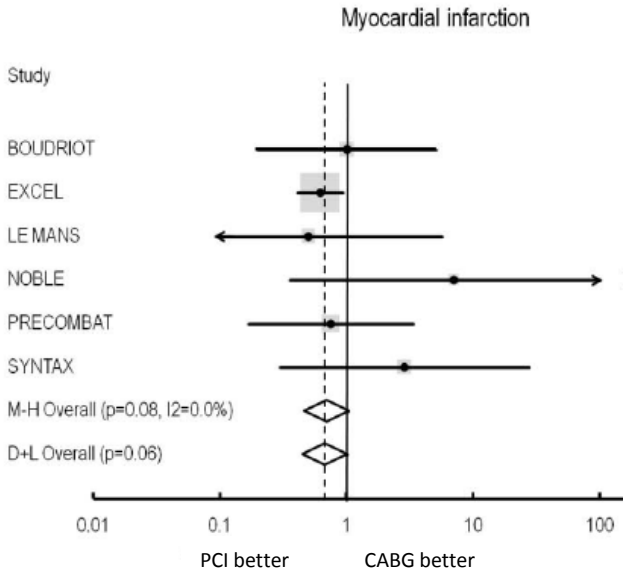
- No difference in mortality between the two treatment strategies
- Meta-analysis including the SYNTAX, PRECOMBAT, Buodriot et al., NOBLE and EXCEL show no difference in safety endpoints.
- In patients with high-risk anatomy with LM and MV disease CABG is clearly the better strategy with superior long-term outcomes.
- Patients with low or intermediate risk anatomy (SYNTAX score ≤32 ) either PCI or CABG are reasonable with PCI being associated with less morbidity, hospital stays and lower stroke rates in the periprocedural period but with higher TLR over time despite use of II generation DES, intravscualr imaging, procedural techniques and medical therapy.

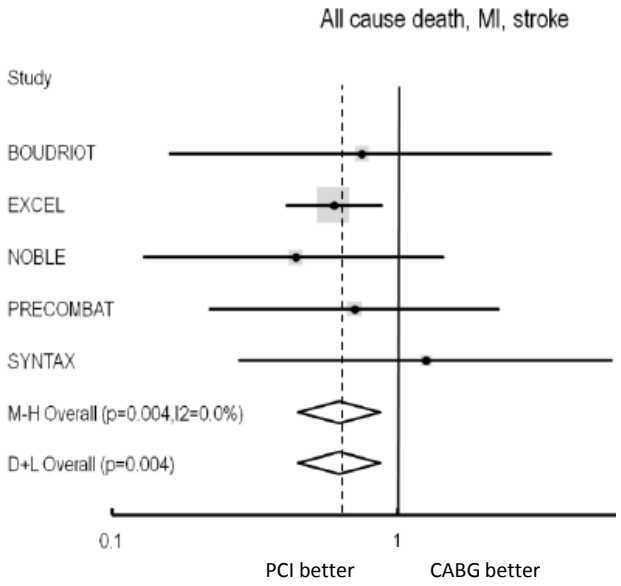
N. Borges, S.R Kapadia and SG Ellis: *Interventional Cardiology Review* 2017;12(2):92–6

# PCI vs CABG for LM – a Meta-Analysis of Six Randomized Trials and 4,686 pts

## 30-day outcomes



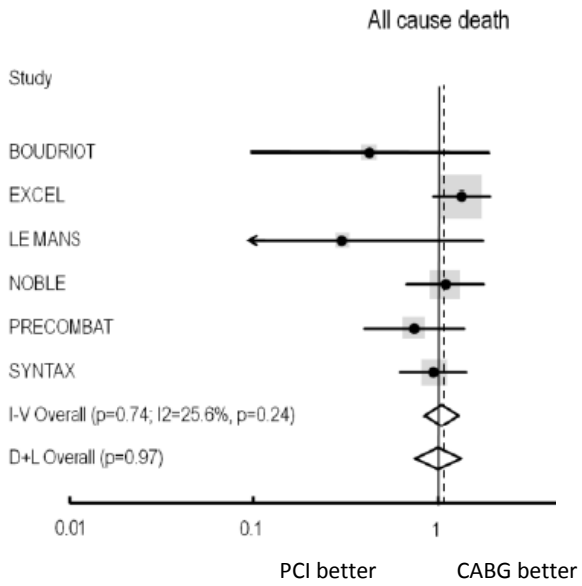



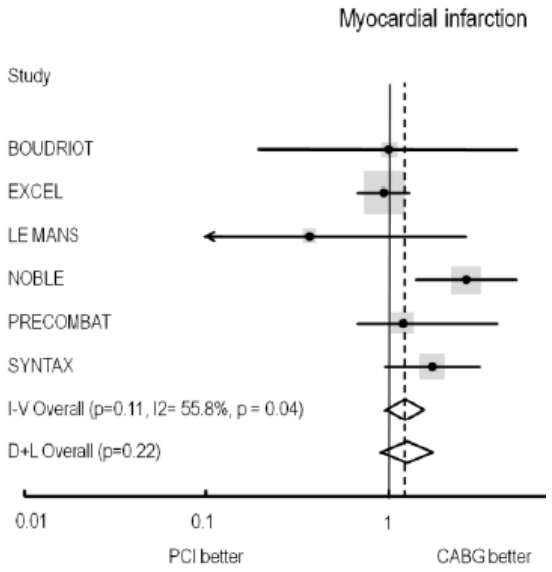



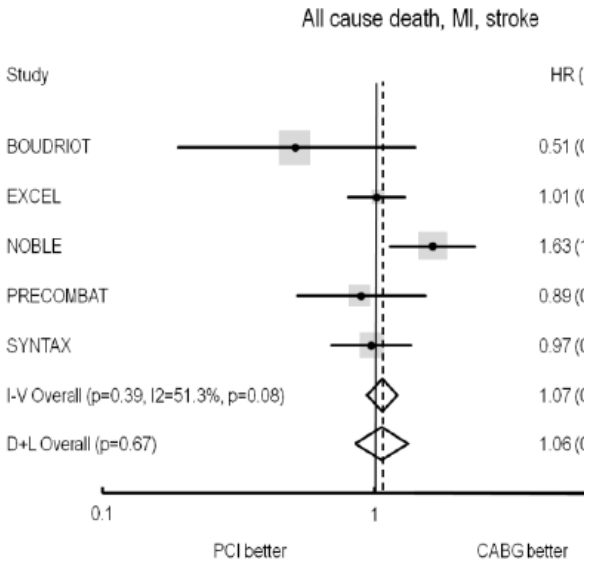

Palmerini T et al. *Am Heart J* 2017

# PCI vs CABG for LM – a Meta-Analysis of Six Randomized Trials and 4,686 pts

## Long Term outcomes

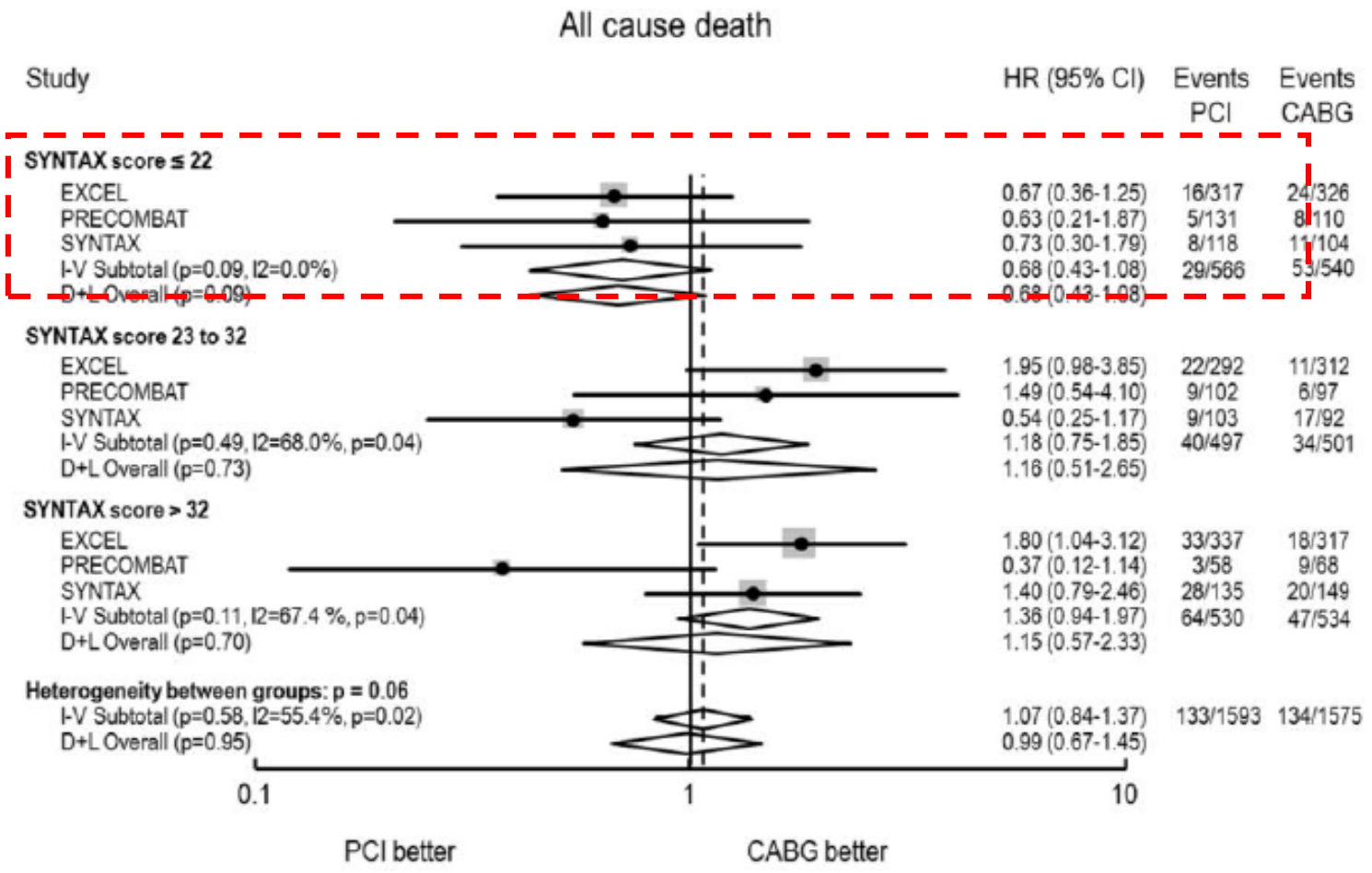



Palmerini T et al. *Am Heart J* 2017

# PCI vs CABG for LM – a Meta-Analysis of Six Randomized Trials and 4,686 pts

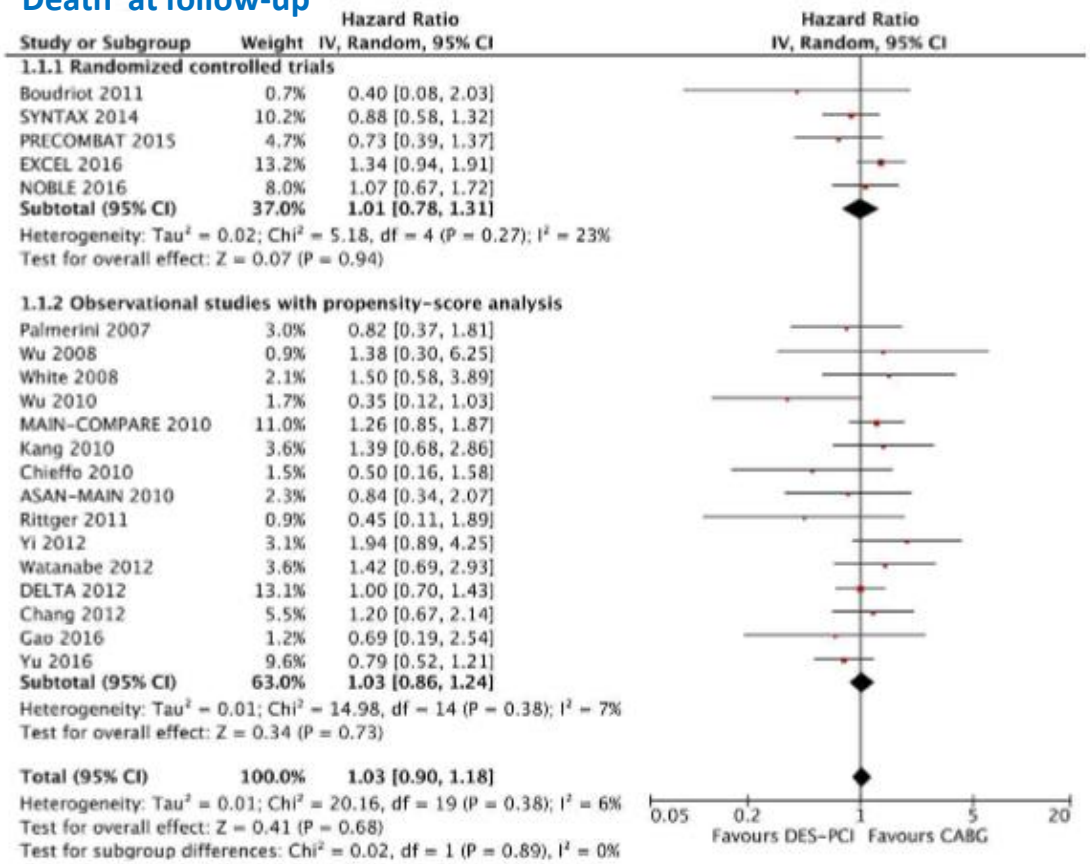



Palmerini T et al. *Am Heart J* 2017

# Drug-eluting stents versus coronary artery bypass grafting for left-main coronary artery disease

Hisato Takagi, MD, PhD[1] | Tomo Ando, MD[2] | Takuya Umemoto, MD, PhD[1] |
for the ALICE (All-Literature Investigation of Cardiovascular Evidence) Group

## Death at follow-up




*Catheter Cardiovasc Interv. 2018;91:697–709.*

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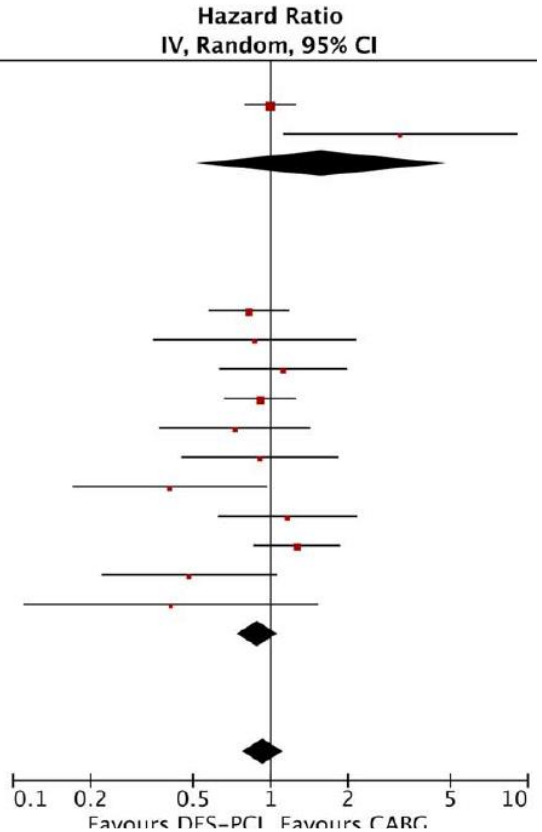
## Composite of death / MI at follow-up

| Study or Subgroup | Weight | Hazard Ratio IV, Random, 95% CI |
|---|---|---|
| **1.8.1 Randomized controlled trials** | | |
| EXCEL 2016 | 19.1% | 1.00 [0.79, 1.26] |
| Boudriot 2011 | 2.7% | 3.19 [1.12, 9.09] |
| **Subtotal (95% CI)** | **21.8%** | **1.59 [0.52, 4.84]** |
| Heterogeneity: $Tau^2 = 0.53$; $Chi^2 = 4.51$, df = 1 (P = 0.03); $I^2 = 78\%$ | | |
| Test for overall effect: Z = 0.81 (P = 0.42) | | |
| **1.8.2 Observational studies with propensity-score analysis** | | |
| Yu 2016 | 13.3% | 0.83 [0.58, 1.18] |
| Gao 2016 | 3.5% | 0.87 [0.35, 2.15] |
| Chang 2012 | 7.3% | 1.12 [0.63, 1.99] |
| DELTA 2012 | 14.7% | 0.91 [0.66, 1.26] |
| CUSTOMIZE 2011 | 5.7% | 0.73 [0.37, 1.43] |
| ASAN-MAIN 2010 | 5.3% | 0.91 [0.45, 1.83] |
| Chieffo 2010 | 3.7% | 0.41 [0.17, 0.97] |
| Kang 2010 | 6.4% | 1.17 [0.63, 2.17] |
| MAIN-COMPARE 2010 | 12.2% | 1.27 [0.86, 1.87] |
| Wu 2008 | 4.4% | 0.48 [0.22, 1.06] |
| Ghenim 2009 | 1.8% | 0.41 [0.11, 1.53] |
| **Subtotal (95% CI)** | **78.2%** | **0.89 [0.74, 1.07]** |
| Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 11.81$, df = 10 (P = 0.30); $I^2 = 15\%$ | | |
| Test for overall effect: Z = 1.25 (P = 0.21) | | |
| **Total (95% CI)** | **100.0%** | **0.93 [0.78, 1.12]** |
| Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 17.53$, df = 12 (P = 0.13); $I^2 = 32\%$ | | |
| Test for overall effect: Z = 0.77 (P = 0.44) | | |

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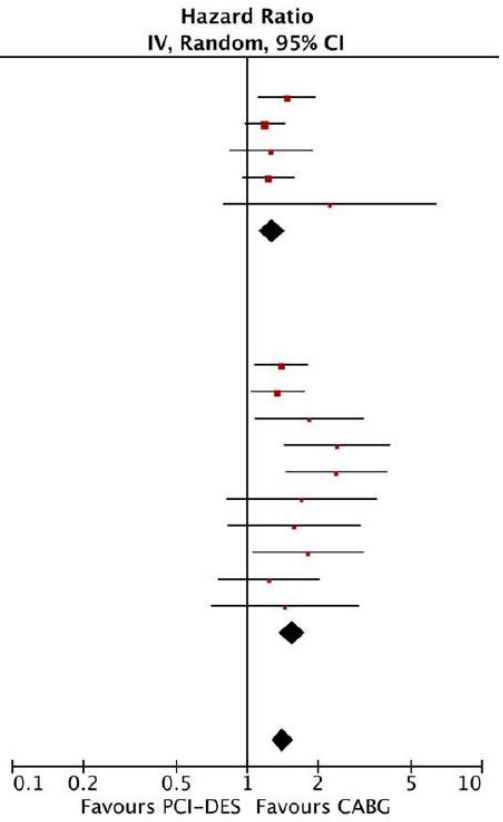
**Composite of death / MI, and TLR at follow-up**

| Study or Subgroup | Weight | Hazard Ratio IV, Random, 95% CI |
|---|---|---|
| **1.9.1 Randomized controlled trials** | | |
| NOBLE 2016 | 11.1% | 1.48 [1.11, 1.96] |
| EXCEL 2016 | 18.7% | 1.19 [0.97, 1.45] |
| PRECOMBAT 2015 | 6.0% | 1.26 [0.84, 1.90] |
| SYNTAX 2014 | 13.0% | 1.23 [0.95, 1.59] |
| Boudriot 2011 | 1.0% | 2.25 [0.79, 6.40] |
| **Subtotal (95% CI)** | **49.8%** | **1.27 [1.12, 1.45]** |
| Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 2.72$, df = 4 (P = 0.61); $I^2 = 0\%$ | | |
| Test for overall effect: Z = 3.64 (P = 0.0003) | | |
| **1.9.2 Observational studies with propensity-score analysis** | | |
| Yu 2016 | 12.4% | 1.39 [1.07, 1.82] |
| DELTA 2012 | 12.2% | 1.35 [1.03, 1.76] |
| Watanabe 2012 | 3.6% | 1.83 [1.07, 3.13] |
| Yi 2012 | 3.8% | 2.41 [1.43, 4.07] |
| CUSTOMIZE 2011 | 4.1% | 2.39 [1.45, 3.94] |
| Rittger 2011 | 2.0% | 1.70 [0.81, 3.57] |
| Chieffo 2010 | 2.5% | 1.58 [0.82, 3.05] |
| Kang 2010 | 3.5% | 1.81 [1.05, 3.13] |
| Wu 2010 | 4.1% | 1.24 [0.75, 2.04] |
| White 2008 | 2.0% | 1.45 [0.70, 3.00] |
| **Subtotal (95% CI)** | **50.2%** | **1.56 [1.36, 1.78]** |
| Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 8.86$, df = 9 (P = 0.45); $I^2 = 0\%$ | | |
| Test for overall effect: Z = 6.28 (P < 0.00001) | | |
| **Total (95% CI)** | **100.0%** | **1.42 [1.28, 1.58]** |
| Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 15.86$, df = 14 (P = 0.32); $I^2 = 12\%$ | | |
| Test for overall effect: Z = 6.55 (P < 0.00001) | | |
| Test for subgroup differences: $Chi^2 = 4.28$, df = 1 (P = 0.04), $I^2 = 76.6\%$ | | |




*Catheter Cardiovasc Interv. 2018;91:697–709.*

# Generalizability of EXCEL and NOBLE results to a large registry population with unprotected left main coronary artery disease

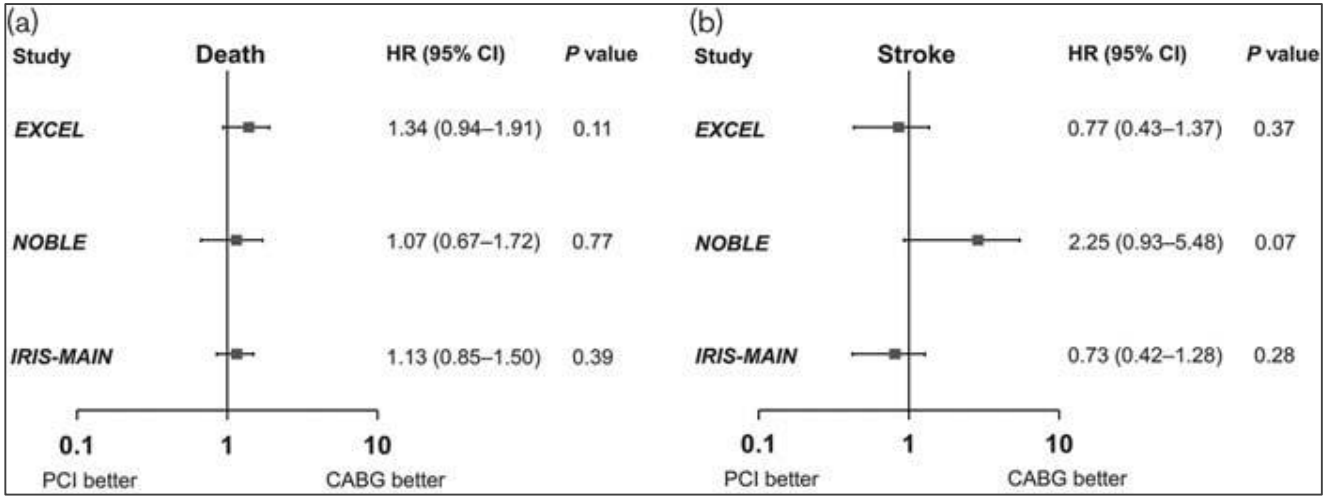
**Table 1** Key features of each clinical study

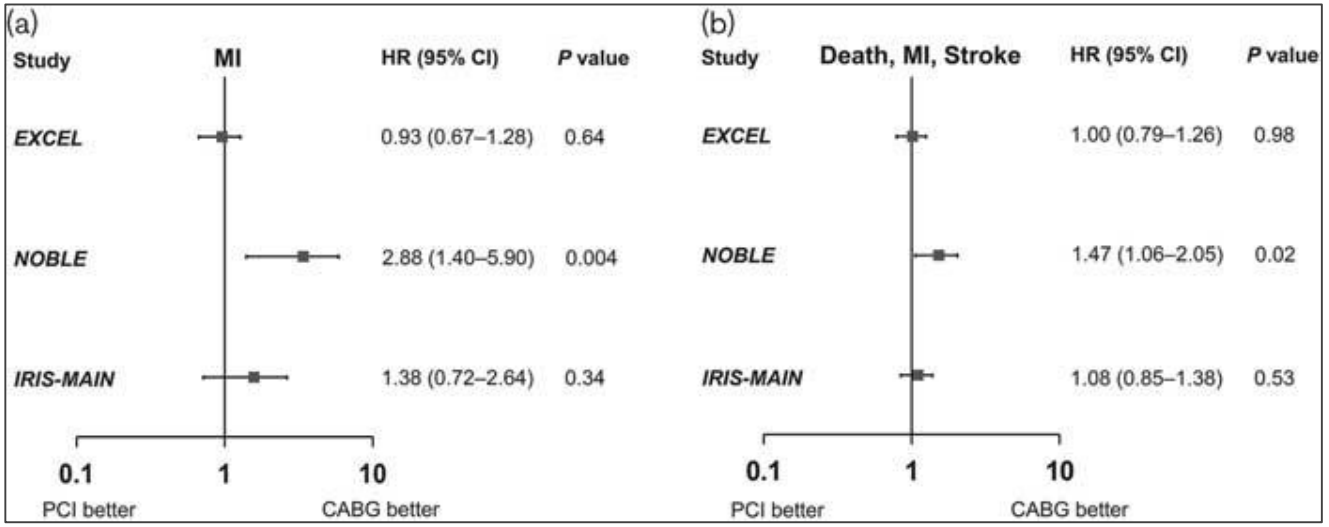
| Designs | EXCEL trial | NOBLE trial | IRIS–MAIN registry |
|---|---|---|---|
| Study type | Multicenter (126 sites in North/South America, Europe, Asia Pacific), prospective, open-label, randomized, noninferiority design trial comparing PCI and CABG | Multicenter (36 sites in northern Europe), prospective, open-label, randomized, noninferiority design trial comparing PCI and CABG | Multicenter (50 sites in Asia), prospective, nonrandomized observational registry including PCI, CABG, or medication alone |
| Main inclusion criteria | Unprotected LMCA disease with angiographic DS > 70%, as estimated visually, or 50% ≤ DS <70% with at least one of following: (a) noninvasive evidence of ischemia referable to LMCA lesion; (b) IVUS MLA ≤ 6.0 $mm^2$; or (c) FFR ≤ 0.80 | Unprotected LMCA disease with angiographic DS > 50%, as estimated visually, or FFR <0.8 | Unprotected LMCA disease with angiographic DS > 50%, as estimated visually |
| Key exclusion criteria | SYNTAX score ≥ 33, prior PCI at left main (any time) or any other coronary artery (within 1 year), prior CABG, concomitant valvular or aortic surgery, CK-MB more than normal or recent MI with CK-MB still elevated, left main reference vessel diameter <2.25 or > 4.25 mm | STEMI within 24 h, > 3 or complex additional coronary lesions (length > 25 mm, chronic total occlusion, two-stent bifurcation, calcified or tortuous vessel morphology), patient is too high risk for CABG or PCI, expected survival <1 year | Minimal exclusion criteria (prior CABG, concomitant valvular or aortic surgery) |
| Primary endpoint | Composite of all-cause death, MI, or stroke | Composite rate of all-cause death, nonprocedural MI, repeat revascularization, or stroke | Outcomes of interest were death, MI, stroke, repeat revascularization, and its composite outcome |
| Recruitment period | September 2010–March 2014 | December 2008–January 2015 | November 2006–December 2013 |
| Follow-up period (median) (years) | 3.0 (2.4–3.0) | 3.1 (2.0–5.0) | 3.0 (2.0–4.1) |
| Number of CABG patients | 957 | 592 | 774 |
| Number of PCI patients | 948 | 592 | 1707 |
| Stent type used for PCI | XIENCE cobalt–chromium everolimus-eluting stent | BioMatrix biolimus-eluting stent recommended since March 2010, but other CE-marked DES allowed | Any second generation DES available in each participating center |

CABG, coronary artery bypass grafting; CK-MB, creatine kinase-myocardial band; DES, drug-eluting stent; DS, diameter stenosis; EXCEL, Evaluation of XIENCE Everolimus-Eluting Stent Versus Coronary Artery Bypass Surgery for Effectiveness of Left Main Revascularization; FFR, fractional flow reserve; IRIS—MAIN, Interventional Research Incorporation Society—Left MAIN Revascularization; IVUS, intravascular ultrasound; LMCA, left main coronary artery; MI, myocardial infarction; MLA, minimal lumen area; NOBLE, Nordic–Baltic–British Left Main Revascularization Study; PCI, percutaneous coronary intervention; STEMI, ST-segment elevation myocardial infarction; SYNTAX, Synergy Between Percutaneous Coronary Intervention with Taxus and Cardiac Surgery.

**P H Lee et al , Coronary Artery Disease 2017, 28:675–682**

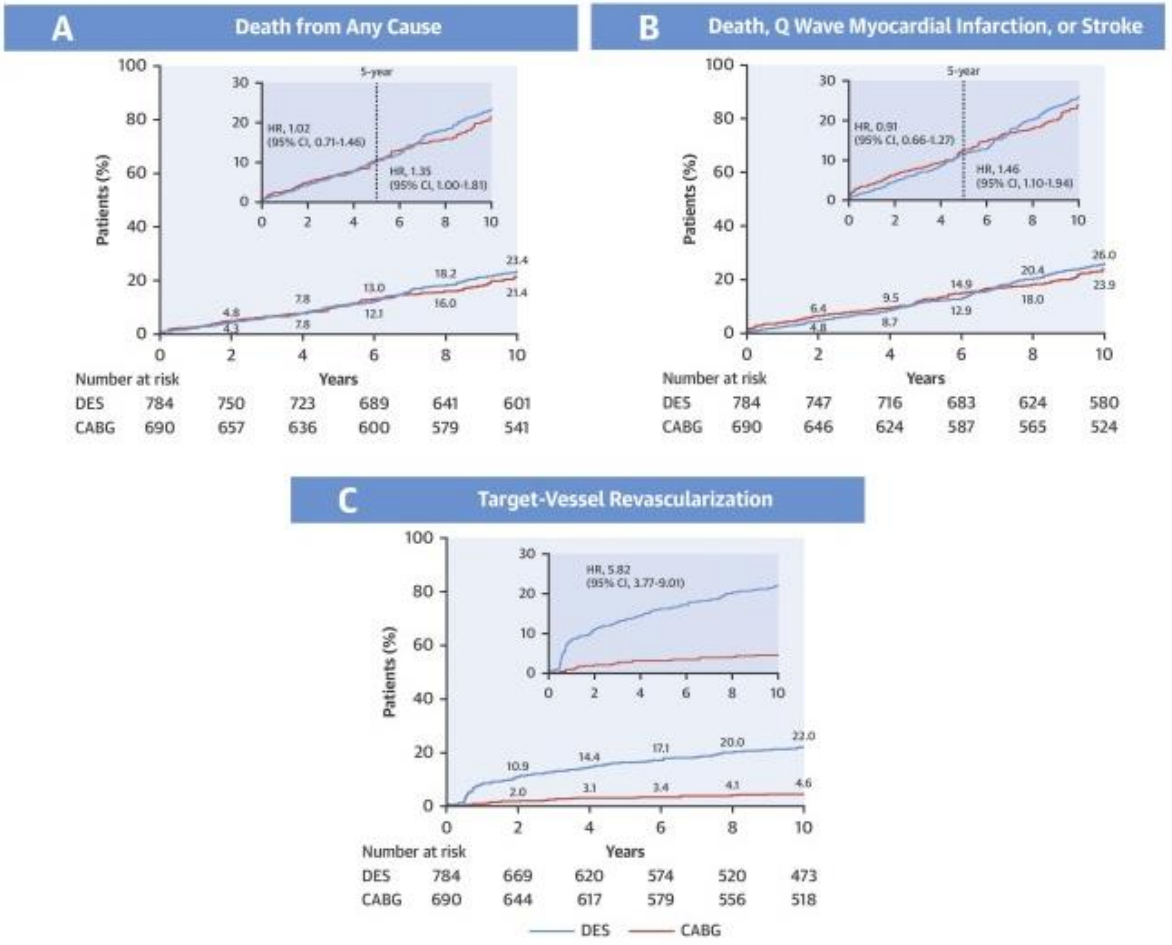
# Generalizability of EXCEL and NOBLE results to a large registry population with unprotected left main coronary artery disease



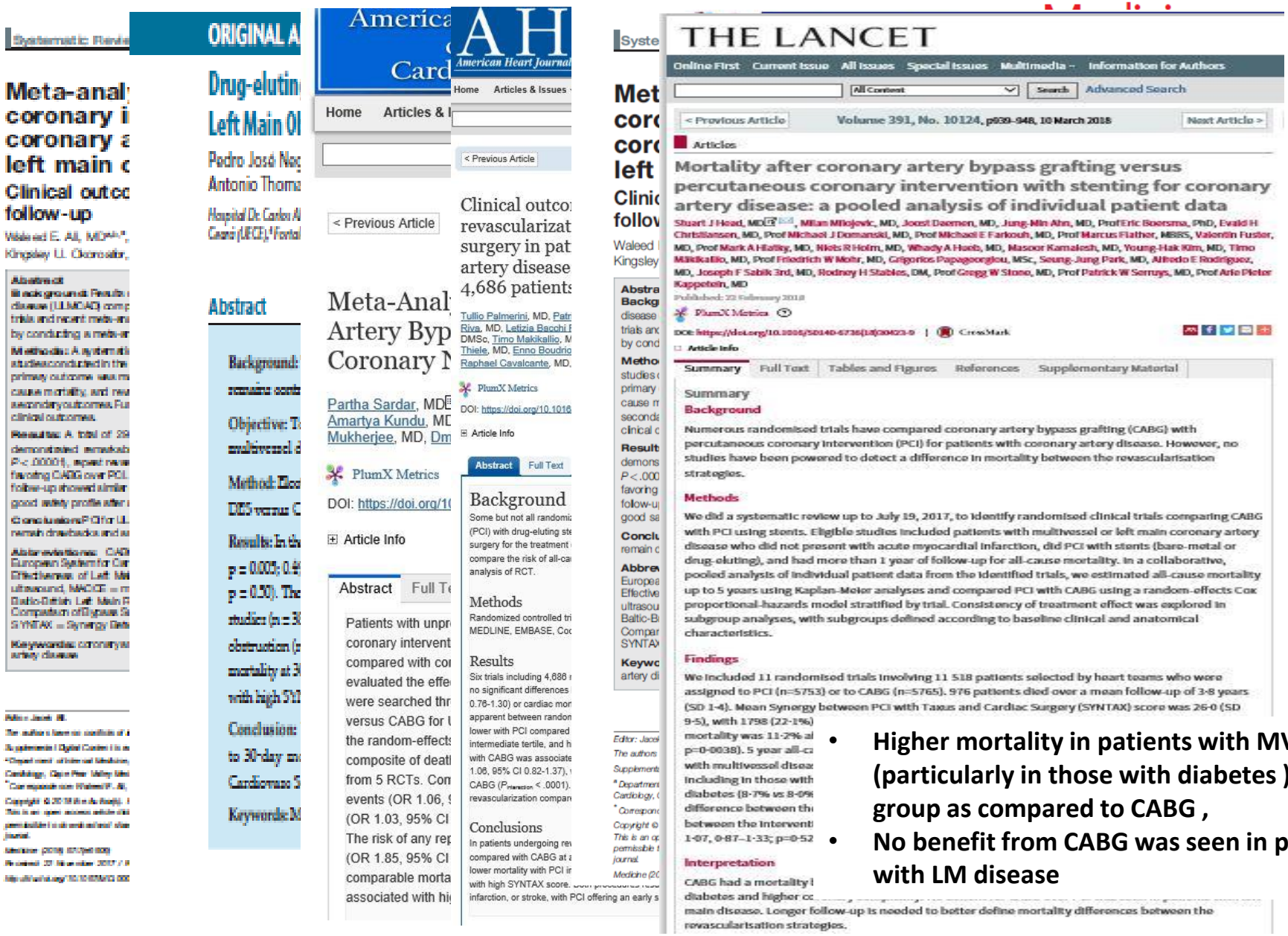




P H Lee et al , Coronary Artery Disease 2017, 28:675–682

# 10-Year Outcomes of Stents Versus Coronary Artery Bypass Grafting for Left Main Coronary Artery Disease




Park, D.-W. et al. J Am Coll Cardiol. 2018;72(23):2813-22.



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Articles

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

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.

**Methods**

We did a systematic review up to July 19, 2017, to identify randomised clinical trials comparing CABG with PCI using stents. Eligible studies included patients with multivessel or left main coronary artery disease who did not present with acute myocardial infarction, did PCI with stents (bare-metal or drug-eluting), and had more than 1 year of follow-up for all-cause mortality. In a collaborative, pooled analysis of individual patient data from the identified trials, we estimated all-cause mortality up to 5 years using Kaplan-Meier analyses and compared PCI with CABG using a random-effects Cox proportional-hazards model stratified by trial. Consistency of treatment effect was explored in subgroup analyses, with subgroups defined according to baseline clinical and anatomical characteristics.

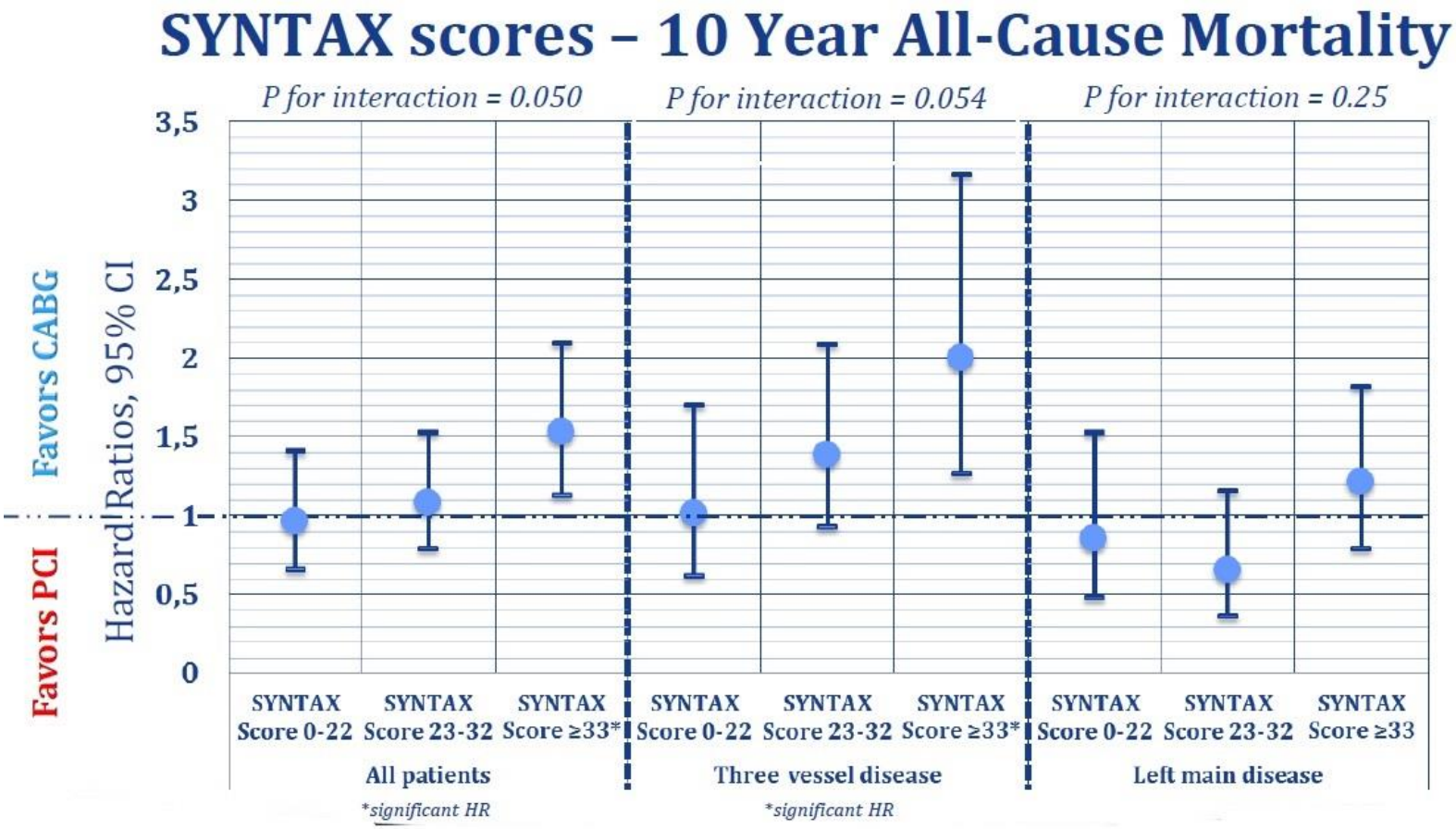
**Findings**

We included 11 randomised trials involving 11 518 patients selected by heart teams who were assigned to PCI (n=5753) or to CABG (n=5765). 976 patients died over a mean follow-up of 3·8 years (SD 1·4). Mean Synergy between PCI with Taxus and Cardiac Surgery (SYNTAX) score was 26·0 (SD 9·5), with 1798 (22·1%)

**Interpretation**

CABG had a mortality

- **Higher mortality in patients with MVD (particularly in those with diabetes ) in PCI group as compared to CABG ,**
- **No benefit from CABG was seen in patients with LM disease**




Daniel J.F.M. Thuijs at al ,presented at TCT 2018

ESC European Society of Cardiology

European Heart Journal (2019) 40, 87–165
doi:10.1093/eurheartj/ehy394

ESC/EACTS GUIDELINES

# 2018 ESC/EACTS Guidelines on myocardial revascularization

**The Task Force on myocardial revascularization of the European Society of Cardiology (ESC) and European Association for Cardio-Thoracic Surgery (EACTS)**

**Developed with the special contribution of the European Association for Percutaneous Cardiovascular Interventions (EAPCI)**

| Recommendations according to extent of CAD | CABG | | PCI | |
|---|---|---|---|---|
| | Class[a] | Level[b] | Class[a] | Level[b] |
| **One-vessel CAD** | | | | |
| Without proximal LAD stenosis. | IIb | C | I | C |
| With proximal LAD stenosis.[68,101,139–144] | I | A | I | A |
| **Two-vessel CAD** | | | | |
| Without proximal LAD stenosis. | IIb | C | I | C |
| With proximal LAD stenosis.[68,70,73] | I | B | I | C |
| **Left main CAD** | | | | |
| Left main disease with low SYNTAX score (0 - 22).[69,121,122,124,145–148] | I | A | I | A |
| Left main disease with intermediate SYNTAX score (23 - 32).[69,121,122,124,145–148] | I | A | IIa | A |
| Left main disease with high SYNTAX score (≥33).[c] [69,121,122,124,146–148] | I | A | III | B |
| **Three-vessel CAD without diabetes mellitus** | | | | |
| Three-vessel disease with low SYNTAX score (0 - 22).[102,105,121,123,124,135,149] | I | A | I | A |
| Three-vessel disease with intermediate or high SYNTAX score (>22).[c] [102,105,121,123,124,135,149] | I | A | III | A |
| **Three-vessel CAD with diabetes mellitus** | | | | |
| Three-vessel disease with low SYNTAX score 0–22.[102,105,121,123,124,135,150–157] | I | A | IIb | A |
| Three-vessel disease with intermediate or high SYNTAX score (>22).[c] [102,105,121,123,124,135,150–157] | I | A | III | A |

- **Data available from Clinical Trials and meta-analysis provide a high level of evidence for optimal management of LMCA disease in selected patients ( low / intermediate SYTAX Score)**
- **The issue is not Left Main but extension of coronary artery disease . Patients with MVD ( particularly Diabetic Patients) and high SYNTAX Score should clearly be considered for Surgery as first Option**
- **The Heart Team approach has a very relevant role in guiding individual patient decision-making and for patient-centered care.**
- **Long-term follow-up studies up to 10 years for LMCA revascularization are still limited which might penalize the surgery since benefit of CABG is often seen after extended follow-up**
- **Waiting for long-term follow up results, efforts should be targeted to proceed in technical and procedural advances which can influence PCI outcomes in complex patients**

# SYNTAX II Trial

- SYNTAX Score II (incorporating clinical and anatomical variables) to guide Heart Team decisions on myocardial revascularisa6on.
- Physiology-based revascularisation (hybrid use of iFR and FFR).
- Second generation DES (thin strut, biodegradable polymer, everolimus- eluting Synergy™ stent [EES]).
- IVUS-guided optmisation of stent deployment (modified MUSIC criteria).
- Contemporary CTO revascularization techniques.
- Guideline-directed medical therapy.

Escaned J et al. EuroIntervен6on. 2016 Jun 12;12(2):e224-34

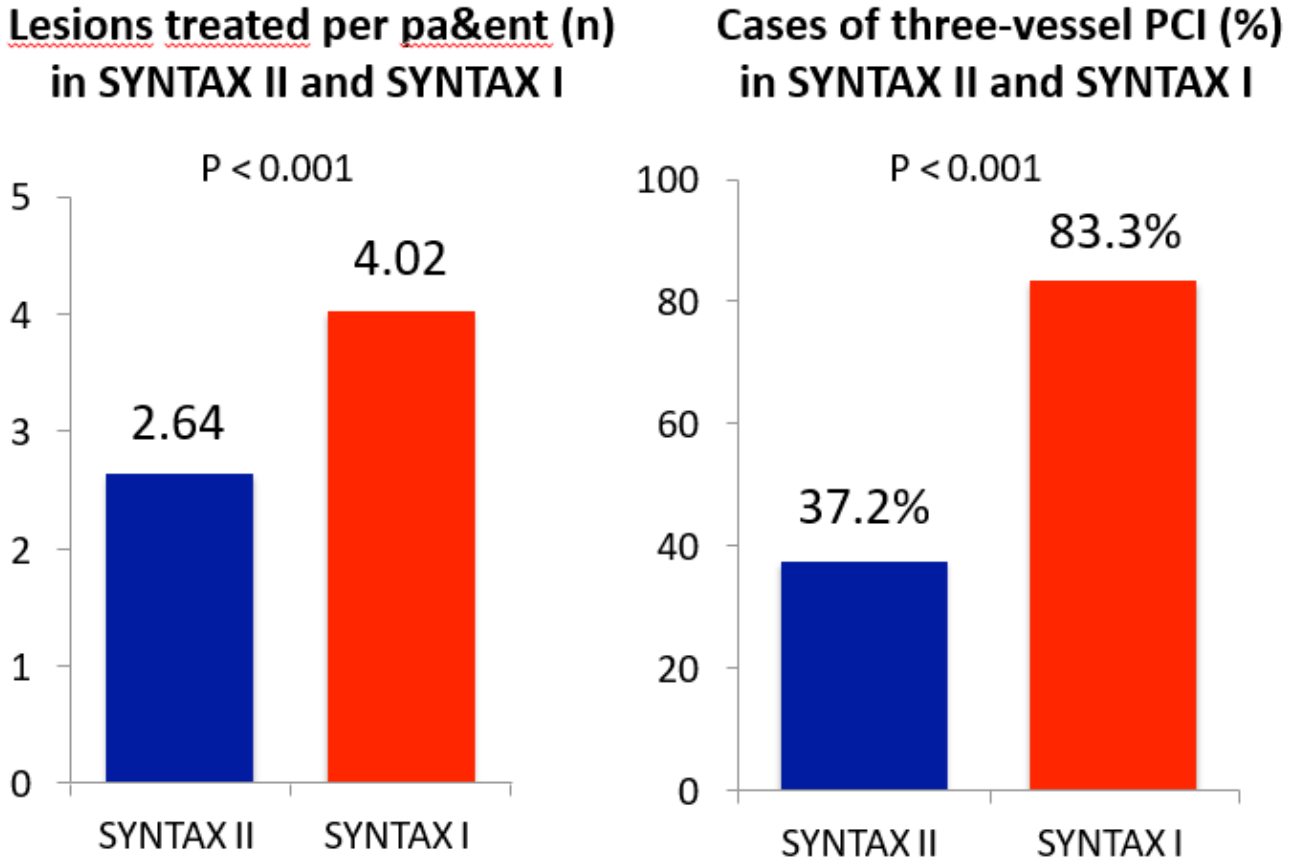
- **Primary endpoint:** Composite of major adverse cardiac and cerebrovascular events (MACCE) at one-year follow-up.
- **Comparator:** Predefined PCI cohort (n=315) from the original SYNTAX-I trial selected on the basis of equipoise 4-year mortality between CABG and PCI

# SYNTAX II Trial

## Baseline Characteristics

| | SYNTAX II (n=454) | SYNTAX I PCI arm (n=315) | P value |
|---|---|---|---|
| **Age (years)** | 66.7 ± 9.7 | 66.7 ± 9.1 | 0.99 |
| **Male** | 93.2% | 93.0% | 0.93 |
| **BMI (kg/m²)** | 28.9 ± 4.7 | 28.2 ± 4.4 | 0.032 |
| **DM** | 30.3% | 29.2% | 0.75 |
| **Current Smoker** | 14.7% | 17.8% | 0.26 |
| **Previous MI** | 12.5% | 28.7% | <0.001 |
| **Previous Stroke** | 5.6% | 1.9% | 0.010 |
| **Hypertension** | 77.0% | 73.4% | 0.26 |
| **Hyperlipidemia** | 77.3% | 74.4% | 0.35 |
| **Clinical Presenta&on** | | | <0.001 |
| Silent Ischemia | 5.5% | 13.3% | |
| Stable angina | 68.8% | 61.6% | |
| Unstable angina | 25.6% | 25.1% | |

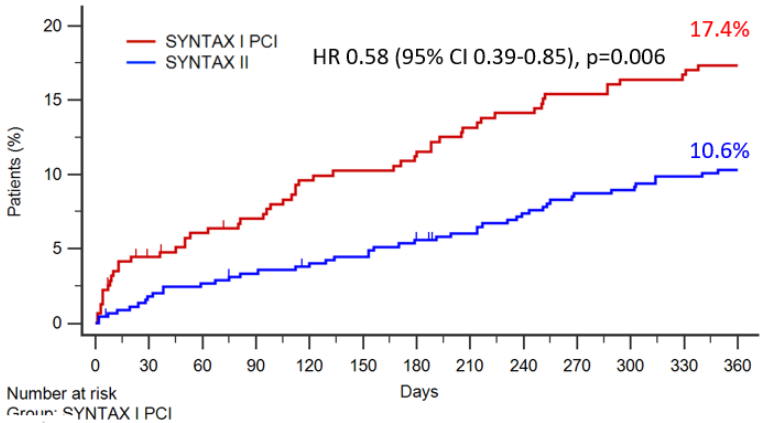
# SYNTAX II Trial




| | |
|---|---|
| IVUS Guidance : | 84.1 % ( Syntax II ) vs 4.8% ( Syntax I ) |
| CTO procedures | 87% ( Syntax II) vs 53% ( Syntax I ) |

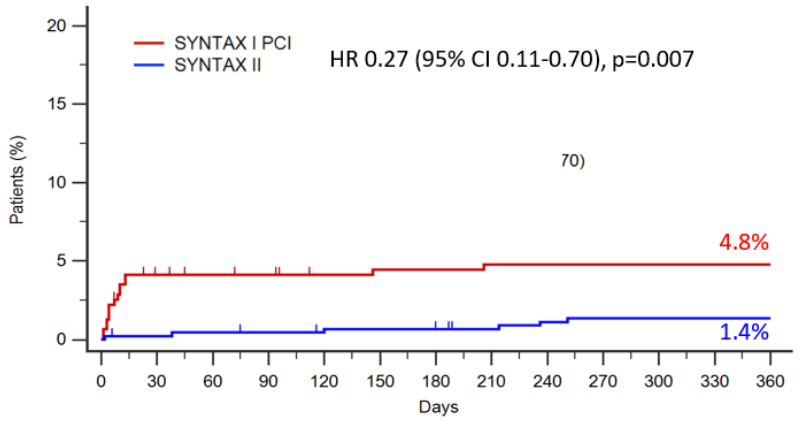
# SYNTAX II Trial

## Primary Endpoints



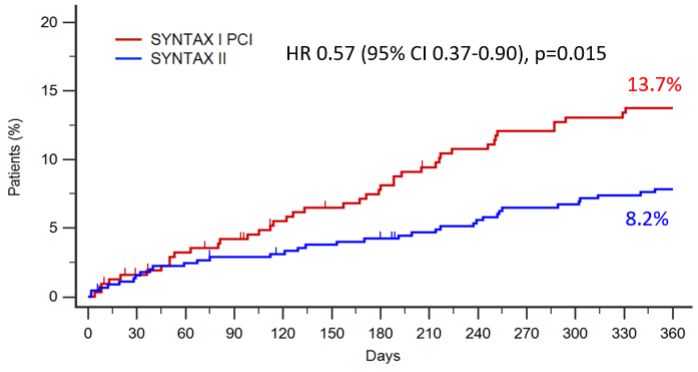

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYNTAX I PCI | 315 | 298 | 292 | 288 | 280 | 278 | 274 | 269 | 266 | 262 | 259 | 258 | 256 |
| SYNTAX II | 450 | 441 | 437 | 433 | 429 | 427 | 421 | 417 | 411 | 405 | 404 | 400 | 398 |

## MI



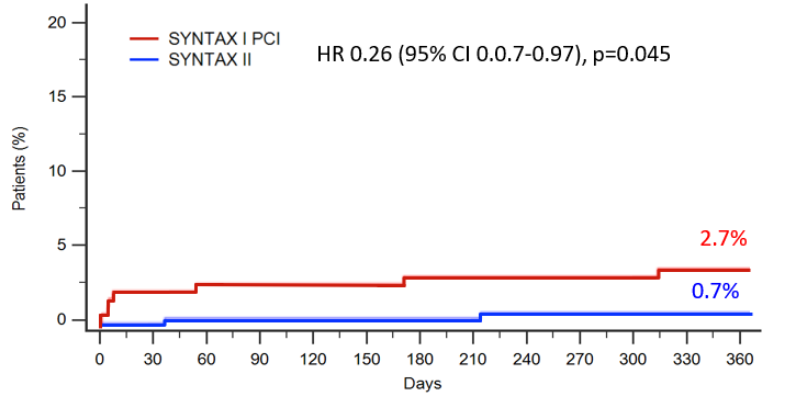

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYNTAX I PCI | 315 | 299 | 297 | 296 | 293 | 292 | 292 | 291 | 291 | 291 | 291 | 291 | 291 |
| SYNTAX II | 450 | 448 | 447 | 446 | 444 | 444 | 443 | 441 | 439 | 438 | 438 | 438 | 438 |

## TLR




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYNTAX I PCI | 315 | 305 | 299 | 295 | 288 | 284 | 279 | 274 | 270 | 266 | 263 | 262 | 261 |
| SYNTAX II | 450 | 442 | 438 | 435 | 433 | 430 | 427 | 423 | 419 | 415 | 414 | 411 | 409 |

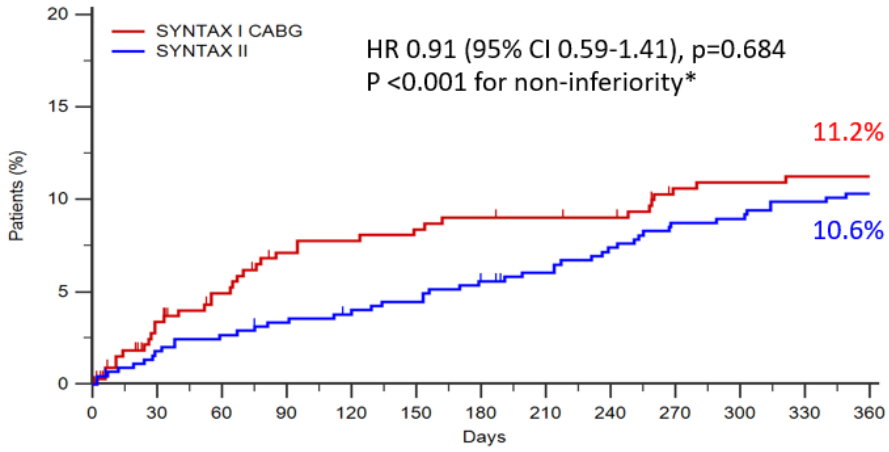
## Definite ST




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYNTAX I PCI | 315 | 299 | 297 | 296 | 292 | 292 | 292 | 291 | 291 | 291 | 291 | 291 | 290 |
| SYNTAX II | 450 | 447 | 446 | 444 | 441 | 441 | 437 | 435 | 431 | 428 | 428 | 427 | 427 |

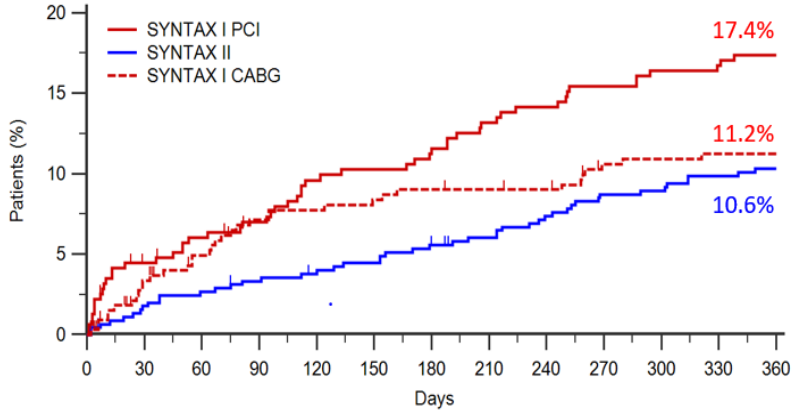
# SYNTAX II Trial

## Exploratory End-Point: MACCE PCI vs. CABG




| | SYNTAX I CABG | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYNTAX I CABG | 334 | 313 | 304 | 295 | 293 | 291 | 289 | 288 | 287 | 279 | 278 | 277 | 277 |
| SYNTAX II | 450 | 441 | 437 | 433 | 429 | 427 | 421 | 417 | 411 | 405 | 404 | 400 | 398 |

## MACCE SYNTAX II and SYNTAX I PCI / CABG




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYNTAX I PCI | 315 | 298 | 292 | 288 | 280 | 278 | 274 | 269 | 266 | 262 | 259 | 258 | 256 |
| SYNTAX II | 450 | 441 | 437 | 433 | 429 | 427 | 421 | 417 | 411 | 405 | 404 | 400 | 398 |
| SYNTAX I CABG | 334 | 313 | 304 | 295 | 293 | 291 | 289 | 288 | 287 | 279 | 278 | 277 | 277 |

European Heart Journal
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ESC/EACTS GUIDELINES

# 2014 ESC/EACTS Guidelines on myocardial revascularization

**The Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)**

**Developed with the special contribution of the European Association of Percutaneous Cardiovascular Interventions (EAPCI)**

**2014**

| | | | | | |
|---|---|---|---|---|---|
| Left main disease with a SYNTAX score ≤ 22. | I | B | I | B | 17,134,170 |
| Left main disease with a SYNTAX score 23–32. | I | B | IIa | B | 17 |
| Left main disease with a SYNTAX score >32. | I | B | III | B | 17 |

**2018**

| **Left main CAD** | | | | |
|---|---|---|---|---|
| Left main disease with low SYNTAX score (0 - 22).[69,121,122,124,145–148] | I | A | I | A |
| Left main disease with intermediate SYNTAX score (23 - 32).[69,121,122,124,145–148] | I | A | IIa | A |

**No Significant impact , but we should keep going on doing better improving our techniques and outcomes in both PCI and CABG , waiting for longer follow-up data ( 10 yrs ?)**