

Long Term Outcome (10 yrs) in Left Main PCI

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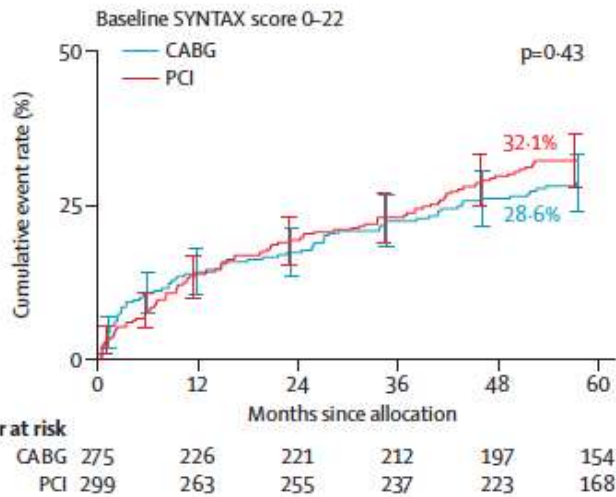
Background

- **Unprotected Left Main disease is burdened by relevant risk of death and MI (up to 10-15% of pts presenting both with ACS or stable presentation)**
- **CABG has represented the standard of care for these patients for many years, offering if performed with LIMA grafts rates of patency up to 90% at ten years, but very inferior if performed with SVG vein grafts.**
- **In the last 12 years PCI for LM disease has become widely used offering a feasible alternative**
- **The 5-year follow up data from the Syntax trial and PRCOMBAT : similar rates of MACE in patients treated with PCI vs. CABG for ULM leading to significant change in ESC guidelines for patients with ULM**
- **Recently ; Excel and Noble trials reported some conflicted data**
- **Evaluation of very long term outcome of PCI vs. CABG is warranted , but few data have been reported on 10 year outcome of PCI on ULM .**

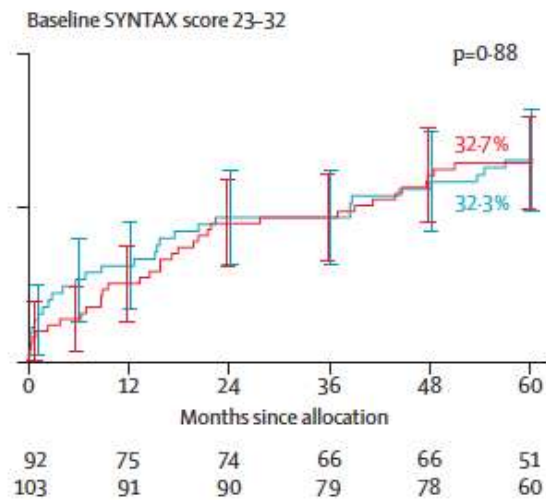
SYNTAX Trial 5-year FU : The outcome is also different ..

SYNTAX Trial : LM

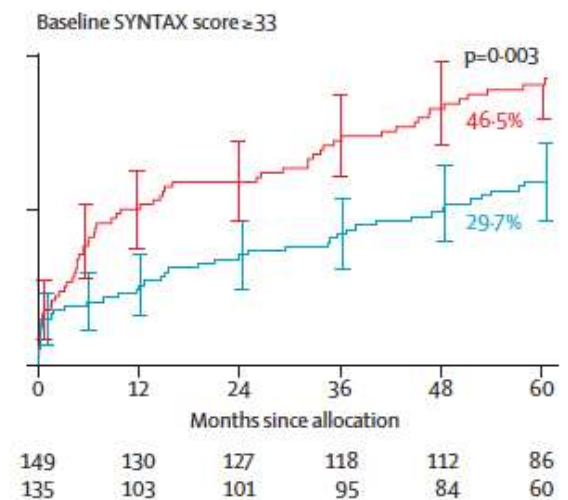
SYNTAX Score 0-22



SYNTAX Score 23-32



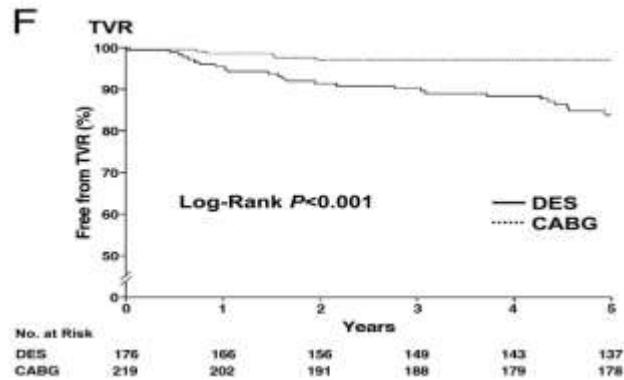
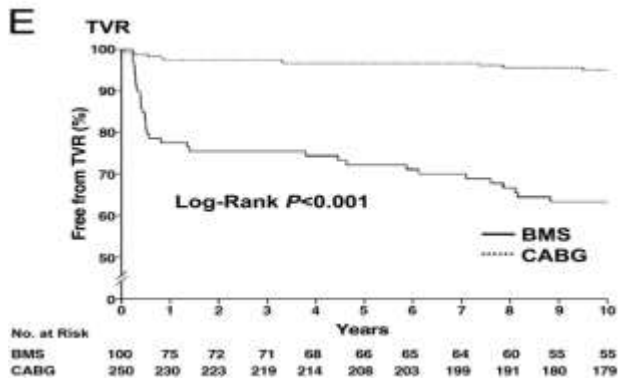
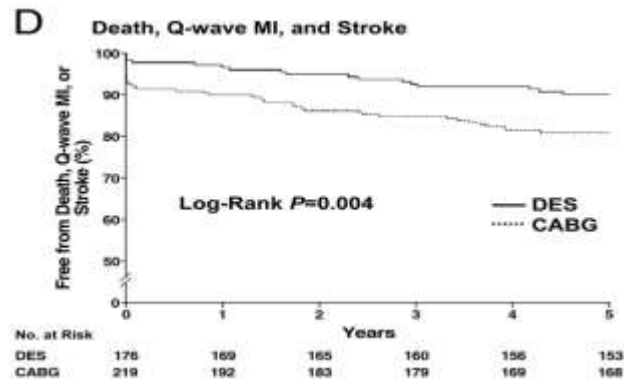
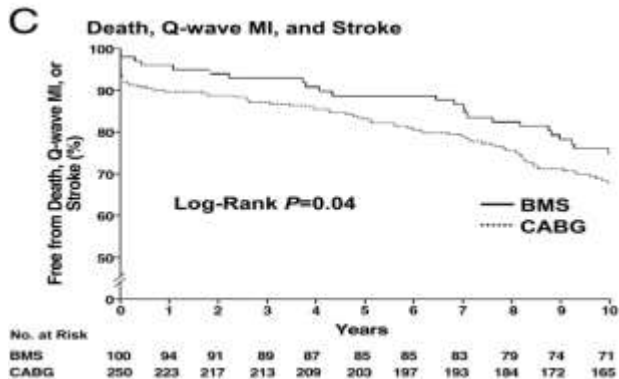
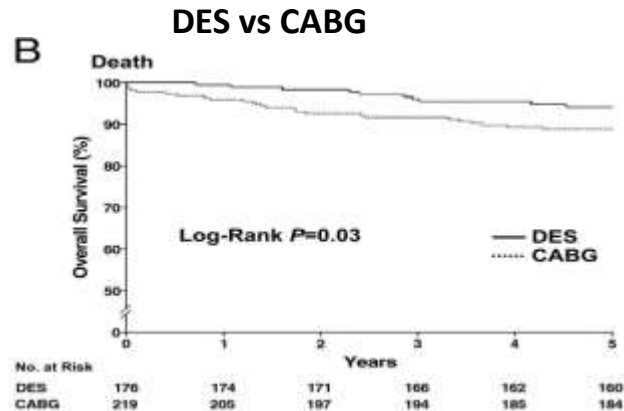
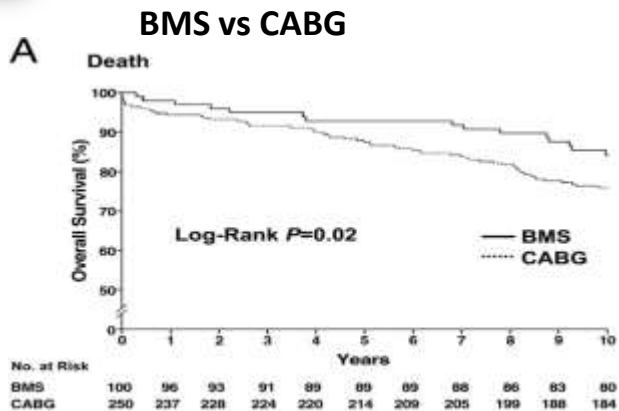
SYNTAX Score ≥ 33



Main challenges of PCI

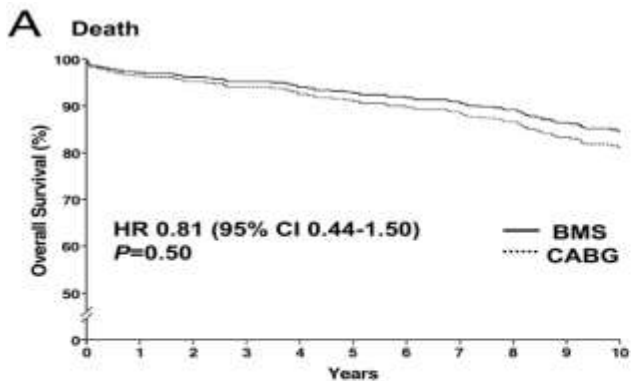
- **Limitations of PCI in long term:**
 - **Restenosis**
 - **Late ST**
 - **De novo lesions (non-target segment)**
 - **Intermediate lesions**
 - **Late in-stent atherosclerosis**
 - **Lack of secondary prevention result in de novo lesions and late in-stent atherosclerosis and thrombosis**

Unadjusted Survival Curves

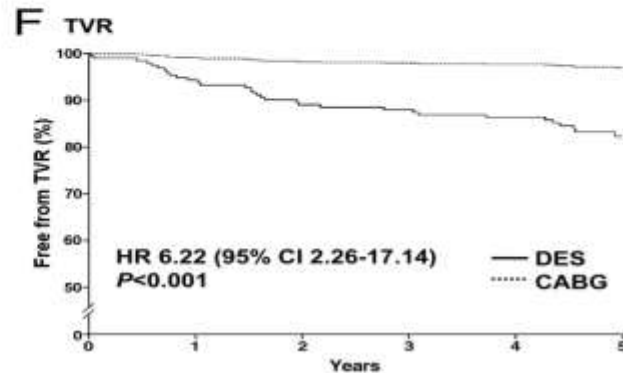
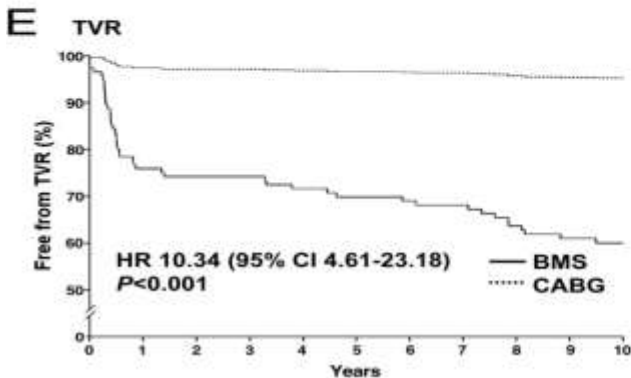
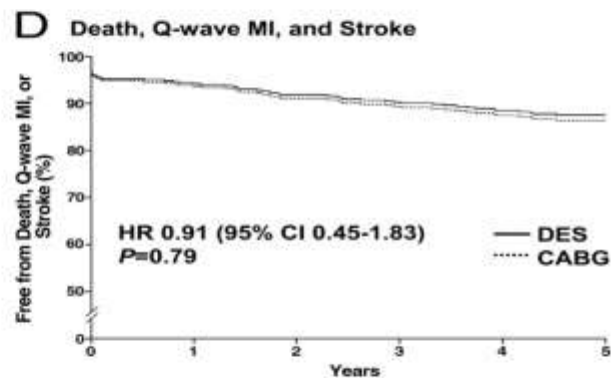
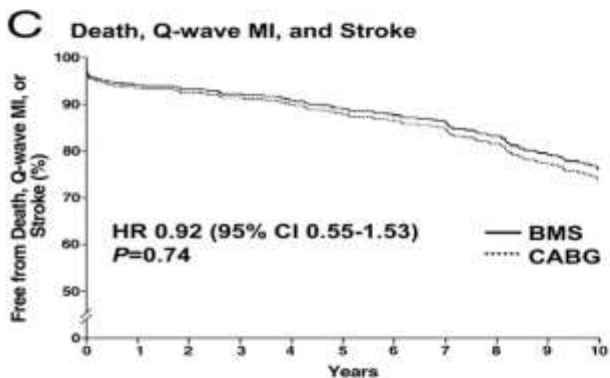
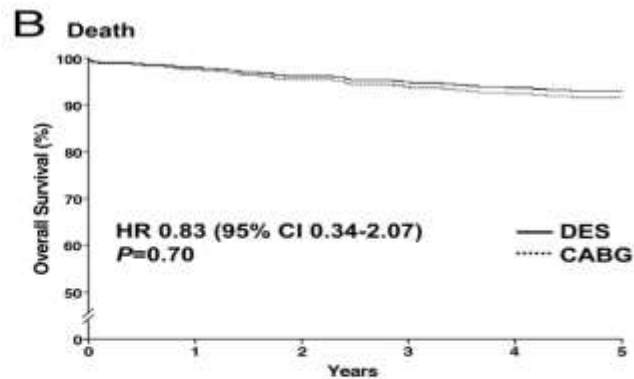


Adjusted Survival Curves

BMS vs CABG



DES vs CABG



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CLINICAL RESEARCH

CORONARY

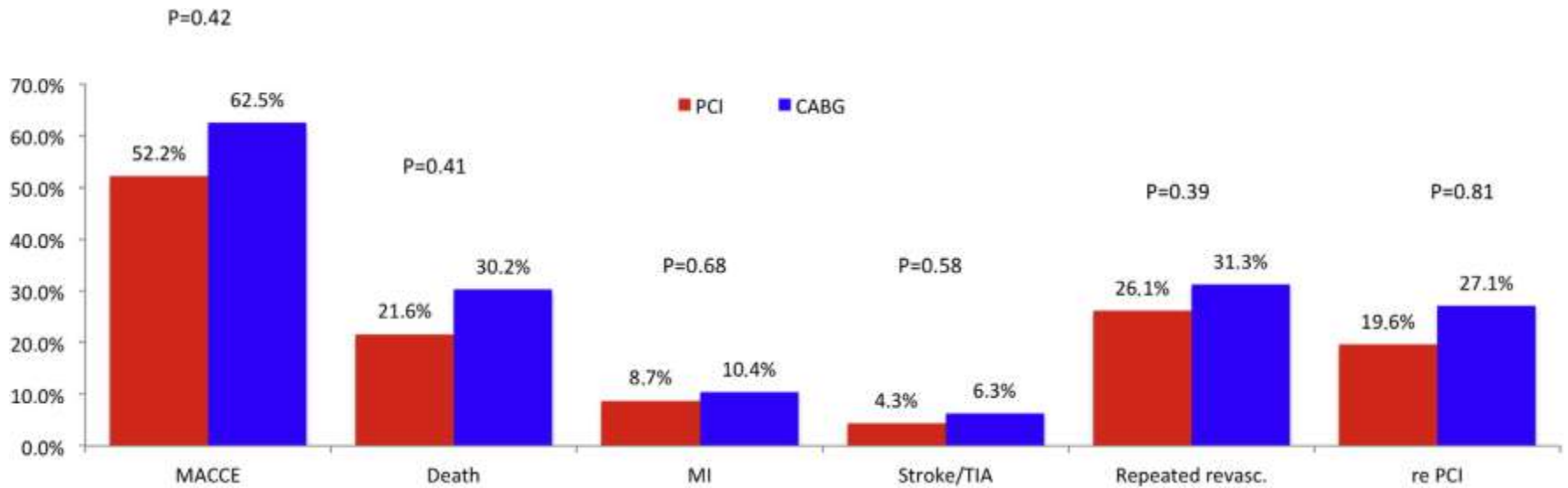
Left Main Stenting in Comparison With Surgical Revascularization

10-Year Outcomes of the (Left Main Coronary Artery Stenting) LE MANS Trial

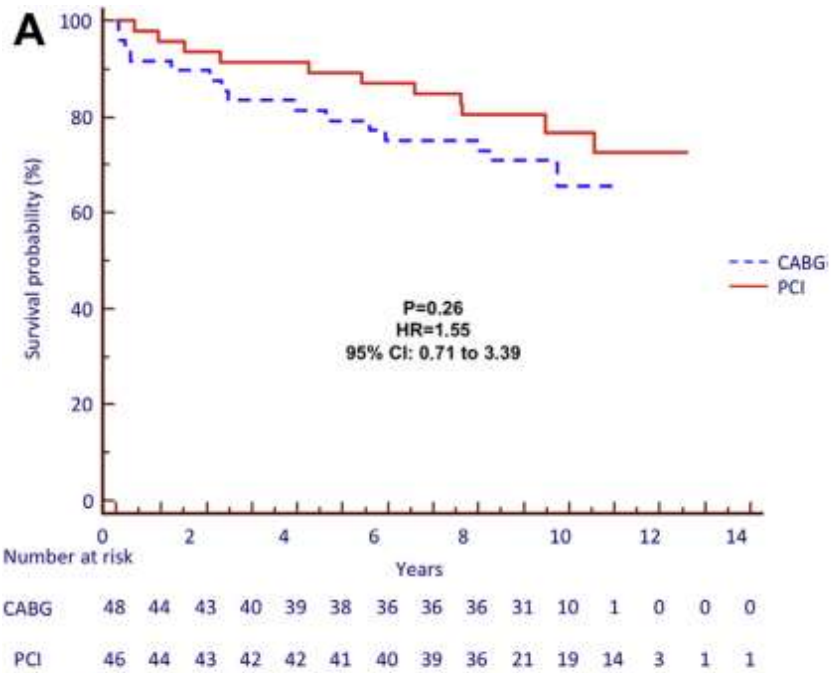


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Magda Konkolewska, MD,^a Błażej Trela, MD,^a Adam Janas, MD,^a Jack L. Martin, MD,^d R. Stefan Kiesz, MD,^e
Andrzej Bochenek, MD, PhD^{a,b}

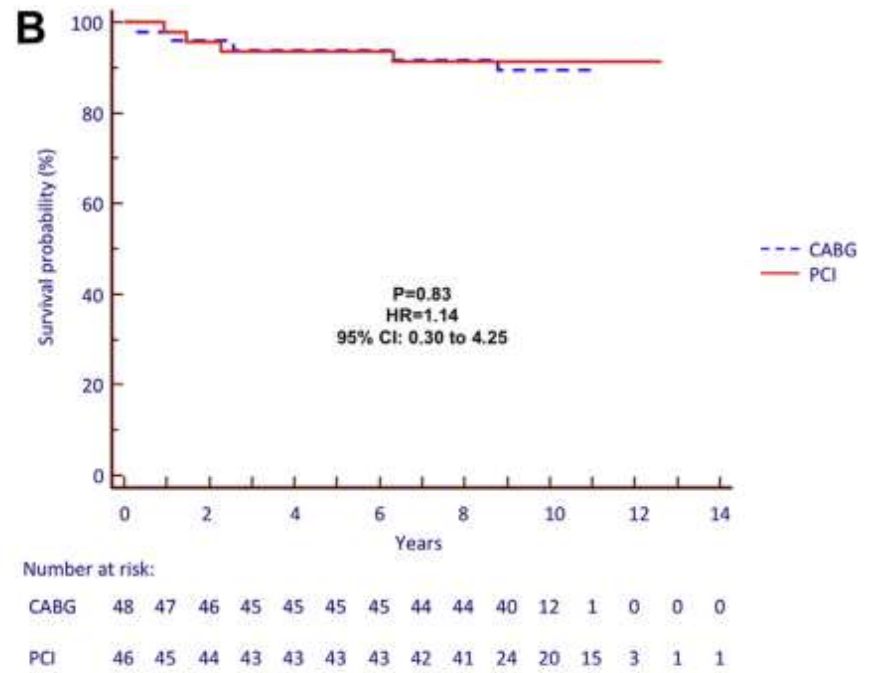
Major Adverse Cardiovascular Events at 10 Years



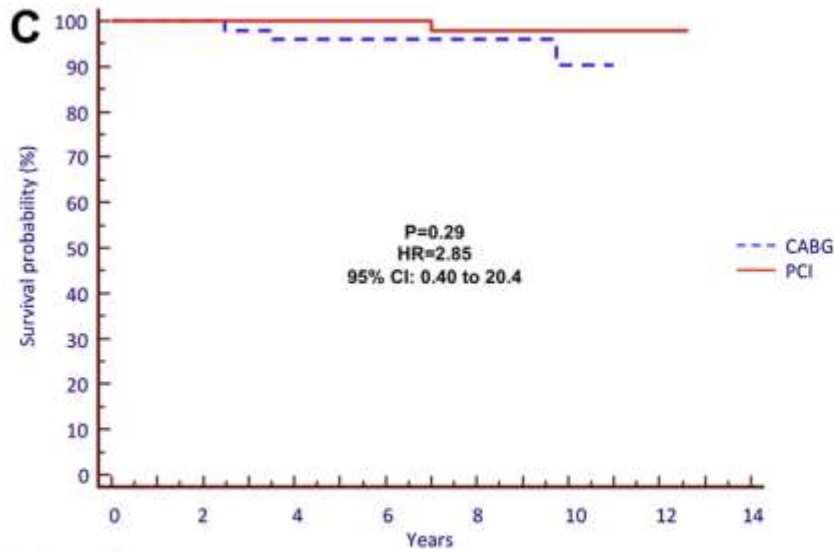
Death



Myocardial Infarction



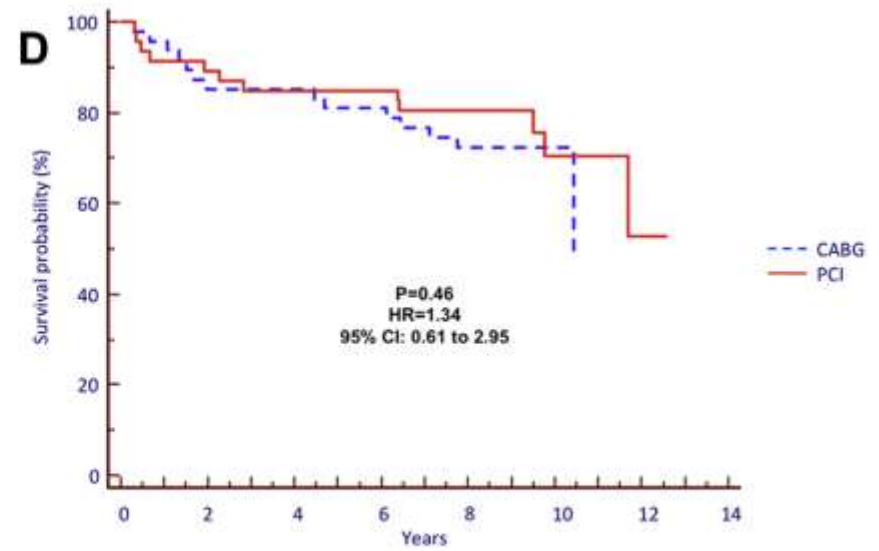
Repeat Revascularization



Number at risk

CABG	48	48	48	47	46	46	46	46	46	43	12	1	0	0	0
PCI	45	45	45	45	45	45	45	43	26	22	15	3	1	1	

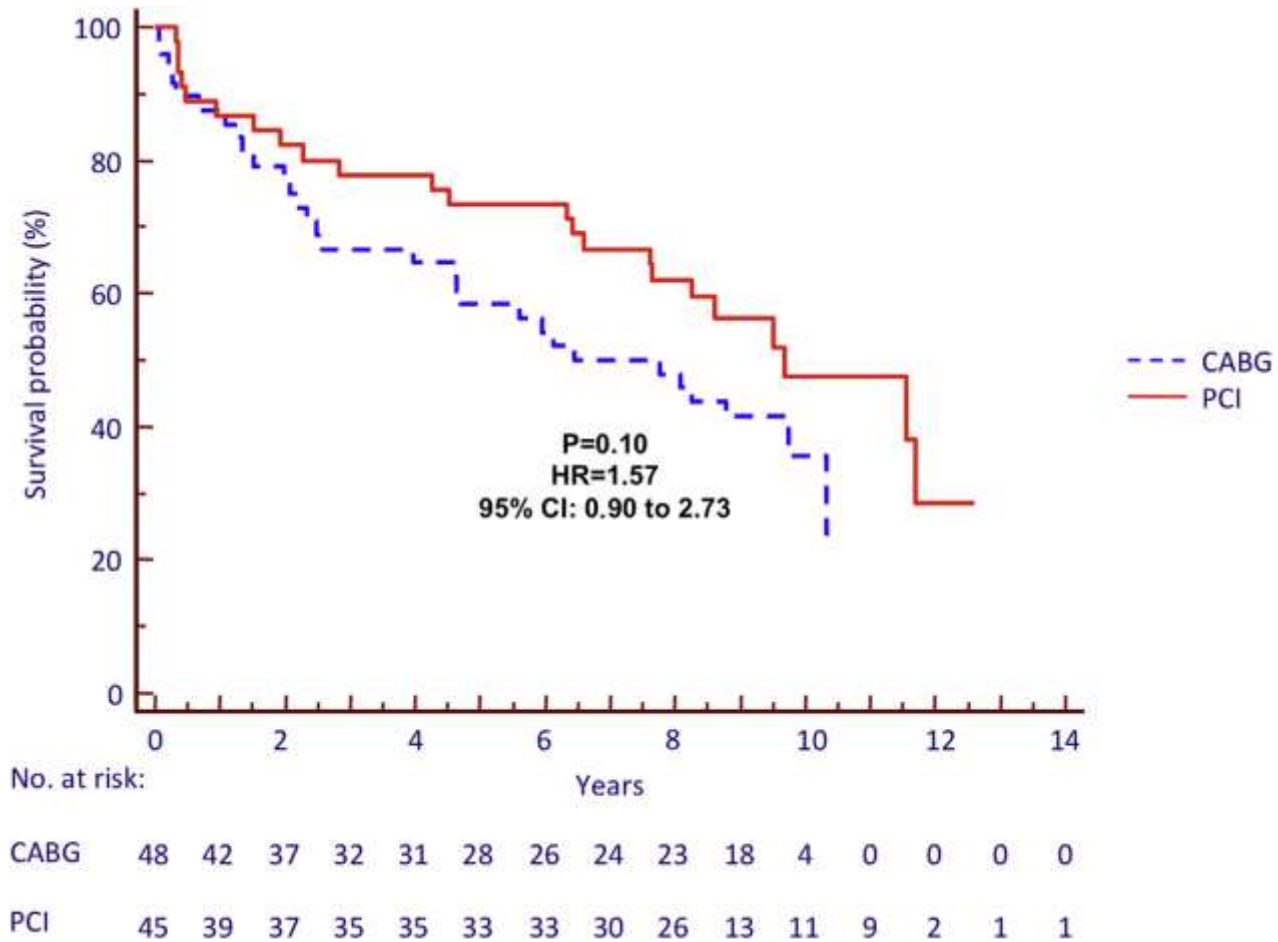
Stroke



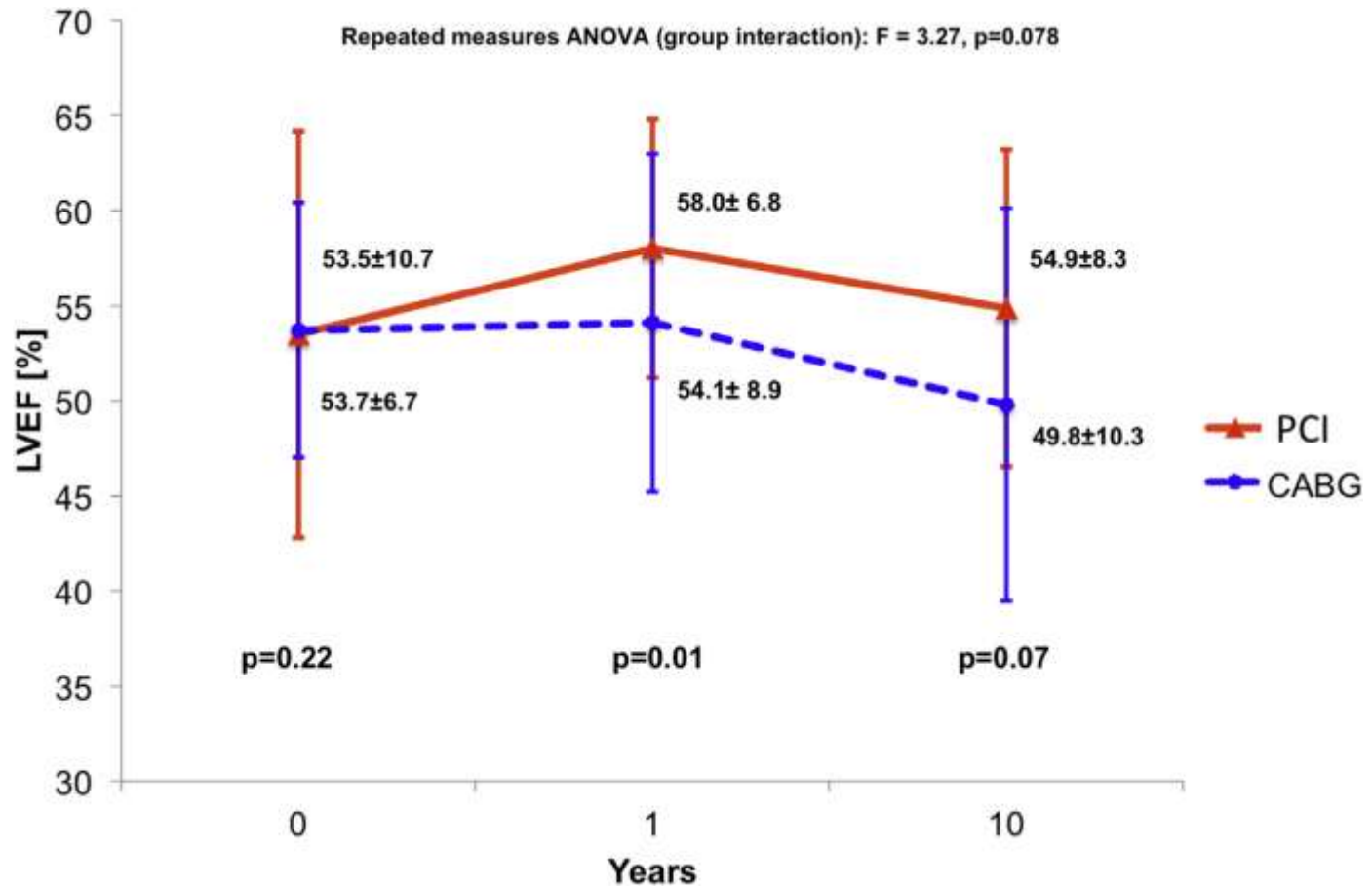
Number at risk

CABG	47	45	40	40	40	38	38	36	34	32	7	0	0	0	0
PCI	46	42	41	39	39	39	39	37	36	19	14	10	2	1	1

Major Adverse Cardiovascular Event-Free



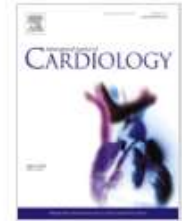
Temporal Differences in LVEF





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Volume 225, 15 December 2016, Pages 47–49



Editorial

Long-term survival among patients with coronary angioplasty with drug eluting stent for the treatment of unprotected left main stenosis compared to coronary artery bypass grafting

Timo H. Mäkikallio^a,  , Juhani Juntila^a, Antti Kiviniemi^a, Sudhir Kurl^b, Kari Ylitalo^a, Jarkko Magga^a, Vesa Jokinen^c, Olli-Pekka Piira^a, Kari Kervinen^a, Matti Niemelä^a, Jari A. Laukkanen^{b, d}

Retrospective study

287pts with LM disease

239 received CABG

49 LM stenting with DES : 41% single stenting


59% complex stenting

At 10 years : Non significant difference in mortality

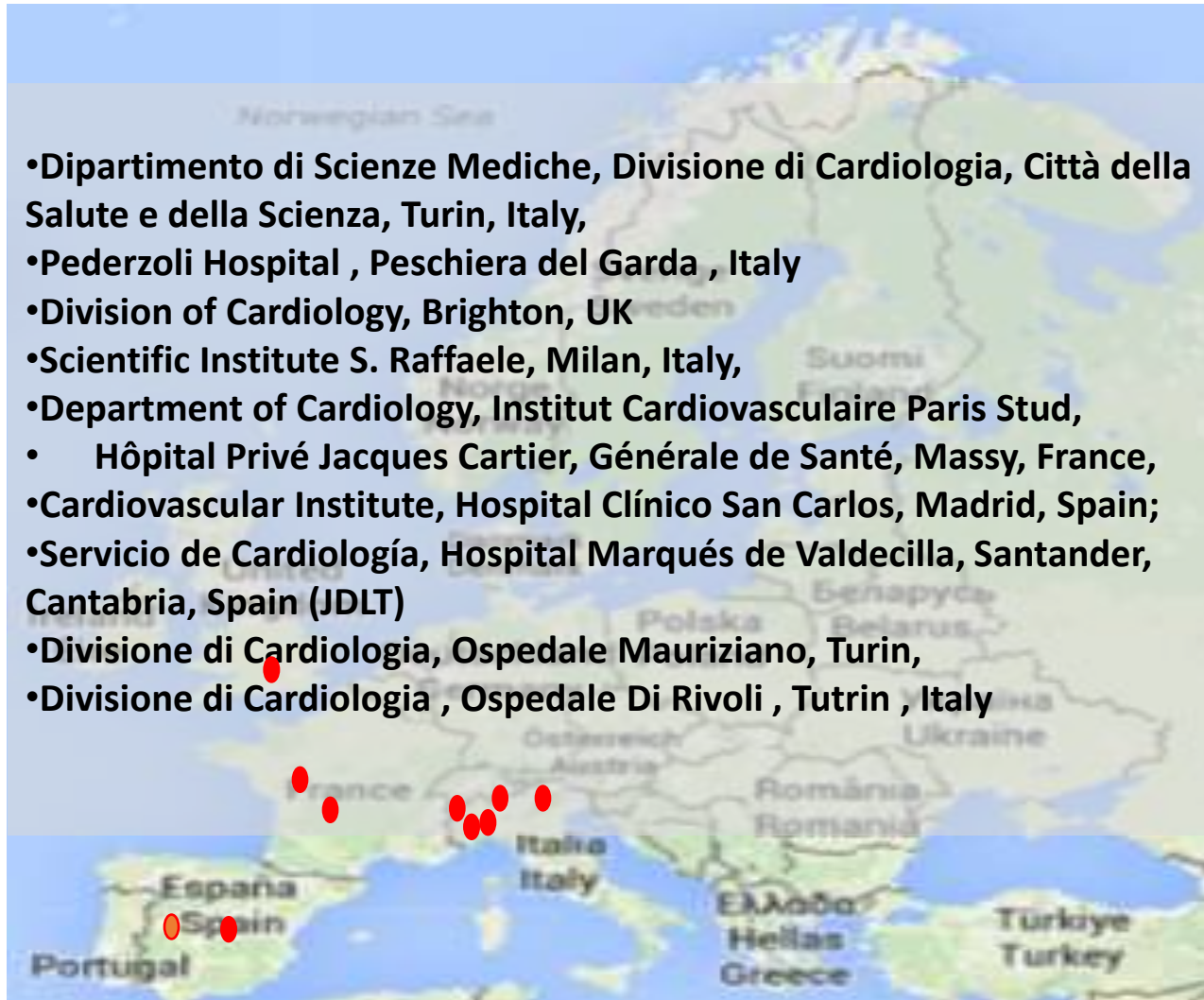
The
American Journal
of
Cardiology

2016; 118, 1: 32–39

Long-Term (≥ 10 Years) Safety of Percutaneous Treatment of Unprotected Left Main Stenosis With Drug-Eluting Stents

[Imad Sheiban](#), MD, [Claudio Moretti](#), MD, [Fabrizio D'Ascenzo](#), MD  [Alaide Chieffo](#), MD, [Salma Taha](#), MD, [Stephen O. Connor](#), MD, [SujaySubash Chandran](#), MD, [JM de la Torre Hernández](#), MD, [Si Chen](#), MD, [Ferdinando Varbella](#), MD, [Pierluigi Omedè](#), MD, [Mario Iannaccone](#), MD, [Emanuele Meliga](#), MD, [Hiroyoshi Kawamoto](#), MD, [Antonio Montefusco](#), MD, [Chong Mervyn](#), MD, [Philippe Garot](#), MD, [Lin Sin](#), MD, [Valeria Gasparetto](#), MD, [Mohamed Abdirashid](#), MD, [Enrico Cerrato](#), MD, [Giuseppe Biondi Zoccai](#), MD, [Fiorenzo Gaita](#), MD, [Javier Escaned](#), MD, [David Hiddick Smith](#), MD, [Thierry Lefèvre](#), MD, [Antonio Colombo](#), MD

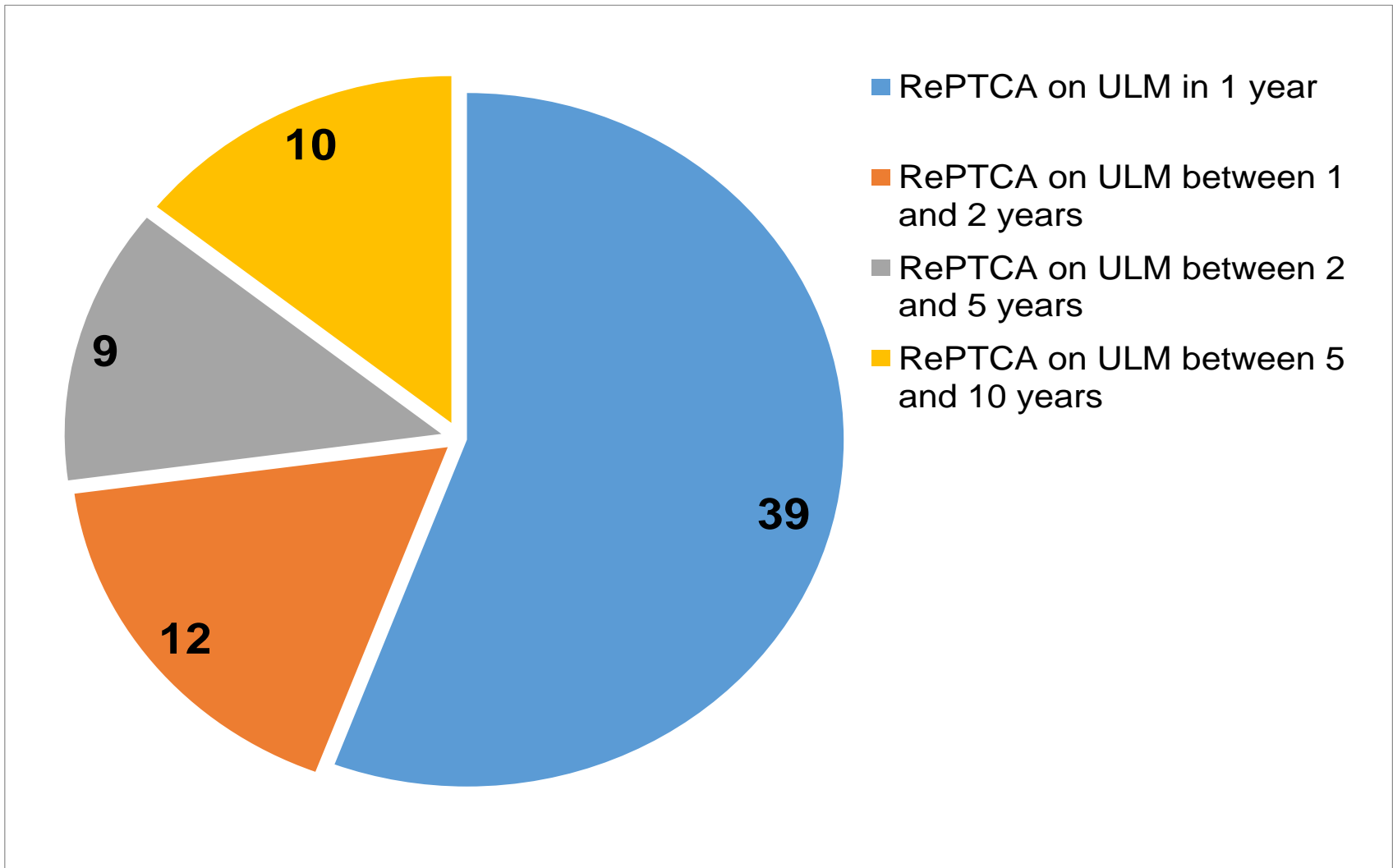
**Multicenter Registry including 10 European Centers
Index Procedure for ULM disease performed prior to 2004 with DES**



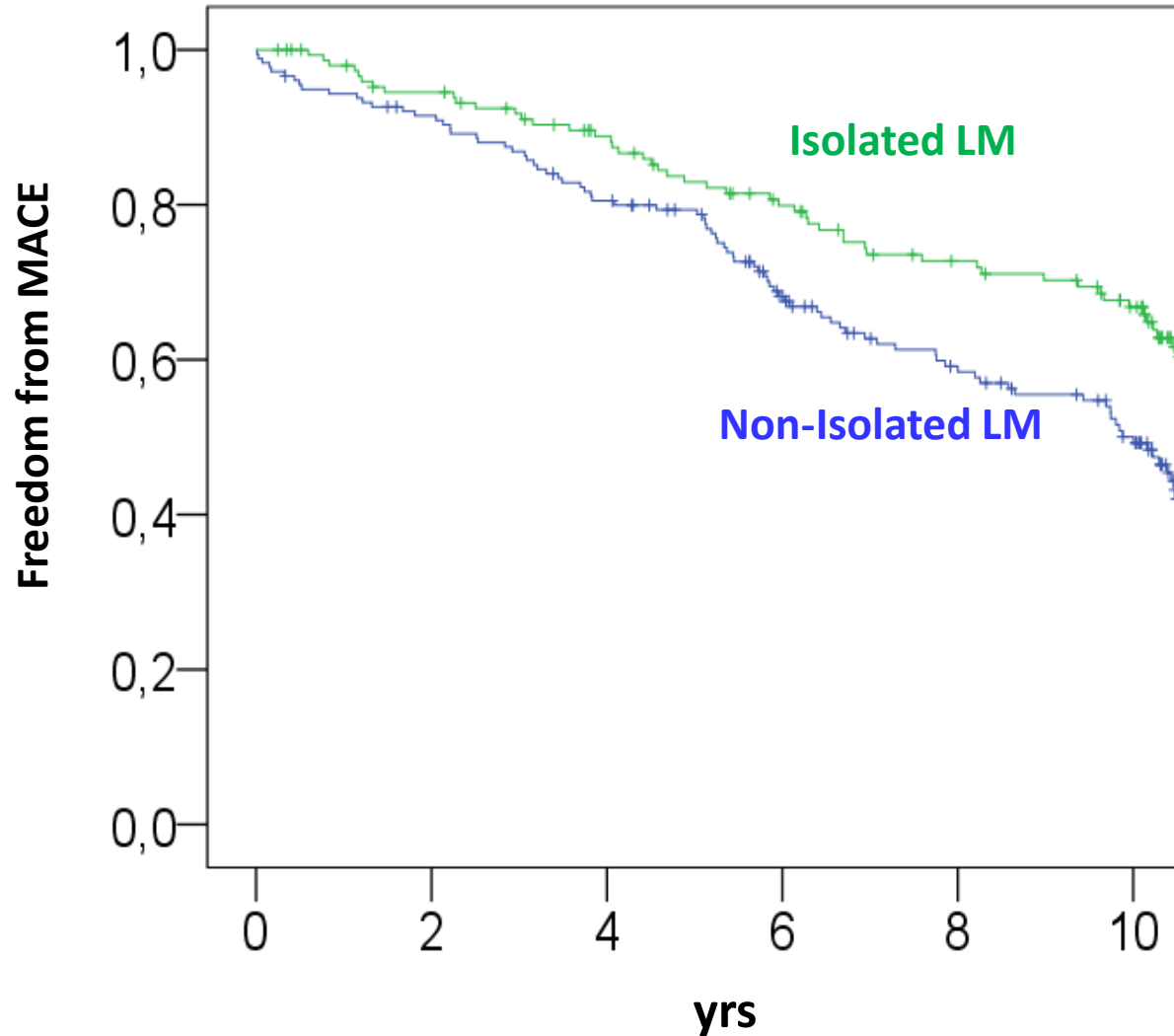
Registry Endpoint

- **Primary End-point**
Re-PCI on ULM at 10 years
- **Secondary End-point**
MACE (Major Adverse Cardiac Events) and its single components (cardiac and not cardiac death, myocardial infarction, re-PCI not on ULM and Stent Thrombosis)

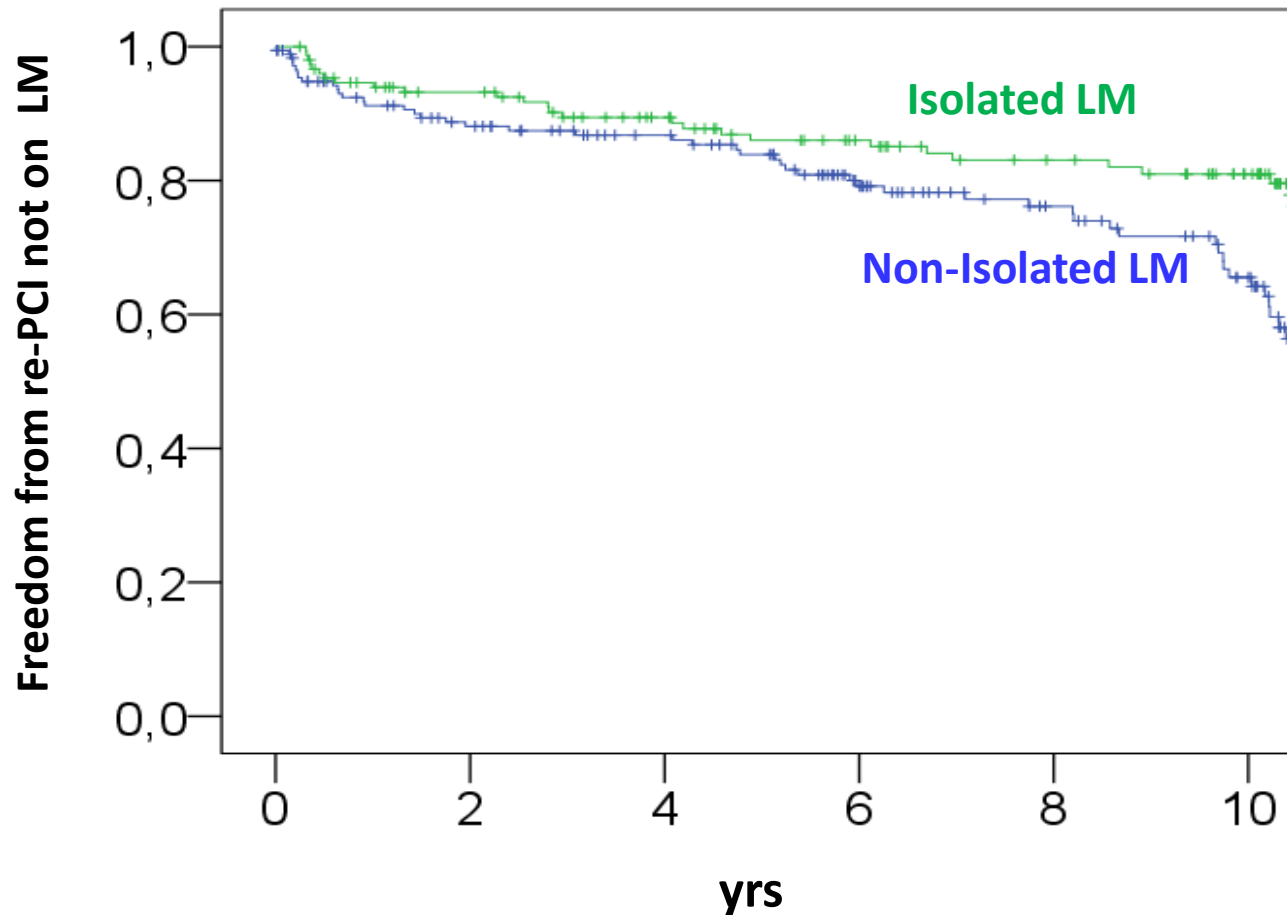
Temporal trend for rePTCA on LM.



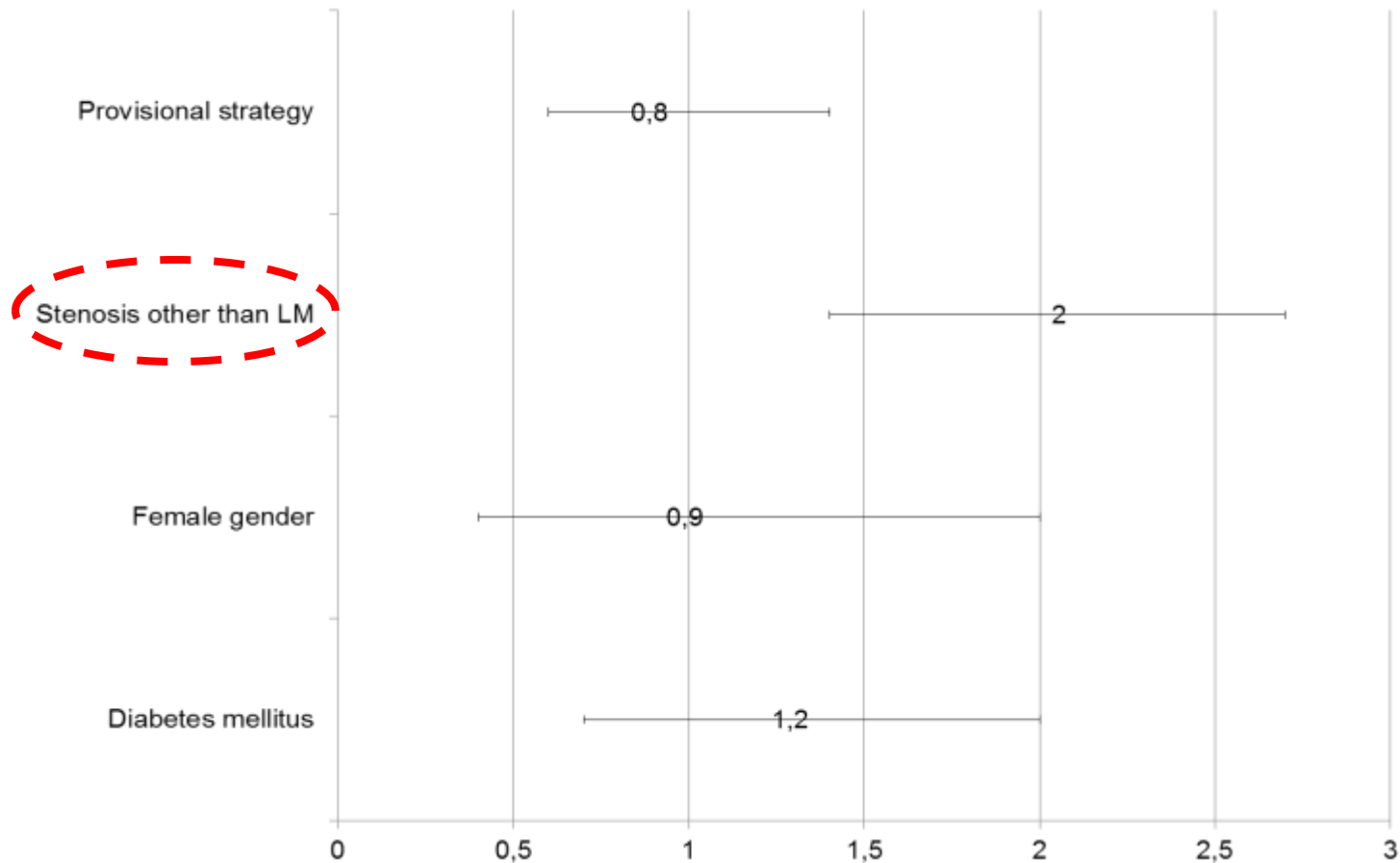
**Freedom from MACE according to isolated vs. not isolated ULM disease
(p for rank <0.01)**



Freedom from rePTCA not on left main according to isolated vs. not isolated ULM disease (p for rank <0.001)

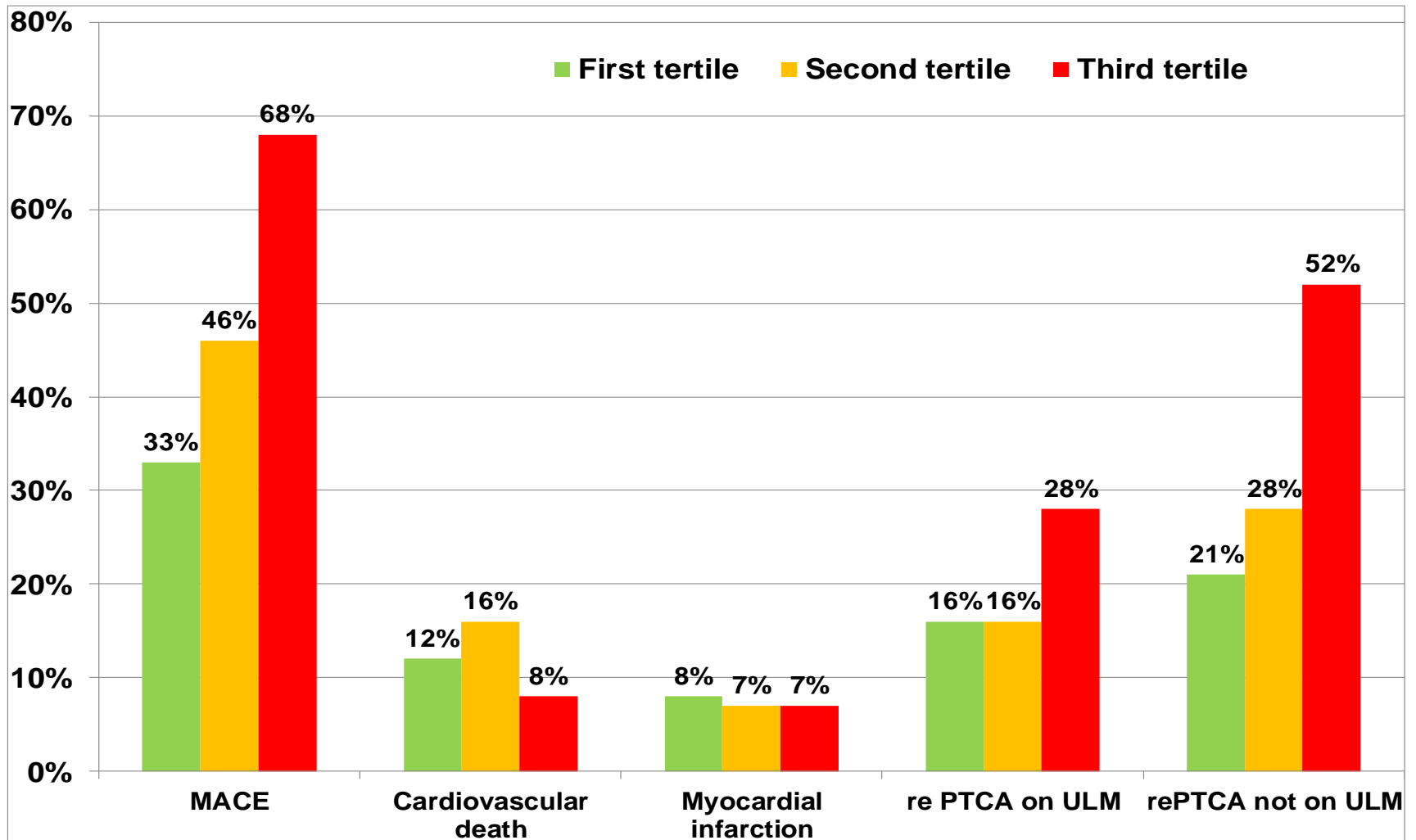


Independent predictors for MACE at 10 years follow up.

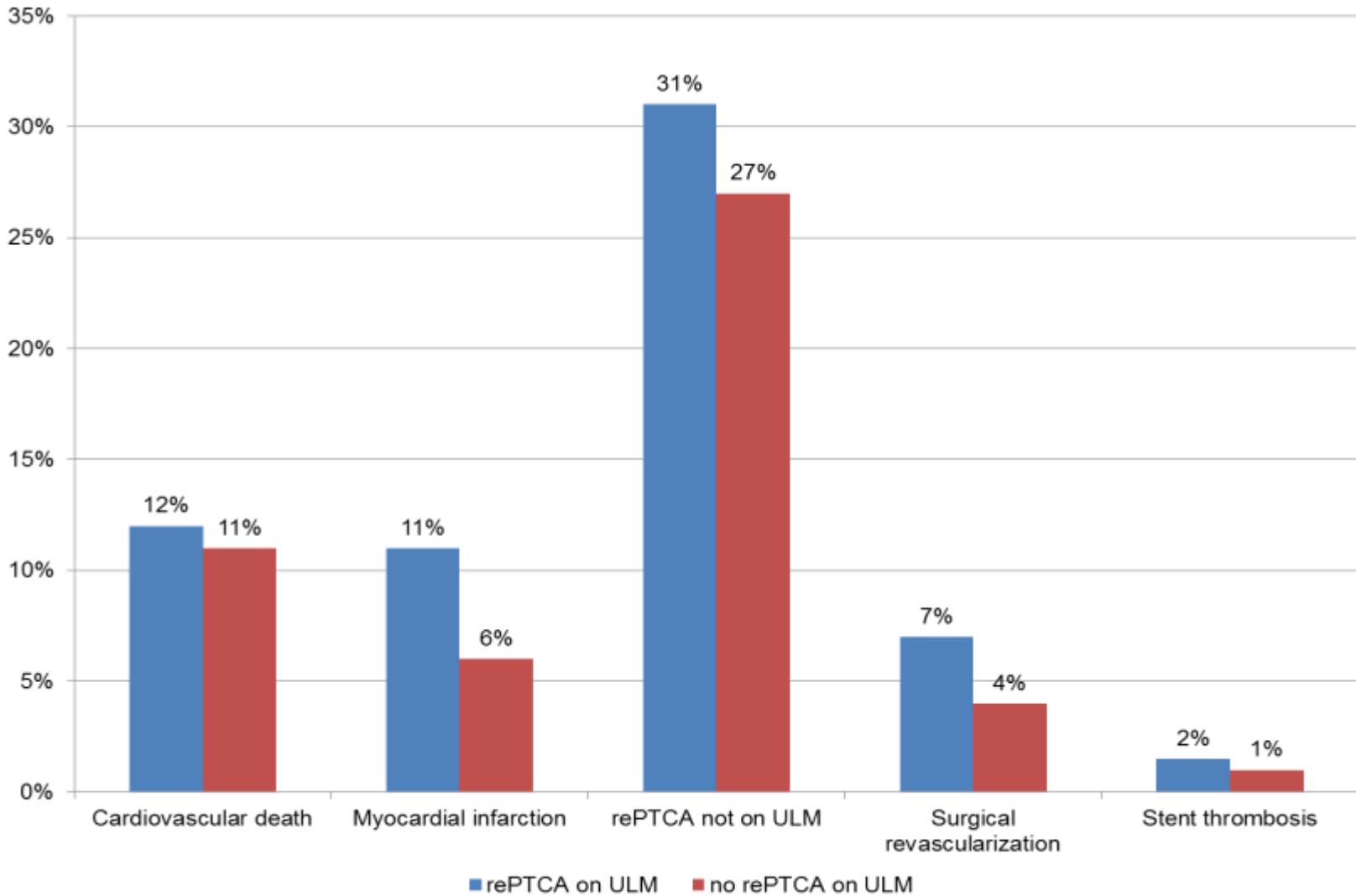


Sensitivity analysis for outcomes according to Syntax score

($p < 0.01$ for MACE and rePTCA not on ULM).

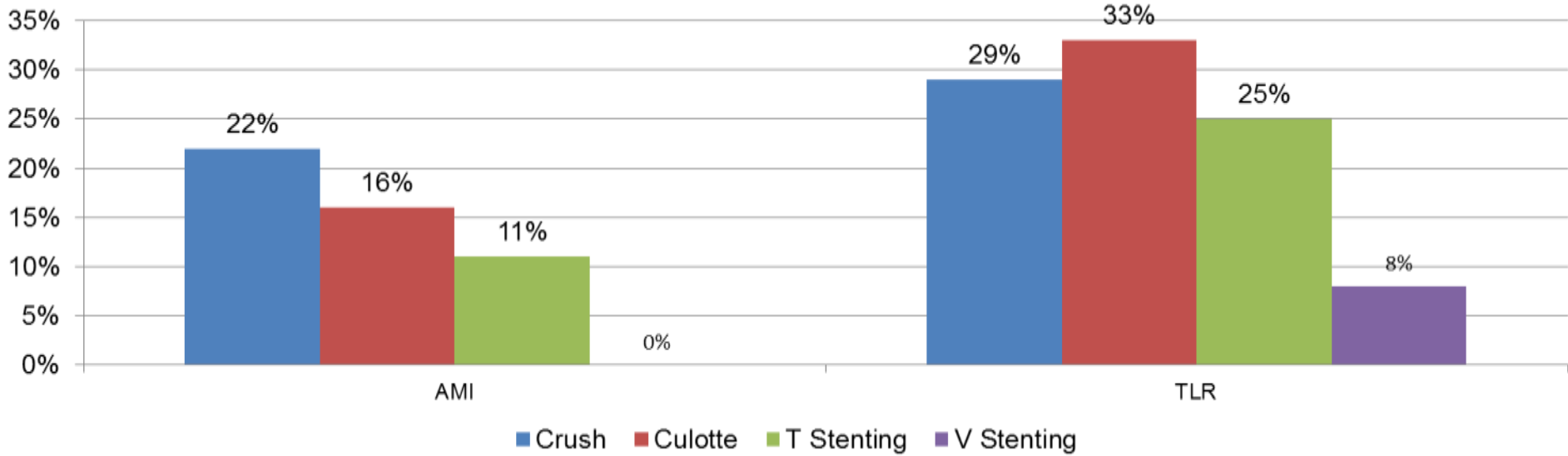
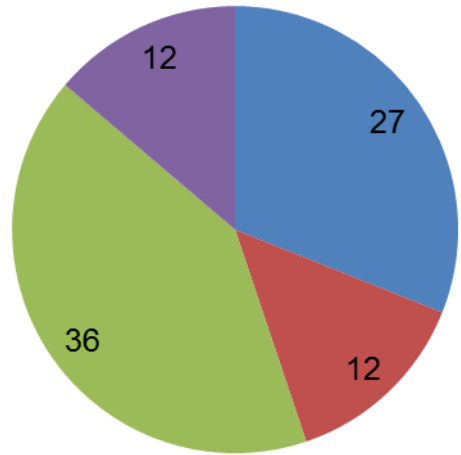


Outcome according to repeat PCI on LM

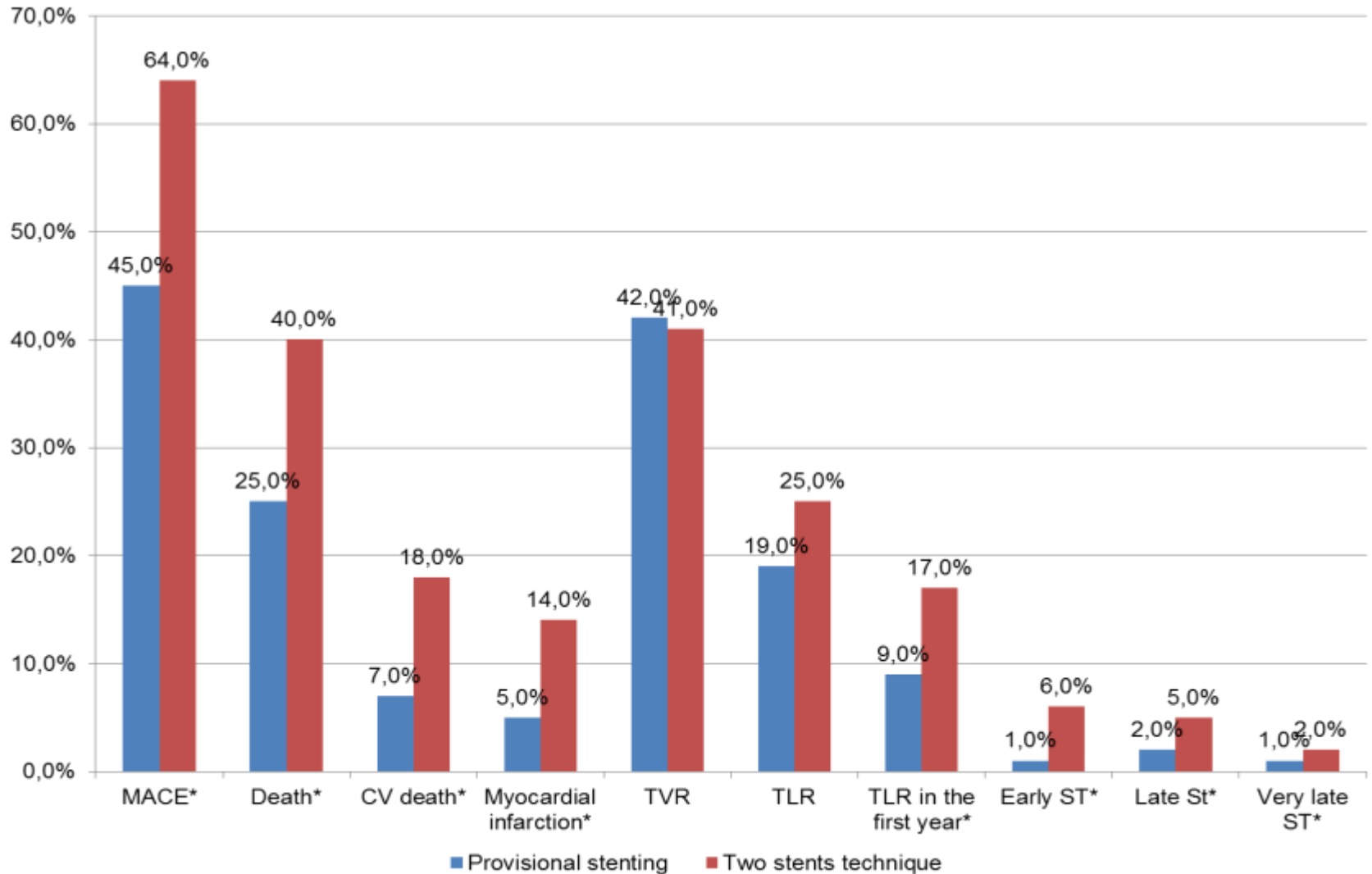


What about 2 stents vs. provisional for patients with true bifurcation?

Two stents strategy: incidence of acute myocardial infarction and TLR (p not significant)

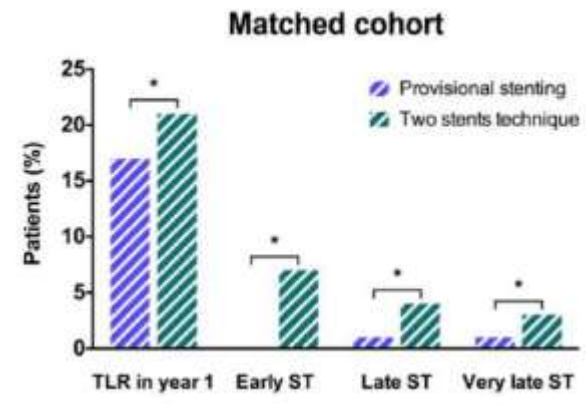
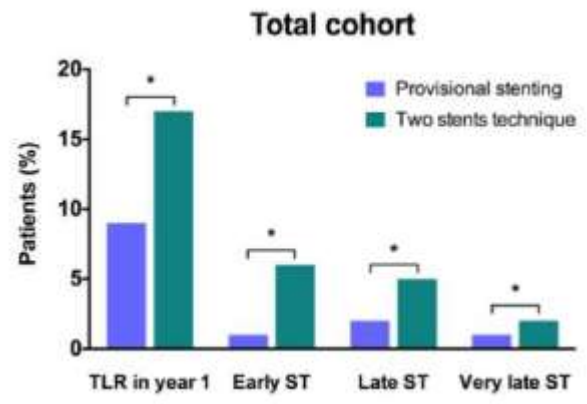
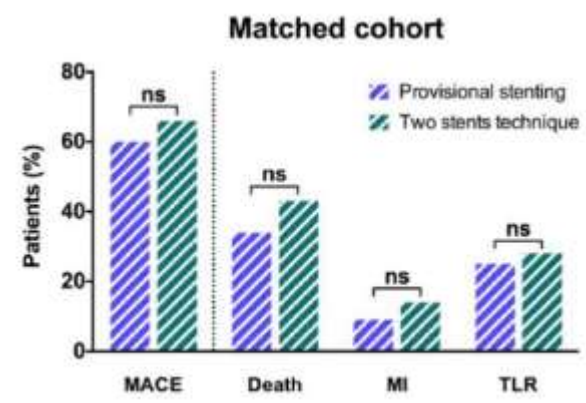
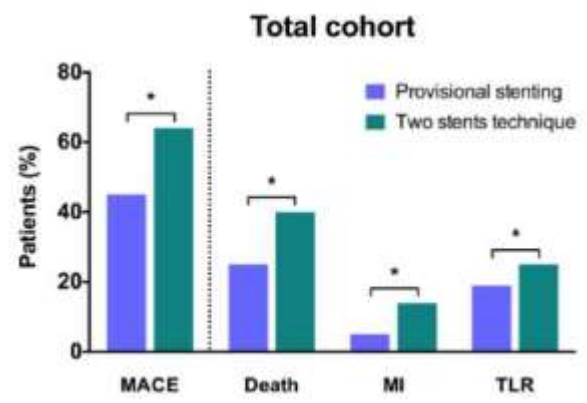


Provisional vs. two stents technique after ten years follow up. (*p<0.05)



Provisional vs. 2 stent technique after 10 year and 1 year FU before and after propensity score matching

* P <0.05

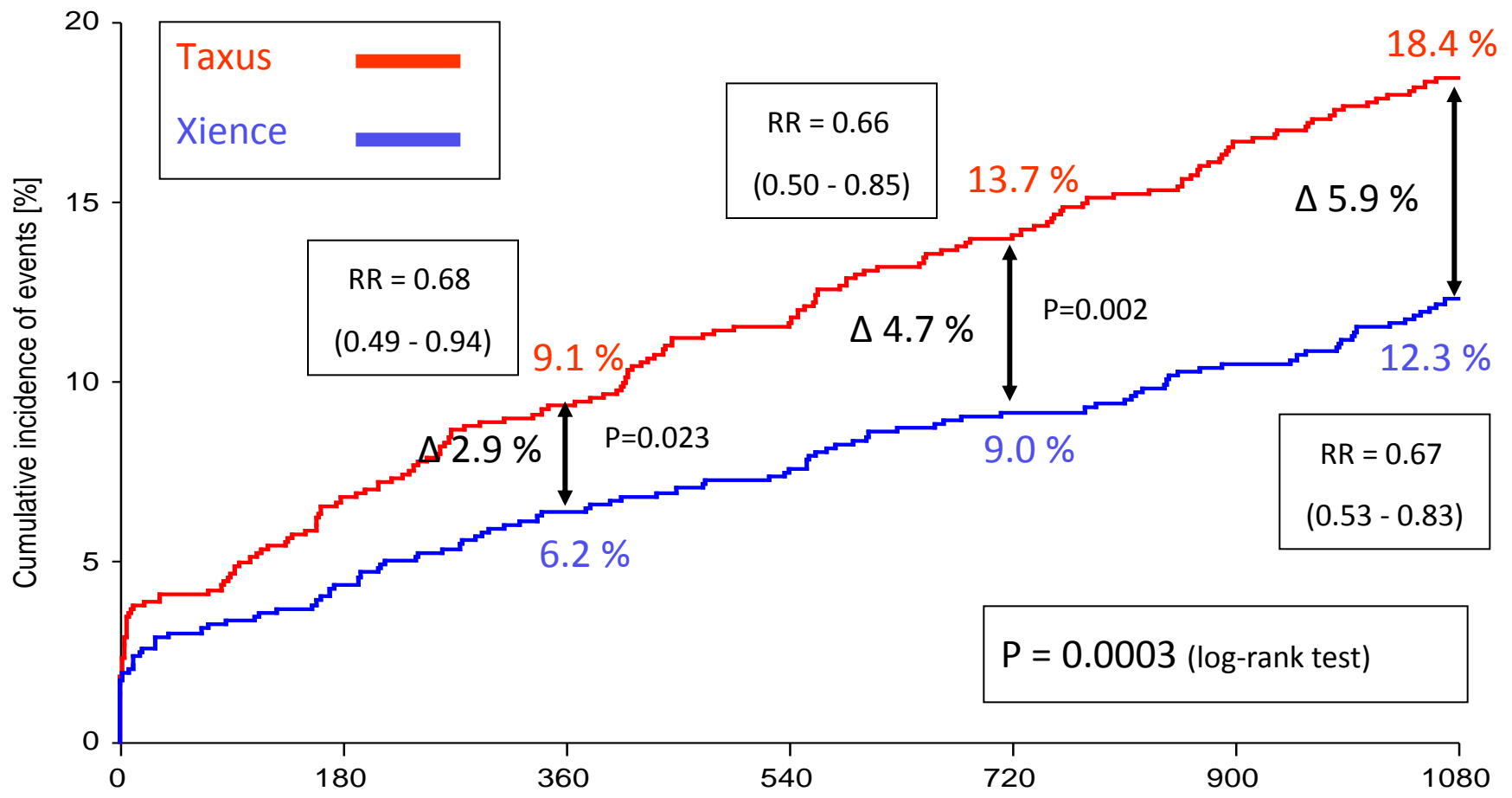


What is changed in the last 10 years

- **Better operator training, better patients' selection**
- **New stents : II generation DES**
- **FFR, OCT, IVUS**
- **New anti-platelets drugs, new strategies for double anti-platelet treatment:**
 - **Prasugrel**
 - **Ticagrelor**
 - **Double dose of clopidogrel**

The Compare trial: Primary Endpoint Result @ 3 yr

MACE (all death, non-fatal MI and TVR)



Patients At Risk:

Time after initial procedure [days]



Final Remarks

- **Despite the use of first generation stents, PCI on ULM safety and efficacy are long lasting over time (10 yrs) with low rates of recurrent events due to index-revascularization.**
- **Progression of atherosclerotic lesions on other coronary vessels (and not LM itself) represents an important independent predictive factor for prognosis following index procedure .**
- **CAD extension (high Syntax Score) continue to exert a negative impact on long and very long term clinical outcome**