Complete vs Incomplete Revascularization After Left Main PCI: Does an Open RCA Matter?

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Disclosure Statement of Financial Interest

I, David Antoniucci 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.

ULMD PCI Florence Registry *(Migliorini A, JACC 2011)*

Characteristics of 330 LM Patients with and without RCA CTO

	Pts without RCA CTO	Pts with RCA CTO	p value
	n=252	n=78	
Age	72 ± 10	71 ± 11	0.728
Diabetes mellitus	71 (28)	27 (35)	0.277
LVEF	47 ± 12	39 ± 14	< 0.001
EuroSCORE,	6.11 [3.18-14.55]	9.65 [4.52-28.03]	0.002
EuroSCORE ≥ 6	129 (51)	53 (68)	0.009
LM + 3-vessels	58 (33)	38 (49)	< 0.001
Distal LM location	211 (84)	72 (92)	0.058

CTO 118

	PCI attempt	PCI success
RCA n =78	39	35
LAD n = 21	19	18
Circ n = 19	13	11

Complete Revascularization 254 (77%)

Migliorini A, JACC 2011

Three-Year Outcome

	Non RCA CTO n=252	RCA CTO n=78	
Cardiac death (%)	10.5 ± 2.7	23.6 ± 6.8	0.003
MI (%)	6.3 ± 4.3	13.2 ± 7.3	0.065
Any revasc. (%)	31 ± 3.4	45.7 ± 8.7	0.063

Migliorini A, JACC 2011

Cardiac Survival (%)

89.4 ± 2.7

Log rank p = .003

76.4 ± 6.8

— Pts without RCA CTO
— Pts with RCA CTO

Time (days)
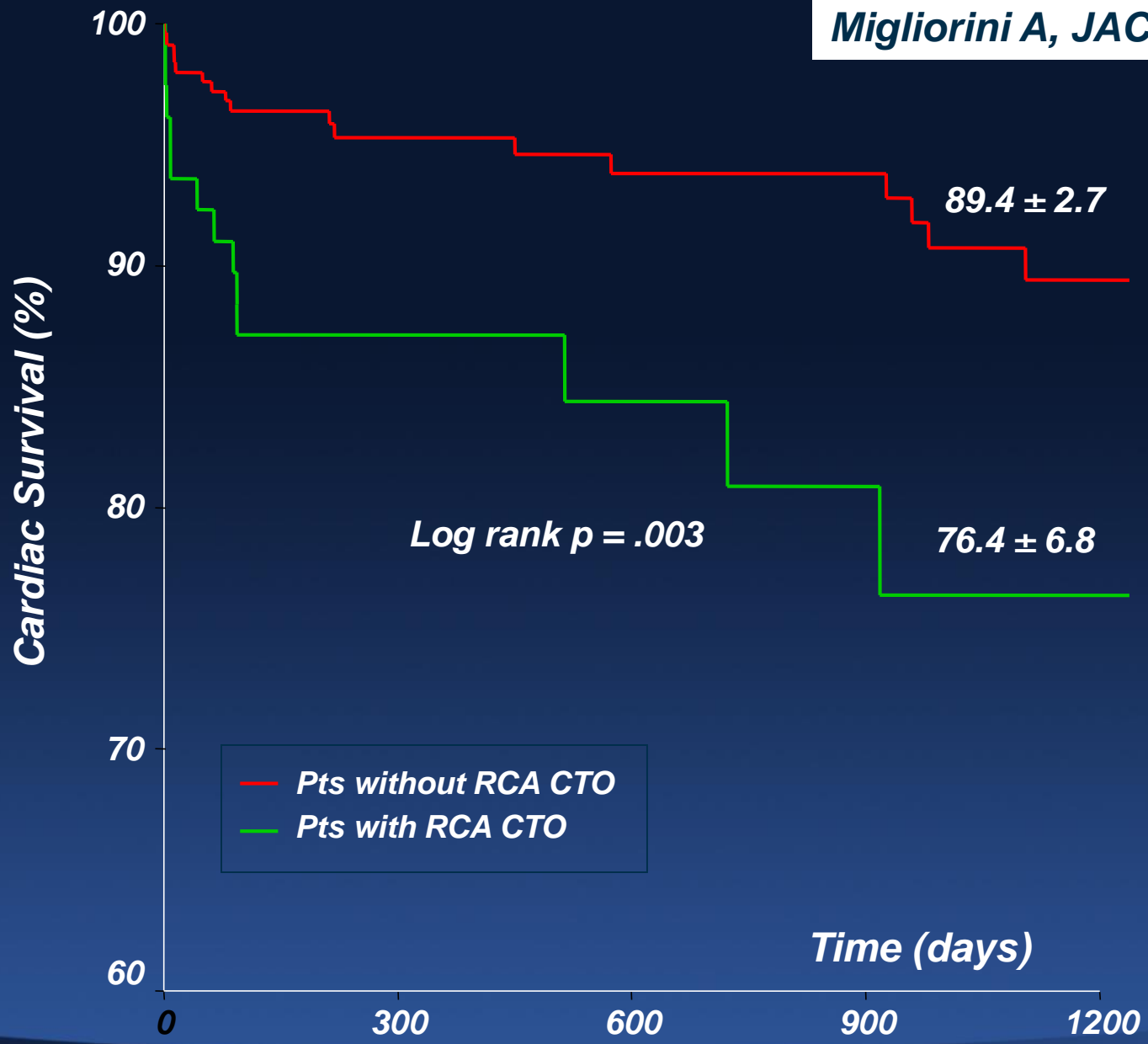
Long-Term Outcome

	CR (n =255)	non-CR (n = 75)	
Cardiac mortality			**<0.001**
1-year (%)	3.7 ± 1.2	16.4 ± 4.3	
2-year (%)	5.3 ± 1.6	21.1 ± 5.2	
3-year (%)	8.9 ± 2.6	27.9 ± 6.6	
3-year MI (%)	2.0 ± 1.0	10.6 ± 5.6	0.134
3-year any revascularization (%)	32.2 ± 4.0	41.0 ± 7.5	0.117

Migliorini A, JACC 2011

91.1 ± 2.6

Log rank p < .001

72.1 ± 6.6

Cardiac Survival (%)

—— Pts with Complete Revascularization
—— Pts without Complete Revascularization

Time (days)
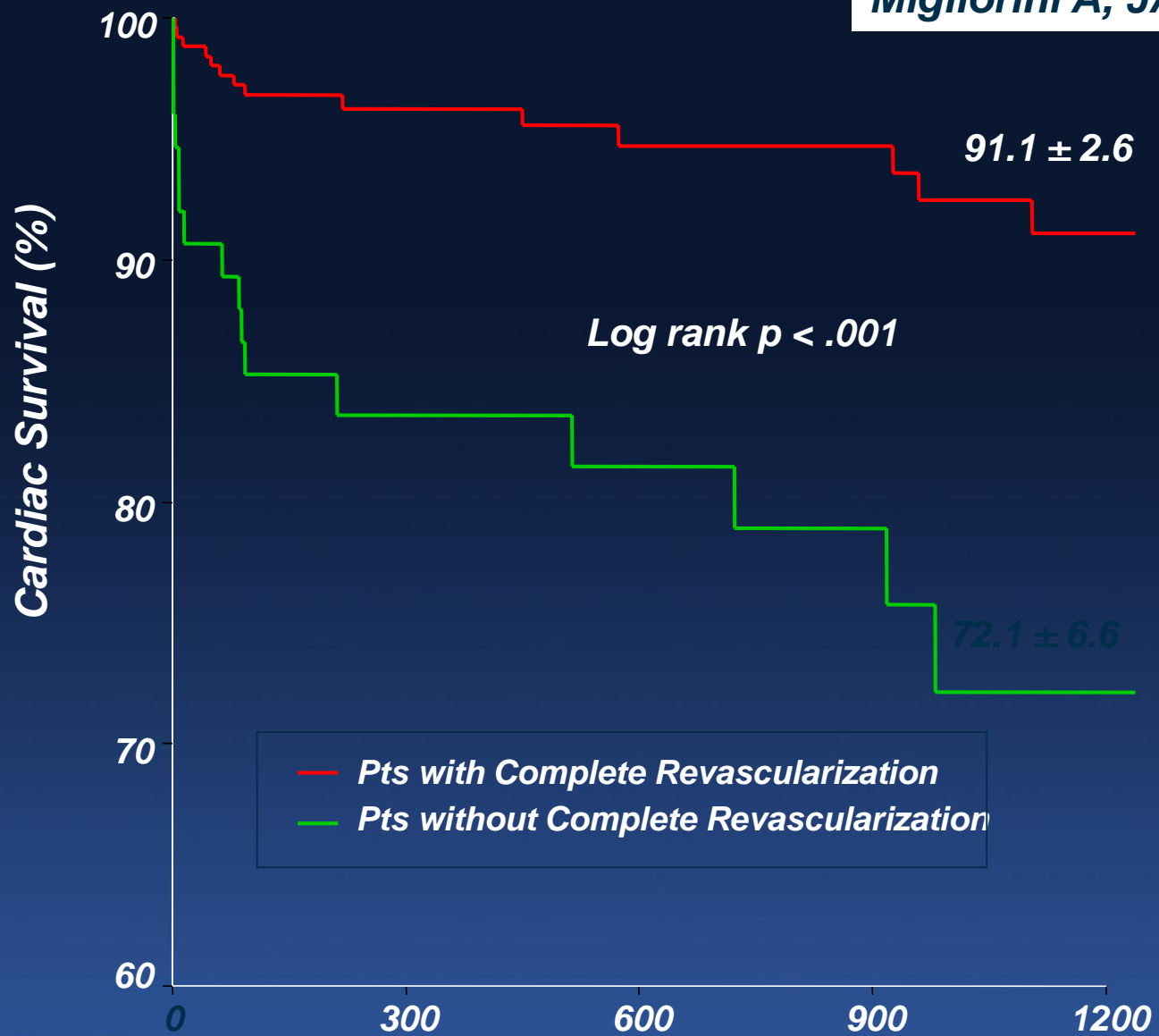
Predictors of 3-Year Cardiac Death

Completeness of Revascularization

HR 0.31, 95% CI 0.15-0.64, p = 0.001

EuroSCORE

HR 1.03, 95% CI 1.02-1.05, p < 0.001

Migliorini A, JACC 2011

Propensity score and CR as covariate.

c- = statistic 0.77

(Hosmer and Lemeshow goodness-of-fit test p = 0.392)

Completeness of Revascularization

*HR 0.40, 95% CI 0.18-0.86; p = 0.020*

Migliorini A, JACC 2011

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ULMD PCI Florence Registry Update

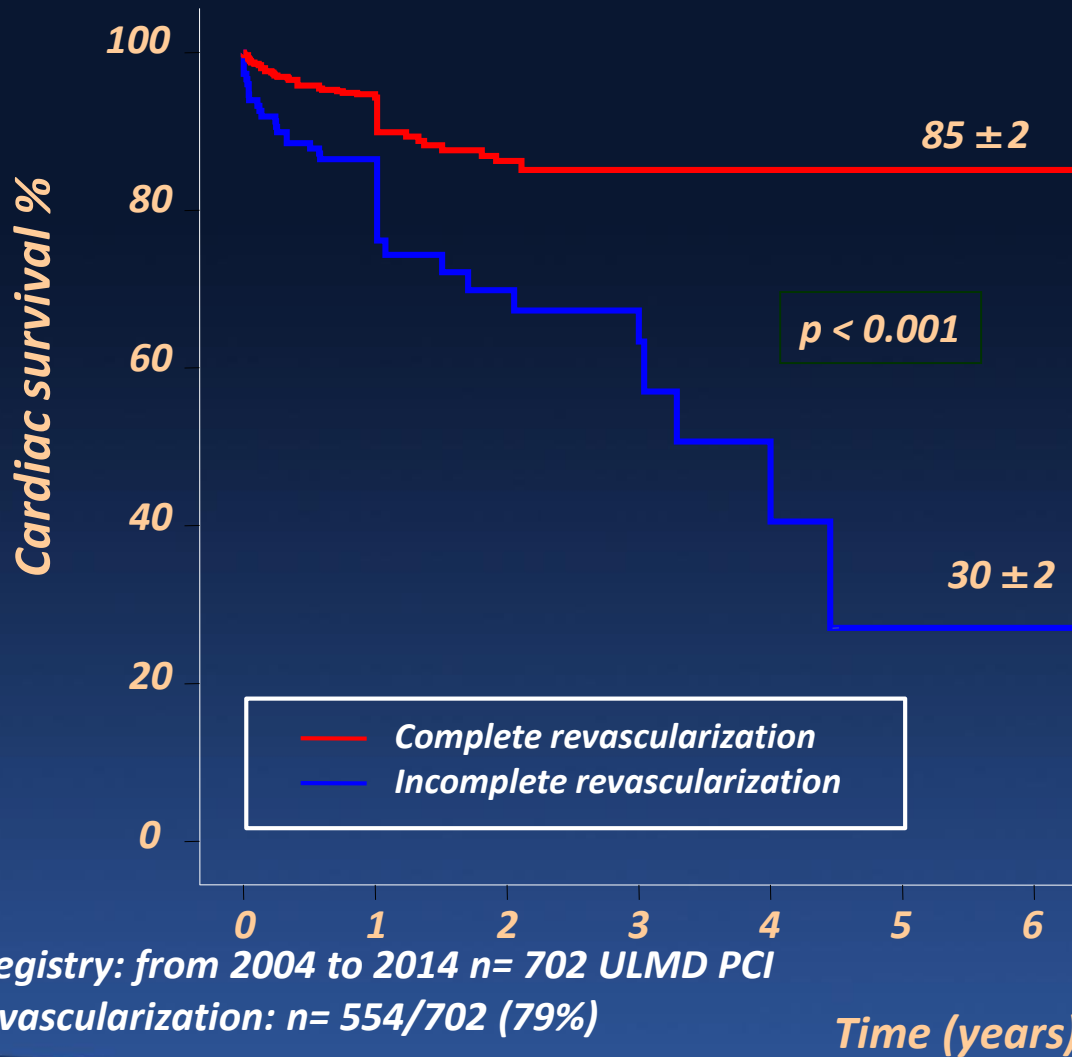|	
From 2004 to 2014	n=702
Age, mean ± SD	72 ± 11
Diabete mellitus, n (%)	192 (27)
ACS, n (%)	474 (68)
AMI, n (%)	74 (11)
LVEF < 0.40, n (%)	264 (37)
EuroSCORE, median (IQR)	7.6 (3.3-19.6)
EuroSCORE ≥ 6 , n (%)	247 (35)
Three-vessel disease, n (%)	212 (30)

ULMD PCI Florence Registry Update

From 2004 to 2014	n=702
Distal LM	**623 (88)**
Single stent, n (%)	362 (58)
Both Branches stenting	261 (42)
Everolimus-eluting stent	**393 (56)**
1st generation DES	**309 (44)**
IVUS guidance, n (%)	**512 (74)**
CTO vessel, n (%)	222 (32)
CTO PCI attempted, n	135/222 (61)
Successful CTO PCI, n (%)	119 (88)
Complete revascularization, n (%)	554 (79)

tct2015

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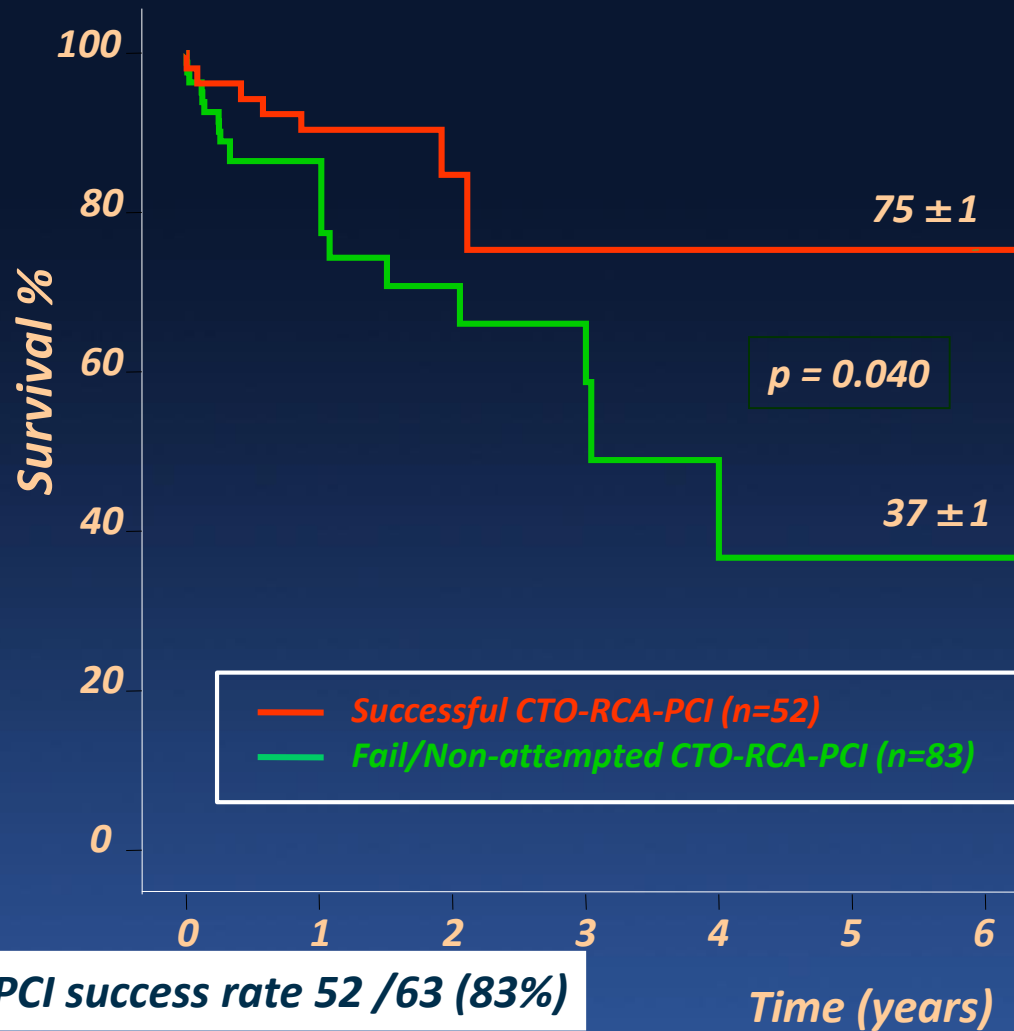
Long-Term Cardiac Survial ULMD PCI Florence Registry

Cardiac survival %

100
80
60
40
20
0

85 ± 2

p < 0.001

30 ± 2

— Complete revascularization
— Incomplete revascularization

0   1   2   3   4   5   6

Time (years)

ULMD PCI Registry: from 2004 to 2014 n= 702 ULMD PCI
Complete revascularization: n= 554/702 (79%)

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Conclusions

➢ *RCA CTO is frequent in LM disease (25% in LM-PCI Florence Registry).*

➢ *Complete revascularization should be achieved in pts with ULMD and multivessel disease (including CTO).*

Design

- **DESIGN: Prospective single-center registry of ULM PCI treated with DES.**

- **End point: survival at 1 month, 6 months, 1, 2, 5 years.**

- **METHODS: Cardiac survival was assessed by Kaplan-Meier estimation and by forward stepwise multivariate Cox regression analysis.**

From January 2004 to December 2009 379 pts with ULM disease were screened.

5 pts died before PCI attempt.
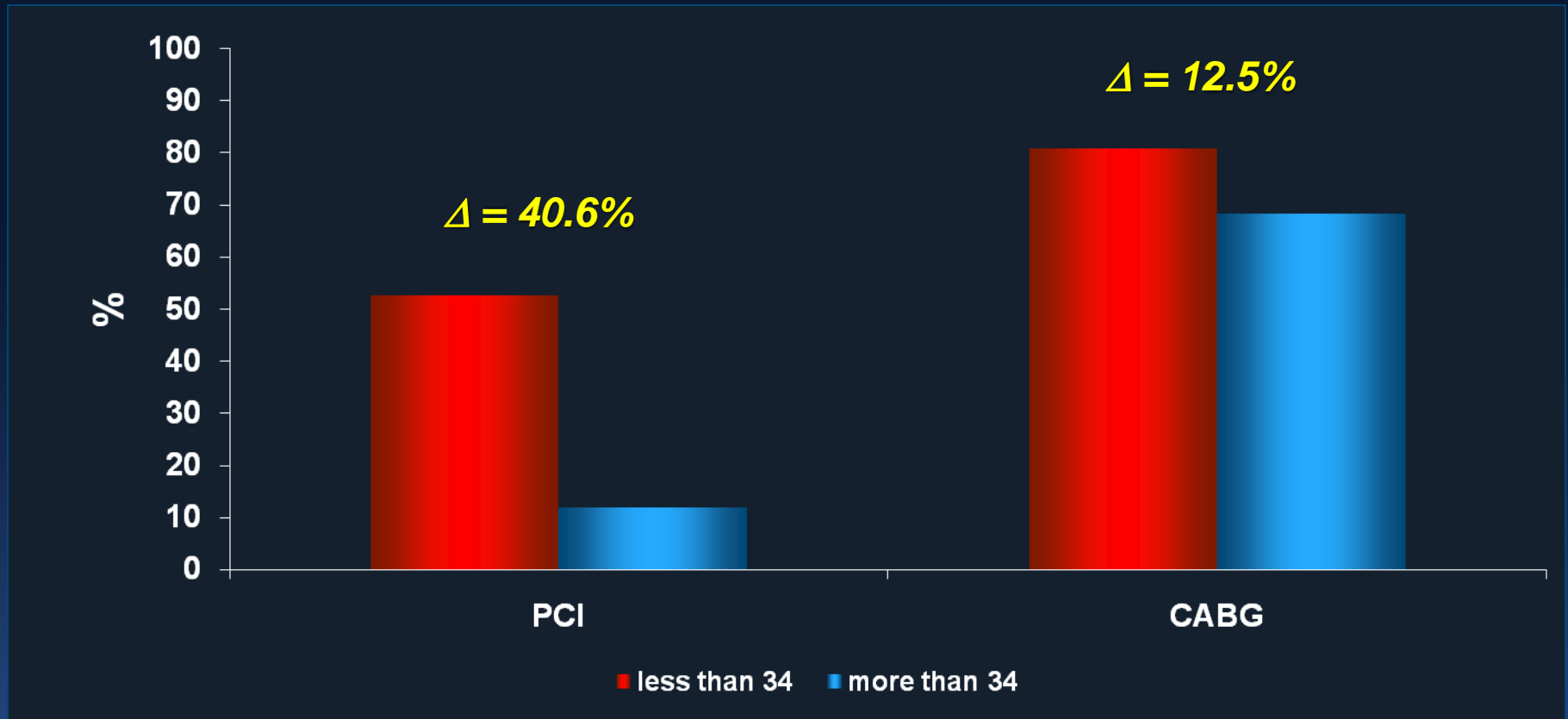
374 pts underwent ULM PCI.

44 pts STEMI

330 pts non-STEMI

Median F-U length 16 months
F-U Rate 100%

Complete vs Incomplete Revascularization

	Pts with CR n=255	Pts without CR n=75	p value
Age,	71 ± 10	75 ± 10	0.002
Diabetes	67 (26)	31 (41)	0.012
Peripheral vascular disease	74 (29)	31 (43)	0.044
Previous myocardial infarction	55 (22)	28 (37)	0.006
Creatinine > 150 µmol/ L,	43 (17)	16 (21)	0.374
LVEF, %	45 ± 15	35 ± 15	< 0.001
EuroSCORE	6.12 [3.11-13.83]	13.0 [4.36-13.0]	< 0.001
EuroSCORE ≥ 6	131 (51)	51 (68)	0.011
LM plus 3-vessel disease	68 (27)	28 (37)	0.074
RCA CTO	34 (13)	44 (59)	< 0.001

Differences of complete revascularization rates per revascularization treatment. *

Δ = 40.6%

Δ = 12.5%

PCI   CABG

■ less than 34   ■ more than 34

Capodanno et al. J Am Coll Cardiol Intv 2009;2:731-8