

LM Intervention in Real World Clinical Practice in Korea

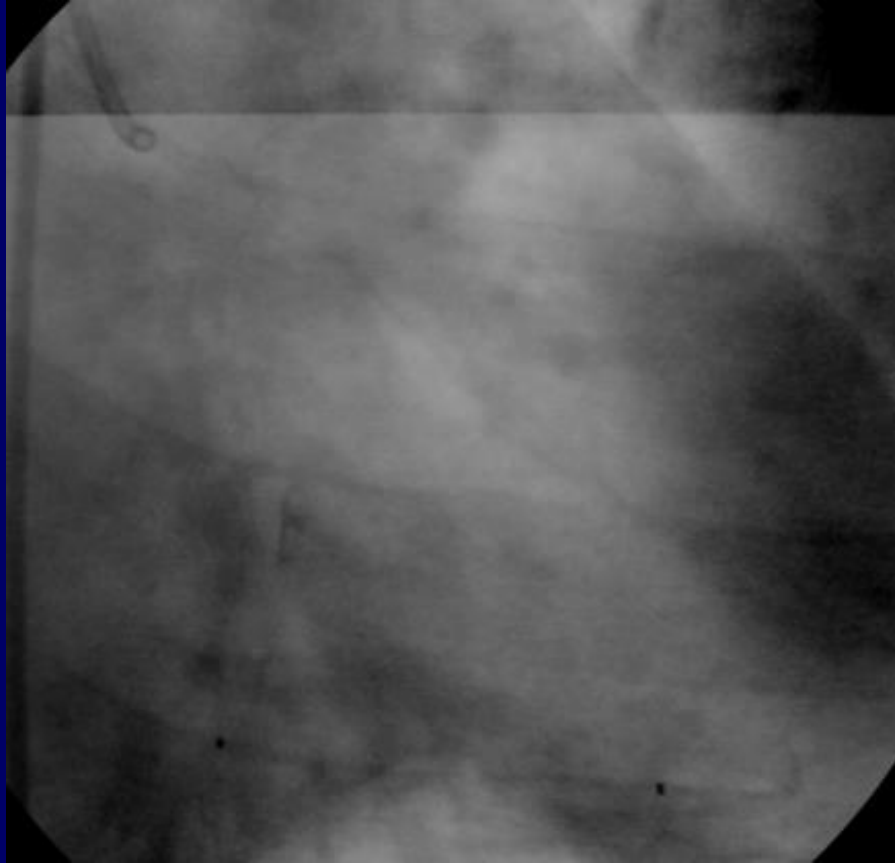


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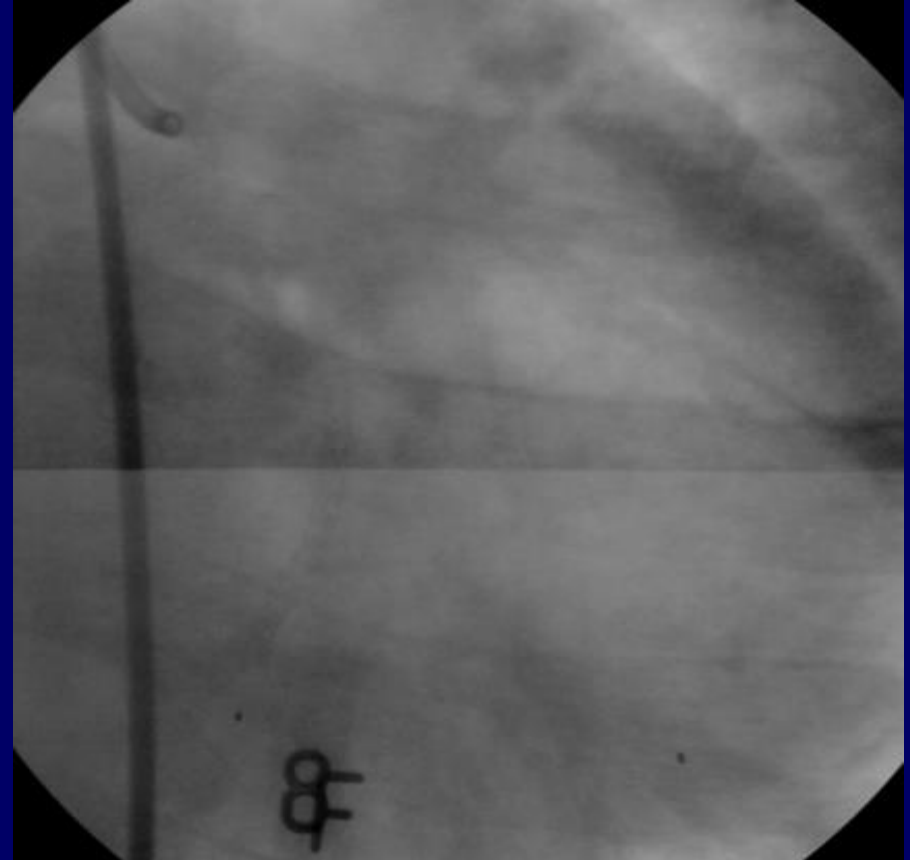
M/56

- CC: Squeezing nature, substernal chest pain
- EKG: ST elevation on II, III, aVF
- Risk factors:
HTN (+), DM (+), hypercholesterolemia (+)

M/56, High Syntax Score



M/56, High Syntax Score



Cypher 2.5 by 33mm

M/56

- Euroscore: 7
- Logistic euroscore: 7.75
- EuroSCOREII: 2.2
- Echo: ef, 47.3%, RWMA (+), severe hypokinesia of ant-lat, post-lat wall from base to mid LV

- Syntax score : LM 12 LAD 6 LCX 17.5 RCA 1
- Total Syntax score 41.5

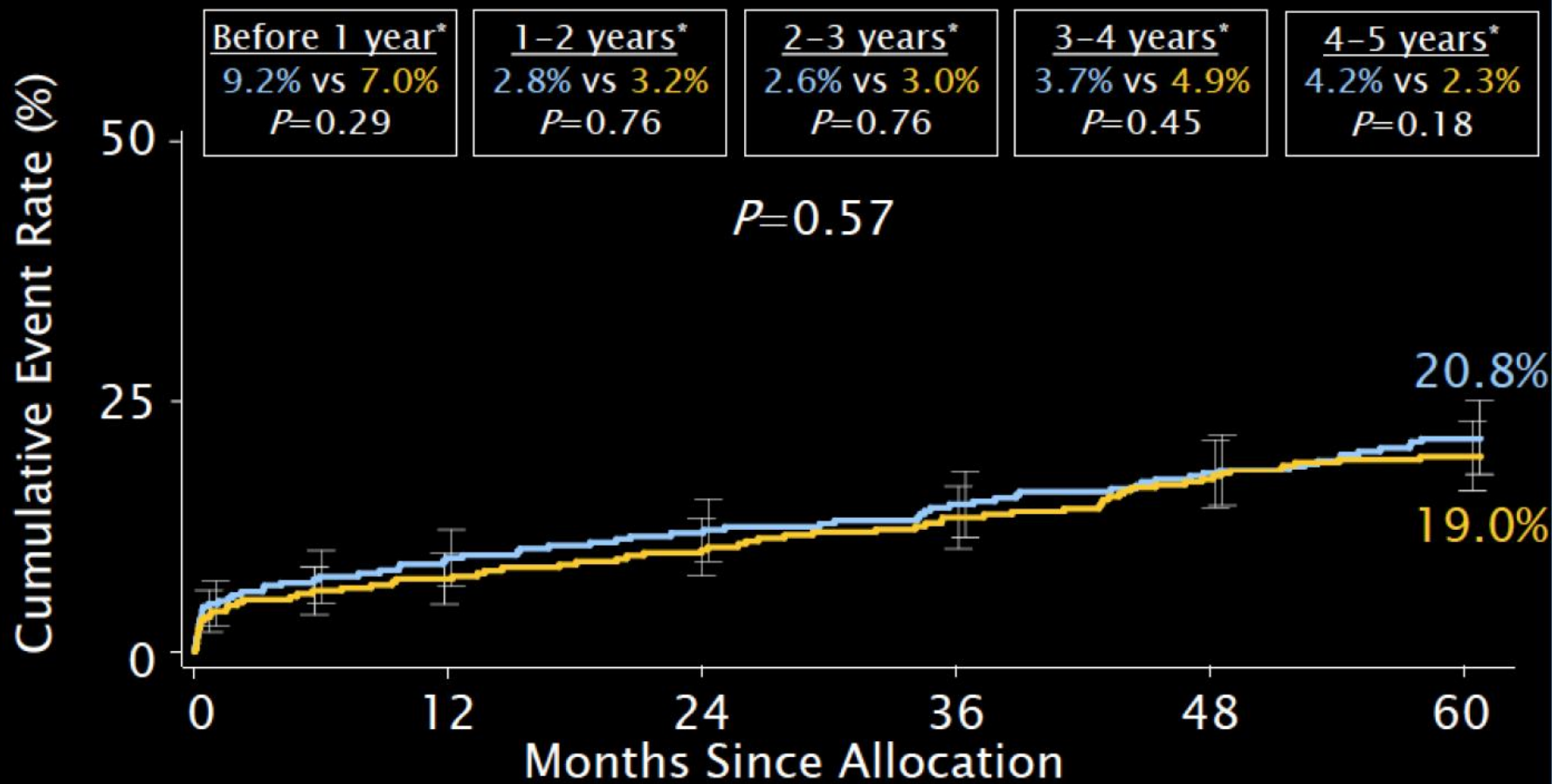
All-Cause Death/CVA/MI to 5 Years

Left Main Subset



■ CABG (N=348)

■ TAXUS (N=357)



Cumulative KM Event Rate \pm 1.5 SE; log-rank P value; *Binary rates

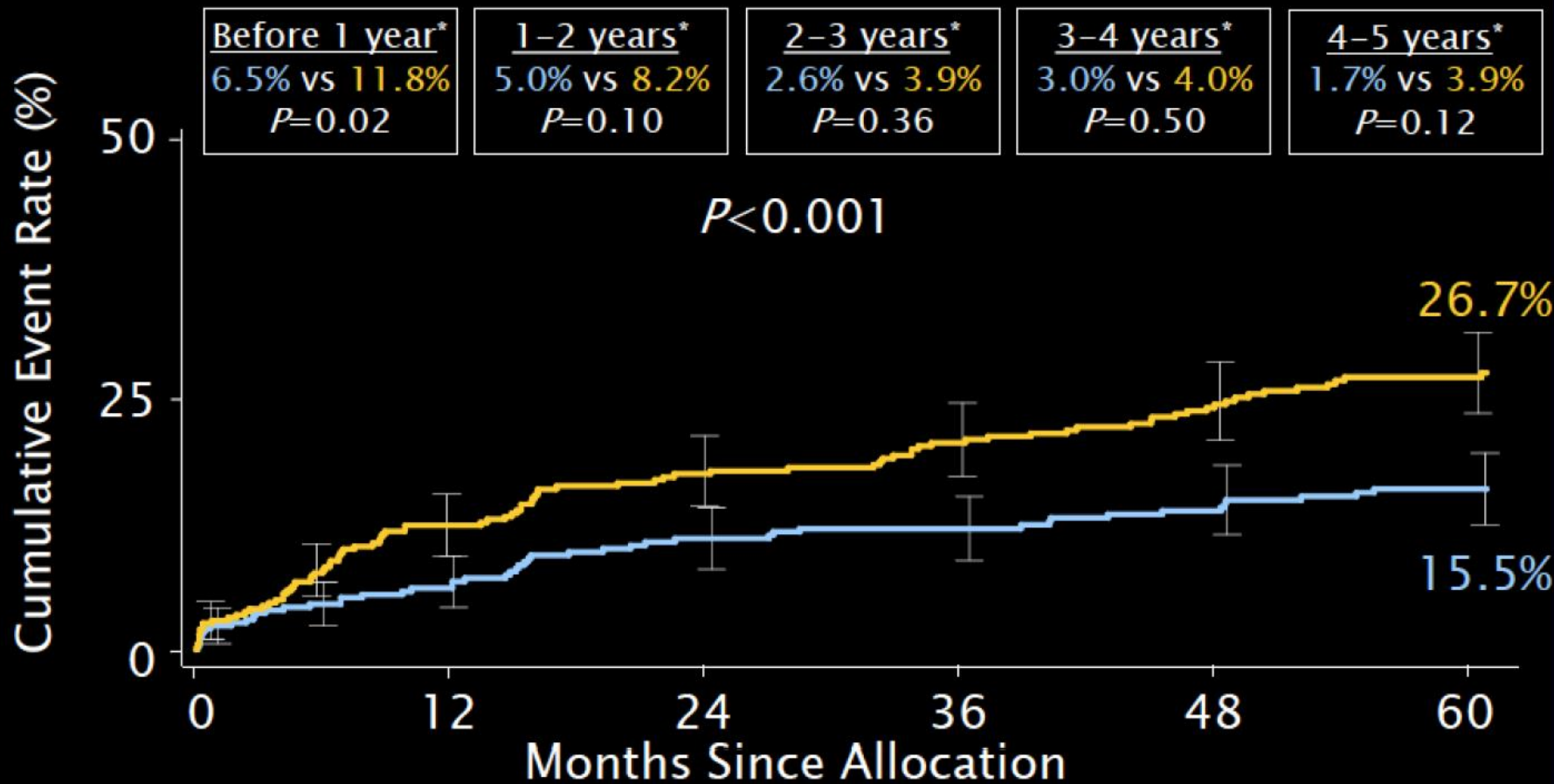
ITT population

Repeat Revascularization to 5 Years *Left Main Subset*



■ CABG (N=348)

■ TAXUS (N=357)



Cumulative KM Event Rate \pm 1.5 SE; log-rank Pvalue; *Binary rates

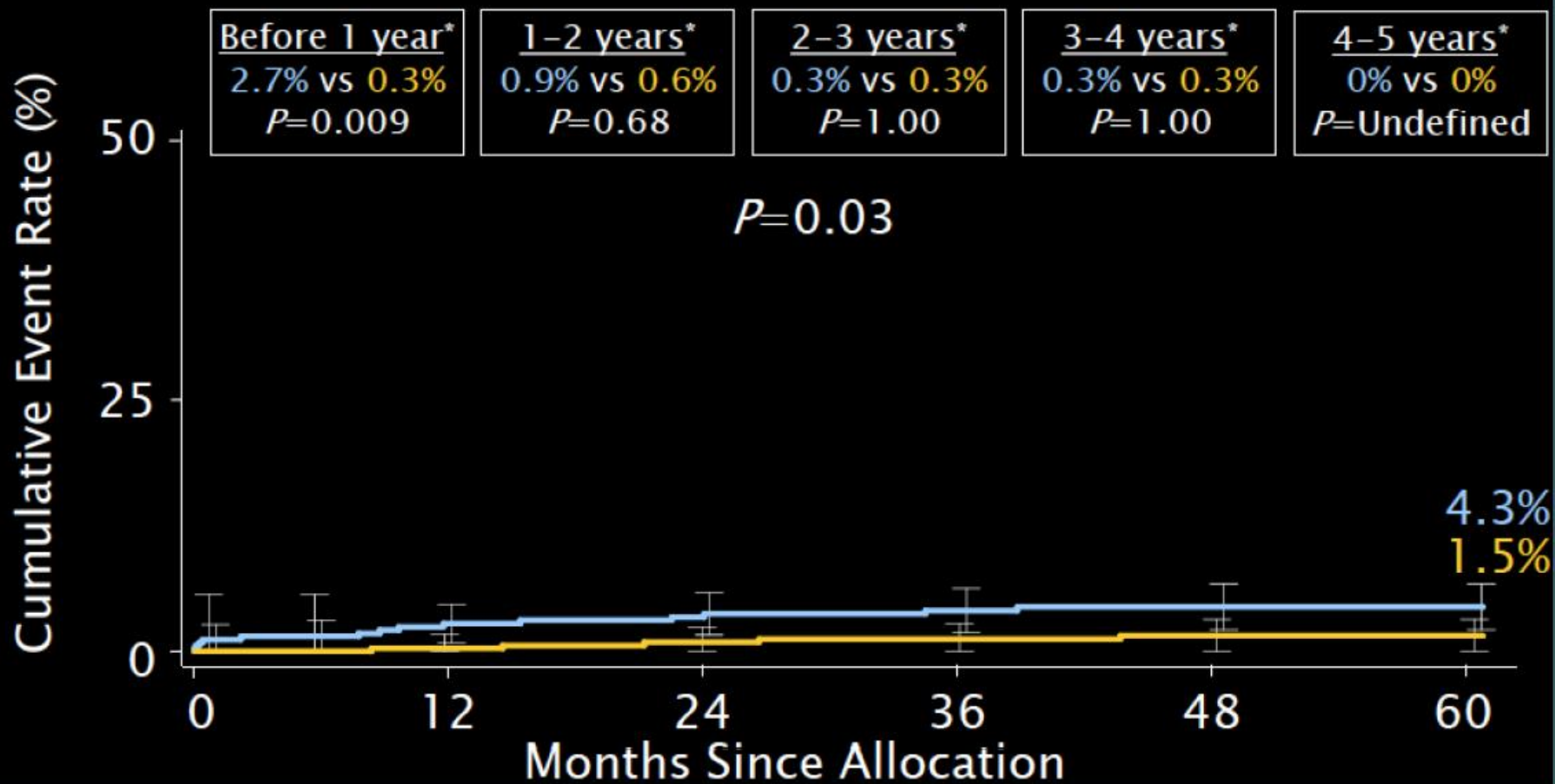
ITT population

CVA to 5 Years Left Main Subset



■ CABG (N=348)

■ TAXUS (N=357)



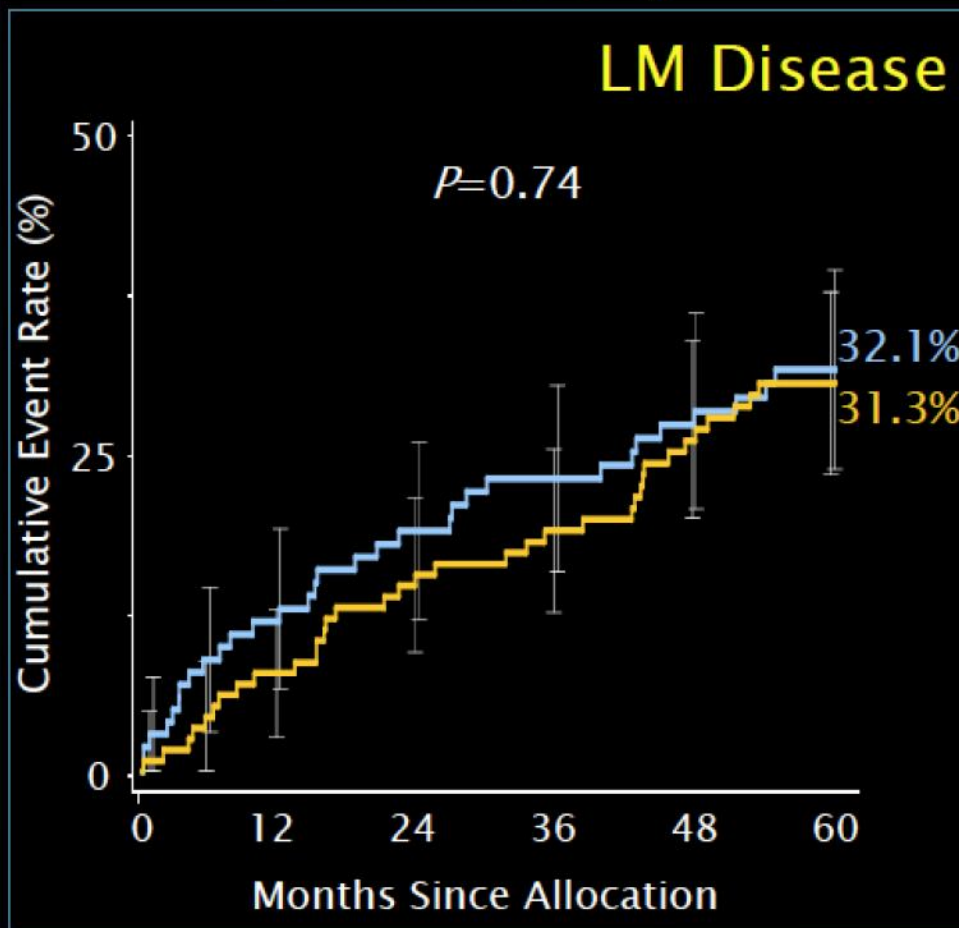
Cumulative KM Event Rate \pm 1.5 SE; log-rank *P* value; *Binary rates

ITT population

MACCE to 5 Years by SYNTAX Score Tercile *Low to Intermediate Scores (0-32)*



■ CABG (N=196)
■ TAXUS (N=221)



	CABG	PCI	<i>P</i> value
Death	15.1%	7.9%	0.02
CVA	3.9%	1.4%	0.11
MI	3.8%	6.1%	0.33
Death, CVA or MI	19.8%	14.8%	0.16
Revasc.	18.6%	22.6%	0.36

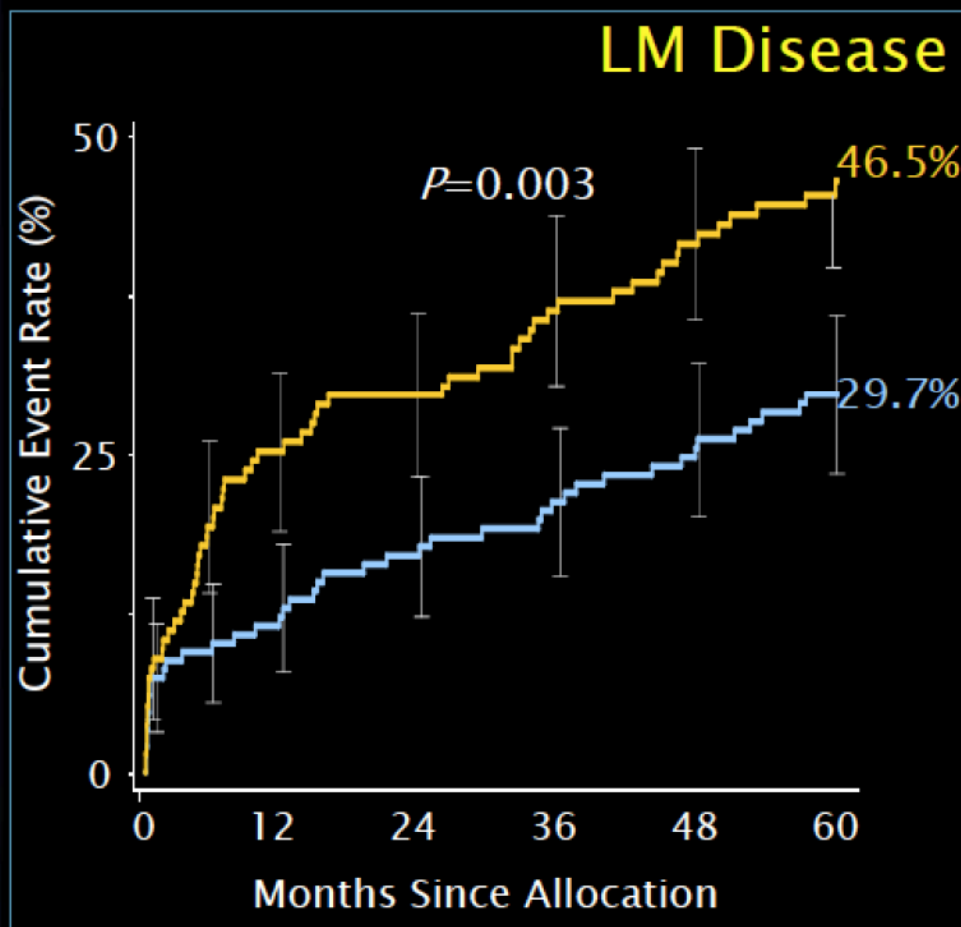
Serruys PW et al. Lancet 2013;381:629-38

MACCE to 5 Years by SYNTAX Score Tercile

LM Subset High Scores ≥ 33



■ CABG (N=149)
■ TAXUS (N=135)

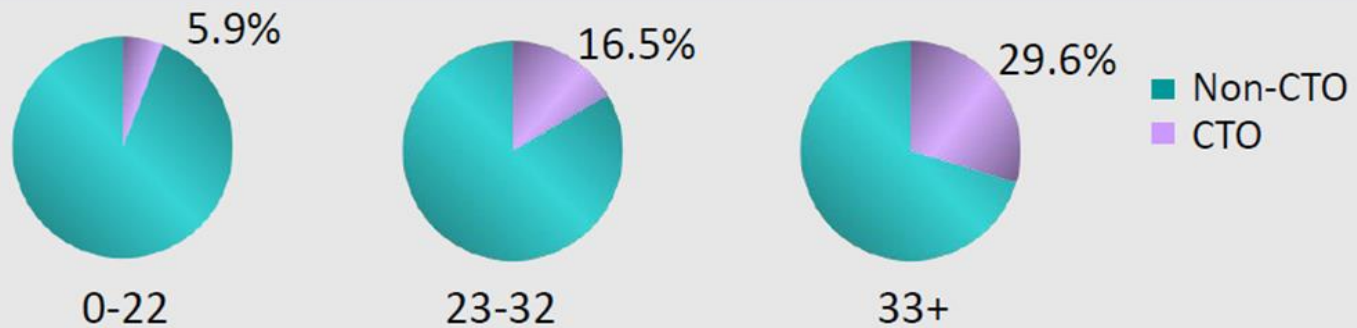
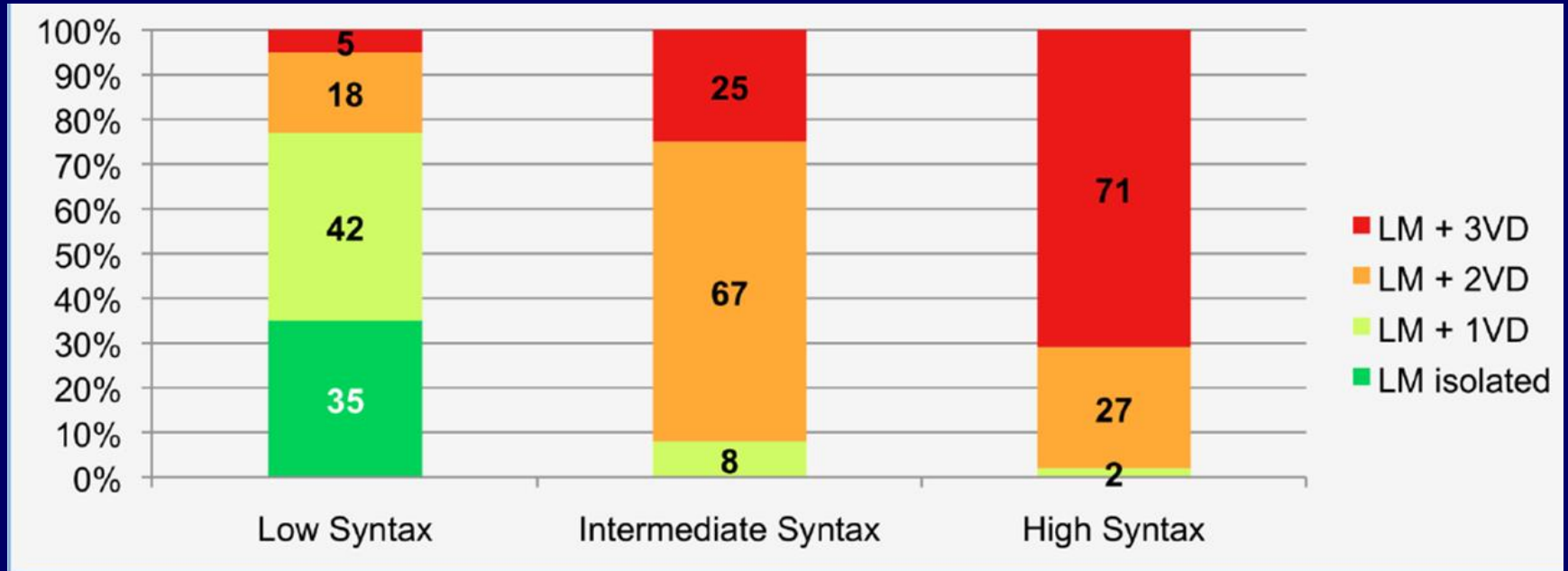


	CABG	PCI	P value
Death	14.1%	20.9%	0.11
CVA	4.9%	1.6%	0.13
MI	6.1%	11.7%	0.13
Death, CVA or MI	22.1%	26.1%	0.40
Revasc.	11.6%	34.1%	<0.001

Cumulative KM Event Rate \pm 1.5 SE; log-rank P value

Site-reported Data; ITT population

LM population according to Syntax score



More stents, More MACE

Studies for LM

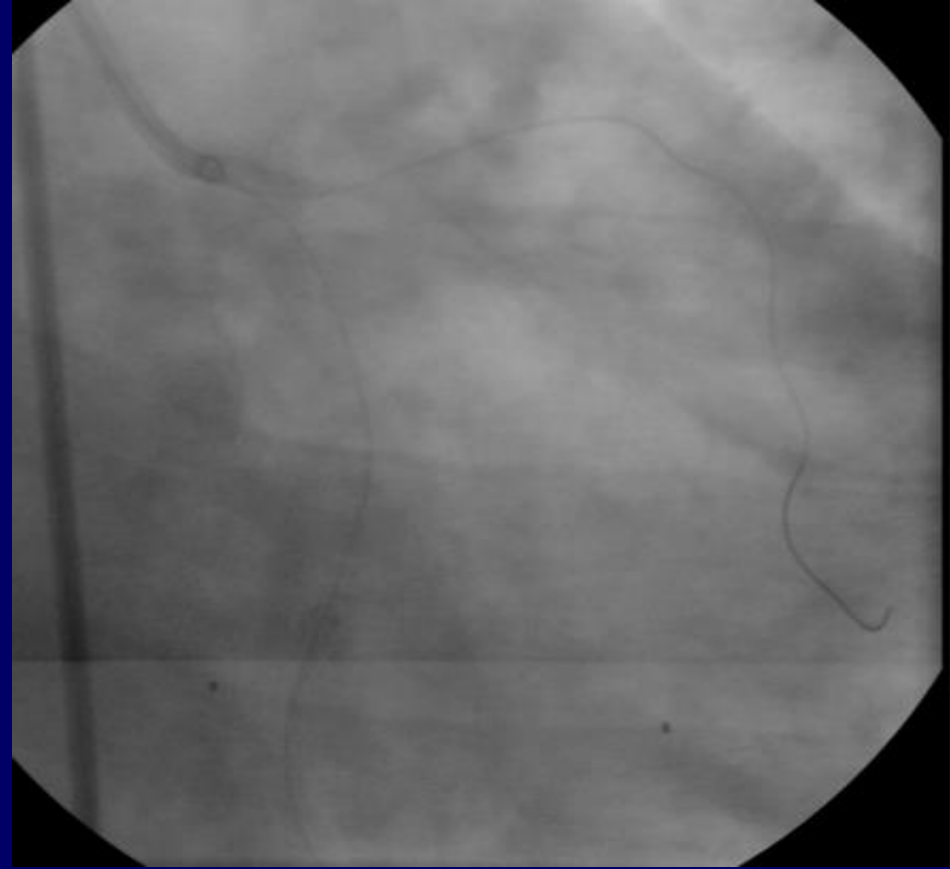
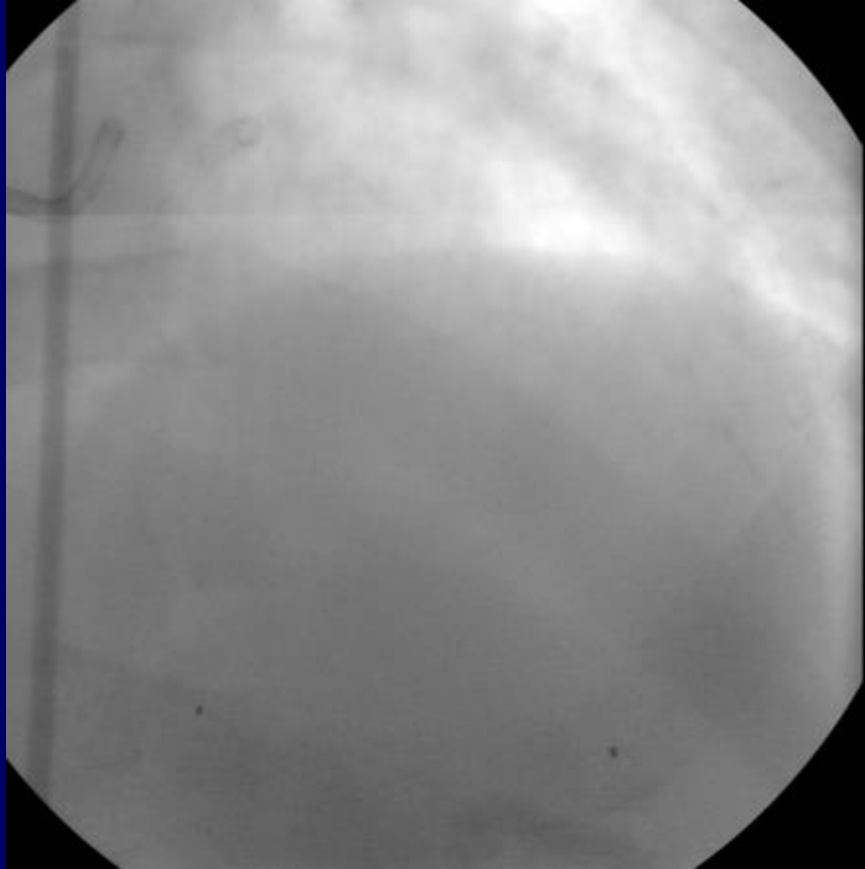
Design	Contributing Studies	PCI (n)	CABG (n)	Follow-up Duration	Adjusted Risk for Death	Adjusted Risk for TVR/TLR	
Observational study	MAIN-COMPARE ⁴	784	690	5 years	HR 1.00 (0.73 to 0.37) P=0.99	PCI > CABG	
	Lee et al ⁵	153	50	6.7 months	4% for PCI 13% for CABG P=0.18		
	Chieffo et al ⁶	107	142	1 year	OR 0.33 (0.06 to 1.40) P=0.17		
	Palmerini et al ⁷	94	154	1.2 years	HR 0.99 (0.47 to 2.07) P=0.97		
	Sanmartin et al ⁸	96	245	1 year	5.2% for PCI 8.4% for CABG P=0.34		
	Makikallio et al ⁹	49	238	1 year	4% for PCI 11% for CABG P=0.14		
	Cheng et al ¹⁰	94	216	3 years	PCI < CABG		
	Wu et al ¹¹	131	245	3 years			
	Park et al ¹²	205	257	3 years	OR 1.20 (0.70 to 2.08) P=0.51		PCI > CABG
	CUSTOMIZE ¹³	222	361	1 year	HR 1.1 (0.4 to 3.0) P=0.81		
Meta-analysis	Takagi et al ¹⁹	1006	1175	3 months to 3 years	PCI = CABG	PCI > CABG	
	Lee et al ²⁰	1236	1669	1 year			
	Naik et al ²¹	1659	2114	1 to 3 years			
	Capodanno et al ²²	809	802	1 year			
Randomized controlled trial	Buzman et al ¹⁴	52	53	1 year	PCI = CABG		PCI > CABG
	SYNTAX substudy ¹⁵	357	348	1 year			
	Boudriot et al ¹⁶	100	101	1 year			
	Park et al ¹⁷	300	300	1 year			

PCI indicates percutaneous coronary intervention; CABG, coronary artery bypass grafting; TVR, target-vessel revascularization; TLR, target-lesion revascularization; SYNTAX, the Synergy between PCI with Taxus and Cardiac Surgery.

2014 ESC/EACTS Guidelines on Myocardial Revascularization

Recommendations according to extent of CAD	CABG		PCI	
	Class ^a	Level ^b	Class ^a	Level ^b
One or two-vessel disease without proximal LAD stenosis.	IIb	C	I	C
One-vessel disease with proximal LAD stenosis.	I	A	I	A
Two-vessel disease with proximal LAD stenosis.	I	B	I	C
Left main disease with a SYNTAX score ≤ 22 .	I	B	I	B
Left main disease with a SYNTAX score 23–32.	I	B	IIa	B
Left main disease with a SYNTAX score >32 .	I	B	III	B
Three-vessel disease with a SYNTAX score ≤ 22 .	I	A	I	B
Three-vessel disease with a SYNTAX score 23–32.	I	A	III	B
Three-vessel disease with a SYNTAX score >32 .	I	A	III	B

M/56, High Syntax Score

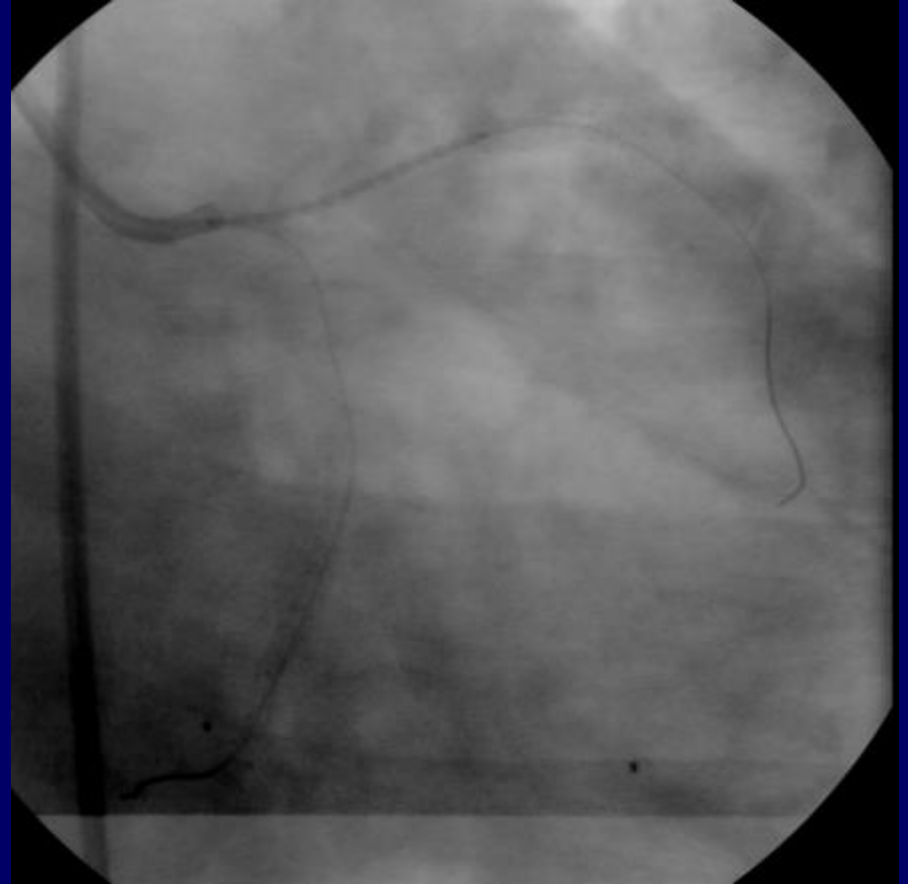


Syntax score : LM 12 LAD 6 LCX 17.5 RCA 1
Total Syntax score 41.5

M/56, High Syntax Score

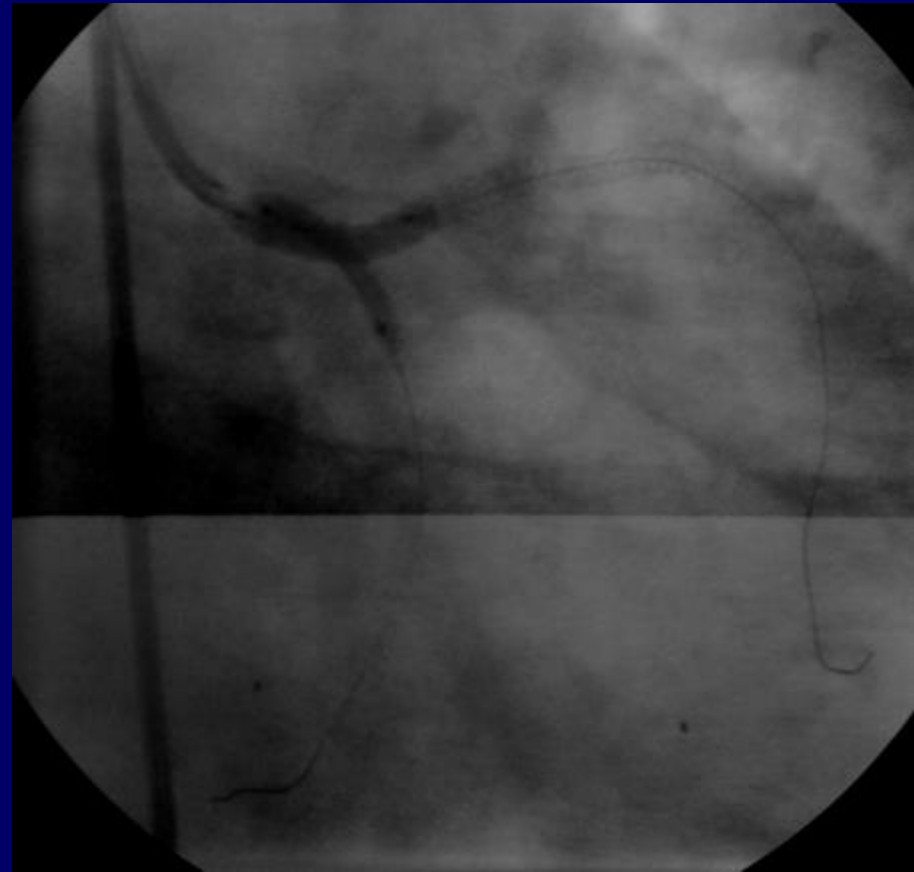
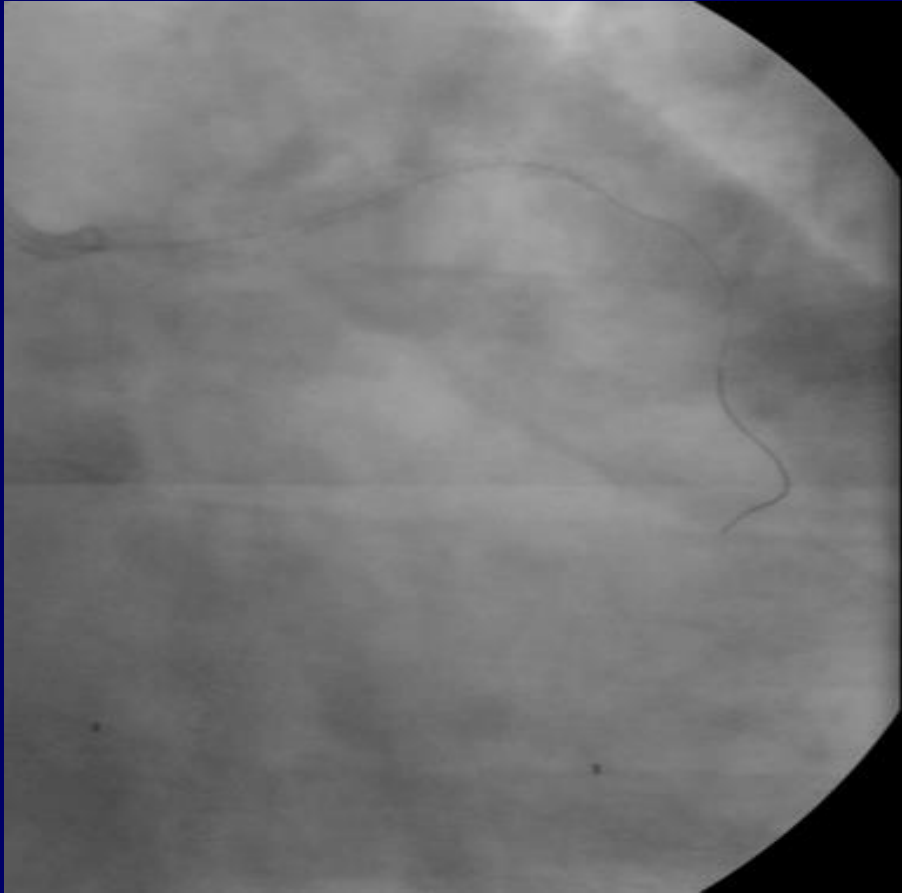


Cypher 3.0 by 33 mm

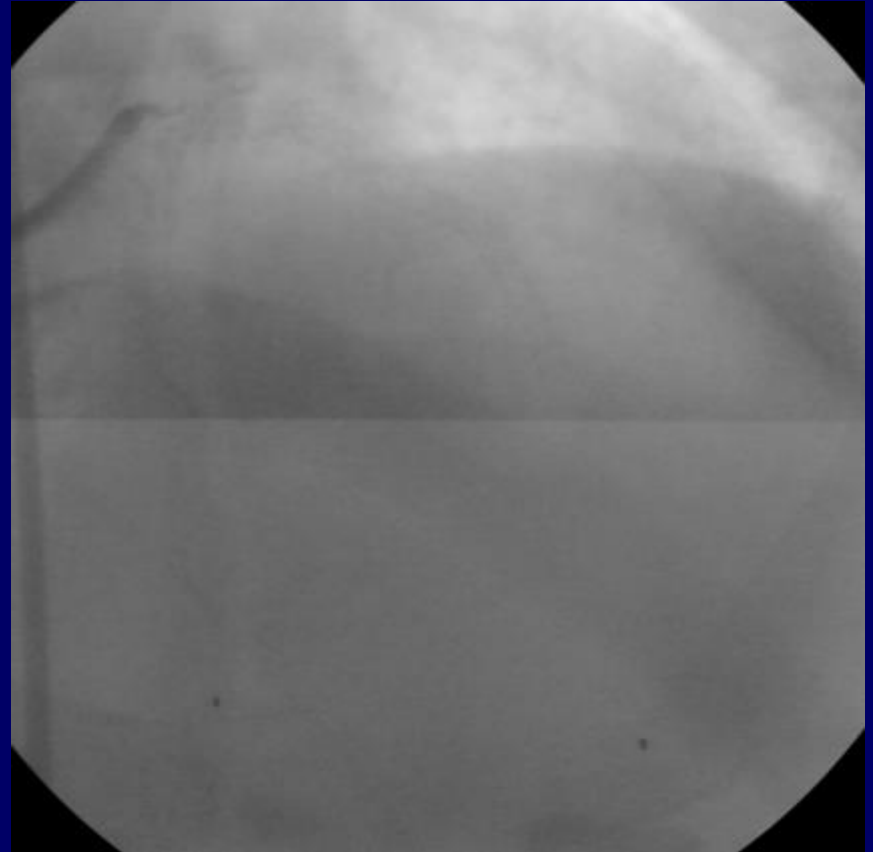
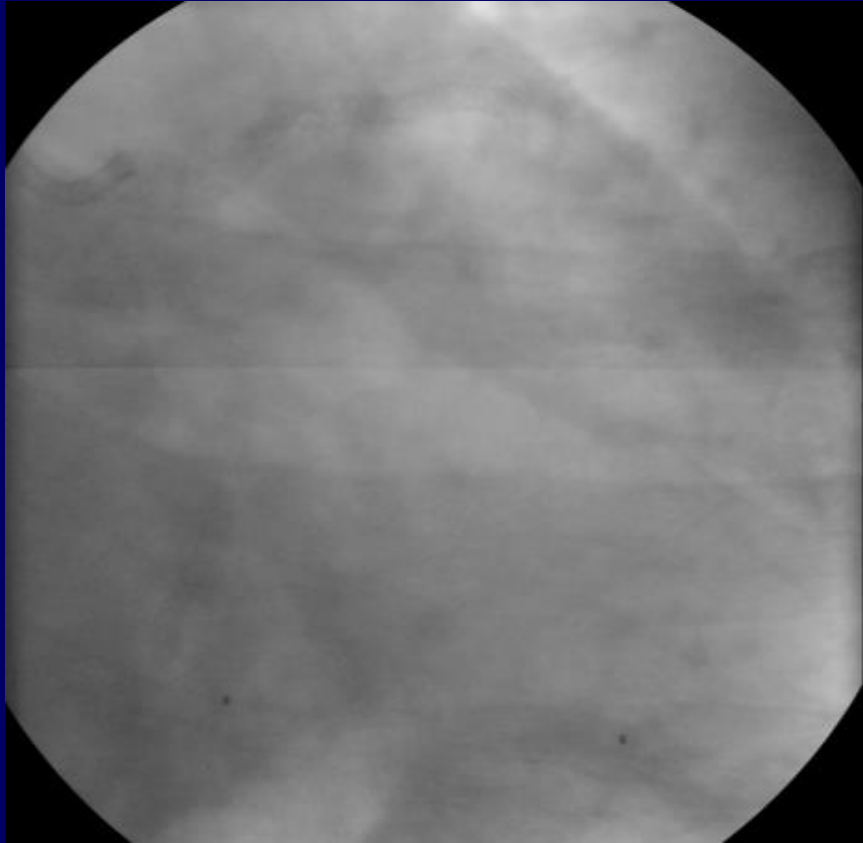


Cypher 3.5 by 33 mm

M/56, High Syntax Score



M/56, High Syntax Score



Long Term Real World Clinical Outcomes by Therapeutic Strategy

- 150 consecutive patients with significant de novo LMCD
- DES (n=76) or CABG (n=74) in single cardiac center (Gachon University Gil Hospital), 2005-2009
- Therapeutic strategy was assigned by attending doctors with patients and their family.

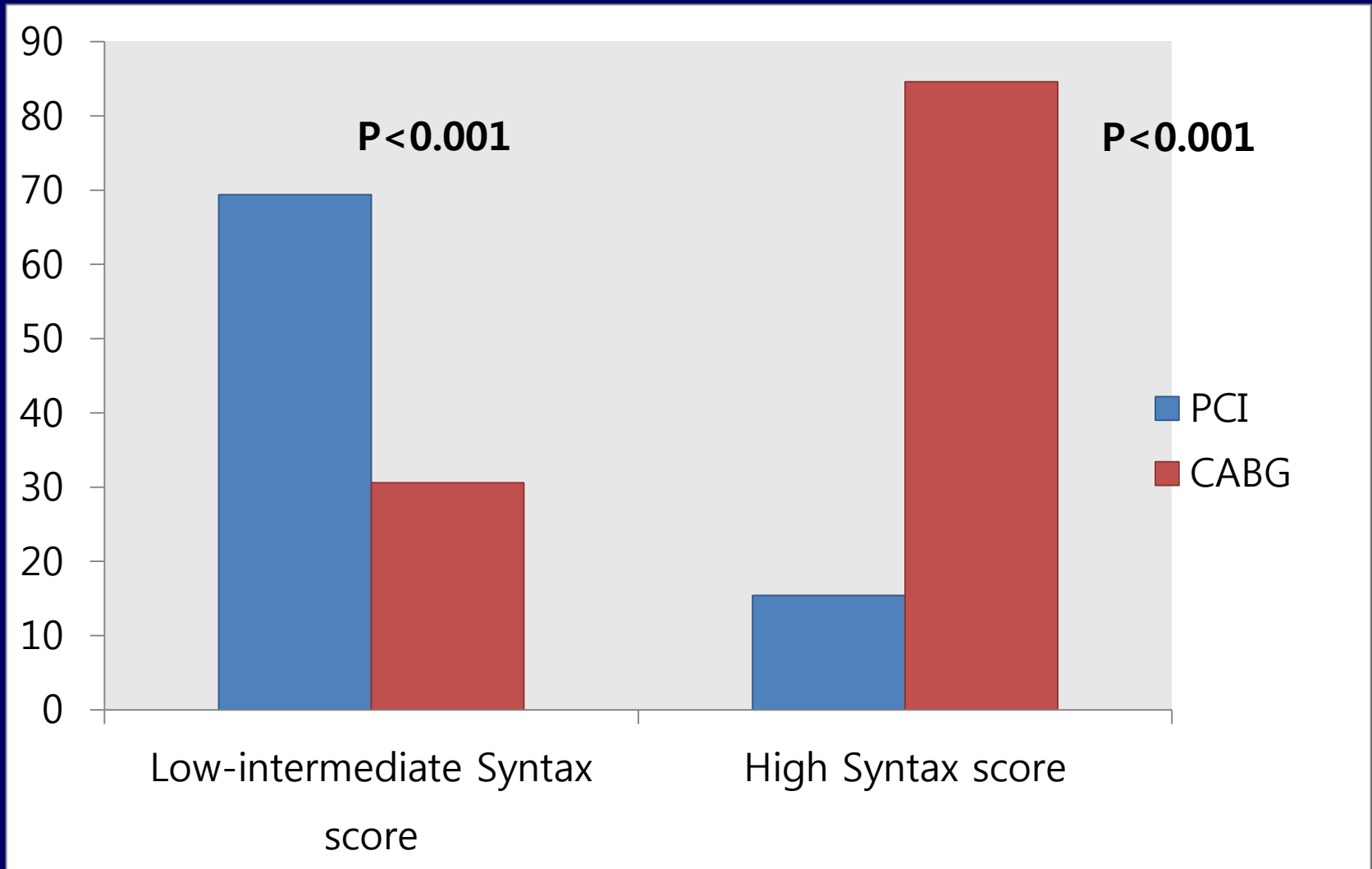
Baseline Characteristics

	DES (n=76)	CABG(n=74)	<i>p</i>
Clinical Characteristics			
Age (yrs)	62.3±10.5	63.8±8.5	0.33
Male sex	57 (75%)	51 (69%)	0.53
Diabetes	24 (32%)	29 (39%)	0.33
Hypertension	39 (51%)	52 (70%)	0.01
Hypercholesterolemia	29 (38%)	18 (24%)	0.06
Previous MI	1 (1%)	2 (3%)	0.54
Current smoker	19 (25%)	15 (20%)	0.50
LV EF	61.2±10.5	56.8 ±12.4	0.02
Peripheral vascular disease	3 (4%)	2 (3%)	0.67
Cerebrovascular disease	2 (3%)	0 (0%)	0.16
Renal failure	3 (4%)	6 (8%)	0.28
Acute coronary syndromes	8 (11%)	11 (15.7%)	0.41
EuroSCORE	3.34±2.35	3.73±1.81	0.26

Baseline Characteristics

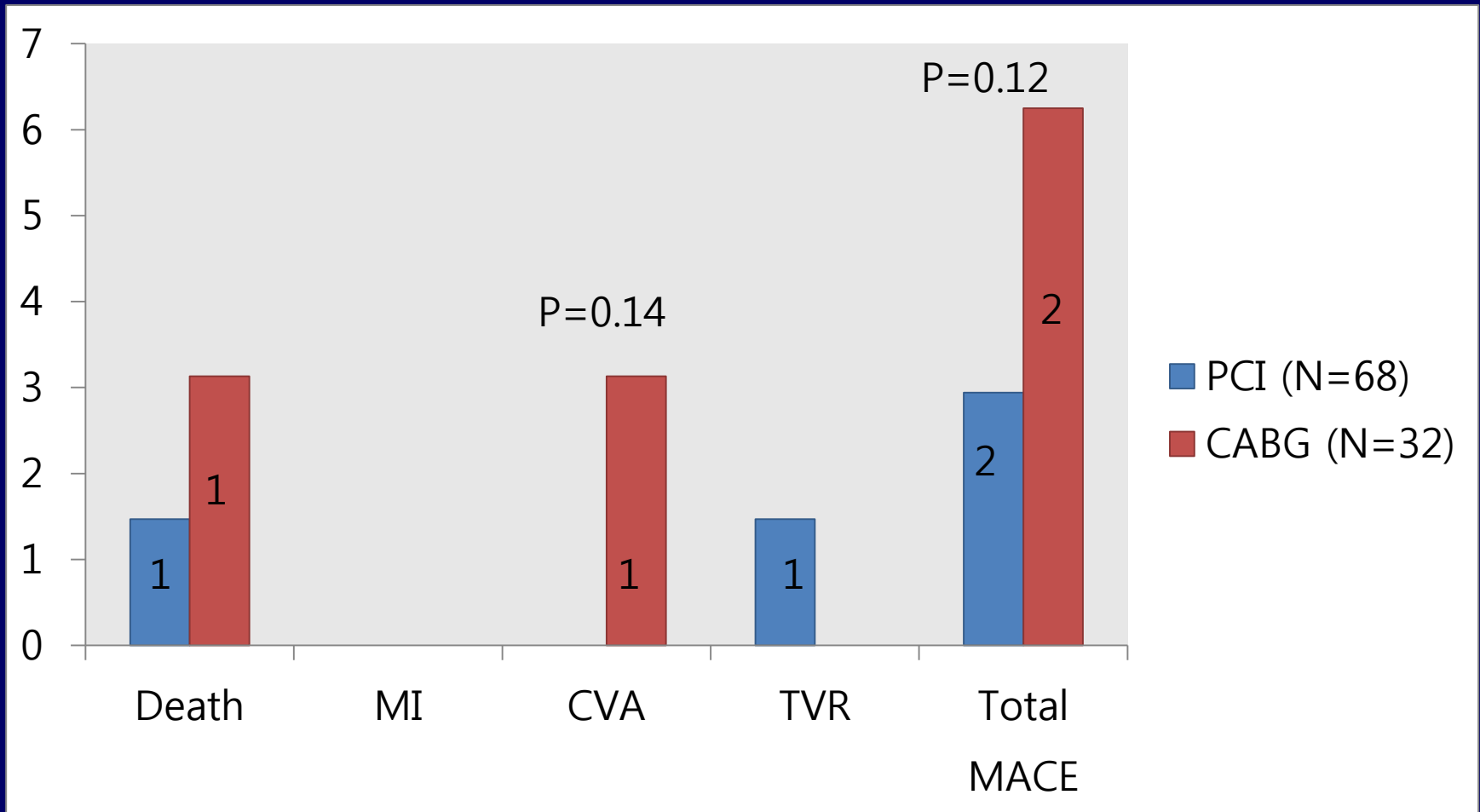
	DES (n=76)	CABG(n=74)	<i>p</i>
Angiographic characteristics			
Total SYN score	20.4±7.7	33.4±9.3	0.00
Lesion numbers	2.6±1.2	3.9±1.3	0.00
CTO lesion	5 (7%)	33 (45%)	0.00
Distal LMCA bifurcation disease	52 (69%)	53 (71%)	0.77
Isolated left main disease	17 (22%)	2 (3%)	0.00
Left main plus one-vessel disease	22 (29%)	10 (14%)	0.03
Left main plus two-vessel disease	23 (30%)	31 (42%)	0.09
Left main plus three-vessel disease	14 (18%)	31 (42%)	0.00

Real World Therapeutic Strategy



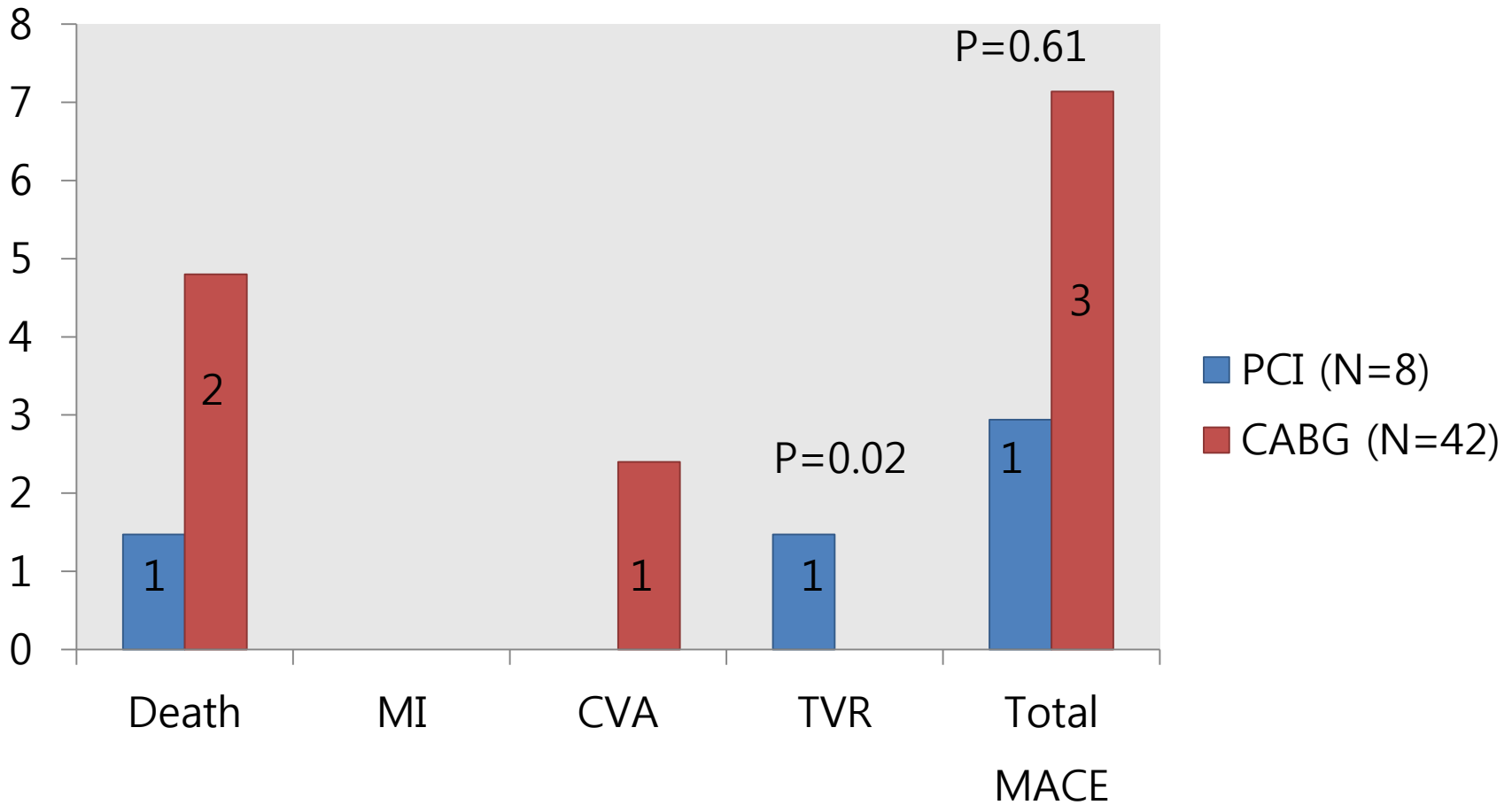
1 Year MACE

Low to Intermediate Syntax score



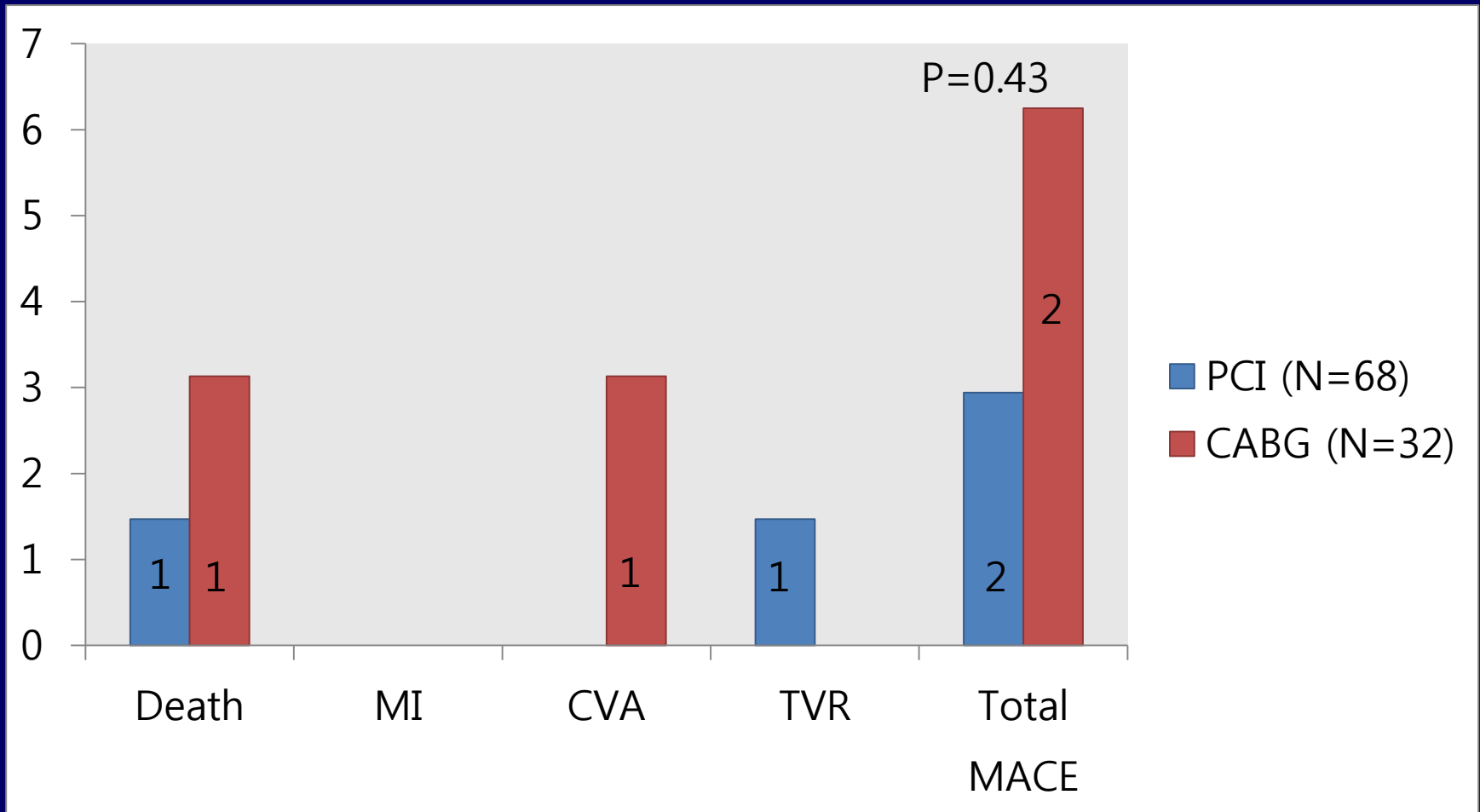
1 Year MACE

High Syntax score



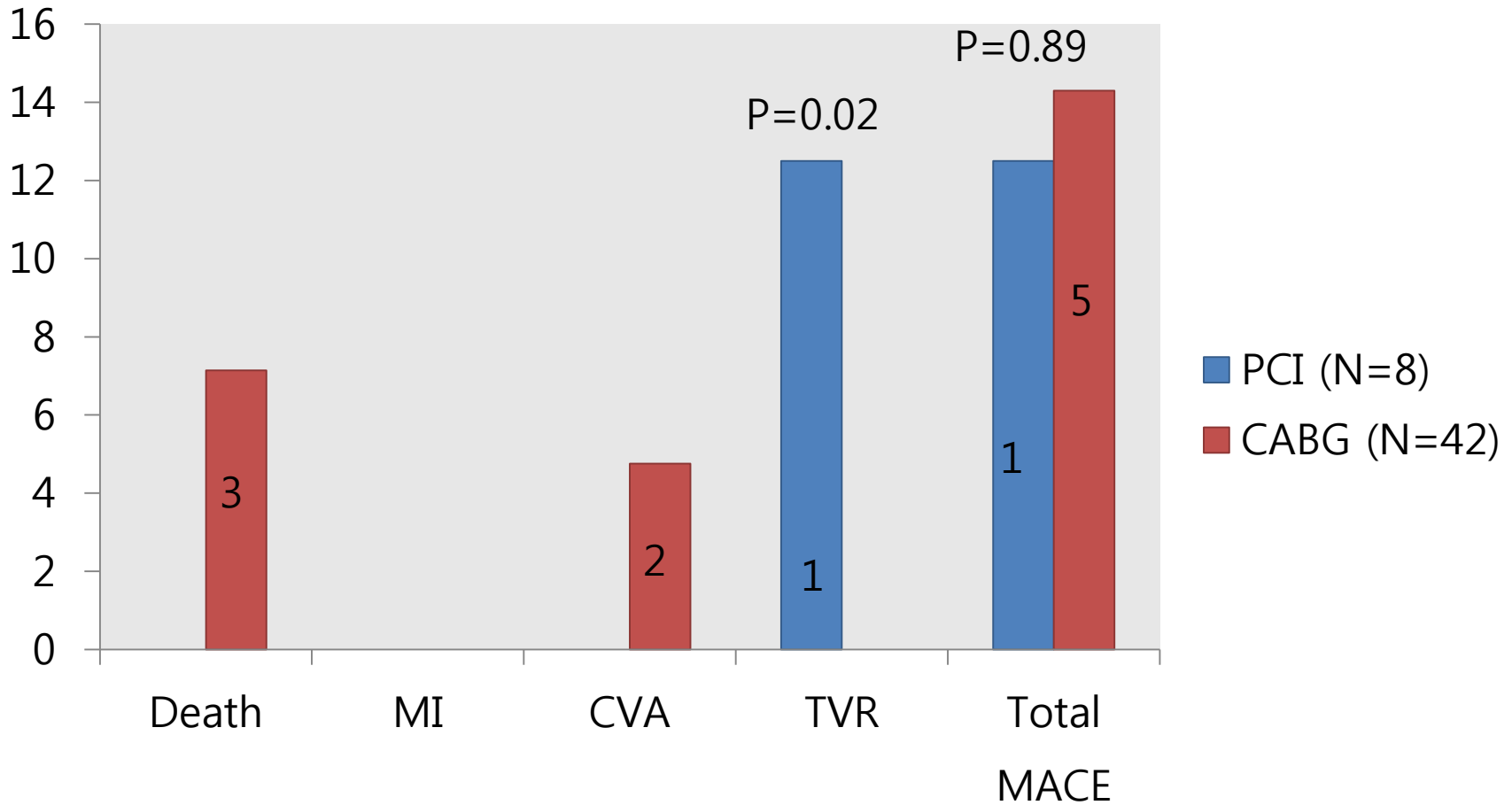
2 Year MACE

Low to Intermediate Syntax score

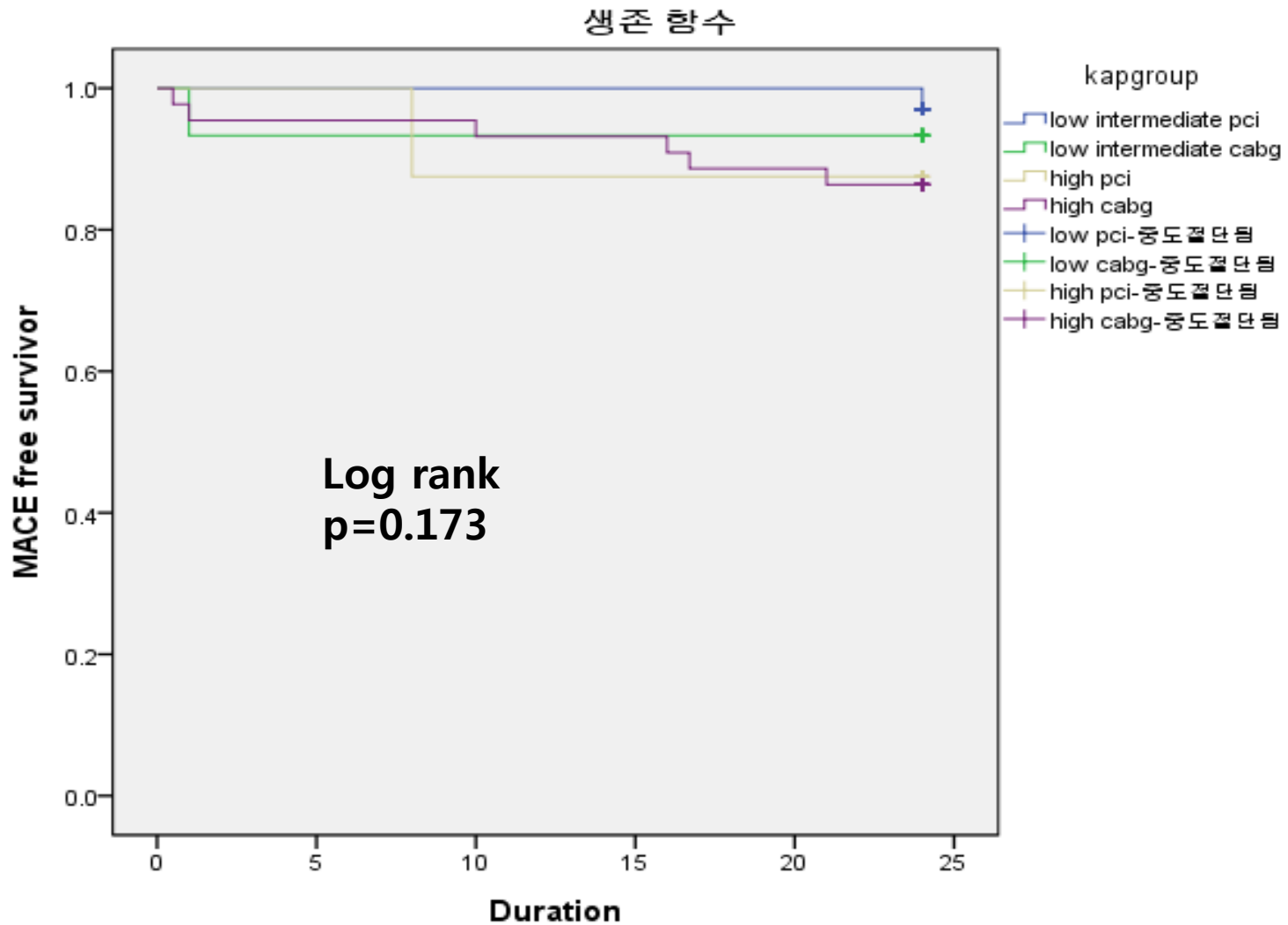


2 Year MACE

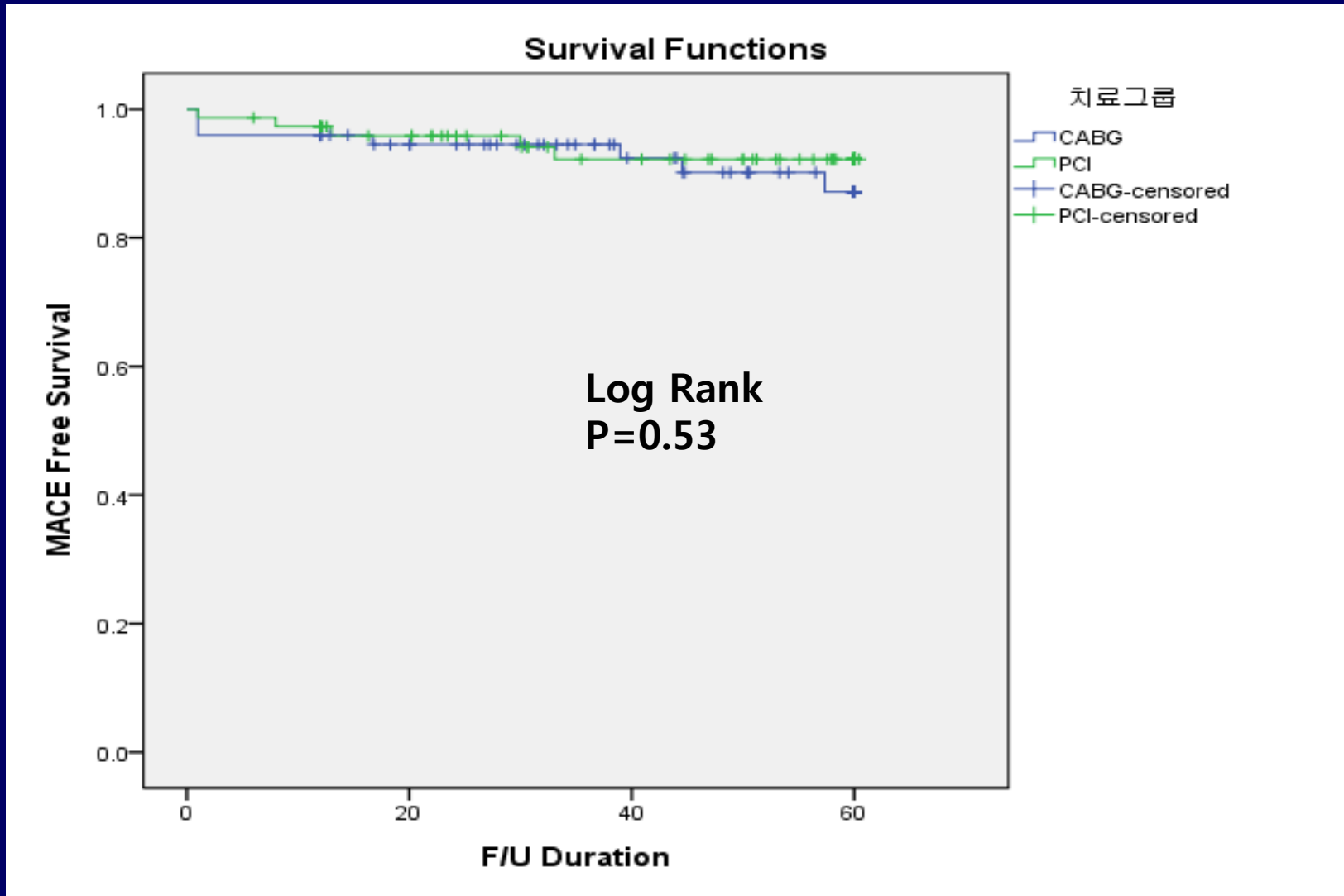
High Syntax score



2 Year MACE Free Survival

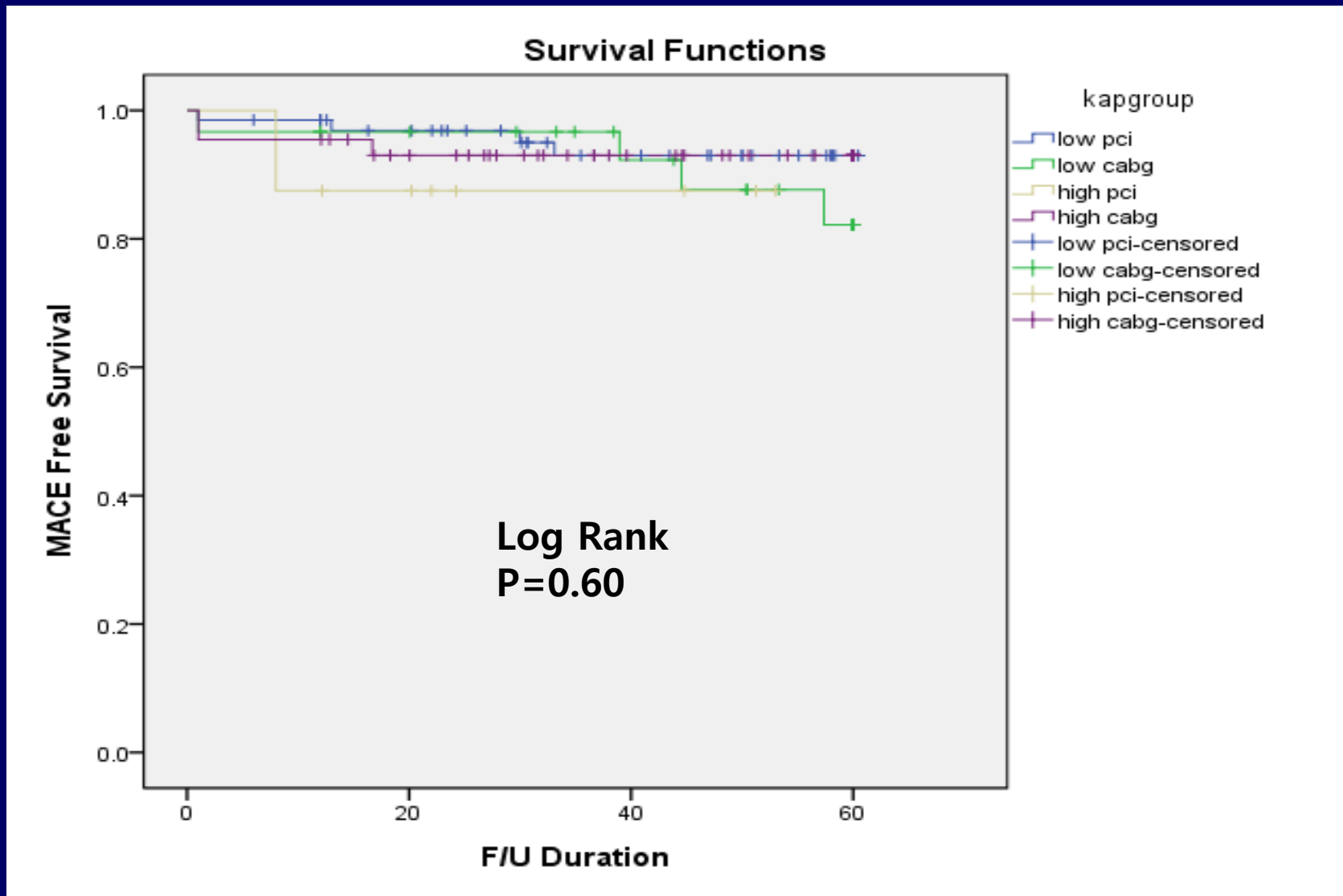


Long Term MACE Free Survival



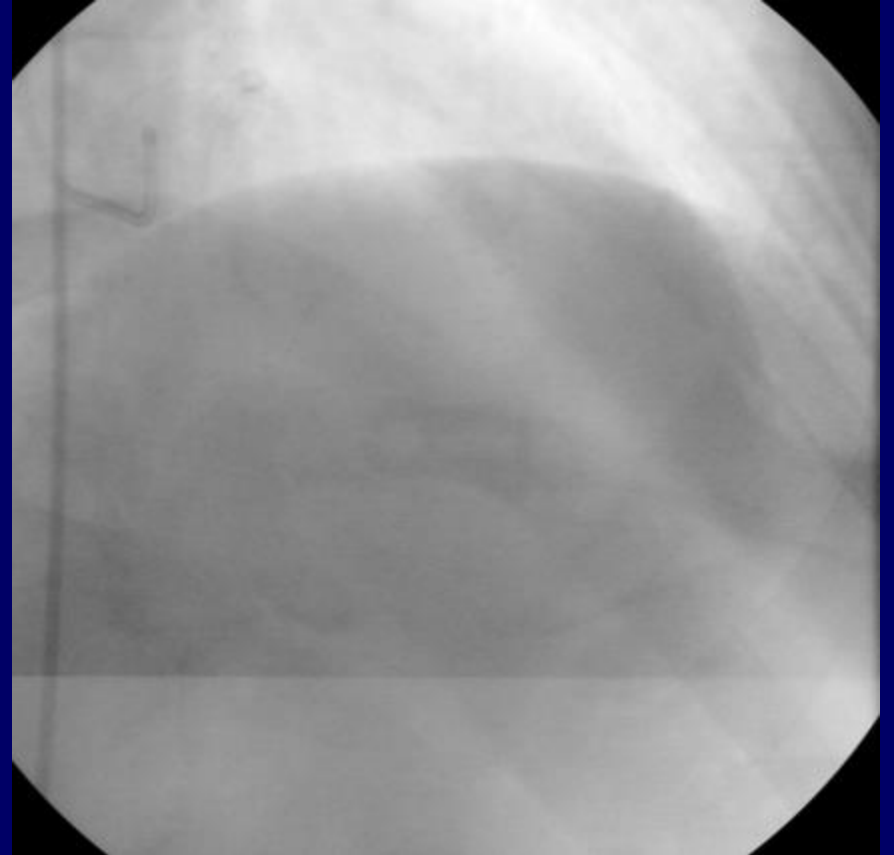
Mean f/u duration 43.7+/- 18.5

Long Term MACE Free Survival

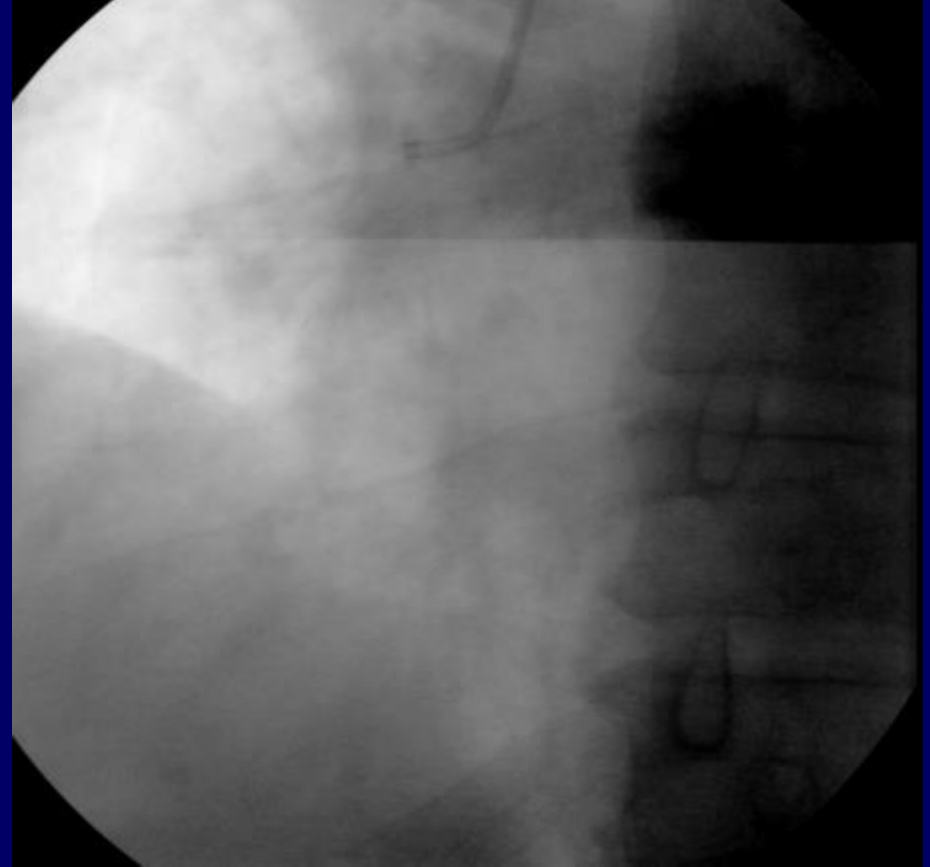
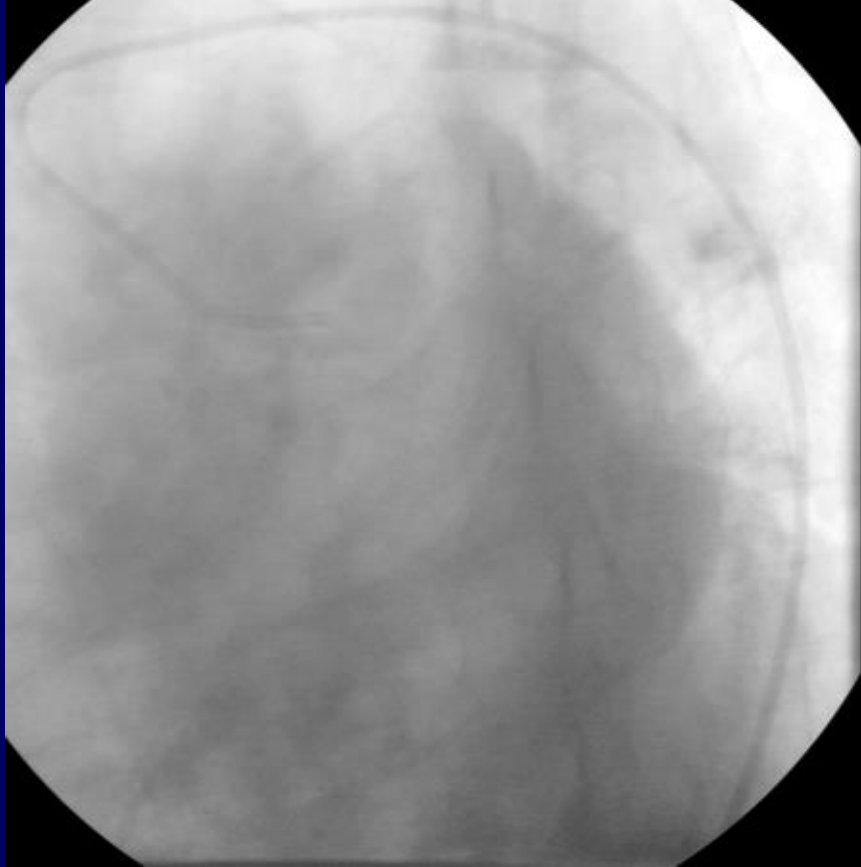


Mean f/u duration 43.7+/- 18.5

M/56, F/U 5 Years Later



M/56, F/U 5 Years Later



Conclusions I

- Patients with low to intermediate SYNTAX score were more assigned to PCI and patients with high SYNTAX were more assigned to CABG in single center real world clinical practice.
- By this strategy, the MACE rate at 1 year, 2 year , long term did not differ significantly between PCI and CABG.

Conclusions II

- Patients performed PCI in high syntax group had good clinical outcomes which means this strategy would be a good option for patients who are inoperable or refuse to CABG or prefer PCI due to other clinical and social factors.



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Factors for MACE

	Hazard ratio	95% CI	P
DES vs. CABG	5.06	0.44-55.89	0.19
Total SYNTAX score	1.26	0.99-1.60	0.05
Eruo-Score standard	3.17	0.65-15.38	0.15
Eruo-Score logistic	0.16	0.02-1.09	0.06
HTN	4.14	0.26-63.80	0.30
DM	0.23	0.03-1.50	0.12
CRF	253.19	8.60-7454.08	0.00
LV ejection fraction	1.01	0.92-1.10	0.76