Background

- **Advantages of PCI for ULM**
  - ✓ **Psychological influence on patients**
  - ✓ **Shorter admission**
  - ✓ **Repeatable procedure**

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Background

- **Indication began to be widely expanded from high-risk to low-risk candidates;**
  - ✓ **with adequate consideration of indication**
  - ✓ **with proper device and procedures**
  - ✓ **by experienced operators**

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Prognosis of Percutaneous Coronary Intervention for Unprotected Left Main Disease in Elderly Cases: Compared with CABG

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Purpose

- **The purpose of present study is to evaluate the short and long-term outcome of PCI for ULM in elderly patients (over 70 y.o.) comparing with the cases of**
  - ✓ <u>under 70 y.o.</u>
  - ✓ <u>CABG</u>

Subjects

- **Among 254 ULM cases who underwent revascularization therapy between May 1999 and December 2002, patients who were over 70 years old :**

  - ◆ **131 consecutive cases**

    - ✓ **PCI: 54**

    - ✓ **CABG: 77**

  - ◆ **Acute myocardial infarction containing both LAD and LCX occlusion was excluded.**

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Comparison with under 70 y.o.

Pt. Characteristics: Elderly vs. Non-elderly Cases

	< 70 y.o. (n=55)	≧ 70 y.o. (n= 54)
Male gender, n	46 (84%)	39 (72%)
DM, n	16 (24%)	20 (37%)
Cerebrovascular disease, n	3 (5%)	3 (6%)
Previous CABG, n	4 (7%)	5 (9%)
CCS class	2.0±0.9	2.1±1.0
LVEF (%)	53.9±7.9	51.2±11.9
Clinical presentation at arrival		
AMI, n	5 (9%)	5 (9%)
UAP, n	16 (29%)	23 (43%)
Elective, n	34 (62%)	26 (48%)
No. of diseased vessels		
0-vessel (ULM alone)	3 (5%)	4 (7%)
1-vessel	13 (24%)	9 (17%)
2-vessel	20 (36%)	14 (26%)
3-vessel	19 (35%)	27 (50%)

Status at arrival (PCI group)

< 70 y.o. (n=55)

≧ 70 y.o. (n=54)

9%

9%

29%

48%

62%

43%
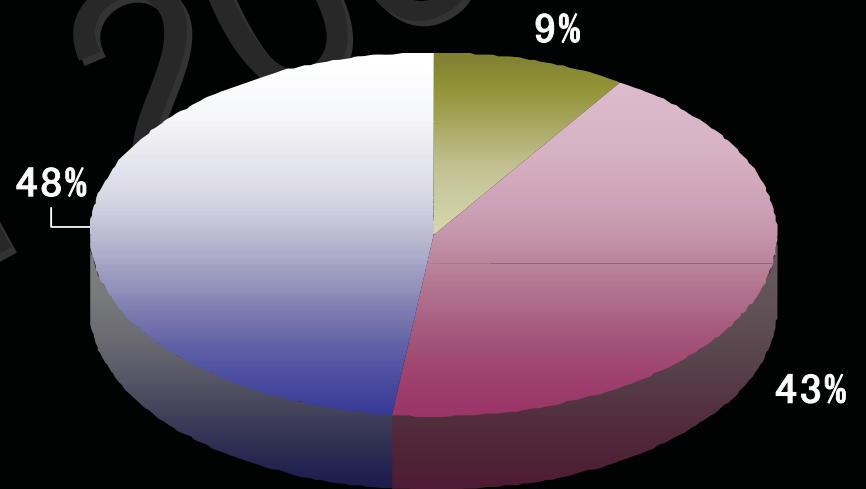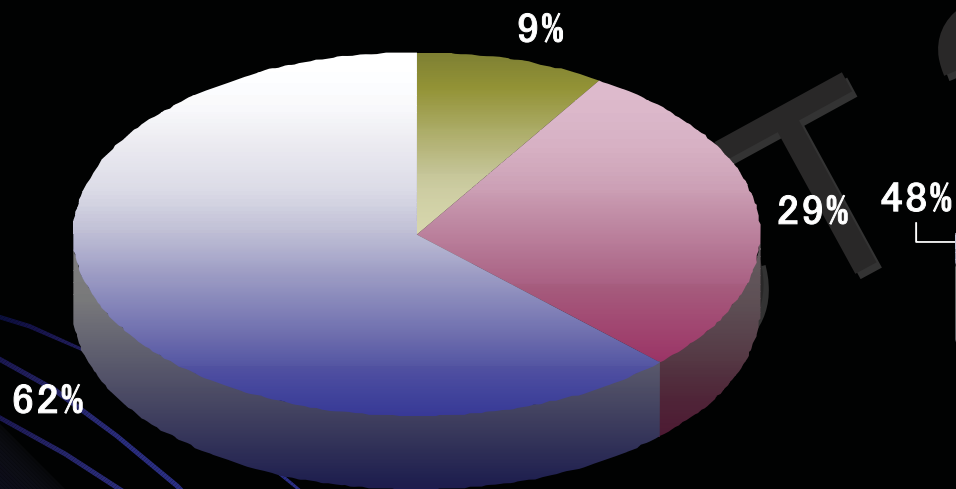
AMI
UAP
Elective

Lesion Location

< 70 y.o. (n=55)

≧ 70 y.o. (n=54)

9%

29%

62%

9%

48%

43%
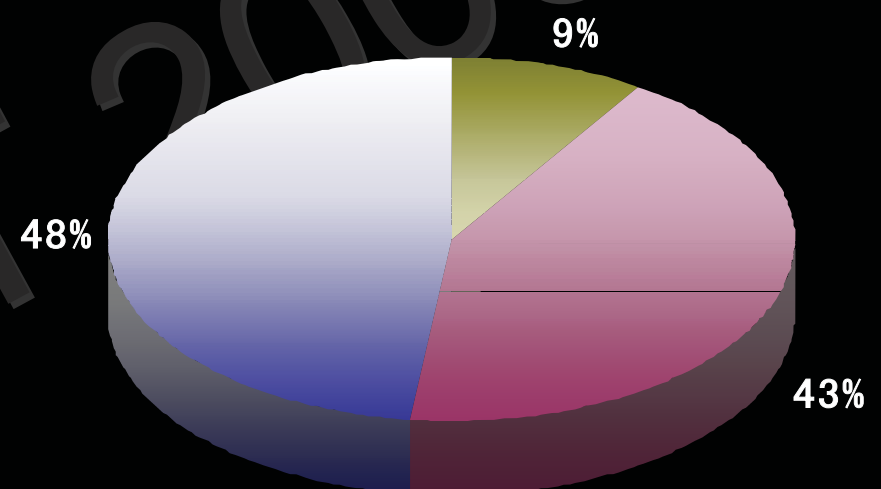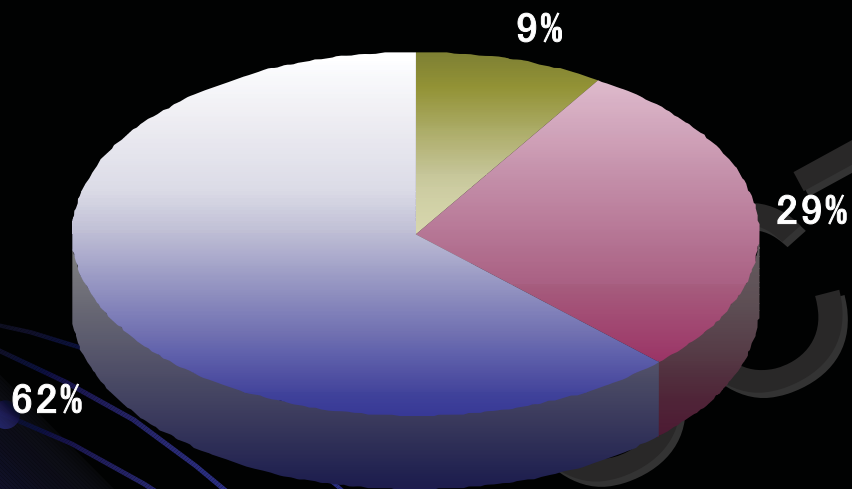
Ostium
Body
Bifurcation

Strategy

< 70 y.o. (n=55)

≧ 70 y.o. (n=54)

4%

22%

39%

35%

15%

15%

31%

39%

DCA+Stent
Stent without DCA
DCA without stent
Others

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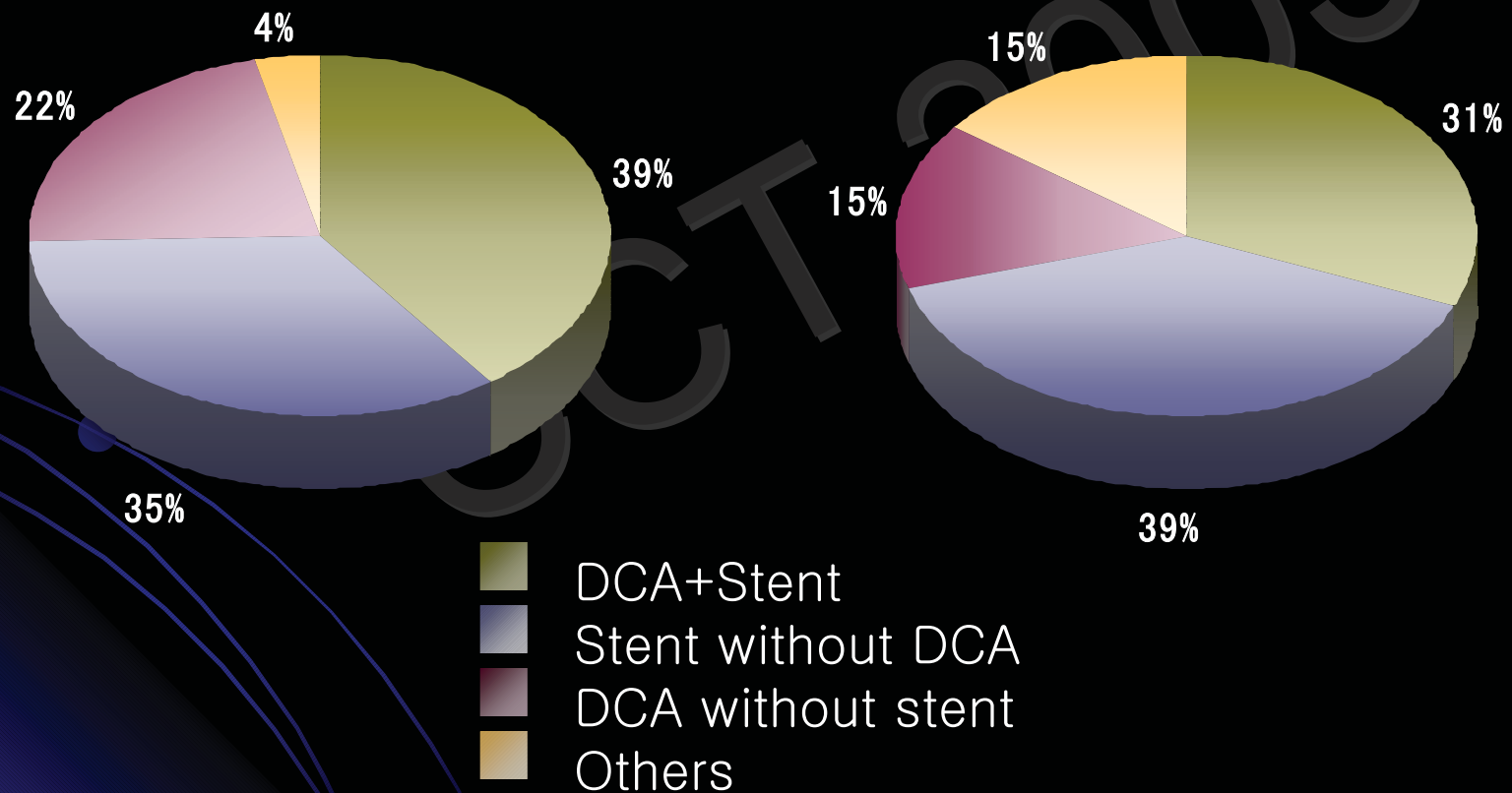
In-hospital Outcome

	< 70 y.o. (n=55)	$\geqq$70 y.o. (n=54)	p
In-hospital stay, days	3.9$\pm$3.9	7.2$\pm$10.4	**0.0402**
Lesion success, n	55 (100%)	54 (100%)	ns.
Clinical success, n	55 (100%)	53 (98%)	ns.
Complications, n	1 (1.8%)	1 (1.9%)	ns.
Cardiac death, n	1 (1.8%) *	0 (0%)	ns.
Non-cardiac death, n	0 (0%)	1 (1.9%) **	ns.
Q-myocardial infarction, n	0 (0%)	0 (0%)	ns.
Re-PCI or CABG, n	1 (1.8%) *	0 (0%)	ns.

*Low output syndrome with severe diffuse calcified lesion, rejected CABG.
**Peripheral hemorrhage.

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Late Phase Outcome
within 6 months

	< 70 y.o. (n=55)	≧ 70 y.o. (n=54)	p
Death in any causes, n	1 (1.8%)	1 (1.9%)	0.9896
Cardiac death, n	1 (1.8%)	0 (0%)	0.3195
Non-cardiac death, n	0 (0%)	1 (1.9%)	0.3106
Q-MI, n	0 (0%)	0 (0%)	-
TVR, n	10 (18.1%)	7 (13.0%)	0.4527

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Late Phase Outcome
within 4 Years

	< 70 y.o. (n=55)	≧ 70 y.o. (n=54)	p
Death in any causes, n	4 (7.2%)	7 (13.0%)	0.3215
Cardiac death, n	2 (1.8%)	1 (0%)	0.5691
Non-cardiac death, n	2 (1.8%)	6 (11.1%)	0.1614
Q-MI, n	0 (0%)	0 (0%)	-
TVR, n	10 (18.1%)	7 (13.0%)	0.4527

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Cardiac Death and TVR rate

Cardiac Death Rate	< 70 y.o. (n=55)	≧70 y.o.(n=54)	p
In-hospital, n	1 (1.8%)	0 (0%)	ns.
6 months, n	1 (1.8%)	0 (0%)	ns.
4 years, n	2 (1.8%)	1 (0%)	ns.

TVR Rate	< 70 y.o. (n=55)	≧70 y.o. (n=54)	p
In-hospital, n	1 (1.8%)	0 (0%)	ns.
6 months, n	10 (18.1%)	7 (13.0%)	ns.
4 years, n	10 (18.1%)	7 (13.0%)	ns.

Comparison with CABG

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Baseline Characteristics: Over 70 y.o.

	CABG (n=77)	PCI (n=54)	p value
Age (yrs)	74.9±4.1	76.7±5.5	0.0273
Male gender, n	51 (66%)	39 (72%)	0.4689
DM, n	27 (35%)	20 (37%)	0.8168
Cerebrovascular disease, n	10 (13%)	3 (6%)	0.1614
LVEF (%)	50.1±11.1	-	
Clinical status			<0.0001
AMI, n	0 (0%)	5 (1%)	
UAP, n	6 (8%)	23 (43%)	
Elective, n	71 (92%)	26 (48%)	
No. of diseased vessel			0.0131
0 (ULM alone)	1	3	
1-vessel	8	9	
2-vessel	9	15	
3-vessel	59	27	

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Cumulative Survival Rate: Over 70 y.o.

(Cardiac death-free)

Kaplan-Meier method

98.1%
94.7%

79.1%
72.9%

Cumulative survival rate

Cardiac death	——	PCI
	——	CABG

Death in any causes	·····	PCI
	·····	CABG

ns.

0   200   400   600   800   1000   1200   1400   1600

Days

17
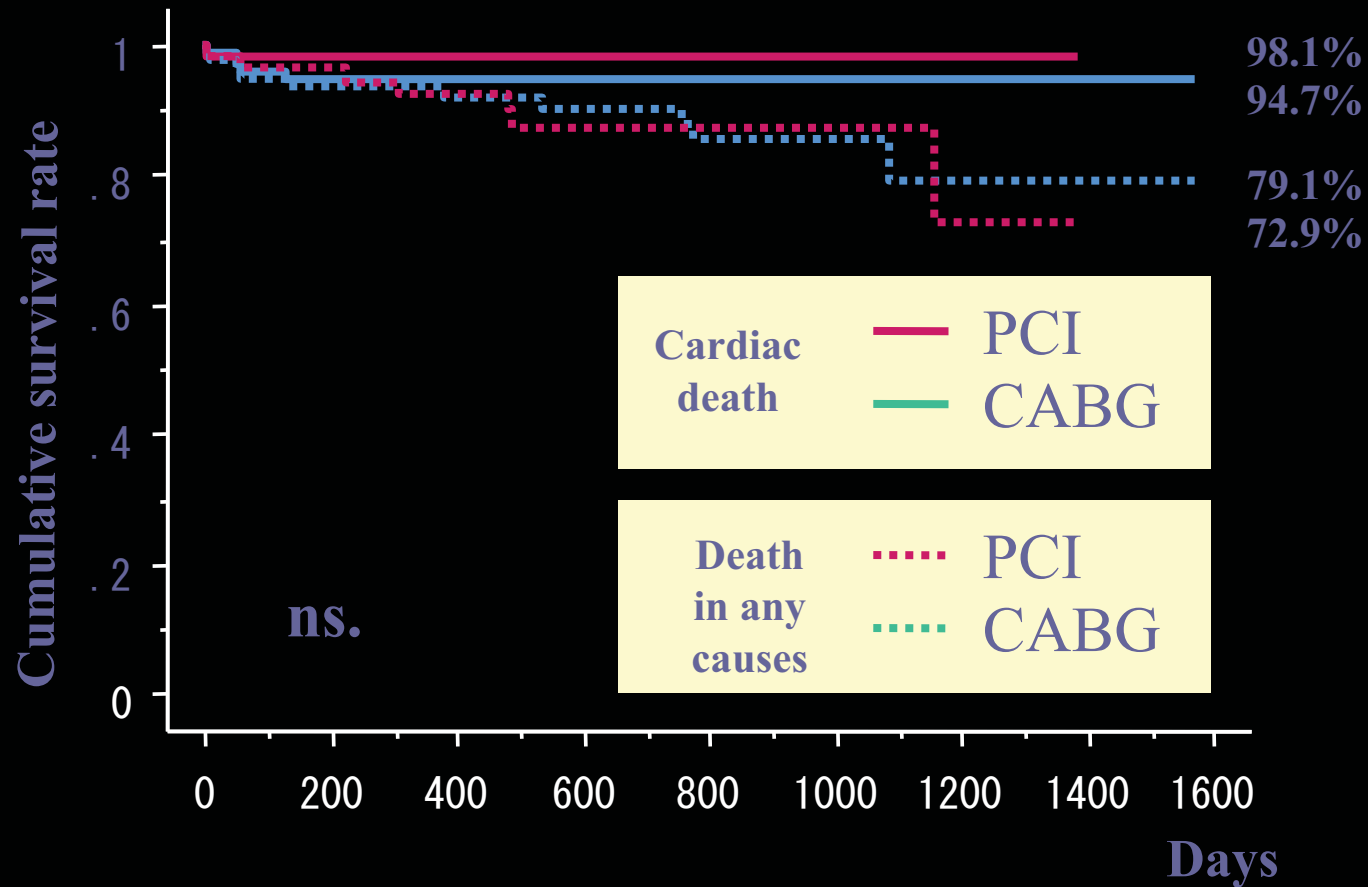
Cumulative MACE-free Rate: Over 70 y.o.

(MACE: Death, MI, TVR and CHF)

Kaplan-Meier method

84.0%

77.0%

ns.

PCI

CABG

Cumulative survival rate

Days

0   200   400   600   800   1000   1200   1400   1600

18

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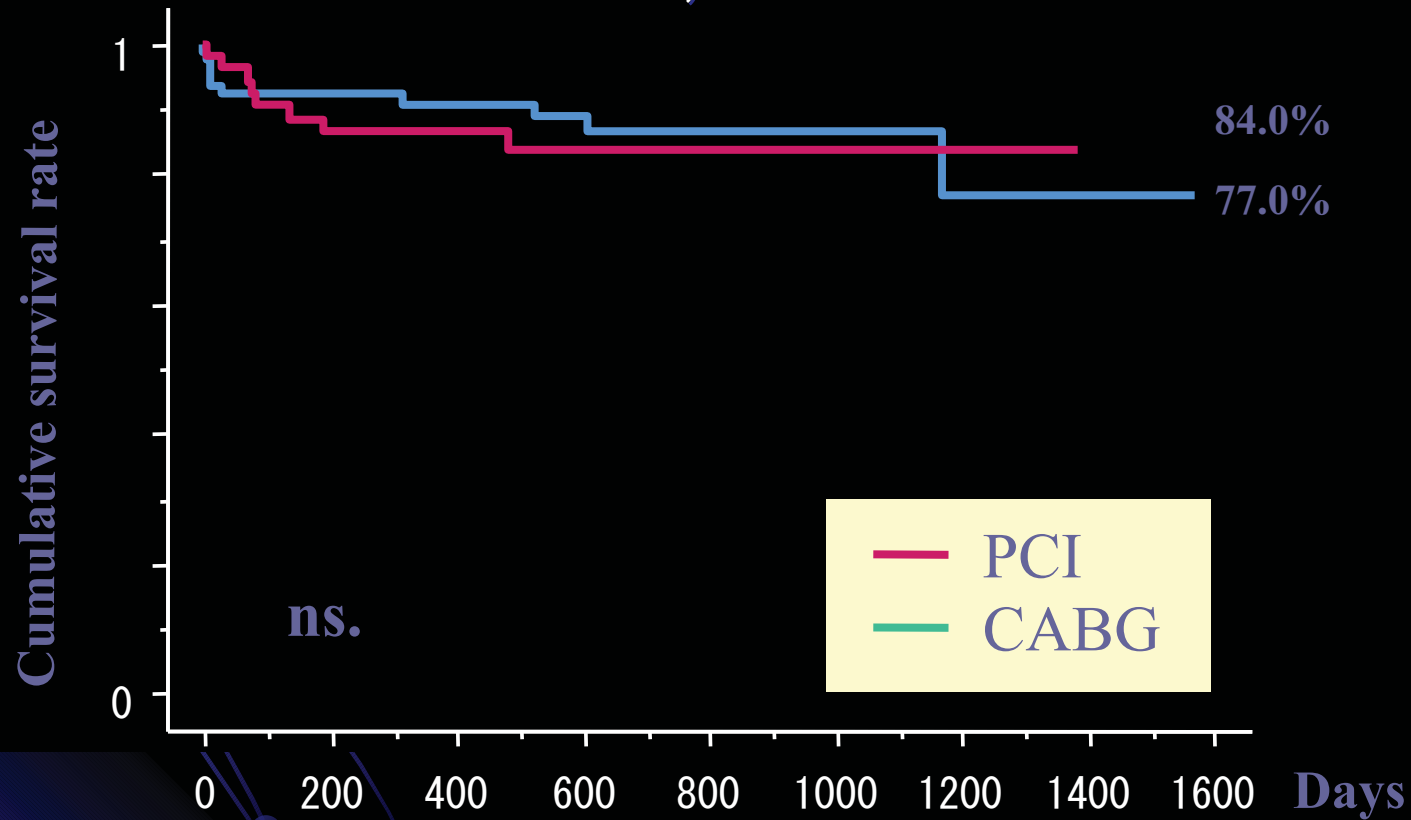
Cumulative TVR-free Rate: Over 70 y.o.

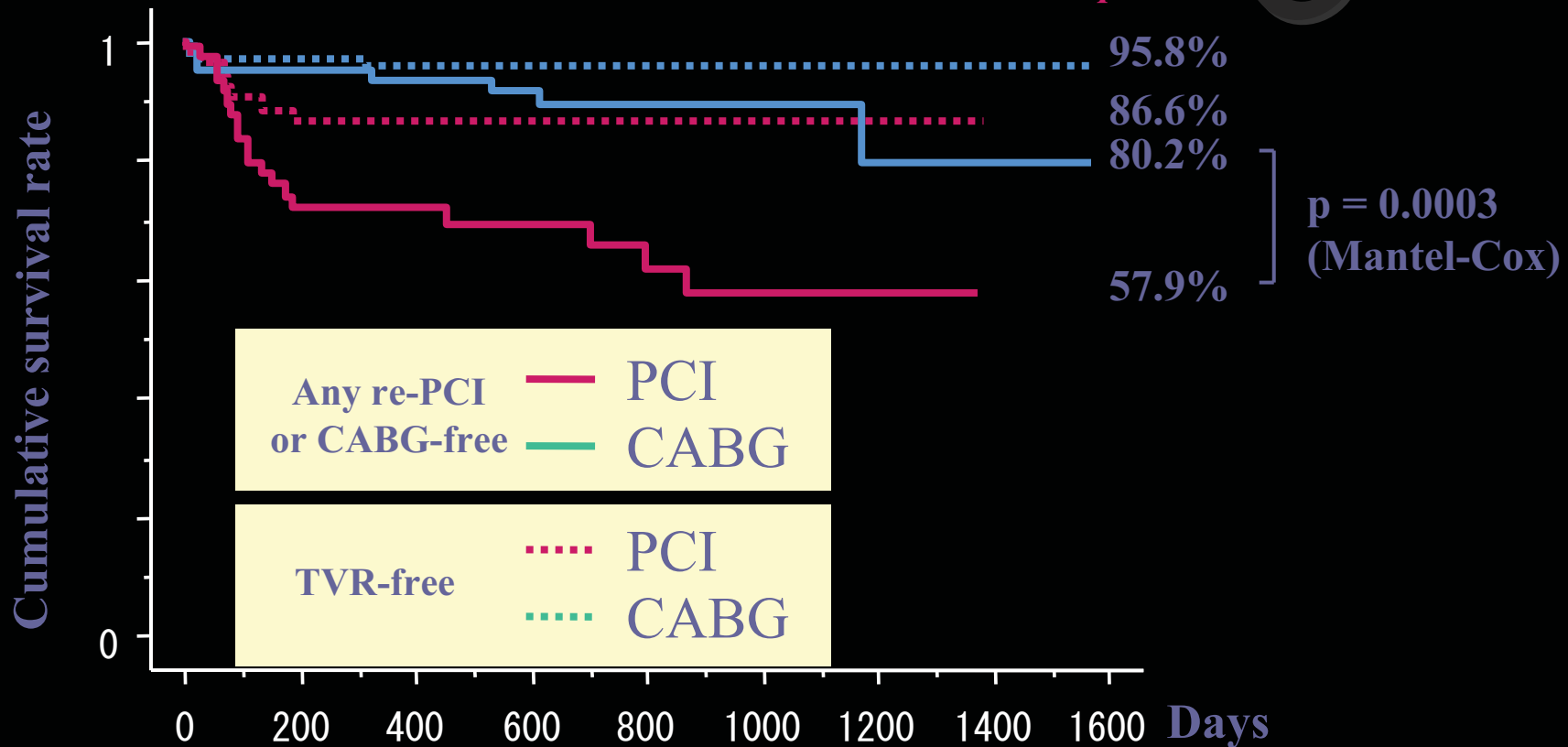
Kaplan-Meier method

95.8%

86.6%

ns

— PCI
— CABG
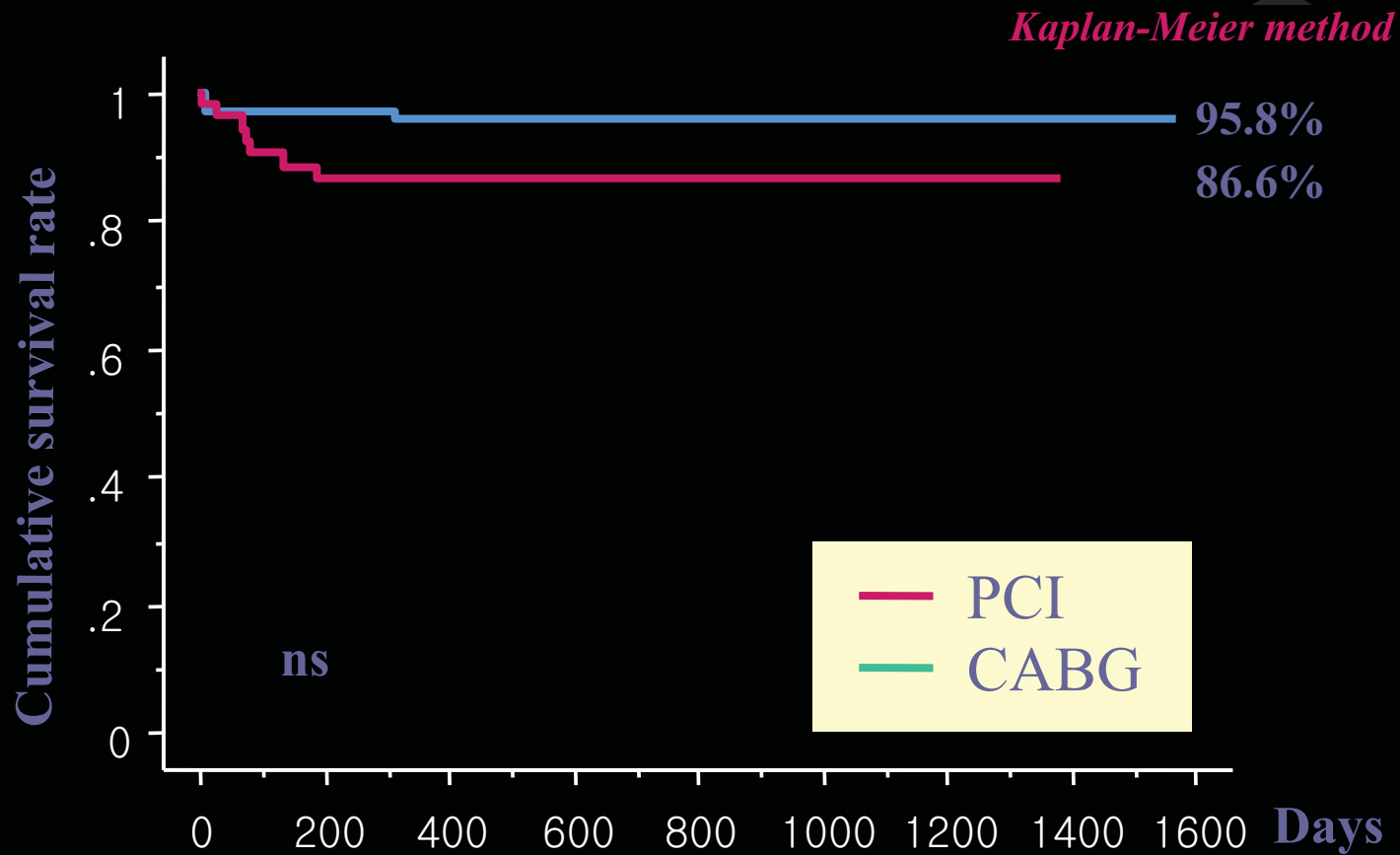
Days

Cumulative Any Revascularization-free Rate: Over 70 y.o.

(including progressive or restenosis lesion of non-target vessel)

Kaplan-Meier method
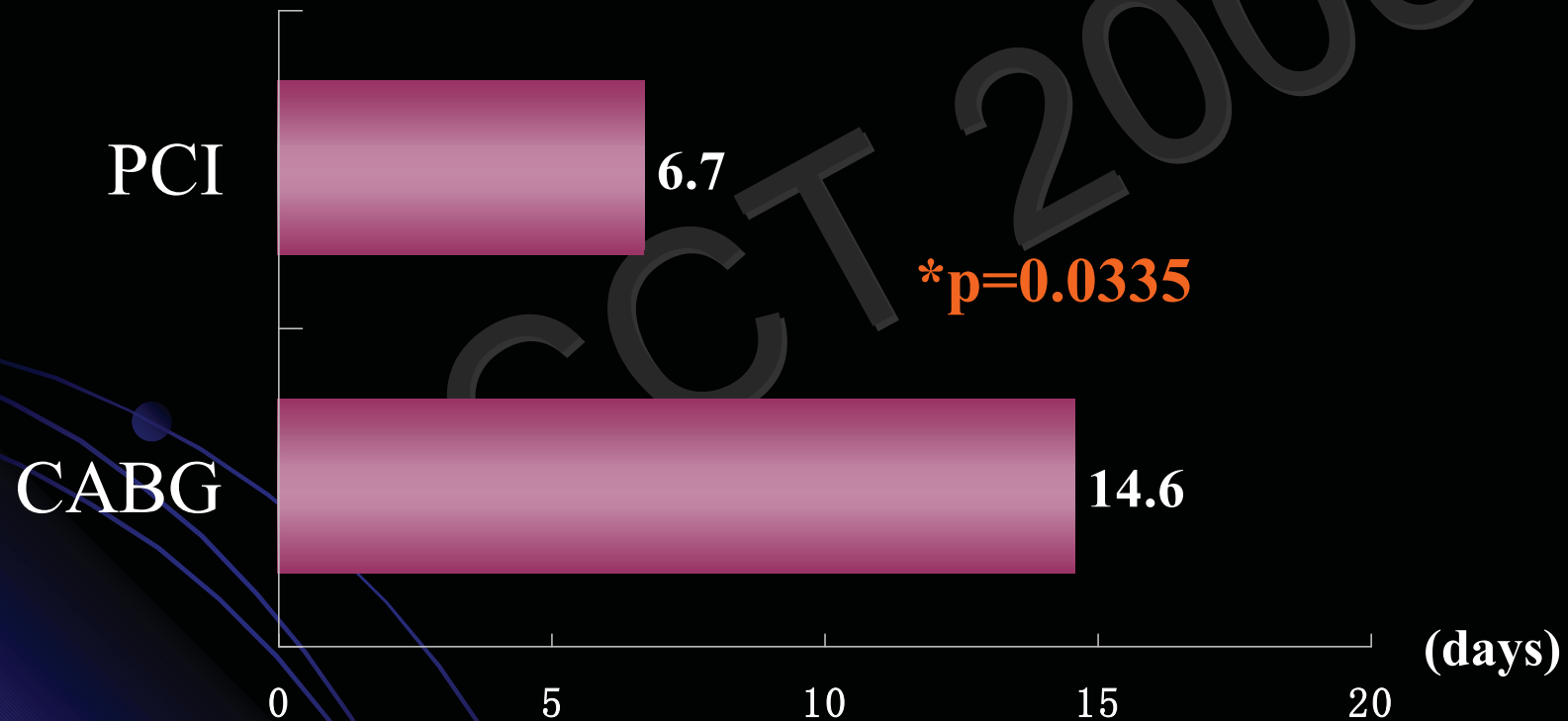
95.8%

86.6%

80.2%

p = 0.0003
(Mantel-Cox)

57.9%

Cumulative survival rate

Any re-PCI or CABG-free	———	PCI
	———	CABG
TVR-free	·····	PCI
	·····	CABG

0   200   400   600   800   1000 1200 1400 1600   **Days**

20

In-Hospital Days in Elective Cases: Over 70 y.o.

Elective Cases

PCI — 6.7

*p=0.0335

CABG — 14.6

(days)

0   5   10   15   20

21

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Summary

- **Compared with under 70 y.o.:**
  - ✓ **no difference in acute and late outcome**
  - ✓ **Longer hospital stay in over 70 y.o (4 vs. 7 days)**

- **Compared with CABG in over 70 y.o. gruop:**
  - ✓ **no difference in acute and late outcome except revascularization rate**
  - ✓ **shorter hospital stay in PCI (4 vs. 15 days)**

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Conclusion

➢ PCI for ULM is a reliable strategy also in cases of elderly patients… however, adequate indication should be considered because revascularization rate is significantly higher in PCI compared with CABG

… Eventual breakthrough in ULM-PCI could be achieved in DES era.

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