Japan-Korea Joint AMI Symposium
Korean Society of Myocardial Infarction
Apr 18-19 2014

Experience of Korea Acute Myocardial Infarction Registry (KAMIR)

Myung Ho Jeong, MD, PhD, FACC, FAHA, FESC, FSCAI, FAPSIC
On Behalf of KAMIR Investigators

Principal Investigator of Korea Acute Myocardial Infarction Registry,
Director of Korea Cardiovascular Stent Research Institute,
Director of Heart Research Center Nominated by Korea Ministry of Health and Welfare,
Professor of Gwangju Institute of Science and Technology
and Chonnam National University Hospital, Gwangju, Korea

61th Japanese College of Cardiology, Sep 20-22 2013, Kumamoto, Japan

Korea Acute Myocardial Infarction Registry (KAMIR) for the memorandum of 50th Anniversary of Korean Circulation Society

Sep 29-30th 2005

Kamir.or.kr

On-line Korea Acute Myocardial Infarction Registry: KAMIR

http://www.kamir.or.kr

KAMIR: Korea Acute Myocardial Infarction Registry

Principal Investigator: Jeong MH

Sub-investigators: Kim YJ, Kim CJ, Cho MC, Ahn YK

Co-investigators: **55 primary PCI centers**

Ko YP, Koo BG, Gwon HC, Kim KS, Kim DI, Kim MH, Kim BO, Kim SW, Kim SJ, Kim YJ, Kim JK, Kim CJ, Kim TI, Rha SW, Rhew JY, Park GS, Park SW, Park SH, Bae JH, Seong IW, Seung KB, Ahn YK, Ahn TH, Yang JY, Oh SK, Yoon Jh, Lee HS, Lee MY, Lee SH, Lee SW, Rhim JY, Jeong KT, Jeong MH, Chung WS, Jeong HJ, Cho MC, Cho JH, Cho JM, Joo SJ, Jin DG, Jin SW, Chae SC, Chae IH, Chae JK, Choi DH, Tahk SJ, Han KR, Hur SH, Hwang JY

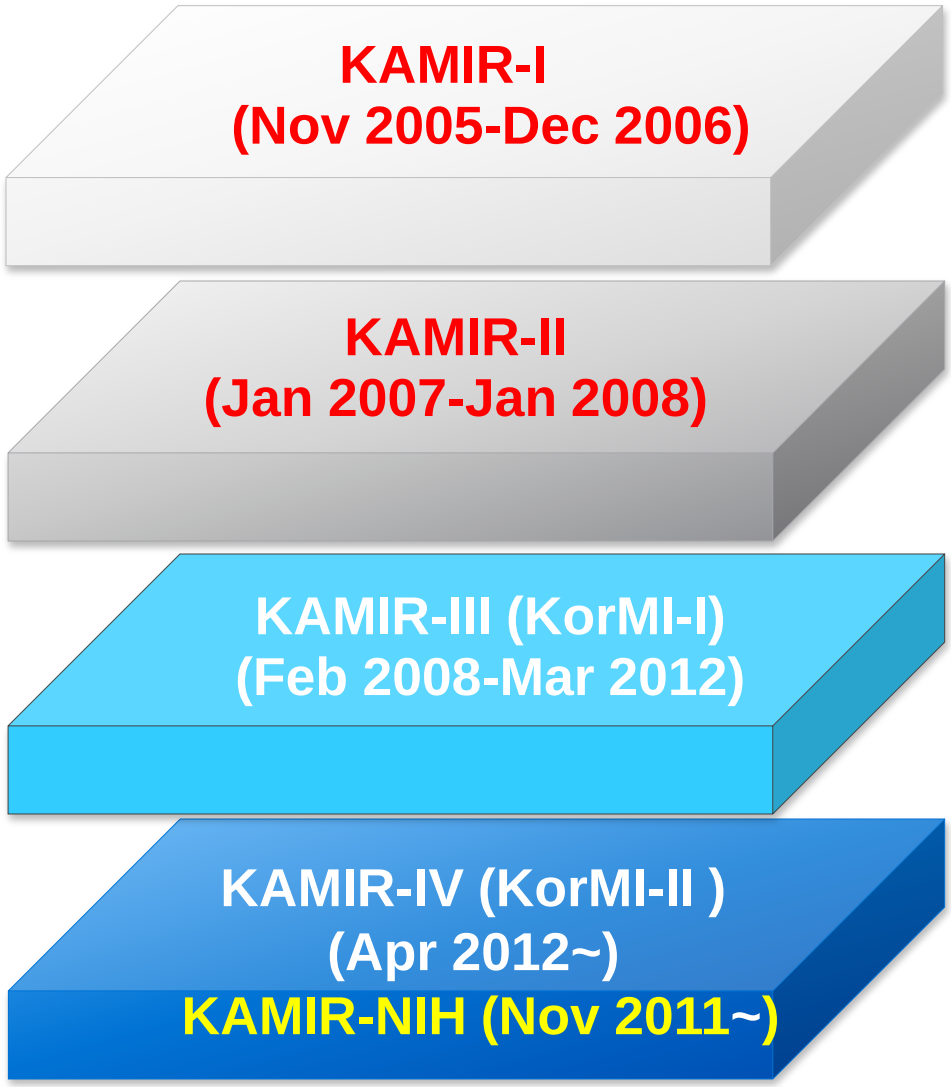
Steering Committee:

Park SJ, Jang YS, Seung KB, Chung WS, Cho JG, Kim YJ, Kim CJ, Cho MC, Yoon JH, Chae IH, Jeong MH

Purpose of KAMIR Study

1. On-line registration of Korean AMI patients
2. Early detection of high risk patients
3. Risk factor documentation and analysis
4. New therapeutic strategy for AMI
5. Effective prevention strategy for AMI

Four Phases of KAMIR Study



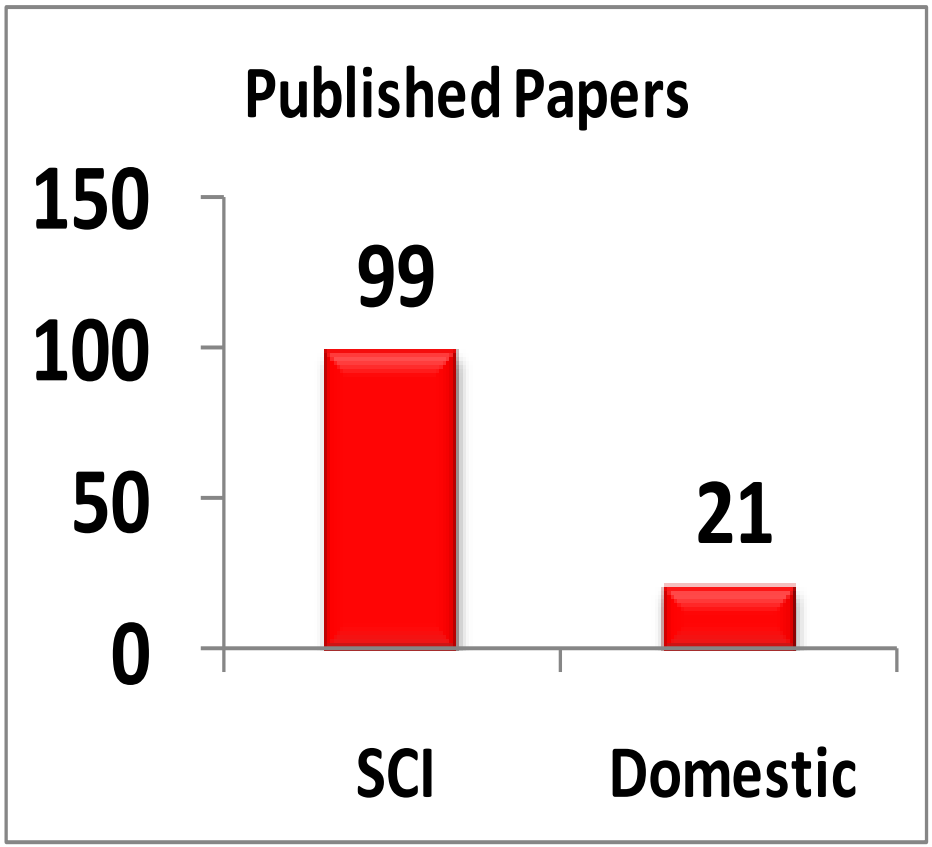
N=8,489

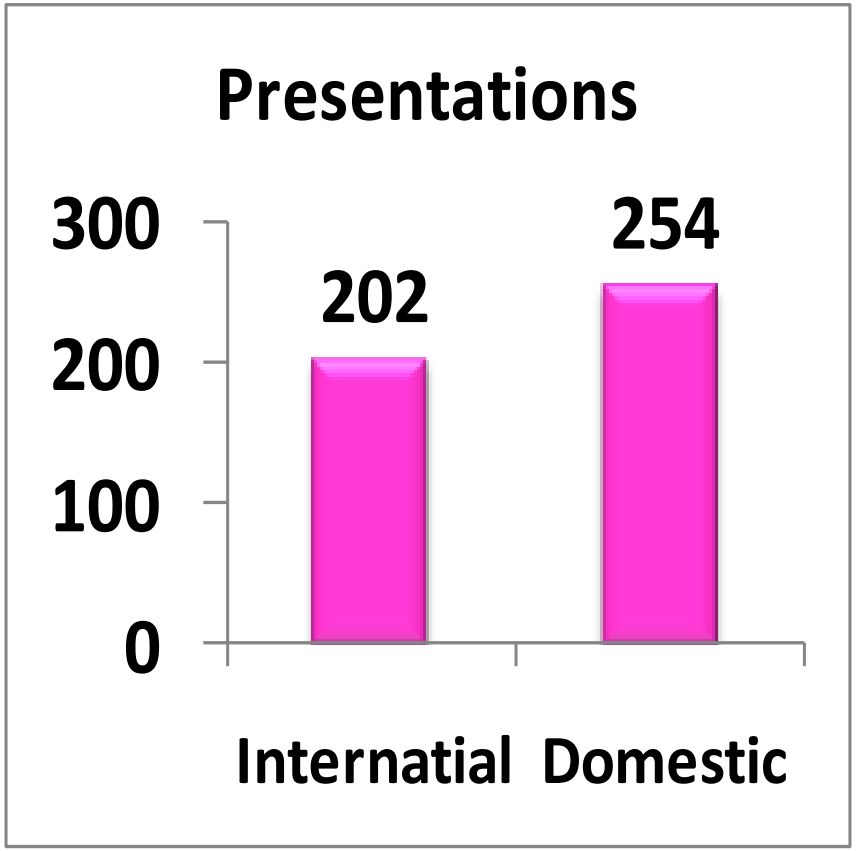
N=6,381
(14,870)

N=24,600
(39,470)

N=12,616
(52,086)

KAMIR Publications and Presentations (2006~2014)





Special Invited Lectures at 2012 Japanese Circulation Society and 2013 Japanese College of Cardiology and 2012 American College of Cardiology

Review Article in Journal of Cardiology 2010

Journal of Cardiology (2010) 56, 1–7

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Review

Current management of acute myocardial infarction: Experience from the Korea Acute Myocardial Infarction Registry

Doo Sun Sim (MD), Myung Ho Jeong (MD, PhD)*, Jung Chaee Kang (MD, PhD)

KAMIR Investigators. *J Cardiol 2010;56:1-7*

Review Article in Journal of Korean Medical Science 2013

REVIEW
Cardiovascular Disorders

JKMS

http://dx.doi.org/10.3346/jkms.2013.28.2.173 • *J Korean Med Sci 2013; 28: 173-180*

New Horizons of Acute Myocardial Infarction: From the Korea Acute Myocardial Infarction Registry

Ki Hong Lee,[1] Myung Ho Jeong,[1] Youngkeun Ahn,[1] Myeong Chan Cho,[2] Chong Jin Kim,[3] and Young Jo Kim[4]

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Accepted: 6 December 2012

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KAMIR was carried out with the support of the Korean Circulation Society (KCS) in the memorandum of the 50th anniversary KCS. This study was supported by a grant of the Korea Healthcare technology R&D project, Ministry for Health, Welfare and Family Affairs (A084869), Korea.

As the first nationwide Korean prospective multicenter data collection registry, the Korea Acute Myocardial Infarction Registry (KAMIR) launched in November 2005. Through a number of innovative approaches, KAMIR suggested new horizons about acute myocardial infarction (AMI) which contains unique features of Asian patients from baseline characteristics to treatment strategy. Obesity paradox was existed in Korean AMI patients, whereas no gender differences among them. KAMIR score suggested new risk stratifying method with increased convenience and an enhanced accuracy for the prediction of adverse outcomes. Standard loading dose of clopidogrel was enough for Asian AMI patients. Triple antiplatelet therapy with aspirin, clopidogrel and cilostazol could improve clinical outcomes than dual antiplatelet therapy with aspirin and clopidogrel. Statin improved clinical outcomes even in AMI patients with very low LDL-C levels. The rate of percutaneous coronary intervention was higher and door-to-balloon time was shorter than the previous reports. Zotarolimus eluting stents as the 2nd generation drug-eluting stent (DES) was not superior to the 1st generation DES, in contrast to the western AMI studies. KAMIR made a cornerstone in the study of Korean AMI and expected to be new standards of care for AMI with the renewal of KAMIR design to overcome its pitfalls.

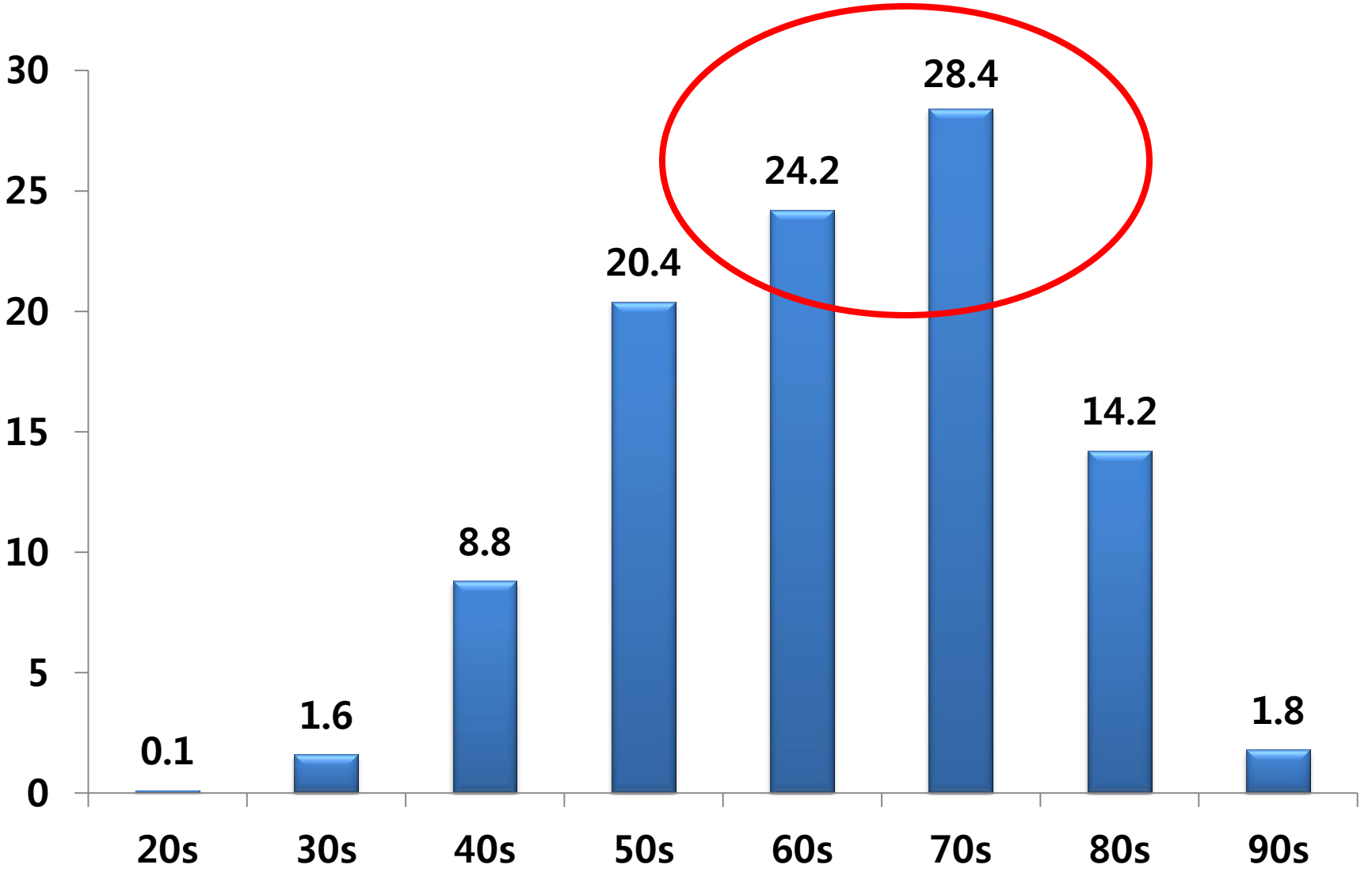
Key Words: Acute Myocardial Infarction; ST-Elevation Myocardial Infarction; Non-ST-Elevation Myocardial Infarction

KAMIR Investigators. *J Korean Med Sci 2013; 28:173-180*

Acute Myocardial Infarction in Korea

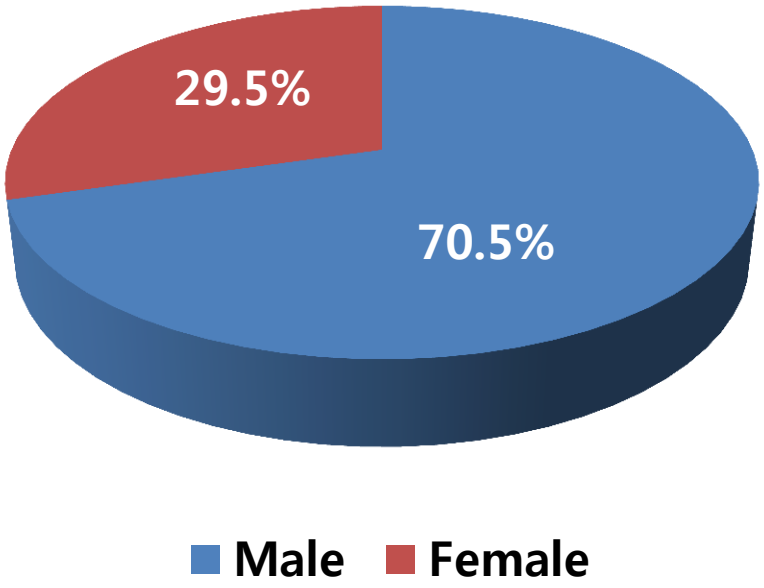
- Between Nov 2005 and Mar 2012
- 55 primary PCI centers
- 39,470 patients were enrolled in KAMIR/KorMI
- Mean age = 63±12 years of age

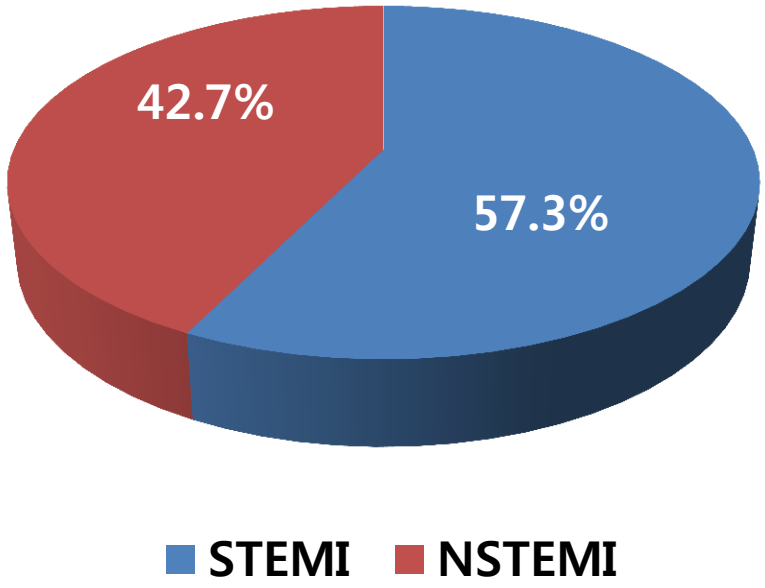
Age distribution in Korea AMI Pts



KAMIR Investigators

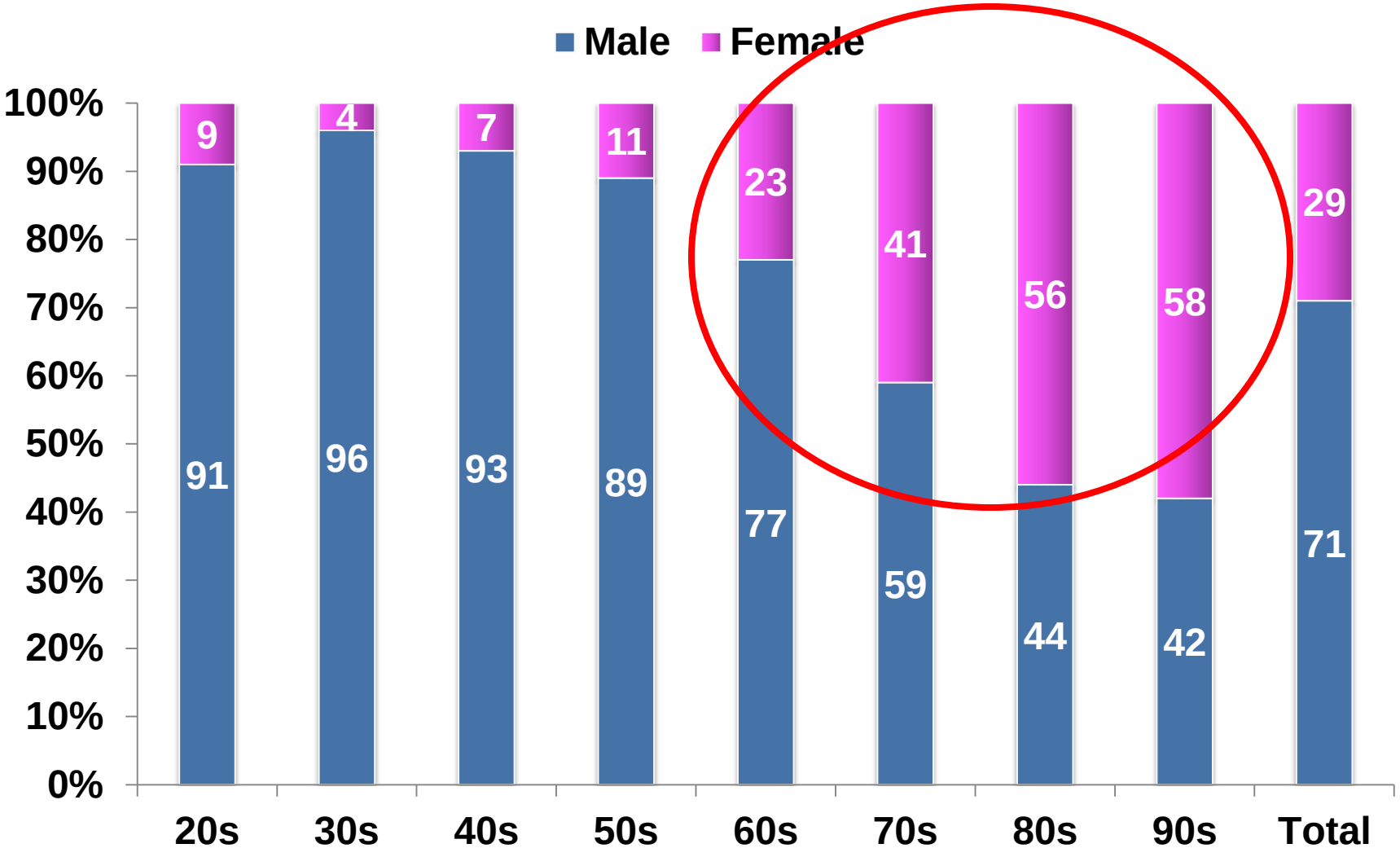
Distribution of Baseline Characteristics





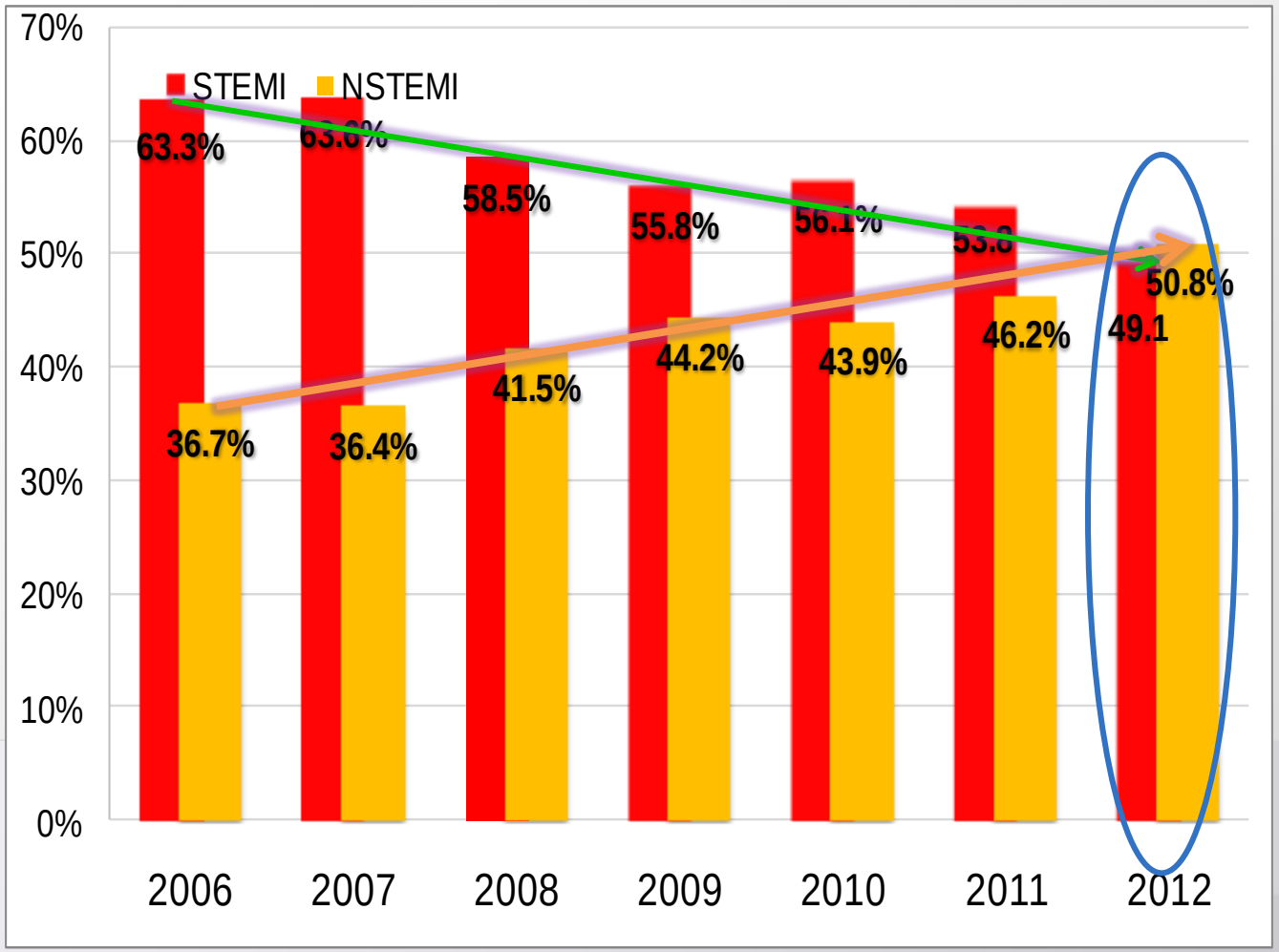
KAMIR Investigators

Gender Ratio in Age Group

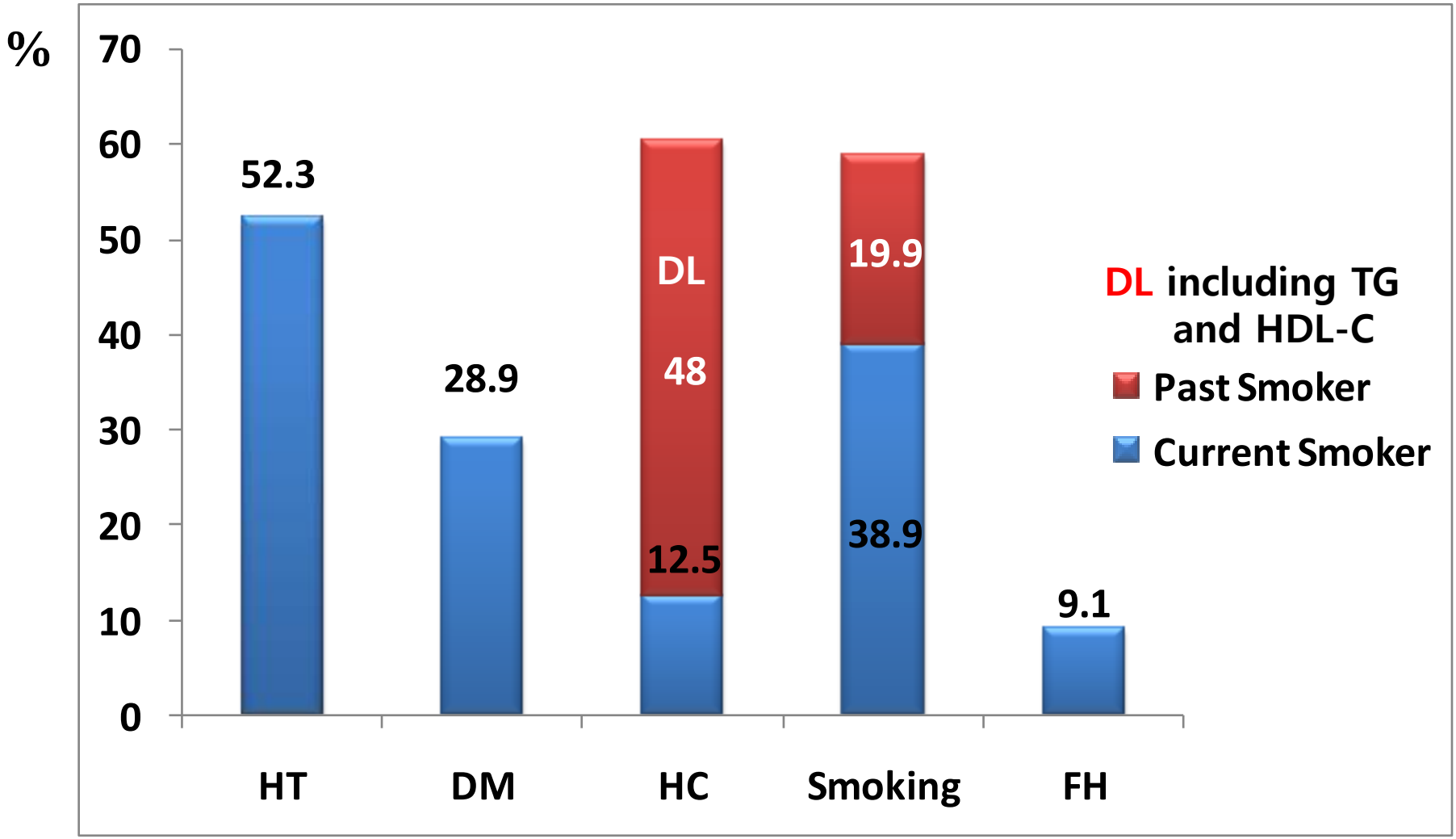


KAMIR Investigators

STEMI vs. NSTEMI Ratio Change



Risk Factors



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A new risk score system for the assessment of clinical outcomes in patients with non-ST-segment elevation myocardial infarction

Hyun Kuk Kim [a], Myung Ho Jeong [a,*], Youngkeun Ahn [a], Jong Hyun Kim [b], Shung Chull Chae [c], Young Jo Kim [d], Seung Ho Hur [e], In Whan Seong [f], Taek Jong Hong [g], Dong Hoon Choi [h], Myeong Chan Cho [i], Chong Jin Kim [j], Ki Bae Seung [k], Wook Sung Chung [k], Yang Soo Jang [h], Seung Woon Rha [l], Jang Ho Bae [m], Jeong Gwan Cho [a], Seung Jung Park [n]
other Korea Acute Myocardial Infarction Registry Investigators
Korea Acute Myocardial infarction Registry (KAMIR) Study Group of Korean Circulation Society

A B S T R A C T

Background and objectives: Prediction for long-term clinical outcomes in patients with non-ST elevation acute coronary syndrome is important as well as early risk stratification. The aim of this study is to develop a simple assessment tool for better early bedside risk stratification for both short- and long-term clinical outcomes.
Subjects and methods: 2148 patients with non-ST-segment elevation myocardial infarction (NSTEMI) (64.9 ± 12.2 years, 35.0% females) were enrolled in a nationwide prospective Korea Acute Myocardial Infarction Registry (KAMIR). A new risk score was constructed using the variables related to one year mortality: TIMI risk index (17.5–30: 1 point, >30: 2 points), Killip class (II: 1 point, >II: 2 points) and serum creatinine (≥ 1.5 mg/dL: 1 point), based on the multivariate-adjusted risk relationship. The new risk score system was compared with the Global Registry of Acute Coronary Events (GRACE) and TIMI risk scores during a 12-month clinical follow-up.
Results: During a one year follow-up, all causes of death occurred in 362 patients (14.3%), and 184 (8.6%) patients died in the hospital. The new risk score showed good predictive value for one year mortality. The accuracy for in-hospital and one year post-discharge mortality rates, the new risk score demonstrated significant differences in predictive accuracy when compared with TIMI and GRACE risk scores.
Conclusion: A new risk score in the present study provides simplicity with accuracy simultaneously for early risk stratification, and also could be a powerful predictive tool for long-term prognosis in NSTEMI.

KAMIR Investigators. Int J Cardiol *2010;145:450-4*

Table 2
Univariate analysis for predictors of one year mortality.

Characteristics	β coefficiency	*P* value	HR (95% CI)
TIMI risk index			
17.5–30	1.045	<0.001	2.84 (1.68–4.81)
>30	2.379	<0.001	10.79 (6.58–17.70)
Female	0.757	<0.001	2.13 (1.86–2.44)
Risk factors			
Hypertension	0.515	<0.001	1.67 (1.32–2.13)
Diabetes mellitus	0.639	<0.001	1.90 (1.51–2.39)
Hypercholesterolemia	−0.257	0.19	0.77 (0.53–1.13)
Current smoker	−0.786	<0.001	0.46 (0.34–0.61)
Family history	−0.285	0.27	0.75 (0.45–1.25)
At least 3 risk factors	−0.070	0.71	0.93 (0.65–1.34)
Previous history			
Regular aspirin medication	0.517	<0.001	1.68 (1.30–2.17)
Stroke or PAD	0.838	<0.001	2.31 (1.73–3.09)
Significant coronary stenosis	0.652	<0.001	1.92 (1.51–2.43)
On admission Killip class			
Killip class			
II	1.392	<0.001	4.02 (2.89–5.59)
III–IV	2.238	<0.001	9.37 (7.20–12.21)
Severe angina symptom	−0.294	0.17	0.75 (0.49–1.14)
ST-segment depression	0.564	<0.001	1.76 (1.40–2.21)
Serum creatinine ≥ 1.5 mg/dL	1.806	<0.001	6.08 (4.83–7.67)

CI = confidence interval; HR = hazard ratio; TIMI = thrombolysis in myocardial infarction.
TIMI risk index = (heart rate × [age/10]^2) / systolic blood pressure.
PAD = peripheral artery disease.

KAMIR Investigators. Int J Cardiol *2010;145:450-4*

Table 3
Independent predictors of one year mortality.

Characteristics	β coefficiency	*P* value	HR (95% CI)
TIMI risk index			
17.5–30	0.708	0.009	2.03 (1.19–3.46)
>30	1.631	<0.001	5.11 (3.07–8.05)
Killip class			
II	0.952	<0.001	2.59 (1.84–2.77)
III–IV	1.456	<0.001	4.29 (3.20–5.75)
Serum creatinine ≥ 1.5 mg/dL	1.091	<0.001	2.97 (2.32–3.83)

CI = confidence interval; HR = hazard ratio; TIMI = thrombolysis in myocardial infarction.

KAMIR Investigators. Int J Cardiol *2010;145:450-4*

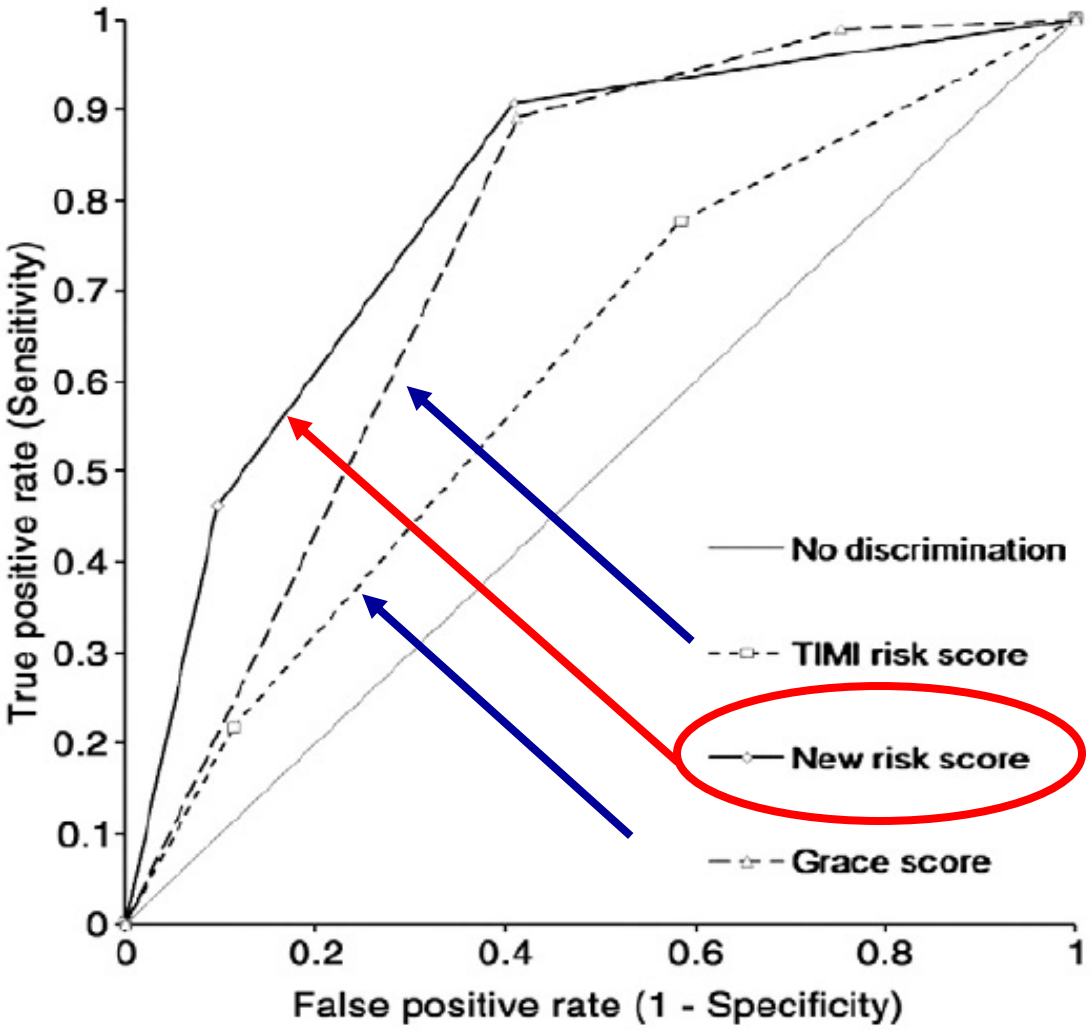


Fig. 4. Receiver-operating characteristic curves of the new risk score, GRACE and TIMI risk scores for post-discharge for one year mortality.

KAMIR Investigators. Int J Cardiol *2010;145:450-4*

Hospital Discharge Risk Score System for the Assessment of Clinical Outcomes in Patients With Acute Myocardial Infarction (Korea Acute Myocardial Infarction Registry [KAMIR] Score)

Hyun Kuk Kim, MD[a], Myung Ho Jeong, MD[a,*], Youngkeun Ahn, MD[a], Jong Hyun Kim, MD[b], Shung Chull Chae, MD[c], Young Jo Kim, MD[d], Seung Ho Hur, MD[e], In Whan Seong, MD[f], Taek Jong Hong, MD[g], Dong Hoon Choi, MD[h], Myeong Chan Cho, MD[i], Chong Jin Kim, MD[j], Ki Bae Seung, MD[k], Wook Sung Chung, MD[k], Yang Soo Jang, MD[h], Seung Woon Rha, MD[l], Jang Ho Bae, MD[m], Jeong Gwan Cho, MD[a], and Seung Jung Park, MD[n], and Other Korea Acute Myocardial Infarction Registry Investigators

Assessment of risk at time of discharge could be a useful tool for guiding postdischarge management. The aim of this study was to develop a novel and simple assessment tool for better hospital discharge risk stratification. The study included 3,997 hospital-discharged patients with acute myocardial infarction who were enrolled in the nationwide prospective Korea Acute Myocardial Infarction Registry-1 (KAMIR-1) from November 2005 through December 2006. The new risk score system was tested in 1,461 hospital-discharged patients who were admitted from January 2007 through January 2008 (KAMIR-2). The new risk score system was compared to the Global Registry of Acute Coronary Events (GRACE) postdischarge risk model during a 12-month clinical follow-up. During 1-year follow-up, all-cause death occurred in 228 patients (5.7%) and 81 patients (5.5%) in the development and validation cohorts, respectively. The new risk score (KAMIR score) was constructed using 6 independent variables related to the primary end point using a multivariable Cox regression analysis: age, Killip class, serum creatinine, no in-hospital percutaneous coronary intervention, left ventricular ejection fraction, and admission glucose based on multivariate-adjusted risk relation. The KAMIR score demonstrated significant differences in its predictive accuracy for 1-year mortality compared to the GRACE score for the developmental and validation cohorts. In conclusion, the KAMIR score for patients with acute myocardial infarction is a simpler and better risk scoring system than the GRACE hospital discharge risk model in prediction of 1-year mortality. (Am J Cardiol 2011;107:965–971)

KAMIR Investigators. *Am J Cardiol 2011;107:965-71*

Table 3
Multivariate analysis for predictors of one-year mortality

Characteristics	Beta Coefficient	p Value	HR (95% CI)
Age (years)			
65–74	0.871	0.001	2.39 (1.44–3.97)
>75	1.468	<0.001	4.34 (2.59–7.28)
Killip class			
II	0.850	0.001	2.34 (1.39–3.94)
III to IV	1.401	<0.001	4.06 (2.54–6.50)
No percutaneous coronary intervention	0.797	<0.001	2.22 (1.65–2.98)
Serum creatinine ≥1.5 mg/dl	0.580	0.012	1.79 (1.13–2.81)
Left ventricular ejection fraction <40%	0.805	<0.001	2.24 (1.47–3.41)
Admission glucose >180 mg/dl	0.417	0.040	1.52 (1.02–2.26)

KAMIR Investigators. *Am J Cardiol 2011;107:965-71*

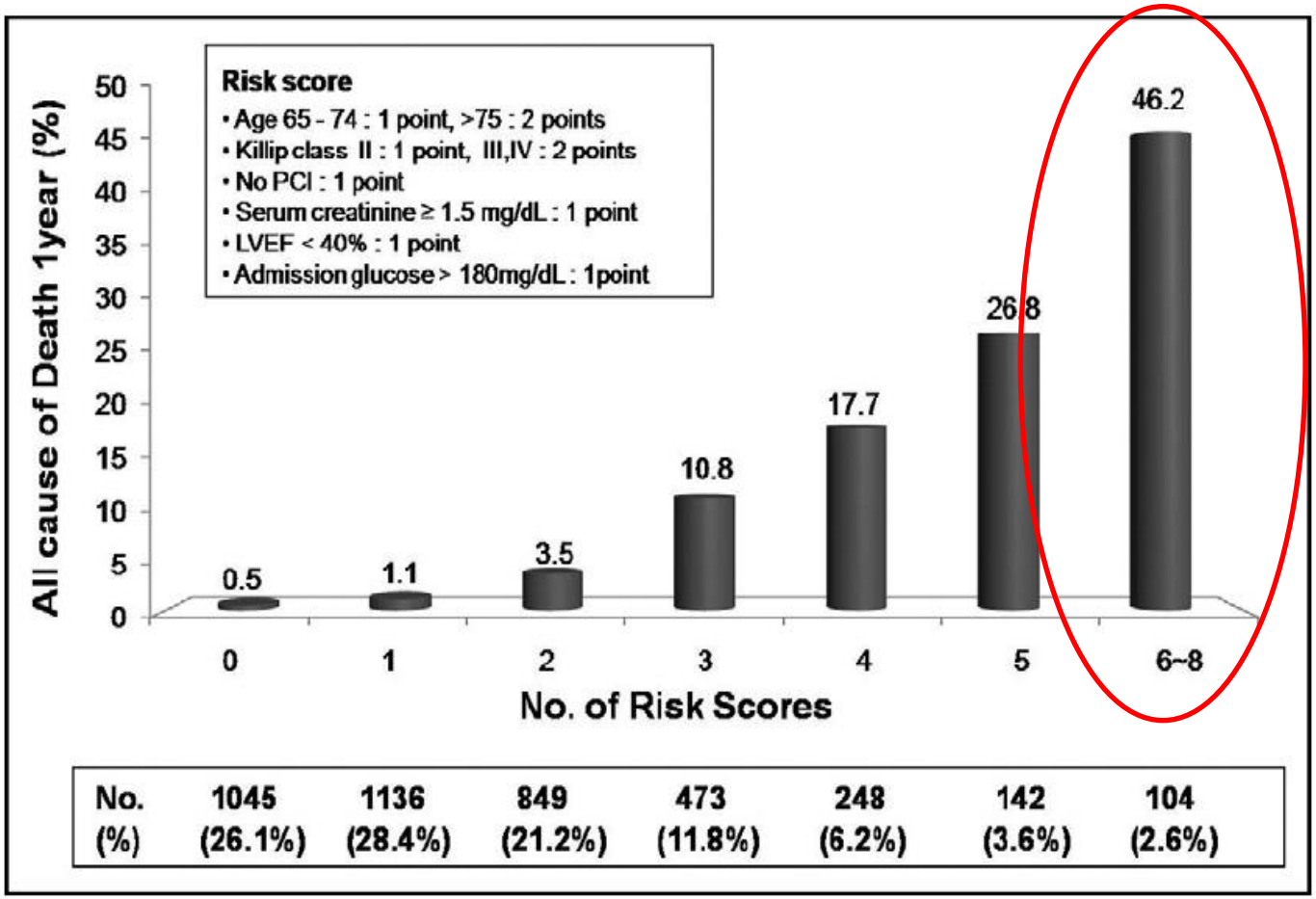


Figure 1. A new risk score predicting 1-year death from acute myocardial infarction. LVEF = left ventricular ejection fraction.

KAMIR Investigators. *Am J Cardiol 2011;107:965-71*

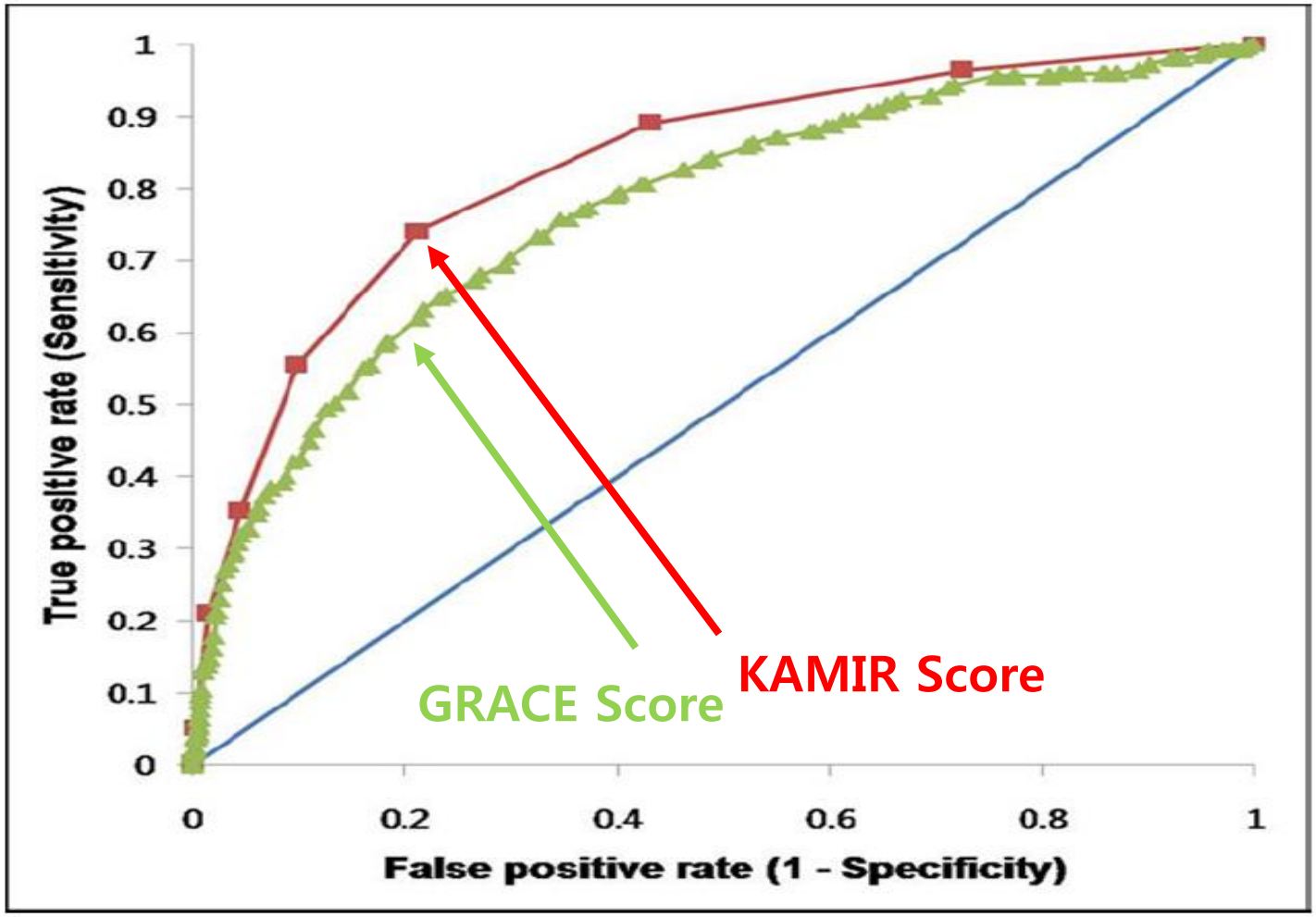


Figure 2. Receiver operator characteristic curves of no discrimination *(solid line)*, new risk score *(squares)*, and Global Registry of Acute Coronary Events score *(triangles)* for 1-year mortality in patients with acute myocardial infarction.

KAMIR Investigators. *Am J Cardiol 2011;107:965-71*

Triple Versus Dual Antiplatelet Therapy in Patients With Acute ST-Segment Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention

Kang-Yin Chen, MD; Seung-Woon Rha, MD; Yong-Jian Li, MD; Kanhaiya L. Poddar, MBBS; Zhe Jin, MD; Yoshiyasu Minami, MD; Lin Wang, MD; Eung Ju Kim, MD; Chang Gyu Park, MD; Hong Seog Seo, MD; Dong Joo Oh, MD; Myung Ho Jeong, MD; Young Keun Ahn, MD; Taek Jong Hong, MD; Young Jo Kim, MD; Seung Ho Hur, MD; In Whan Seong, MD; Jei Keon Chae, MD; Myeong Chan Cho, MD; Jang Ho Bae, MD; Dong Hoon Choi, MD; Yang Soo Jang, MD; In Ho Chae, MD; Chong Jin Kim, MD; Jung Han Yoon, MD; Wook Sung Chung, MD; Ki Bae Seung, MD; Seung Jung Park, MD; for the Korea Acute Myocardial Infarction Registry Investigators

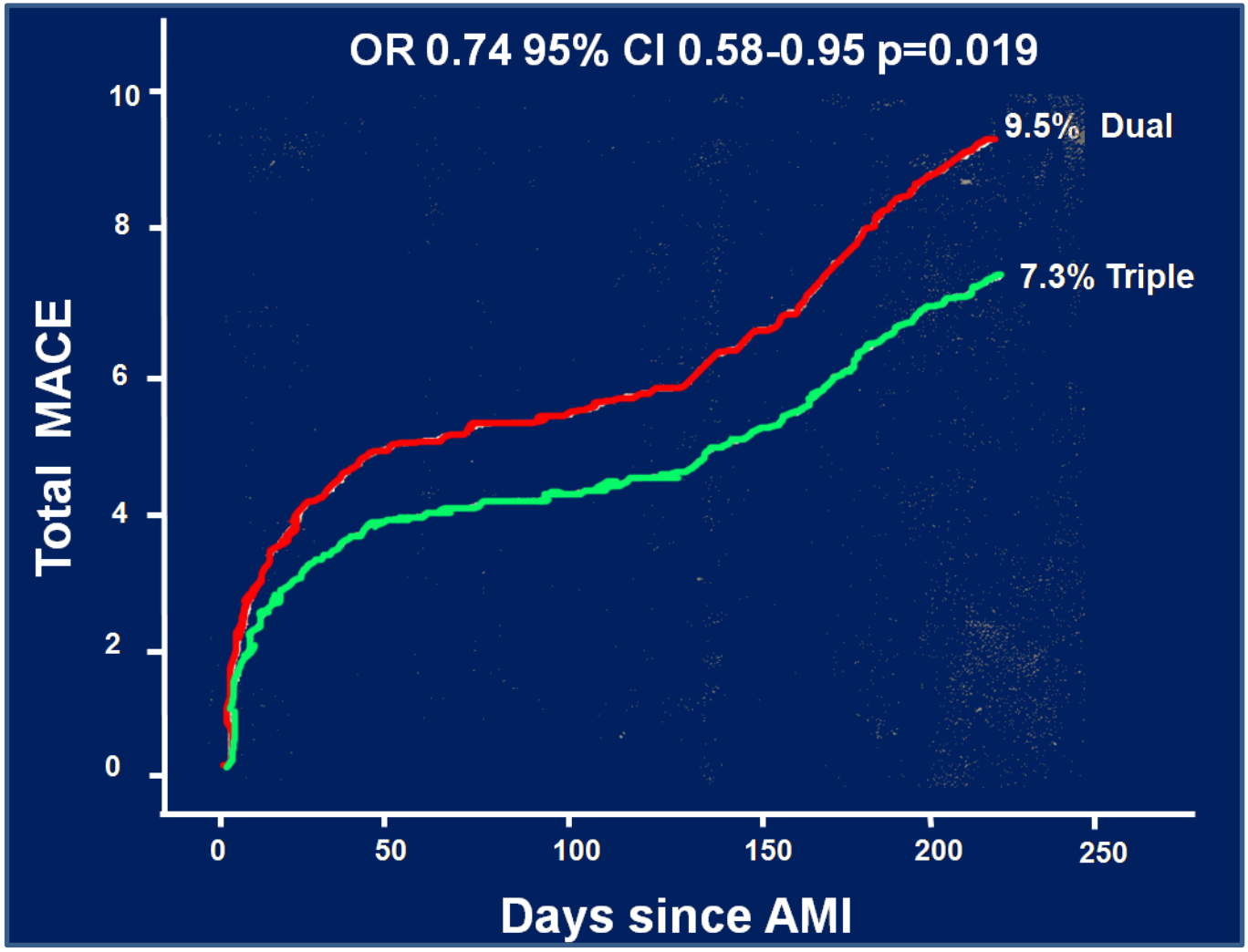
Background—Whether triple antiplatelet therapy is superior or similar to dual antiplatelet therapy in patients with acute ST-segment elevation myocardial infarction undergoing primary percutaneous coronary intervention in the era of drug-eluting stents remains unclear.

Methods and Results—A total of 4203 ST-segment elevation myocardial infarction patients who underwent primary percutaneous coronary intervention with drug-eluting stents were analyzed retrospectively in the Korean Acute Myocardial Infarction Registry (KAMIR). They received either dual (aspirin plus clopidogrel; dual group; n=2569) or triple (aspirin plus clopidogrel plus cilostazol; triple group; n=1634) antiplatelet therapy. The triple group received additional cilostazol at least for 1 month. Various major adverse cardiac events at 8 months were compared between these 2 groups. Compared with the dual group, the triple group had a similar incidence of major bleeding events but a significantly lower incidence of in-hospital mortality. Clinical outcomes at 8 months showed that the triple group had significantly lower incidences of cardiac death (adjusted odds ratio, 0.52; 95% confidence interval, 0.32 to 0.84; P=0.007), total death (adjusted odds ratio, 0.60; 95% confidence interval, 0.41 to 0.89; P=0.010), and total major adverse cardiac events (adjusted odds ratio, 0.74; 95% confidence interval, 0.58 to 0.95; P=0.019) than the dual group. Subgroup analysis showed that older (>65 years old), female, and diabetic patients got more benefits from triple antiplatelet therapy than their counterparts who received dual antiplatelet therapy.

Conclusions—Triple antiplatelet therapy seems to be superior to dual antiplatelet therapy in patients with ST-segment elevation myocardial infarction undergoing primary percutaneous coronary intervention with drug-eluting stents. These results may provide the rationale for the use of triple antiplatelet therapy in these patients. (***Circulation*. 2009;119:3207-3214.**)

KAMIR Investigators. *Circulation* 2009;119:3207-14

Triple vs. Dual antiplatelet therapy in AMI Pts



KAMIR Investigators. *Circulation* 2009;119:3207-14

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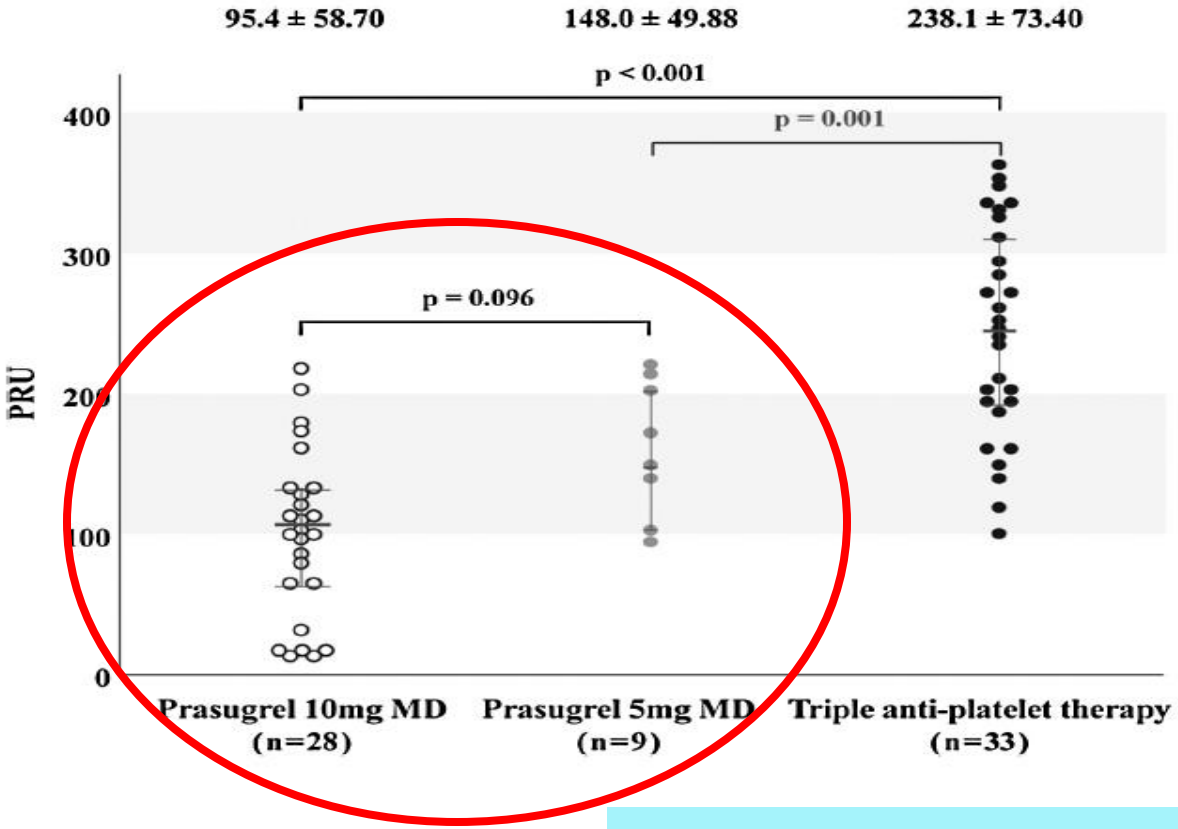
Original article

Comparison of peri-procedural platelet inhibition with prasugrel versus adjunctive cilostazol to dual anti-platelet therapy in patients with ST segment elevation myocardial infarction



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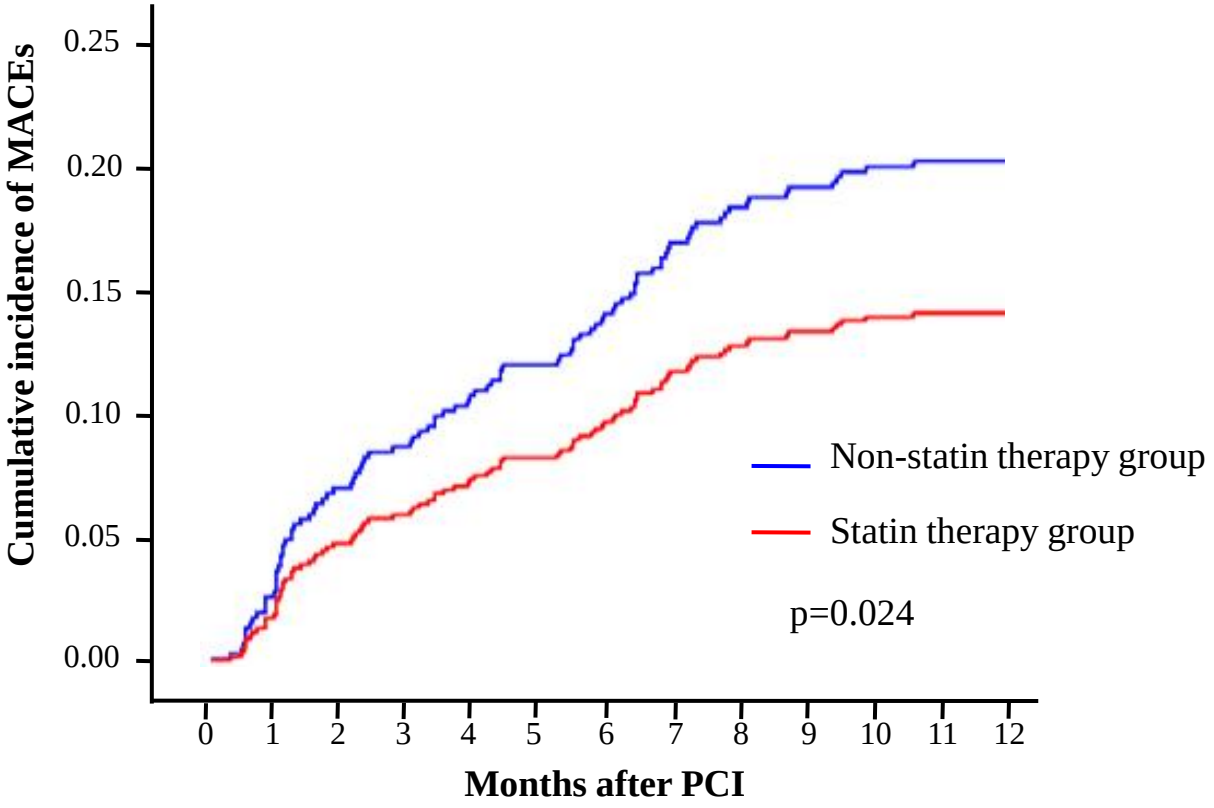
Benefit of Early Statin Therapy in Patients With Acute Myocardial Infarction Who Have Extremely Low Low-Density Lipoprotein Cholesterol

Ki Hong Lee, MD,* Myung Ho Jeong, MD, PhD,* Ha Mi Kim, RN,* Youngkeun Ahn, MD, PhD,* Jong Hyun Kim, MD,† Shung Chull Chae, MD, PhD,‡ Young Jo Kim, MD, PhD,§ Seung Ho Hur, MD, PhD,‖ In Whan Seong, MD, PhD,¶ Taek Jong Hong, MD, PhD,# Dong Hoon Choi, MD, PhD,** Myeong Chan Cho, MD, PhD,†† Chong Jin Kim, MD, PhD,‡‡ Ki Bae Seung, MD, PhD,§§ Wook Sung Chung, MD, PhD,§§ Yang Soo Jang, MD, PhD,‖‖ Seung Woon Rha, MD, PhD,¶¶ Jang Ho Bae, MD, PhD,## Jeong Gwan Cho, MD, PhD,* Seung Jung Park, MD, PhD,*** for the KAMIR (Korea Acute Myocardial Infarction Registry) Investigators

KAMIR Investigators. *J Am Coll Cardiol 2011;58:1664-71*

Statin therapy in AMI patients with LDL-C levels < 70 mg/dL



No.at risk	1,054	894	780	680
Statin therapy group	607	529	457	400
Non-statin therapy group	447	365	323	280

KAMIR Investigators. ***J Am Coll Cardiol 2011;58:1664-71***

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Comparative assessment of angiotensin ii type 1 receptor blockers in the treatment of acute myocardial infarction: surmountable vs. insurmountable antagonist

Hae Chang Jeong [a,*], Myung Ho Jeong [a], Youngkeun Ahn [a], Shung Chull Chae [b], Seung Ho Hur [c], Taek Jong Hong [d], Young Jo Kim [e], In Whan Seong [f], Jei Keon Chae [g], Jay Young Rhew [h], In Ho Chae [i], Myeong Chan Cho [j], Jang Ho Bae [k], Seung Woon Rha [l], Chong Jin Kim [m], Donghoon Choi [n], Yang Soo Jang [n], Junghan Yoon [o], Wook Sung Chung [p], Jeong Gwan Cho [a], Ki Bae Seung [p], Seung Jung Park [q]The Korea Acute Myocardial Infarction Registry Investigators

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ABSTRACT

Background: The mechanisms of antagonism vary between the angiotensin II type 1 receptor blockers (ARBs): insurmountable antagonism and surmountable antagonism. Recent retrospective observational studies suggest that ARBs may not have equivalent benefits in various clinical situations. The aim of this study was to compare the effect of two categories of ARBs on the long-term clinical outcomes of patients with acute myocardial infarction (AMI).

Methods: We analyzed the large-scale, prospective, observational Korea Acute Myocardial Infarction Registry study, which enrolled 2740 AMI patients. They divided by the prescription of surmountable ARBs or insurmountable ARBs at discharge. Primary outcome was major adverse cardiac events (MACEs), defined as a composite of cardiac death, nonfatal MI, and re-percutaneous coronary intervention, coronary artery bypass graft surgery.

Results: In the overall population, the MACEs rate in 1 year was significantly higher in the surmountable ARB group (14.3% vs. 11.2%, $p = 0.025$), which was mainly due to increased cardiac death (3.3% vs. 1.9%, $p = 0.031$). Matching by propensity-score showed consistent results (MACEs rate: 14.9% vs. 11.4%, $p = 0.037$). In subgroup analysis, the insurmountable ARB treatment significantly reduced the incidence of MACEs in patients with left ventricular ejection fraction greater than 40%, with a low killip class, with ST segment elevation MI, and with normal renal function.

Conclusions: In our study, insurmountable ARBs were more effective on long-term clinical outcomes than surmountable ARBs in patients with AMI.

KAMIR Investigators. *Int J Cardiol 2014;170:291-7*

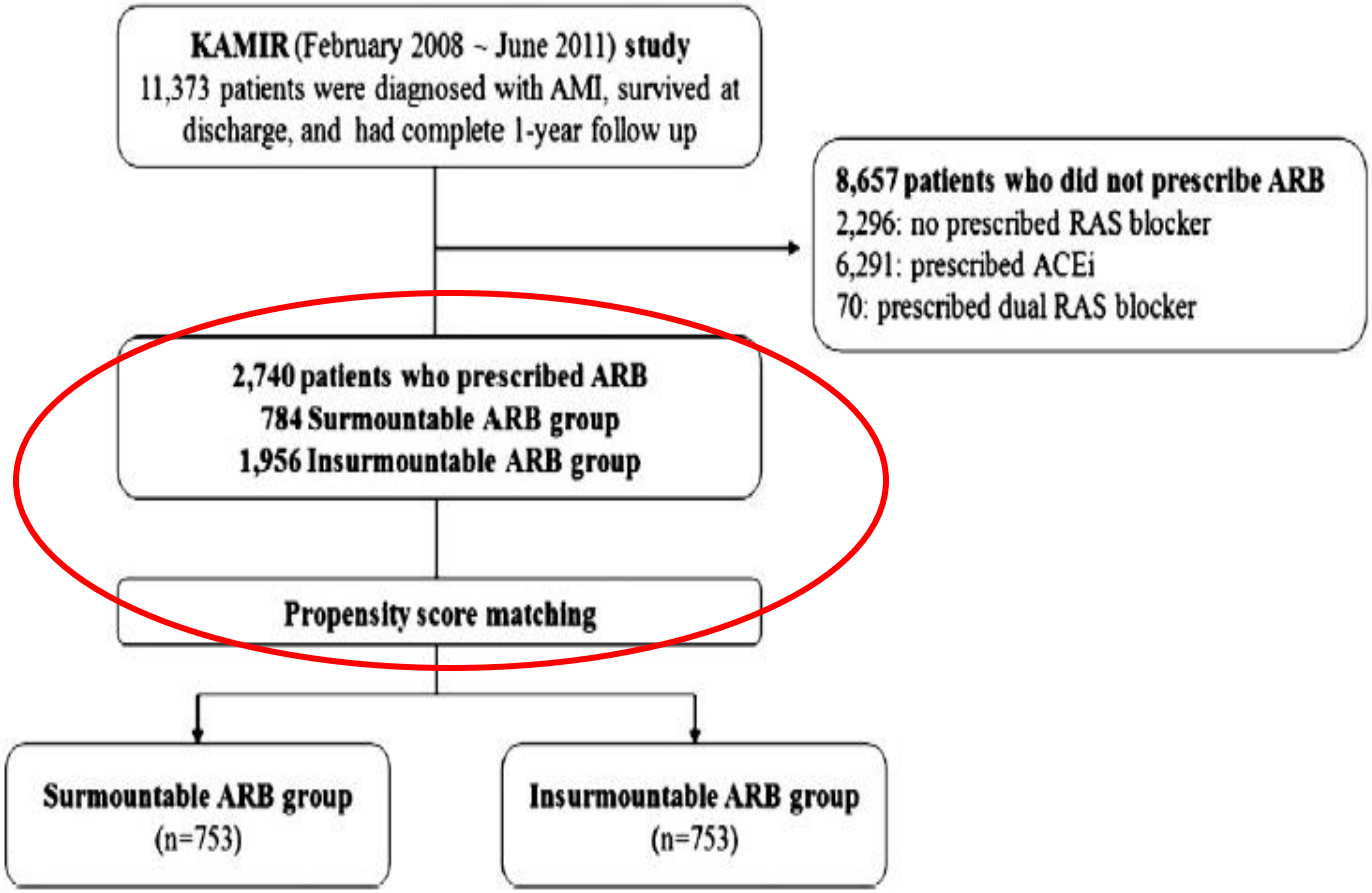
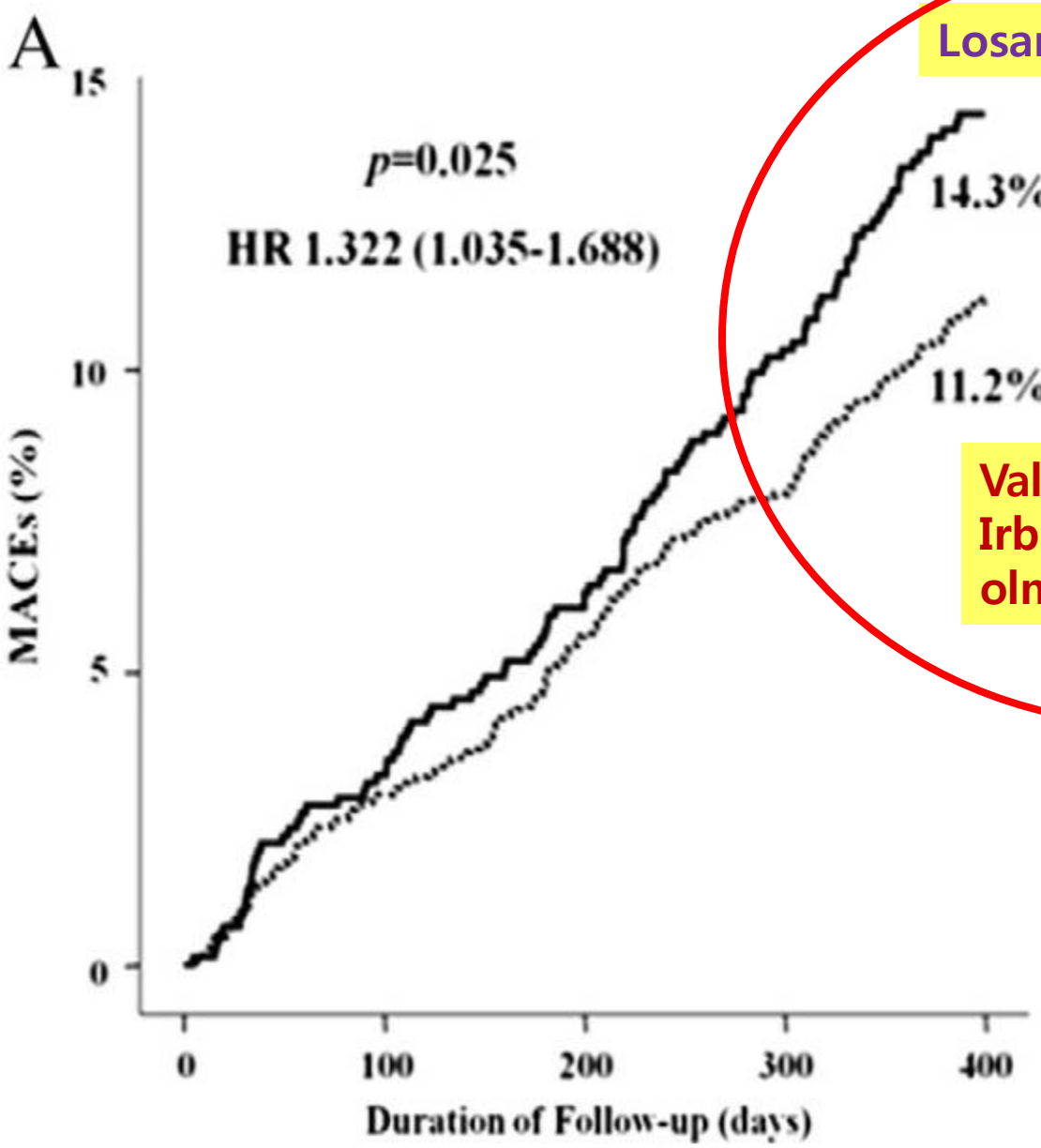


Fig. 1. Study flow chart. ACEI = angiotensin converting enzyme inhibitor; AMI = acute myocardial infarction; ARB = angiotensin receptor blocker; KAMIR = Korea Acute Myocardial Infarction Registry; PCI = percutaneous coronary intervention; RAS = renin–angiotensin system.

KAMIR Investigators. *Int J Cardiol 2014;170:291-7*



Losartan, eprosartan

Valsartan, candersatan. Irbesartan, telmisartan, olmesartan

KAMIR Investigators. *Int J Cardiol 2014;170:291-7*

Revascularization in Multi-vessel Disease

International Journal of Cardiology 153 (2011) 148–153

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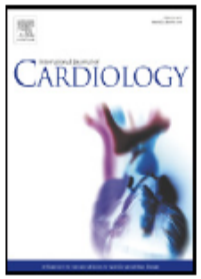

What is optimal revascularization strategy in patients with multivessel coronary artery disease in non-ST-elevation myocardial infarction? Multivessel or culprit-only revascularization

Min Chul Kim [a], Myung Ho Jeong [a,*], Youngkeun Ahn [a], Jong Hyun Kim [b], Shung Chull Chae [c], Young Jo Kim [d], Seung Ho Hur [e], In Whan Seong [f], Taek Jong Hong [g], Dong Hoon Choi [h], Myeong Chan Cho [i], Chong Jin Kim [j], Ki Bae Seung [k], Wook Sung Chung [k], Yang Soo Jang [l], Seung Yun Cho [l], Seung Woon Rha [m], Jang Ho Bae [n], Jeong Gwan Cho [a], Seung Jung Park [o]
and Korea Acute Myocardial Infarction Registry Investigators

KAMIR Investigators, Int J Cardiol 2011;153:148-53

Revascularization in Multi-vessel Disease

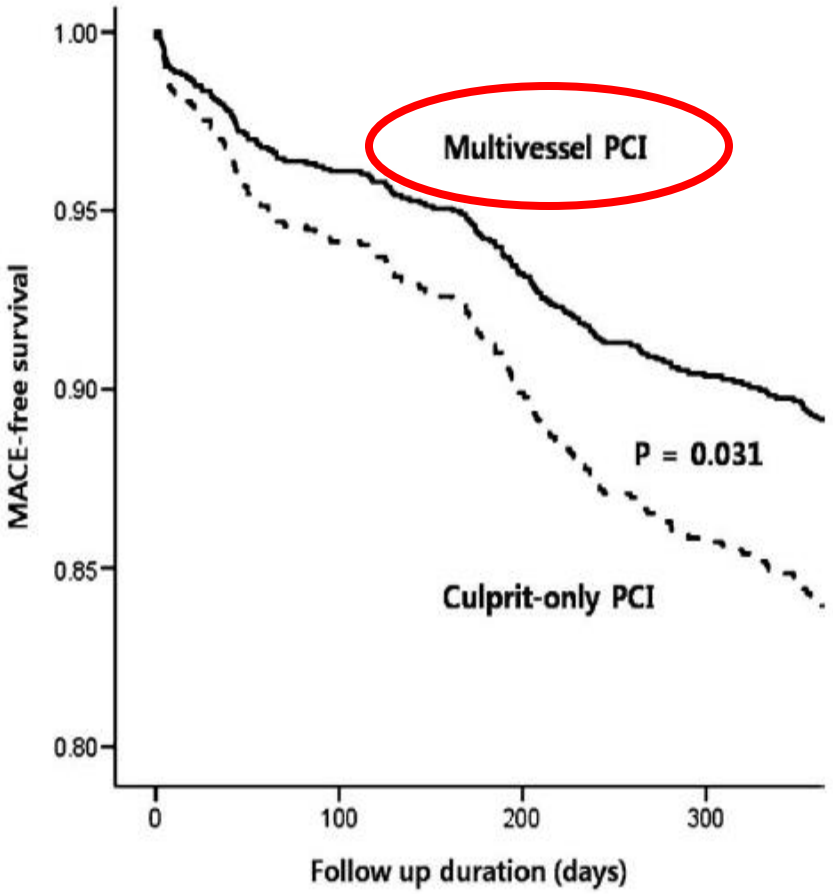

Fig. 1. One-year major adverse cardiac event (MACE)-free survival in multivessel and culprit-only PCI groups.

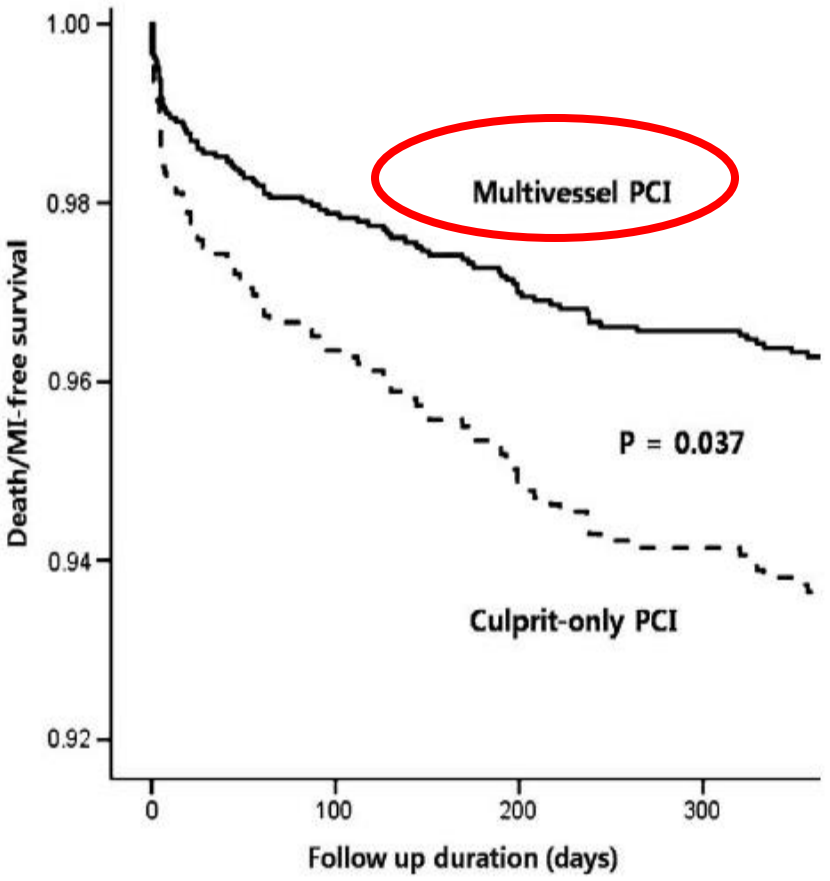

Fig. 2. One-year death or myocardial infarction (MI)-free survival in multivessel and culprit-only PCI groups.

KAMIR Investigators, Int J Cardiol 2011;153:148-53

DES in Korean AMI Pts

International Journal of Cardiology 163 (2013) 1–4

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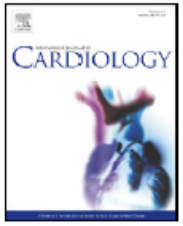

Editorial

The efficacy and safety of drug-eluting stents in patients with acute myocardial infarction: Results from Korea Acute Myocardial Infarction (KAMIR)

Young Joon Hong, Myung Ho Jeong *, Youngkeun Ahn, Jung Chaee Kang

Korea Cardiovascular Stent Research Institute, Heart Center of Chonnam National University Hospital, Gwangju, Republic of Korea

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ABSTRACT

There are controversies about the use of drug-eluting stent (DES) in patients with acute myocardial infarction (AMI). Recent trials of DES in patients with AMI have shown the relative safety of DES. However, some physicians hesitate to use DES in AMI patients because of increased risk of stent thrombosis and death. We summarized in this article about the efficacy and safety of DES in AMI patients who were enrolled in Korea Acute Myocardial Infarction Registry (KAMIR).

KAMIR Investigators. *Int J Cardiol 2013; 163:1-4*

DES in Korean AMI Pts

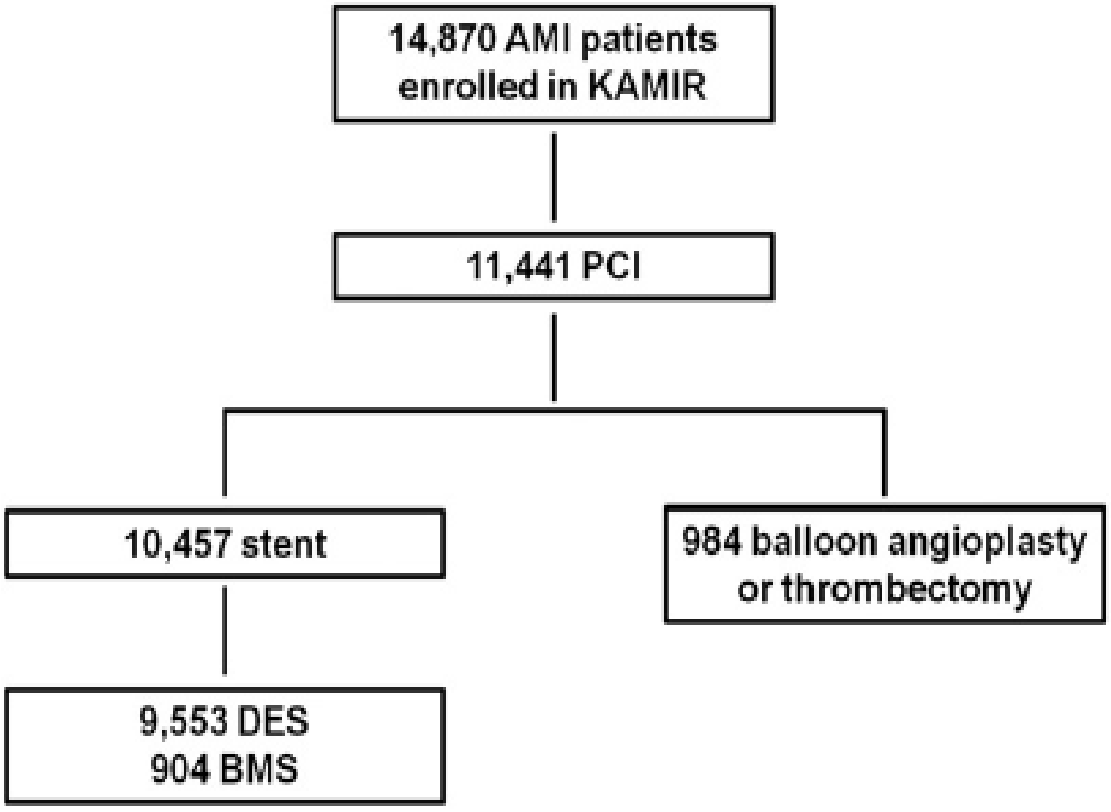

Fig. 1. Study population diagram. AMI: acute myocardial infarction, KAMIR: Korea Acute Myocardial Infarction Registry, PCI: percutaneous coronary intervention, DES: drug-eluting stent, BMS: bare-metal stent.

KAMIR Investigators. ***Int J Cardiol 2013; 163:1-4***

DES in Korean AMI Pts

5. Conclusions

According to the KAMIR data, DES penetration rate is more than 90%. As compared with BMS, the event rates are lower after DES implantation in patients with AMI. There were no significant differences in the incidences of overall MACE according to the DES types except for the lower need for repeat revascularization in SES compared with PES or ZES. According to KAMIR data, DES can be used safely and effectively to treat AMI patients by reducing the need for repeat revascularizations and by not increasing the risks of mortality, MI, and stent thrombosis.

KAMIR Investigators. ***Int J Cardiol 2013; 163:1-4***

Role of Intravascular Ultrasound in Patients with Acute Myocardial Infarction Undergoing Percutaneous Coronary Intervention

Khurshid Ahmed, MD[a,b], Myung Ho Jeong, MD, PhD[a,*], Rabin Chakraborty, MD[b], Youngkeun Ahn, MD, PhD[a], Doo Sun Sim, MD[a], Keunho Park, MD[a], Young Joon Hong, MD[a], Ju Han Kim, MD[a], Kyung Hoon Cho, MD[a], Min Chol Kim, MD[a], Daisuke Hachinohe, MD[a], Seung Hwan Hwang, MD[a], Min Goo Lee, MD[a], Myeong Chan Cho, MD[c], Chong Jin Kim, MD[d], Young Jo Kim, MD[e], Jong Chun Park, MD[a], Jung Chaee Kang, MD[a], and Other Korea Acute Myocardial Infarction Registry Investigators

Stent thrombosis and restenosis remain drawbacks of drug-eluting stents in patients with acute myocardial infarction (AMI). Intravascular ultrasound (IVUS) guidance for stent deployment helps optimize its results in stable patients. The aim of this study was to examine the utility of routine IVUS guidance in patients with AMI undergoing percutaneous coronary intervention (PCI). Employing data from Korea Acute Myocardial Infarction Registry (KAMIR), we analyzed 14,329 patients with AMI from April 2006 through September 2010. Patients with cardiogenic shock and rescue PCI after thrombolysis were excluded. Clinical outcomes of 2,127 patients who underwent IVUS-guided PCI were compared to those of 8,235 patients who did not. Mean age was 63.6 ± 13.5 years and 72.3% were men. Patients undergoing IVUS-guided PCI were younger, more often men, more hyperlipemic, and had increased body mass index and left ventricular ejection fraction. Number of treated vessels and stents used, stent length, and stent diameter were increased in the IVUS-guided group. Multivessel involvement was less frequent and American College of Cardiology/American Heart Association type C lesion was more frequent in the IVUS-guided group. Drug-eluting stents were more frequently used compared to bare-metal stents in the IVUS group. There was no significant relation of stent thrombosis between the 2 groups. Twelve-month all-cause death was lower in the IVUS group. After multivariate analysis and propensity score adjustment, IVUS guidance was not an independent predictor for 12-month all-cause death (hazard ratio 0.212, 0.026 to 1.73, p = 0.148). In conclusion, this study does not support routine use of IVUS guidance for stent deployment in patients who present with AMI and undergo PCI. (Am J Cardiol 2011;108:8–14)

KAMIR Investigators, Am J Cardiol 2011;108:8-14

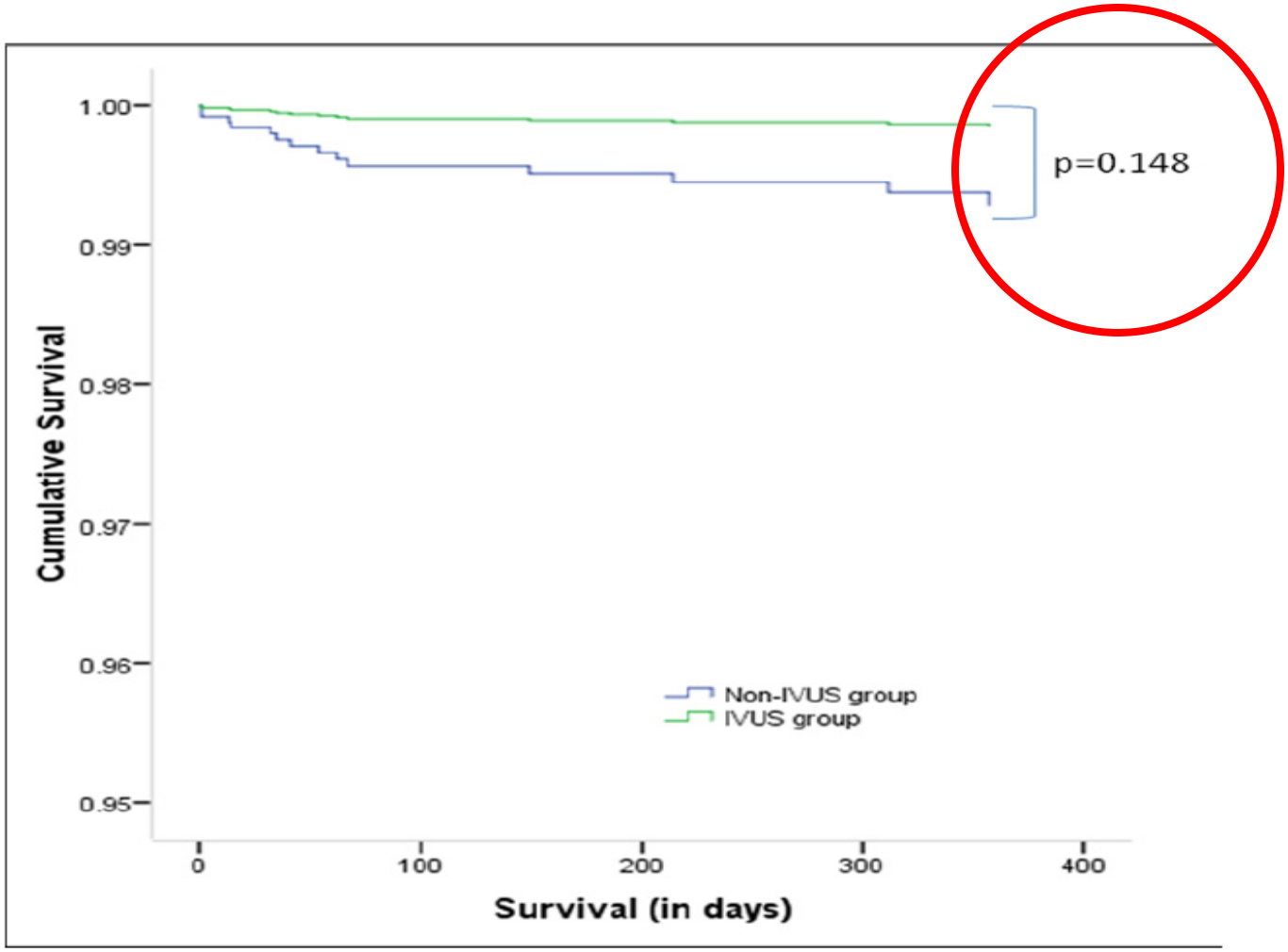

Figure 2. Propensity-adjusted survival curves illustrating independence of intravascular ultrasound use for 12-month all-cause death (p = 0.148).

KAMIR Investigators, Am J Cardiol 2011;108:8-14

Journal of Cardiology (2012) 59, 249–257

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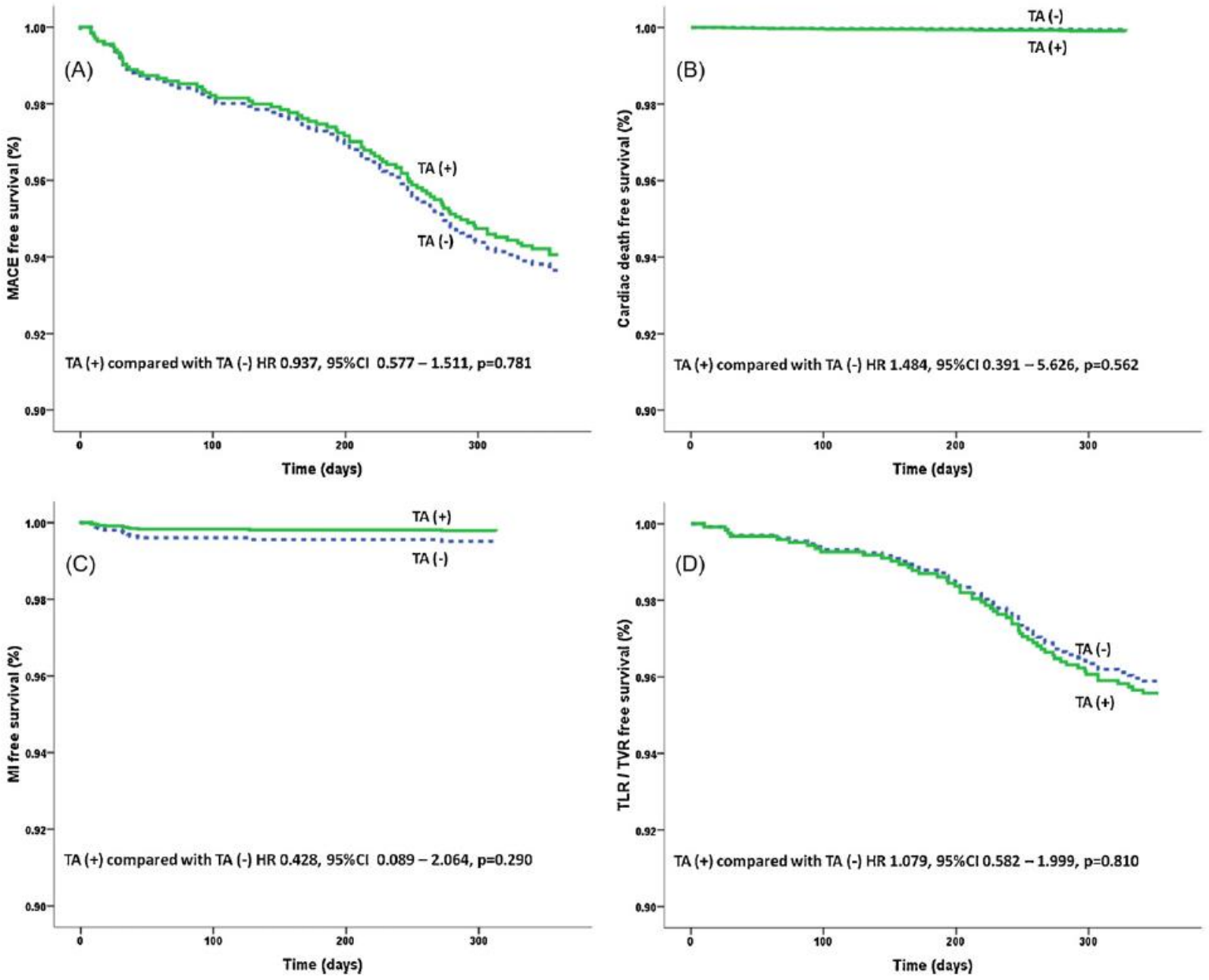
Original article

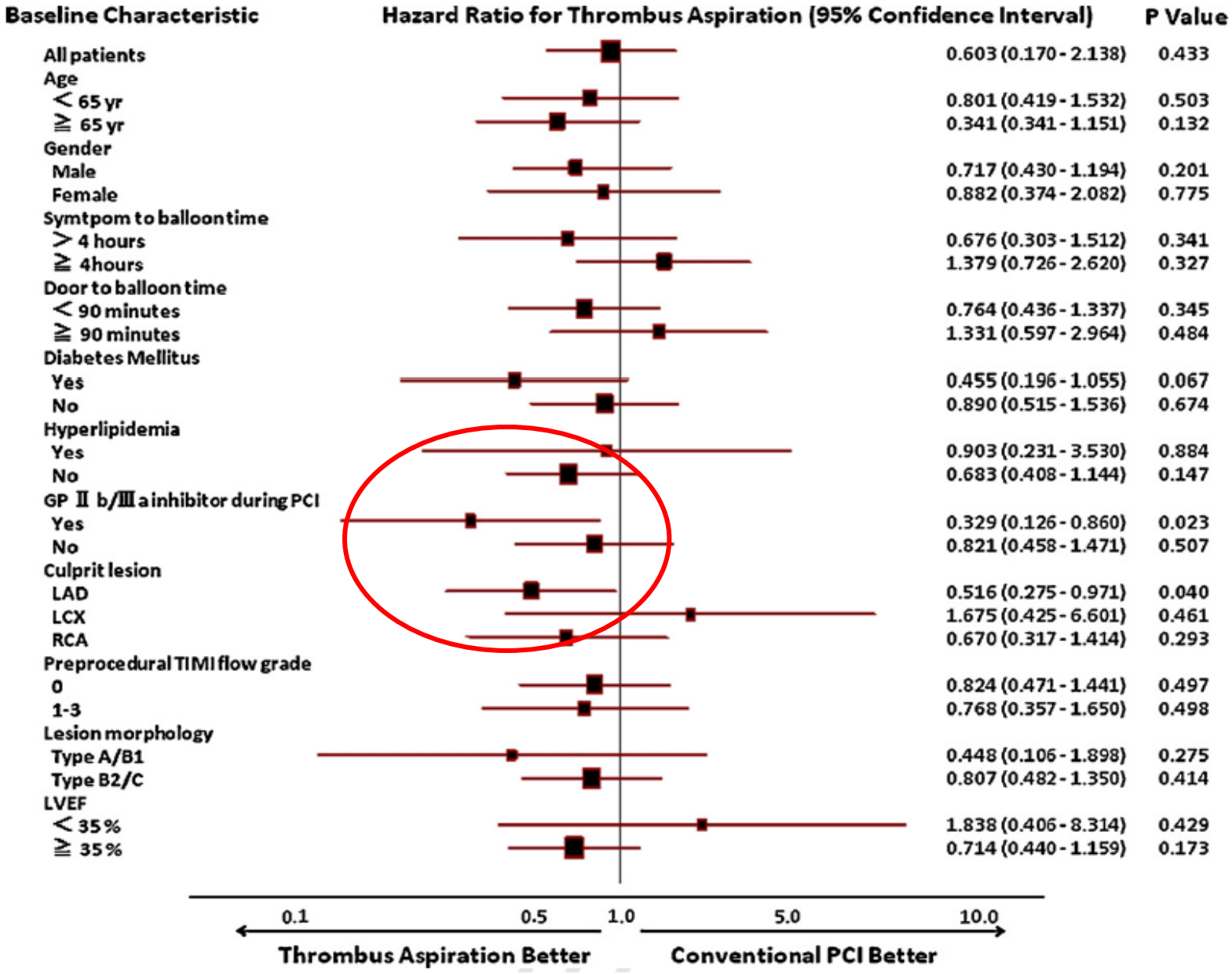
Clinical impact of thrombus aspiration during primary percutaneous coronary intervention: Results from Korea Acute Myocardial Infarction Registry

Daisuke Hachinohe (MD)[a,b], Myung Ho Jeong (MD)[a,*], Shigeru Saito (MD)[b], Min Chol Kim (MD)[a], Kyung Hoon Cho (MD)[a], Khurshid Ahmed (MD)[a], Seung Hwan Hwang (MD)[a], Min Goo Lee (MD)[a], Doo Sun Sim (MD)[a], Keun-Ho Park (MD)[a], Ju Han Kim (MD)[a], Young Joon Hong (MD)[a], Youngkeun Ahn (MD)[a], Jung Chaee Kang (MD)[a], Jong Hyun Kim (MD)[c], Shung Chull Chae (MD)[d], Young Jo Kim (MD)[e], Seung Ho Hur (MD)[f], In Whan Seong (MD)[g], Taek Jong Hong (MD)[h], Donghoon Choi (MD)[i], Myeong Chan Cho (MD)[j], Chong Jin Kim (MD)[k], Ki Bae Seung (MD)[l], Wook Sung Chung (MD)[l], Yang Soo Jang (MD)[i], Seung Woon Rha (MD)[m], Jang Ho Bae (MD)[n], Seung Jung Park (MD)[o], other Korea Acute Myocardial Infarction Registry Investigators

KAMIR Investigators. *J Cardiol 2012; 59: 249-57*



KAMIR Investigators. ***J Cardiol 2012; 59: 249-57***



KAMIR Investigators. *J Cardiol 2012; 59: 249-57*

Circulation Journal
Official Journal of the Japanese Circulation Society
http://www.j-circ.or.jp

ORIGINAL ARTICLE
Ischemic Heart Disease

Comparison of Triple Anti-Platelet Therapy and Dual Anti-Platelet Therapy in Patients With Acute Myocardial Infarction Who Had No-Reflow Phenomenon During Percutaneous Coronary Intervention

Ki Hong Lee, MD; Youngkeun Ahn, MD; Sung Soo Kim, MD; Shi Hyun Rhew, MD; Young Wook Jeong, MD; Soo Young Jang, MD; Jae Yeong Cho, MD; Hae Chang Jeong, MD; Keun-Ho Park, MD; Nam Sik Yoon, MD; Doo Sun Sim, MD; Hyun Ju Yoon, MD; Kye Hun Kim, MD; Young Joon Hong, MD; Hyung Wook Park, MD; Ju Han Kim, MD; Jeong Gwan Cho, MD; Jong Chun Park, MD; Myung Ho Jeong, MD; Myeong Chan Cho, MD; Chong Jin Kim, MD; Young Jo Kim, MD; KAMIR (Korea Acute Myocardial Infarction Registry) Investigators

Background: No-reflow phenomenon is a serious complication of percutaneous coronary intervention (PCI) and associated with poor prognosis. The aim of this study was to determine whether triple anti-platelet therapy could improve clinical outcome in patients with acute myocardial infarction (AMI) who had no-reflow phenomenon during PCI compared with dual anti-platelet therapy.

Methods and Results: A total of 727 eligible patients received either dual anti-platelet therapy (aspirin and clopidogrel; dual group, n=532) or triple anti-platelet therapy (aspirin, clopidogrel, and cilostazol; triple group, n=195). The triple group received additional cilostazol for at least 1 month. One-year major adverse cardiac events (MACE) including death, myocardial infarction (MI), target vessel revascularization (TVR) and coronary artery bypass graft (CABG) were evaluated. The triple group had a similar incidence of major bleeding and in-hospital mortality compared with the dual group. At 1 year, the triple group had significantly lower cardiac mortality (17.7% vs. 11.8%, log-rank P=0.039), lower all-cause mortality (19.0% vs. 12.3%, log-rank P=0.035), and lower incidence of composite MACE (25.9% vs. 16.9%, adjusted hazard ratio, 0.50; 95% confidence interval: 0.31–0.80, P=0.004) compared with the dual group with no differences in MI and TVR.

Conclusions: Triple anti-platelet therapy seems to be superior to dual anti-platelet therapy in patients with AMI who had no-reflow phenomenon during PCI. (*Circ J* 2013; **77**: 2973–2981)

KAMIR Investigators. *Circ J 2013;77:2973-81*

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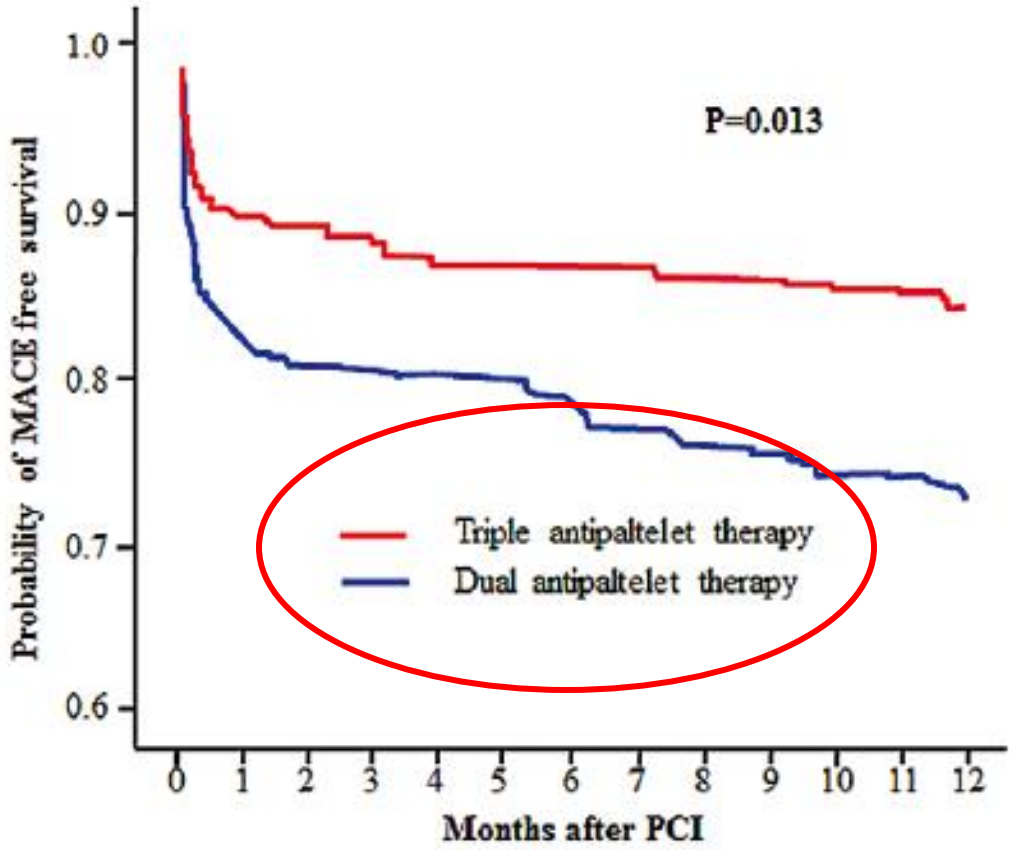

No.at risk	727	633	549	479
Dual antiplatelet therapy	532	467	409	362
Triple antiplatelet therapy	195	166	140	117

KAMIR Investigators. *J Cardiol 2013;62:210-6*

Journal of Cardiology xxx (2013) xxx–xxx

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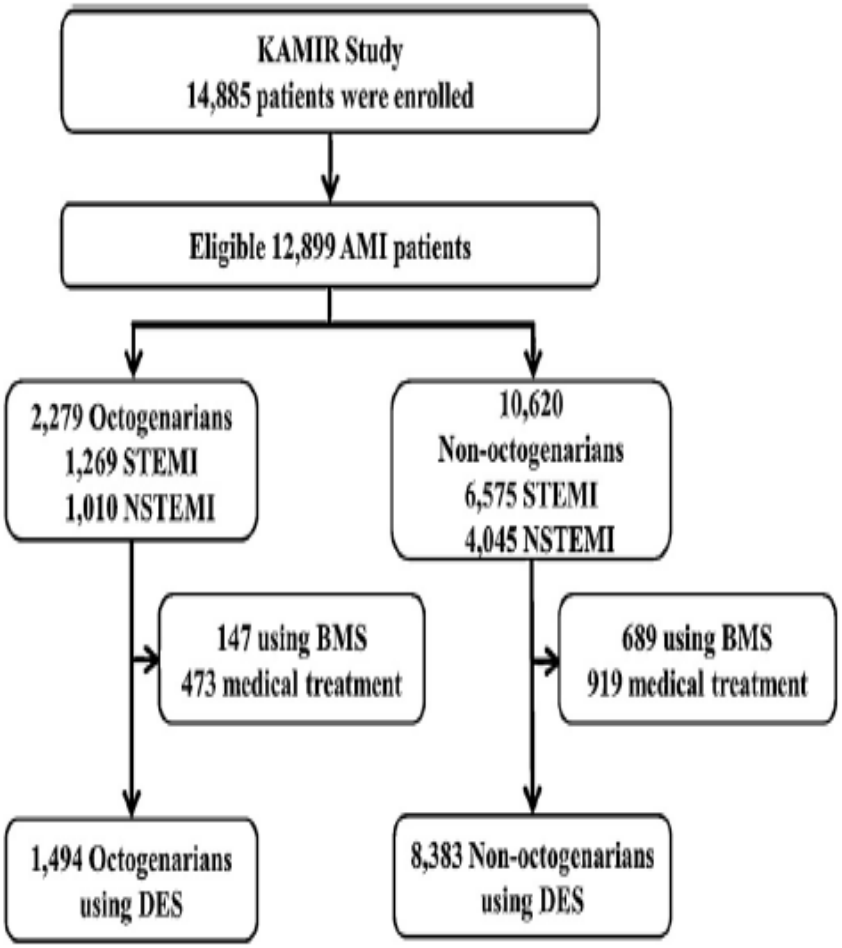
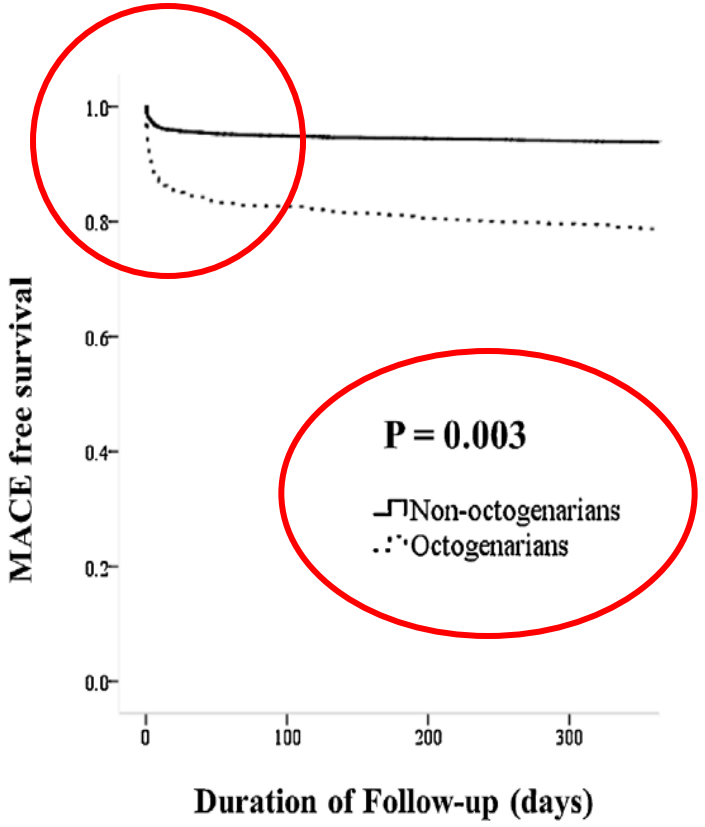
Original article

Comparison of clinical outcomes between octogenarians and non-octogenarians with acute myocardial infarction in the drug-eluting stent era: Analysis of the Korean Acute Myocardial Infarction Registry

Futoshi Yamanaka (MD)[a,b], Myung Ho Jeong (MD, PhD, FACC, FAHA, FESC)[a,*], Shigeru Saito (MD, FJCC)[b], Youngkeun Ahn (MD)[a], Shung Chull Chae (MD)[c], Seung Ho Hur (MD)[d], Taek Jong Hong (MD)[e], Young Jo Kim (MD)[f], In Whan Seong (MD)[g], Jei Keon Chae (MD)[h], Jay Young Rhew (MD)[i], In Ho Chae (MD)[j], Myeong Chan Cho (MD)[k], Jang Ho Bae (MD)[l], Seung Woon Rha (MD)[m], Chong Jin Kim (MD)[n], Donghoon Choi (MD)[o], Yang Soo Jang (MD)[o], Junghan Yoon (MD)[p], Wook Sung Chung (MD)[q], Jeong Gwan Cho (MD)[a], Ki Bae Seung (MD)[q], Seung Jung Park (MD)[r], From the Korea Acute Myocardial Infarction Registry

KAMIR Investigators. *J Cardiol 2013;62:210-6*





No. at risk

Octogenarians	1494	789	618
Non-octogenarians	8383	5067	4138

Conclusions: Octogenarian AMI patients have higher rates of mortality and MACE even in the DES era. According to KAMIR subgroup analysis, the TLR/TVR rates in octogenarians were comparable to those in non-octogenarian AMI patients.

KAMIR Investigators. *J Cardiol 2013;62:210-6*

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IJCA-17500; No of Pages 3

International Journal of Cardiology xxx (2014) xxx–xxx

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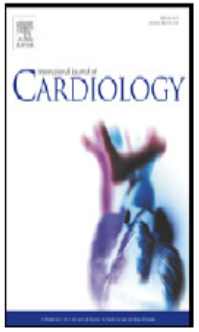

Letter to the Editor

Clinical impact of early intervention in octogenarians with non-ST-elevation myocardial infarction ☆

Zhe Hao Piao [a,b], Myung Ho Jeong [a,*], Li Jin [b], Da Wei Qian [b], Soo Young Jang [a], Jae Yeong Cho [a], Hae Chang Jeong [a], Ki Hong Lee [a], Keun-Ho Park [a], Doo Sun Sim [a], Kye Hun Kim [a], Young Joon Hong [a], Hyung Wook Park [a], Ju Han Kim [a], Youngkeun Ahn [a], Jeong Gwan Cho [a], Sang Hyung Kim [a], Jong Chun Park [a], Young Jo Kim [c], Myeong Chan Cho [d], Chong Jin Kim [e], Hyo Soo Kim [f],
Other Korea Acute Myocardial Infarction Registry (KAMIR) Investigator

KAMIR Investigators. ***Int J Cardiol 2014;172:462-4***

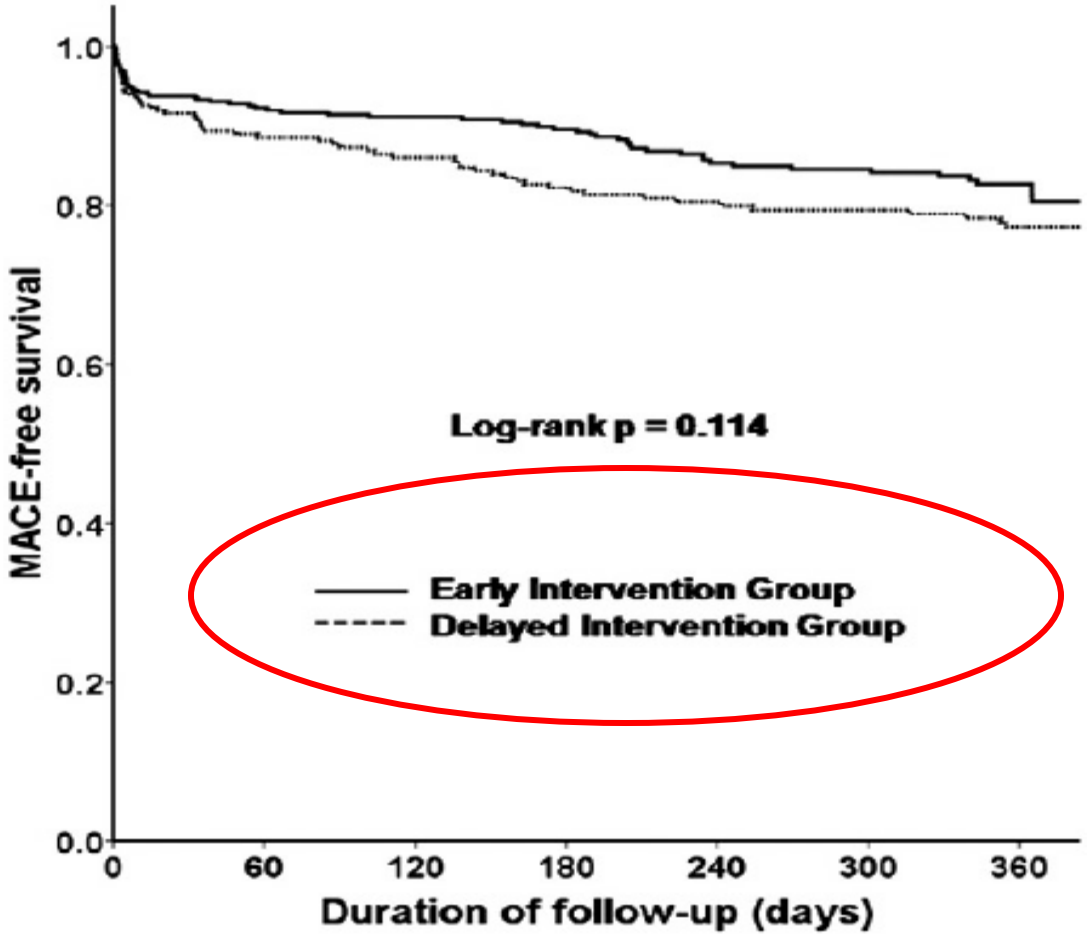

Fig. 1. Kaplan–Meier curves for the 12-month probability of MACE-free survival in patients with early intervention and delayed intervention group. HR = hazard ratio; CI = confidence interval; MACE = major adverse cardiac events.

KAMIR Investigators. ***Int J Cardiol 2014;172:462-4***

Summary of KAMIR Study

1. Pattern of dyslipidemia is different from western patients
2. Smoking rate should be decreased
3. KAMIR score is better than GRACE and TIMI score in the prediction of MACE

3. Triple anti-platelet therapy or prasugrel is better than ASA+clopidogrel in Korean AMI patients (esp. 5 mg prasugrel)

5. Statin therapy is beneficial in low LDL-C

Summary of KAMIR Study

6. ARB, esp. insurmountable, is better than ACEI
7. Multi-vessel PCI can be recommended in NSTEMI patients
8. DES is safer and more effective than BMS
9. Octogenarian can be treated by elective PCI using DES
10. Thrombus aspiration/IVUS-guided PCI can be recommended in selective AMI patients

Korea Acute Myocardial Infarction Research Group

Nov 19th 2007

2011-2019

Korea National Institute of Health

PROSPECTIVE COHORT STUDY OF ACUTE MYOCARDIAL INFARCTION

1st Meeting of Korea Society of Myocardial Infarction

Feb 28th 2014

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日本心臓病学会

THE KOREAN SOCIETY OF CARDIOLOGY · 대한심장학회 ·

I Hope Japan and Korea AMI Registry Will Be Successful in the Future!