

## 급성 심근 경색증 환자에서 관상동맥 중재술시 혈전에 의한 급성 혈관 폐쇄 예측인자

박우석<sup>1</sup> · 정명호<sup>2</sup> · 조장현<sup>1</sup> · 김준우<sup>1</sup> · 김성희<sup>1</sup>  
안영근<sup>1</sup> · 조정관<sup>2</sup> · 박종춘<sup>2</sup> · 강정채<sup>2</sup>

### Predictors of Acute Thrombotic Occlusion after Coronary Intervention in Acute Myocardial Infarction

Woo Suck Park, MD<sup>1</sup>, Myung Ho Jeong, MD<sup>2</sup>, Jang Hyun Cho, MD<sup>1</sup>, Joon Woo Kim, MD<sup>1</sup>,  
Sung Hee Kim, MD<sup>1</sup>, Young Keun Ahn, MD<sup>1</sup>, Jeong Gwan Cho, MD<sup>2</sup>,  
Jong Chun Park, MD<sup>2</sup> and Jung Chae Kang, MD<sup>2</sup>

<sup>1</sup>Department of Cardiovascular Medicine, Chonnam University Hospital, Kwang Ju

<sup>2</sup>The Research Institute of Medical Sciences, Chonnam National University, Kwang Ju, Korea

#### ABSTRACT

**Background :** The most important acute complication of percutaneous transluminal coronary angioplasty (PTCA) is abrupt closure by dissection and thrombus, which account for the majority of deaths and emergency coronary artery bypass procedures associated with PTCA. We studied the relationship between clinical, angiographic characteristics and abrupt thrombotic closure related to coronary intervention. **Methods :** One hundred thirty two patients (61.6 ± 8.0 year, 98 male) underwent PTCA or stenting under the diagnosis of acute myocardial infarction were analyzed at between Jan '97 and Jun '98. Patients were divided into two groups, one, 14 patients (Group A, 61.7 ± 8.0 year, 9 male), who developed thrombotic occlusion, and the other, 118 patients (Group B, 61.5 ± 8.0 year, 89 male) who did not develop abrupt closure related to the coronary intervention. **Result :** There were no significant differences in age, sex, risk factors, activated partial thromboplastin time, fibrinogen, erythrocyte sedimentation rate, C-reactive protein, location of lesion, branch involvement, lesion severity, AHA/ACC morphology between two groups. The incidence of intra-coronary thrombus was greater in Group A than in Group B (44% vs. 2%, p=0.025). Acute thrombotic occlusion related to the coronary interventions developed more frequently in the lesions within two days after the symptomatic onset (55% vs. 19%, p=0.035) and in the right coronary artery (RCA) lesions (55% vs. 24%, p=0.041). **Conclusion :** Predictors of abrupt thrombotic occlusion during coronary intervention in patients with acute myocardial infarction are intracoronary thrombus, earlier intervention within 2 days after onset of acute myocardial infarction and RCA lesion. (Korean Circulation J 1999;29(1):22-27)

**KEY WORDS :** Acute thrombotic occlusion · Acute myocardial infarction · Coronary intervention.

: 1998 10 7

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: 501 - 757 1 8

: (062) 220 - 5243 · : (062) 228 - 7174

E - mail : myungho@chollan.net

## 서 론

가 2 14% ,<sup>1-8)</sup> ,  
 가  
 .<sup>1)4)</sup> 10,000 units  
 300 mg 500 mg ticlopidine  
 , 8.5±3.5  
 가 ( =6 12 ) , 61±  
 59 . 가  
 . Ellis<sup>3)</sup> B  
 가  
 가 , 35%  
 , ,  
 , A 6 (42.8%), B  
 56 (49.1%) 가  
 20%  
 ,  
 ,  
 .  
 (antegrade flow)가 TIMI(Thrombolysis In  
 Myocardial Infarction) flow 1, 2  
 가 (TIMI 0)  
 가

## 대상 및 방법

### 연구대상

1997 1 1998 6 50 75%, 75 90%, 90 99%,  
 100% ,  
 132 ( : 61.6  
 ±8.0 , : =98 : 34)  
 30  
 ST 0.1 mV creatine  
 kinase(CK)가 2 CK MB , 10 mm 20 mm  
 가, 2가 , 1 mm  
 , 가 가

### 연구방법

가 0 , 가  
 14 (A , 61.7±8.0 , : =9 : 5) 가 1  
 118 (B , 61.5±8.0 , : = , 2  
 89 : 29)  
 .<sup>8)</sup>

통 계

가 60 °

9 , B 88

0.66±0.86, B 0.02±0.15 A

(p=0.025, Table 2).

2

가 A 5 (55%), B 13 (19%)

A (p=0.035, Table 2).

가 A

5 (55%), B 21 (24%) A

(p=0.041, Table 2).

4)

istic regression analysis)

결 과

Table 3

가 가

1) 가 A 14

10.6%

2) , , fibrinogen, ESR,

CRP, AHA/ACC ,

가 (Table 1 and 2).

3)

**Table 1.** Baseline demographic feature in group A (thrombotic occlusion after coronary intervention) and group B (non-thrombotic occlusion after coronary intervention)

	Group A (n=14)	Group B (n=118)
Age (yr)	61.7 ± 8.0	61.5 ± 8.0
Male (%)	9 (64%)	89 (75%)
Risk factors		
Hypertension (%)	4 (28%)	36 (31%)
Smoking (%)	7 (50%)	64 (54%)
Hypercholesteremia (%)	2 (14%)	11 ( 9%)
Diabetes (%)	3 (21%)	19 (16%)
Multivessel disease (%)	5 (36%)	31 (26%)
Fibrinogen (mg/ml)	221.7 ± 119.2	347 ± 115.9
Prothrombin time (sec)	13 ± 1.5	12 ± 1.5
Activated partialthrom- boplastin time (sec)	95 ± 39.2	98 ± 39.2
Platelet ( × 10 <sup>3</sup> / μ l)	201 ± 52.7	210 ± 52.1
Mean platelet volume ( μ mm3/fl)	7.9 ± 0.6	8.0 ± 0.6
Erythrocyte sedimentation rate (mm/hour)	28.2 ± 22.3	30.9 ± 23.7
C-reactive protein (mg/dl)	3 ± 2.9	3.1 ± 3.1
Totally occlusive lesion (%)	5 (36%)	30 (25%)

**Table 2.** Lesion morphology and procedural characteristics in group A (thrombotic occlusion after coronary intervention) and group B (non-thrombotic occlusion after coronary intervention)

		Group A (n=9)	Group B (n=88)
Lesion length (%)	5 - 10 mm	6 ( 66%)	43 (48%)
	10 mm	3 ( 33%)	22 (25%)
Branching lesion (%)		2 ( 22%)	3 ( 3%)
Proximal location (%)		5 ( 55%)	50 (56%)
Middle location (%)		3 ( 33%)	32 (36%)
Distal location (%)		1 ( 11%)	5 ( 5%)
Irregularity (%)		3 ( 33%)	7 ( 8%)
Eccentricity (%)		4 ( 44%)	37 (42%)
Moderate tortuosity (%)		0	2 ( 2%)
Left anterior descending artery (%)		3 ( 33%)	54 (61%)
Left circumflex artery (%)		1 ( 11%)	13 (15%)
Right coronary artery (%)		5 ( 55%)	21 (24%)*
Mean inflation pressure (atm)		8.6 ± 2.29	8 ± 2.28
Intracoronary thrombus score (%)	1	2 ( 22%)	2 ( 2%)*
	2	2 ( 22%)	0 ( 0%)*
	None to mild	9 (100%)	80 (81%)
Angulation (%)	Moderate	0 ( 0%)	7 ( 8%)
	Excessive	0 ( 0%)	1 ( 1%)
Lesion severity	50 - 75%	2 ( 22%)	25 (28%)
	75 - 99%	7 ( 77%)	63 (71%)
Time Interval from symptom onset to coronary intervention within 2 days		5 ( 55%)	13 (14%)*

\*p<0.05



결 론 :

2

중심 단어 :

## 요 약

연구배경 :

가 . ,

대상 및 방법 :

1997 1 1998 6  
132 ( ,  $61.6 \pm 8.0$  ,  
: =98 : 34)  
가 14 (A ,  $61.7 \pm 8.0$  , :  
=9 : 5) 118 (B ,  $61.5 \pm 8.0$   
, : =89 : 29)

결 과 :

1)  
fibrinogen, ESR, CRP, AHA/ACC  
, , ,

가 .

2) (A 9 , B 88 )  
A  $0.66 \pm 0.86$ , B  $0.02 \pm 0.15$   
A (p=0.025).

3) 2  
가 A 5 (55%), B 13 (19%)  
A (p=0.035).

4) 가 A  
5 (55%), B 21 (24%) A  
(p=0.041).

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