

작은 관동맥 질환의 스텐트 시술 초기 및 추적 결과

가

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Immediate and Follow-up Results of Stenting for the Small Coronary Artery Disease

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ABSTRACT

Background : Intracoronary stenting in large coronary artery with diameters >3 mm has been shown to be beneficial in the treatment of acute or threatened closures complicating balloon angioplasty and in the prevention of restenosis. However, whether equally favorable results are afforded by stent placement in small vessels (<3 mm) remains unclear. Accordingly, we evaluated the safety and feasibility of intracoronary stenting in native coronary vessels less than 2.75 mm in size. **Methods :** Between January 1997 and July 1998, seventy eight patients with 81 lesions were treated with 83 stents, regardless of clinical setting. The angiographic criteria for enrollment included at least 70% stenosis and a vessel that reference diameter was less than 2.75 mm. Every patients received aspirin (300 mg qd, indefinitely) and ticlopidine (250 mg bid, one month) and was given a bolus dose of 10,000 U heparin during procedure. **Results :** Angiographic success was achieved in 80 of 81 attempts (98%). There was one in-hospital death because of pump failure in AMI patient. There was no acute stent thrombosis. At 6 month follow-up, event free survival was achieved in 90% of patients and angiographic restenosis was found in 28% of patients (9/32). **Conclusions :** The present observational study demonstrates that angiography-guided stent placement in coronary artery <2.75 mm in diameter is safe and effective in conjunction with current stent deployment technique and antiplatelet protocol. (Korean Circulation J 1999;29(11):1176-1181)

KEY WORDS : Stent · Small coronary artery.

서 론

8)9)

3 mm

3 mm

가

1-7)

10-13)

6)13)

: 1999 3 18

: 1999 11 8

: , 402 - 430

1198

2.75 mm

가

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대상 및 방법

대 상

1997 1 1998 7

2.75 mm 78

83 가

1)

가 2)

70%

ticlopidine

용어 정의

mm :

2.75 mm

24

TIMI 0

:

30%

:

24 2

TIMI 0

:

50%

:

2 pints

스텐트 삽입 방법

가

premouted system hand crimped bare

stent

12 14

30% 가

항혈소판 제제 및 항응고 요법

heparin 10,000 IU

activated clotting time 250

heparin 3,000 5,000

IU (300

mg qd) ticlopidine(250 mg bid)

2 3

ticlopidine 1 ,

.

자료의 분석 및 통계

,

가 AHA/ACC

,

,

,

가

3 on-line

system(Hicor, Siemens)

± ,

,

.

결 과

환자의 특성

38 (49%), 40

(51%) 58 ± 12 .

32 (40%), 26

Table 1. Clinical characteristics of the patients

Men	38(49%)
Age	58 ± 12(31 83)
Risk factor	
Hypertension	40(50%)
Smoking	34(43%)
Diabetes Mellitus	31(39%)
Hypercholesterolemia	7(9%)
Past history	
MI	6(8%)
PTCA	7(9%)
Clinical diagnosis	
Stable angina	32(41%)
Unstable angina	26(33%)
Acute MI	20(26%)

MI : Myocardial infaction

PTCA : Percutaneous transluminal coronary angioplasty

(33%), 20 (26%) (Table 1). (Table 3).

12.7 ± 2.3

조영술상 특성 12.9 ± 6.7 mm, 2.64 ± 0.

27 (34%), 51 15 mm 79.1 ± 15.6%

(66%) 42 , - 0.4 ± 7.2% (p<0.05)

26 , 13 (Table 4).

AHA/ACC

B2 18(29%), C 12(19%), A B1 추적 관찰결과

9(14%), 24(38%) (Table 2). 6.4 ± 1.8 81 32

Heparin coated Jo stent가 47 , Nir stent (40%) 가 9

26 , GFX stent 8 Gianturco - Rubin II (28%) 9

stent 2 . 3 Re - PTCA가, 1 CAGB가

5 ,

시술 결과 및 급성 합병증 6 2 1

98%(80/81) 1 2 , 1

가 97%(79/ 3

81) . 1 3

2 . (Table 5).

3 (4%)

Table 2. Angiographic characteristics of the lesions

No. of diseased vessel	
One	27(34%)
Multiple	51(66%)
Lesion locations	
LAD	42(52%)
LCX	26(32%)
RCA	13(16%)
Lesion morphology	
Type A	9(14%)
Type B1	24(38%)
Type B2	18(29%)
Type C	12(19%)

LAD : Left anterior descending coronary artery

LCX : Left circumflex coronary artery

RCA : Right coronary artery

Table 3. Procedural outcomes

Angiographic success	80/81 (98%)
Emergency CABG	0
Acute thrombosis	0
Death	1(1%)
Pump failure	
Bleeding	3(4%)

CABG : Coronary artery bypass graft

Table 4. Quantitative angiographic data

	Pre	Post	F/U
RD(mm)	2.68 ± 0.15	2.71 ± 0.12	2.66 ± 0.16
MLD(mm)	0.56 ± 0.41	2.68 ± 0.23*	1.53 ± 0.80*
DS(%)	79.07 ± 15.59	- 0.38 ± 7.17*	43.69 ± 30.13*
Lesion length (mm)	12.94 ± 6.67		
Max. pressure (atm)	12.74 ± 2.28		

RD : Reference diameter

MLD : Minimal luminal diameter

DS : Diameter stenosis

*p<0.05 ; prestenting vs poststenting or follow-up

Table 5. 6 Month angiographic & clinical follow-up

F/U Angiography	32/80(40%)
Restenosis	9/32(28%)
Reocclusion	1/32(3%)
MACE	
Death	2/77(3%)
MI	1/77(1%)
TLR	4/77(6%)
PTCA	3
CABG	1

MACE : Major adverse cardiac events

TLR : Target lesion revascularization,

고 안

가 11

가 가

가 가

가 TIMI III 가

aspirin ti -

clopidine

가 14 - 17)

3 mm

3 mm

1 - 9) 3 mm

가

10)11)13)

40%

18)19)

28%

40%

3 mm

2.5 mm

3 mm

Lau²²⁾ 41%, Charles¹³⁾ 66%

, STRESS²⁰⁾ 34%

38%

2.5 mm

20%

24)25)

가

10 - 12) Agrawal¹⁰⁾ 2.5

mm

Gianturco - Rubin stent

13%, 3 mm 2%

, Rozenman¹¹⁾ Palmatz - Schatz stent

25% 0%

STRESS²⁰⁾ 2.

5 mm 10%, 2.5 mm 3 mm 3.6%

3 mm 1.5%

3 mm

wafarin

aspirin ticlopidine French

Multicenter Registry²¹⁾

2.5 mm 3 mm

Charles¹³⁾ 2.75 mm

4.8%, Lau²²⁾ Zidar²³⁾

0% 2.4%

2.68 mm 2.5 mm

요 약

결 론 :

2.75 mm

연구배경 :

3 mm

가

2.75 mm

중심 단어 :

방 법 :

1997 1 1998 7
2.75 mm 78
(49%, 58 ± 12), 81

aspirin ticlopidine

6

결 과 :

1) 38 (49%),
26 (33%) 20
(26%) ACC/AHA B2 28
, C가 22 (27%) Heparin -
ncoated Jo stent 47 , Nir stent 26 , GFX stent 8
G - R stent 2
2) 98%(80/
81), 97%(79/81)

1

2

3 가

3) 6.4 81 32 (40%)
, 9

28%

2

9

1

, 3 re - PTCA가

5

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