

관동맥 협착질환에서 Directional Coronary Atherectomy ; 초기결과 및 장기추적결과

이상곤 · 박성욱 · 이철환 · 정상식 · 홍명기 · 김재중 · 박승정

= Abstract =

Early and Late Clinical Outcomes after Directional Coronary Atherectomy

Sang-Gon Lee, M.D., Seong-Wook Park, M.D., Cheol-Whan Lee, M.D.,
Sang-Sig Cheong, M.D., Myeong-Ki Hong, M.D.,
Jae-Joong Kim, M.D., Seung-Jung Park, M.D.

*Department of Internal Medicine, College of Medicine, University of Ulsan,
Asan Medical Center, Seoul, Korea*

Background : Restenosis is a major limitation of balloon angioplasty. Recently, new angioplasty devices have been used in an attempt to reduce the restenosis compared with coronary balloon angioplasty. Directional coronary atherectomy effectively dilated the lesion by removal of the atherosclerotic plaque. Therefore, we tried to evaluate immediate and late clinical outcomes after directional coronary atherectomy in the 57 patients with coronary artery disease.

Methods : From October 1991 to March 1997, fifty seven consecutive patients with 69 lesions were treated with directional coronary atherectomy. The patients underwent coronary angiography at pre-intervention, immediately after intervention and at 6 months post-intervention. Restenosis was assessed clinically and by computer-assisted quantitative measurements of luminal dimensions. Patients were requested to undergo coronary angiography at 6 months after directional coronary atherectomy. Angiographic restenosis was defined as more than 50% diameter stenosis by quantitative coronary angiographic analysis.

Results : Successful results were achieved in 61 of the 69 lesions (88%) and mean stenosis was reduced from $78.0 \pm 13.0\%$ to $10.0 \pm 5.0\%$. Atherectomy resulted in an increase in minimal lumen diameter from $0.8 \pm 0.3\text{mm}$ to $3.0 \pm 0.6\text{mm}$. Six months follow-up angiogram was obtained in 68% of 50 eligible lesions. The overall angiographic restenosis rate was 32%. Six-month clinical follow-up was obtained in 94% of the eligible lesions. The clinical recurrence occurred in 38% of the patients. The target lesion revascularization rate was 17%.

Conclusions : Removal of coronary artery plaque with directional atherectomy led to large luminal diameter and six months follow-up angiography shows an overall restenosis rate of 32%. However, further clinical study is warranted to evaluate the efficacy of atherectomy with larger numbers of patients.

KEY WORDS : Directional coronary atherectomy · Angioplasty · Coronary artery disease.

57 69 DCA

Table 2. Angiographic and procedural characteristics of the 69 lesions (%)

Modified AHA/ACC lesion type	
A	3(4)
B1	22(32)
B2	38(64)
C	6(9)
Coronary artery dilated	
Left main	4(6)
Left anterior descending	55(80)
Left circumflex	4(6)
Right	6(9)
Infarct-related artery	3(4)
Restenotic lesion	11(16)
Size of DCA device	
5 F	4(6)
6 F	17(25)
7 F	48(69)
Reason for stenting	
Elective	7(10)
Bail-out	7(10)
(acute/threatened closure)	3/4
Procedural success	61(88)

AHA : American Heart Association,
ACC : American College of Cardiology

Table 3. Quantitative angiographic measurements of 69 lesions

Reference vessel diameter, mm	3.4 ± 0.4
Balloon-to-vessel ratio	1.02 ± 0.07
Diameter stenosis(%)	
Baseline	78 ± 13
Final	10 ± 5
Follow-up	21 ± 12
Minimum lumen diameter, mm	
Baseline	0.8 ± 0.3
Final	3.0 ± 0.6
Follow-up	1.9 ± 0.7
Acute gain	2.2 ± 0.6
Late loss	1.1 ± 0.7
Maximal inflation pressure, atm	9.8 ± 2.0

Table 4. Follow-up events of 50 lesions without stenting (%)

6-months angiographic follow-up	
Follow-up rate	34(68)
Angiographic restenosis	11(32)
Medical treatment	2(18)
Balloon PTCA	5(45)
Stenting	3(27)
CABG	1(9)
6-month clinical follow-up	
Follow-up rate	47(94)
Clinical recurrence	18(38)
Target lesion revascularization rate	8(17)

결 과

1. 환자 및 병소의 특성

Table 1	
57 ± 5.6	34 (60%)
가	가 46
39 (68%)	가
Table 2	
B2	가 38 (64%)
가 55 (80%)	가
7 French	가 48 (69%)
(20%)	가

2. 시술결과

61 (88%)	DCA
8 (12%)	50%
7 (10%)	

Table 3	
3.4 ± 0.4mm	
1.02 ± 0.07	
78 ± 13%	10 ± 5%
0.8 ± 0.3mm	
3.0 ± 0.6mm	가
1.1 ± 0.7mm	6
table 4	
34 (68%)	11 (32%)
5	3
47 (94%)	18 (38%)
(target lesion revascularization)	
8 (17%)	

고 안 DCA 가 7,8)

9,10)

1977 Gruentzig

가 ,

가

가 88% CAVEAT¹¹⁾ 82%

CCAT 94%

Tomaki⁷⁾ Stephen⁸⁾

CAVEAT

1. DCA의 기전

DCA

가 CAVEAT 가 DCA

4) DCA 가 Robert 5) atherectomy가

DCA

3. 재협착

가 가 DCA

index(1.0

가

가 (eg., worst view vs. average view)

DCA

가 (10mm)

가 (3mm)

12) - 15)

CAVEAT

Alan 1) Gregory 6)

DCA가

2. 시술결과와 합병증

DCA

가

가

가 DCA

DCA

가

가

David 17)

가

is better) 가? Victor^{18,19)} (bigger DCA

Kuntz²⁰⁻²²⁾ 가

, stenting, DCA

DCA (remodeling)

23) 32% CAVEAT¹¹⁾

CCAT²⁴⁾

OARS²⁵⁾ 20% optimal atherectomy 가 30% BOAT²⁶⁾

AS²⁷⁾ aggressive atherectomy 14% DCA

가 57 DCA

6

방 법 :

1991 10 1997 3 57

69 DCA가

6

결 과 :

1) 69 61 (88%)

2) 78 ± 13% 10 ± 5% 0.8 ± 0.3mm

3.0 ± 0.6mm 가

2.2 ± 0.6mm, 1.1 ± 0.7mm

3) 6 18 (38%)

11 (32%)

4) 6 47 (94%) 18 (38%)

결 론 :

DCA

6 32%

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본 연구의 제한점

가

가

DCA

가

요 약

연구배경 :

,

가 . DCA

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