

심근 교락에 대한 임상적 고찰

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Clinical Study of Myocardial Bridge

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ABSTRACT

Background and Objectives : Myocardial bridge is a congenital coronary anomaly that causes myocardial ischemia by a milking effect. The general study of myocardial bridge is weak, therefore we retrospectively examined clinical records of cases of myocardial bridge. **Materials and Method :** This study included 36 bridge cases out of 1048 patients who underwent coronary angiography due to chest pain from Jan. 1993 to Jul. 1998. Angiographic film, medical records and telephone interviews were reviewed retrospectively. The total follow-up duration was a mean 27 months (1 month to 62 months). **Results :** The incidence of myo-cardial bridge diagnosed by angiography was 3.4%. Angiography showed normal tissue in 32 cases, single-vessel disease in 3 cases and two-vessel disease in one patient. The mean reference diameter was 2.97 ± 0.36 mm, bridge diameter was 2.75 ± 0.33 mm in diastole, 1.12 ± 0.47 mm in systole. The myocardial bridge length was 12.50 ± 7.44 mm, and the mean % diameter stenosis was $59.26 \pm 17.7\%$. Myocardial bridge location was 80.6% in mid LAD, 13.9% in mid & distal LAD and 5.5% in distal LAD. There was no statistically significant correlation of the severity of myocardial bridge with sex, risk factor for coronary heart disease, resting electrocardiography, treadmill test, diameter and angulation of coronary artery, or clinical symptom. However, the severity of myocardial bridge was correlated with bridge length ($r = 0.5033$). **Conclusion :** The clinical outcomes of patients were relatively good during the mean follow up period of 27 months. Myocardial bridge was more severe in younger patients and those with a longer bridge length. (**Korean Circulation J 2001;31(3):311-316**)

KEY WORDS : Myocardial bridge · Coronary angiography.

서 론

(myocardial bridging) Intralumini -

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nal coronary artery, Mural coronary artery, Coronary overbridging

가

. Reyman 1937

0.5 12%

5.4

85.7%

Milking effect

가 1-8)

9-11)

대상 및 방법

대 상

1993 1 1998 7

1048 36

심근 교락 협착 정도(severity)의 측정방법

(LAD

cranial view, RAO cranial view)

Grondin 12)

$$\frac{\text{diameter at diastole} - \text{diameter at systole}}{\text{diameter at systole}} \times 100$$

50% Grade 1, 50

75% Grade 2, 75% Grade 3

통계 분석

non-paired t test, pearson

Linear regression analysis p value

가 0.05

결 과

대상 환자들의 임상적 특징 (Table 1)

가 36

Table 1. Baseline clinical characteristics of the 36 patients

Age (years)	45.8 ± 11.7
Sex (Male/Female)	27 (75%)/9 (25%)
Risk factors (%)	
Hypertension	3 (8.3%)
Diabetes mellitus	3 (8.3%)
Hypercholesterolemia	9 (25%)
Current smoker	26 (72.2%)
Clinical Diagnosis (%)	
Stable angina	24 (66.7%)
Unstable angina	6 (16.7%)
Variant angina	3 (8.3%)
Myocardial infarction	3 (8.3%)
Q-MI	2 (5.5%)
Non-Q MI	1 (2.8%)
Resting EKG (%)	
Normal	30 (83.3%)
ST-T changes or Q wave	6 (16.7%)
Treadmill exercise test (%)	
Positive	10 (34.5%)
Negative	19 (65.5%)
Cardiac Echo.	
RWMA (+)	5 (13.9%)
RWMA (-)	31 (86.1%)

MI : myocardial infarction

RWMA : regional wall motion abnormality

45.8 ± 11.7 가 27

(75%) 가 9 (25%)

3 (8.3%),

3 (8.3%), 9 (25%), 26

(72.2%) 가 24 (66.7%)

, 6 (16.7%)

3 (8.3%) , 3 (8.3%)

2 (5.5%) Q - , 1 (2.8%)

Non Q - 가

3 (83.3%) , 6

(16.7%) ST - T Q 가

10 (34.5%)

19 (65.5%)

5 (13.9%)

31 (86.1%)

관상동맥 조영술상의 특징 (Table 2)

36	
32 (88.9%)	가
4 (11.0%)	가
가	3 (8.3%)
3가	1
가	1 (2.8%) 2
가	가
가	4
	2.97 ± 0.36 mm
가	
2.75 ± 0.33 mm,	1.12
±0.47 mm	1/3
	가 29
(80.6%),	

Table 2. Angiographic characteristics of the 36 patients

Angiographic Diagnosis (%)	
Normal or near normal	32 (88.9%)
1 VD	3 (8.3%)
2 VD	1 (2.8%)
Reference Diameter (mean)	2.97 ± 0.36 mm
Location	
Mid-LAD artery	29 (80.6%)
Mid-& distal LAD	5 (13.9%)
Distal LAD	2 (5.5%)
Diameter (mean)	
Diastole	2.75 ± 0.33 mm
Systole	1.12 ± 0.47 mm
Length (mean)	12.50 ± 7.44 mm
% DS on systole (mean)	59.26 ± 17.7%
Gr1 (<50%)	16 (44.4%)
Gr2 (50 - 75%)	11 (30.6%)
Gr3 (>75%)	9 (25.0%)
Morphology	
Concentric	5 (13.9%)
Eccentric	31 (86.1%)
Atherosclerotic site of LAD artery	
Proximal to bridging	4 (11.1%)
Bridging site & distal to bridging	

no atherosclerosis

LAD : left anterior descending, VD : vessel disease

가 5 (13.9%), 가 2 (5.5%)
 12.50 ± 7.44 mm
 Grade 1 6
 (44.4%), Grade 2가 11 (30.6%), Grade 3가 9
 (25.0%)
 가 5 (13.9%), 가 31 (86.1%)

대상환자들의 추적관찰 소견

3.4%
 27
 97.2%
 , Nitrate
 2 (5.6%) 가

7 (19.4%) 가
 가
 26 (72.2%)
 1

심근교락의 협착정도와의 상관관계

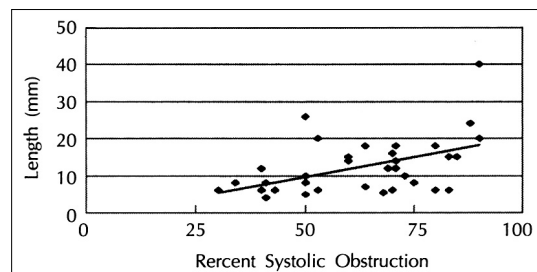


Fig. 1. The severity of systolic obstruction showed positive correlation with the length of systolic obstruction ($r = 0.5033$, $p = 0.01$).

22) . Junbo²¹⁾ Kern

9) , 가

Grondin¹²⁾ 가

3

(0 50%, 50 75%, 75 100%) , 요 약

연구배경 :

23) 가

가 가 가 가 ‘ Milking effect ’

36 가 가

가

방 법 :

1993 1 1998 7 1048

가 36

13)24) 결 과 :

가 3.4%

가 1 5.2

27 , 97.2%

가 66.7%, 16.7%,

11.0% 8.3%, 8.3%

83.3%, ST - T

가 16.7%

, Nitrate , 34.5%

5.6%(2), 2.8%(1),

2) Ni - 가

trate 가 91.7%(33)

2)25) , , ,

. Grade 3 , ,

(Periarterial muscle

resection)¹⁴⁾¹⁶⁾¹⁹⁾ . r = 0.5033(p = 0.01) , r =

가 0.3551(p = 0.03) ,

가
결 론 :
가
가
가
중심 단어 :

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