

## 관동맥성형술 및 스텐트 삽입술 후 재협착이 있는 환자에서 혈중 클라미디아 항체의 의의

성인환<sup>1</sup> · 전은석<sup>2</sup> · 최성준<sup>2</sup>

### Meaning of Serum Antibody to *Chlamydia pneumoniae* in Patients with Restenosis after Coronary Balloon Angioplasty or Stent Insertion

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#### ABSTRACT

**Background :** The relationship between infection of *Chlamydia pneumoniae* and atherosclerotic disease such as coronary artery disease was studied due to many epidemiologic studies using antibody detection which have reported a positive correlation. However, the role of *Chlamydia pneumoniae* to in restenosis after angioplasty or stent insertion is controversial. This purpose of this study was to examine on the prevalence of *Chlamydia* infection in patients with restenosis following percutaneous coronary intervention (PCI) and the possible role of *Chlamydia* in restenosis in Korea. **Methods :** A total 110 subjects were enrolled and the age and sex adjusted subjects were divided into 4 groups, angioplasty-no restenosis group (n = 32), angioplasty-restenosis group (n = 20), stent-no restenosis group (n = 32), stent-restenosis group (n = 26). Serum total cholesterol (TC), triglyceride (TG), HDL-cholesterol (HDL-C) levels were measured, LDL-cholesterol (LDL-C) was calculated. Serum anti-*Chlamydia pneumoniae* IgG were measured by ELISA method. **Results :** There was no significant differences in the clinical and lipid profiles between the restenosis and non-restenosis groups regardless of balloon angioplasty or stenting. There was no statistical significance seen between the positivity of anti-*Chlamydia pneumoniae* IgG restenosis and the non-restenosis groups after any PCI. **Conclusion :** This study was unable to demonstrate the relationship between *Chlamydia* infection and restenosis following angioplasty or stent insertion in Korea. (**Korean Circulation J 2001;31(4):398-404**)

**KEY WORDS :** *Chlamydia pneumoniae* antibody · Angioplasty · Stent · Restenosis.

서 론

가

(atheromatous plaque)

: 2001 2 28

: 2001 4 13

: , 401 - 021

1174

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E - mail : scchoejr@schbc.ac.kr

가 ,

nsformation)

(tra - 가 가

가 가

(Cytomegalovirus)

(Herpesvirus)가

(*Chlamydia pneumoniae*), (*Helico -*

*bacter pylori*)

1988 Saikku <sup>1)</sup>

가

가 10

1 - 5)

대 상

대 상 및 방법

1999 3 1 2000 12 31

2 가 가

(cofactor)

2)

DNA 52%

5% 6 - 13)

75%

6

azithromycin 가

가 <sup>14)</sup> , 50%

가 , 50%

가

가 혈액채취

14 heparinized tube

10 ml 1

ficoll (buffy coat) 1500 rpm

15 - 20

15 , 6

가

30%, 28%

혈청 지질치 측정 (total cholesterol, TC) Liebermann - Buchardt (HDL - cholesterol) heparin precipitate (triglyceride, TG) glycerol - 3 - phosphate oxidase (LDL - cholesterol) Friedwald formula .

t - test ANOVA test , <sup>2</sup> - test  
dBSTAT for windows  
3.0 version , p 0.05

결 과

연구대상  
1999 3 1 2000 12 31

*Chlamydia pneumoniae* 항체 측정 ELISA .

가 가 110 .

plate

가 plate 재협착 여부 및 임상상 비교

가 2 가 20 , 46 26

가 64

32 , 32 .

EUROIMMUN Antibodies against *Chlamydia pneumoniae* IgG , ELISA reader (Table 1 and 2).

ratio ca -

librated serum , 20 재협착에 따른 클라미디아 항체의 비교

20 , 20

통계분석 가 (Table 3).

± ,

**Table 1.** Comparison of clinical and lipid profiles of each group

	BNS (n = 32)	BS (n = 20)	SNS (n = 32)	SS (n = 26)	p-value
Age	58 ± 10	68 ± 11	61 ± 9	58 ± 12	0.052
BMI	24.4 ± 2.6	23.5 ± 2.7	25.3 ± 2.5	24.7 ± 2.3	0.105
TC	197 ± 46	196 ± 38	203 ± 38	201 ± 47	0.922
TG	166 ± 85	147 ± 74	181 ± 87	207 ± 123	0.052
HDL	43 ± 14	46 ± 13	42 ± 11	41 ± 10	0.556
LDL	121 ± 44	124 ± 31	131 ± 39	115 ± 34	0.460

(by ANOVA test)

BNS : balloon angioplasty no-restenosis group  
SNS : stent no-restenosis group  
BMI : body mass index  
TG : triglyceride (mg/dl)  
LDL : low density lipoprotein (mg/dl)

BS : balloon angioplasty restenosis group  
SS : stent restenosis group  
TC : total cholesterol (mg/dl)  
HDL : high density lipoprotein (mg/dl)

**Table 2.** Comparison of clinical risk factors of each group

	BNS (n = 32)	BS (n = 20)	SNS (n = 32)	SS (n = 26)	p-value
Sex					0.340
M	26	15	22	16	
F	6	5	10	10	0.225
HT					
( - )	20	7	19	13	
( + )	12	13	13	13	
DM					0.197
( - )	21	18	29	19	
( + )	11	2	6	7	
Smoking					0.806
( - )	15	10	12	12	
( + )	17	10	20	14	

(by  $\chi^2$ -test)

BNS : balloon angioplasty no-restenosis group

BS : balloon angioplasty restenosis group

SNS : stent no-restenosis group

SS : stent restenosis group

HT : hypertension

DM : diabetes mellitus

**Table 3.** Comparison of each group in the presence of *Chlamydia* antibody

	BNS (n = 32)	BS (n = 20)	SNS (n = 32)	SS (n = 26)
Cp ( - )	17	9	0	7
Cp ( + )	15	11	22	19

(p = 0.146 by  $\chi^2$ -test)

BNS : balloon angioplasty no-restenosis group

BS : balloon angioplasty restenosis group

SNS : stent no-restenosis group

SS : stent restenosis group

Cp ( - ) : *Chlamydia* antibody negative

Cp ( + ) : *Chlamydia* antibody positive

**Table 4.** Comparison of clinical and lipid profiles of each group in the presence of *Chlamydia* antibody

	Cp ( - ) (n = 43)	Cp ( + ) (n = 67)	p-value
Age	60 ± 11	61 ± 11	0.828
BMI	24.8 ± 2.6	24.4 ± 2.5	0.441
TC	200 ± 45	199 ± 40	0.864
TG	167 ± 86	179 ± 97	0.499
HDL	42 ± 9	43 ± 14	0.536
LDL	128 ± 41	120 ± 36	0.281

(by *t*-test)

Cp ( - ) : *Chlamydia* antibody negative

Cp ( + ) : *Chlamydia* antibody positive

BMI : body mass index

TC : total cholesterol (mg/dl)

TG : triglyceride (mg/dl)

HDL : high density lipoprotein (mg/dl)

LDL : low density lipoprotein (mg/dl)

**Table 5.** Comparison of clinical risk factors of each group in the presence of *Chlamydia* antibody

	Cp ( - ) (n = 43)	Cp ( + ) (n = 67)	p-value
Sex			0.301
M	28	51	
F	15	16	
HT			0.864
( - )	23	36	
( + )	20	31	
DM			0.056
( - )	28	56	
( + )	15	11	
Smoking			0.088
( - )	24	25	
( + )	19	42	

(by  $\chi^2$ -test)

Cp ( - ) : *Chlamydia* antibody negative

Cp ( + ) : *Chlamydia* antibody positive

HT : hypertension

DM : diabetes mellitus

가 (Table 4 and 5).

고 찰

가

가

<sup>16)</sup>

<sup>17)</sup>

(im -

munofluorescent stain)

(polymerase chain reaction, PCR)

<sup>18)</sup><sup>19)</sup>

hybridization

가

<sup>20)</sup>

20

가<sup>21)</sup>

Muhlestein<sup>22)</sup>

azithromycin

가

가

요 약

macrolide

서 론 :

가

ROXIS,<sup>23)</sup> ACADÉ -

MIC<sup>24)</sup>

가

가

대상 및 방법 :

2

ACES,<sup>25)</sup> WIZARD<sup>26)</sup>가

75%

Carlsson

50%

<sup>27)</sup> 147

47

101

ELISA

44.7%,

53.5%

가

Tiran<sup>28)</sup>

가

결 과 :

가

가

Carlsson<sup>29)</sup>

46(20/26) ,

64(32/32)

42%

가

가

가

결 론 :

가

15)

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