

# A군 연구균 감염이후 Antistreptolysin-O 혈중 농도 증가가 뚜렷씨 장애의 증상악화에 미치는 영향에 대한 임상 연구\*

## TIC SYMPTOM EXACERBATION ASSOCIATED WITH STREPTOCOCCAL INFECTION IN TOURETTE'S DISORDER

정 유 숙\*\*

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요 약 : A (GABHS) 가 가가  
antistreptolysin - O A (GABHS)  
14 . (1) 6 15  
(2) DSM - 1 . (3)  
가  
가 (Yale Global Tic Severity Scale)  
antistreptolysin - O (ASO titer) 가 (6  
(8 )  
가 가  
가 A (GABHS)  
중심 단어 : A (GABHS)

### 서 론

10,000 4 5 1) 18

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1 8) 9)

가 3)

1), (comorbid) 10)11), 가<sup>12)</sup>, A (group 13-15)

A[ ] hemolytic streptococcus) 3)

가 가

가 가

1880 Gilles de la 3)

Tourette 가

19 가

chorea 1940 (MRI)

가 (putamen), (globus pallidus) 16)

1960 haloperidol 2) 17-19)

3) A (group A[ ] hemolytic streptococcus : GABHS) 가 가

(rheumatic fever) Sydenham's chorea가 8

23% 4-6), 50 90%, - 가 Husby<sup>20)</sup> Sy-

denham's chorea가

가 7) chorea 가 21)22)

가 (epigenetic) 가 가

가 23), 24), GABHS 가

13) GABHS

25) 가

26) penicilline

27) A (GABHS) Antistreptolysin - O 가

28) B lymphoblast cytokin plasma

resis)

A (GABHS)

대상 및 방법

1. 연구 대상

1997 10 1 1998 6

30

14

6 15

(2) DSM - 1

가

가

haloperidol

risperidone 가

가

가

가 (Yale Global Tic Severity Scale)

28) , antistreptolysin - O (ASO titer)

2. 방 법

Antistreptolysin - O (ASO titer) (15 : <100IU)

8 , 6

3. 평가 도구

1) 예일 틱 증상 평가 척도(Yale Global Tic Severity Scale : YGTSS)

1

가

가 0 5

6

가

28) YGTSS

4. 실험실 검사(Laboratory Evaluation for the Group A[β] Streptococcal Infection)

1

1) Antistreptolysin-O titer(ASO titer)

immunoprecipitation

( ) Nephelometer Light Scattering intesity Human ASO ( 3

가 ) SST tube 10 mL

ASO Antibody 5.0 mL, Human ASO mammalian antibody with 0.1% sodium azide 15

<100IU/mL, <200IU/mL

5. 자료 분석  
 가  
 Mann - Whitney U - test  
 Pearson  
 p<0.05, p<0.01

결 과

1. 인구학적 변인  
 1  
 50% , 100%  
 가 (  $\chi^2 = 4.2, p = 0.040$  ).  
 (p = 0.743)

2. 공존장애의 정도 비교  
 가  
 가 (Table 2).  
 (37.5%), 1 (16.7%)

**Table 1.** Demographic and clinical characteristics of subjects in groups with increasing level of ASO titer & normal level of ASO titer in Tourette's disorder

	Group with n1 level N = 8	Group with increasing level N = 6	Group difference
	Sum of ranks	Sum of ranks	p value
Age	59.50	45.50	0.95
Sex(M ; F)	4/4	6/0	0.04*
Birth order(No)			
First	5	1	
Second	1	3	0.14
Only	1	2	
Age of onset	63.50	41.50	0.65
Duration	57.50	47.50	0.74

\* : p<0.05  
 ASO : antistreptolysin-O  
 Duration : Duration of illness

가 0 , 1  
 (16.7%) , 4 (50%),  
 2 (33.4%), 0 , 1 (16.7%),  
 가 1 (12.5%), 1  
 (16.7%)  
 (  $\chi^2 = 3.451, p = 0.49$  ).

3. 틱 증상의 심각도의 비교  
 가 (Yale Global Tic  
 Severity Scale : YGTSS)  
 , YGTSS  
 (Table 3).

14.3 ( : 57.5), 16.2 ( : 47.5)  
 8.6 ( : 51.0),

**Table 2.** Comorbid disorders of subjects in groups with increasing level of ASO titer & normal level of ASO titer in Tourette's disorder

	Group with n1 level N = 8(%)	Group with increasing level N = 6(%)	Group difference* p value
Only TD	3(37.5)	1(16.7)	
TD & ADHD	0	1(16.7)	
Anxiety Dis	4(50)	2(33.3)	0.49
Depressive Dis	0	1(16.7)	
Anxiety & Depressive Dis	1(12.5)	1(16.7)	

\* :  $\chi^2$ -test  
 TD : Tourette's Disorder Dis : Disorder  
 ADHD : Attention Deficit/Hyperactivity Disorder  
 ASO : antistreptolysin-O

**Table 3.** Comparison of severity of tic symptoms between group with normal level of ASO titer & group with increasing level of ASO titer

	Group with n1 level N = 8	Group with high level N = 6	Group difference <sup>†</sup> p value
	Sum of ranks	Sum of ranks	
Global severity score	47.00	58.00	0.093*
Total tic score	52.00	53.00	0.301
Motor tic score	57.50	47.50	0.746
Phonic tic score	51.00	54.00	0.242
TSIR score	43.50	61.50	0.026**

\* : p<0.1      \*\* : p<0.05  
<sup>†</sup> : Mann-Whitney U test      ASO : antistreptolysin-O  
 TSIR score : Overall TS Impairment Rating score

**Table 4.** Correlations between clinical characteristics of subjects

	Ab level	Age	Onset	Duration	MTS	PTS	TTS	TSIR	GS
Ab level	1.00	-0.185	-0.370	0.19	0.03	0.157	0.117	0.372	0.276
Age	-0.185	1.00	0.555*	0.559*	0.495	0.018	0.256	0.614*	0.422
Onset	-0.370	0.555*	1.00	-0.379	0.012	0.055	0.041	0.133	0.133
Duration	0.19	0.559*	-0.379	1.00	0.436	0.282	0.39	0.475*	0.367
MTS	0.030	0.495	0.012	0.436	1.00	0.394	0.766**	0.68**	0.81**
PTS	0.157	0.018	0.055	0.282	0.394	1.00	0.893**	0.288	0.624*
TTS	0.117	0.256	0.041	0.39	0.766**	0.893**	1.00	0.535*	0.833**
TSIR	0.372	0.614*	0.133	0.475*	0.68**	0.288	0.535*	1.00	0.871**
GS	0.276	0.422	0.113	0.367	0.81**	0.624*	0.833**	0.871**	1.00

\* : p<0.05

\*\* : p<0.01

MTS : Motor Tic Score

PTS : Phonic Tic Score

Ab level : antistreptolysin-O titer

TTS : Total Tic Score

TSIR : Overall TS Impairment Rating score

GS : Global Severity score

12.7 ( : 54.0) , 22.9  
( : 52.0), 28.8 ( : 53.0)

가

16.3 ( : 43.5),  
30.0 ( : 61.5)(U=7.50, p=0.026),  
YGTS 39.1 ( : 47.0),  
62.8 ( : 58.0) (U=11.00, p=  
0.093),

가

가

가 가

4. 인구학적, 임상변인간의 상관관계

29)

2)

30)

(Ta-

ble 4).

가

A

(GABHS)

가

가

고 찰

A

6.1

7.4

A

(GABHS)

가

(GABHS)

6.3

. 가

7

1)

(GABHS)  
reptolysin - O

가

A

antist -  
가

가

29)

가 : 가 1 : 1 <sup>26)</sup> .

가 . striatal <sup>33)</sup> 가

가 3 5 : 1 <sup>1)</sup> 가

(GABHS) A (GABHS) 가

Swedo <sup>31)</sup> 가 PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated With Streptococcal Infection)

가 <sup>32)33)</sup> .

83.3% 가

가 10,000 4 5 PANDAS 가

/ 가 A (GABHS) 가 A

BHS) <sup>31)</sup> 가 (GA - 가 antineuronal antibody, antistreptococcal DNase B

가 . A

A (GABHS) (GABHS)

가 가 가

A (GABHS) 가

. PANDAS

<sup>32)</sup> A (GABHS)

Swedo <sup>26)</sup> 가

A (GABHS) 가

가

A (GABHS) (rheumatic fever)

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## TIC SYMPTOM EXACERBATION ASSOCIATED WITH STREPTOCOCCAL INFECTION IN TOURETTE'S DISORDER

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**Object** : The purpose of this study was to investigate that infection with group A[ ] hemolytic streptococcus may associate the mechanisms that cause or exacerbate the tic symptoms in some cases of Tourette's disorder

**Method** : Fourteen cases with abrupt worsening of tics participated in this study : 10 males,4 females. The subjects were divided into two groups composing of the group with increasing level of ASO titer and the group with normal level of ASO titer. The subjects were administered Yale Global Tic Severity Scale(YGTSS).

**Result** : The global severity scores and overall TS impairment rating scores of YGTSS in the group with increasing level of ASO titer were more higher than in the group with normal level of ASO titer

**Conclusion** : These results suggest that increasing level of ASO titer, resulting from group A[ ] hemolytic streptococcal infection has affected worsening the tic symptoms in Tourette's disorder.

**KEY WORDS** : Streptococcal infection · Tourette's disorder · Tic symptoms.