

한국 범불안장애 환자의 자율신경심장기능*

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Heart Rate Variability of Korean Generalized Anxiety Disorder Patients*

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ABSTRACT

Objective : The purposes of this study were to investigate heart rate variability(HRV) in patients with generalized anxiety disorder(GAD) compared with major depressive disorder in Korea.

Methods : Fifty - six GAD patients(20 male and 36 female) was classified into their comorbid psychiatric illness. Among them, Twenty - five patients(10 male and 15 female) who do not have any psychiatric comorbidity were compared with 30 major depressive disorder patients(12 male and 18 female). Clinical symptoms, HRV and MMPI were analysed between two group.

Results : Comorbid psychiatric illnesses of GAD were ranked into no diagnosis(44.6%), MDD(32.1%), panic disorder(10.7%), social phobia(5.3%), PTSD(1.7%), OCD(1.7%), MDD+panic disorder(1.7%) and MDD+specific phobia(1.7%). GAD patients showed low functioning in HRV, but degree of decreasing HRV is not so severe compared with MDD patient. Balance of sympathetic and parasympathetic nerve tone is more severely impaired in GAD patients compared with MDD patient. The score of MMPI did not reveal any differences between two groups.

Conclusions : The result showed that HRV can differentiate GAD and MDD patients. GAD patients could show decreased HRV functioning, less than MDD patients. But autonomic imbalance could be more severe in GAD than MDD patients.

KEY WORDS : Generalized anxiety disorder · Major depressive disorder comorbidity · Heart rate variability · MMPI.

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서론

11) , 12) , 13) , 14)
 15)16) 17)

1 3~8%
 20 가 2 가
 1/3
 1) ,
 29% 가 ,
 18%, 18% ,
 6%, 가 11%, ,
 가 3% 2)
 가 가 18)
 3)
 4) (faking 가 가 19)
 good) ,
 5) 6) (cardiac interbeat interval)
 (high frequency spectral power)
 가
 가
 7) 20) Watkins 21) (state anxiety)
 가 ,
 (baroreflex activity)
 (sinus node)
 / 가 가
 가 22)23)
 (Heart Rate Variability : HRV) 가
 가
 24)
 8) 25)
 가 가
 26)
 9) , 10)

tic Personality Inventory ; MMPI), (Heart Rate Variability : HRV), Beck Depression Inventory (BDI) State trait anxiety inventory - state (STAI - S)가 () SA - 2000

가 6

연구대상 및 방법

2003 1 12 DSM - IV 18~55 56 (:14 , :42) 31 25 (:10 , :15) 30 (:12 , :18) 가 SSRI SNRI (1). BDI (45.1 ± 8.2)

결 과

Lorazepam 1mg (psychotic) (33.4 ± 7.5) (14.4 ± 5.1) (p<.001), STAI - S (13.8 ± 6.2) (p<.001). 32.1% 56 가 10.7% 5.3% DSM - IV 1.7%, 1.7%, 1.7% (2). ICD - 10 (85.7%), 9가 (3) (71.3%), (57.2%), 25 (53.6%), (37.5%), (35.7%), 30 (Minnesota multipha- (17.9%), (14.3%) (3.6%)

Table 1. Demographic data of patients with generalized anxiety disorder and major depressive disorder

	GAD only group(N=25)	MDD group(N=30)	z/t	p
Age(year)	50.1(14.0)	50.8(14.0)	0.002	NS
Sex(M/F)	10/15	12/18	0.326	NS
Duration of illness(year)	3.2(2.1)	3.4(2.6)	3.246	NS
BDZ user/non-user	12/13	16/14	1.098	NS
BDI	14.4(5.1)	45.1(8.2)	16.1	0.000
STAI-S	33.4(7.5)	13.8(6.2)	-10.5	0.000

GAD : generalized anxiety disorder, MDD : major depressive disorder, BDZ : benzodiazepine, BDI : Beck Depression Inventory, STAI-S : State Trait Anxiety Inventory – State

successive RRI difference(SRD, 0.9

Table 2. Comorbid psychiatric illness of generalized anxiety disorder and major depressive disorder

	GAD group(N=56)	Brawman-Mintzer(1996)	Brown and Barlow(1992)
No diagnosis	25(44.6%)	10 - 26%	
Depression	18(32.1%)	8 - 39%	11%
Panic	6(10.7%)	3 - 27%	18%
PTSD	1(1.7%)	-	
OCD	1(1.7%)	-	3%
Social phobia	3(5.3%)	15 - 59%	29%
Specific phobia	-	21 - 55%	16%
Depression+panic	1(1.7%)	-	
Depression+phobia	1(1.7%)	-	

* : reference(Brawman-Mintzer 1996)

Table 3. List of symptoms in patients with generalized anxiety disorder

	GAD group (N=56)	Co-morbid GAD group (N=31)	GAD alone group (N=25)	²	p
Autonomic arousal	30(53.6%)	16(51.6%)	14(56%)	.107	NS
Chest & abdominal	32(57.2%)	16(51.6%)	16(64%)	.867	NS
Mental state	20(35.7%)	9(29%)	11(44%)	1.350	NS
General	21(37.5%)	14(45.2%)	7(28%)	1.739	NS
Tension	48(85.7%)	27(87.1%)	21(84%)	.108	NS
Exaggerated response	10(17.9%)	4(12.9%)	6(24%)	1.162	NS
Difficulty concentration	8(14.3%)	7(22.6%)	1(4.0%)	3.902	NS
Persistent irritability	2(3.6%)	1(3.2%)	1(4.0%)	.024	NS
Insomnia	40(71.3%)	23(74.2%)	17(68%)	.260	NS

Table 4. Comparisons of Heart Rate Variability(HRV) findings between generalized anxiety disorder(GAD) and major depressive disorder(MDD)

	GAD group(N=25)	MDD group(N=30)	†	p
Mean HRT	80.1(13.2)	79.5(11.4)	.287	.775
SDNN	33.6(14.1)	27.8(12.8)	2.28	.024
RMSSD	25.3(14.1)	22.5(12.0)	1.10	.271
PSI	168.1(363.8)	116.3(139.8)	.99	.323
APEN	1.1(0.1)	1.1(0.1)	.77	.439
SRD	0.9(0.1)	1.0(0.2)	-2.47	.015
TRSD	105.2(32.8)	103.4(37.1)	.27	.781
TP(MS2)	1014.4(1135.2)	623.2(699.5)	2.196	.03
VLF	477.4(792.4)	253.4(380.4)	1.90	.059
LF	380.0(516.3)	170.8(240.3)	.74	.007
HF	156.9(132.0)	173.3(210.7)	-.49	.623
LF norm	62.8(20.1)	47.4(21.4)	3.91	.000
HF norm	37.1(20.1)	52.3(21.2)	-3.88	.000
LF/HF	2.6(2.2)	1.4(1.6)	3.23	.002

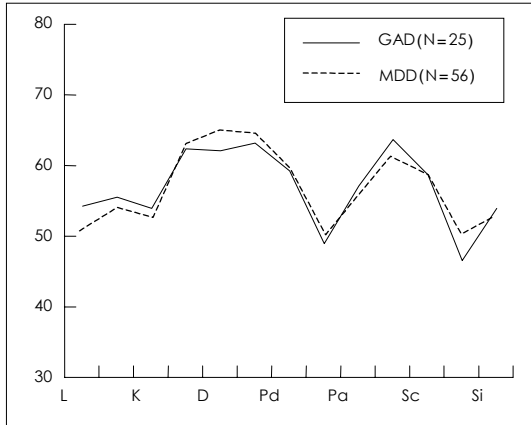


Fig. 1. Comparison of MMPI findings between generalized anxiety disorder and major depressive disorder.

± 0.1 vs 1.0 ± 0.2 , $p = .015$) high frequency norm (HF norm, $T37.1 \pm 20.1$ vs 52.3 ± 21.2 , $p < .001$)

가 standard deviation of the NN interval (SDNN, 33.6 ± 14.1 vs 27.8 ± 12.8 , $p = .024$), total power (TP, 1014.4 ± 1135.2 vs 623.2 ± 699.5 , $p = .03$), low frequency (LF, 380.0 ± 516.3 vs 170.8 ± 240.3 , $p = .007$), low frequency - norm (LF - norm, 62.8 ± 20.1 vs 47.4 ± 21.4 , $p < .001$), LF/HF (2.6 ± 2.2 vs 1.4 ± 1.6 , $p = .002$)

(4).

(1).

고찰

BDI STAI-S

29~59%

(1).

32.1%

가 5.3%

가 0.53% 2.2%

27)

DSM - IV

28)

가 가

가 ,

가

ICD - 10

HRV SDNN standard deviation of the NN interval (NN interval = RR interval : RRI, peak)

가

HRV 가

HRV 가

SDNN NN

interval 가

, SDNN 가

SDNN

가

SDNN 30 - , ,

, , , , ,

가 SDNN 가 LF 가 Normalized LF & Normalized HF 100 LF가 (norm LF) HF가 (norm HF) . LF/HF ratio 가 norm

Successive RRI difference(SRD) 5 LF가 norm HF 1.5 . LF/HF ratio²⁹⁾³⁰⁾

가 1

가 0.9, LF/HF ratio가 (1.5)²⁹⁾³⁰⁾

Total power(TP) low frequency(LF), high frequency(HF) 5 power norm() 가 HF LF norm() LF/HF ratio 1.4, 2.6

TP가

TP

가 / 가 가 TP

LF²⁹⁾³⁰⁾ 중심 단어 : MMPI.

LF

LF propanolol LF

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