

기분부전장애 환자군과 주요우울장애 환자군의 신경인지학적 기능 비교

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The Comparison of the Neurocognitive Functions between Dysthymic Disorder and Major Depressive Disorder

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ABSTRACT

Neurocognitive research focusing on cognitive deficits in Depression has resulted in several important but yet potentially contradictory findings. Much literature documents the presence of significant neurocognitive impairments in depressive patients. Studies have shown that dysthymic disorder patients demonstrate a diffuse pattern of cognitive impairment which is frequently indistinguishable from that of focal brain-damaged patients. Some reports have suggested that there is a focal pattern of deficit, such as anterior cingulate dysfunction, frontal lobe impairment, or dysfunction of the temporal - limbic cortex.

The aim of this study is to evaluate the neurocognitive functions in dysthymic disorder patients, and to compare the functions with those of major depressive disorder patients. The subjects are 17 dysthymic disorder patients. And their neurocognitive functions are compared with those of 23 major depressive episode patients. Patients with a history of neurologic disease, alcohol dependence, substance abuse and mental retardation are excluded.

They are assessed with a part of Vienna Test System which is computerized neurocognitive function tests and can evaluate attention, eductive ability, reproductive ability, visuoperceptual analysis, vigilance, visual immediate memory, the speed of information - processing, judgement, and fine motor coordinations.

There are no other specific difference between two groups, except the result of cognitrone test. This study provides information about the neurocognitive functions and some difference between major depressive disorder patients and carefully diagnosed dysthymic disorder patients.

KEY WORDS : Neurocognitive functions · Dysthymic disorder · Major depressive disorder.

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서론

가 (computerized
 ssion test)(DST) (Dexamethason suppre-
 nerocognitive fuction test)가
 1)
 가
 가 2-4) 가 15)
 가 5-6)
 가

(cerebral dysfunction) 가
 7) 가
 (anterior cingulate)
 가 8)
 (endogenous depressive group)
 (neurotic - depressive group)
 9)

대상 및 방법

1. 연구 대상

1998 3 2002 4
 DSM - (Diagnostic
 and Statistical Manual of Mental Disorders, 4th
 edition, DSM -) 2
 17
 23 가

2. 연구 방법

1970 (neuropsychological test)가 System Vienna Test

가 : 4
 가 1 가
 4

가 16)
 17-22)
 DSM -
 가
 가 BDI(Beck Depression Inventory, BDI)
 가

3) 경계력 검사(Vigilance)
 가
 :
 가 가 가

2
 4
 1 . Vienna Test
 System :5
 가
 Vienna Test System 19
 가 가

4) 운동결정력 검사(Determination unit)
 가
 가
 가

1) 표준도형지능 검사(Standard progressive matrices)
 가 . KWIS(Korean Wechsler Intelligence Scale)
 가
 : 가
 가

5) 운동수행력검사(Motor performance test series)
 가
 :
 Steadiness(practice run) : ()
 가 (8.5 mm)
 20 가 enter key 가
 Line tracking(practice run) : ()
 ()

2) 인식력 검사(Cognitrone)
 가
 가
 가

가
 가
 가 가

가 . 23 , 14 , 9
 Aiming : () , 43.00 ± 15.40 ,
 12.25 ± 2.96 5.56 ± 6.31

가 .
 가 .
 Inserting long pins : () 10 (Motor Performance Test Series) ,
 cm () ,
 () ,
 가 가 가 BDI
 (lab time) 가
 (1).

Steadiness : 가 (4.8
 mm)
 . Enter key 가 .
 Line Tracking : Practice phase .
 Tapping : ()
 32 가

Inserting short pins : () 10
 cm

2. 기분부전장애 환자군과 주요우울장애 환자군의 신경 인지기능검사 비교

1) 표준도형지능 검사(Standard progressive matrices)
 (2).

2) 인식력 검사(Cognitrone).
 (number

자료분석

SPSS(statistical package for social science) 10.0 for Windows .
 Chi -
 square , , , t - test
 t - test

연구결과

1. 인구학적 자료

17
 5 , 12 .
 47.13 ± 14.25 , 11.31 ± 3.22
 39.43 ± 45.6

Table 1. Demographic data of dysthymic disorder patients and major depressive episode patients

	DD*(N=17)	MDD*(N=23)	Sig=p
Age(years)	47.13 ± 14.25	43.00 ± 15.40	0.438
Sex			
Male	5	14	
Female	12	9	
Education(years)	11.31 ± 23.22	12.25 ± 2.96	0.398
Illness duration (years)	39.43 ± 45.6	5.56 ± 6.31	0.06
BDI*	19.43 ± 6.67	22.43 ± 8.82	0.287
lab time(weeks)	3.48 ± 3.25	3.37 ± 2.84	0.918

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, BDI : beck depression inventory

Table 2. A comparison of dysthymic disorder patients and major depressive episode patients on SPM*

	DD*(N=17)	MDD*(N=23)	Sig=p
Raw score	32.38 ± 14.30	38.09 ± 13.56	0.253

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, SPM : standard progressive Matrices

of correct yes - responses), ‘ ’
 (number of correct no - responses),
 (number of correct responses)

고 찰

(3).

10)

3) 경계력 검사(Vigilance)

가

2

(4).

DSM -

4) 운동결정력 검사(Determination unit)

4

가 2 가 3

Table 5. A comparison of dysthymic disorder patients and major depressive episode patients on determination unit(Stage 2)

	DD*(N=17)	MDD*(N=23)	Sig=p
In time*	127.35 ± 45.12	136.65 ± 49.99	1.000
Delayed*	20.76 ± 19.24	15.39 ± 21.32	0.853
Incorrect*	19.47 ± 24.45	20.43 ± 25.94	1.000
Missed*	21.24 ± 21.82	15.09 ± 23.05	0.767
Mean reaction time	1.09 ± 0.14	1.02 ± 0.13	0.216

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, In time : In time reponses, Delayed : delayed responses, Incorrect : Incorrect responses, Missed : missed responses

4

(5 - 7).

5) 운동수행력검사(Motor performance test series)

inserting long pins test total time,

steadiness length of error

가

가 (8, 9).

Table 3. A comparison of dysthymic disorder patients and major depressive episode patients on cognitrone

	DD*(N=17)	MDD*(N=23)	Sig=p
No. of correct yes-responses	65.35 ± 19.73	74.78 ± 4.25	0.011**
No. of correct no-responses	98.56 ± 21.73	109.43 ± 16.40	0.058
Mean time of cor.yes-resp.*(sec)	2.76 ± 0.74	2.99 ± 1.07	1.000
No. of correct responses	164.00 ± 29.90	184.22 ± 19.31	0.003***

* : DD : dysthymic disorder patients, MDD : major depressive episode patients,

Mean time of cor.yes-resp. : Mean time of correct yes-responses

** : p<0.05, *** : p<0.01.

Table 4. A comparison of dysthymic disorder patients and major depressive episode patients on vigilance

	DD*(N=17)	MDD*(N=23)	Sig=p
Number of correct*	95.94 ± 4.12	94.91 ± 9.25	1.0000
Number of incorrect*	4.12 ± 4.28	3.26 ± 4.00	1.000
Mean value of RT*	0.59 ± 8.92E - 02	0.59 ± 0.16	1.000
Ascent of - correct*(%/h)	- 16.44 ± 24.39	- 5.75 ± 22.03	1.000
Ascent of RT*(sec/h)	0.27 ± 0.18	0.12 ± 0.28	0.535

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, Number of correct : Number of correct responses, Number of incorrect : number of incorrect responses, Mean value of RT : mean value of reaction time, Ascent of correct : ascent of correct responses, Ascent of RT : ascent of reaction time

Table 6. A comparison of dysthymic disorder patients and major depressive episode patients on determination unit(Stage 3)

	DD*(N=17)	MDD*(N=23)	Sig=P
In time*	42.82 ± 52.92	68.57 ± 60.12	0.206
Delayed*	59.12 ± 28.04	45.70 ± 29.25	0.240
Incorrect*	28.18 ± 36.07	27.30 ± 24.54	1.000
Missed*	63.47 ± 38.80	49.96 ± 38.50	0.488
Mean reaction time	0.79 ± 7.13E - 02	0.79 ± 838E - 02	1.000

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, In time : in time reponses, Delayed : delayed responses, Incorrect : incorrect responses, Missed : missed responses

Table 7. A comparison of dysthymic disorder patients and major depressive episode patients on determination unit(Stage 4)

	DD*(N=17)	MDD*(N=23)	Sig=P
In time*	70.50 ± 59.73	98.22 ± 61.28	0.198
Delayed*	54.63 ± 34.21	34.30 ± 30.74	0.041**
Incorrect*	20.38 ± 15.74	25.65 ± 28.21	1.000
Missed*	45.56 ± 32.75	31.48 ± 31.16	0.209
Mean reaction time	0.88 ± 8.20E - 02	0.82 ± 0.10	0.093

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, In time : in time reponses, Delayed : delayed responses, Incorrect : incorrect responses, Missed : missed responses

** : p<0.05

Table 8. A comparison of dysthymic disorder patients and major depressive episode patients on motor performance test series(Right hand)

	DD*(N=17)	MDD*(N=23)	Sig=P
Aiming E*	0.76 ± 1.15	1.35 ± 2.42	0.729
Aiming EL*	0.35 ± 0.86	0.61 ± 1.70	1.000
Aiming T*	10.82 ± 4.01	9.59 ± 2.86	0.446
Inserting long pins T	42.62 ± 9.56	42.96 ± 7.60	0.049**
Steadiness E	10.65 ± 15.11	9.22 ± 12.67	1.000
Steadiness EL	71.71 ± 106.95	17.04 ± 37.44	0.007***
Line tracking E	32.19 ± 25.27	26.13 ± 9.71	0.537
Line tracking EL	4.86 ± 5.80	2.75 ± 1.61	0.104
Line tracking T	26.11 ± 20.49	26.62 ± 20.57	1.000
Tapping H*	85.65 ± 28.25	198.13 ± 45.75	0.644
Inserting short pins T	50.74 ± 13.08	55.88 ± 16.46	0.775

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, E : number of errors, EL : length of error(in sec), H : number of hits, T : total time(in sec)

** : p<0.05, *** : p<0.01,

Table 9. A comparison of dysthymic disorder patients and major depressive episode patients on motor performance test series(Left hand)

	DD*(N=17)	MDD*(N=23)	Sig=P
Aiming E*	2.94 ± 3.70	4.22 ± 3.98	0.567
Aiming EL*	2.00 ± 4.46	2.96 ± 4.11	1.000
Aiming T*	11.60 ± 3.94	14.23 ± 15.45	1.000
Inserting long pins T	44.62 ± 7.87	42.80 ± 9.32	1.000
Steadiness E	15.12 ± 20.76	10.87 ± 19.04	1.000
Steadiness EL	35.47 ± 68.24	19.30 ± 49.39	0.705
Line tracking E	35.53 ± 17.39	32.35 ± 11.87	1.000
Line tracking EL	4.52 ± 3.20	3.64 ± 1.84	0.503
Line tracking T	22.00 ± 13.09	24.63 ± 14.17	1.000
Tapping H*	167.47 ± 26.74	175.91 ± 42.11	1.000
Inserting short pins T	57.01 ± 10.91	56.10 ± 14.30	1.000

* : DD : dysthymic disorder patients, MDD : major depressive episode patients, E : number of errors, EL : length of error(in sec), H : number of hits, T : total time(in sec)

26)27)

가
가²³⁾
(cortical)
farction)
(basal ganglia in-
24)25)

apolipoprotein E4 allele²⁸⁾¹⁹⁾
가

(anterior cingulate) (ventromedial prefrontal cortex) Decision-making cognition (cognitrone) (number of correct yes-responses), (number of correct no-responses), (number of correct responses)

(Tricyclic antidepressant, TCA)가 (Selective serotonin reuptake inhibitor, SSRI) TCA (delayed) 가 2 가 3 4 가 가 가

BDI 3 가 가

8. Austin MP, Mitchell P. Cognitive function in depression. In: A Distinct Pattern of Frontal Impairment in Melancholia?, New York, Cambridge University Press: 1999. p.73-85.
9. Austin MP, Ross M, Murray CO, Carroll RE, Ebmei KP, Goodwin GM. Cognitive function in major depression. *Journal of Affective Disorders* 1992;25:21-30.
10. Peter Neu, Ursula Kiessler. Time-related cognitive deficiency in four different type of depression. *Psychiatry Research* 2001;103:237-247.
11. Green MF. What are the functional consequences of neurocognitive deficits in schizophrenia? *Am J Psychiatry* 1996;153:321-333.
12. Meltzer HY, Thompson PA, Lee MA, Ranjan R. Neuropsychologic deficits in schizophrenia: Relation to social function and effect of antipsychotic drug treatment. *Neuropsychopharm* 1996;14:27-33.
13. Brekke JS, Raine A, Ansel M, Lencz T, Bird L. Neuropsychological and psychophysiological correlates of psychosocial functioning in schizophrenia. *Schizophr Bull* 1997;23:19-28.
14. Satz P, Fletcher JM. Emergent trends in neuropsychology: An overview *J Consult Clin Psychol* 1981;49: 851-865, Neuropsychology press, Tucson.
15. 오병훈. 임상 신경심리학적 평가. *생물정신의학* 1995; 2:28-37.
16. Wilson SL, McMillan TM. Computer-based assessment in neuropsychology In: A Handbook of neuropsychological Assessment. Ed by Crawford JR, Parker DM, McKinlay WW, Hove, UK, Lawrence Erlbaum Associates, Ltd.;1994. p.413- 431.
17. 이희상, 현병호, 조현상, 이연희, 김태용, 장순아 등. 통합심리치료의 인지분화훈련이 정신분열병 환자의 기초 인지기능에 미치는 영향. *신경정신의학* 1998;37:801-809.
18. 장계호, 이 철, 조희수, 이창욱, 백인호. 정신분열병 환자의 인지기능 평가. *신경정신의학* 1998;37:783-791.
19. 최형식, 정범석, 김한규, 송현주, 이재원, 김창운. 정신분열병 환자의 반응시간. *신경정신의학* 2000;39:879-888.
20. 하규섭, 유한익, 김성운, 김재진, 홍경수, 이창욱 등. 한국성인을 대상으로 한 전산화 Standard Progressive Matrices의 표준화 예 비연구. *신경정신의학* 1999;38: 1038-1045.
21. 하태현, 유한익, 윤화영, 송정연, 홍경수, 정도연 등. 간 이지능평가 도구로서의 전산화 Standard Progressive Matrices의 타당도 검증 및 임상적용에 관한 연구. *신경정신의학* 1998;37:1267-1275.
22. 홍경수, 김재진, 하규섭, 김성운, 권준수, 배재남, 등. 한국성인을 대상으로 한 전산화 신경인지기능검사 Cognitron의 표준화 예비연구. *신경정신의학* 1998;37:1260-1266.
23. Goodwin, GM. Neuropsychological and neuroimaging evidence for the involvement of the frontal lobes in depression. *Journal of Psychopharmacology* 1997;11: 115-122.
24. Bemelmans KJ, Goekoop JG, van Kempen GM. Recall performance in acutely depressed patients and plasma cortisol. *Biological Psychiatry* 1996;39:750-752.
25. Alexopoulos GS, Meyers BS, Young RC, Campell S, Silbersweig D, Charlson M. Vascular depression hypothesis. *Archives of General Psychiatry* 1997;54:915-922.
26. Lupien S, Lecours AR, Lussier I, Schwartz G, Nair NP, Meaney MJ. Basal cortisol levels and cognitive deficits in human aging. *J Neurosci* 1994;14:2893-2903.
27. McEwen BS. How do sex and stress hormones affect nerve cells? *Ann N Y Acad Sci* 1994;743:1-18.
28. Roses AD. Apolipoprotein E alleles: As risk factors in Alzheimer's disease. *Annu Rev Med* 1996;47:387-400.
29. Yaffe K, Cauley J, Sands L, Browner W. Apolipoprotein E phenotype and cognitive decline in a prospective study of elderly community women. *Arch Neurol* 1997;54:1110-1114.
30. Murphy FC, Ruhinsztein JS. Decision-making cognition in mania and depression. *Psychological Medicine* 2001;31:679-693.
31. Drevets WC, Price JL, Simpson JR. Sub-genua prefrontal cortex abnormalities in mood disorders. *Nature* 1997;386:824-827.
32. Settle EC. Antidepressant drugs: disturbing and potentially dangerous adverse effects. *J Clin Psychiatry* 1998; 59 (suppl 16): 25-30.
33. Garattini S, Barbui C, Saraceno B. Antidepressant agents: from tricyclics to serotonin uptake inhibitors. *Psychol Med* 1998;28:1169-1178.
34. Kury S, Stassen HH. Cognitive performance in patients recovering from depression. *Psychopathology* 1995; 28:190-207.
35. Oxman TE. Antidepressants and cognitive impairment in the elderly. *J Clin Psychiatry* 1996;57 (Suppl 5):38-44.
36. Constantine G Lyketsos. Tricyclic antidepressants and cognitive decline *Psychosomatics*. Washington, Laura Jean Podewils;2002.
37. Martin DJ, Oren Z, Boone K. Major depressives' and dysthymics' performance on the Wisconsin card sorting test. *Journal of Clinical Psychology* 1991;47:684-690.
38. Berman KF, Zec RF, Weinberger DR. Physiologic dysfunction of dorsolateral prefrontal cortex in schizophrenia II Role of neuroleptic, attention, and mental effort. *Arch Gen Psychiatry* 1986;43:126-135.
39. Drewe EA. The effect of type and area of brain lesion on Wisconsin Card Sorting Test performance *Cortex* 1974;10:159-170.
40. Fey ET. The performance of young schizophrenics and young normals on the Wisconsin Card Sorting Test. *J Consult Clin Psychol* 1951;15:311-319.