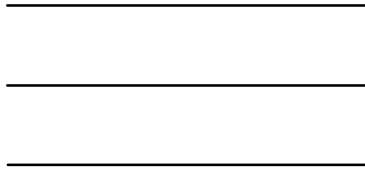


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IV.	-----	16
V.	-----	21
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Table 1 Sociodemographic and clinical characteristics of subjects-----	10
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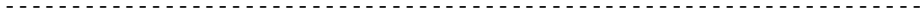
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## II.

### 1.

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Depression Scale( HDS)<sup>22)</sup> 7 Young Mania Rating  
Scale( YMRS)<sup>23)</sup> 6 , 4)

Simpson-Angus Rating Scale for Extrapyramidal Side Effects<sup>24)</sup>

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van Gorp<sup>17)</sup>

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 Global Assessment Scale( GAS) <sup>25)</sup> .

3.

Korean-Wechsler Adult Intelligence Scale( K-WAIS),  
 (Wisconsin Card Sorting Test; WCST),  
 Wechsler Memory Scale-Revised( WMS-R) (figural  
 memory) Verbal-paired associates,  
 Vienna Test System Decision Reaction Timer, Signal  
 Detection, Motor Performance Series .

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2 3 30  
.

1) Korean-Wechsler Adult Intelligence Scale<sup>26)</sup>

(information), (digit span), (vocabulary), (arithmetic), (comprehension), (similarities) (picture completion), (picture arrangement), (block design), (object assembly), (digit symbol)

가 .

2) Wechsler Memory Scale-Revised<sup>27)</sup>

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3) <sup>28)</sup>

Computer Version-2 Wisconsin Card Sorting Test(WCST) . 4 64  
128 4  
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#### 4) Vienna Test System(Schuhfried, Mödling, Austria)

Vienna Test System

Decision-Reaction Timer, Signal Detection, Motor Performance Series

Aiming Pursuit Rotors . Decision-Reaction

Timer

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. Signal Detection( )

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. Motor Performance Series

7

Aiming, Line Tracking, Pursuit

Rotor가 . Aiming 22  
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### III.

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Table 1. Sociodemographic and clinical characteristics of subjects

Variables	Bipolar group (N=19)	Control group (N=19)
Age(Years)	35.4 ± 9.4	35.7 ± 9.1
Sex, No. of Male/Female	7/ 12	8/ 11
Education(Years)	12.2 ± 3.8	12.2 ± 4.1
Hamilton Depression Scale	3.0 ± 1.9	1.8 ± 2.0
Young Mania Rating Scale	1.1 ± 1.7	0.3 ± 1.0
Global Assessment Scale *	79.3 ± 7.2	87.1 ± 5.6
Age of onset(years)	27.8 ± 8.9	
Duration of illness(years)	8.4 ± 5.3	
No. of episodes		
Manic episode	3.9 ± 2.9	
Depressive episode	1.1 ± 1.8	
Total episode	5.0 ± 4.0	
Duration of episodes(month)		
Manic episode	9.5 ± 8.1	
Depressive episode	2.5 ± 5.4	
Total episode	12.5 ± 12.3	
No. of Hospitalization	3.3 ± 2.8	
Serum level of mood stabilizers		
Lithium level(N=12, mEq/l)	0.49 ± 0.2	
Valproate level(N=7, µg/ml)	88.5 ± 22.0	
Duration of mood stabilizers use(months)	46.1 ± 37.6	
Dose of antipsychotics(mg)(N=6)**	36.2 ± 67.1	
Duration of antipsychotics use(months)	20.9 ± 26.1	

All values except gender are mean ±standard deviation

\* p<.05 in t-test

\*\* Dose equivalent of Chlorpromazine



가  
. HDS 3.0±1.9,  
1.8±2.0 YMRS 1.1±1.7 0.3±1.0  
가 . GAS 79.3±7.2, 87.1±5.6  
(t=- 3.71, p<0.01).  
27.8±8.9 8.4±5.3 .  
가 3.9±2.9 , 1.1±1.8  
5.0± 4.0 .  
3.3±2.8 .  
lithum 가 12 , valproate  
가 7 .  
lithum 0.49±0.2mEq/l 1 (0.11mEq/l) 0.37- 0.89mEq/l  
. valproate 88.5±22µg/ml 1 (128µg/ml) 62- 99  
µg/ml . 6  
chlorpromazine(2 ), thioridazine(1 ), sulpiride(1 ), perphenazine(2 )  
chlorpromazine 가 36.2±67.1mg( :  
25- 200mg) . 6 4  
0 , 2 1 . 3 가 benzodiazepine  
lorazepam 가 <sup>29)</sup> 0.5- 5.5mg 1  
propranolol 20mg .

2. ( 2)

Table 2. Comparison of neuropsychological tests for bipolar group and control group

Neuropsychological measures	Bipolar group <sup>†</sup> (N=19)	Control group (N=19)
<b>K- WAIS</b>		
Verbal IQ <sup>*</sup>	99.5 ± 7.8	106.3±11.3
Performance IQ <sup>**</sup>	91.8 ± 9.0	102.5±12.7
Full Scale IQ <sup>**</sup>	96.1 ± 7.8	105.0±11.3
<b>Wisconsin Card Sorting Test</b>		
Total errors(N)	41.11 ± 27.78	33.95 ± 18.88
Perseverative error(%)	20.21 ± 17.58	14.58 ± 7.09
Categories completed(N)	4.16 ± 2.32	4.95 ± 1.47
<b>WMS-R</b>		
Figural memory	6.8 ± 1.0	6.8 ± 1.2
Verbal Paired Associate		
easy	19.4 ± 6.0	22.5 ± 2.0
difficult	14.0 ± 5.0	15.7 ± 5.4
total	33.4 ± 10.2	38.2 ± 6.2
<b>Reaction Reaction Timer</b>		
Decision time(sec)	0.81 ± 0.11	0.82 ± 0.10
Motor time(sec)	0.28 ± 0.08	0.26 ± 0.07
Reaction time(sec)	1.10 ± 0.08	1.08 ± 0.09
<b>Signal Detection</b>		
Right detection(N)	42.7 ± 9.4	47.1 ± 6.8
Delayed detection(N)	1.0 ± 0.9	0.6 ± 0.9
Missed detection(N)	16.3 ± 9.6	12.3 ± 6.4
Wrong detection(N)	2.4 ± 2.6	1.9 ± 2.6
<b>Psychomotor Performances</b>		
Aiming		
Missing number	1.1 ± 1.6	0.4 ± 0.7
Length of misses(sec)	3.8 ± 16.3	0.16 ± 0.5
Line Tracking		
Missing number	16.2 ± 11.6	18.1 ± 13.8
Length of misses(sec)	4.6 ± 6.6	8.2 ± 12.9
Pursuit Rotor		
Missing number <sup>*</sup>	27.3 ± 16.9	39.2 ± 11.3
Length of misses(sec) <sup>*</sup>	23.7 ± 7.9	15.4 ± 6.7

K- WAIS, Korean Wechsler Adult Intelligence Scale; WMS-R : Weschler Memory Scale-Revised

<sup>†</sup> 16 of 19 patients was analysed in WMS-R

<sup>\*</sup>p< .05 and <sup>\*\*</sup>p<.01 in independent t-test

1) K-WAIS

99.5±7.8      106.3±11.3(t=- 2.12, p=0.041),      91.8±9.0  
102.5±12.7(t=- 2.96, p=0.005),      96.1±7.8      105.0±11.3(t=- 2.77,  
p=0.009)

. 11

(p<.05)

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WMS-R

19      16

(t=- 1.978, p=0.064),

4)

Decision-Reaction Timer

. Signal Detection 가 , ,  
( ) , 가

5)

Aiming Line Tracking

가

. Pursuit Rotor

가

( $t = -3.550$ ,  $p = 0.016$ ),

( $t = 3.446$ ,  $p = 0.001$ ).

3.

가

Pursuit Rotor

( $F = 5.264$ ,  $p = 0.028$ )

( $F = 6.019$ ,  $p = 0.019$ )

4.

, , Pursuit Rotor

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가 (r=-0.519, p=0.027; r=-0.504, p=0.033).

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K-WAIS

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. Lezak<sup>30)</sup>

IQ

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Signal detection

Decision-Reaction Timer

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( $p < .05$ )

K-WAIS

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WCST

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12)

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33)

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4가

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34)

11)32)

35)

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( 472.50 ± 386.7mg)

4)36)

WCST

11)17)32)

(procedural)

(declarative)

12)

가

37)

가

가

가 WMS-R

가

가

가

가

가

(continuous performance task)<sup>33)</sup>, trail-making test A<sup>11,17,33)</sup>, Stroop test<sup>17)32)</sup> 가 가

가

Pursuit Rotor



10)

17) , WCST

17)32)

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lithum

18)가

Pursuit Rotor

lithum

lithum valproate

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13)

24- 95%

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39)40)

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Abstract

Evaluation of the some cognitive function in the euthymic phase  
of bipolar disorder

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directed by Professor Man Hong Lee

The previous assumption that patients with bipolar I disorder make a full recovery of cognitive function in the euthymic phase has been challenged by studies that suggest neuronal changes and recent reports that neuropsychological dysfunctions may persist beyond episodes of the illness. The aim of the present study was to investigate whether the neurocognitive performance of euthymic bipolar patients was impaired, and to identify domain of cognitive impairment, and in addition, whether there is a relationship between cognitive dysfunction and clinical variables of illness in bipolar population.

So, nineteen bipolar out-patients who had been euthymic for more than 3 months with Hamilton Depression Scale score below 7 and Young Mania Rating Scale score below 6 before administering the procedure, were compared with age- and education- matched 19 healthy subjects on neurocognitive tests. They were evaluated by following tests according

to cognitive domain: Korean-Wechsler Adult Intelligence Scale, some subtests among Wechsler Memory Scale-Revised, Wisconsin Card Sorting Test, and Signal Detection/Decision-Reaction Timer/Psychomotor Performances among Vienna Test System.

The bipolar group was found to perform significantly lower or less well than the control group on verbal and performance IQ, total IQ, and psychomotor function or coordination. But there was no significant functional impairments in Wisconsin Cards Sorting Test, Weschler Memory scale-verbal, nonverbal, Decision Reaction, Signal Detection. Also, There was no relationship between the cognitive impairment and clinical course of illness, except statistically significant correlation between duration of neuroleptic exposure and performance IQ, total IQ.

In conclusion, although our findings could not replicate the recently reported results, especially in the cognitive domain of executive function and verbal memory, it's suggested there might be the presence of neurocognitive difficulties, such as a general ability and visuomotor function, in stable bipolar patients.

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*key word : euthymic bipolar disorder, cognitive impairment*