

aging) (brain im - VCM
 vacuous chewing movements(VCM) 4
 glutamatergic excitotoxicity가 (McG -
 eer McGeer 1976 ; De Keyser 1991) 가 가
 dopamine
 가 corticostriatal glutamatergic pathway
 glutamate 가
 glutamate
 가
 가
 glutamate
 (basal ganglia)
 가 . Glutamate inotro -
 pic (NMDA, AMPA, kainate) metabotropic
 가 glutamate NMDA
 . Glutamate 가
 glutamate가 NMDA
 calcium
 (Lei 1992).
 NMDA 가
 MK - 801((+) - 5 - Methyl - 10,11 - dihydro - 5H - dibenzo -
 (a,d)cyclohepten - 5,10 - imine maleate) .
 glutamate pathway
 haloperidol decanoate(HD)
 NMDA MK - 801 가 VCM
 801 가 , VCM MK -

연구대상 및 방법

1. 연구대상

150 - 180gm (Sprague - Dauley) 50

2

18 20

2. VCM의 측정

VCM

tremor 2 VCM

VCM

40cm x 20cm x 30cm

4

VCM

3

VCM 6 HD

12

VCM(+)

VCM

3.32 ± 2.95

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3. 실험일정

1) MK - 801

VCM

가

50

(n=20)

3

HD 34mg/kg

MK - 801 0.2mg/kg

II (n=30)

3

HD

34mg/kg

phosphate buffer Saline

(PBS : 1ml/kg)

. HD

6

MK - 801 PBS HD

. HD

, MK - 801 RBI(research biochemicals inte -

rnational)

2)

VCM(+)

MK - 801

HD

10

MK - 801

2

0.1mg/kg, 0.2mg/kg, 0.3mg/kg

(0.3mg/kg)

2

14

VCM

4. 결과분석 및 통계

SPSS/PC*가

, VCM

MK - 801

VCM

Chi - square test

VCM

MK - 801

VCM(+)

VCM

paired t - test

p<0.05

결 과

1. HD로 유도되는 백서의 VCM에 대한 MK-801의 예방효과

HD MK - 801

HD PBS

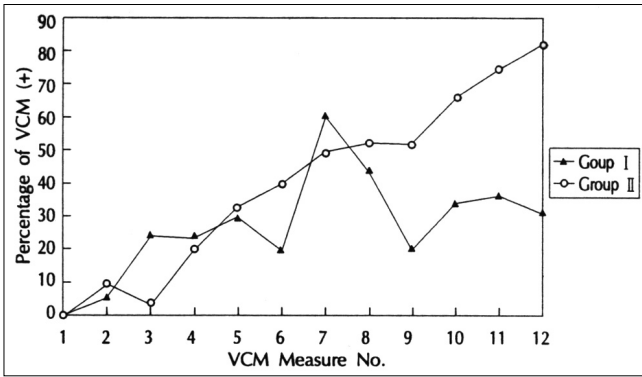


Fig. 1. Comparison of VCM(+) percentage change in Group I and Group II.

Table 1. Comparison of Group I and Group II VCM with Group I and Group II VCM at each measurement.

Measure No.	Group I (n=20)		Group II (n=30)		Chi-square	
	VCM (+)	VCM (-)	VCM (+)	VCM (-)	χ^2	p
1	0	20	0	30		
2	1	19	3	27	0.011	0.915
3	5	15	1	29	3.480	0.062
4	5	15	6	24	0.005	0.944
5	6	14	10	20	0.004	0.951
6	4	16	12	18	1.383	0.240
7	12	8	15	15	0.164	0.685
8	9	11	16	14	0.083	0.773
9	4	16	15 ^a	14	3.771	0.052
10	7	13	19	10	3.286	0.070
11	7	12 ^a	21	7 ^a	5.351	0.021*
12	6	13	23	5	10.20	0.001*

*p<0.05

a : means that one rat dropped out during experiment period

Table 2. Comparison of pretreatment VCM score with posttreatment VCM score in VCM(+) Group I.

	Mean	SD	Analysis		
			t	df	p
Pre-Tx of VCM(+)					
Group II (n=23)	14.09	8.07			
Post-Tx of VCM(+)					
Group II (n=22) ^a					
0.1mg/kg ^b	6.77	3.15	-3.75	21	0.001*
0.2mg/kg	11.32	5.96	-1.29	21	0.211
0.3mg/kg	7.00	3.68	-3.79	21	0.001*
After 14days from					
Last injection time ^c	6.45	3.22	-3.76	21	0.001*

Analysis was performed between pre-Tx VCM scores and post-Tx VCM scores in VCM(+) Group I.

*p<0.05 by paired t-test

a : means that one rat dropped out during experiment period

b : means dosage of MK-801

c : means when 0.3mg/kg was injected

2 (0.3mg/kg)
14 VCM 12
paired t - test
(Table 2). VCM(+)II MK - 801 0.1mg/kg
0.3mg/kg (0.3mg/kg)
14 VCM
(0.1mg/kg p=0.001, 0.3mg/kg p=0.001,
14 p=0.001) MK - 801 0.2mg/kg p
0.211

고찰

VCM 12
VCM VCM(+)
VCM(-) VCM(+)
(Fig. 1).
1). VCM VCM(+)
VCM(+)
VCM(+)
Chi - square test
(Table 1).
11, 12 VCM
(11 p=0.021, 12 p=0.001) 3 9
p 0.062 0.052

2. VCM(+) II 군에서 MK-801의 치료효과

VCM MK - 801 HD
10 MK - 801 VCM(+) 2
0.1mg/kg, 0.2mg/kg, 0.3mg/kg

McGeer McGeer(1976), De Keyser(1991)
glutamate excitotoxicity가
dopamine가
corticostriatal glutamatergic input가
(Yamamoto Davy 1992) glutamate
glutamate가
oxidative stress glutamatergic excitotoxicity가
(Coyle Puttfarcken 1993)가
glutamatergic input가가
free radical가
glutamate가가
glutamatergic excitotoxicity가
anti - excitotoxic agent GM1 ganglioside가 haloper -

idol 가 (Andreassen Jorgensen 1994). VCM VCM 가 VCM
 glutamate 가 , 가 3
 glutamatergic excitotoxicity가 . gluta-
 utamate system NMDA .
 MK - 801 MK - 801 VCM(+)
 MK - 801 (Clineschmidt 1982) 801 , 0.2mg/kg 0.3mg/kg MK -
 (Mc Namara 1988 ; Sato K 1988), , res -
 (Werner Michael 1989), tlessness, ,
 (Gill , ,
 1987 ; Gill 1988) , 가
 (turning behavior), MK - 801 가
 (head weaving), (hypermotility) ampheta-
 mine like effects(Clineschmidt 1982) VCM(+)
 HD VCM 가 가
 가 HD MK - 801 VCM HD 가 가
 MK - 801 VCM , VCM(+)
 VCM 가 MK - 801
 excitotox-
 icity가 가 glutamate VCM
 glutamate 가 glutamatergic excito-
 가 toxicity가 가
 가 VCM NMDA
 VCM Rupniak VCM
 VCM VCM
 (Egan 1996)가 VCM ,
 VCM(+)
 VCM 가 MK
 VCM - 801 HD VCM VCM
 MK - 801 VCM (+) MK - 801 VCM
 , UV sensitive dye
 tube hole 1) I (HD+MK - 801) (HD+PBS) 11, 12
 UV filter가 video camera VCM

요 약

2) VCM(+) MK-801 0.1mg/kg 0.3mg/kg
 14 VCM
 VCM glutamatergic pat -
 hway
 NMDA
 중심 단어 : MK-801 · Vacuous chewing
 movements(VCM).

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