

만성 정신분열병 환자에서 Risperidone과 Clozapine이
체중과 혈당에 미치는 영향
- Haloperidol과의 비교 연구 -

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The Influences of Risperidone and Clozapine on Body Weight and
Glucose Level in Patients with Chronic Schizophrenia
- Comparison Study with Haloperidol -

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ABSTRACT

Object : The goal of this study was to examine the changes in body weight and glucose levels of the patients treated with risperidone, clozapine or haloperidol in order to compare the effect of risperidone or clozapine with that of haloperidol.

Methods : For nine months(January to September, 2003), a prospective study was performed in 60 patients with chronic schizophrenia who were in Seoul National Hospital. Two - week period was required for a drug wash - out. The patients were randomly assigned to risperidone, clozapine and haloperidol groups. They were given risperidone(n=20), clozapine(n=20) and haloperidol(n=20), respectively, everyday for 12 weeks. To examine the effects of these drugs on body weight and fasting glucose levels, we measured body weight and glucose levels of all the patients first without the drug treatment and at each end of 4, 8, and 12 - week periods with the treatment. And we examined the differences among three groups in the changes of body weight and fasting glucose levels.

Results : There were no significant differences in the changes of the body weight and fasting glucose levels between the atypical antipsychotics(risperidone or clozapine) and the typical antipsychotics(haloperidol).

Conclusion : The study in the patients with chronic schizophrenia suggests that risperidone or clozapine do not cause any additional effects on body weight or glucose levels compared to haloperidol.

KEY WORDS : Weight gain · Glucose level · Risperidone · Clozapine · Haloperidol.

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서 론

Spivak⁶⁾⁷⁾ 1 clozapine 가 8)9) 10) 278 12 haloperidol 1.74kg, risperidone 2.44kg, clozapine 3.07kg, olanzapine 3.36kg 가 1) 2) 가 2 가 Lindenmayer¹⁴⁾ 1994 clozapine 17 , olanzapine 10 , quetiapine 4 , risperidone 2 가 15) 20 3)4) 45 olanzapine risperidone son²⁾ 81 3 10 Alli- molin- done 0.3kg thioridazine 3.19kg 가 clozapine 4.45kg, olanzapine 4.15kg, risperidone 2.10kg . Wetterling⁵⁾ 2000 3 Medline 가 clozapine 1.7kg/ , olanzapine 2.3kg/ , risperidone 1.0kg/ 가 1. 연구대상 2003 1 9

risperidone, clozapine, haloperidol (one way ANOVA), (repeated measured ANOVA), 0.05, Windows SPSS, 10.0, DSM-IV, 2, 3, 4, 1, 2, 가, 12, 가 20, 20, 20, 60, risperidone, haloperidol 20, 60, 2. 연구방법, clozapine, haloperidol, 가 126mg/dl, 4, 8, 12, 3. 통계적 분석

결 과

1. 대상환자의 특성

12, 12, haloperidol, 6, risperidone 10, clozapine 1, 20, 20, 60, Haloperidol 37.85 ± 8.80, risperidone 37.4 ± 7.31, clozapine 38.85 ± 7.89 (1), haloperidol 12.55 ± 7.00, risperidone 14.55 ± 6.60, clozapine 17.7 ± 8.12, haloperidol 160.0 ± 6.6cm, risperidone 161.4 ± 7.2cm, clozapine 164.7 ± 7.3cm, haloperidol 17 ± 5.48mg, risperidone 5 ± 1.26mg, clozapine 290 ± 75.39mg, haloperidol 57.7 ± 5.8kg, risperidone

Table 1. Demographic characteristics of the three schizophrenic groups by medication

	Schizophrenic group by medication		
	Haloperidol(n=20)	Risperidone(n=20)	Clozapine(n=20)
Age(years), mean(± SD)	37.85(± 8.80)	37.40(± 7.31)	38.85(± 7.89)
Sex(male : female), n	6 : 14	10 : 10	9 : 11
Duration of illness(years), mean(± SD)	12.55(± 7.00)	14.55(± 6.60)	17.70(± 8.12)
Height(cm)	159.98(± 6.55)	161.35(± 7.24)	164.73(± 7.31)
Body weight(kg)-admission	57.66(± 5.78)	59.55(± 8.79)	69.94(± 8.17)*
Fasting glucose level(mg/dl)-admission	92.6(± 9.7)	93.6(± 9.1)	102.9(± 15.5) †
Dosage(mg), mean(± SD)	17(± 5.48)	5(± 1.26)	290(± 75.39)

n : number
 * : significantly different from haloperidol and risperidone group(p<0.05, ANOVA)
 † : significantly different from haloperidol(p<0.05, ANOVA)

done 59.5 ± 8.8kg, clozapine 69.9 ± 8.2kg, zipine 0.5 ± 2.7kg (2), ,
haloperidol risperidone 가 4 가
clozapine 가 4 (correlation
(p<0.05). coefficient : - 0.28) (4).
haloperidol 93 ± 10mg/dl, 8 가
risperidone 94 ± 9mg/dl, clozapine 103 ± 16mg/
dl haloperidol clozapine haloperidol 1.4 ± 2.5kg, risperidone 0.2 ±
가 (p<0.05). 8 4
4.0kg, clozapine 1.1 ± 3.6kg 가
, haloperidol (correlation coefficient : 0.91)
, (correlation coef-
) 8 , ficient : - 0.26).
haloperidol 10 , ha- 12 가
loperidol 가 2 haloperidol 2.4 ± 3.2kg, risperidone 0.6 ±
. Risperidone 9 , 4.3kg, clozapine 1.5 ± 4.7kg 4
가 risperidone 8 가 12
가 5 , 가 (correlation coefficient :
, risperidone 가 가 0.83, 0.93)
5 . Clozapine clozapine , (correlation coefficient : - 0.26).
, (repeated measure ANOVA)
clozapine 2 , 가 (, p=0.001)
clozapine 4 , (×
, p=0.624)
가 7 , clozapine 7 . (, p=0.512).

2. 체중의 변화

4 가 halo-
peridol 0.89 ± 2.2kg, risperidone 0.2 ± 3.5kg, clo-

3. 혈당의 변화

4 halo-
peridol - 1.2 ± 12.3mg/dl, risperidone - 3.6 ±

Table 2. Changes of the body weight from the baseline in the three schizophrenic groups by medication (cumulative)

Time(week)	Changes of the body weight(kg)		
	Haloperidol mean(± SD)	Risperidone mean(± SD)	Clozapine mean(± SD)
4	0.89(± 2.18)	0.15(± 3.46)	0.5(± 2.75)
8	1.38(± 2.48)	0.19(± 4.00)	1.10(± 3.64)
12	2.35(± 3.20)	0.61(± 4.33)	1.53(± 4.71)

Table 3. Changes of the fasting glucose level from the baseline in the three schizophrenic groups by medication(cumulative)

Time(week)	Changes of the fasting glucose level(mg/dl)		
	Haloperidol mean(± SD)	Risperidone mean(± SD)	Clozapine mean(± SD)
4	- 1.24(± 12.34)	- 3.60(± 10.24)	- 0.85(± 15.00)
8	- 1.50(± 11.05)	- 4.50(± 11.05)	1.60(± 17.28)
12	- 1.25(± 9.09)	- 8.10(± 12.77)	- 2.20(± 16.51)

Table 4. Correlations in the demographic data, changes of body weight and fasting glucose level in the chronic schizophrenics

	Age	Duration of illness	Height	Weight(admission)	FBS(admission)
Age	-	0.66 [†]	-0.32*	-0.06	0.36 [†]
Duration of illness	0.66 [†]	-	-0.14	0.12	0.33*
Height	-0.32*	-0.14	-	0.42 [†]	-0.13
Weight(admission)	-0.06	0.12	0.42 [†]	-	0.13
FBS(admission)	0.36 [†]	0.33*	-0.13	0.13	-
Weight change(4 weeks)	-0.08	-0.13	0.25	-0.28*	-0.10
FBS change(4 weeks)	-0.12	0.00	-0.02	0.20	-0.49 [†]
Weight change(8 weeks)	-0.10	-0.13	0.23	-0.26*	-0.09
FBS change(8 weeks)	0.01	0.07	0.09	0.17	-0.29*
Weight change(12 weeks)	-0.07	-0.13	0.25	-0.26*	-0.20
FBS change(12 weeks)	0.03	-0.03	-0.04	0.07	-0.35 [†]

	Weight change (4 weeks)	FBS change (4 weeks)	Weight change (8 weeks)	FBS change (8 weeks)	Weight change (12 weeks)	FBS change (12 weeks)
Age	-0.08	-0.12	-0.10	0.01	-0.07	0.03
Duration of illness	-0.13	0.00	-0.13	0.07	-0.13	-0.03
Height	0.25	-0.02	0.23	0.09	0.25	-0.04
Weight(admission)	-0.28*	0.20	-0.26*	0.17	-0.26*	0.07
FBS(admission)	-0.10	-0.49 [†]	-0.09	-0.29*	-0.20	-0.35 [†]
Weight change(4 weeks)	-	-0.06	0.91 [†]	0.11	0.83 [†]	0.18
FBS change(4 weeks)	-0.06	-	-0.14	0.60 [†]	-0.08	0.63 [†]
Weight change(8 weeks)	0.91 [†]	-0.14	-	0.05	0.93 [†]	0.20
FBS change(8 weeks)	0.11	0.60 [†]	0.05	-	0.06	0.67 [†]
Weight change(12 weeks)	0.83 [†]	-0.08	0.93 [†]	0.06	-	0.27*
FBS change(12 weeks)	0.18	0.63 [†]	0.20	0.67 [†]	0.27*	-

FBS : fasting blood sugar.

* : p < 0.05 in Pearson correlation test(2-tailed), † : p < 0.01 in Pearson correlation test(2-tailed)

10.2mg/dl, clozapine -0.9 ± 15.0mg/dl (, 4 , 8 , 12
 3) 4 가 12 가
 가 (correlation coef- (correlation coefficient : -0.35, 0.63, 0.67, 0.27).
 ficient : -0.49, 4). , (repeated measure ANOVA)

8
 haloperidol -1.5 ± 9.6mg/dl, risperi- (, p=0.142)
 done -4.5 ± 11.1mg/dl, clozapine 1.6 ± 17.3mg/dl (× , p=
 4 가 0.576)
 8 가 (, p=0.342).
 (correlation coefficient : -0.29,
 0.60).

고 찰

12
 haloperidol -1.3 ± 9.1mg/dl, risperidone
 -8.1 ± 12.8mg/dl, clozapine -2.2 ± 16.5mg/dl 가 가

가
. ,
7

가
(glucose into-
lerance) 가 ,
12)13) , 12 가 가 4 , 8

가
chlorpromazine
ja vu ' 가 ' de , 3~4mg/dl
20) (:) , 가 20

가
clozapine ,
21 - 23) , 10
24) rispe-
ridone 가 가
25 - 27) 가
22)23) 가 가
가가 가가 16)
(bias) risperidone clozapine
4 , 8 , 12 가 가
, 가 haloperidol
clozapine
가 가
28) 가 가
29)30) 가 30)

clozapine 6 1 clozapine haloperidol
 가가 .
 12 가 , 가
 가

가 가

가
 가

중심 단어 : 가 . Risperidone · Clozapine, haloperidol.

참고문헌

가

요 약

risperidone clozapine 20
 , haloperidol
 20 4 , 8 , 12
 , clozapine ha-
 loperidol risperidone
 , clozapine
 haloperidol risperidone 가
 , 가가
 , risperidone clozapine ha-
 loperidol 가 .
 , risperidone

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