

여자 정신분열병 환자에서 혈중 에스트로겐 농도와 추체외로 증상과의 관계

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Relationship of Estrogen to Extrapyramidal Symptoms in Female Schizophrenic Patients

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ABSTRACT

Objective : It has been thought that estrogen has neuroleptic like effect in women schizophrenic patients. This study aimed to investigate neuroleptic side - effects severity in women with schizophrenia and to investigate their putative association with variations in sex steroids over menstrual cycle. Based on the estrogen theory, The author hypothesized that parkinsonian side - effects would be exacerbated when estrogen levels were high.

Method : 26 schizophrenic women were assessed using the ESRS(Extrapyramidal Symptom Rating Scale) and estrogen analysis. Tests were conducted twice, in the mid luteal and mid follicular phase.

Result : It was hypothesized that high level of estrogen would lead to an exacerbation of parkinsonian side - effects but the results indicated that parkinsonian side effects decreased overall when estrogen levels were high. This effects were more marked for the group taking typical neuroleptics than those taking atypical neuroleptics.

Conclusion : The results of this study suggest that estrogen and progesteron may reduce the severity of neuroleptic induced extrapyramidal side effects over menstrual cycle in women with schizophrenia. It was concluded that estrogen has different effects on dopamine dynamics in the mesolimbic and mesostriatal pathways according to estrogen, progesteron, catecol estrogen, prolactine.

KEY WORDS : Female schizophrenics · EPS · Estrogen.

서 론

(Seeman Lang 1900 ;

Van Hastesveldt Joyce 1986).

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가 , Paolo 1982 ; Fields Gordon 1982).
 가 , 가 (Hallonquist 1993).
 가 (Riecher - Seeman Lang(1990)
 Rossler 1994).

(Riecher - (corpus striatum)
 Rossler 1994). Riecher - Rossler (1994) “ ”
 (Van Hartesveldt Joyce 1986 ; Hruska 1986).
 가

(preoptic area),
 (cerebral cortex), (hypothalamus),
 (pituitary) (limbic system)

(Sherwin 1998 ; Maggi Perez
 1985).

연구대상 및 방법

Seeman Lang(1990) 가
 2000 4 2000 7
 DSM- (American Psychiatric Asso-
 ciation 1994)
 가 가 30

, 25 47
 (Seeman Lang 1990). 35.0 ± 6.9 9.4 ± 6.3

Seeman(1983) 20~30 가 가 13 13
 가 가 가 (risperidone 5 ,

, Seeman Lang(1990) 가 . olanzapine 3 , clozapine 5).

가 가 가 4
 , chlorpromazine 가 (1999) 938.07
 ± 521.65mg

가 “ , 가
 (neuroleptic like) ” 3
 (Seeman Lang 1990).

Di Paolo (1981) 14
 haloperidol 7 7 ,
 (catalepsy) 2 2 5ml

(stereotypy) (lutening hormone), (follicular stimula-
 ting hormone), (prolactin)
 가 , 가
 가 (Di Paolo 1984 ; Di 가

2 3.69 ± 5.26 가 .
가 가
가 (Ex- 31.76 ± 23.68 , 가 41.30 ±
trapyramidal Symptom Rating Scale)(Chouinard 1980) 24.36 가 (p<0.05)(1).
가 가
1) 744.30 ± 200.62(pg/ml)
12가 389.69 ± 180.98(pg/ml)
, 2) 8가 expres- 가 (p<0.05).
sive autonomic movement, bradykinesia, rigidity(right, left 가 6.30 ± 2.71 , 가
arms, legs), gate and posture, tremor, akathisia, sialorre- 가 6.15 ± 2.82 가 .
hea, postural stability 가 10.69 ± 2.56 ,
0~6 가 . 3) right, 가 10.61 ± 2.36
left arms, legs, head, jaw, tongue, lips 가
0~6 . 4) lingual, jaw, bu- 가
cco - labial, truncal movements upper, lower extremities 가 4.53 ± 2.06 , 가
involuntary movements 가 4.69 ± 2.32 가 .
0~6 가 . 5) 가 1.38 ± 1.32 ,
4가 가 가 1.30 ± 1.31 가
가 가 22.92 ± 5.78 , 가 21.92 ±
가 7.85 가 (1).
가 가
가

Wilcoxon signed ranks test

결 과

890.53 ± 139.41 (pg/ml) , 458.84 ±
179.72 (pg/ml) 가 (p<0.05).
ESRS 가
7.61 ± 4.75 , 가
10.00 ± 4.93 가 (p<0.05).
가 14.76 ±
9.47 , 가 17.92 ± 9.49
가 (p<0.05),
가 5.69 ± 5.36 ,
가 7.92 ± 6.15
가 (p<0.05).
가 3.84 ± 5.04 , 가

Table 1. Mean ESRS ratings for high and low estrogen conditions for taking typical and atypical neuroleptics

Side-effect	Mean ± D		P-value	Z-value
	Low E2 (pg/ml)	High E2 (pg/ml)		
Questionnaire and behavior				
Typical	10.00 ± 4.93	7.61 ± 4.75	0.031*	-2.102
Atypical	6.15 ± 2.82	6.30 ± 2.71	0.614	-0.504
Parkinsonism				
Typical	17.92 ± 9.49	14.76 ± 9.47	0.042*	-1.985
Atypical	10.61 ± 2.36	10.69 ± 2.56	0.763	-0.302
Dystonia				
Typical	7.92 ± 6.15	5.69 ± 5.36	0.025*	-2.154
Atypical	4.69 ± 2.32	4.53 ± 2.06	0.627	-0.486
Dyskinesia				
Typical	3.69 ± 5.26	3.84 ± 5.04	0.480	-0.707
Atypical	1.30 ± 1.31	1.38 ± 1.32	0.705	-0.387
ESRS Total				
Typical	41.30 ± 24.86	31.76 ± 23.68	0.027*	-2.165
Atypical	21.92 ± 7.85	22.92 ± 5.78	0.749	-0.319

* : p<0.05

ESRS : Extrapyrarnidal symptom rating scale

SD : Standard deviation

High E2 : High estradiol

Low E2 : Low estradiol

Table 2. Mean ESRS ratings for menstrual cycle phase for patients taking typical and atypical neuroleptics

Side-effect	Mean ± D follicular	Mean ± D luteal	P-value	Z-value
Questionnaire and behavior				
Typical	7.76 ± 4.28	9.53 ± 4.87	0.032**	-2.105
Atypical	6.46 ± 2.63	6.30 ± 2.62	0.666	-0.432
Parkinsonism				
Typical	15.00 ± 8.99	17.30 ± 9.65	0.045**	-1.999
Atypical	10.38 ± 2.32	10.61 ± 2.59	0.589	-0.540
Dystonia				
Typical	5.69 ± 5.12	7.76 ± 6.15	0.027**	-2.271
Atypical	4.46 ± 2.40	4.38 ± 2.32	0.873	-0.160
Dyskinesia				
Typical	3.61 ± 4.71	3.46 ± 4.23	0.564	-0.577
Atypical	1.38 ± 0.96	1.38 ± 1.32	1.000	-0.000
ESRS Total				
Typical	32.23 ± 22.19	39.92 ± 25.37	0.020**	-2.273
Atypical	22.69 ± 6.32	22.61 ± 5.76	0.928	-0.091

** : p<0.05

ESRS : Extrapyramidal symptom rating scale

SD : Standard deviation

가

고찰

가

가

(Van Hartesveldt Joyce 1986 ; Gratton 1960 ; Villeneuve 1978).

(mesolimbic)

(Van Hartesveldt Joyce 1986 ; Maggi Perez 1985).

Session (1994)

44

leuprolide acetate

7.76 ± 4.28 , 9.53 ± 4.87 ,
가 (p<0.05).
15.00 ± 8.99 , 17.30 ± 9.65 ,
가 (p<0.05).
7.76 ± 6.15 , 5.69 ± 5.12
가 (p<0.05)
3.46 ± 4.23 , 3.61 ± 4.71
가
39.92 ± 25.37 , 32.23 ± 22.19
가 (p<0.05)(2).
6.30 ± 2.62 , 6.46 ± 2.63
가
10.38 ± 2.32 , 10.61 ± 2.59
가
4.38 ± 2.32 ,
4.46 ± 2.40 가
1.38 ± 1.32 , 1.38 ± 0.96
가
22.61 ± 5.76 , 22.69 ± 6.32
가 (2).

(endogenous opioid)
(Seeman 1983 ; Villeneuve
1980 ; Foreman Porter 1980). Riecher - Rossler
(1994)

가

가

. Seeman Lang(1990)

On - Off
(homeostatic mechanism)

, Di Paolo (1981)

haloperidol

haloperidol

가 Hruska(1986)

haloperidol

가

haloperidol 가

가 (Di Paolo 1981 ; Hruska 1986 ; Bedard Boucher 1986 ; Foreman Porter 1980).

가 .

가 . Bedard Boucher(1986) 가

가 .

가 (Jibson Tandon 1996).

(Van Hartesveldt Joyce 1986 ; Maggi Perez 1985). Van Hartesveldt Joyce(1986) (Jibson Tandon 1996) 가 가

가 .

가

가, .

Anderson (1980) 가 가 가 (Maggi Perez 1985).

catechol 가 가 가 (basal ganglia) 가 (Van Hartesveldt Joyce 1986).

(Van Hartesveldt Joyce 1986). , acetylcholine, GABA, 가 (Van Hartesveldt Joyce 1986). enkephalin 가 (Van Hartesveldt Joyce 1986). 가 (Villeneuve 1980). 가 Joyce 1986). 가

가 .

가 (Van Hartesveldt Thompson (2000) Joyce 1986).

가

가

가 catechol

가

가

면 면

가

가

가

가

가

catechol

중심 단어 :

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