



Higher incidence of hysterectomy and oophorectomy in menopausal women suffering from clinical depression: A retrospective chart review



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Introduction

The lifetime incidence of mood disorders in women is approximately twice that of men.¹ Gynecologic operations, such as hysterectomy and oophorectomy, lead to estrogen withdrawal and a higher than expected incidence of depressive symptoms has been observed in surgically menopausal women.^{2,3} However, the relationship between the experience of hysterectomy or oophorectomy and depression is still controversial and the mechanism of depression associated with hysterectomy and oophorectomy remains unknown⁴⁻⁹. We investigated women who were admitted to our hospital psychiatric unit for depression compared to other psychiatric diagnoses as to whether they had a hysterectomy or oophorectomy to reveal the relationship between the experience of hysterectomy or oophorectomy and depression.

Methods

Subjects

All the women in the present study were admitted to Hiroshima University Hospital, Department of Psychiatry and Neurosciences, from 1979 to 2008. Their charts were retrospectively reviewed and classified as "depressed women" or "non-depressed women". "Depressed women" included major depression, bipolar disorder with current depressive episode, persistent affective disorder and other affective disorder. "Non-depressed women" were defined as women who had suffered a psychiatric disorder other than affective disorder. This study was carried out according to the guideline of the Ethics Committee of Hiroshima University Hospital.

Procedure

These two groups were compared in three respects: (1) the average age at admission, (2) the number of women who experienced hysterectomy and/or oophorectomy (3) the number of women who had a family history of psychiatric disorder. The hysterectomy or oophorectomy was performed within 10 years before the onset of psychiatric disorder.

Statistical analysis

Parametric data are reported as mean \pm SD. The Student's t-test was used to compare mean differences in parametric data between groups. Fisher's exact test was used to compare nonparametric numerical data. The significance level was set at $P < 0.05$ (two-tailed test). Statistical analysis of data was carried out with Statcel 2nd edition on Excel for Windows and StatView 5.0 for Macintosh.

Results

The mean age at admission of these two groups of women did not significantly differ (Table 1). The depressed women were four times more likely to have had a hysterectomy and/or oophorectomy than the non-depressed women (**14.5% vs 3.3%; $p = 0.0003$**) (Table 1). By analysis for each age group, the menopausal depressed women (over 40 years old) showed a higher incidence of hysterectomy and/or oophorectomy (**16.5% vs 4.1%; $p = 0.0014$**), although the younger women (under 40 years old) did not show a statistical difference between two groups (Table 2).

Conclusions

This is consistent with previous reported information as well as our clinical experience that depressed women had a higher incidence of hysterectomy and/or oophorectomy. The menopausal depressed women had a higher incidence of the operations.

Table 1: Characterization and incidence of hysterectomy and/or oophorectomy of the depressed and non-depressed women¹⁰.

		Depressed (n=159)	Non-depressed (n=182)	P value [†]
Mean age \pm SD (year) at admission		52.3 \pm 5.7	51.5 \pm 4.5	0.0736
Psychiatric diagnosis, N [‡]	Organic mental disorder		47	
	Psychoactive substance use		4	
	Schizophrenia		68	
	Affective disorder	159		
	Anxiety disorder		50	
	Eating disorder and sleep disturbance		4	
	Personality disorder		8	
Gynecologic diagnosis, N	Uterus myomatosus	30	12	
	Ovarian cyst	7	2	
	Uterus cancer	4	3	
	Ovarian cancer	2	0	
	Extrauterine pregnancy	1	0	
	Dysfunctional bleeding	1	0	
	Endometriosis	1	1	
Uterine prolapse	1	0		
History of hysterectomy	N	18 (11.3%)	6 (3.3%)	0.0050
	Mean age \pm SD (year) of operation	45.7 \pm 5.1	46.2 \pm 7.9	0.8961
	Mean age \pm SD (year) at onset of psychiatric disorder	48.2 \pm 5.8	48.1 \pm 8.7	0.9333
History of oophorectomy	N	10 (6.3%)	3 (1.6%)	0.0434
	Mean age \pm SD (year) of operation	44.2 \pm 6.4	44.0 \pm 10.5	0.9710
	Mean age \pm SD (year) at onset of psychiatric disorder	46.2 \pm 4.9	44.3 \pm 10.5	0.7027
Incidence of hysterectomy and/or oophorectomy	N	23 (14.5%)	6 (3.3%)	0.0003
Family history of psychiatric disorder	N	57 (35.8%)	52 (28.6%)	0.1635

Note: Depressed women were diagnosed as having affective disorder; Non-depressed women were diagnosed as having psychiatric disorders other than affective disorder. [†]; Student t-test was used to compare the mean ages, and Fisher's exact test was used to compare the incidence of each operation and family history of psychiatric disorder. [‡]; psychiatric diagnosis according to ICD-10 classification of mental and behavioural disorders criteria.

Table 2: Comparison of incidence of hysterectomy and/or oophorectomy between age groups.

	Age (year)	Depressed, N	Non-depressed, N	P value [†]
Incidence of hysterectomy and/or oophorectomy	<39	3/36 (8.3%)	1/53 (1.9%)	0.1791
	40<	20/121 (16.5%)	5/123 (4.1%)	0.0014

Note: Depressed women were diagnosed as having affective disorder; Non-depressed women were diagnosed as having psychiatric disorders other than affective disorder. [†]; Student t-test was used to compare the mean ages, and Fisher's exact test was used to compare the incidence of each operation and family history of psychiatric disorder.

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