ONCOLOGY

Prognostic analysis of endometrioid epithelial ovarian cancer with or without endometriosis: a 12-year cohort study of Chinese patients

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OBJECTIVE: Clinicopathological characteristics and possible prognostic factors among women with endometrioid epithelial ovarian cancer (EEOC) with or without concurrent endometriosis were investigated.

STUDY DESIGN: A search of medical charts at Peking Union Medical College Hospital from 2000 through 2012 identified patients with EEOC with or without endometriosis.

RESULTS: Of 188 patients with EEOC, concurrent endometriosis was identified in 32 (17.0%). Patients with concurrent endometriosis were approximately 5 years younger, more likely to be premenopausal, more likely to have an early stage of EEOC, and less likely to have high-grade tumors compared to those without endometriosis. The univariate analysis showed that concurrent endometriosis was a significant prognostic factor for disease-free survival, but this association did not remain in the multivariate analysis.

CONCLUSION: Women with EEOC and concurrent endometriosis showed distinct characteristics and had longer disease-free survival when compared to those without endometriosis.

Key words: endometrioid epithelial ovarian cancer, endometriosis prognostic factor, survival

Cite this article as: Wang S, Qiu L, Lang JH, et al. Prognostic analysis of endometrioid epithelial ovarian cancer with or without endometriosis: a 12-year cohort study of Chinese patients. Am J Obstet Gynecol 2013;209:241.e1-9.

The association between endometriosis and endometrioid epithelial ovarian cancer (EEOC) has long been known; however, the published data that focus specifically on endometrioid cancer are comparatively few. The limited reports have stated that endometriosis-associated ovarian cancer might be an entity distinct from typical EEOC.[1-3] It was also proposed that endometriosis might be the precursor disorder for EEOC. However, controversy remains regarding the correlation between EEOC and its uterine counterpart, synchronous endometrial endometrioid cancer.[4-7] For that purpose, we aimed to compare a sequential set of patients with EEOC who were treated at Peking Union Medical College Hospital, Beijing, China, over a period of 12 years with respect to the clinicopathological features and survival outcomes (overall survival [OS] and disease-free survival [DFS]).

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Received Jan. 5, 2013; revised April 17, 2013; accepted May 15, 2013.

The authors report no conflict of interest.

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0002-9378/$36.00

http://dx.doi.org/10.1016/j.ajog.2013.05.032

Materials and Methods

By reviewing the medical charts, we retrospectively identified 188 patients with EEOC who were primarily treated and received surgery at the Division of Gynecological Oncology of the Department of Obstetrics and Gynecology at Peking Union Medical College Hospital from January 2000 through March 2012. This study was approved by the university institutional review board. The clinical and pathological characteristics are presented in Table 1.

All patients received surgery and chemotherapy and were followed up at our institution. With the exception of 2 women who underwent hysterectomy and bilateral salpingo-oophorectomy resection and who, respectively, had stage-IB, grade-2 and stage-IIC, grade-1 tumors, all patients received staging surgery if they were at an early stage (I-II) or cytoreductive surgery if they were at an advanced stage (III-IV).

We defined EEOC with concurrent endometriosis as the presence of ovarian cancer and endometriosis identified histologically in the same ovary, the presence of endometriosis in one ovary and of ovarian cancer in the contralateral ovary, or the presence of ovarian cancer and extraovarian pelvic endometriosis (eg, peritoneal endometriosis).

According to the pathological criteria listed above, we identified 32 of 188 patients as having EEOC with concurrent endometriosis (group 1). The remaining 156 patients had no pathological evidence of endometriosis (group 2).

The collected clinicopathological data were compared between 2 groups as shown in Table 1. For statistical analysis, International Federation of Gynecology and Obstetrics (FIGO) stage categories were classified into early stage (FIGO stages I-II) and late stage (FIGO stages

TABLE 1
Clinical and histological features of patients with endometrioid epithelial cancer

Variable	Group 1	Group 2	*P* value
Total	32 (17.0%)	156 (83.0%)	
Age, y, mean ± SD (range)	45.8 ± 11.2 (28–79)	51.2 ± 12.7 (24–82)	.028[a]
Premenopause	23 (69.7%)	76 (48.7%)	.028[a]
Gravid			
<2	11 (34.4%)	54 (34.6%)	.979
≥2	21 (65.6%)	102 (65.4%)	
Symptoms			
Abdominal pain	6 (18.8%)	52 (33.3%)	.104
Abdominal distension	4 (12.5%)	32 (20.5%)	.294
Palpable mass	10 (31.3%)	39 (25.0%)	.463
Incidental finding	4 (12.5%)	18 (11.5%)	1.0
Irregular menstruation	7 (21.9%)	14 (9.0%)	.071
Postmenopausal bleeding	1 (3.1%)	10 (6.4%)	.758
Others and unclear	0 (0%)	7 (4.5%)	.478
Ca125, U/mL, mean ± SD (range)	521.5 ± 1238.9 (30.8–6505) n = 27	988.3 ± 2402.7 (5.2–24242) n = 137	.327
Ca125 in normal range (<35 U/mL)	1 (3.1%)	12 (7.7%)	.586
Tumor size, cm, mean ± SD (range)	10.9 ± 5.3 (4–25) n = 31	10.1 ± 5.6 (0.5–30) n = 127	.466
Side of ovarian tumor			.134
Left	14 (43.7%)	39 (25%)	
Right	8 (25%)	55 (35.3%)	
Bilateral	9 (28.2%)	49 (31.4%)	
Unclear	1 (3.1%)	13 (8.3%)	
Breast cancer history	0 (0%)	6 (3.8%)	.131
Stage			
I	23 (71.9%)	55 (35.3%)	
II	7 (21.9%)	24 (15.4%)	
III	2 (6.2%)	67 (42.9%)	
IV	0 (0%)	10 (6.4%)	
Stage categories			< .001
Early (I + II)	30 (93.8%)	79 (49.1%)	
Late (III + IV)	2 (6.2%)	77 (50.9%)	
Residual disease			.005
No or <1 cm	30 (93.8%)	109 (69.9%)	
>1 cm	2 (6.2%)	47 (30.1%)	
Grade			< .001
G1	16 (50%)	29 (18.6%)	< .001
G2	9 (28.1%)	50 (32.0%)	.663
G3	7 (21.9%)	77 (49.4%)	.004

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