Does the Type of Hysterectomy Affect the Survival of Patients with Clinical IA Endometrial Cancer: A Multicenter Retrospective Study

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Objective

- To evaluate the clinical prognosis of different types of hysterectomy for the treatment of patients with clinical stage IA endometrial cancer.

Materials and methods

- The study included 1157 patients with clinical IA EC who underwent hysterectomy. 1:1 propensity-score matching(PSM) was performed between type A hysterectomy (simple total hysterectomy) and type B/C hysterectomy (modified or radical hysterectomy). Disease-free survival (DFS) and overall survival (OS) were assessed using Kaplan–Meier curves. Cox proportional hazards regression analysis was used to analyze the risk factors for DFS.

Results

- A total of 960 (92.6%) patients underwent type A hysterectomy and 97 (9.4%) underwent type B/C hysterectomy. Patients in the type B/C group showed worse surgical details, included greater estimated blood loss (median 200 vs. 120 mL, P < 0.001), longer postoperative hospital stays (median 19 vs. 11 days, P < 0.001), and more postoperative complications (6.2% vs. 2.0%, P = 0.009). The two groups showed no significant differences in DFS and OS before and after matching (P > 0.05). Multivariate Cox analysis revealed that cervical involvement and lymph node metastasis were prognostic factors for survival.

Conclusions

- Radical or modified radical hysterectomy did not affect the clinical prognosis of patients with clinical stage IA endometrial carcinoma. However, these procedures could result in worse surgical details, like greater blood loss, more postoperative complications, and longer hospital stays. The choice of radical hysterectomy needs to be carefully considered in clinical practice.

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Figure1: The workflow of this study

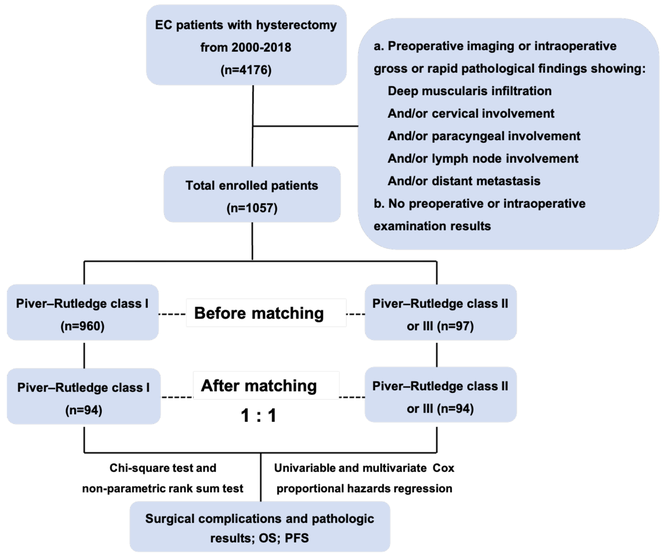
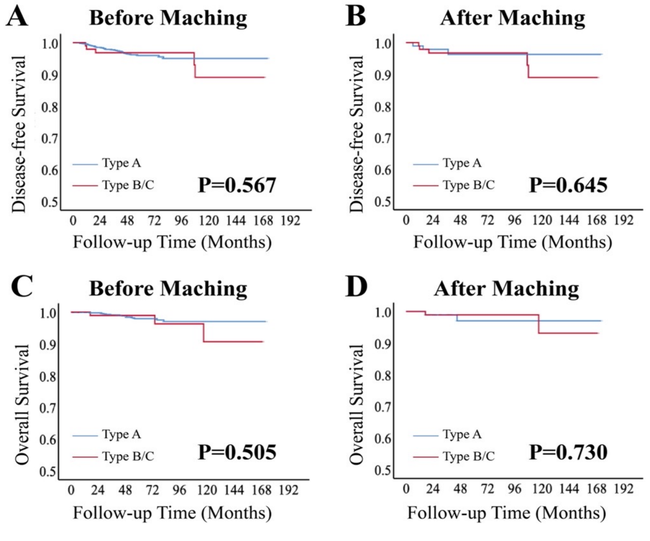


Figure2: Survival outcome before and after PSM



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Conflict of interests： None

Figure 1. The workflow of this study

Characteristics	Before PSM				After PSM			
	Total (n=1057)	Type A (n=960)	Type B/C (n=97)	P	Total (n=188)	Type A (n=94)	Type B/C (n=94)	P
Age (year)				0.202				0.365
<60	567 (53.6)	509 (53.0)	58 (59.8)		118 (62.8)	62 (66.0)	56 (59.6)	
≥60	490 (46.4)	451 (47.0)	39 (40.2)		70 (37.2)	32 (34.0)	38 (40.4)	
BMI (kg/m²)				0.378				0.581
<24	127 (12.0)	117 (12.2)	10 (10.3)		18 (9.6)	8 (8.5)	10 (10.6)	
≥24	211 (20.0)	196 (20.4)	15 (15.5)		26 (13.8)	11 (11.7)	15 (16.0)	
Unknown	719 (68.0)	647 (67.4)	72 (74.2)		144 (76.6)	75 (79.8)	69 (73.4)	
CA-125 (U/mL)				0.059				0.762
≤35	589 (55.7)	546 (56.9)	43 (44.3)		91 (48.4)	48 (51.1)	43 (45.7)	
>35	126 (11.9)	111 (11.6)	15 (15.5)		29 (15.4)	14 (14.9)	15 (16.0)	
Unknown	342 (32.4)	303 (31.6)	39 (40.2)		68 (36.2)	32 (34.0)	36 (38.3)	
Comorbidities	501 (47.4)	458 (47.7)	43 (55.7)	0.525	85 (45.2)	43 (45.7)	42 (44.7)	0.883
Hypertension	342 (32.4)	317 (33.0)	25 (25.8)	0.146	47 (25.0)	22 (23.4)	25 (26.6)	0.613
Diabetes	127 (12.0)	114 (11.9)	13 (13.4)	0.659	27 (14.4)	14 (14.9)	13 (13.8)	0.835
Cardiovascular disease	86 (8.1)	74 (7.7)	12 (12.4)	0.109	23 (12.2)	12 (12.8)	11 (11.7)	0.824
Surgical route				**<0.001**				0.613
Laparotomy	592 (56.0)	517 (53.9)	75 (77.3)		141 (75.0)	69 (73.4)	72 (76.6)	
Laparoscopy/robotic	456 (44.0)	Z443 (46.1)	22 (22.7)		47 (25.0)	25 (26.6)	22 (23.4)	
Lymphadenectomy				**<0.001**				1.000
No	456 (43.1)	432 (45.0)	24 (24.7)		48 (25.5)	24 (25.5)	24 (25.5)	
Yes	601 (56.9)	528 (55.0)	73 (75.3)		140 (74.5)	70 (74.5)	70 (74.5)	
Omentectomy				**0.001**				1.000
No	981 (92.8)	899 (93.6)	82 (84.5)		164 (87.2)	82 (87.2)	82 (87.2)	
Yes	76 (7.2)	61 (6.4)	15 (15.5)		24 (12.8)	12 (12.8)	12 (12.8)	

Table2. Surgical details of two groups of patients

Surgical details	Before PSM				After PSM			
	Total (n=1057)	Type A (n=960)	Type B/C (n=97)	P	Total (n=188)	Type A (n=94)	Type B/C (n=94)	P
Operative time (minute)	150 (45-360)	150 (45-360)	145 (65-300)	0.194	145 (60-315)	140 (60-315)	150 (65-300)	**<0.001**
Estimated blood loss (mL)	150 (10-1500)	120 (10-1500)	200 (20-1500)	**<0.001**	200 (20-1500)	200 (50-800)	200 (20-1500)	**0.027**
Transfusion				**<0.001**				**0.004**
No	1003 (94.4)	924 (96.3)	79 (81.4)		165 (87.8)	89 (94.7)	76 (80.9)	
Yes	54 (5.1)	36 (3.8)	18 (18.6)		23 (12.2)	5 (5.3)	18 (19.1)	
Postoperative complications	25 (2.4)	19 (2.0)	6 (6.2)	**0.009**	6 (3.2)	0 (0.0)	6 (6.4)	**0.013**
Deep venous thrombosis	12 (1.1)	9 (0.9)	3 (3.1)	0.056	3 (1.6)	0 (0.0)	3 (3.2)	0.081
Lymphocysts	4 (0.4)	3 (0.3)	1 (1.0)	0.272	1 (0.5)	0 (0.0)	1 (1.0)	0.316
Unhealing wound	7 (0.7)	6 (0.6)	1 (1.0)	0.639	1 (0.5)	0 (0.0)	1 (1.0)	0.316
Others	4 (0.4)	2 (0.2)	2 (2.1)	**0.005**	2 (1.1)	0 (0.0)	2 (2.1)	0.155
Length of hospital stay (day)	14 (3-48)	14 (3-48)	15 (5-37)	**0.001**	14 (5-37)	14 (5-26)	15 (5-37)	**0.005**
Postoperative Length of hospital stay (day)	9 (0-46)	9 (0-46)	11 (2-32)	**<0.001**	10 (2-32)	9 (3-19)	11 (2-32)	**0.001**

Table3. COX regression analysis of DFS

Factor	Univariate COX analysis			Multivariate COX ranalysis		
	HR	95% CI	P	HR	95% CI	P
Comorbidities						
No	1	1				
Yes	10.0	1.211-81.456	0.032			
Omentectomy						
No	1	1				
Yes	10.7	2.540-45.273	0.001			
Cervical involvement						
No	1	1		1	1	
Yes	3.6	0.717-17.983	0.120	11.1	1.615-76.656	0.014
Lymph node involvement						
No	1	1		1	1	
Yes	94.9	18.617-483.892	<0.001	46.1	5.719-372.315	<0.001
Parametrium involvement						
No	1	1				
Yes	61.6	6.405-519.985	<0.001			
Type of hysterectomy						
Type A	1	1		1	1	
Type B/C	1.4	0.331-5.942	0.647	2.4	0.288-20.446	0.415

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