

Sentinel Lymph Node Mapping VS Systematic Lymphadenectomy for Endometrial Cancer: Surgical Morbidity and Lymphatic Complications.

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INTRODUCTION: Today there is a lack of evidence reporting the incidence of complications from sentinel lymph node (SLN) in the management of endometrial cancer (EC). Our objective is to define complication rates of SLN biopsy in EC patients.

METHODS: We retrospectively analyzed all patients with endometrial cancer surgically treated at Barretos Cancer Hospital between April 2013 and March 2018. We evaluate intraoperative complication and 30-day complications separating the patients in four groups: Hysterectomy (HT), hysterectomy plus pelvic lymphadenectomy, with or without para-aortic (HT+LND), hysterectomy plus sentinel biopsy (HT+SLN) and hysterectomy plus lymphadenectomy and sentinel biopsy (HT+SLN+LND). Data were analyzed between the groups, and relationship of variables was verified using Multiple Logistic Regression.

RESULTS: Compared to HT group, HT+SLN did not show any increased risk of complications, intra-operative injury (0 vs 1; $p=1.0$) and 30-day complications (8 vs 7; $p=0.782$). Surgical time was approximately 20 minutes longer ($p=0.016$). The HT+LND had an increased surgical time (370min, $p<0.001$), intra-operative blood-loss (100cc, $p<0.001$), higher incidence of injury during surgery (7%, $p=0.005$) and any 30-day complication (38.2%, $p=0.002$). Performing LND was associated with a greater risk of 30-day complications (HR 14.25; 95% CI 1.85-19.63), intra-operative injury (HR 3.11; 95% CI 1.62-5.98), and lower limb lymphedema (LLL) (HR 8.14; 95% CI 1.01-65.27).

CONCLUSION: SLN mapping does not increase morbidity in surgical treatment of endometrial cancer patients. Our findings support the use of SLN algorithm, mainly in low risk endometrial cancer.

Parameter	Surgical morbidity		p value
	Group I 54 (47.0%)	Group II 61 (53.0%)	
Age	61 (35-89)	60 (44-87)	0.632
BMI	31.8 (21.9-51)	33 (44.0-87)	0.827
ASA			0.562
	1	7 (11.5%)	
	2	36 (89.2%)	
	3	8 (15.4%)	
	4	2 (3.8%)	
Technique			<0.001
Laparotomy	5 (9.3%)	0 (0.0%)	
Laparoscopy	48 (88.9%)	45 (73.8%)	
Converted*	1 (1.9%)	0 (0.0%)	
Robotic	0 (0.0%)	16 (26.2%)	
Surgical time (minutes)	135 (50.0-270.0)	152 (60.0-300.0)	0.016
Blood loss (mL)	35 (0.0-500.0)	20 (0.0-500.0)	0.386
Intraoperative complications			1.0
No	54 (100%)	60 (98.4%)	
Vascular	0 (0.0%)	0 (0.0%)	
Urinary	0 (0.0%)	0 (0.0%)	
Neurological	0 (0.0%)	1 (1.6%)	
Intestinal	0 (0.0%)	0 (0.0%)	
All	0 (0.0%)	1 (1.6%)	1.0
30-day complications			0.134
No	46 (85.3%)	54 (88.5%)	
I	2 (3.7%)	5 (8.2%)	
II	2 (3.7%)	0 (0.0%)	
III	0 (0.0%)	0 (0.0%)	
IV	1 (1.9%)	2 (3.3%)	
V	3 (5.6%)	0 (0.0%)	
Yes	8 (14.8%)	7 (11.5%)	
LLL			0.782
No	54 (100%)	61 (100%)	
Yes	0 (0.0%)	0 (0.0%)	

BMI = body mass index
LLL = lower-limb lymphedema
Group I = hysterectomy plus salpingo-oophorectomy
Group II = hysterectomy plus salpingo-oophorectomy and sentinel lymph node

Parameter	Surgical morbidity		p value	Hazard ratio vs No LND (95% CI)	
	No LND 115 (46%)	LND 135 (54%)		p value	p value
Age	60 (35-89)	63 (31-80)	0.035		
BMI	32.4 (21.4-51)	29.85 (18.0-46.3)	0.003		
ASA			0.101		
	1	13 (11.5%)			
	2	78 (69.0%)			
	3	20 (17.7%)			
	4	2 (1.8%)			
Technique			0.645		
Laparotomy	5 (4.3%)	10 (7.4%)			
Laparoscopy	93 (80.9%)	101 (74.8%)			
Converted*	1 (0.9%)	2 (1.5%)			
Robotic	16 (13.9%)	22 (16.3%)			
Surgical time (minutes)	150.0 (50-300)	270.0 (80-600)	<0.001		
Blood loss (mL)	27.5 (0-5000)	80.0 (0-2300)	<0.001		
Intraoperative complications			0.002		
No	114 (99.1%)	119 (88.1%)			
Vascular	0 (0.0%)	12 (8.9%)			
Urinary	0 (0.0%)	1 (0.75%)			
Neurological	1 (0.9%)	1 (0.75%)			
Intestinal	0 (0.0%)	2 (1.5%)			
Total	1 (0.9%)	16 (11.9%)	0.001	14.25 (1.85-19.63)	0.011
30-day complications			0.001		
No	100 (87%)	92 (68.1%)			
I	7 (6.1%)	17 (12.6%)			
II	2 (1.7%)	9 (6.7%)			
III	0 (0.0%)	10 (7.4%)			
IV	3 (2.6%)	3 (2.2%)			
V	3 (2.6%)	4 (3%)			
Yes	15 (13%)	43 (31.9%)	<0.001	3.11 (1.62-5.98)	0.001
Major complications (III, IV or V)	6 (5.2%)	17 (12.6%)	<0.01	3.08 (1.16-8.14)	0.023
LLL			<0.01	8.14 (1.01-65.27)	0.048
No	115 (100%)	126 (93.3%)			
Yes	0 (0.0%)	9 (6.7%)			

BMI = body mass index
ASA = American Society of Anesthesiologists
No LND = combination of the group I and group II
LND = combination of the group III and group IV
LLL = lower-limb lymphedema