A feasibility study of laparoscopic sentinel lymph node mapping by cervical tracer injection in endometrial cancer

Chisa Shimada, Yukiharu Todo, Hiroyuki Yamazaki, Shinichiro Minobe, Hidenori Kato
 Division of Gynecologic Oncology, National Hospital Organization, Hokkaido Cancer Center,
 4-2 Kikusui, Shiroishi-ku, Sapporo 003-0804, Japan

Objective

This study aimed to verify the feasibility of laparoscopic approach for sentinel lymph node (SLN) surgery in endometrial cancer.

Design

We retrospectively enrolled 118 patients with endometrial cancer who had undergone SLN mapping, using technetium colloid (Tc^{99m}) and/or indocyanine green (ICG) injected into the uterine cervix with an intraoperative gamma-detecting probe and/or photodynamic eye camera system to locate hot spots. SLN detection rate (unilateral or bilateral) and incidence of complications were compared between open approach (O group, *n*=65) and laparoscopic approach (L group, *n*=53).

Results

Patient backgraoud

Age: median	60 (36-84)
BMI : median	23.4 (16.8-47.6)
FIGO stage	
IA	101 (85.6%)
IB	8 (6.8%)
II	1 (0.8%)
IIIA	2 (1.7%)
IIIC1	4 (3.4%)
IIIC2	2 (1.7%)
Histrogical type	
endometrioid G1	84 (71.2%)
endometrioid G2	20 (16.9%)
endometrioid G3	3 (2.5%)
clear/serous	8 (6.8%)
carcinosarcoma	3 (2.5%)

Tracers and SLN detection ability

tracer	
two kinds	39 (33.1%)
single	79 (66.9%)
Tc99m	X
ICG	X
SLN detection	
bilateral	91 (77.1%)
unirateral	19 (16.1%)
no detection	8 (6.8%)

Perioperative complication

no	103 (87.3%)
yes	15 (12.7%)
dysria	4 (3.4%)
lower limb lymphedema	3 (2.5%)
deep-vein thrombosis	2 (1.7%)
ileus	1 (0.8%)
obturator nerve paralysis	1 (0.8%)
pelvic peritonitis	1 (0.8%)
renal dysfunctionn	1 (0.8%)
wound dehiscence	1 (0.8%)

Performance of surgery

approach	
laparotomy	65 (55.1%)
laparoscopic	53 (44.9%)
systematic lyphadectomy	69 (58.5%)
para aortic lymph node isolated	24 (20.3%)
operation time:median	173 (95-510)min
blood loss:median	75 (2-918)cc
number of isolated lymph node:median	12 (1--110)
pelvic	12 (1--82)
para-aortic	0 (0-28)

	L group	O group	
combinasion with two kids of tracer	49%	20%	p<0.001
successful mapping rate	8%	6%	p=0.76
complication rate	6%	18%	p<0.05

Conclusion

Laparoscopic approach might obtain a SLN detection ability equal to open approach without increasing the number of perioperative complication despite limitation of the present study, i.e. a combination with two kinds of tracers might have given the L group an advantage over the O group.