

# A multivariate analysis on the variables affecting ICG sentinel lymph node mapping in endometrial cancer

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## INTRODUCTION

The adoption of indocyanine green (ICG) as a tracer in conjunction with dedicated robotic and laparoscopic platforms had significantly increased the bilateral detection rates of the sentinel lymph node (SLN) mapping in endometrial cancer patients.

The aim of the study is to determine if the ICG dose injected for the SLN biopsy affects the bilateral detection rate and the number of SLNs retrieved in endometrial cancer patients undergoing ICG- SLN mapping.

## RESULTS

One-hundred thirty-three patients were enrolled in the study. Bilateral detection was achieved in 118/133 patients (88%). Median number of retrieved SLNs was 2 (range 0-8). 40/133 (30%) patients were obese (BMI>30), 110/133 (83%) had low grade lesions, 85/133 (64%) had superficially infiltrating tumors, 5/133 (4%) had cervical stroma infiltration, 122/133 (92%) patients had endometrioid carcinomas, 24/133 (18%) had lymph-vascular space invasion, 69/133 (52%) and 64/133 (48%) patients were injected with 4 and 8 ml of ICG respectively. At multivariate analysis the ICG dose injected was the only variable associated with the number of retrieved SLNs (p=0.001) (Table). At multivariate analysis for the detection rate, the ICG dose injected was not significant and obesity was confirmed to be the only variable affecting the detection rate.

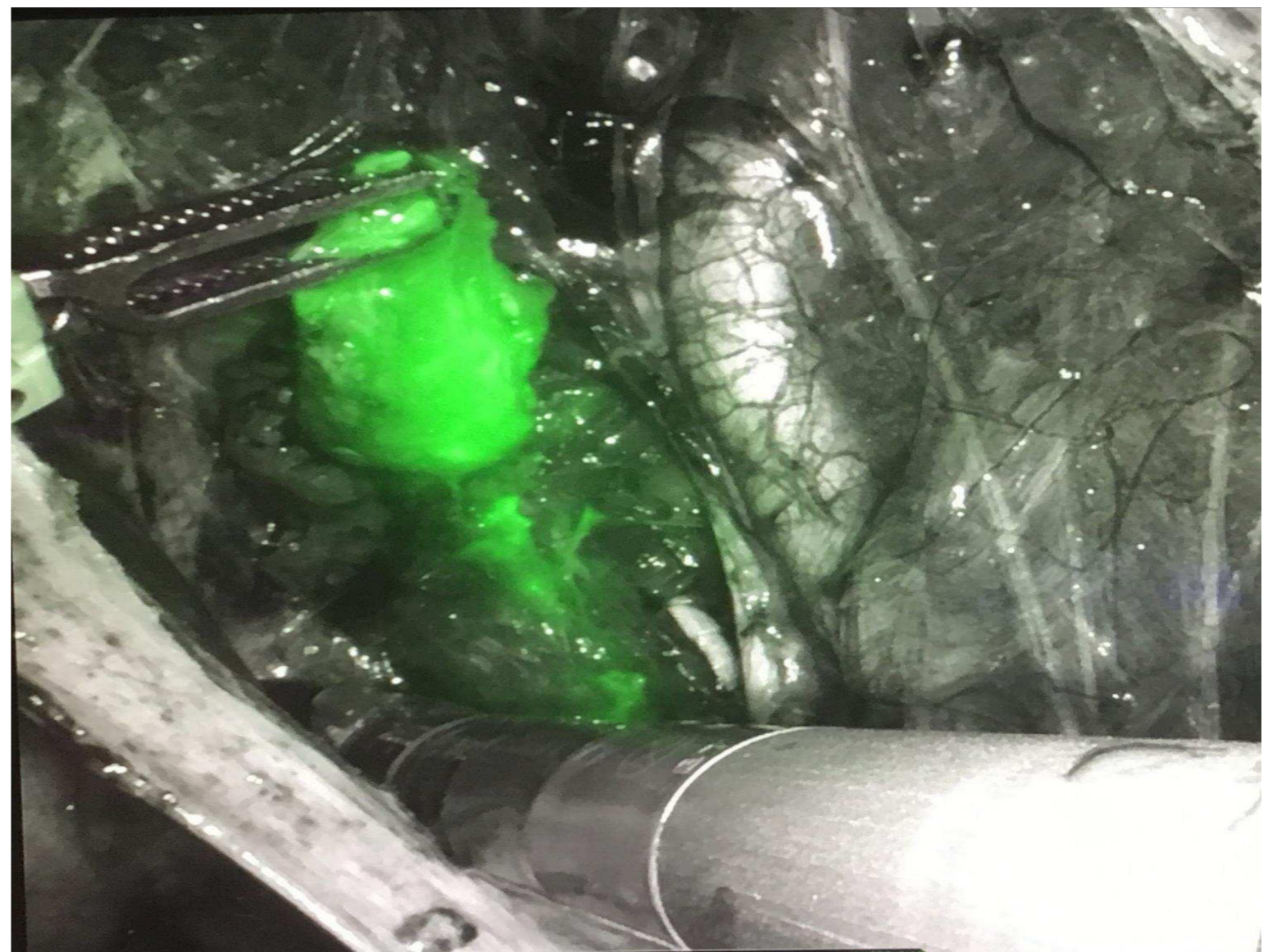
	UNIVARIATE ANALYSIS		MULTIVARIATE ANALYSIS	
	OR (95% CI)	P	OR (95% CI)	P
BMI	1.07 (0.5 - 2.2)	0.86		
Myometrial infiltration	0.89 (0.43 - 1.83)	0.75		
Grade	0.66 (0.25 - 1.77)	0.41		
Histology	0.5 (0.128 - 1.996)	0.33	0.42 (0.1 - 1.78)	0.24
LVSI	0.52 (0.2 - 1.36)	0.18	0.653 (0.23 - 1.78)	0.4
<b>Dose</b>	<b>0.29 (0.142 - 0.612)</b>	<b>0.001</b>	<b>0.29 (0.13 - 0.617)</b>	<b>0.001</b>

Table. Uni and multivariate analysis on variables affecting the number of retrieved lymph nodes during the ICG SLNs mapping

## METHODS

A retrospective analysis on endometrial cancer patients undergoing laparoscopic treatment with ICG-SLN mapping at the Department of Gynecology and Obstetrics, Ente Ospedaliero Cantonale (EOC), Ospedale Regionale di Lugano between 2017 and 2022 was conducted.

A binomial logistic regression analysis was performed using the following variables: BMI, histological grade, depth of myometrial invasion, cervical stroma infiltration, lympho-vascular space invasion and volume of ICG injected. Statistical analysis was performed using IBM® SPSS® Statistics v. 29.0.



## CONCLUSIONS

A lower dose of ICG (4ml) for SLN mapping in endometrial cancer is associated with a lower number of retrieved lymph nodes but not with a reduced bilateral detection rate. The lower number of SLNs retrieved is likely related to a lower number of echelon nodes (non SLNs) that get stained easily when a larger volume of ICG is adopted.

