Sentinel lymph node biopsy in open surgery for gynecological malignancies

Luca Bocciolone,[1] Giorgio Candotti ,[2] Raffaella Cioffi ,[3] Emanuela Rabaiotti,[4] Alice Bergamini ,[4] Massimo Candiani[1]

[1]San Raffaele Hospital Department of Obstetrics and Gynaecology, Milano, Lombardia, Italy
[2]Department of Obstetrics and Gynecology, IRCCS San Raffaele Hospital, Milan, Italy
[3]Obstetrics and Gynecology, IRCCS San Raffaele Scientific Institute, Milan, Italy
[4]Obstetrics and Gynecology, Ospedale San Raffaele, Milano, Lombardia, Italy

Correspondence to
Dr Giorgio Candotti, Department of Obstetrics and Gynecology, IRCCS San Raffaele Hospital, 20132 Milan, Italy; giorgiocandotti8@gmail.com

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Sentinel lymph node (SLN) biopsy has been introduced as an alternative to lymph node dissection for lymph node staging for uterine malignancies. Mini-invasive surgery is the preferred surgical approach for early stage endometrial cancer and SLN biopsy is the gold standard for lymph node staging.[1] However, some patients present anesthesiological or surgical contra-indications for mini-invasive surgery and surgeons have to perform open surgery. For this reason, in this setting of patients affected by endometrial cancer, the proposal is to use laparoscopy indocyanine green (ICG) in open surgery to detect SLN.[2]

Treatment of early-stage disease (clinical International Federation of Gynecology and Obstetrics (FIGO) stage IA1-IB1 and IIA1) is represented by radical hysterectomy and pelvic lymphadenectomy with SLN biopsy.[3] After the publication of a randomized controlled trial which demonstrated an inferior survival outcome if patients with early-stage cervical cancer were treated with minimally invasive, compared with open radical hysterectomy,[4] the recommendation is to avoid mini-invasive surgery for early stage cervical cancer patients.

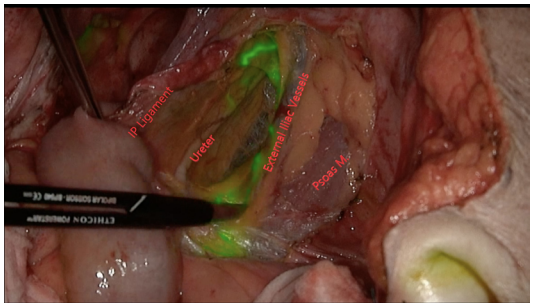
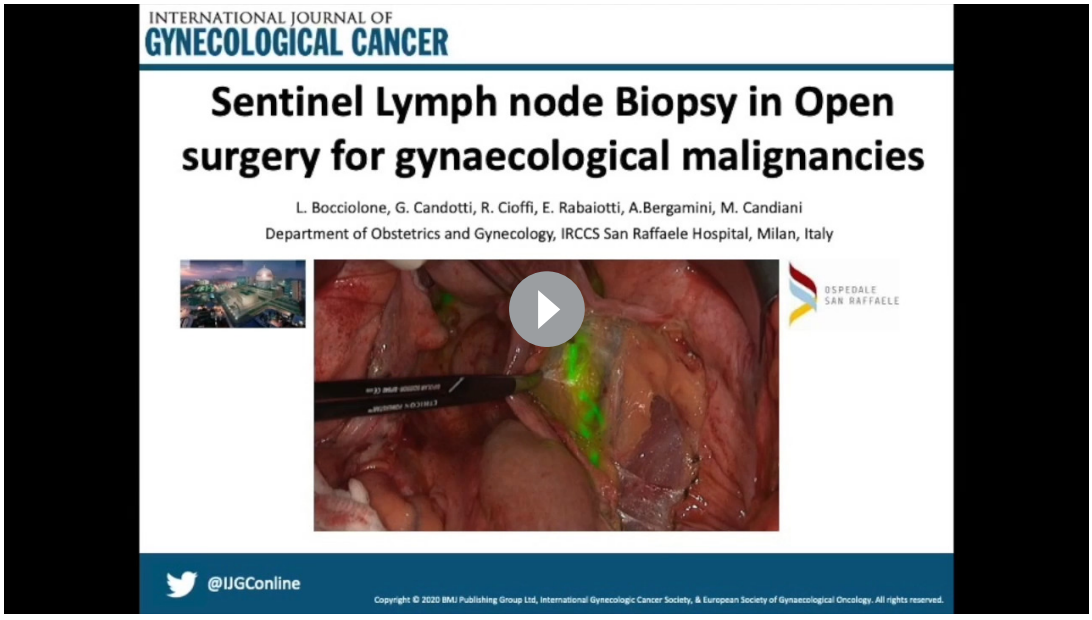


Figure 1 Retroperitoneal exposure of the pelvis with principal anatomic structures. In this figure you can see the lymphatic channel of right iliac vessels with the caption of indocianine green.

For these reasons, SLN detection in open surgery presents an emerging role for retroperitoneal evaluation in gynecological malignancies.

This surgical video aims to show the feasibility of ICG sentinel node sampling using the SPY Portable Handheld Imaging System (Stryker) during open surgery.



Video 1 Sentinel lymph node biopsy in open surgery for gynecological malignancies

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In this video we present the case of a 44-year-old woman with FIGO stage IB1 cervical cancer undergoing SLN biopsy before pelvic lymphadenectomy and type B1 radical hysterectomy. The cervix was injected with 1 mL of ICG solution at the 3 and 9 o'clock positions, both deep into the stroma and submucosally, for a total of 4 mL or 5 mg with a 21G spinal needle. We filmed the SLN biopsy procedure both from the camera view and surgery room view. All surgical steps were performed carefully with bipolar scissors to minimize bleeding and lymphatic channel disruption. Removed bilateral external iliac sentinel lymph nodes were re-checked ex vivo confirming the fluorescent signal and then sent to the pathologist.

Contributors L.B designed the project and first surgeon, G.C. produced and managed the video, R.C. contributed to the video; A.B. e E.R. critically reviewed the study proposal, M.C. finally contributed to perform the video article.

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Competing interests None declared.

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ORCID iDs
Giorgio Candotti http://orcid.org/0000-0002-6475-7278
Raffaella Cioffi http://orcid.org/0000-0003-4370-8271
Alice Bergamini http://orcid.org/0000-0002-1915-8313

REFERENCES

1 Concin N, Matias-Guiu X, Vergote I, *et al*. ESGO/ESTRO/ESP guidelines for the management of patients with endometrial carcinoma. *Int J Gynecol Cancer* 2021;31:12–39.
2 Peiretti M, Candotti G, Buda A, *et al*. Feasibility of hand-assisted laparoscopic sentinel node biopsy in open endometrial cancer surgery. *Minim Invasive Ther Allied Technol* 2020;29:299–303.
3 Cibula D, Pötter R, Planchamp F, *et al*. The European Society of gynaecological oncology/European Society for radiotherapy and oncology/European Society of pathology guidelines for the management of patients with cervical cancer. *Int J Gynecol Cancer* 2018;28:641–55.
4 Ramirez PT, Frumovitz M, Pareja R, *et al*. Minimally invasive versus abdominal radical hysterectomy for cervical cancer. *N Engl J Med* 2018;379:1895–904.