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Accepted 27 February 2020

Published Online First
24 March 2020

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BMJ.

To cite: Lau J, Estrada EE.
Int J Gynecol Cancer
2020;**30**:1460–1461.

Indocyanine green sentinel lymph node mapping and detection in endometrial cancer

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This is the case of a 55-year-old patient, with a chief complaint of 6 months of postmenopausal bleeding. An endometrial biopsy was performed and the result was an endometrioid adenocarcinoma moderate differentiation. Physical examination was unremarkable. MRI of the pelvis demonstrated a tumor of 29 mm at the endometrium with less than 50% myometrial invasion and CT was negative for distant metastasis. She underwent a laparoscopic hysterectomy plus bilateral salpingoophorectomy, plus bilateral sentinel lymph node detection.

The ICG concentration used was 2.5 mg/mL. A 25 mg vial with ICG powder was diluted in 20 mL of aqueous sterile water. ICG was injected directly to the right and left of the uterine cervix at the 3 and 9 o'clock position respectively. Applying 1 mL both superficially and deep into the stroma of the uterine cervix. After the injection of the indocyanine green, a near infra-red technology camera was used to identify the SLN bilaterally. An adnexal triangle was opened using advanced bipolar energy and later with minimal blunt dissection identification of the right sentinel lymph node was carried out at the level of the external iliac artery. Later the sentinel lymph node was placed inside an endobag and retrieved. The same procedure was performed at the left side of the pelvis, identifying the sentinel lymph node at the level of the inter-iliac region. Minimal dissection was performed and the sentinel lymph node was retrieved using an endobag. All sentinel lymph nodes had confirmation of nodal tissue by our institutional pathologist during the time of surgery. Evaluation for the presence of metastatic disease was performed with ultrastaging (additional sectioning and staining of the sentinel node) and immunohistochemistry.

The operative time was 120 min, with no intraoperative complications. The length of stay of the patients was 3 days and no postoperative complications were reported.

The final pathology report was an endometrioid adenocarcinoma moderate differentiation that invades 75% of the myometrium, 4 mm from the serosa, without lymphovascular space invasion and a tumor size of 35 mm x 30 mm with invasion to the cervical stroma. The

total number of lymph nodes obtained was two, and ultrastaging of the bilateral sentinel lymph node was negative. The patient required adjuvant radiotherapy.

Video 1 highlights that sentinel lymph node mapping and detection with the indocyanine green technique is a feasible procedure for gynecological cancers in developing countries. Sentinel lymph node detection is a routine practice in our institution, however the availability of the equipment and the indocyanine green (diagnostic green) can be limited, but it is the preferred method for mapping and detection given the main advantages that it offers, including improved sentinel lymph node detection rates.^{1,2}

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Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial, or not-for-profit sectors.

Editor's note One of the Missions of the International Journal of Gynecological Cancer is to promote and highlight the great achievements in research in gynecologic cancers, not only in the leading institutions around the world, but also in low- to middle-income countries. To this end, we will publish videos that highlight the efforts of gynecologic oncologists, who through great dedication are bringing innovation and standard of care technologies to women in such low resource settings. We congratulate and encourage this work and look forward to receiving submissions of videos of surgical procedures that, although standard in high-resource settings, are an innovation in low- and middle-income countries.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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- 2 Estrada EE. Sentinel lymph node detection in patients with cervical cancer in a public hospital in Guatemala. *Int J Gynecol Cancer* 2020;**30**:406.

Video 1. Indocyanine green sentinel lymph node mapping and detection in endometrial cancer