

Sentinel lymph node mapping for uterine cancer: a practical illustration of injection and mapping techniques using robot-assisted fluorescence imaging

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SUMMARY

We created a surgical teaching video that demonstrates sentinel lymph node (SLN) mapping in uterine cancer as a practical guide for injection technique and illustrates common lymphatic mapping patterns. Trocar placement, docking strategy, indocyanine dye preparation, and cervical injection techniques are also reviewed.

Video footage and still photographs were gleaned from unedited surgical films recorded at our institution and from institutional artists' illustrations. Patients with early-stage uterine cancer, undergoing robot-assisted laparoscopic staging surgery using intracervical dye for SLN mapping, were included. A previously published institutional SLN mapping algorithm was incorporated.¹ The algorithm has since been reproduced in the current version of the National Comprehensive Cancer Network (NCCN) Guidelines for Endometrial Cancer.²

This video () demonstrates intracervical dye injection technique utilizing a published algorithm for SLN mapping in early-stage uterine cancer. It provides examples to enable easy recognition of the two most common lymphatic mapping patterns, using indocyanine green dye, in patients undergoing minimally invasive surgery.

The SLN mapping algorithm is described in detail. It begins with peritoneal and serosal evaluation, with

pelvic washings when indicated. This may reveal gross disease or obvious lymphadenopathy, which must be addressed regardless of mapping. Each hemipelvis must be assessed for successful mapping. SLN mapping dye may not penetrate pathologically enlarged lymph nodes, because tumor burden may limit lymphatic drainage to and from the node. SLN mapping is for normal-appearing lymph nodes only; any suspicious SLN, regardless of mapping, must be removed. All mapped SLNs should be excised and evaluated with pathologic ultrastaging to detect tumor cells. Para-aortic lymphadenectomy may be done at the discretion of the attending surgeon.

Using still photographs, illustrations, and video, we demonstrate the technique of intracervical dye injection and provide examples of common and uncommon SLN locations, utilizing a published algorithm for SLN mapping in patients with early-stage uterine cancer undergoing robot-assisted laparoscopic staging surgery.

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Video 1