Uterine fundus indocyanine green injection for sentinel lymph node biopsy in endometrial cancer patients with limited access to cervical injection

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Different studies have demonstrated that cervical injection of indocyanine green (ICG) provides accurate bilateral detection of sentinel lymph node (SLN) mapping in apparent early-stage endometrial cancer. Nevertheless, in some patients, as in case of severe vaginal stenosis, it is not possible to have access to the cervix. In these clinical situations the injection of the tracer in the uterine fundus can be considered. Moreover, a few authors have proposed uterine fundus as injection site for SLN detection in endometrial cancer showing that this approach might allow a high rate of aortic detection, potentially identifying a non-negligible percentage of isolated aortic metastases. The aim of this educational video (Video 1) was to show how to perform uterine fundus injection of ICG in case the cervical injection is not feasible.

We report the case of a 76-year-old patient diagnosed with an apparent uterine-confined grade 2 endometrioid endometrial cancer. A transvaginal ultrasound showed a 39mm hyperechoic endometrial mass. The operation was performed with robotic-assisted laparoscopy and included total hysterectomy, bilateral salpingo-oophorectomy and bilateral SLNs biopsy.

The cervical ICG injection was not feasible due to the severe stenosis of the superior third of vagina. An attempt to inject the cervix was performed but was not successful as the cervix could not be seen at vaginal examination. For this reason, transcutaneous injection of 1 ml of ICG was performed in the uterine fundus with transcutaneous spinal needle (Figure 1). A careful study of tumor location on the pre-operative ultrasound scan was performed identifying tumor-free uterine wall to allow a safe injection with no risk of tumor spillage. After this injection bilateral external iliac SLNs were identified and removed. Ultrastaging protocol was performed. With this video...
we demonstrated the uterine fundus to be an alternative site of ICG injection of the tracer in case cervix is not accessible.

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