


Laparotomy approach to sentinel lymph node detection in ovarian cancer using a near-infrared fluorescent system camera with indocyanine green dye

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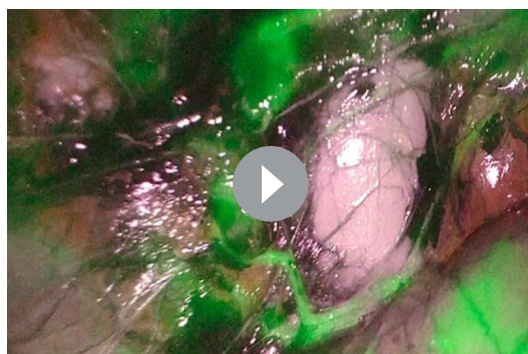
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SUMMARY

Current guidelines for complete surgical staging in early-stage ovarian cancer recommend systematic lumbo-aortic and pelvic lymphadenectomy,¹ despite their controversial therapeutic value with only 14% of patients upstaged.² Sentinel lymph node (SLN) detection with indocyanine green in ovarian cancer is a feasible technique and could provide useful information on nodal status,³ avoiding future lymphadenectomy in the majority of patients. SLN biopsy is not yet the standard approach, and is currently under investigation.³ Laparoscopy is the most tested approach,³ but it is not advisable in voluminous ovarian masses.⁴

The patient in this video is a 70-year-old woman with a 20 cm ovarian mass suspected for cancer, who was enrolled in our prospective trial SELLY (NCT03452982) (Video 1).³ After mobilization of the ovarian mass, 2 mL of 1.25 mg/mL indocyanine green solution (Verdye 5 mg/mL injection, 25 mg/50 mg, powder for solution for injection, Diagnostic Green GmbH Aschheim-Dornach Germany) was injected with a 20 gauge spinal needle into the perivascular connective tissue of the infundibulo-pelvic and the utero-ovarian ligament of the affected ovary. The ovarian mass was removed after 15 min and subjected to frozen sectioning. After a diagnosis of cancer, the retro-peritoneum was exposed on both sides along the Toldt fascia up to the left renal



Video 1. Inter-cavo-aortic sentinel lymph node marked by indocyanine green dye.

vein and inspected using the NIR mode of the Olympus laparoscopic camera (VISERA-ELITE II-Olympus Winter & Ibe GmbH, Hamburg, Germany) with overhead lights switched-off. The first fluorescent lymph node of the lymphatic chain, identified as an inter-cavo-aortic SLN, was removed and examined separately with ultra-staging at final pathology. No pelvic lymph nodes were identified because of diffuse tissue fluorescence. Systematic lymphadenectomy was then performed.

At final pathology, the inter-cavo-aortic SLN was positive for isolated tumor cells, while two right pelvic nodes were metastatic.

In conclusion, a laparotomy approach for SLN detection in voluminous ovarian cancer is feasible. Further information about the lymphatic routes of the ovary and the accuracy of SLN biopsy in ovarian cancer will be forthcoming after completion of the SELLY trial.³

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Video article

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