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Indocyanine green in surgical staging of early stage endometrial cancer

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Introduction / Background: Endometrial cancer is one of the most often type of gynecological malignancies all over the world. Lymph nodal status as an important factor of prognosis of the disease and indication to further treatment is still debated. Many investigations shows that sentinel lymphatic node (SLN) dissection using indocyanine green (ICG) is sensitive, safe and effective [1,2]. In cases of endometrial (submucosal or hysteroscopic applications) or cervical (intracervical administration) cancer, ICG can detect SLN at an accuracy of 95% to 98%. Low toxicity, confinement within the vascular compartment, rapid excretion, and the rarity of allergic reaction are the main advantages of ICG.

Methodology: Cross-sectional study included 32 patients with early endometrial cancer (FIGO stage IA-IB, grade 1-2 endometrioid adenocarcinoma). Indocyanine green solution was prepared preoperatively by solving 25 mg ICG powder with 5 ml of sterile water. After performing laparoscopic assess and initial observation of pelvis we made submucosal injection of 1 ml of ICG solution in 4 points at 1,5,7,11 o'clock around cervix. After 15-20 min using near-infrared imaging (D-light P-system, Karl Storz) we visualized pelvic lymph nodes through the peritoneum and performed SLN identification (SLNI) on each side. In cases where we were unable to identify SLN we preferred extended operation.

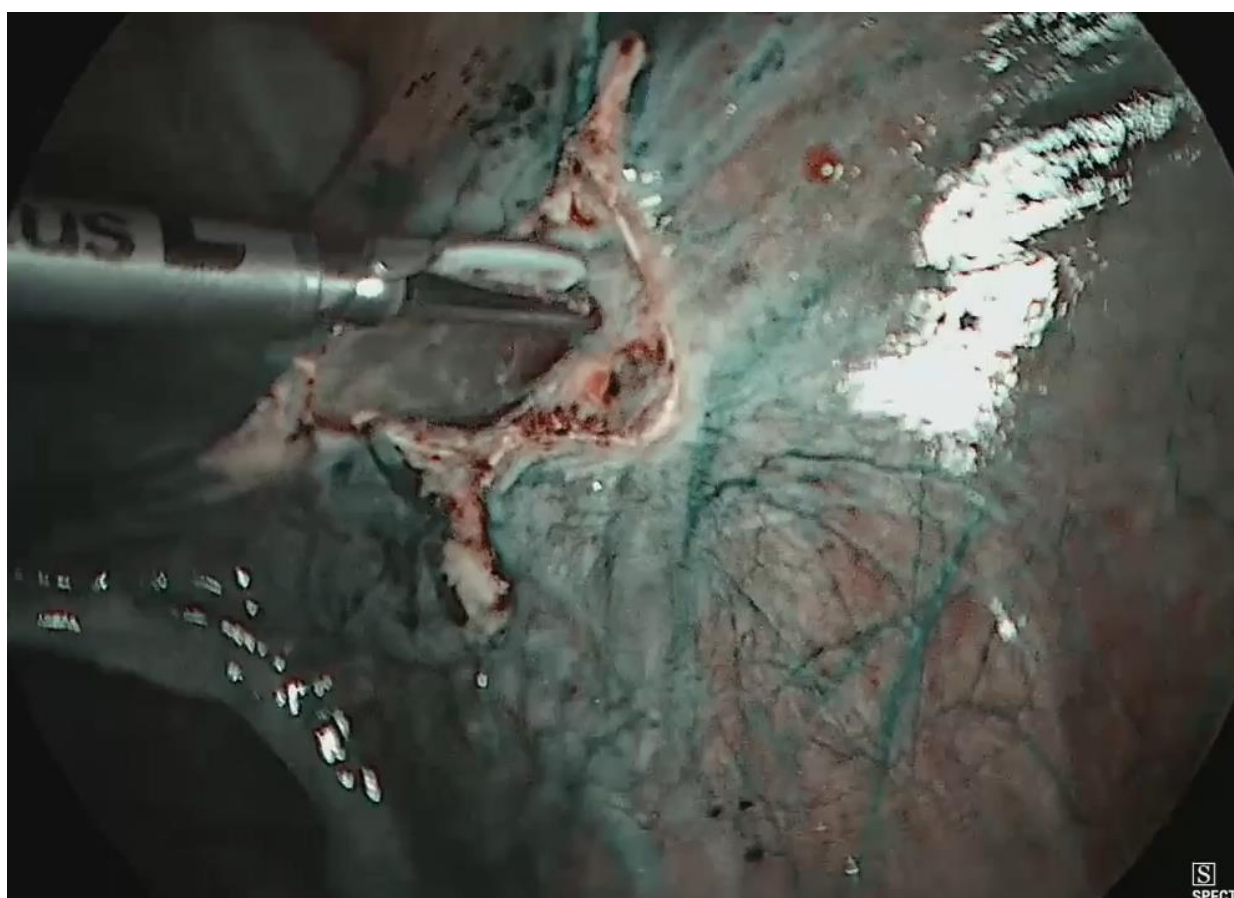
Results: Operation time was 81.5 ± 12.2 minutes for TLH with SLN identification with ICG and 175.4 ± 26.5 minutes for SLNI+TLH+PLNE. Patients with only TLH+SLNI had much shorter lymphorrhea duration 2-4 days in post operation period in comparison with patients, who had SLNI+TLH+PLNE (6-7 days). Although time of SLNI+TLH+PLNE is longer then TLH+PLNE without SLNI, overall operation time for selected patient group decreased.

Conclusion: Using ICG in surgical staging of early endometrial cancer may lead to more effective surgical procedures, better detection and removing of cancer cells, reduction of surgical time and postoperative wound-related complications, improved SLN detection rates, avoid radioactivity.

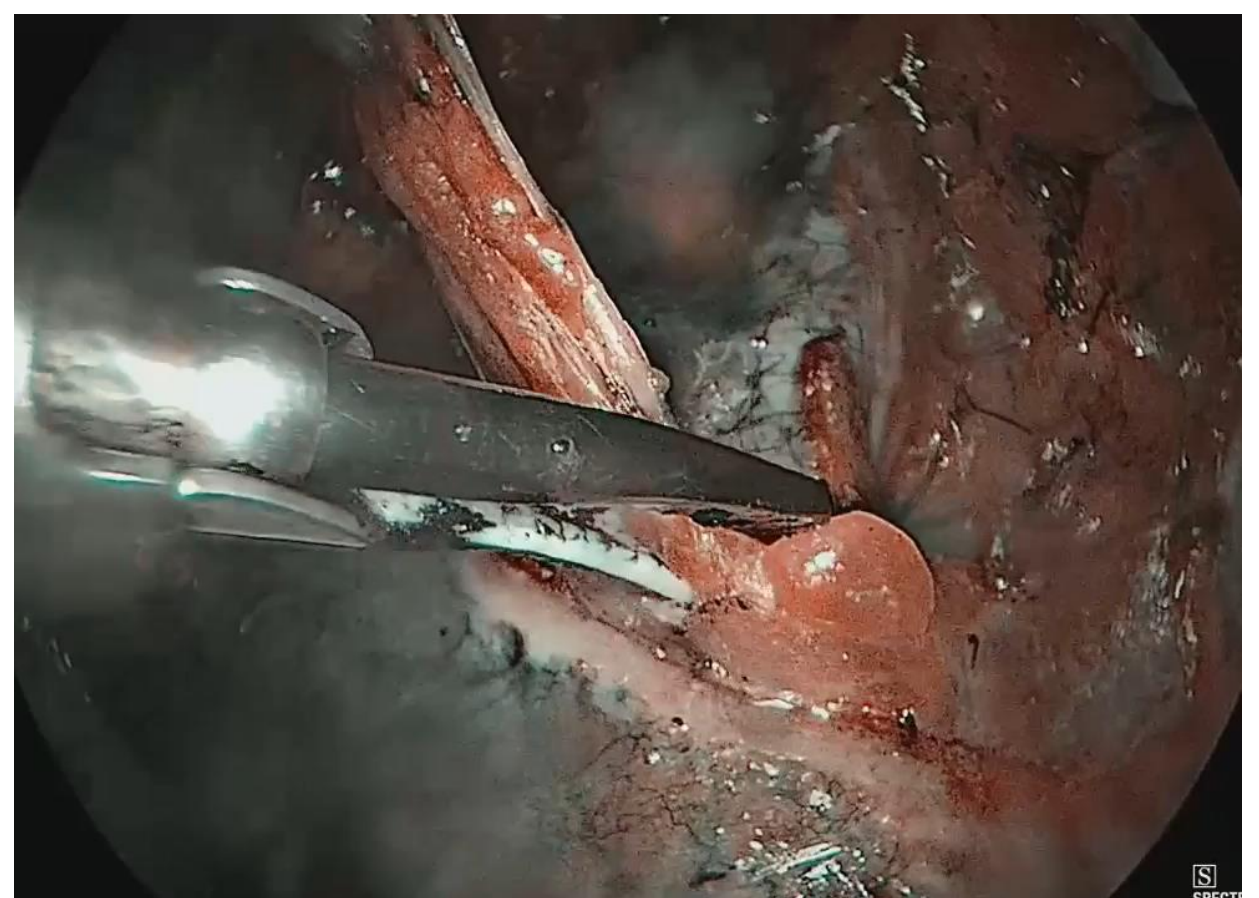
Disclosure: Nothing to disclose

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Video 1. Sentinel lymphatic node visualization



Video 2. Resection of sentinel lymphatic node