

Clinical use of endovenous indocyanine green during rectosigmoid segmental resection for endometriosis

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Objective: To describe a new use of endovenous indocyanine green (ICG) to allow real-time visualization of bowel perfusion in women with recto-sigmoid endometriosis who may be candidates for segmental resection.

Design: Step-by-step explanation of this method using descriptive text and educational video.

Setting: Tertiary level referral academic center.

Patient(s): A nulliparous 36-year-old woman affected by a large rectal endometriotic nodule was referred for severe dysmenorrhea, dyspareunia, hematochezia, and dyschezia, despite progestinic therapy.

Intervention(s): An intravenous injection of 1.5 mL solution containing 3.75 mg dose of ICG for intraoperative fluorescence imaging.

Main Outcome Measure(s): Evaluation of blood perfusion of bowel and rectal endometriosis nodule. Evaluation of neoanastomosis vascularization after bowel resection.

Result(s): The procedure of endometriosis removal was performed using the daVinciXi surgical platform (Intuitive Surgical, Sunnyvale, CA). After ovarian endometriosis removal and adhesiolysis, we identified the endometriosis nodule on the anterior surface of the rectum. Pararectal, rectovaginal, and retrorectal spaces were dissected with a nerve-sparing technique. Indocyanine green was administered through a peripheral line. A near-infrared camera head enabled vision of the colorant after latency of a few seconds. We observed the ischemic area around the rectal nodule and perfusion areas upstream and downstream from the lesion. We selected the transecting line for rectal resection, taking account of this objective evaluation, beyond the limits of macroscopic disease. After direct mechanical anastomosis, we checked the rectal vascularization with ICG.

Conclusion(s): To the best of our knowledge, this is the first reported use of endovenous ICG during a bowel resection for deep endometriosis. Endovenous ICG is proposed during surgery for rectosigmoid endometriosis to assess the perfusion of the bowel and select the transecting line. With ICG fluorescence imaging, we can objectively evaluate whether blood supply to the anastomosis is adequate. Endovenous ICG for objective vascular assessment is simple and rapid to use, and no complications related to ICG use were recorded. (Fertil Steril® 2018;109:1135. ©2018 by American Society for Reproductive Medicine.)

Key Words: Bowel resection, DIE, endometriosis, indocyanine green

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