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Surgical film

Minimally invasive repair of a left diaphragm hernia after debulking surgery for advanced ovarian cancer

Sarah Ehmann [a], Bernard Park [b,c], Dennis S. Chi [a,c,*]

[a] Gynecology Service, Department of Surgery, Memorial Sloan Kettering Cancer Center, New York, NY, USA
[b] Thoracic Service, Department of Surgery, Memorial Sloan Kettering Cancer Center, New York, NY, USA
[c] Joan and Sanford I. Weill Medical College of Cornell University, New York, NY, USA

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ABSTRACT

Eighty percent of women with ovarian cancer have advanced disease (FIGO stage III or IV) at the time of diagnoses and require extensive upper abdominal surgery to obtain complete gross resection (Minig et al., 2015; Eisenhauer et al., 2006). A diaphragmatic hernia is defined as abdominal contents bulging into the thoracic cavity (Spellar and Gupta, 2020). While rare following primary debulking surgery (PDS), these present with a variety of symptoms and are often misdiagnosed. Computed tomography (CT) is the diagnostic gold standard (Vertaldi et al., 2020). This video demonstrates repair of a left-sided complex diaphragm hernia via robotic video-assisted thoracic surgery in a 45-year-old with stage IVB ovarian cancer. She previously underwent extensive PDS, including modified posterior exenteration, bilateral salpingo-oophorectomy, omentectomy, bilateral pelvic lymph node dissection, appendectomy, bilateral diaphragm peritonectomy, splenectomy, resection of a right mediastinal lymph node, and insertion of a right chest tube. Complete gross resection was achieved. No left-sided diaphragm resection or repair was performed during the initial surgery. She received standard adjuvant chemotherapy with paclitaxel, carboplatin and bevacizumab. Six months postoperatively a surveillance CT scan revealed a small left hemidiaphragm hernia containing parts of the stomach. Although initially asymptomatic, she developed mild symptoms on follow-up, especially with lying supine. Imaging showed an increase in the size of the diaphragm defect. After completion of her maintenance bevacizumab therapy, corrective surgery was performed to prevent incarceration of the stomach. This video demonstrates the complex repair of this 4 × 6 cm defect located in the central tendon of the diaphragm. On two-week follow-up after corrective surgery, the patient's symptoms had resolved.

* Corresponding author at: Gynecology Service, Department of Surgery, Memorial Sloan Kettering Cancer Center, 1275 York Avenue, New York, NY 10065, USA.
E-mail address: chid@mskcc.org (D.S. Chi).

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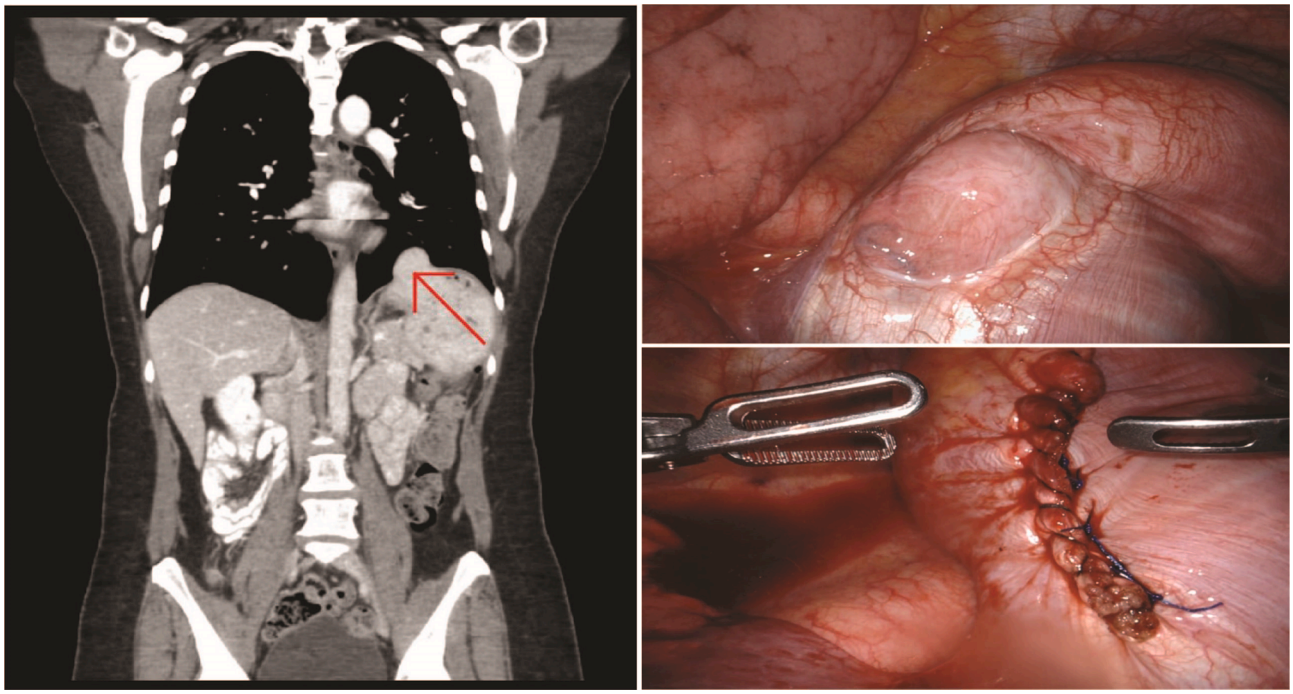
Video 1



Video 1.

1. Disclosures

SE reports non-financial support from Tesaro, outside the submitted work. **DSC** reports personal fees from Bovie Medical Co., personal fees from Verthermia Inc. (now Apyx Medical Corp.), personal fees from C Surgeries, personal fees from Biom 'Up, other from Intuitive Surgical Inc., and other from TransEnterix Inc., outside the submitted work.

2. Consent

Informed consent was obtained from the patient for publication of this abstract and accompanying video.

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CRediT authorship contribution statement

Sarah Ehmann: Conceptualization, Data curation, Formal analysis, Writing - original draft, Writing - review & editing. **Bernard Park:** Conceptualization, Data curation, Formal analysis, Writing - original draft, Writing - review & editing. **Dennis S. Chi:** Conceptualization, Formal analysis, Supervision, Writing - review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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