

Right diaphragmatic peritonectomy for ovarian carcinomatosis in 10 steps

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ABSTRACT

Residual tumor after cytoreductive surgery has been demonstrated to be the most important prognostic factor of survival in patients with advanced ovarian cancer.¹ Extended peritonectomy procedures following Sugarbaker principles are commonly used to achieve complete cytoreduction,² with the supramesocolic compartment representing the most challenging part of cytoreductive surgery. Bulky diaphragm implants can preclude complete cytoreduction, especially when the pleura is involved. In contrast, pelvic disease is usually resectable, even in cases of frozen pelvis.³ For these reasons, peritonectomy of the right upper quadrant should be the first step to perform in debulking surgery; moreover, starting the surgery by right diaphragmatic peritonectomy and following the dissection in a clockwise direction facilitates the following steps. In this surgical video, we aim to standardize right diaphragmatic peritonectomy.

This video shows a right diaphragmatic peritonectomy in 10 consecutive steps (video 1). With a pedagogical purpose, we included multiple fragments of the surgeries of different patients with ovarian cancer and right diaphragmatic peritoneal carcinomatosis, evidenced either in preoperative CT or in previous diagnostic laparoscopy. The

surgeries were carried out in a French Comprehensive Cancer Center by the same senior oncological surgeon.

The surgical procedure was divided in the 10 following steps:

- Step 1: Right parietal and ventral diaphragmatic peritoneal dissection
- Step 2: Right colic mobilization
- Step 3: Right gutter peritoneal dissection
- Step 4: Section of the liver attachments
- Step 5: Suprahepatic veins dissection
- Step 6: Duodenopancreatic mobilization (Kocher maneuver)
- Step 7: Morrison space dissection
- Step 8: Left hypochondria liver mobilization
- Step 9: Caudocranial diaphragmatic peritonectomy
- Step 10: Diaphragmatic reconstruction and pneumothorax evacuation

To summarize, right diaphragmatic peritonectomy is a procedure regularly employed to obtain a complete debulking by gynecological oncologic surgeons. Right colic and hepatic mobilization are needed to achieve good exposure.³ As previously reported, standardization of surgical techniques improves understanding and the learning curve of training surgeons.⁴ We propose a novel approach following a clockwise dissection in the right upper abdominal quadrant to perform this procedure.

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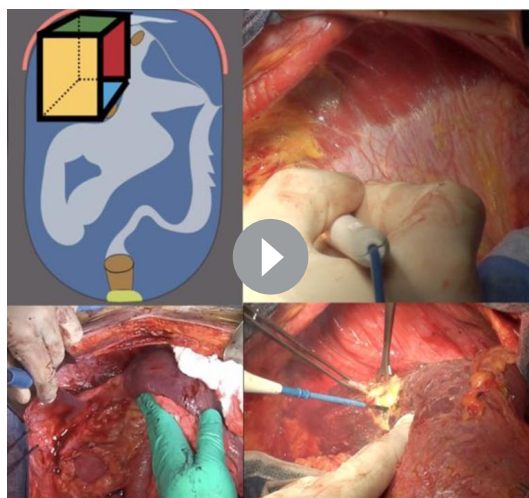
Contributors MAA: Conceptualization, video editing, writing original draft. CM-G: Conceptualization, video editing, writing original draft. FM: Conceptualization, video editing, writing original draft. EC: Conceptualization, video editing, writing original draft. AM: Conceptualization, project administration, supervision, writing review. GF: Conceptualization, project administration, surgery and video recording, supervision, writing review.

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video 1.



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