J Gynecol Oncol. 2021 Jan;32(1):e6
https://doi.org/10.3802/jgo.2021.32.e6
pISSN 2005-0380·eISSN 2005-0399

JOURNAL OF GYNECOLOGIC ONCOLOGY

Video Article

Robot-assisted extraperitoneal para-aortic lymphadenectomy (RAePAL) performed with the bipolar cutting method

Shiori Yanai, Kiyoshi Kanno, Kiyoshi Aiko, Masaaki Ando

Department of Obstetrics and Gynecology, Kurashiki Medical Center, Okayama, Japan

Received: Jul 6, 2020
Revised: Sep 20, 2020
Accepted: Sep 20, 2020

Correspondence to
Shiori Yanai
Department of Obstetrics and Gynecology, Kurashiki Medical Center, 250 Bakuro-cho, Okayama 710-8522, Japan.
E-mail: shi0rin@hotmail.com

ORCID iDs
Shiori Yanai
https://orcid.org/0000-0003-4922-784X
Kiyoshi Kanno
https://orcid.org/0000-0002-2394-9644
Kiyoshi Aiko
https://orcid.org/0000-0003-0057-0524
Masaaki Ando
https://orcid.org/0000-0002-2952-6335

Conflict of Interest
No potential conflict of interest relevant to this article was reported.

ABSTRACT

Objective: In comparison with laparoscopic transperitoneal para-aortic lymphadenectomy, the advantages of laparoscopic extraperitoneal para-aortic lymphadenectomy (ePAL) are that the operative field is not obstructed by bowel and the Trendelenburg position is not required [1]. The ePAL technique has been adopted to the robotic surgery with the da Vinci Xi. There are only a few reports demonstrating the technical feasibility of robot-assisted ePAL (RAePAL) [2,3]. This report describes the new surgical technique of RAePAL with the bipolar cutting method.
Methods: The patient was a 53-year-old woman diagnosed as ovarian clear cell carcinoma (CCC) after left salpingo-oophorectomy. As the re-staging surgery, robot-assisted right salpingo-oophorectomy, hysterectomy, omentectomy, and pelvic lymphadenectomy were planned following ePAL. The patient was placed in the supine position and tilted 5 degrees to the right. Three da Vinci arms were docked at the patient's left side (**Fig. 1**). The bipolar cutting method was performed by with the surgeon's right hand. An AirSeal® port (ConMed, Utica, NY, USA) was placed on the side near the assistant. After the para-aortic space was expanded, lymphadenectomy was performed up to the renal veins with the bipolar cutting method.
Results: The PAL operative time was 155 minutes, estimated blood loss was 25 mL. The patient developed no perioperative complications, and the postoperative diagnosis was stage IC1 ovarian CCC with no pelvic (n=0/42) and para-aortic lymph nodes (n=0/59) metastasis.
Conclusion: RAePAL with the bipolar cutting method was technically feasible. Performing lymphadenectomy between the aorta and the vena cava was facilitated by the articulated robotic arm.

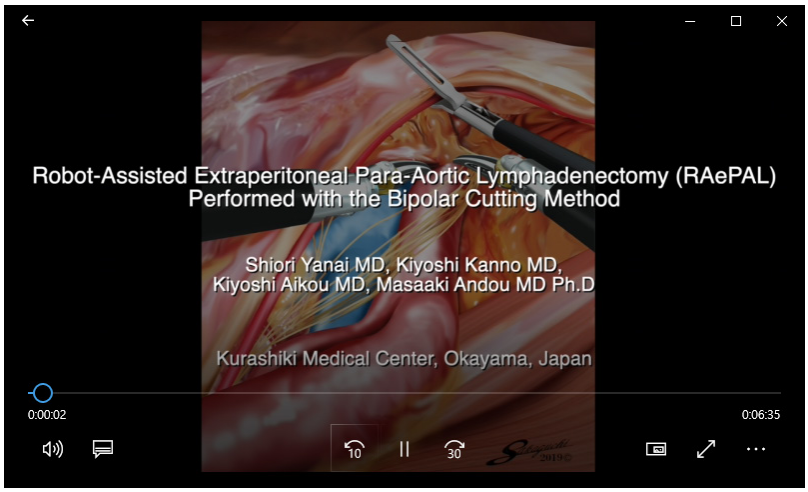
Keywords: Robotic Surgical Procedures; Lymph Node Excision; Retroperitoneal Space

JOURNAL OF GYNECOLOGIC ONCOLOGY

Author Contributions

Conceptualization: Y.S.; Data curation: Y.S., A.K.; Formal analysis: Y.S.; Funding acquisition: Y.S.; Investigation: Y.S., A.K.; Methodology: Y.S., K.K.; Project administration: Y.S., K.K.; Resources: Y.S., K.K., A.M.; Software: Y.S.; Supervision: Y.S.; Validation: Y.S., K.K., A.K., A.M.; Visualization: Y.S., A.M.; Writing - original draft: Y.S.

VIDEO CLIP



Robot-assisted extraperitoneal para-aortic lymphadenectomy (RAePAL) performed with the bipolar cutting method (**Fig. 1**). Video can be found with this article online at https://ejgo.org/src/sm/jgo-32-e6-s001.mp4.

ACKNOWLEDGMENTS

We thank Clinical Research Support Team in Kurashiki Medical Center for their advice.

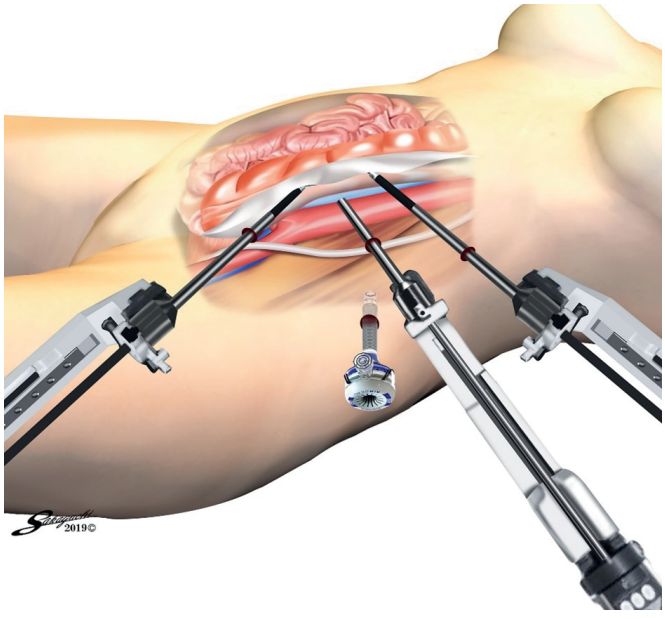


Fig. 1. Port placement of robot-assisted extraperitoneal para-aortic lymphadenectomy.

JOURNAL OF GYNECOLOGIC ONCOLOGY

REFERENCES

1. Andou M, Yoshioka T, Ikuma K, Ternamian A. A new approach for accessing retroperitoneal space using a 5-mm [corrected] visual access cannula. Surg Endosc 2003;17:1158-61.
PUBMED | CROSSREF
2. da Costa AG, Borghesi Y, Hudry D, Faes J, Bresson L, Narducci F, et al. Extraperitoneal para-aortic lymphadenectomy by robot-assisted laparoscopy. J Minim Invasive Gynecol 2018;25:861-6.
PUBMED | CROSSREF
3. Hudry D, Narducci F, Andrade C, Leblanc E. Extra-peritoneal para-aortic lymphadenectomy by robot assisted laparoscopy (EPLRL) in 10 steps. Gynecol Oncol 2019;155:170-1.
PUBMED | CROSSREF

https://doi.org/10.3802/jgo.2021.32.e6