ASO AUTHOR REFLECTIONS

ASO Author Reflections: Is It Safe to Use Intrauterine Manipulators in Laparoscopic Surgery for Endometrial Cancer?

Franziska Siegenthaler, MD¹, Silke Johann, MD², and Michael D. Mueller, MD¹

¹Department of Obstetrics and Gynecology, Bern University Hospital, University of Bern, Bern, Switzerland; ²Department of Obstetrics and Gynecology Spitalzentrum Oberwallis, Standort Visp, Visp, Switzerland

PAST

Endometrial cancer, the most common gynecologic tumor in developed countries, has a generally favorable prognosis, with an overall 5-year survival rate of 80%. Its primary treatment consists of surgery including total hysterectomy and bilateral salpingo-oophorectomy as well as nodal staging if indicated. Currently, minimally invasive surgery is the standard approach in early-stage endometrial cancer according to evidence showing no compromise in oncologic outcomes but lower morbidity and a shorter hospital stay than with open surgery.² However, only limited data on the oncological safety of the use of intrauterine manipulators are available. There is some evidence that intrauterine manipulation may result in retrograde seeding of the peritoneal cavity with cancer cells,³ and a recently published retrospective trial analyzing 2661 patients showed an association of the use of intrauterine manipulators with higher recurrence rates and worse survival in endometrial cancer. 4 This study aimed to analyze the association of intrauterine manipulation, peritoneal cytology, and oncologic outcomes for endometrial cancer patients.

PRESENT

This multicenter prospective trial included 124 endometrial cancer patients undergoing laparoscopic staging surgery with the use of an intrauterine manipulator.⁵

© The Author(s) 2022

First Received: 14 August 2022 Accepted: 15 August 2022

F. Siegenthaler, MD

e-mail: franziska.siegenthaler@insel.ch

Published online: 26 August 2022

Three different sets of peritoneal washings were obtained: at the beginning of the surgical procedure, after insertion of the intrauterine manipulator, and after closure of the vaginal vault. Peritoneal cytology was negative for 98 patients and positive at the beginning of the surgery for 16 patients. During the procedure, 10 patients had a positive cytology conversion. The results showed a strong correlation of recurrence rate with peritoneal cytology, and the patients with converted peritoneal cytology presented with the worst oncologic outcomes. The findings suggest that the use of intrauterine manipulators may lead to a positive peritoneal cytology conversion, which in turn would enhance the recurrence rate. This study supplies crucial knowledge for understanding the impact of the use of intrauterine manipulators on oncologic outcomes for endometrial cancer patients and provides further evidence to fill the remaining gaps between uterine manipulation, peritoneal cytology, and recurrence in endometrial cancer.

FUTURE

Minimally invasive surgery certainly remains the standard of care in endometrial cancer treatment after the results of prospective randomized trials proving its oncologic safety.² However, these trials did not report on the use of uterine manipulators. Because no data exist to prove that the use of uterine devices reduces surgical complications, and because current evidence shows a safe possibility of performing hysterectomy without the use of intrauterine manipulators, clinicians should consider abandoning intrauterine manipulators in surgery for endometrial cancer. However, larger prospective clinical trials including a control group that has surgery without an intrauterine manipulator are needed to confirm the results of this study.

FUNDING Open access funding provided by University of Bern; Please verify relation to: University of Bern; Open access funding provided by University of Bern.

DISCLOSURE There are no conflict of interest.

OPEN ACCESS This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

REFERENCES

 Colombo N, Creutzberg C, Amant F, et al. ESMO-ESGO-ESTRO consensus conference on endometrial cancer: diagnosis, treatment,

- and follow-up. *Ann Oncol*. 2016;27:16–41. https://doi.org/10.1093/annonc/mdv484.
- Walker JL, Piedmonte MR, Spirtos NM, et al. Laparoscopy compared with laparotomy for comprehensive surgical staging of uterine cancer: gynecologic oncology group study LAP2. *J Clin Oncol*. 2009;27:5331–6. https://doi.org/10.1200/JCO.2009.22. 3248.
- Sonoda Y, Zerbe M, Smith A, Lin O, Barakat RR, Hoskins WJ. High incidence of positive peritoneal cytology in low-risk endometrial cancer treated by laparoscopically assisted vaginal hysterectomy. *Gynecol Oncol*. 2001;80:378–82. https://doi.org/10. 1006/gyno.2000.6079.
- Padilla-Iserte P, Lago V, Tauste C, et al. Impact of uterine manipulator on oncological outcome in endometrial cancer surgery. *Am J Obstet Gynecol*. 2021;224:65.e1-e11. https://doi.or g/10.1016/j.ajog.2020.07.025.
- Siegenthaler F, Johann S, Imboden S, et al. Prospective multicenter trial assessing the impact of positive peritoneal cytology conversion on oncological outcome in endometrial cancer patients undergoing minimally invasive surgery with the use of an intrauterine manipulator. *Ann Surg Oncol*. 2022. https://doi.org/ 10.1245/s10434-022-12356-9.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.