

The Greener Choice: Vaginal Hysterectomy's Environmental Edge Over Laparoscopic Techniques

Die grünere Option: der ökologische Vorsprung der vaginalen Hysterektomie über laparoskopische Techniken



Authors

Cihan Kaya¹, Murat Yassa², Koray Gorkem Sacinti^{3,4}, Fatih Aktöz⁵, Ali Can Gunes⁶

Affiliations

- 1 Dept. Ob/Gyn, Acibadem Bakirkoy Hospital, Istanbul, Turkey
- 2 Department of Obstetrics and Gynecology, VM Medical Park Maltepe Hospital, Bahcesehir University, Istanbul, Turkey
- 3 Department of Obstetrics and Gynecology, Aksaray Research and Training Hospital, Aksaray, Turkey
- 4 Division of Epidemiology, Department of Public Health, Hacettepe University Faculty of Medicine, Ankara, Turkey
- 5 Brussels IVF, Universitair Ziekenhuis Brussels, Brussels, Belgium
- 6 Department of Obstetrics and Gynecology, Mamak State Hospital, Mamak/Ankara, Turkey

Keywords

vaginal hysterectomy, vNOTES hysterectomy, laparoscopic hysterectomy, sustainable surgery, carbon footprint

Schlüsselwörter

vaginale Hysterektomie, vNOTES-Hysterektomie, laparoskopische Hysterektomie, nachhaltige Chirurgie, CO₂-Bilanz

Bibliography

Geburtsh Frauenheilk 2024; 84: 477–478

DOI 10.1055/a-2280-5530

ISSN 0016-5751

© 2024. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

Correspondence

Ali Can Gunes, MD
Department of Obstetrics and Gynecology
Mamak State Hospital
Uregil 1181
06270 Mamak/Ankara, Turkey
dr.acgunes@gmail.com

In the modern landscape of gynecological surgery, the debate between the merits of vaginal hysterectomy (VH) versus laparoscopic hysterectomy (LH) often centers on patient outcomes, recovery times, and procedural efficacy. However, an equally critical but less discussed aspect is the environmental sustainability of these procedures.

This editorial aims to highlight the environmental advantages of VH over its laparoscopic counterpart, advocating for a greener approach in gynecological surgeries. VH, one of the oldest surgical procedures in gynecology, requires minimal surgical instrumentation—typically sutures, drapes, gloves, and conventional reusable instruments. This simplicity not only facilitates a quicker recovery for patients but also significantly reduces the environmental footprint of the surgery. In contrast, LH, despite its minimally invasive nature and associated patient benefits, requires a plethora of equipment such as advanced energy systems and trocars many of

which are single-use, contributing to a substantial increase in medical waste [1].

The production, usage, and disposal of these materials carry a heavy environmental toll, from the depletion of natural resources to the generation of greenhouse gases and the proliferation of waste in landfills and incinerators [2]. Considering the volume of hysterectomies performed annually the cumulative environmental impact of choosing LH over VH is substantial. vNOTES technique, which has become increasingly common lately, can contribute to reducing carbon footprint by eliminating the limitations of vaginal surgery, increasing the indications of vaginal operations, and allowing operations to be performed at lower CO₂ pressures than conventional laparoscopy [3].

In conclusion, vaginal route offers a viable, effective, and significantly greener alternative to laparoscopy. The shift towards more environmentally sustainable practices in gynecology is not just a

matter of medical ethics but an urgent necessity. The choice of vaginal route over laparoscopy represents a step forward in this direction, aligning patient care with ecological responsibility.

Conflict of Interest

The authors declare that they have no conflict of interest.

References

- [1] Rizan C, Bhutta MF. Environmental impact and life cycle financial cost of hybrid (reusable/single-use) instruments versus single-use equivalents in laparoscopic cholecystectomy. *Surg Endosc* 2022; 36: 4067–4078. doi:10.1007/s00464-021-08728-z
- [2] Chan KS, Lo HY, Shelat VG. Carbon footprints in minimally invasive surgery: Good patient outcomes, but costly for the environment. *World J Gastrointest Surg* 2023; 15: 1277–1285. doi:10.4240/wjgs.v15.i7.1277
- [3] Yoong W, Sampson V, Mwenechanya L et al. vNOTES (vaginal Natural Orifice Transluminal Endoscopic Surgery): is this the future of gynaecological surgery? *Obstet Gynecol* 2023; 25: 97–100. doi:10.1111/tog.12860