Clinical and Experimental Obstetrics & Gynecology

Clin. Exp. Obstet. Gynecol. **2025**; 52(9): 43771
https://doi.org/10.31083/CEOG43771

Editorial

When Technology Overshadows Reason: A Call for Surgical Responsibility-Less is More

Andrea Tinelli[1,*], Antonio Malvasi[2], Michael Stark[3]

[1]Department of Obstetrics and Gynecology, CERICSAL (CEntro di RIcerca Clinico SALentino), "Veris delli Ponti Hospital", 73020 Lecce, Italy
[2]Unit of Obstetrics and Gynecology, Department of Interdisciplinary Medicine, University of Bari Aldo Moro, Policlinico of Bari, 70124 Bari, Italy
[3]The New European Surgical Academy, 10117 Berlin, Germany
*Correspondence: andreatinelli@gmail.com (Andrea Tinelli)
Academic Editor: Christos Iavazzo
Submitted: 12 June 2025 Accepted: 17 July 2025 Published: 18 September 2025

Recently, the evolution of minimally invasive and robotic-assisted surgical techniques has significantly altered the dynamics of the surgical domain. Lengths of hospital admissions have diminished, operative morbidity has experienced a decline, and surgical interventions can now be executed with enhanced safety and precision [1]. Nevertheless, in conjunction with these advancements, we have observe a concerning trend: the relentless pursuit of technological complexity at the expense of surgical practicality. An illustrative example is the implementation of the da Vinci robotic system [2] to conduct the vaginal natural orifice transluminal endoscopic surgery (vNOTES) for colpopexy at the sacral promontory. This procedure, purportedly designed to epitomize the pinnacle of surgical innovation, necessitates several hours and incurs exorbitant costs, whereas a conventional colposuspension to the sacrospinous ligament, executed vaginally, or a traditional colpopexy at the sacral promontory utilizing limited laparoscopic access, can achieve equivalent results in under an hour, incurring substantially less expenses, without compromising safety or recovery [1,3]. This serves merely as a singular illustration, as we witness peers favoring surgical spectacle over efficiency, under the banner of "minimally invasive surgery", while neglecting the fact that the most minimally invasive methodology is not invariably the most optimal approach [4]. One must critically evaluate who derives advantage from excessively prolonged robotic colpopexy utilizing prohibitively expensive equipment [3] when a more straightforward, evidence-based alternative is readily accessible. There exist 3 key stakeholders in this paradigm: the surgeon, the patient, and the surgical industry. Surgeons may (or indeed do) experience pressure to adopt or exhibit advanced technologies to align with institutional prestige or personal advancement. Patients, frequently oblivious to available surgical alternatives, operate under the assumption that newer implies superior. The industry lacks any motivation to dissuade excessive use; surgical systems, maintenance contracts, disposable instruments, and training programs all represent lucrative avenues linked to financial gain. Indeed, it is imperative to inquire it this is optimal medical practice—or merely a marketing strategy for a highly profitable sector? Medical practice must be driven by outcomes, rather than appearances; by empirical evidence, rather than ostentation. Our duty as surgeons is not to use the most advanced tools, but to use the appropriate ones. Surgery should be guided by evidence and the patient outcomes, not by appearance or marketing. Today, some companies are pushing robotic surgery for almost every procedure, even when existing simpler methods work just as well or even better [5]. This goes against our basic surgical principles. Let us be clear that we are not against advanced technology. At the New European Surgical Academy (NESA), we helped in developing a new robotic system with haptic feedback which proved itself in several clinical trials, and we do recognize the huge benefits of robotic surgery in many procedures such as gynecologic and urologic malignancies or deep pelvic dissection [5]. At the same time, we believe that using robotic systems for procedures where traditional surgical methods proved to work perfectly, such as hysterectomy, myomectomy, or colposuspension does not represent real progress [6].

Today's healthcare system is facing rising costs. It is critical time to define our priorities. Surgical education should focus on critical thinking, not brand promotion. Hospital boards must assess the real value of new technologies using proper tools such as health technology assessment (HTA), and companies should be held to ethical standards that promote responsible, evidence-based use of surgical technology [7].

We need to return to reason, noting that surgery with long surgical times can induce damage to fundamental organs, such as the brain and its cognitive functions or the kidneys [8,9]. Great surgery is not about how advanced our instruments are but rather about when and how wisely we use them.

The contemporary healthcare landscape, characterized by escalating expenditures and a deficit of surgical personnel, necessitates a reevaluation of our strategic priorities. Surgical pedagogy must prioritize the cultivation of critical analytical skills over commercialized branding initiatives. Hospital advisory boards are obligated to assess cost-effectiveness through HTA methodologies when

appraising novel technological advancements. Moreover, it is imperative that surgical enterprises are motivated to embrace ethical marketing standards to foster responsible, evidence-based practices instead of unrestrained proliferation. A reinitiating of surgical practices is warranted. The pinnacle of surgical excellence resides not in the intricacy of the instruments employed, but in the judiciousness of their application.

Author Contributions

AT, AM and MS designed the research study. AM and MS performed the literature search. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

Ethics Approval and Consent to Participate

Not applicable.

Acknowledgment

Not applicable.

Funding

This research received no external funding.

Conflict of Interest

The authors declare no conflict of interest. Andrea Tinelli is serving as one of the Editorial Boards/Guest Editors members of this journal. We declare that Andrea Tinelli had no involvement in the peer review of this article and had no access to information regarding its peer review. Full responsibility for the editorial process for this article was delegated to Christos Iavazzo.

References

[1] Stark M. Nullius in verba–surgical manifesto for the 21st century. JSLS: Journal of the Society of Laparoscopic & Robotic Surgeons. 2021; 25: e2020.00096. https://doi.org/10.4293/JSLS.2020.00096.

[2] Barbash GI, Glied SA. New technology and health care costs — the case of robot-assisted surgery. New England Journal of Medicine. 2010; 363: 701–704. https://doi.org/10.1056/NEJMp1006602.

[3] Paraiso MFR, Ridgeway B, Park AJ, Jelovsek JE, Barber MD, Falcone T, *et al*. A randomized trial comparing conventional and robotically assisted total laparoscopic hysterectomy. American Journal of Obstetrics and Gynecology. 2013; 208: 368.e1–368.e7. https://doi.org/10.1016/j.ajog.2013.02.008.

[4] Stark M, Pomati S, D'Ambrosio A, Giraudi F, Gidaro S. A new telesurgical platform-preliminary clinical results. Minimally Invasive Therapy & Allied Technologies. 2015; 24: 31–36. https://doi.org/10.3109/13645706.2014.1003945.

[5] Stark M, Malvasi A, Mynbaev O, Tinelli A. The renaissance of the vaginal hysterectomy-a due act. International Journal of Environmental Research and Public Health. 2022, 19: 11381. https://doi.org/10.3390/ijerph191811381.

[6] Baekelandt J, De Mulder P, Le Roy I, Mathieu C, Laenen A, Enzlin P, *et al*. Hysterectomy by transvaginal natural orifice transluminal endoscopic surgery versus laparoscopy as a day-care procedure: a randomised controlled trial. BJOG: an International Journal of Obstetrics & Gynaecology. 2019; 126: 105–113. https://doi.org/10.1111/1471-0528.15504.

[7] McCulloch P, Altman DG, Campbell WB, Flum DR, Glasziou P, Marshall JC, *et al*. No surgical innovation without evaluation: the IDEAL recommendations. The Lancet. 2009; 374: 1105–1112. https://doi.org/10.1016/S0140-6736(09)61116-8.

[8] Pecorella G, De Rosa F, Licchelli M, Panese G, Carugno JT, Morciano A, *et al*. Postoperative cognitive disorders and delirium in gynecologic surgery: which surgery and anesthetic techniques to use to reduce the risk? International Journal of Gynecology & Obstetrics. 2024; 166: 954–968. https://doi.org/10.1002/ijgo.15464.

[9] Woods AP, Drake FT. ASO author reflections: investigating the relationship between patient primary language and surgical oncology outcomes. Annals of Surgical Oncology. 2022; 29: 8619–8620. https://doi.org/10.1245/s10434-022-12396-1.