EDITORIAL

Democratizing robotic prostatectomy: navigating from novel platforms, telesurgery, and telementoring

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Several novel robotic platforms have recently gained clearance for clinical use, breaking the two-decade-long global monopoly of the DaVinci® system (Intuitive, Sunnyvale, California, USA) [1]. This significant development is set to introduce competition into the robotic surgery market, fostering the expectation of reduced costs, widespread system adoption, and increased access to robotic procedures for patients [2–4].

In this issue of *Prostate Cancer and Prostatic Diseases*, Lin et al. conducted a comparative analysis between prostatectomy procedures performed using the DaVinci® robotic platform and the "newcomer" Senhance® system. This is a laparoscopy-based platform that has been increasingly utilized for radical prostatectomy, one of the most popular robotic surgical interventions worldwide [5]. While perioperative outcomes showed no statistically significant differences, within the setting of the study by Lin and colleagues, the median out-of-pocket cost for patients undergoing robotic prostatectomy with the Senhance® platform was $3500 lower.

One frontier that has garnered considerable attention in recent years is the *democratization* of robotic surgery. The accessibility to cutting-edge technologies has remained a challenge in such an evolving landscape. Indeed, the high costs associated with established robotic systems have limited their availability, especially in resource-constrained settings.

This glaring inequality in access to innovation has raised the imperative to explore alternative avenues that balance efficiency, affordability, and global reach.

As we stand at the crossroads of progress, a crucial question looms large: is it wiser to invest in more affordable novel robotic platforms or to pave the way for telesurgery?

On the one hand, pursuing cheaper novel robotic platforms is a compelling avenue. The development of cost-effective robotic systems has the potential to bridge the accessibility gap, making robotics available to a broader spectrum of patients. By shifting the focus towards affordability, these platforms can democratize the benefits of robotic surgery, ensuring that geography and financial constraints are no longer barriers to optimal healthcare.

On the other hand, telesurgery emerges as a disruptive force that could redefine the landscape of surgical oncology [6]. The concept of remote surgery, facilitated by advanced 5 G communication technologies, presents a paradigm shift in how surgeries are conducted [7]. Telesurgery offers the promise of expert surgical care reaching remote corners of the world and enables real-time collaboration between surgeons, transcending physical boundaries. Notably, Dr. Vipul Patel and his team recently visited China and Japan. They successfully demonstrated telesurgery up to 2500 km to perform robotic prostatectomy. This transformative approach can potentially revolutionize global healthcare delivery, placing surgical expertize within reach, regardless of geographical location. However, ethical considerations about the potential for dehumanization and objectification of the patient, as well as the distancing of surgeons from their patients – and their assistants – must be taken into account [8]. Furthermore, the capital cost of acquiring the robotic system, at least the side cart with the effector robotic arms, must still be considered.

Finding a nuanced solution is imperative. Striking a balance between cost-effectiveness and technological innovation is the key to a future where robotic surgery for prostate cancer is both advanced and accessible. It is interesting to note that collaborative efforts between researchers, healthcare providers, and technology developers are planned soon, potentially to pave the way for a hybrid model that harnesses the strengths of both philosophies. In this dynamic landscape, we believe telementoring could emerge as a synergic strategy, enabling experienced surgeons to provide real-time support and mentorship to their counterparts [9]. This approach would enhance skills and foster collaboration across geographical distances.

We believe that the journey towards democratizing robotic surgery for prostate cancer demands a strategic and inclusive approach. As we weigh the pros and cons of investing in cheaper novel platforms, telesurgery, and telementoring, let us embrace a future where advanced medical technologies are not a privilege but a universal right. The convergence of innovation and accessibility is the gateway to a world where all the benefits of progress, irrespective of their location or financial standing, are shared.

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RB wrote the manuscript; AV and AA revised and edited the manuscript for important intellectual content.

COMPETING INTERESTS

The authors declare no competing interests.