

Do not use robotic surgery in oncology patients when conventional surgical approaches are equally effective

It was with great interest that I read the Personal View by C S Pramesh and colleagues in *The Lancet Oncology* on ten low-value or harmful practices that should be avoided in cancer care.¹ Cancer treatment strategies of today have not only the power to treat and heal patients, but also the potential to shake global financial equilibrium. Of greater consequential concern is the impending risk of access diversion of health-care resources to members of society with high socioeconomic status at the cost of millions who cannot afford the same standard of care.

I therefore found the omission of robotic surgery in oncology management from Pramesh and colleagues top ten list of low-value or harmful cancer practices of concern. Robotic surgery offers some physical benefits to the user over traditional surgical methods—eg, stability, extreme range of manoeuvrability, and integration with modern imaging tools.²

However, has robotics in surgery stood the seminal test of evidence-based oncology? Data from studies comparing conventional and robotic surgical oncology procedures have not shown any superiority of outcomes with robotic surgery. Back-to-back randomised studies have shown the futility of this costly treatment approach. For example, in a randomised study³ in patients with prostate cancer 151 patients treated with open radical retropubic prostatectomy and 157 with robot-assisted laparoscopic prostatectomy were compared. At 24 months after surgery, urinary function, sexual function scores, and biochemical

recurrences were not different in the two groups. A recently reported randomised trial (NCT00614211) compared laparoscopic or robotic radical hysterectomy with open radical hysterectomy in early-stage cervical cancer. The data and safety monitoring committee had to give a call for early closure of the trial. In the interim analysis, the robotic hysterectomy group had lower 3-year overall survival than the open radical hysterectomy group (93.8% vs 99.0%, respectively; hazard ratio for death 6.00).⁴ A population-based study showed similar results.⁵ Of even more concern was a 2015 publication⁶ for bladder cancer; the study revealed that robotic cystectomy was associated with higher rates of peritoneal carcinomatosis and higher rates of extra pelvic recurrences when compared with open radical cystectomy.

The crucial issue with surgical robotics is the exorbitant cost of the equipment, which in turn translates to high financial burden for patients. In India, the cost of a robotic surgery can easily be more than twice the cost of conventional surgery. Robotic surgery and its users need to reduce the costs, evolve new cost-effective platform and technologies, standardise the platforms and simulators and try to generate high-quality evidence to support use of this technology. In view of these issues, the inclusion of “Do not use robotic surgery in oncology patients when conventional surgical approaches are equally effective” to Pramesh and colleagues top ten list is an impending necessity.

I declare no competing interests.

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- 4 Ramirez PT, Frumovitz M, Pareja R, et al. Minimally invasive versus abdominal radical hysterectomy for cervical cancer. *N Engl J Med* 2018; **379**: 1895–904.
- 5 Melamed A, Margul DJ, Chen L, et al. Survival after minimally invasive radical hysterectomy for early-stage cervical cancer. *N Engl J Med* 2018; **379**: 1905–14.
- 6 Nguyen DP, Al Hussein Al Awamlh B, et al. Recurrence patterns after open and robot-assisted radical cystectomy for bladder cancer. *Eur Urol* 2015; **68**: 399–405.