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Re: Association of Robotic-Assisted vs Laparoscopic Radical Nephrectomy with Perioperative Outcomes and Health Care Costs, 2003 to 2015

Jeong IG, Khandwala YS, Kim JH, et al

JAMA 2017;318:1561–8

Experts' summary:
Jeong et al. [1] compared the costs of robot-assisted and "straight stick" laparoscopic nephrectomy. Consistent with prior research on robotic surgery costs [2], the authors found longer operating time and higher costs for the robotic surgical approach. Compared with a mean 90-d cost of $19 530 for robot-assisted approaches, laparoscopy averaged $16 851 (difference $2678, 95% CI, $838 to $4519). This was mainly due to higher supply costs as well as longer operating time.

Experts' comments:
Urologists are used to the refrains about the high costs of robot-assisted surgery. While numerous studies have addressed the costs and benefits of robotic surgery, this study is novel in comparing robotic to traditional laparoscopic nephrectomy, a widespread minimally invasive approach. Unlike prostatectomy, for which "straight-stick" laparoscopy is challenging, laparoscopic nephrectomy is within the skill set of many urologists.

Despite the higher costs, the proportion of patients receiving robot-assisted nephrectomy grows every year. Why does the more expensive approach continue to gain ground?

One underappreciated factor in many cost-effectiveness studies is the crucial importance of surgical skill. For a robotically trained surgeon, if you know how to do a robotic prostatectomy or cystectomy, then maybe a robotic approach might be the safest and fastest way to perform a nephrectomy.

In the Premier database, 47.9% of surgeons performed only a single nephrectomy or fewer per year, while 80% performed four or fewer. For a surgeon well versed in robot-assisted approaches, it may be that robotics provides the best opportunity for a safe, minimally invasive nephrectomy. Moreover, in communities without a large number of urologists, a robotic skill set that can be used for many surgeries (from prostatectomies to partial nephrectomies and pyeloplasties) may be more useful and safer than performing occasional laparoscopic nephrectomies.

We would argue that the focus should be on reducing costs for whichever technique is safest and most familiar for an individual surgeon and not on mandating a specific approach. Greater competition (eg, with the entry of new companies to the robotic surgery markets) is one potential route. We have demonstrated that robotic surgery encompasses a wide range of costs [3,4]. Transparency for costs (eg, with surgeon dashboards) may help to shift surgeons towards the low-cost end of the spectrum for robotic approaches [5].

Ultimately it is not the surgical approach that matters, but finding strategies that allow surgeons to perform familiar surgeries safely, and to do so at minimum cost.

Conflicts of interest: Alexander P. Cole has nothing to disclose. Adam S. Kibel reports consulting fees from Janssen and Profound. Pfizer, Blue Earth, Merck and Co. and Insight, outside of the submitted work.

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Re: Preliminary Results for Avelumab Plus Axitinib as First-Line Therapy in Patients with Advanced Clear-cell Renal-cell Carcinoma (JAVELIN Renal 100): An Open-label, Dose-finding and Dose-expansion, Phase 1b Trial

Choueiri TK, Larkin J, Oya M, et al

Lancet Oncol 2018;19:451–60

Experts' summary:

Axitinib is a second-generation tyrosine kinase inhibitor (TKI) with a reported objective response rate (ORR) of 32% without any complete responses (CRs) in treatment-naïve metastatic renal cell carcinoma (mRCC) [1]. JAVELIN 100 tested whether the combination of axitinib and the PD-L1 inhibitor avelumab could improve clinical activity in treatment-naïve mRCC with clear cell histology [2]. The study focused on evaluating the safety and tolerability of the combination. Both drugs were given at full doses either with or without a 7-d lead-in period. As a secondary objective, clinical activity was recorded. Overall, the combination boosted efficacy (ORR 58.2%; CR 5.5%) and treatment remained safe and very well tolerated, warranting further development.

Experts' comments:

Checkpoint inhibitors (CPIs) have changed the treatment landscape for mRCC. While TKIs offer a great deal for palliation, CPIs may benefit a subgroup of patients in the long term. The augmentation of both mechanisms of action in one combined treatment regimen has been thought to increase efficacy in mRCC. JAVELIN 100 has reported unprecedented clinical activity, including a 5.5% CR rate at median follow-up of 52 wk. This observation led to the recently presented randomized controlled JAVELIN 101 study, which confirmed the ORR (51%) and CR (3%) rates in an unselected patient population with median follow-up of 10.8 mo [3]. Additional evidence comes from the combination of axitinib and pembrolizumab, which was tested in an early clinical trial. This TKI-CPI combination achieved an ORR of 65% and a CR rate of 8% [4]. In contrast to the previous studies, the median follow-up was 20.4 mo, possibly indicating that more mature data are needed to make a proper judgment on the true CR rate of a given regimen.

The CA209-214 study recently set a new standard of care in treatment-naïve mRCC with intermediate or poor risk [5]. The fraction of patients who achieved a CR was 9%, which improved with longer follow-up to 11% [6]. In this study, the quality of response differed between TKI- and CPI-treated patients (2-yr progression-free survival 60% vs 41%), underscoring the relevance of an immune-mediated response in mRCC.

Taken together, this exciting body of evidence is leading to a paradigm shift in mRCC towards long-term response and cure as the main target for current drug development. Dissecting the target population and offering the optimal combination for an individual patient is the next step in therapy optimization.

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