Continued improvement of perioperative, pathological and continence outcomes during 700 robot-assisted radical prostatectomies

EDITORIAL COMMENT

The authors retrospectively review their single institution database of 700 robotic assisted radical prostatectomies (RARP). Cases were divided into three groups for analysis (initial 300, subsequent 200, final 200 cases). The usual suspects of learning curve studies predictably declined with experience (OR time from 4.8 to 3.2 hours; pT2 margin positivity from 15% to 7%).

More importantly, the authors examined how functional outcomes change with experience. Urinary continence was appropriately defined as "no pads." Their data suggests that urinary continence outcomes improved with experience at all time points (1, 3, 6, and 12 months). At 1 year, 81% and 62% of patients in the initial group were continent by self report and validated questionnaire, respectively. Comparable numbers improved to 93% and 75% for the most recent group, a statistically significant change.

Interestingly, the same was not true of sexual outcomes. Preoperatively potent men undergoing bilateral nerve sparing achieved erections sufficient for penetration 83% and 63% by self report and validated questionnaire at 1 year, respectively. These numbers remained approximately stable with time. It is quite possible that the authors became proficient at their nerve sparing technique relatively early in the series. Certainly these potency outcomes are excellent, and using strict definitions of potentcy there may be little room for improvement at this level.

I would warn aspiring robotic surgeons not to place too much emphasis on specific case numbers. As the authors point out, individual results may vary. Furthermore, these results are a sum of cases from two surgeons, so their single learning curves are difficult to extrapolate. The authors are to be congratulated for focusing on functional outcomes, and for eschewing absolute learning curve cutoff numbers. We are currently well beyond the dawn of robotic surgery, and the time to discuss decreasing operative time and EBL has passed. High volume centers should follow suit, and explore the reasons underlying incremental improvements in functional outcomes. What specific maneuvers account for improved urinary outcomes with time? How can we best educate trainees so that they can "hit the ground running" with good functional outcomes? The authors could only speculate that better apical and bladder neck dissections are responsible, but the true answers are unknown.

What I find most distressing is the implication that these results have for our system as a whole. Evidence is mounting that functional and oncological outcomes improve with significant case experience. If so, patients would fare better if surgical expertise is centralized to fewer high volume centers. The learning curve of the institutions, not only the surgeons, impacts outcomes; i.e. OR teams become more efficient, postoperative care streamlined and routine. Instead, economic and market forces have been driving robotic technology into small communities, decentralizing care. The long term impact of this model remains to be seen.

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