Changes in pelvic organ prolapse surgery

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The current study updates the data on trends in pelvic organ prolapse surgery in the United States, comparing robotic-assisted vaginal vault suspension (RAVVS) to open vaginal vault suspension (OVVS).¹ The authors look at outcomes and utilization in the Nationwide Inpatient Sample (NIS) from 2009 to 2010. The analysis shows an increase in utilization of RAVVS over time, lower blood loss, higher intraoperative complications, and higher charges, but equivalent overall postoperative complications.

Large population-based studies, in my mind, do more to raise questions than to answer them. However, there is great value in raising the questions.

Any assessment of robotic outcomes needs to take into account the stage of familiarity of the surgeon. The fact that utilization was still increasing during the 1-year sample implies that RAVVS was still being adopted by some of the surgeons sampled. The advantages of the NIS include large sample size and a broad representation of practice type. However, it is not possible to distinguish results from high volume surgeons later on the learning curve from lower volume surgeons or those newer to the technology. The annual caseload at the centres performing RAVVS was higher, but this was not broken down by surgeon – the higher volume centre might have been more likely to purchase a robot or to hire an additional newer surgeon. The authors comment that the higher intraoperative complication rate may be attributable to the learning curve. The perioperative complications captured were injury to organ nerve or vessel, transfusion, death, prolonged length of stay, elevated hospital charges, cardiac, wound, vascular, genitourinary, neurological, infectious, and miscellaneous complications, and death. More subtle indicators of surgeon comfort, such as intraoperative consultation, presence of robotic representative in the room, conversion and console time, are not measurable with this type of data. Since prolonged case time may lead to rhabdomyolysis or positioning injury and increased costs, important qualifiers may be missing. Other factors are at play as well. Patients who had RAVVS were younger, more likely to have private insurance (means), and had fewer comorbidities, which might lead to a shorter hospital stay. Those who had OVVS may have had multiple prior surgeries leading to the decision against a robotic approach. Probably the most significant limitation of this study, as recognized by the authors, is that the NIS does not distinguish between the vaginal and abdominal approaches to vault suspension. Therefore the RAVVS is being compared to a heterogeneous group rather than its open counterpart.

Having myself learned to perform RAVVS post-fellowship 7 years ago, I have opinions regarding the factors playing into the data above. The learning curve is a significant factor for patient outcome and it is important to maintain experienced proctors, surgical assists, circulators, and residents to protect against complications. I now strongly prefer the RAVVS to open abdominal sacrocolpopexy due to the ease of dissection, precision, visibility, and postoperative pain. However, I still perform vaginal approaches with regularity and open abdominal approaches occasionally based on the patient scenario, stage of prolapse and prior surgeries. The considerations in patient selection are sure to confuse outcomes in a large population utilization study.

Despite all the qualifiers, the trends shown in this study do make sense. Lower blood loss, shorter hospital stay, fewer wound complications in RAVVS have been suggested by prior smaller studies. The authors have shown trends that raise important questions and they themselves recommend prospective studies to further elucidate on the questions raised. Comparison of RAVVS to open abdominal sacrocolpopexy in a randomized fashion among experienced surgeons would give the purest information regarding outcomes.

Competing interests: Dr. De declares no competing financial or personal interests.

Reference

 Li H, Sammon J, Roghmann F, et al. Utilization and perioperative outcomes of robotic vaginal vault suspension compared to abdominal or vaginal approaches for pelvic organ prolapse. *Can Urol Assoc J* 2014;8:100-6. http://dx.doi.org/10.5489/cuaj.1858

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