Robotic Surgery Not Always Worth It

Traditional laparoscopic hysterectomy surgery results in similar clinical outcomes, compared with robot-assisted laparoscopic hysterectomy, but at a significantly lower cost, concludes a new retrospective analysis of a large, national data-base.

While the promotion of robot-assisted surgery has increased over the years, the study, a retrospective review of 36,188 patient records from 358 hospitals, found the robot-assisted hysterectomy procedure costs $2,667 more, on average for inpatient procedures and $1,971 more for outpatient procedures, than traditional laparoscopic hysterectomy surgery with no significant improvement in clinical outcomes. These costs are specific to the episode of care and do not include the initial cost to purchase the robot, annual maintenance, or any operating room build-out to accommodate the robot.

“Robot-assisted surgery can provide advancement in minimally invasive procedures for a very select, more complex type of procedure, such as laparoscopic prostatectomy or gynecologic oncology,” said Resad P. Pasic, MD, PhD, University of Louisville, KY, one of the lead investigators for the study. “However, our study showed that in routine hysterectomy procedures, where traditional laparoscopic approaches can achieve the same clinical outcomes at a much lower cost to hospitals and with shorter operating time, there is no value proposition to use the robot for routine hysterectomy.”

The study analyzed 36,188 patient records from 358 hospitals, of which 95 percent of laparoscopic hysterectomies were preformed without robot assistance. Inpatient and outpatient settings did not differ substantively in frequency of adverse events. In inpatient and outpatient settings alike, using robot assistance was consistently associated with statistically significant higher average hospital costs per patient than not using it. Inpatient procedures without robot assistance averaged $2,667 less than with robot assistance. Surgery time was also significantly less for non robot-assisted procedures.

The results of the study were published in the November/December issue of the Journal of Minimally Invasive Gynecology. The study titled “Comparing Robot-Assisted to Conventional Laparoscopic Hysterectomy: Impact on Cost and Clinical Outcomes,” was sponsored by Ethicon Endo-Surgery.

“The clinical and economic benefits of minimally invasive surgery over open surgery have been clearly demonstrated in most hysterectomies. However, there has been limited research available until this point allowing surgeons to make a similar comparison between laparoscopic and robot-assisted surgery,” said Jacob Drapkin, Vice President Health Policy and Economics, Ethicon Endo-Surgery “It’s important to the surgeons and hospitals we serve to support them with the data they need in order to make the best decisions when weighing the type of surgical approach they

make available to their patients."

The study examined data from the Premier hospital database of cases involving women 18 years or older who had a minimally invasive hysterectomy – traditional or robot-assisted – performed between 2007 and 2008. The investigators examined the association between robot-assisted hysterectomy and adverse events, hospital costs, surgery time, and length of stay.

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