

Robotic Hysterectomy Safe in Morbidly Obese

All BMI groups had similar outcomes and complication rates in this study.

BY DAMIAN McNAMARA

FROM THE AAGL ANNUAL MEETING

HOLLYWOOD, FLA. – Surgical outcomes of robotic-assisted hysterectomy did not differ significantly for women whether they were nonobese, obese, or morbidly obese, in a study of 442 women classified according to body mass index.

“Our findings reiterate the safety of robotic hysterectomy for the obese and morbidly obese patients,” Dr. Taryn Gallo said. “As minimally invasive surgeons, we know every day we are facing bigger and bigger patients. You can’t underestimate the value of being able to offer these women a minimally invasive approach and sending them home the next day.”

Approximately 34% of U.S. women are obese with a body mass index (BMI) of 30 kg/m² or greater, according to the World Health Organization. Obesity and its comorbidities are well-known risk factors that affect surgical outcomes. These challenges are not limited to laparotomy. “With laparoscopy there are also difficulties with the surgery that we are all familiar with,” Dr. Gallo said at the meeting.

Difficulty obtaining pneumoperitoneum secondary to preperitoneal fat, difficulty ventilating these women in steep Trendelenburg position, and difficulty gaining adequate exposure during surgery are among the challenges in this patient population, she added.

“In the gynecologic literature, few studies have addressed robotic surgery

for the morbidly obese patient,” Dr. Gallo said. So she and her colleagues retrospectively studied women who underwent robotic-assisted hysterectomy over a 4-year period in a single surgeon teaching practice. Dr. Masoud Azodi, the senior author and surgeon in this study, is director of the minimally invasive gynecologic surgery (MIGS) fellowship program at Yale University, New Haven.

A total of 58% of the 442 women were obese or morbidly obese, said Dr. Gallo, a gynecologist in private practice in Sebastian, Fla. She was a minimally invasive gynecologic surgery fellow at Bridgeport Hospital/Yale New Haven Health System in Connecticut at the time of the study.

“All BMI groups had similar outcomes,” Dr. Gallo said. Median operative times, estimated blood loss, length of stay, and complication rates did not differ significantly among the nonobese women (BMI less than 30 kg/m², median 25 kg/m²); obese women (BMI of 30-39.9 kg/m², median 34 kg/m²); and morbidly obese women (BMI of 40 kg/m² or greater, median 44 kg/m²).

Median operative time for the entire cohort from skin incision to skin closure was 135 minutes. This included time for any concomitant procedures, such as lymphadenectomy or pelvic floor repair,

she said. Median operative time by BMI group was similar: 141 minutes for the nonobese group, 135 minutes for the obese women, and 124 minutes for the morbidly obese.

Three patients, one in each BMI group, were converted to laparotomy, for an overall rate of 0.7%.

Median estimated blood loss overall and in each BMI group was 100 mL.

VITALS

Major Finding: Median estimated blood loss overall and in each BMI group was 100 mL. Median length of hospital stay of 1 day, likewise, was the same overall and in each group. The overall complication rate of 12%, including 4% major and 8% minor complications, did not differ significantly by BMI.

Data Source: Retrospective study of 442 patients undergoing robotic hysterectomy at a community and academic teaching hospital.

Disclosures: Dr. Gallo said the minimally invasive gynecologic surgery fellowship program at Yale received an educational grant from Intuitive Surgical.

Median length of hospital stay of 1 day, likewise, was the same overall and in each group.

The overall complication rate in the study was 12%. This figure includes a major complication rate of 4% (readmissions, reoperations) and a minor complication rate of 8%. “By BMI group, the complications – major, minor, or total – these did not differ,” Dr. Gallo said.

Urinary complications affected 11 women (2.6%), including 1% who had bladder injuries recognized and repaired intraoperatively and 1.6% who had ureteral injuries. Two women with ureteral injuries were repaired with

stenting, and four others required subsequent ureteral reimplantation, she said.

Bowel injuries occurred in six patients. Four cases were recognized and repaired intraoperatively, and two women required reoperation and bowel resection.

The remainder of the complications in the study occurred less than 1% of the time. One patient, in the nonobese BMI group, had a vaginal cuff dehiscence, for an overall rate of 0.2% in the study.

Patient demographics were similar between groups. For example, the median age was 51 years in the nonobese, 55 years in the obese, and 54 years in the morbidly obese groups. Women underwent hysterectomy for benign and malignant indications, including early endometrial cancer, early cervical cancer, and occult ovarian cancer.

The retrospective design of the study is a limitation, Dr. Gallo said, and no absolute conclusions can be drawn. “Also, our study was not adequately powered. We would have required more than 4,300 patients to detect a difference in operative time between BMI groups with a power of 80%.”

She added, “Our study may not be generalizable to other surgeons or other institutions – this was a single surgeon with a high surgical volume and extensive experience in laparoscopic and robotic surgery.

“Despite these limitations, we believe our study offers clinically relevant information pertaining to the growing number of obese patients that will be faced by minimally invasive surgeons,” she said.

Assessment of costs associated with robotic-assisted hysterectomy was outside the scope of this study. ■

Longer OR Times Confirmed in Robotic Hysterectomy

BY DAMIAN McNAMARA

FROM THE AAGL ANNUAL MEETING

HOLLYWOOD, FLA. – Robotic-assisted hysterectomy takes significantly more operating room time and surgical time compared with a laparoscopic approach, according to the first randomized controlled trial to confirm what many already suspect about these two minimally invasive techniques.

Uterine weight, hospital length of stay, and rates of short- or long-term complications, in contrast, did not significantly differ between the 26 women randomized to robotic-assisted total laparoscopic hysterectomy and the 27 randomized to total laparoscopic hysterectomy. In addition, researchers found no significant differences between pain scores or the mean time for these women to return to activities.

“Robotic assistance results in longer OR times,” Dr. Marie Fidela Paraiso said at the meeting.

Operative time was the main outcome of the study. Mean time in the operating room was 246 minutes in the robotic group versus 172 minutes in the laparoscopic patients. Mean case time, or time from incision to closure

of the hysterectomy, was 173 minutes in the robotic group versus 103 minutes in the laparoscopy group.

“There were no differences in intraoperative or postoperative complications between groups,” Dr. Paraiso said. Similarly, estimated blood loss and postoperative hematocrit findings did not differ significantly between groups. Follow-up was at 6 weeks and 6 months.

Although there were no differences in length of stay by surgical approach, patients whose surgeries lasted more than 185 minutes had a significantly longer hospital stay than did patients with shorter surgeries, said Dr. Paraiso, head of the Center for Urogynecology and Reconstructive Pelvic Surgery and staff physician in the department of obstetrics and gynecology at the Cleveland Clinic.

Dr. Paraiso and her colleagues also assessed functional status and quality of life using the Short Form-36 and pain using visual analog scales at baseline and postoperatively. “There were no differences in pain between groups on postoperative visual analog scales.”

She also assessed the economics of the robotic-assisted versus laparoscopic cases in the study, but the data were still being analyzed at press time.

‘There were no differences in intraoperative or postoperative complications between groups.’ There were no differences in pain between groups postop.

VITALS

Major Finding: Robotic-assisted hysterectomy was associated with a significantly longer mean operating room time, 246 minutes, compared with a mean 172 minutes with a laparoscopic approach.

Data Source: First randomized controlled trial comparing robotic-assisted and laparoscopic hysterectomy in 53 women.

Disclosures: Dr. Paraiso said she had no relevant financial disclosures.

The randomized clinical trial design and inclusion of hospital parameters were strengths of the study, Dr. Paraiso said. “There are currently no randomized controlled trials in the gynecologic literature comparing robotic versus conventional hysterectomy.”

Limitations included the small number of participants, a limited follow-up time, and a question about the generalizability of the findings to other institutions, she said.

The study included adult women who had hysterectomy for a benign indication and who desired laparoscopic management. Mean age was 45 years and mean body mass index was 31 kg/m². All surgeons performed a minimum of ten robotic-assisted hysterectomies prior to the study, Dr. Paraiso said. ■