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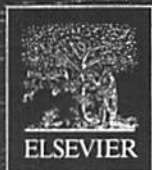
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241 Open Communications 12 - Robotics (12:35 PM - 12:40 PM)

A Comparison of Outcomes between Robotic-Assisted Single-Incision Laparoscopy Versus Single-Incision Laparoscopy for Benign Hysterectomy

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Study Objective: The objective of this study is to compare the outcomes of hysterectomies using robotic-assisted single-incision laparoscopy versus single-incision laparoscopy for benign indications.

Design: A retrospective cohort study.

Setting: Private Hospital.

Patients: Gynecological patients undergoing a hysterectomy for benign indications via single-incision robotic(50)or single-incision laparoscopy (50).

Measurements and Main Results: Initial analyses used the two-sample t-test, chi-square test, and Fisher's exact test as appropriate. Multiple linear regression was performed for continuous outcomes while multiple log-binomial regression was used to analyze the dichotomous outcome of conversion. Linear and log-binomial regression coefficients were adjusted for the patient's age, and the presence of obesity (defined as a body mass index of ≥ 30), diabetes, and hypertension. A total of 91 patient records were available for analysis: 43 robotic and 48 laparoscopic. Univariate analyses revealed that both groups were similar in mean age (robotic=46.1y, laparoscopic=45.7y, $P=0.86$), and mean body mass index (robotic=26.9 kg/m², laparoscopic=28.8 kg/m², $P=0.11$). The prevalence of diabetes was 7.0% and 18.8% in the robotic and laparoscopic groups, respectively ($P=0.10$). The prevalence of hypertension was 14.0% and 37.5% in the robotic and laparoscopic groups, respectively ($P=0.01$). The robotic group appeared to have twice the risk of conversion than the laparoscopic group (adjusted relative risk=2.2); however, this result was not statistically significant ($P=0.17$). No difference was seen in estimated blood loss. On average, the robotic group had a length of stay that was 9 h shorter than the laparoscopic group ($P=0.002$) after adjusting for patient characteristics. Total operative time was, on average, 27.5 minutes longer in the robotic group ($P=0.002$) after adjustment.

Table 1

Demographic and Clinical Characteristics of the Study Sample (N=91), With Selected Outcomes.

Characteristic	Robotic N=43	Laparoscopic N=48 (%)	P
Demographic			
Age (years), mean (SD)*	46.1 (9.9)	45.7 (8.9)	0.86
Body mass index (kg/m ²), mean (SD)	26.9 (5.3)	28.8 (5.6)	0.11
Clinical			
Diabetic, number (%)	3 (7.0)	9 (18.8)	0.10
Hypertensive, number (%)	6 (14.0)	18 (37.5)	0.01
Obese, number (%)	4 (9.3)	Not available	-
Outcomes			
Conversion, number (%)	8 (18.6)	5 (10.4)	0.27
Estimated blood loss (cc), mean (SD)	39.5 (32.5)	42.7 (38.6)	0.67
Intra-operative hemorrhage, number (%)	0 (0)	0 (0)	-
Intra-operative injury, number (%)	0 (0)	1 (2.1)	1.0
Length of stay (hours), mean (SD)	22.7 (9.6)	32.1 (15.1)	0.001
Total operative time (minutes), mean (SD)	140.0 (47.9)	120.0 (31.2)	0.02

* SD: standard deviation

Association Between Type of Surgical Approach (Robotic Versus Laparoscopic) and Three Continuous Outcomes (n=91). Each Parameter Estimate is Adjusted for the Patient's Age, and Presence of Obesity, Diabetes, and Hypertension.

Outcome	Adjusted Linear Regression Parameter Estimate for Surgical Approach	P value
Estimated blood loss (cc)	5.6	0.41
Length of stay (hours)	-9.0	0.002
Total operative time (minutes)	27.5	0.002

Conclusion: This preliminary observational study found that the single-incision robotic group had a statistically significant decrease in length of hospital stay, however showed an increase in total operative time.

242 Open Communications 12 - Robotics (12:41 PM - 12:46 PM)

Incidental Fallopian Tube Adenocarcinoma Managed with Robotic Staging Surgery

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Study Objective: Here we report two cases of fallopian tumor managed with robotic staging surgery.

Design: Case series.

Setting: University-affiliated teaching hospital.

Patients: Case one is a 49 year-old women presented with vaginal discharge and a 3 cm left adnexal mass. Pathological report revealed left fallopian tube adenocarcinoma, stage IC. Case two is a 44 year-old women presented with vaginal bleeding, 2 cm adnexal mass and left para-aortic lymph node adenocarcinoma proved by CT-guide biopsy. Pathological report revealed left fallopian tube serous adenocarcinoma, stage IIIC.

Intervention: Patients were managed by robotic surgical staging procedures, including total hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic lymph node dissection, para-aortic lymph node dissection, appendectomy, omentectomy, and ascites cytology, with subsequent serial chemotherapy.

Measurements and Main Results: Both patients were followed up every 3 month by CA-125 level and CT evaluation after surgery. In case one, the 49 year-old women received 6 times of chemotherapy (cisplatin / paclitaxel) after surgery, and CA-125 level decreased from preoperatively 55.9 U/ml to 9.5 U/ml in 6 month, without evidence of local recurrence 16 months after surgery. In case two, the 44 year-old women received 11 times of chemotherapy (cisplatin / paclitaxel), and CA-125 level decreased from preoperatively 52.1 U/ml to 11.1 U/ml in 12 months, without evidence of local recurrence 20 months after surgery.

Conclusion: Robotic staging surgery is a feasible approach for treating incidentally found fallopian tube tumor.

243 Open Communications 12 - Robotics (12:47 PM - 12:52 PM)

The Relationship of Fibroid Weight to Operative Outcomes of Robot-Assisted Laparoscopic

Myomectomy in a Predominantly Hispanic Population

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Study Objective: To examine the relationship of fibroid weight and baseline patient characteristics to operative outcomes of robot-assisted laparoscopic myomectomy (RLM).

Design: Retrospective chart review.

Setting: Community hospital with a well-established robotic surgery program.

Patients: 266 consecutive surgical cases of women treated for uterine fibroids by three surgeons during the five-year period of 2009–2013.

Measurements and Main Results: Medical records data were collected for age, race/ethnicity, body mass index (BMI), operative time, estimated blood loss (EBL), fibroid weight, in-hospital complications and 30-day readmissions. The majority of patients were Hispanic, 138 (52%) while 48 (18%) were White non-Hispanic, 46 (17%) Black, 29 (11%) Asian/other, and 5 (2%) unreported. Increased fibroid weight was associated with longer operating times and greater EBL ($p < 0.001$, Spearman rank correlation). Comparing the 47 cases with large fibroids (weighing > 500 gm) to 187 others, the median operating time was 155 minutes vs 106 ($p < 0.001$) and median EBL was 175 mL vs 100 ($p < 0.001$) (Wilcoxon two-sample test). The proportion of large fibroids varied from 15% in Hispanics to 26% in all others ($p = 0.024$, chi-square). With respect to BMI, large fibroids were present in 17% normal weight, 29% overweight and 15% of obese women. Conversion to open surgery occurred for 5 (1.9%) cases. In-hospital complications included transfusion and fever, each occurring in 15 (5.6%) cases. Pelvic/abdominal pain, dizziness, anemia, elevated WBC, headache or nausea occurred in 20 (7.5%) patients. Four (1.5%) patients were readmitted to hospital 2 to 13 days after discharge due to bowel perforation/obstruction (2 cases), pain and shortness of breath (1 case) and UTI and colitis (1 case).

Conclusion: Our study confirms the impact of large fibroids on operative outcomes following RLM and suggests substantial variation in the occurrence of large fibroids by race/ethnicity and BMI.

244 Open Communications 12 - Robotics (12:53 PM - 12:58 PM)

Tip for Collecting Multiple Myomas during Robot-Assisted Laparoscopic Myomectomy

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Study Objective: To present a tip not to lose myomas resected during robot-assisted laparoscopic multiple myomectomy.

Design: Prospective study for cases of robot-assisted laparoscopic myomectomy for multiple myomas.

Setting: Fibroid center, Division of reproductive endocrinology in department of Obstetrics and Gynecology in general hospital.

Patients who underwent robot-assisted laparoscopic myomectomy for multiple myomas.

Intervention: By using a needle and a thread of a PDS #2-0, we pierced the center of myomas resected during robot-assisted laparoscopic myomectomy. And then the myomas on PDS #2-0 were stung and hung up on the left lateral umbilical ligament before starting morcellation of the myomas.

Measurements and Main Results: All of the resected myomas were easily taken out of the pelvic cavity without disappearance from operative field. We did not have to lose time for finding the hidden myomas between omentum and bowel. During those myomas hanging on the left lateral umbilical ligament in a string with PDS #2-0, the operative field was not blocked by hanging myomas, and pelvic organs were not injured by the hanging needle of PDS #2-0.

Conclusion: This tip could help the operator to reduce time for finding resected myomas, and not to lose those ones during robot-assisted laparoscopic multiple myomectomy. We could consider this technique as a method to prevent the occurrence of disseminated pelvic leiomyomatosis due to residual myomas resected from uterus but not removed from pelvic cavity. And also it could be a useful method to reduce the long operation time in robot-assisted laparoscopic myomectomy for multiple myomas.

245 Open Communications 12 - Robotics (12:59 PM - 1:04 PM)

Outcomes of Robotic Hysterectomies Performed by Primary Resident Surgeons

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Study Objective: We report the perioperative outcomes of resident-performed robotic-assisted laparoscopic hysterectomies (RALH) in a university-based OB/GYN residency program.

Design: Record review of all RALHs was performed during the first two years following introduction of the da Vinci[®] surgical platform. Patient characteristics were analyzed, including patient age, body mass index, and uterine size. The effects of PGY training and prior experience of primary resident surgeons on surgical outcomes, including estimated blood loss, time under anesthesia, and both intra-operative and postoperative complications were investigated. Outcomes of primary resident surgeon cases were compared with primary attending surgeon cases.

Patients: 173 RALHs were performed over a 25-month period involving residents as primary or assistant surgeon; 144 cases were included in this study.

Measurements and Main Results: Using multivariate models to control for patient characteristics for cases with resident primary surgeons, PGY level was not associated with EBL, TUA or procedure time. Prior experience as primary surgeon did not contribute significantly to EBL; however the number of prior cases as primary surgeon was associated with shorter TUA and procedure time. PGY level was not related to the occurrence of intra-operative complications or patient readmission. In models that controlled for patient characteristics, resident primary surgeons had lower EBL than attending primary surgeons, and there was no difference between resident and attending primary surgeons for TUA or procedure time. The intra-operative complication rate for all RALHs in the study period was 6.3%. Resident primary surgeons experienced a higher intra-operative complication rate than attending primary surgeons. Resident primary surgeons experienced a postoperative complication rate similar to that of attending surgeons (9.6% vs. 5.9% respectively, $p = 0.54$).

Conclusion: During the initial years of a robotic training program, resident primary surgeons experienced more intraoperative complications than attending surgeons, but the overall complication rate was comparable to the published RALH complication rates of gynecological surgeons.

246 Video Session 8 - Laparoscopy (12:05 PM - 12:11 PM)

Laparoscopic Resection of a Cornual Ectopic Pregnancy

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We present an interesting case of laparoscopic resection of a cornual ectopic pregnancy in. Through this video we review cornual pregnancy, management of a cornual pregnancy, and present a video of laparoscopic resection of a cornual pregnancy. Using the case of WD we review the definition of cornual or interstitial ectopic pregnancy, look at ultrasound images showing eccentric location of the ectopic pregnancy with a thin myometrial mantle, and describe both medical and surgical management. Video footage is of injection of a vasoconstriction agent into the myometrium, dissection of the the ectopic pregnancy from the underlying myometrium, and laparoscopic closure of the myometrial defect. Laparoscopic resection of a cornual pregnancy is safe and often successful.

247 Video Session 8 - Laparoscopy (12:12 PM - 12:18 PM)

Handle with Care: Dissection Technique for Large Broad Ligament and Cervical Myomas

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Study Objective: To describe the technique of safely removing large myomas in difficult location surrounded by vital organs.

Discussion: Less than 5 % myomas are located in cervical and broad ligament region. But their vicinity to vital organs and vascular supply make them apparently difficult to remove laparoscopically. With careful pre operative evaluation, correct use of energy sources and sticking to basic principles of laparoscopic dissections, these myomas can be safely