**DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:**
Shannon L. Wallace: Nothing to disclose; Raveen Syan: Nothing to disclose; Kyueun Lee: Nothing to disclose; Eric R. Sokol: Nothing to disclose.

**17 Postoperative infectious morbidity after hysterectomy: A propensity-matched analysis comparing vaginal preparation with povidone iodine versus chlorhexidine**

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OBJECTIVES: To compare rates of infectious morbidity and hospital utilization with preoperative vaginal preparation using povidone iodine (PI) or chlorhexidine (CHX) prior to hysterectomy.

MATERIALS AND METHODS: This was a retrospective analysis of women who underwent hysterectomy for gynecologic indications at 70 hospitals in a statewide surgical collaborative between January 2017 and December 2019. The primary outcome was post-operative infectious morbidity which included urinary tract infection and surgical site infection (SSI) involving superficial, deep, or organ space tissues within 30 days of surgery. To adjust for confounding, propensity score matching, 1:1 without replacement and with a caliper of 0.005 was performed to create cohorts that had vaginal preparation with either PI or CHX and did not differ in observable characteristics. We compared rates of infectious morbidity as well as hospital utilization (reoperation, readmission, and ED visits) in the matched cohorts.

RESULTS: In the statewide collaborative, there were 18,184 patients who received PI and 3,018 who received CHX. After propensity score matching of 2935 pairs, the PI and CHX groups did not differ in demographics, comorbidities, choice of preoperative antibiotics, benign vs malignant surgical indication, and surgical approach (Table 1). PI was associated with a lower rate of infectious morbidity when compared to the CHX group (3.0% vs 4.3%, P = 0.008; Figure 1). There were significantly lower rates of urinary tract infection (1.1% vs 1.7%, P = 0.034) and emergency department visits (7.9% vs 9.7%, P = 0.013) in the PI group when compared with CHX. There were non-significant trends of lower rates of SSI (2.0% vs 2.7%, P = 0.071) and reoperation (1.6% vs 2.1%, P = 0.174) in the PI group when compared with CHX.

CONCLUSION: This propensity score-matched analysis provides evidence that povidone iodine is preferable to chlorhexidine for vaginal preparation prior to hysterectomy due to lower rates of infectious morbidity and fewer emergency department visits. However, the absolute differences in infectious morbidity rates were relatively small, and in the event of an iodine allergy, chlorhexidine appears to be a reasonable alternative.
DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Ashley E. Skeith: Nothing to disclose; Payton Schmidt: Nothing to disclose; Daniel M. Morgan: Blue Cross Blue Shield of Michigan, the Obstetrics Initiative, Salary support, Physician lead; Uptodate, Royalties, Author.

18 Assessing vaginal surgery skills: Setting a proficiency cutoff score for the fundamentals of vaginal surgery simulator

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OBJECTIVES: The Fundamentals of Vaginal Surgery (FVS) simulator and tasks were developed to teach and assess the basic surgical skills utilized in vaginal surgery. The primary aim of this study was to determine a proficiency cutoff score for the combined task performance.

MATERIALS AND METHODS: This was a pilot study used to determine the optimum “Competent/Not-competent” cutoff score to assess performance of surgeons on the FVS simulator. Residents (n = 14), fellows (n = 3), and attending surgeons (n = 5) were recruited to participate to perform 6 unique tasks relevant to vaginal surgery — two knot tying, two sutureting, and two pedicle ligation tasks. The cutoff times used for each task were determined a priori by 3 Female Pelvic Medicine and Reconstructive Surgery (FPMRS) attending surgeons who participated in this study. A scoring method similar to that used in the Fundamentals of Laparoscopic Surgery was applied and calculated as Task score = (cutoff time) – (completion time) – 10 (sum of errors). Task scores were then summed and higher summed task scores indicated a better performance. Proficiency scores were determined based on the average expert performance level. To test the assessment’s ability to discriminate participants’ ability by group, three groups were created — novice (PGY 1 and 2), intermediate (PGY 3-7) and expert (FPMRS attendings) surgeons. Because data were non-normal, Kruskal Wallis test was used to compare median scores between groups. A cutoff score that maximized discrimination between novices and experts was identified, while considering criteria that all experts pass and all novices fail.

RESULTS: Twenty-two participants were included — 6 novices, 11 intermediates, and 5 experts. Performance was significantly different between groups, with median scores (interquartile range [IQR]) for novice, intermediate, and expert groups of 261.5 (IQR = 211.5, 351.0), 480.0 (IQR = 389.0, 550.0), and 452.0 (IQR = 439.5, 603.5), respectively (P = 0.005; Figure 1). The cutoff score was set at 400. This score was consistent with approximately 1 standard deviation below the average expert performance. Based on this cutoff score, 0% (0/6) novices, 63.6% (7/11) intermediate, and 100% (5/5) experts passed.

CONCLUSION: In this pilot study, a preliminary cutoff score was established to discriminate between novice and expert surgeons. Future work should include multi-institutional trials to ensure generalizability of this cutoff score and value as an assessment tool.

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19 The impact of obesity on native tissue repair outcomes: A secondary analysis of the OPTIMAL trial data

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OBJECTIVES: The Operations and Pelvic Muscle Training in the Management of Apical Support Loss (OPTIMAL) trial was a multi-site, prospective randomized trial which compared sacrospinous ligament fixation (SSLF) and uterosacral ligament suspension (ULS) surgical outcomes, and also evaluated the impact of perioperative pelvic muscle training (PMT). Increasing body mass index (BMI) is associated with increased risk of pelvic organ prolapse and the prevalence of obesity is increasing worldwide. The purpose of this study is to better understand the impact of obesity on the results of native tissue vaginal apical suspension procedures.

MATERIALS AND METHODS: This study is a secondary analysis of data collected during the OPTIMAL trial, which is now a deidentified public dataset in the NIH Data and Specimen Hub database. Subgroup analysis of patients who received SSLF or ULS procedures and PMT or usual care was performed to determine if there were differences in surgical failure rates across a range of BMIs after two years. The sample size in this analysis was 297; not all of the original OPTIMAL data was available due to the deidentification process. Data were analyzed using ANOVA test, Tukey’s HSD post-hoc analysis, Fisher’s exact test, and Wald correct proportion risk difference test which is a method of identifying 95% confidence intervals.

RESULTS: There were 75, 120, 63, and 39 patients in the normal, overweight, class 1 obesity, and class 2 obesity or greater BMI subgroups, respectively. The groups were not significantly different based on surgical arm or PMT arm, smoking, estrogen use, menopausal status, or number of cesarean sections (Table 1). However, there were differences in age, race, and number of vaginal births. In each BMI subgroup, the surgical failure rates and risk differences were not significantly different for the surgical or PMT arms (Table 2). Interestingly, the surgical failure rate increased in the ULS group with increasing BMI (normal = 30.56%, overweight = 30.16%, class 1 obese = 40.63%, class 2 obese or greater = 45.1%). Additionally, the risk difference between ULS and SSLF groups increased with BMI (normal = 5.34%, overweight = 8.44%, class 1 obesity = 1.92%, class 2 obesity or greater = 23.95%).

CONCLUSION: The risk of surgical failure between ULS and SSLF, or PMT and usual care, is not significantly associated with increasing BMI. However, the increasing failure rate of ULS and difference in failure rates of ULS compared to SSLF with increasing BMI in our study may indicate an association if analyzed for a longer time period.