Oral Presentation 1

A Multicenter Study Of Vesicovaginal Fistula Formation Following Cystotomy During Hysterectomy For Benign Indications

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OBJECTIVES: To evaluate factors associated with the development of vesicovaginal fistula following a cystotomy during benign hysterectomy at two large university settings.

MATERIALS AND METHODS Charts from all hysterectomies performed for benign indications at Grady Memorial Hospital and the University of Mississippi Medical Center between January 1, 2000 and December 31, 2008 were reviewed. Demographic and operative data were abstracted. Cystotomies were scored using the American Association for the Surgery of Trauma (AAST) grading system for iatrogenic bladder injuries. Cases were patients who developed a vesicovaginal fistula (VVF) following cystotomy while patients who had a bladder injury without development of a VVF served as the controls. The Fisher's exact test was used to analyze categorical variables while the Student's t-test was used for continuous variables. Odds ratios with 95% confidence intervals were calculated for risk factors.

RESULTS: During the study period, 5786 hysterectomies were performed for benign indications at the two study centers. Of these, 59% were abdominal, 34% vaginal and 7% were laparoscopic assisted hysterectomies. A total of 90 (1.6%) cystotomies occurred. Vesicovaginal fistulas developed in seven (7.8%) patients. No significant differences in age, parity, weight or ethnicity were identified between those developing a VVF and those who did not. No significant differences in the rate of tobacco use, hypertension, diabetes, prior Cesarean delivery, prior sexually transmitted infections, pelvic adhesive disease or prior pelvic surgeries were seen. The route or indication for hysterectomy did not differ between the groups. The mean uterine weight and operative blood loss did not differ between the groups, however, patients who developed a VVF were more likely to have a uterus that weighed more than 250 g (83% vs 36%, $P = 0.03$) and a trend towards an operative blood loss of greater than 1000 mL (67% vs 27%, $P = 0.06$). Patients who developed a VVF had longer operative time (317 $\pm$ 82 vs 206 $\pm$ 10 minutes, $P = 0.02$) and were more likely to have an associated ureteral injury (29% vs 1%, $P = 0.02$). An AAST Grade V bladder injury (OR: 30.80, 95% CI: 4.50–210.79) and one layer repair of the bladder (OR: 7.20, 95% CI: 1.05–49.32) were associated with VVF formation.

CONCLUSION: Patients with an AAST Grade V bladder injury or those whose bladder is repaired in a single layer are at increased risk for developing a vesicovaginal fistula following a cystotomy during a hysterectomy performed for benign indications.

Key Words: Hysterectomy, Cystotomy, Vesicovaginal fistula

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 2

Systematic Review Of Sacral Neuromodulation For The Treatment Of Refractory Urinary Urgency, Frequency And/Or Urge Incontinence

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OBJECTIVES: To systematically review and synthesize published literature on sacral neuromodulation for the treatment of urinary urgency, frequency and urge urinary incontinence.

MATERIALS AND METHODS: Vanderbilt University's Evidence-based Practice Center was contracted by the Agency for Healthcare Research and Quality to review the literature on the Management of Overactive Bladder, including sacral neuromodulation. Literature published in English from January 1966 to October 2008 and indexed in PubMed, MEDLINE®, EMBASE and CINAHL were included. All references from key articles were hand-searched to identify additional studies. Two reviewers separately evaluated each abstract to evaluate for inclusion or exclusion. Articles selected for inclusion were then reviewed in full by two reviewers to determine if inclusion criteria were met. Discordance was resolved by third-party adjudication. Studies with fewer than 50 participants were excluded, as were studies with less than 75% women or a lack of relevance to overactive bladder.

RESULTS: Eleven studies on sacral neuromodulation met inclusion criteria: one RCT, two prospective cohorts, and eight case series. Study designs were generally weak, with six of the studies involving subject duplication from multiple sites. Seven of the studies did not restrict the study population to overactive bladder, compromising generalizability. The one RCT demonstrated a statistically significant benefit for sacral neuromodulation over usual care for the reduction of episodes of incontinence per day (average reduction of 7.1 episodes compared to a 2.1 increase among subjects who had failed medical management). Six case series reported a decrease in urge incontinence episodes of 51% to 80% daily. The length of follow-up ranged from six months to five years. Urinary frequency decreased between 31% and 45% consistently across all of the studies, regardless of study design; with most follow up ranging 6 to 24 months. One prospective case series found a 33% decrease in mean voids per day at one year, dropping to a 23% decrease at 5 years. Three studies found an increase in the mean voided volume of 78 to 108 mL per void. Two studies found that sacral neuromodulation had a beneficial effect on quality of life. In the early studies, there was an average of 1.1 to 1.7 adverse events per participant. Advances in technology have decreased this rate and more recent studies report 0.1 to 0.5 events per participant. Pain, lead migration or problems with the lead, infection and explantation of the device were the most common adverse events. Pain at the implantable pulse generator site occurred in 15.4% to 27% of the cases. Infection occurred in 1.9% to 6.1% of participants.

CONCLUSION: Sacral neuromodulation can provide modest improvement in rates of urinary frequency and urge incontinence, and in some instances improves quality of life. Additional research is needed to establish the circumstances under which sacral neuromodulation is an appropriate treatment choice, and to address whether the higher rate of adverse events seen with these techniques is outweighed by the symptom benefit.

Key Words: Overactive bladder, Sacral Neuromodulation Therapy, literature review

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 3

Risk Factors Leading To Post Sling Voiding Dysfunction And Sling Revision-a Multicenter Case-Control Study

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OBJECTIVES: The purpose of this study was to determine risk factors for voiding dysfunction necessitating sling revision after midurethral polypropylene sling placement.

MATERIALS AND METHODS: This multicenter case-control study included patients who underwent midurethral polypropylene sling placement and subsequent sling revision secondary to voiding dysfunction from January 1999 to January 2007 from nine urogynecologic centers across the US. Controls were patients who had undergone midurethral polypropylene sling placement not necessitating revision and were matched by patient age and date of surgery. Data collected included demographics, urodynamic study data, sling type, operative data, and clinical information before and after sling revision. Univariate analyses identified risk factors for voiding dysfunction, based on chi square tests for categorical variables, independent samples t-tests for normally distributed continuous variables, and Mann-Whitney rank sums tests for non-normally distributed continuous variables. Direct logistic regression analysis was used to determine which diagnostic variables predicted voiding dysfunction necessitating sling revision.

RESULTS: One hundred ninety seven patients met case study criteria with 2 controls matched to each case for a total of 394 controls. Two hundred fourteen patients had all data points and were included in the logistic regression analysis. No specific patient characteristics increased the risk for sling revision including: age, race, BMI, smoking status, menopause status, hormone use, COPD/asthma history, previous incontinence or prolapse surgery, prior hysterectomy, preoperative diagnosis, and presence of intrinsic sphincter deficiency. Risk factors for sling revision did include: retropubic sling type (OR = 2.11, 95% CI 1.03–4.34, $P = .04$) and concurrent surgery (OR = 4.21, 95% CI 1.96–9.04, $P = .0002$) In contrast, pre-sling post void residual values, maximum detrusor pressures, maximum urinary flow rates, general anesthesia, and sling tensioning with cough/crede versus visual placement did not significantly predict the need for sling revision (all P-values $>.05$).

CONCLUSION: This study determined that the retropubic sling type and concurrent surgery at the time of sling placement are risk factors for postoperative voiding dysfunction and sling revision. Urodynamic findings, baseline demographic information, anesthesia type and sling tensioning technique were not found to be predictive of voiding dysfunction and need for sling revision.

Key Words: midurethral sling, voiding dysfunction, revision

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Stephanie Molden: Ethicon:honorarium:preceptor; Miles Murphy: Ethicon:Consulting Fee:Consultant;AMS:Consulting Fee:Consultant; Bard: Consulting Fee:Consultant

Oral Presentation 4

A Randomized Clinical Trial Of Vaginal Mesh For Prolapse (vamp)

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OBJECTIVES: The primary aim of this double-blind, multicenter randomized clinical trial was to test the hypothesis that the addition of a standardized technique of interpositional synthetic polypropylene mesh placement improves the one-year outcome of vaginal reconstructive surgery for pelvic organ prolapse compared to traditional vaginal reconstructive surgery without mesh.

MATERIALS AND METHODS: 64 women with stage 2–4 prolapse were randomized to vaginal colpopexy repair with Prolift mesh or traditional vaginal colpopexy without mesh. The primary outcome measure was objective treatment success (POP-Q points Ba, Bp, or C at stage 1 or less) at 3 months and 1 year. Interim analysis was conducted after 56 subjects had approximately 3 months of follow-up or more. Mann-Whitney and log-rank test were used for statistical analysis.

RESULTS: At a mean follow-up of 7.2 months (range 2.1–14.7 months), the trial was halted due to pre-determined criteria for mesh erosion. 32 subjects underwent mesh colpopexy (23 anterior Prolift, 9 total Prolift), and 32 subjects had traditional vaginal repairs and colpopexies with no mesh (primarily uterosacral ligament suspension and colporrhaphy). There were no statistically significant differences between the mesh and no-mesh groups with respect to age (mean 64 years), race (64.1% Caucasian), BMI (mean 27.3), menopausal status (93.8%), and prior hysterectomy (40.6%). Analysis of the 29 mesh and 27 no-mesh subjects found no statistically significant difference with respect to overall recurrence. Thirteen (44.8%) of the mesh subjects and 19 (70.4%) of the no-mesh subjects had prolapse recurrence ($P = 0.30$). Most recurrences involved the anterior compartment (11 mesh subjects and 18 no-mesh subjects). Overall recurrence was sooner for the patients with prior hysterectomy, although the difference was not statistically significant. The median time to recurrence was 12.2 months for the concurrent hysterectomy group and 3.9 months for the prior hysterectomy group ($P = 0.15$). There were no statistically significant differences between the mesh and no-mesh groups with respect to the most recent postoperative POP-Q C or Bp measurements. However, the Ba measurements for the mesh group were smaller (see Table 1).

Of the 32 mesh patients, 5 (15.6%) developed vaginal mesh erosions, 1 in the group undergoing concomitant hysterectomy and 4 in the prior hysterectomy group ($P = 0.077$). Two cystotomies and one blood transfusion occurred in the mesh group only. Subjective QoL measurements did not differ significantly between the two groups at baseline or 3 months postoperatively.

CONCLUSION: Synthetic polypropylene mesh use may have some benefit at point Ba; however, there is a high vaginal mesh erosion rate (15.6%) with no difference in over-all objective or subjective cure rates. This study questions the value of additive synthetic polypropylene mesh for vaginal prolapse repairs.

Key Words: synthetic mesh, prolift, clinical trial, polypropylene mesh, pelvic organ prolapse surgery, vaginal repair of prolapse

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 5

Informed Consent Practice Patterns For Midurethral Sling Surgery: The Effect Of The Fda Notification

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OBJECTIVES: To describe informed consent practices for midurethral sling (MUS) procedures and how consenting practices have changed since the Food and Drug Administration (FDA) notification in 2008.

MATERIALS AND METHODS: Three hundred and ninety-nine (399) surgeons who regularly perform MUS surgeries for stress urinary incontinence were surveyed regarding their surgical consent practices. They were asked to describe both the level of detail and the specific details they provide to patients during informed consent for MUS surgery. Surgeons also provided information regarding whether they had altered their consent practices according to the FDA notification issued in 2008. Surgeons described their baseline demographics and were queried regarding their educational background including residency and fellowship training.

RESULTS: Most respondents were male (55%), over 40 (57%) and had ≥10 years experience after residency (48%). Fifty-two percent (52%) of surgeons underwent fellowship training in either Female Urology or Female Pelvic Medicine and Reconstructive Surgery. Sixty-one percent (61%) reported performing ≥5 MUS surgeries per month. There was no difference in the reported level of detail provided to patients regarding risks, benefits and alternatives to MUS surgeries based on age, fellowship training or surgical volume. However, differences did exist in the specific details provided. Younger surgeons were more likely to counsel patients about behavioral therapy (80 vs. 70%, $P = 0.028$), weight loss (78 vs. 68%, $P = 0.024$) or pessary use (82 vs. 69%, $P = 0.005$) as alternatives to MUS surgery than older surgeons. Older surgeons were more likely to offer patients medications (39 vs. 28%, $P = 0.026$) as an alternative to MUS surgery. Fellowship trained surgeons were more likely to recommend behavioral therapy (80 vs. 69%, $P = 0.002$) or a fascial sling (29 vs. 14%, $P < 0.001$) as an alternative to MUS surgery than surgeons not fellowship trained. Physicians who performed a high volume of slings (>5/month) were more likely to recommend pelvic floor muscle exercises (98% vs. 93%, $P = 0.019$) and behavioral therapy (78 vs. 68%, $P = 0.032$) than those performing <5 slings/month. Fellowship trained and higher volume surgeons were more likely to spend greater than 20 minutes counseling patients for informed consent. Most respondents (53%) stated that they had not changed their consent practices based on the FDA notification. Almost all surgeons (99%) reported informing patients that vaginal mesh is permanent but only 13% reported issuing a written copy of the patient labeling from the surgical mesh manufacturer to the patient. Surgeons who had not undergone fellowship training were more likely to have changed their consent practices in response to the FDA notification (52 vs. 41% $P = 0.039$) than those with fellowship training.

CONCLUSION: Fellowship trained surgeons and those with higher surgical volumes were more likely to offer a variety of alternatives to MUS surgery and spend more time in surgical consent counseling. The majority of surgeons performing MUS surgery have not changed their consent practices in response to the FDA notification, and few comply with all the FDA recommendations for MUS surgical consent.

Key Words: TVT, surgical counseling, vaginal graft, informed consent, FDA notification

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 6

An Evaluation Of Validated Laparoscopic Skills Simulators And The Impact On Operating Room Performance In Obstetrics And Gynecology Residents

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OBJECTIVES: To determine whether training on previously validated laparoscopic skill stations translates into improved technical performance in the operating room.

MATERIALS AND METHODS: We performed a multi-center randomized controlled trial evaluating the performance of Ob/Gyn residents during a laparoscopic sterilization procedure via bilateral midsegment salpingectomy. Eligible participants were defined as all OB/Gyn residents in post-graduate years 1–4 from ACGME accredited programs. We categorized PGY 1/2's as lower level (LL), and PGY 3/4's as upper level (UL).

We used the following five previously validated exercises: Pegboard transfer, Pattern cutting, Endoloop, Intracorporeal and Extracorporeal knot tying. After participants performed one laparoscopic salpingectomy, they were block randomized and stratified by level of residency (LL, UL) to laparoscopic simulator training versus usual instruction. The intervention group received five 30-minute sessions with an expert laparoscopic surgeon to practice each of the five exercises. In the operating room, we used the most validated method of technical skills assessment to date, the University of Toronto's OSATS, which includes a series of detailed, dichotomous, task-specific checklists along with a separate global rating scale.

Our null hypothesis is that intervention with laparoscopic skills simulators will not improve performance in the operating room. Using previously reported data, a sample size of 44 PGY 1/2's and 66 PGY 3/4's were necessary to demonstrate a 50% improvement in performance, assuming an alpha error = 0.05 and a beta = 0.20 for each group independently.

Construct validity was assessed by analyzing resident performance using a one-way analysis of variance, with resident year as the independent variable. Pass-fail data were analyzed with Chi-square.

RESULTS: The study was designed to recruit 61 residents in control (28 LL,33 UL) and 62 in training group (29 LL,33 UL) from 7 different centers across the US. At baseline there were no differences in age, exposure to laparoscopy, experience with simulators, or video game use. Table 1 illustrates the performance in the operating room pre and post intervention within and between both groups. There was no statistically significant difference in baseline performance. Although both groups demonstrated improvement with time, the trained group improved significantly more.

CONCLUSION: We found that proficiency based simulation offers significant benefit over traditional gynecologic education for all levels of residency. The use of easily accessible, low fidelity tasks should be incorporated into formal laparoscopic training.

Key Words: Surgical Education, Laparoscopy, Simulation, Low-Fidelity simulation

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 7

A Retrospective Multicenter Study On Outcomes After Midurethral Polypropylene Sling (MUS) Revision For Voiding Dysfunction

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OBJECTIVES: The purpose of this study was to determine outcomes of sling revision after MUS placement and whether timing of when sling revision was performed affected those outcomes.

MATERIALS AND METHODS: This is a multicenter study including patients who underwent MUS placement and subsequent sling revision secondary to voiding dysfunction from January 1999 to January 2007 from nine urogynecologic centers across the United States. Data collected included patient characteristics, urodynamic data, operative data for sling placement and revision, and clinical information before and after sling revision. Diagnostic outcomes before and after sling revision were compared for all sling revision patients with complete data. For categorical variables separate McNemar tests were used, with a Bonferroni-adjusted p-value of .0125 denoting statistical significance. Logistic regression analyses were performed to determine if revision timing predicted voiding dysfunction and stress incontinence, with a Bonferroni-adjusted p-value of .025 denoting statistical significance (n = 165).

RESULTS: One hundred ninety seven patients met study criteria; 175 had complete data. Median length of follow-up was 2 months. Overall, 70% (133) of MUS were retropubic and 30% (56) were obturator slings. General anesthesia was utilized in 68.6% (118) cases while local or regional anesthesia was used in 31.4% (61). Slings were mostly tensioned visually, 67.5%, with 30.6% set by cough or credé maneuvers. A suburethral spacer was also used in 51.3%. Concurrent surgeries were performed in 132 cases (69.5%) and complications were seen in 15 (8.6%) of cases. Associated symptoms of voiding dysfunction included de novo or worsened OAB symptoms in 41% (78), urinary tract infections 40% (74), and SUI 12.6% (24) after sling. MUS revision was accomplished by cutting the mesh (48.7%) followed by excision of some portion of mesh (32.1%). Few patients underwent multiple revisions (6.2%) or remained catheter dependent (4.1%). After revision, SUI resolved in 38.1%, UTIs were no longer experienced by 69.4%, and OAB resolved in 74.6%. In comparison 21.4% experienced de novo SUI ($P < .001$), 18.4% de novo UTIs ($P < .001$), and 12% experienced de novo OAB symptoms after revision ($P < .001$) Voiding dysfunction resolved in 80%, however 10% experienced new voiding dysfunction symptoms after revision ($P < .001$). There was a trend toward increased voiding dysfunction ($P = .04$) and de novo/worsened OAB symptoms ($P = .03$) in retropubic slings versus obturator slings after revision. The median time from sling placement to revision was 62 days. Sling revision timing was not a statistically significant predictor of either voiding dysfunction ($P = .72$) or SUI ($P = .10$).

CONCLUSION: Sling revision is successful in achieving resolution of voiding dysfunction symptoms in 80% of patients. Furthermore, revision decreased the overall occurrence of UTIs and OAB symptoms while de novo and persistent SUI is relatively low at 26.3%. Resolution of voiding dysfunction and post-revision SUI is independent of method and timing of revision.

Key Words: midurethral sling, voiding dysfunction, sling revision

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Stephanie Molden;Ethicon:honorarium:preceptor; Miles Murphy: Ethicon:Consulting Fee:Consultant;AMS:Consulting Fee:Consultant;Bard: Consulting Fee:Consultant

Oral Presentation 8

Quantification Of Vaginal Support: Are Continous Scores Better Than Pop-q Stage?

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OBJECTIVES: Surgeons are aware that the arbitrarily adopted stages of the POP-Q system do not correlate well with symptoms or differentiate clinically important subgroups. POP-Q stage is an ordinal (rather than continuous) variable, which has statistical limitations as a surgical outcome measure. We defined three continuous summary scores, based on POP-Q measures, to describe support loss and assessed their correlation with prolapse symptoms.

MATERIALS AND METHODS: We used baseline data from 1141 subjects in 3 randomized trials of the Pelvic Floor Disorders Network (CARE 322, OPUS 380, ATLAS 439) to test the utility of three support loss scores: SL (Support Loss) = (TVL + C) + (Aa + 3) + (Ap + 3) + (Ba + 3) + (Bp + 3); SL3 = (TVL + C) + (Ap + 3) + (Bp + 3); and SLmax = location of single most distal point. Zero is the theoretical lower limit of SL and SL3 and −3 is the limit for SLmax, and represent perfect support. Higher values of SL measures represent greater support loss. Each support loss measure was correlated with POP-Q stage, total scores for responses to the Pelvic Organ Prolapse Distress Inventory (POPDI) and the Pelvic Organ Prolapse Impact Questionnaire (POPIQ), and responses to questions 4 ("usually have a sensation of bulging or protrusion") and 5 ("usually have a bulge or something falling out seen/felt") of the Pelvic Floor Distress Inventory (PFDI). Two-year CARE data were used to assess utility of these support loss measures for describing anatomical outcomes.

RESULTS: All POP-Q stages were represented within the 1141 subjects: Stage 0 (4%), 1 (18%), 2 (29%), 3 (41%), 4 (8%). Symptomatic subjects were moderately (11%) or quite often (32%) bothered. Subjects had a wide range of support loss scores (mean [range]): SL [18.1 (0 to 60)], SL3 [10.7 (0 to 41)] and SLmax [1.5 (−3 to 12)]. Support loss scores were comparable to POP-Q stage with respect to correlation with baseline prolapse symptoms (Table 1).

The anatomic improvement in the CARE population is displayed using continuous support loss measures and POP-Q stage (Table 2). However, anatomic change, as measured by support loss or POP-Q stage, was not well correlated with prolapse symptom improvement.

CONCLUSION: Summary measures of support loss that more closely correlate with prolapse symptoms are desirable. These new support loss measures have a statistical advantage as continuous variables and may improve the transparency of surgical outcome reporting, augmenting the current POP-Q staging.

Key Words: Prolapse, Anatomy, Outcomes, Pelvic

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Linda Brubaker:Allergan:Research Funding:Investigator; Pfizer:Research Funding: Investigator;Pfizer:Honorarium:Research Consultant

Oral Presentation 9

Sexual Function In Patients With Prolapse And Their Sexual Partners

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OBJECTIVES: There are limited data regarding the effect of pelvic organ prolapse on sexual partners of patients. Our objective was to compare sexual function amongst patients with symptomatic prolapse and their partners.

MATERIALS AND METHODS: This is a cross-sectional study in sexually active patients with symptomatic stage two or greater prolapse and their sexual partners. Women completed four validated questionnaires: 1) Index of Sexual Satisfaction (ISS), which can be used in both men and women, 2) Pelvic Organ Prolapse - Urinary Incontinence Sexual Function Questionnaire (PISQ), 3) Pelvic Floor Distress Inventory (PFDI-20), and 4) Pelvic Floor Impact Questionnaire (PFIQ-7). Sexual partners completed the ISS. Using the validated threshold of 30, ISS scores were dichotomized into good (0–30) and poor (31–100) sexual function. ISS scores were compared within couples using the intraclass correlation coefficient (ICC). In order to determine predictors for good versus poor sexual function, ISS scores were compared to baseline variables using chi-square, Fisher's exact, or Student's t-test, as appropriate.

RESULTS: A total of 41 couples were included. All were white, and all except two were married for more than five years. Men had a mean age of 59.4 ± 10.2 years with mean body mass index (BMI) of 29.2 ± 6.2. Women had a mean age of 57.7 ± 9.5 years with mean BMI of 27.7 ± 5.7, and median parity of two. For patients, 34% had undergone a prior hysterectomy, 7% had prior surgery for prolapse or incontinence, and 46% had advanced (stage 3 or 4) prolapse. Mean pelvic floor questionnaire scores were 90 ± 10 (PISQ), 100 ± 49 (PFDI), and 43 ± 50 (PFIQ). Based on the ISS threshold of 30, 26/41 (63%) of women and 34/41 (83%) of men reported good sexual function. ISS scores correlated poorly within couples, with a correlation coefficient of 0.32. None of the following factors were associated with good versus poor sexual function: age, parity, BMI, education, employment, Charlson Comorbidity Index, advanced prolapse, prior pelvic surgery, psychiatric medications, PFDI, and PFIQ scores. Women with good sexual function reported significantly higher PISQ scores compared to those with poor function (mean 93 ± 10 vs. 84 ± 8, $P = 0.004$). There were no differences in frequency of intercourse in women reporting good versus poor sexual function. However, men reporting poor sexual function were more likely to report having intercourse less than once per week ($P = 0.05$).

CONCLUSION: In this unique study of sexual partners, sexual function correlates poorly between women with prolapse and their partners. In women, poor sexual function correlates with lower PISQ scores while poor sexual function in men is associated with lower frequency of intercourse.

Key Words: sexual function, pelvic organ prolapse, sexual dysfunction

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Nazema Siddiqui:Astellas USA Inc.:Research Grant:Principal Investigator (no salary support).

Oral Presentation 10

Microinvasive Adenocarcinoma Of The Uterine Cervix Is Amenable To Conservative Management

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OBJECTIVES: The purpose of this multi-center investigation was to investigate the risk of metastatic disease at presentation or by virtue of subsequent recurrence in microinvasive adenocarcinoma of the cervix (MIAC). This will allow us to identify those MIAC patients who can be safely treated conservatively reducing sequelae of overtreatment.

MATERIALS AND METHODS: Institutional Review Board approval was obtained from both Mayo Clinic Rochester (MCR) and University of Southern California (USC). Inclusion criteria were: FIGO stage IA1 or IA2 cervical carcinoma; adenocarcinoma histology, and: patients surgically managed. Sixty-six patients met inclusion criteria (MCR, n = 36; USC, n = 30) treated between January 1 1983 and May 31st, 2008. Data were retrospectively retrieved including demographics, surgical procedures, pathologic data, as well as current disease status from charts, referring physicians' correspondence and tumor registry records.

RESULTS: The median age at diagnosis was 39 years, with a range of 23 to 75 years of age. Stage distribution was as follows: 52 patients FIGO stage IA1; 14 patients FIGO stage IA2 cancers. Lymphovascular space invasion (LVSI) was noted in only 3 cases all of whom were stage IA1.

Patients with stage IA1 were treated with cold knife conization (CKC, n = 7), simple hysterectomy (SH, n = 16), and radical hysterectomy (RH, n = 29). The eleven patients with stage IA2 were treated with CKC (n = 1), SH (n = 2), RH (n = 9), and radical vaginal trachelectomy (RVT, n = 2). Thus, 29 patients with stage IA1 (56%) and 11 patients with stage IA2 (79%) underwent radical surgery. There was no evidence of parametrial involvement in these 40 patients [95% CI: 0–8.8%].

Overall, 34 of the 52 patients with stage IA1 (65%) underwent pelvic lymphadenectomy (LND). Twelve of the fourteen patients with stage IA2 (86%) had LND performed. Of the 46 patients who underwent pelvic lymphadenectomy, one lymph node micrometastasis was noted in a patient with stage IA1 disease with no LVSI. The patient declined adjuvant therapy and remains without any evidence of disease with ≥60 months follow-up. This represents 1.5% of the total cohort and 2.2% of those patients who underwent complete LND.

No recurrences were noted in any of the 66 patients with a median follow up of 80 months (range 4 months to 21.3 years) [95% CI for recurrence was 0–5.5%].

CONCLUSION: This study represents the largest series of patients with MIAC reported since the current FIGO staging criteria was introduced in 1995. MIAC lesions continue to be treated aggressively due to the assumption that the natural history of adenocarcinoma lesions differs from their squamous counterparts and carry a worse prognosis. However, both in this series and in our larger review of the available literature, MIAC lesions have low rates of lymph node metastases, occult parametrial involvement, or recurrence. It appears that conservative management should be considered in patients with IA1 and IA2 MIAC.

Key Words: Cervical Cancer, Adenocarcinoma, Microinvasive

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 11

Pelvic Floor Disorders And Sexual Function In Gynecologic Cancer Survivors: A Cohort Study

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OBJECTIVES: Our objectives were to: 1) To assess the prevalence of and bother caused by pelvic floor disorders in gynecologic cancer survivors and compare this to women who are cancer-free. 2) To assess sexual activity and function in gynecologic cancer survivors and compare this to women who are cancer-free.

MATERIALS AND METHODS: We surveyed gynecologic cancer survivors (survivors) and cancer free women presenting for routine gynecologic care (GYN) over the age of 30. All survivors were disease and treatment-free for ≥one year. Patient characteristics, past medical, cancer treatment and surgery history were collected. UI was assessed using the Sandvik Incontinence severity index with a score >3 indicating moderate to severe UI, AI was assessed with the Wexner scale with a score ≥0 indicating AI, POP was assessed with Question #35 from the Epidemiology of Prolapse and Incontinence Questionnaire (EPIQ), with an affirmative answer indicating POP. Sexual function was assessed using the Pelvic Organ Prolapse/Urinary Incontinence Sexual questionnaire (PISQ-12). Two hundred and fifty survivors and 100 gynecologic patients were required to detect a 20% difference in rates of urinary incontinence between groups with an alpha error of 0.05 and a beta of 80%. Student's t and Fisher's exact tests were used to compare groups. Multivariable logistic regression analysis was used to control for confounding.

RESULTS: One hundred and seven GYN and 225 survivor questionnaires were completed. Survivors were older (57 +/− 10 vs 47 +/− 12 years, $P < 0.001$) and more likely to have had a hysterectomy (87 vs 26%, $P < 0.001$) and oophorectomy (81vs 14%, $P < 0.001$). Survivors were also more likely to be in a committed relationship (47 vs 34%, $P = 0.03$). Parity was similar between GYN and the survivor groups with a mean number of children in both groups of 2. All differences were controlled for in multivariable analyses. A high prevalence of PFDs was observed in both groups; 56% of controls and 70% of survivors reported moderate to severe UI, and 13 vs 9% reported prolapse symptoms (both $p > 0.05$). Survivors were more likely to report anal incontinence than GYN patients (42 vs. 32%, $P = .02$). Survivors were not less likely to be sexually active than GYN patients (70 vs 45%, $P = .06$) although survivors reported less desire (79 vs 57%, $P = .04$, always, usually or sometimes feels sexual desire) more infrequent ability to climax (80 vs 59%, $P = .04$ always, usually or sometimes climaxes with sexual activity) and less satisfaction with their variety of sexual activity (82 vs 60%, $P = .02$ always, usually or sometimes feels satisfied) despite no differences in rates of dyspareunia (18 vs 12%, $p > 0.05$).

CONCLUSION: Gynecologic cancer survivors report similar high rates of urinary incontinence when compared to GYN patients. Fecal incontinence occurred more commonly in gynecologic cancer survivors than in GYN controls. Sexual dysfunction is more common among gynecologic cancer survivors than GYN patients; survivors report less sexual desire, less ability to climax, and lower sexual satisfaction, even when controlling for baseline patient differences.

Key Words: sexual function, pelvic floor dysfunction, survivorship, gynecologic cancer

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 12

Retropubic Midurethral Sling Versus Bladder Neck Sling In The Treatment Of Low Pressure Urethra

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OBJECTIVES: To compare bladder neck and midurethral sling procedures in the treatment of urodynamic stress urinary incontinence (USUI) and low-pressure urethra.

MATERIALS AND METHODS: Retropubic midurethral sling procedures have proven efficacy over transobturator sling procedures in the treatment of low-pressure urethra. Bladder neck slings have been considered the gold standard in the treatment of patients with low-pressure urethra. However, there is limited information comparing retropubic midurethral slings to bladder neck slings in the treatment of patients with low-pressure urethra. The aim of this study was to compare the outcomes of bladder neck versus retropubic midurethral sling procedures in the treatment of urodynamic stress urinary incontinence in women with low pressure urethra as defined by maximum urethral closure pressure of ≤20 cm H_2O. Subjects with urethral closure pressures ≤20 cm H_2O were recruited to undergo either a retropubic or bladder neck sling from 2003 to 2008. After institutional review board approval, 52 subjects were recruited, consented, and randomized. Surgical failure was defined by leakage of urine with cough on urodynamic testing performed at ≥4 months postoperatively; positive standing cough stress test at cystometric volume of 250 cc; 20 minute pad test ≥1 gram; an affirmative response to "Do you experience urine leakage related to coughing, sneezing or laughing?" on the Pelvic Floor Distress Inventory or similar affirmative response on a Likert scale. Statistical methods included Wilcoxon rank sum test, two sample t test, signed rank test, Chi-square test, Fisher's exact test, Crochran-Mantel-Haenszel test, and McNemar's test. Statistical significance reached when $P < .05$.

RESULTS: 41/52 (79%), 20 and 21 patients underwent bladder neck and retropubic midurethral slings, respectively and had 20 and 15 month follow-up data available for comparison. Concomitant prolapse repair was performed as indicated. Preoperative comparisons revealed no difference in age (66.3 ± 11.37 vs. 65.5 ± 18.3), BMI (27.3 ± 4.8 vs. 29.3 ± 5.9), or past history of stress incontinence procedures. Urodynamic testing at ≥4 months in bladder neck 18/20 (90%) and retropubic sling procedures 16/21 (76%) revealed no difference between bladder neck and retropubic sling with respect to cure of USUI 83.3% vs. 100%, $P = 0.11$, respectively. At 52 weeks 16/20 (80%) bladder neck and 16/21 (76%) retropubic sling subjects demonstrated negative stress urinary incontinence (SUI) as measured on Likert scales 81.2% vs. 87.5%, $P = 0.66$, respectively. Detrusor overactivity, other urodynamic parameters, post-void residuals, and prolapse stage were similar between groups postoperatively.

CONCLUSION: Bladder neck and retropubic midurethral slings had equal efficacy in the cure of: USUI at ≥4 months and SUI at ≥52 weeks postoperatively, in women with low pressure urethra.

Key Words: low pressure urethra, retropubic midurethral sling, bladder neck sling

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 13

Systematic Review Highlights Difficulty Interpreting Diverse Clinical Outcomes In Abnormal Uterine Bleeding Trials

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OBJECTIVES: Abnormal uterine bleeding (AUB) adversely affects many women's health. The large societal and personal burden of AUB lies in its major impact on quality of life, productivity, healthcare utilization, and costs. While hysterectomy cures AUB, several less invasive surgical and medical options are increasingly being used. We aimed to (1) systematically collect and organize into categories all outcomes reported in trials for AUB; (2) rank the importance of outcomes for patient decision-making; and, thus, (3) facilitate comparisons of effectiveness of treatments in trials of AUB interventions.

MATERIALS AND METHODS: A systematic review undertaken by the Society of Gynecologic Surgeons Systematic Review Group (SRG) identified English-language randomized controlled trials (RCTs) of AUB treatments in MEDLINE from 1950 to June 2008. Trials included pre- or perimenopausal women with idiopathic AUB (dysfunctional uterine bleeding) and/or fibroids. Interventions included hysterectomy, myomectomy, endometrial ablation, uterine artery embolization, and medical therapies. All outcomes and definitions were extracted and organized into major overarching outcome categories. After conducting a narrative review of available literature on patient experience with AUB and patient-based outcomes measures for AUB, the SRG voted on each outcome and ranked them 'critically important', 'important' or 'not important' for informing patients' choices following Grading of Recommendations Assessment, Development and Evaluation (GRADE) terminology. This review process considered the clinical relevance of the outcome to the patient as well as the quality of the measuring instrument.

RESULTS: 113 articles from 79 trials met inclusion criteria. 114 different outcomes were identified, 15 (13%) of which were ranked critically important and 29 (25%) important. Outcomes were grouped into 8 overarching categories: 1) bleeding; 2) quality of life; 3) pain; 4) sexual health; 5) patient satisfaction; 6) bulk-related complaints; 7) need for subsequent surgical treatment; and 8) adverse events. Just 3 trials (4%) used condition-specific quality of life tools while there were no validated instruments to assess disease-specific impact on pain, sexual health, bulk-related symptoms, or patient satisfaction.

CONCLUSION: Our review underscores a dearth of high-quality, standardized instruments for measuring patient-based outcomes in AUB or consistent use of the measures that do exist. To improve the quality, consistency, and utility of future AUB trials, we recommend assessing a limited number of clinical outcomes for bleeding, disease-specific quality of life, pain, sexual health and bulk-related symptoms both before and after treatment and reporting satisfaction with treatment and adverse events. Further development of validated patient-based outcomes measures and the standardization of outcome reporting are needed.

Key Words: hysterectomy, uterine artery embolization, menorrhagia, dysfunctional uterine bleeding, leiomyomata, endometrial ablation

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 14

Cost Minimization Analysis Of ABDOMINAL, Laparoscopic, And Robotic-assisted Myomectomies

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OBJECTIVES: Uterine myomectomy is becoming a more frequent treatment for those women with symptomatic fibroids who choose to preserve fertility. Currently there are three routes of myomectomy; abdominal, traditional laparoscopy, and robotic assisted laparoscopy. Although robotic-assisted myomectomies are being performed, limited data exist regarding the costs associated with this new technique. Thus, we sought to perform a cost-minimization analysis of these three routes of myomectomy.

MATERIALS AND METHODS: We developed a decision model to compare the costs (2008 US dollars) of abdominal (AM), laparoscopic (LM), and robotic-assisted myomectomy (RM) from a healthcare system perspective. We assumed equivalent surgical outcomes for all three routes and thus performed a cost-minimization analysis. The model included operative time, conversion risk, transfusion risk, and length of stay (LOS) for each modality. Baseline estimates and ranges were based on an extensive literature search. Baseline estimates for AM, LM, and RM were: OR time (154, 264, 232 min), conversion (0, 8.8, 6.9%), transfusion (6, 0, 0%), and LOS (2, 1.6, 1.5 days) respectively. We analyzed two different models: #1) assumed that the hospital already had the robotic system in place (Existing Robot model) and #2) assumed that the hospital has to purchase a robotic system (Robot Purchase Model).We used a micro-costing approach and costs included operating room, hospital, laboratory, and pharmacy fees. Sensitivity analyses were performed to assess the impact of varying each parameter and most of the costs through their defined ranges.

RESULTS: In the baseline analysis for the Existing Robot model, AM was the least expensive at $4987 compared to LM at $6284 and RM at $7374. The abdominal route remained the least expensive when varying the all parameters and costs except in two cases: 1) If AM LOS was greater than 4.6 days, LM became the least expensive; 2) If the surgeon's fee for AM was greater than $2436, LM became the least expensive and if AM surgeon's fee was greater than $3549, RM cost less than AM but remained more than LM. When comparing the two minimally-invasive options, LM to RM, the cost of the robotic approach was consistently higher unless the robotic disposable equipment costs were less than $1400 while the LM disposable costs remained $1163. In the Robot Purchase model, only the RM costs increased while AM and LM costs remained the same. The robotic cost increased incrementally by $2907, $1938, and $1090 per case when the amortized purchase and maintenance costs were distributed over 12, 18, and 32 cases/month, respectively.

CONCLUSION: In this cost-minimization analysis, abdominal myomectomy is the least expensive when compared to laparoscopy and robotic-assisted laparoscopy. While this study assumed equivalent surgical effectiveness among the three modalities, further studies evaluating post-operative outcomes of minimally invasive alternatives, such as impact on quality of life and/or impact of the uterine scar in a subsequent pregnancy, are warranted.

Key Words: laparoscopic, myomectomy, robotic-assisted

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 15

Prevalence And Risk Factors For Mesh Erosion After Minimally Invasive Sacrocolpopexy

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OBJECTIVES: To report the prevalence of and risk factors for mesh erosion after minimally invasive sacrocolpopexy (MISC) using polypropylene mesh.

MATERIALS AND METHODS: This was a retrospective chart review of all MISC performed at the two institutions in our fellowship-training program between 11/2004 and 2/2009. Baseline and historical characteristics of subjects, and surgical procedures including hysterectomy were evaluated as potential risk factors for mesh erosion. MISC was performed as a robotic assisted laparoscopic sacrocolpopexy (RALSC) or a standard laparoscopic sacrocolpopexy (LSC). In all cases monofilament suture was used to secure polypropylene mesh to the vagina. Those women with a uterus who underwent RALSC all had a supracervical hysterectomy (SCH) and intracorporeal suturing of mesh to the vagina and sacrum. Those who underwent LSC had a total vaginal hysterectomy (TVH) with transvaginal dissection of vesicovaginal and rectovaginal spaces. Mesh was then secured to the walls of the vagina either transvaginally or laparoscopically after vaginal cuff closure and sacral attachment was performed laparoscopically using tacks. Chi squared, Fischer's exact, and t tests were used to explore relationships between mesh erosion and risk factors. Variables with $P < 0.10$ were entered into a multivariable regression model to identify odds of mesh erosion with 95% confidence intervals (OR; 95% CI).

RESULTS: A total of 196 women underwent MISC and 96% (62 RALSC and 126 LSC) had sufficient data for follow-up. The mean age of the 188 women was 61 ± 9 years and median prolapse stage of 3. Median follow up was 20 (3–124) weeks in the RALSC compared to 14 (2–171) weeks for LSC group, ($P = 0.280$). A total of 34% (21) in the RALSC and 44% (57) in the LSC group had concomitant hysterectomy. Of those who had a TVH, 29 had the mesh attached to the vagina transvaginally while 28 were attached laparoscopically. The overall mesh erosion rate for MISC was 10% (19/188). In the RALSC group, mesh erosion rates were 5% in both the post-hysterectomy and SCH groups ($P = 0.984$). In the LSC group, mesh erosions in the post-hysterectomy group were 4% while those in the concomitant TVH group were 23% ($P = 0.003$) (Figure 1.) There were no differences in age, parity, weight, preoperative prolapse, duration of surgery, postoperative anemia, or predisposing medical conditions (diabetes, smoking, hormone use) between subjects who did and did not develop erosion. Multivariable regression models included posterior colporrhaphy, TVH, and laparoscopic placement of mesh. Only TVH remained a significant risk factor for mesh erosion compared to post hysterectomy (5.67; 1.88–17.10). There was no difference in mesh erosion between SCH and post hysterectomy (0.99; 0.11–9.03). A trend towards higher mesh erosion with laparoscopic placement of mesh after TVH compared to vaginal placement was seen (2.96; 0.79–11.09).

CONCLUSION: TVH at the time of MISC increases the likelihood of developing mesh erosion. Rates of mesh erosion in the SCH group were similar to the post-hysterectomy groups.

Key Words: mesh, laparoscopic, hysterectomy, erosion, sacrocolpopexy, robotic

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 19

Irb Variability In Multicenter Studies

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OBJECTIVES: To investigate qualitative and quantitative variability among local Institutional Review Boards (IRBs) in the approval of research protocols and informed consent documents for a standardized a multicenter study with a common protocol

MATERIALS AND METHODS: Descriptive study of the variability of local IRB review and approval process for four multicenter studies with common protocols conducted within the Fellow's Pelvic Research Network (FPRN). The local IRBs follow all applicable federal guidance including the DHHS at 45 CFR Part 46 and the FDA at 21 CFR Part 50 and 56 pertaining to human subjects research and the applicable regulations pertaining to privacy in research under the Health Information Portability and Accountability Act (HIPAA) at 45 CFR Part 160 and 164.

RESULTS: Most of the 22 unique network sites (68%) were in academic institutions and (63%) had ABOG-ABU accredited fellowships. The four multicenter network studies included two prospective cohorts, one retrospective review and one retrospective case-control study. Sites participated in 1 (55%), 2 (18%) or 3 (27%) studies. Local IRBs varied in their requirements for identical research study protocols. Many IRBs had varied local requirements regarding standard format and language of consent forms that resulted in most sites (86%) changing consent document prior to IRB submission. Nonetheless, the IRB required changes to 71% of consent documents for the prospective studies. Required changes to consent documents primarily comprised alterations in wording with the intent of improving subject understanding of study risk and privacy safeguards. Thirty-three percent of sites were required to make minor format changes to the common protocol to meet local institution requirements. Despite federal guidelines for review of research, the level of review varied across sites (Table 1). Local IRB's had queries for most (55%) submissions with a significantly more queries for the prospective cohorts compared to retrospective studies [78.6% vs. 35.3% ($P = 0.03$)]. IRBs required changes to 29% of protocols, but there were no substantive changes made to any protocol. There was considerable variability in time between IRB submission and approval [10 ± 3 days, range 7–12 days for exempt; 22 ± 17 days, range 1–57 days for expedited and 34 ± 32 days, range 13–81 days for full board reviews]. Length of time to approval was longer for prospective than retrospective studies 30 ± 22 vs. 16 ± 15 days but failed to reach significance ($P = 0.08$).

CONCLUSION: We detected considerable variability in local IRB review of standardized multicenter network protocols across a range of minimal-risk study designs. The reasons for this variability may include varied local interpretation in federal guidelines. Reduction in this variability may improve the expediency of multicenter studies while maintaining the highest level of protections for research participants.

Key Words: IRB variability, Multicenter studies, Fellows Pelvic Research Network

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Stephanie Molden:Ethicon:honorarium:preceptor, Linda Brubaker:Yes;

Allergan:Research Funding:Investigator;Pfizer:Research Funding:Investigator; Pfizer:Honorarium:Research Consultant

Key Words: Urogynecology, Pulmonary Embolism, Venous Thromboembolism, Deep Venous Thrombosis, Pelvic Reconstruction

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Presentation 17

Risk Of Deep Venous Thrombosis And Pulmonary Embolism In Urogynecologic Surgical Patients

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OBJECTIVES: A pulmonary embolus (PE) is a life-threatening postoperative complication. Women undergoing reconstructive pelvic and incontinence surgery typically qualify as "high" or "highest" risk for venous thromboembolism (VTE) perioperatively in published guidelines.[1] However, no literature exists on the risk of deep venous thrombosis (DVT) or PE in these patients. The objective of this analysis is to determine the incidence of VTE in patients undergoing urogynecologic surgery in order to guide development of a VTE prophylaxis protocol for this population.

MATERIALS AND METHODS: All pelvic reconstructive and incontinence procedures performed by members of the Division of Urogynecology and Reconstructive Pelvic Surgery at Cleveland Clinic (Cleveland, Ohio) between 2006 and 2008 were reviewed using the electronic medical record. Preoperative notes, operative reports, hospitalization records and clinic notes were reviewed in order to collect each patient's demographics, medical history, and surgical procedure, as well as information regarding the postoperative course. Sequential compression devices (SCD) were applied to all patients intraoperatively and postoperatively until discharge. Women receiving perioperative anticoagulation were excluded. JMP 7.0 software was used to calculate frequencies, confidence intervals, chi-square tests and t-tests.

RESULTS: During the study period, 1130 patients underwent pelvic reconstructive or incontinence surgery. Twenty-six patients received perioperative anticoagulation and were excluded from this analysis leaving a study population of n = 1104. The mean age was 57.2 years +/−13.3 with a mean body mass index of 28.3 +/−5.6. 88.6% of the cohort was Caucasian. The mean operating room time was 183 +/−88 minutes. A total of 40 patients (3.6%) were evaluated for suspicion of VTE postoperatively with radiographic imaging including chest CT and/or lower extremity doppler US. The most common signs and symptoms among women who received imaging include shortness of breath (72%), tachycardia (61%) and lower extremity edema/swelling (50%). DVT or PE was confirmed in three patients for an overall rate of VTE in this population of 0.3% (95%CI 0.1–0.8). One patient was diagnosed with a PE, while two were diagnosed with both a DVT and PE. Each required anticoagulation. The initial diagnosis of thrombosis or embolism was made on post-operative days one, two and 14 in these women. On bivariate analysis, neither age, ethnicity, BMI, Charlson comorbidity score, active malignancy, operating room time, length of hospitalization, decreased mobility prior to surgery, hormone replacement therapy, oral contraceptive use, or central line insertion were related to risk of VTE in this study.

CONCLUSION: Conclusion: The risk of VTE in patients undergoing urogynecology surgery who receive routine prophylaxis with SCDs is 0.3%. Given this relatively low risk, the addition of prophylactic heparin therapy is unlikely to yield additional net benefit in this population in light of the potential morbidities associated with chemical prophylaxis.[1]

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Oral Presentation 18

The Impact Of Dispositional Optimism On Treatment Of Pelvic Floor Dysfunction

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OBJECTIVES: We aimed to evaluate the relationship between patients' dispositional optimism and symptoms of pelvic floor dysfunction and to determine whether optimism can predict patient decisions regarding treatment of pelvic floor disorders.

MATERIALS AND METHODS: We prospectively recruited consecutive women presenting to Loyola's Urogynecology Center for treatment of pelvic floor disorders to this cohort study. In addition to demographic information and urogynecologic history and exam, all women completed the short form of the Pelvic Floor Distress Inventory (PFDI-20) and the Life Orientation Test-Revised (LOT-R). The LOT-R is a validated questionnaire that evaluates people's general disposition or level optimism. Participants were also asked to list their goals for treatment prior to the 1st visit. For analysis, participants with LOT-R scores below the median were classified as "pessimists" and women with LOT-R above the median were classified as "optimists". Patient's goals were categorized into 5 groups: symptom resolution, treatment specific to pelvic floor disorders, quality of life improvement, furthering of emotional well-being, and information gathering. The chi-square test of association was used to compare nominal data, while the Mann-Whitney test was used to compare independent groups of continuous data.

RESULTS: The study included 467 women: 44% pessimists and 56% optimists. Pessimists and optimists did not differ by age (P = 0.28), parity (P = 0.81), POP-Q stage (P = 0.86), presenting clinical diagnoses (P = 0.68) or urodynamic diagnoses (P = 0.5). Pessimists listed a higher number of treatment goals than optimists (2 vs. 1, $P < 0.01$). Pessimists' goal were more likely to be less specific and aimed at quality of life improvement ($P < 0.02$), while optimists' goals were more likely to be aimed at resolution of specific symptoms (P = 0.78). Pessimistic and optimistic patients reported similar bother from pelvic floor symptoms, scoring comparably on the UDI (P = 0.73), POPDI (P = 0.77), and CRADI (P = 0.58). Dispositional optimism did not affect treatment choice; pessimists were as likely to choose surgery as optimists; however, optimists were more likely to be sexually active (56% vs 36%, $P < 0.001$).

CONCLUSION: Dispositional optimism is not associated with differences in perception of pelvic floor symptoms or treatment choices in women seeking treatment for pelvic floor disorders. Pessimistic women were as likely as optimists to elect surgical treatment for their pelvic floor disorder. However, pessimists listed more treatment goals which tended to be more vague, emphasizing general improvement in quality of life, rather than resolution of specific symptoms.

Key Words: urogynecology, treatment choice, optimism, patient goals, life orientation

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Linda Brubaker:Allergan:Research Funding:Investigator;Pfizer:Research Funding:Investigator;Pfizer:Honorarium:Research Consultant

Oral Presentation 16

Comparison Of Responsiveness Of Validated Outcome Measures After Surgery For Stress Urinary Incontinence

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OBJECTIVES: Responsiveness is the ability of an outcome measure to detect clinically significant changes. The objective of this study is to compare the responsiveness of several validated incontinence, pelvic floor and quality of life outcome measures in women undergoing surgery for stress urinary incontinence (SUI).

MATERIALS AND METHODS: This is an ancillary analysis of data obtained from a multi-center randomized trial comparing TVT with TOT for the treatment of SUI. 170 patients were randomized and 162 subjects were followed for at least one year after surgery and are the subject of this study. All patients completed the following outcome measures at baseline and again one year after surgery: Incontinence Severity Index (ISI), Pelvic Floor Distress Inventory short form (PFDI-20), Pelvic Floor Impact Questionnaire short form (PFIQ-7), the POP/Urinary Incontinence Sexual Function Questionnaire (PISQ-12), a 3-day bladder diary yielding incontinence episodes per week (IEW), and both the mental and physical components of the Short Form 12 (SF-12). The changes in total scores for each of these instruments as well as the Urogenital Distress Inventory (UDI-6) and Urinary Incontinence Questionnaire (UIQ-7) subscales of the PFDI-20/PFIQ-7 were evaluated. All patients also completed the Patient Global Index of Improvement (PGI-I) at one year. Responsiveness was assessed by comparing the standardized response mean (SRM) for each instrument. We also compared each measure's ability to discriminate between those who improved versus those who did not as assessed by PGI-I using the area under the receiver operating curve (AUC).

RESULTS: Per the PGI-I, 13% of patients were worsened or not improved, 7% were "somewhat better", 24% were "much better" and 56% were "very much better" one year after surgery. The ISI, PFDI-20, UDI-6, PFIQ-7 and UIQ-7 demonstrated excellent responsiveness (SRM $>$ 1.0), while the PISQ-12 and IEW on the bladder diary showed moderate responsiveness (SRM 0.58 & 0.50, respectively) and the scales of the SF-12 demonstrated poor responsiveness (0.22 & 0.11). (Table) Change in diary IEW demonstrated the greatest ability to discriminate between those who improved and those who did not (AUC .97). Change in IEW also had the greatest correlation with a patient's subjective impression of improvement as measured by the PGI-I ($r = .50$, $P = .001$).

CONCLUSION: The ISI, PFDI-20 and UDI-6 have the greatest responsiveness after surgery for SUI, while the SF-12 is not responsive in this population. The IEW on a 3 day bladder diary demonstrated the greatest ability to discriminate between those patients who considered themselves improved from those who did not.

Key Words: incontinence surgery, responsiveness, clinical outcome measure

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Tip/Trick 1

Self-directed Learning And Supervised Practice Sessions With Verbal Feedback Improves Basic And Advanced Surgical Performance In First Year Gynecology Residents

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OBJECTIVES: To determine the effect of self-directed skill practice with weekly verbal feedback sessions for learning basic open and laparoscopic surgical skills in first year Obstetrics and Gynecology (OBGYN) residents.

MATERIALS AND METHODS: First year OBGYN residents entering in July 2009 received a study guide consisting of five learning modules: instrument identification, suturing, knot tying, basic laparoscopic skills, and advanced laparoscopic skills. Each module contained 1) a learning map with prerequisite knowledge and skills, unit contents, and criterion-referenced learning objectives that trainees were expected to meet by the end of the training period, and 2) principles of technique, common errors, and prevention strategies. Each resident was given a take-home skills training box that included: suturing and knot tying boards, a portable laparoscopy training box, and videos. In addition to home training, residents attended 4 weekly practice sessions for 60 min/session. Assessments occurred at baseline and 6 weeks after starting the curriculum in knowledge of surgical instruments and skill performing open suturing, knot tying, and Fundamentals of Laparoscopic Surgery (FLS) tasks including peg transfer, cutting, intracorporeal, and extracorporeal knot tying. These tasks are mandatory skills for graduating general surgery residents. The primary outcome was resident performance using global rating scale (GRS) scores and FLS expert-derived cutoff time criteria.

RESULTS: All 7 first year residents participated. Median non-supervised practice time was 125 (98–158) minutes per week. Basic instrument identification improved from 6 (18%) to 29 (85%) instruments ($P < .001$). Residents' performance significantly improved from baseline to posttest in 10/13 skills including: simple interrupted [GRS score = 1 (0–1) to 4 (2–4) $P < .01$] simple running [1 (1–2) to 3 (1–4) $P < .03$], and simple subcuticular suture [1 (0–2) to 3 (2–4) $P < .03$]; instrument handling while suturing [1 (0–2) to 3 (3–4) $P < .03$]; one-handed square knot at depth [0 (0–2) to 3 (0–4) $P < .03$]; laparoscopic peg transfer [192s ($\pm$52) to 70s ($\pm$40) $P = .003$]; cutting [233s ($\pm$64) to 103s ($\pm$25) $P = .006$]; intracorporeal suturing [300s to 166s ($\pm$70) $P = .005$] and extracorporeal suturing [300s to 153s ($\pm$46) $P < .001$]. All residents reached competence cutoff scores in suturing and instrument handling while 71% reached competence in knot tying and efficiency of movement. Two first year residents were able to successfully perform laparoscopic peg transfer and intracorporeal suturing within cutoff times while 3 were able to successfully perform laparoscopic cutting and extracorporeal suturing within cutoff times. On average, trainees reported being 60% (50–100) better than before they started the curriculum. The majority (86%) of residents reported they would recommend continuing the curriculum for learning surgical skills in their residency, while 7/7 (100%) recommended this curriculum to future incoming first year residents.

CONCLUSION: Self-directed skill practice with weekly feedback sessions improves formal basic and advanced surgical skill learning in first year residents.

Key Words: curriculum, Surgical skills, Fundamentals of Laparoscopic Surgery

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Trip/Trick 2

Prevention Of Brachial Plexus Injury In Robotic Pelvic Surgery

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OBJECTIVE: The purpose of this "tip and tricks" is to review steps to minimize brachial plexus injury during robotic pelvic reconstructive surgery.

DESCRIPTION: In this presentation we outline the incidence, mechanism of injury and risk factors for brachial plexus injury during laparoscopic surgery. We also discuss risk factors uniquely associated with robotic surgery. We present a model to measure pressures applied to the shoulder region as a function of steep Trendelenburg positioning. Steps to minimize brachial plexus stretch injury are reviewed.

CONCLUSION: Awareness of potential for nerve injury and application of several preventive measures may improve patient safety during robotic pelvic surgery.

Key Words: Robotic surgery, Brachial plexus injury, Positioning, Trendelenburg

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Tip/Trick 3

The Improvised Midurethral Sling: A Cost Effective Option For Use In A third World Country

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OBJECTIVE: The objective of this tip and trick is to demonstrate our method of improvising a mid urethral sling utilizing the handle piece from an obturator midurethral sling kit and cut polypropylene mesh in order to make the procedure economically possible and time efficient while performing this operation in the austere conditions of a Third World country.

DESCRIPTION: Improvisation of the device begins with the handle piece from a kit with the piercing sheaths removed. These are sterilized in Cidex OPA solution. A single 18x12 inch sheet of polypropylene mesh is cut into 1.5 cm wide by 30 cm length strips. A #0 vicryl suture is secured to the distal ends of the cut mesh and tightly secured around the groove at the distal end of the handle piece. The procedure is then performed in the usual manner of placing a midurethral obturator sling with the following exceptions: A small stab incision is made at the location of the exit point of the device in the inner upper part of the thigh creases bilaterally. Using a tonsil clamp, the stab incision is opened in the direction of the obturator foramen. The vaginal incision and dissection toward the obturator foramen bilaterally are performed in the usual manner. The device is then passed through the obturator membrane and toward the previously created stab incision. Once through the stab incision, the #0 vicryl suture is grasped with a Kelly clamp and cut free from the device. The device is then reversed out and the mesh is gently pulled through the stab incision. The tape is then tensioned and incisions are closed in the usual manner. Average time of procedure including fashioning the device, 24 minutes. Average cost per sling, $19 USD.

CONCLUSION: As utilized during a recent mission to Honduras with a limited budget, the improvised midurethral sling proved to be an economical, time efficient method of placing the midurethral sling in an austere environment.

Key Words: midurethral sling, third-world, Honduras, improvised

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 1

A Comparison Of Short Term Sexual Function Outcomes For Patients Undergoing The Transvaginal Mesh Procedure Using The Standard Polypropylene Mesh Vs A hybrid POLYPROPYLENE/POLIGLECAPRONE Mesh

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OBJECTIVES: To assess sexual function outcomes in patients undergoing the transvaginal mesh (Prolift) procedure using either the standard polypropylene mesh or a hybrid mesh composed of polypropylene and absorbable poliglecaprone 25 (Monocryl) fibers (Prolift+M) for pelvic organ prolapse through a comparison of pre- and post-operative responses to the Pelvic Organ Prolapse Urinary Incontinence Sexual Questionnaire (PISQ-12).

MATERIALS AND METHODS: This is a retrospective cohort study assessing short-term sexual health as measured by the PISQ-12 following surgical correction of pelvic organ prolapse. Patients that underwent the Prolift+M surgery between 8/13/08 and 6/06/09 were included and compared to age-matched, sexually active controls that underwent the standard Prolift procedure between 2/14/05 and 6/06/09. All patients completed the PISQ-12 questionnaire and had POPQ measurements taken preoperatively and at 4 months postoperatively.

RESULTS: Out of a total of 102 patients who met inclusion criteria, 71 patients had completed both preoperative and postoperative PISQ forms (n = 39 standard mesh, n = 32 +M mesh). There is no significant difference in preoperative PISQ scores, age, BMI, POPQ points Ba, Bp, C and TVL (total vaginal length). There is also no significant difference in change in vaginal length from pre-op to post-op between the two groups. There is a significant improvement in postoperative sexual desire (PISQ #1), comfort with intercourse (PISQ #5), and overall sexual function (Total PISQ Score), with the hybrid mesh compared to the standard mesh at 4 months postoperatively.

CONCLUSION: Pelvic floor-related sexual health as defined by changes in the PISQ-12 improves with treatment of prolapse using the transvaginal mesh technique. This improvement appears to be greater in the short-term when a hybrid mesh composed of permanent and

absorbable fibers is used when compared to the traditional all-polypropylene mesh in this small cohort study.

Key Words: sexual function, pelvic organ prolapse, transvaginal mesh, prolift +M

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Miles Murphy:Ethicon:Consulting Fee:Consultant;AMS:Consulting Fee:Consultant; Bard:Consulting Fee:Consultant

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Oral Poster 2

Pelvic Mri For Assessing The Efficacy Of The Prolift System In The Surgical Treatment Of Pelvic Organ Prolapse

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OBJECTIVES: To compare pre- and post-operative pelvic organ prolapse-quantification (POP-Q) and magnetic resonance imaging (MRI) measurements as well as determine the correlation between changes in POP-Q and MRI measurements in patients that underwent total Prolift® (Ethicon, Inc. Somerville, New Jersey) colpopexy.

MATERIALS AND METHODS: This was a pilot study that recruited patients with stage 2 or greater prolapse undergoing total Prolift. Before and after surgery (6 to 12 weeks), patients had POP-Q assessment and dynamic MRI (rest, strain, and evacuation). Anterior wall, apical, cul-de-sac, and posterior wall MRI measurements were taken at maximum descent using the HMO classification system as described by Commiter et al. Pre- and post-operative measurements were compared using paired Student's t-test for both POP-Q and MRI exams. Correlations between changes in POP-Q and MRI measurements were determined using Pearson correlation coefficients. P-value <0.05 was considered statistically significant.

RESULTS: Ten subjects were enrolled (n = 10). Differences between pre- and post-operative POP-Q and MRI measurements are shown in Tables 1 and 2. Statistically significant changes were seen with POP-Q measurements for Aa, Ba, C, Ap, Bp, GH. On MRI, statistically significant changes were seen with cystocele, enterocele and apex. Correlations between the changes in POP-Q variables and MRI stage of prolapse were as follows: point Aa and MRI cystocele: -0.91 ($P < 0.001$); Ba and MRI cystocele: -0.46 ($P = 0.2$); Ap and MRI rectocele: 0.63 ($P = 0.05$); Bp and enterocele: -0.56 ($P = 0.1$); C and MRI apex: -0.63 ($P = 0.05$).

CONCLUSION: Total Prolift is effective in the surgical management of anterior, posterior, and apical prolapse as measured by POP-Q and MRI measurements. Although correlations between changes in POP-Q and MRI measurements were shown, the optimal method for prolapse quantification using MRI requires further study.

Key Words: prolapse, prolift, vaginal mesh, MRI

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 3

Subjective And Objective Outcomes ≥1 year After Placement Of A vaginal Mesh Delivery System To Correct Pelvic Organ Prolapse

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OBJECTIVES: To determine objective and subjective outcomes at least one year after placement of a vaginal mesh delivery system to correct pelvic organ prolapse.

MATERIALS AND METHODS: This was a retrospective cohort study of our first 120 patients treated with the Avaulta Solo® mesh system (CR Bard, Covington, GA). This is the first study regarding this particular vaginal mesh delivery system.

POP-Q measurements as well as PFDI-20 / PFIQ-7 scores were obtained pre-op and at least 1 year post-op for all patients. A surgical satisfaction survey was also administered at ≥1 year.

We defined "surgical cure" by considering subjective and objective findings simultaneously. Any patient with any POP-Q point ≥zero and/or complaints of "vaginal bulge" on PFDI-20 was considered a "surgical failure". The rest were "surgical cures". The changes in PFDI-20/PFIQ-7 scores were also evaluated. Mesh complications were followed closely throughout the study period. During the study period, both the original and a "2nd generation" Avaulta® system were used, so we compared results from these two systems. Statistical analysis was performed via chi-square and paired t-tests.

RESULTS: Objective & subjective information at greater than 1 year was available for 116 of the 120 patients (97%). The number of patients who received just the anterior mesh; just the posterior mesh and both meshes were 74, 21, and 21 respectively. The mean follow-up interval was 14.4 months (range 12–30). The mean age was 64.7 ± 10.7 and mean BMI was 26.4 ± 5.0. The overall "surgical cure" rate was 81%, and there was no significant difference between the 1st and 2nd generation Avaulta® systems. "Surgical failure" was more common among patients with a pre-op C point ≥+2 (35% vs. 16% $P = 0.04$). 12 patients (10%) had a second surgery to correct recurrent prolapse. Mesh erosion was found in 14 patients (12%). Of these, 2 spontaneously resolved, 9 resolved with vaginal estrogen and/or in-office excision, and 3 were excised in the OR during surgery for another indication. No re-operations were required strictly for mesh erosion. Four of 116 patients (3.5%) reported de-novo mesh-related pain requiring surgical revision. The mean pre-op PFDI-20 and PFIQ-7 scores were 113.4 and 84.0, and these scores improved by77.9 and 61.5 points respectively ($P < 0.01$). Improvements in PFDI-20 and PFIQ-7 scores did not differ among patients with and without mesh erosion ($P = 0.63$). 82% of the group (95/116) reported that they were "satisfied" or "highly satisfied" with their results, and 88% (102/116) reported that they would "recommend the surgery to a friend."

CONCLUSION: The Avaulta Solo® device resulted in satisfactory objective and subjective outcomes 1 year after surgery in most subsets of patients; however, failure rates were relatively high among patients with pre-op Point-C values ≥+2. Mesh erosions were largely asymptomatic and easily managed. While rare, mesh-related pain remains a worrisome problem.

Key Words: prolapse, mesh, vaginal, avaulta

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Patrick Culligan:CR Bard:Honorarium:Speaker & Consultant;CR Bard:Grant: Researcher;Intuitive Surgical:Honorarium:Speaker & Consultant;Boston Scientific:Honorarium:Speaker &Consultant;AMS:Honorarium:Consultant; Mpathy: Grant:Researcher

Oral Poster 4

Testing And Validation Of A Low Cost Cystoscopy Teaching Model

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OBJECTIVES: Cystourethroscopy has long been used by gynecologists for diagnostic and operative indications, but to date, a unified system for training residents and documenting competency has never been developed. Previously, a low cost cystoscopy model was designed, and a video presenting its development and function was presented at the 2008 Society of Gynecologic Surgeons meeting. The objective of this study was to test that model's ability to effectively train residents in cystourethroscopy and to validate the model as an effective teaching tool.

MATERIALS AND METHODS: A randomized, controlled, and evaluator-blinded study, which included 29 obstetrics and gynecology residents, was performed. All participants were given access to a fresh-frozen cadaver and were asked to perform a pre-determined set of cystoscopic skills, including proper assembly and set-up of the cystoscope, complete survey of the bladder and urethra, as well as identification of any abnormalities. Participants' baseline technical skills were assessed by a blinded examiner experienced in cystourethroscopy. Individual scores were assigned using the validated Objective Structured Assessment of Technical Skills (OSATS) checklists for cystourethroscopy, determining Task Specific Checklist (TSC) score and Global Rating Scale (GRS) scores. After this initial cadaver lab, residents were randomized to one of two study arms. One arm (study) underwent a 2-hour didactic on set-up, instrumentation, and proper use of cystoscopy using the low-cost balloon teaching model. The control group had no exposure to the 2-hour didactic session utilizing the model. Repeat testing was performed in the cadaver lab, within 1–2 weeks, performing the same series of cystoscopic skills evaluated at baseline. OSATS checklist scoring was repeated using the same, blinded examiner. In order to validate the balloon model didactic as an effective teaching tool, pre- and post-scores from each study arm were compared using independent t-tests and score deltas evaluated with generalized linear models, controlling for baseline scores by year.

RESULTS: Twenty-eight of the 29 residents completed the study. No difference was noted in assembly time, TSC scores or GRS scores between the groups at baseline. After the study group underwent training using the bladder model, there were statistically significant decreases in cystoscope assembly time compared to controls. The study group also demonstrated significant improvement in both the TSC and GRS scores compared to the controls. [Table 1]

CONCLUSION: The resident's ability to assemble and perform cystoscopy significantly improved after undergoing the bladder model didactic. The low-cost cystoscopy model is a valid and effective teaching tool and may improve clinical performance and knowledge of cystourethroscopy among residents.

Key Words: OSATS, Resident Education, Bench Models, Cystourethroscopy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Bryce Bowling:Astellas:Educational Grant:Investigator

Oral Poster 5

Pelvic Anatomy And Gynecologic Laparoscopy Course-Incorporation Into A Surgical Curriculum

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OBJECTIVES: To describe an existing pelvic anatomy and gynecologic laparoscopy course for obstetrics and gynecology residents and to determine if knowledge of several domains of laparoscopic surgery was improved by this course.

MATERIALS AND METHODS: An 8-year ongoing course in pelvic anatomy and laparoscopic surgery for post-graduate year (PGY) 2 and PGY-3 residents is part of the educational curriculum in gynecologic surgery at the University of Texas Southwestern Ob/Gyn residency program. The course consists of four weekly sessions during each Urogynecology rotation. During the first session, residents receive an instructional guide for open and laparoscopic cadaver dissection, written material on principles of electrosurgery, and brief anatomy lectures and tutorials on advanced laparoscopic skills using simulator box-trainers. On subsequent weeks, residents participate in two supervised sessions in the cadaver lab and undergo self-directed skills practice using laparoscopic box-trainers. Over a 10 month period, residents on the Urogynecology service completed a 25-item multiple-choice pretest to assess baseline knowledge related to laparoscopic surgery. Domains of laparoscopic surgery tested included pelvic anatomy, methods of insufflation and trocar placement, electrosurgical principles, and complications. A posttest was administered at the completion of the 4-week course to evaluate change in knowledge. In addition, an anonymous survey was administered at the start of the rotation to assess residents' perceived comfort level with basic and advanced laparoscopic skills and interest in further training. Tests results were analyzed using paired Student's t-test.

RESULTS: A pelvic anatomy and gynecologic laparoscopy course was incorporated within a resident block rotation. Repeated course modifications based on trainee feedback and faculty experience were needed to optimize trainee learning and satisfaction. Course implementation and successful maintenance largely depended on resident and faculty commitment, motivation, and available resources and support. Sixteen of 20 resident participants completed all testing; 10 were PGY-2 with minimal laparoscopic surgical experience and 6 were PGY-3 with varying degrees of experience. Overall, there was a significant improvement in test scores from a mean percentage correct of 59% on the pretest to 71% on the posttest ($P < 0.001$). Of 17 survey participants, 9 (53%) ranked their proficiency with basic laparoscopic skills as poor and 16 participants (94%) expressed desire to undergo proficiency training in advanced laparoscopic skills during their residency training.

CONCLUSION: A pelvic anatomy and gynecologic laparoscopy course can successfully be incorporated into a residency training curriculum. Residents perceive the need for more extensive training in laparoscopic surgery. Knowledge of pelvic anatomy and laparoscopic surgery significantly improved after completion of the structured course. Further modification of our evaluation criteria and didactic/instructional efficiency are underway.

Key Words: anatomy, curriculum, resident education, gynecologic laparoscopy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 6

Trial Of A Novel Portable Laparoscopic Training Device

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OBJECTIVES: The purpose of the study was to test a home built, easily portable laparoscopic trainer with a realistic, mobile camera for resident training.We sought to compare outcomes after an instructor training session vs. an online self study instructional video.

MATERIALS AND METHODS: A box trainer was built using a suitcase, spy camera with LED light source mounted in a metal tube, and a camera receiver with wireless connection to a small TV screen, for under $200. All materials including laparoscopic graspers and knot pushers fit inside the suitcase for transport. Residents were given five tasks to complete on their own including passing a pipe cleaner through hooks, placing washers on pegs, unwrapping an aluminum foil ball, tracing a maze, and extracorporeal knot tying. They were randomized to direct instruction on the use of the trainer (controls) vs. self study using a video posted on YouTube. Self reported timed results for each task were compared, stratified by level of training. They also completed a questionnaire on realistic feel, technical problems with box trainer, comfort with trainer, need for the trainer and surgical applicability of the trainer using a Likert-type scale (1 = strongly disagree, 5 = strongly agree).

RESULTS: The apparatus is presented in figure 1. Eighteen residents were randomized to a 25 minute session with an instructor or to the video. There was no difference in outcomes in timed performance for each task between the two groups as presented in Table 1. There was a relationship between increasing PGY level and performance, suggesting validity of the tasks. Control and video groups reported no differences in technical problems with equipment (1.7 vs 2.7, P = 0.9),comfort with trainer (4.9 vs 4.8, P = 0.66), realistic simulation of surgical feel(4.6 vs 4.6, P = 1.0), applicability of tasks (4.9 vs 4.6, P = 0.13), and current opportunity for practice(2.3 vs 2.1,P = 0.61).

CONCLUSION: A homemade, realistic laparoscopic simulator can be inexpensively built and used for resident training at home with self instruction with good results. This can favorably impact time available for practice of laparoscopic skills and demands on faculty and finances.

Key Words: training, Laparoscopy, resident education, Low-Fidelity simulation

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 7

Reoperation Within 10 Years After Primary Prolapse Surgery

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OBJECTIVES: To estimate the reoperation rate for prolapse within 10 years of primary surgery for pelvic organ prolapse.

MATERIALS AND METHODS: We identified all patients who underwent primary surgery for prolapse at 3 large regional centers in 1997 and 1978. Hospital databases were searched to determine whether patients had been reoperated for prolapse through 2008.

RESULTS: A total of 456 patients (mean age, 62 years; range, 31–93) underwent a primary operation for prolapse in 1997 and 1998. The most common primary operation was vaginal hysterectomy with colporrhaphy (89% of primary procedures). We identified 13 reoperations for prolapse, for a reoperation rate of (at least) 2.9%. The median interval between primary and secondary surgery was 5.5 years (1.5–10) years. Reoperations comprised vaginal sacrospinous fixation (6), anterior + posterior colporrhaphy (3), anterior colporrhaphy only (3), and posterior mesh (1). Seven of the 13 patients reoperated for prolapse were ≤50 years old at the time of primary surgery.

CONCLUSION: The 10-year reoperation rate for prolapse after primary vaginal hysterectomy and colporrhaphy appears to be modest.

Key Words: prolapse, prolapse surgery, reoperation

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Karl Tamussino:Gynecare/EWHFU:Honorarium:Speaker;Astellas:Honorarium: Advisory Board

Oral Poster 8

Ambulatory Procedures For Pelvic Floor Disorders In The United States: 1996 And 2006

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OBJECTIVES: To estimate the number of ambulatory surgical procedures performed for female pelvic floor disorders (PFDs) in the United States and to compare national ambulatory surgical rates between 1996 and 2006

MATERIALS AND METHODS: We analyzed data from the 1996 and 2006 National Survey of Ambulatory Surgery (NSAS), a federal public access de-indentified database. This study was exempt from review by the Institutional Review Board. Procedures for PFDs were identified using International Classification of Diseases-9th revision (ICD-9) procedure codes for urinary incontinence (UI), fecal incontinence (FI), and pelvic organ prolapse (POP). Our study population was restricted to women 21 years and older. We used sampling weights provided by the NSAS documentation to obtain national estimates of ambulatory surgical cases and 95% confidence intervals (CI). Population rates were calculated by dividing the sampling weights by US census bureau estimates of the resident population of women 21 years and older in each year. The ambulatory surgery case rates were calculated per 10,000 US women over 21 years old.

RESULTS: The total number of ambulatory surgical admissions for PFDs increased from 75,023 (95% CI 62,868–87,178) in 1996 to 132,518 (95% CI 103,295–161,741) in 2006, although this did not reach statistical significance (P = 0.8). The ambulatory surgery case rate for PFDs increased from 7.76 per 10,000 in 1996 to 12.10 per 10,000 in 2006 (P = .004). The number of ambulatory surgical admissions for UI increased significantly from 34,968 (95% CI 25,583–44,353) in 1996 to 105,656 (95% CI 79,033–132,279) in 2006 (P = .002). The increase in UI procedures between the two time periods was primarily seen in the increase of procedures coded as other repair of stress urinary incontinence (ICD-9 59.79). The absolute number of ambulatory surgical admissions for POP remained stable with 42,938 (95%CI 34,809–51,067) procedures in 1996 and 44,394 (95% CI 29,785–59,003) procedures in 2006. The ambulatory surgery case rate for POP also remained stable at 4.44 per 10,000 in 1996 to 4.05 per 10,000 in 2006 (P = .6). The mean age of women undergoing ambulatory procedures for urinary incontinence was not different between the time periods {58.5 vs. 57.8 years for 1996 and 2006 respectively, P = .8}.

CONCLUSION: Ambulatory procedures for UI increased between 1996 and 2006. The ambulatory surgery case rate for pelvic floor

disorders increased between the two time periods, primarily due to an increase in procedures for UI.

Key Words: Pelvic Organ Prolapse, Urinary Incontinence, Pelvic Floor Disorders, Ambulatory Procedures

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 9

Short Term Results Of PINNACLE® Procedure Used To Treat Anterior/apical Prolapse In 43 Patients

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OBJECTIVES: To determine the efficacy and perioperative complications in the use of Pinnacle® Pelvic Floor Repair Kit (Boston Scientific, Natick, MA) in the correction of anterior and apical pelvic floor defects.

MATERIALS AND METHODS: This is a single center, retrospective study of 43 patients who underwent the Pinnacle® Anterior/Apical procedure from February 2008 through June 2009. The procedure involved transvaginal placement of Type I, monofilament, polypropylene mesh. The four mesh arms were anchored in a tension-free fashion with a Capio® Suture Capture Device to the sacrospinous ligaments and the proximal white line on each side. Preoperative assessment included a history and physical, POP-Q staging and urodynamics. At 6 weeks, 6 months and 1 year postoperatively assessment included POP-Q staging and evaluation for complications. Data are reported as proportions, means (±SD), or medians and interquartile range (IQR), as appropriate. The paired t test was used to compare pre- and post-operative measurements.

RESULTS: The mean follow-up was 7.2 (range: 1.0–18.5) months. The mean age and BMI were 65.3 (±10.2) years and 28.3 (±3.8) kg/m^2, respectively, while the median parity was 3.0 (IQR: 2.0). All patients had stage II (51.2%) or stage III (48.8%) prolapse with mean points Aa, Ba and C of +1.1 (±1.5), +1.7 (±2.0) and −1.8 (±2.7), respectively. Sixteen (37.2%) patients had a prior hysterectomy and 9 (20.9%) had a history of surgical prolapse repair. Concomitant procedures included 35 (81.4%) suburethral slings (28 transobturator, 3 retropubic and 4 mini-slings), 2 (4.7%) hysterectomies, 25 (58.1%) perineorrhaphies and 5 (11.6%) posterior repairs. Mean operating time was 102.5 (±37.4) minutes and median length of stay was 1.0 (IQR: 0.0) day. At the last follow-up visit, points Aa, Ba and C were −2.4 (±0.8) −2.4 (±0.8) and −6.7 (±1.7), all of which improved significantly ($P < 0.0001$ for each). Intra-operative complications consisted of 5 (11.6%) patients with estimated blood loss greater than 500 cc (median blood loss was 100 (IQR: 150.0) cc), two of which required embolization and blood products. Mesh exposure was noted in 12 patients (27.9%): 5 (11.6%) resolved with topical estrogen, 6 (14.0%) needed minor surgical revision and 1 (2.3%) persisted but was asymptomatic. Other post-operative complications included hematoma formation in 6 (14.0%), granulation tissue in 5 (11.6%), de novo stress urinary incontinence in 3 (7.0%), de novo overactive bladder in 3 (7.0%), buttock pain in 2 (4.7%) and urinary retention in 3 (7.0%) patients.

CONCLUSION: The Pinnacle® procedure is comparable to other mesh kits; however, no blind trocar passes are needed through the transobturator or ischiorectal spaces. Excellent apical support was demonstrated in this cohort and appears to be due to improved superior mesh attachment to the sacrospinous ligaments, whereas other anterior mesh kits utilize the proximal white line for apical support. The mesh exposure rate in our patients is concerning, although the characteristics of the mesh utilized in this kit are similar to other prolapse mesh kits. Longer-term follow up and corroborative studies are needed.

Key Words: Vaginal mesh, Anterior vaginal prolapse, Apical vaginal prolapse, Sacrospinous ligament fixation, Pinnacle, Synthetic mesh

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Peter Rosenblatt:American Medical Systems:consulting, intellectual property rights, research:consulting, contracted research;Ethicon Women:intellectural property rights, research, consult:consulting, contracted research;Bard Medical:consulting, honoraria:speaker; Boston Scientific:consulting, honoraria, research:speaker, consulting, contracted research;Cook Ob/Gyn:consulting, intellectual property rights:consulting;Pfizer:honoraria:speaking;Gyrus ACMI:honoraria:speaking, teaching

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Oral Poster 10

Predictors Of Transfusion Requirement Among Patients Who Undergo Hysterectomy For Benign Disease

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OBJECTIVES: Our objective was to determine what preoperative factors could be used to predict the need for blood transfusion at the time of hysterectomy for benign disease.

MATERIALS AND METHODS: A systematic query of the electronic medical record at MetroHealth Medical Center using DRG codes for all types of hysterectomy was performed for the period of January 2000 to July 2005. Inclusion criteria were: hysterectomy performed at MetroHealth, documentation of procedure and hospital course noting any receipt of packed red blood cells during the hospitalization for hysterectomy. Patients with gynecologic cancer diagnoses were excluded leaving 1911 patients, 137 of which were transfused. Charts were abstracted for these and 304 non-transfused patients in an unmatched case-control manner into a standardized recording sheet. Primary outcomes were preoperative hematocrits in transfused and non-transfused patients. In addition, type of hysterectomy, indication for surgery, physician estimated blood loss (EBL), uterine weight, Charlson comorbidity index score, tobacco use, age, race, and BMI were analyzed as independent variables for transfusion. Student's t-tests and Chi-Square tests for proportion analysis were performed. A logistic model was also used to evaluate demographic characteristics.

RESULTS: We found no differences in age, race, BMI, or smoking status between non-transfused and transfused patients. Charlson score was higher in the transfused group (mean scores 0.32 vs. 0.67, $P < 0.01$). Patients with a preoperative hematocrit of less than 30% required transfusion more often than those with hematocrit greater than 30% (78% vs. 25%, Odds Ratio (O.R.) 10.6). EBL was greater in the transfused group (mean 290mL vs. 887mL, $P < 0.001$) with EBL 251-500mL, 501-1000mL, and >1000mL having O.R. for transfusion of 3.5, 9.3, and 49.1 respectively. EBL was notably greater in the low hematocrit group (mean 317mL vs. 649mL, $P < 0.001$) as was uterine weight (mean 350g vs. 563g, $P < 0.001$). Secondary analyses also

showed increased transfusion risk with fibroids or menorrhagia vs. prolapse indications (O.R. 3.2), and with abdominal vs. other methods of hysterectomy (O.R. 3.4).

CONCLUSION: From this analysis, we can conclude that low preoperative hematocrit is associated with an increased risk of transfusion. Anemic patients are also more likely to have open procedures and higher EBLs for larger uteri. Preoperative treatment of anemia and its' causes, such as fibroids and menorrhagia, can minimize or potentially avoid transfusions in these at-risk patients. Surgeons can also embrace newer technologies and attempt to perform less invasive procedures to decrease operative blood loss in this population.

Key Words: hysterectomy, risk factors, transfusion, anemia

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 11

Review Of An Outpatient Hysterectomy Protocol Evaluating Clinical Outcomes In Patients Undergoing VAGINAL, Laparoscopic, And Robotic Hysterectomy

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OBJECTIVES: To review and compare clinical outcomes of patients undergoing outpatient hysterectomy in an ambulatory surgical setting.

MATERIALS AND METHODS: This is a retrospective chart review of patients undergoing laparoscopic, robotic, or vaginal hysterectomy in the outpatient setting. One-hundred and two patients underwent hysterectomy in the outpatient settling between December 2005 and July 2009. An outpatient hysterectomy protocol was followed for patients who were eligible for outpatient surgery during this time period. Patient demographics and clinical outcomes such as: operative time, estimated blood loss, intra-operative and post-operative complications, and readmissions were examined.

RESULTS: Overall patient outcomes were favorable with this protocol. The age range of patients was 36–69 years (Mean = 49 years). Average BMI was 26 (SD+/− 5.9). Fifteen patients underwent laparoscopic hysterectomy, 53 robotic, and 33 vaginal hysterectomy with this protocol. Demographics in the 3 groups were similar. Average EBL was 98 cc for all groups (SD +/− 106 SD) with average operative time 96minutes (+/− 34 SD). Uterine weights ranged from (31g to 786g) with an average of 196grams (SD +/− 157g) for the 3 groups. The laparoscopic and robotic groups had average EBL and uterine weights that were similar (76 cc,78 cc EBL; 124g, 175g), and the vaginal group had the highest EBL and average uterine weight (138 cc, 261g) However, there were no significant intraoperative complications that required admission. All patients were discharged the same day as surgery and none required readmission within 24 hours in all 3 groups. The minor post-operative complication rate was 15.6%. Major complications requiring admission and reoperation included vaginal cuff dehiscence (4.9%), ileus (2%), one blood transfusion for hematoma, and one incisional hernia. Complications occurred with all types of hysterectomies with the robotic group having the highest rate secondary to vaginal cuff dehiscence.

CONCLUSION: Patients undergoing minimally invasive hysterectomies utilizing laparoscopic, robotic, and vaginal techniques can be safely discharged on the same day as surgery. Complications types and rates are similar to those that occur in the in-patient setting

Key Words: Robotic, Laparoscopic, Out-patient Hysterectomy, Vaginal

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 12

Utility Of Clinical Parameters, CYSTOURETHROSCOPY, And Magnetic Resonance Imaging In The Preoperative Diagnosis Of Urethral Diverticula

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OBJECTIVES: To assess the accuracy of history and physical, cystourethroscopy, and MRI in preoperative diagnosis of urethral diverticula.

MATERIALS AND METHODS: This is a retrospective review of all patients who underwent surgical excision of periurethral masses between August 1998 and January 2009. Preoperative symptoms assessed included dyspareunia, dysuria, post-void dribble, urethral discharge, recurrent UTIs, urinary urgency and frequency, urethral pain, and stress and urge incontinence. Exam findings included fluid expression upon urethral compression and urethral tenderness to palpation. If cystourethroscopy was performed, we noted evidence whether ostia were visualized. Our reference standard for the diagnosis of a diverticulum was by pathology. A single, experienced pathologist reviewed all cases and provided the reference standard for the diagnosis of a diverticulum. A single expert radiologist independently reviewed all scans in patients who underwent a preoperative pelvic MRI to assess for radiographic evidence of diverticula. Sensitivities, specificities, and positive and negative predictive values (PPV, NPV) were calculated for each of the parameters above using chi-square tables with 95% confidence intervals.

RESULTS: Medical records and pathology specimens were available for review in 56 of 74 patients who underwent surgery. Mean (SD, range) age at time of surgery 39 (11.3, 21–66) yrs. Pathology confirmed diverticulum in 21/56 (37.5%), excluded diverticulum in 13/56 (23.2%), and was equivocal in 22/56 (39.3%). Among patients with diverticula, most frequent findings were fluid expression upon urethral compression (63%), dysparuenia (58%), dysuria (45%), and post-void dribble (44%). Fluid expression upon urethral palpation was more frequent among those with confirmed diverticula compared with the confirmed no diverticula or uncertain pathology groups (P = 0.001). Considering all patients' presenting symptoms and signs, the ability to express fluid upon urethral compression had the highest sensitivity at 63%, specificity 100%, with PPV 100% and NPV 59%. The sensitivity, specificity, PPV, and NPV, respectively, for cystourethroscopy in this population were 76%, 31%, 64%, and 44%. By comparison, for MRI diagnosis were 100%, 86%, 92%, and 100%.

CONCLUSION: In our patient population, dyspareunia, dysuria, and post-void dribble were the most frequent symptoms in those with pathology-confirmed diverticula. Cystourethroscopy is a relatively sensitive tool but less so than MRI, which is an effective and accurate—albeit costly—diagnostic modality. These data also reinforce the utility of urethral compression for evaluation for urethral diverticula.

Key Words: cystourethroscopy, MRI, urethral diverticulum, diagnostic predictors

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 13

Subjective And Objective Outcomes At Least One Year After Robotic-assisted Laparoscopic Sacrocolpopexy

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OBJECTIVES: To assess the subjective and objective outcomes ≥1 year after robotic-assisted laparoscopic sacrocolpopexy with polypropylene mesh.

MATERIALS AND METHODS: This was a retrospective cohort of 64 patients who underwent a robotic-assisted laparoscopic sacrocolpopexy using a type I monofilament polypropylene mesh coated with hydrophilic porcine collagen (Pelvitex® CR Bard, Covington, GA). Outcome measures were collected pre-operative and ≥1 year (12–17 months) post-operative for all patients. Patients were excluded if they were participating in any other study. We assessed objective outcome via the POP-Q system, and subjective outcomes using the short forms of the Pelvic Floor Impact Questionnaire (PFIQ 7) and the Pelvic Floor Distress Inventory (PFDI 20). Patients with any POP-Q point ≥zero and/or point C beyond the −5 position were considered as an "objective failure". Any patient complaining of a "vaginal bulge" on PFDI-20 was considered a "subjective failure". We then combined subjective and objective findings to define "surgical failure" as patients with "objective" and/or "subjective" failure. The rest were "surgical cures." Operative times, EBL, mesh-related morbidity, and re-operations were collected. Paired comparisons between pre and post-operative outcomes were performed using the Wilcoxon signed rank test for non-parametric variables and the paired t-test for parametric values.

RESULTS: The "surgical cure" rate was 94.2%. We observed one distal anterior failure, 2 distal posterior failures and no apical failures. Patients' mean age was 54 (35–76) and a mean BMI of 25.6 kg/m^2 (19–35.8). Preoperatively, 24 patients had POP-Q stage II (37.5%), 36 had POP-Q stage III (56.25%) and 4 had POP-Q stage IV (6.25%). The mean preoperative POP-Q Point C was 0 (−7, +9). Preoperatively the mean PFDI-20 score was 104.4 ± 54 and the mean PFIQ-7 score was 72.6 ± 60. The mean operative time and blood loss values were 145 ± 23 min and 58 ± 55 mL respectively. All patients were discharged home within 24 hours. Thirty eight patients (59%) had a concomitant sling and one patient underwent a post operative sling placement for new onset SUI. Two patients (3.1%) required mesh-related re-operations (one for mesh erosion and one for pain). We found highly significant differences between pre and post-op POP-Q point C values (median pre procedure = −1.00, vs. −8.00 post procedure, $P <$ 0.001); worst anterior POP-Q (median pre procedure = 1.00, vs. −2.00 post procedure, $P < 0.001$); worst posterior POP-Q (median pre procedure = 0.08, vs. −2.00 post procedure, $P < 0.001$); PFDI-20 total score (median pre procedure = 91.67, vs. 8.33 post procedure, $P < 0.001$), and PFIQ-7 total score (median pre procedure = 61.84, vs. 0.00 post procedure, $P < 0.001$).

CONCLUSION: Robotic-assisted laparoscopic sacrocolpopexy using this type I polypropylene mesh material resulted in significant improvements of subjective and objective outcome measures and an excellent "surgical cure" rate.

Key Words: PFDI-20, PFIQ-7, POPQ, Robotic surgery, polypropylene mesh, Robotic sacrocolpopexy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Patrick Culligan:CR Bard:Honorarium:Speaker & Consultant;CR Bard:Grant: Researcher;Intuitive Surgical:Honorarium:Speaker & Consultant;Boston Scientific:Honorarium:Speaker & Consultant;AMS:Honorarium:Consultant;Mpathy:Grant: Researcher

Oral Poster 14

Introduction Of The Da Vinci Robot To Gynecology: Is There A Significant Impact On Route Of Hysterectomy In The First Year Of Use?

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OBJECTIVES: 1. To determine the rates of abdominal, vaginal, and laparoscopic hysterectomies performed for benign indications at VCU medical center in the year prior to, and following, the introduction of the Da Vinci robot and 2) To compare surgical morbidity of different routes of hysterectomy including length of hospital stay, transfusion, urinary tract injury, bowel injury, and surgical site infections.

MATERIALS AND METHODS: We performed a retrospective chart and surgical case log review of all hysterectomies performed from July 2007 to June 2008 (period 1) and July 2008 to June 2009 (period 2) by surgeons in the benign gynecology division at VCU Medical Center. Data from the surgical case logs included patient demographic information, surgical indication, estimated blood loss, and intra-operative complications. Surgical pathology reports for each case were reviewed to determine the uterine weight in grams. Hospital discharge summaries for each subject were reviewed to determine overall length of hospital stay and early post-operative complications such as urinary tract infection, pneumonia, wound infection, febrile morbidity, need for transfusion, delayed return of bowel function, deep venous thrombosis, and need for re-operation. Rates of complications and routes of hysterectomy by time period were compared using chi-square statistic.

RESULTS: A total of 461 hysterectomies were performed: 199 in period 1, and 262 in period 2. The comparison of routes of hysterectomy by time period is presented in the table below.

Significantly more robotic hysterectomies were performed in period 2, with a corresponding decrease in laparoscopic hysterectomy ($P <$ 0.0001), but no decline in the rate of abdominal or vaginal hysterectomy. The primary surgical indication that was associated with a significant change in route of hysterectomy from period 1 to 2 was pelvic organ prolapse (vaginal to robotic, $P < 0.0001$). When controlling for uterine weights, there was no significant increase in the number of hysterectomies performed through a minimally-invasive approach after the introduction of robotic technology. The overall rate of any major intra- or post-operative complication by route of hysterectomy was 23.04% for open, 11.1% for vaginal, 7.02% for laparoscopic (TLH or LAVH), and 4.29% for robotic ($P < 0.0001$). Mean length of stay for laparoscopic, open, robotic, and vaginal hysterectomy were 1.68, 3.31, 1.52, and 1.86 days, respectively ($P <$ 0.0001).

CONCLUSION: Introduction of robotic technology did significantly change the route of hysterectomy in the first year of use primarily due to a change in management of the surgical indication pelvic organ prolapse. At our institution, the open hysterectomy rates remain

significantly lower than the national average and were associated with the highest rates of complications and length of hospital stay.

Key Words: hysterectomy, complications, robotic, route

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Catherine Matthews:Intuitive Surgical:Honorarium:Surgical Proctor

Oral Poster 15

A Multi-institutional Experience With Laparoendoscopic Single-site Surgery In Gynecologic Oncology

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OBJECTIVES: Recent reports suggest that laparoendoscopic single-site surgery (LESS), also known as single-port surgery, is technically feasible in treating a variety of disease processes. The purpose of this multi-institutional study was to assess the feasibility, safety and early surgical outcomes of the single-port approach for the management of various gynecologic cancers or precancerous conditions.

MATERIALS AND METHODS: Data were collected for patients treated with LESS between January and September 2009. Variables analyzed include age at diagnosis; procedure, body mass index (BMI), operating time, single port system utilized, pre and post-operative analog pain scores, hospitalization time, complications and conversion to standard laparoscopy or laparotomy. Data were analyzed using the student t-test and Pearson's correlation.

RESULTS: Data were available for 23 patients of which 11 (43%) were diagnosed with a gynecologic malignancy and 4 (17%) had previous abdominal surgery. Procedures included endometrial cancer staging (n = 6), ovarian cancer staging (n = 5), and pelvic sidewall dissection, ureterolysis and pelvic mass resection (n = 12) for complex adnexal masses with elevated CA-125. The median age and BMI were 52 years (range, 17–84 years) and 28 (range, 16–46 BMI) respectively. The median operating time was 71 minutes (range, 15–170 min). The median number of pelvic and para-aortic lymph nodes removed was 9 (range, 7–21) and 3 (range, 2–6) respectively. Pearson's correlation coefficient indicates a statistically significant linear relationship between operating time (min) and number of cases $r = 0.66$, $P < 0.001$ for non-staging procedures. All procedures were successfully performed via a single incision approach with only two conversions to standard laparoscopy. The majority of patients required no narcotics postoperatively.

CONCLUSION: LESS is feasible in select gynecologic oncology patients with current instrumentation and optics. Further studies are needed to better define the ideal gynecologic oncology procedures for single-site surgery and to assess the relative benefits of LESS compared with more conventional minimally invasive approaches.

Key Words: Single Port Laparoscopy, Laparoendoscopic single-site surgery, single port surgery, oncologic surgery

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Pedro Escobar:Olympus:Honorarium:Speaker;Covidien:Honorarium:Speaker; Applied Medical:Honorarium:Speaker;Intuitive:Honorarium:Speaker

Oral Poster 16

Microscopic Configuration And Integrity Of Flat Square Knots

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OBJECTIVES: We previously demonstrated that flat square configurations seldom result when knots tied with appropriate technique by experienced gynecologic surgeons were subjected to microscopic evaluation. The purpose of this study was to determine the corresponding failure load, loop length, and mode of failure of these knots.

MATERIALS AND METHODS: Using 0 polyglactin suture, board certified faculty surgeons (designated A to H) were each instructed to tie 21 four-throw flat square knots on a bench model. As a control the principal investigator tied an additional set using meticulous technique and tension adjustment to create flat square microscopic configurations. Knot configurations were analyzed microscopically by the principal investigator, who was blinded to participant knot assignment. Tails of each knot were trimmed to 3 mm, the loop divided, and the tails measured to determine total loop length, a surrogate measure for maintaining tension during tying. Ideal loop length was determined by averaging loop measurements of six knots tied on the model, and the difference between mean and ideal loop lengths was calculated for each surgeon. After pre-soaking in 0.9% NaCl for 60s, knots were distracted at a rate of 20 mm/min in a tensiometer until knot failure (slippage beyond 3 mm or knot rupture). The maximum load at knot rupture or at the time of slippage, and failure mode, were recorded. Data were analyzed with ANOVA (Student-Neuman-Keuls multiple comparison testing) with $P < 0.05$ considered significant.

RESULTS: A total of 189 knots were tested. Only 1 out of 168 knots tied by the study participants had the microscopic appearance of a true flat square knot. All knots in the control group appeared flat and square. The mean ± SEM failure loads for the control and surgeons A-H were 42.7 ± 0.4, 37.6 ± 1.7, 34.6 ± 2.6, 33.2 ± 3.1, 34.6 ± 3.1, 16.9 ± 3.4 ($P < 0.05$)*, 38.9 ± 1.6, 35.6 ± 3.0, and 36.9 ± 1.9, respectively. With the exception of Surgeon E, there were no statistically significant differences in failure loads among surgeons or between each surgeon and the control. The mean difference in loop lengths from ideal for all surgeons ranged from 0.5–4.7 mm. Interestingly, Surgeon E had the longest loop length from ideal when compared with all other surgeons (Surgeon E 4.7 ± 0.8 mm, $P < 0.001$), suggesting that less maintenance of tension while tying may have been a factor in the reduced failure loads of these knots. The majority (85.7%) of knots tied by Surgeon E failed by slippage, while most of the knots tied by the rest of the group failed by rupture (range 57.1%-76.2%). All knots in the control group failed by rupture.

CONCLUSION: When experienced gynecological surgeons use a flat square technique to tie knots using 0-vicryl, flat square configurations seldom result by microscopic analysis. However, the overall tensile strength of the knots did not differ significantly among 7 of the 8 surgeons when compared to the control group or each other. Results from this study suggest that attention to flat square tying technique with appropriate tensioning may be more important to knot security than the final microscopic configuration achieved.

Key Words: Surgical Education, Knot configuration, Knot security

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 17

Tensile Strength At Failure Of A surgeon's Knot Or A Flat Square Knot

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OBJECTIVES: To test the integrity of knots tied using a surgeon's knot and a flat square throw using four different suture materials.

MATERIALS AND METHODS: The two types of knot configurations were tied with chromic catgut, polyglactin 910, silk or polydioxanone. Knots were tied using United States Pharmacopeia size 0–0. The knots were tied randomly on a jig by the same surgeon. We compared the individual knot strength when subjected to tensile forces via tensiometer with the point of knot failure, which was defined as untying and/or breaking of the knot.

RESULTS: Four types of suture were divided into two groups based on first throw configuration for a total of 119 knots. We found that a surgeon's knot failed at a mean of 79.7 Newtons (SD 26.3N), and a flat square knot failed at 82.9N (SD 45.7N). An independent samples t-test showed that this was not a statistically significant difference. Material was a non-significant covariate when included in an ANOVA study design, thus the analysis was simplified to just a comparison of surgeon's vs. non-surgeon's knots. A Chi-square test was used to determine whether there was a difference in likelihood of coming untied between surgeon's knots (29.2%) and non-surgeon's knots (38.0%). We also noted no statistically significant effect between the two knot types.

CONCLUSION: A flat square throw and surgeon's knots did not differ in tension at failure, or likelihood of untying.

Key Words: Suture Techniques, Tensile Strength, Polyglactin 910, Surgeon's knot

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 18

Surgical Skills Evaluation: Comparison Of Self Versus Expert Evaluations

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OBJECTIVES: Our objectives were to compare residents' self-evaluation of their cystoscopic skills to experts' evaluations of their skills, and to determine which demographic and training variables affected these evaluations.

MATERIALS AND METHODS: We conducted a planned secondary analysis of data obtained from a multi-center trial assessing the effectiveness of mental imagery in improving cystoscopic skills. The validated Global Rating of Operative Performance was used by both residents and expert cystoscopists to grade resident cystoscopic performance. Scores range from 0 to 30; higher scores indicated better performance. We compared residents' self-assessments to expert assessments of resident performance and the effect of level of training and gender of residents on levels of agreement between scores. Residents and experts were also asked to report whether or not they felt the resident was competent to perform cystoscopy independently. Significance was set at $P < .05$. McNemar's test, Wilcoxon signed-rank tests and two factor Analysis of Variance (ANOVA) were employed to test for agreement. Calculations were performed using SAS (SAS institute Inc. 2008.).

RESULTS: Fifty eight residents (47 female, 11 male) from 6 academic institutions participated in the study. All residents had 2 cystoscopies evaluated. The majority were 1st year residents (N = 29). Expert evaluators and residents' self-evaluation scores after the first cystoscopy did not differ (16.0 +/− 5.0 vs 15.3 +/− 5.2, $P = 0.08$), and did not vary by gender or level of training. However, male residents were more likely to report that they were competent to perform cystoscopy independently compared to female residents (27% vs 6%, $P = 0.03$) as did upper vs first year residents (34% vs 21%, $P = 0.03$). Competency evaluation by male residents was less likely to agree with expert evaluation when compared to agreement between female and expert evaluation ($P = 0.03$). Upper level residents were also more likely to deem themselves competent when compared to expert evaluation ($P = 0.03$).

CONCLUSION: In this multi-center educational trial, male and upper class residents were more likely to overrate competency when compared to expert evaluation of competency. Self-assessment in these populations may need to be modified in order to be an effective method of evaluating surgical ability.

Key Words: Cystoscopy, Skills' evaluation, Self assessment, Surgical education

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 19

Does Weight Loss Improve Fecal Incontinence Severity In Overweight And Obese Women With Urinary Incontinence?

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OBJECTIVES: To determine the effect of weight loss on fecal incontinence (FI) severity among obese and overweight women with urinary incontinence (UI) from baseline through 18 months after a weight loss intervention.

MATERIALS AND METHODS: The Program to Reduce Incontinence by Diet and Exercise (PRIDE) is a multi-center, randomized clinical trial in 338 overweight and obese women with UI. Women were randomized to an intensive 6-month behavioral weight loss program followed by a 12-month weight maintenance program (intervention; N = 226) or a structured educational program (control; N = 112). After evaluating the effects of the intervention on FI, the 2 randomized groups were combined into one cohort. Women completed a modified Fecal Incontinence Severity Index (FISI), including self-report of frequency and bother of accidental loss of gas, mucus, liquid and solid stool. Improvement in FI severity was calculated by subtracting the FISI follow-up scores at 6, 12, and 18

months from the baseline score. Scores <0 were considered "improved." Potential confounding variables were assessed by self-report questionnaires and examination, including socio-demographic factors, medical history, and body mass index (BMI).Lower urinary tract symptoms (LUTS) were assessed by the AUASI. Chi-square, ANOVAs and Ranked ANOVAs were used to compare bivariable differences in categorical and continuous variables as appropriate with improved FISI scores. A repeated measures generalized linear model (adjusted for clinic site and clustering within intervention groups) was used to predict factors associated with improvements in FISI scores. A proportional odds repeated measures regression analysis was used to predict factors associated with improvements in liquid FI frequency.

RESULTS: At baseline, mean (±SD) age was 53 ± 10 years, BMI 36 ± 6, and 19% were African American. Monthly FI was 16% (n = 55) at baseline; with 44% (n = 148) experiencing gas leakage. Eighty-six percent (291) of women completed the 18-month trial. Despite no intervention effect on FI, improved FI severity from FISI scores was seen in 13% (n = 45) across all visits; with improvements in the severity (more frequent to less frequent) gas leakage in 48%, mucus leakage in 15%, and solid and liquid FI in 14% and 26%, respectively. Factors independently associated with improved FISI scores across all visits were: white race/ethnicity compared to non-white race/ethnicity (1.27 point reduction); 5 kg lower baseline weight (0.03 point reduction), and 1-point lower AUASI score (0.2 point decrease, all $P < 0.01$). Among women with FI of liquid stool, improved liquid stool FI frequency across all visits was associated with >5 kg weight loss (OR = 1.26), 10 gm increase in dietary fiber intake (OR = 1.17) and decreased LUTS (OR = 1.07; all $P < 0.05$).

CONCLUSION: Overweight and obese women with UI in a weight loss program reported modest improvements in FI severity. Although the amount of weight loss was not associated with improved FI severity overall, women with liquid stool FI who lost at least 5 kg and/or increased dietary fiber intake had improved FI frequency. More information is needed to explore the impact of weight and weight loss on FI severity in women.

Key Words: urinary incontinence, fecal incontinence, obesity

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Oral Poster 20

3-year Results Of The Adjustable Continence Therapy (act®) In The Treatment Of Recurrent Stress Urinary Incontinence (sui)

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OBJECTIVES: Evaluate the safety and efficacy of the ACT® device for the treatment of recurrent SUI. Secondary objectives included procedural technical difficulty and device adjustability.

MATERIALS AND METHODS: Management of stress urinary incontinence (SUI) associated with intrinsic sphincter deficiency (ISD) can be challenging after prior failed therapies. The Uromedica ACT® system is a novel device under FDA investigation that provides bulk at the bladder neck with adjustable silicone balloons for urethral coaptation and bladder neck support. Each balloon is attached to a titanium port allowing for post-operative titration of the balloons for maximal efficacy. A small incision between the labia majora and minora at the level of the urethral allows for passage of a trocar under fluoroscopic guidance to the bladder neck. The device is delivered and the balloon filled with 1.5 cc dilute contrast. The injection port for balloon adjustment is placed into a subcutaneous pouch in the labia majora. Balloon adjustments begin 6 weeks post-operatively, as needed.

The study population involves female patients with recurrent SUI with urethral hypermobility (UHM) and/or intrinsic sphincter deficiency (ISD). Testing was performed at baseline, then postop 6 wks, 3, 6, 9, 12 months, and annually thereafter, and included urinalysis, a 3-day diary, provocative pad weight test (PPWT), direct visual stress test (DVST), Stamey score, physical exam and validated questionnaires (UDI-6, IIQ-7, IQoL).

RESULTS: : 162 patients were implanted to date, with 142, 84 and 57 patients completing at least 1, 2, and 3 years follow-up, respectively. Mean age is 67.4 yrs (range 31–94 yrs). 83% (N = 135) had at least one previous anti-incontinence procedure, with 42.6% experiencing 2 or more failed procedures. Difficulty of ACT® surgery was rated as mild, moderate, or severe in 62%, 29%, and 9% of procedures, respectively. Improvement in Stamey score was >1 in 75.4% (107/142), in 75.0% (63/84) and in 83.9% (47/56) at 1, 2 and 3 yrs, respectively. Mean PPWT decreased from 48.9, 44.3 and 44.5 grams at baseline to 11.8, 8.9 and 8.4 grams at 1, 2 and 3 yrs, respectively ($P < 0.001$). Dry rate was 50.8%, 63.0% and 71.4%, and >50% improved rate was 79.7%, 88.7% and 83.3% at 1, 2 and 3 yrs, respectively. Validated questionnaires noted significant improvements at 1, 2 and 3 yrs ($P < 0.001$). Mean number of balloon volume adjustments through the study period to achieve maximum continence was 2.9 (0–15). Device or procedure related complications (bladder perforation, port or balloon erosion, balloon migration, port or balloon related pain/discomfort, intermittent urinary retention) were reported in 25% (39/156) of subjects at the end of 12 months, 18.6% (21/113) through year 2, and 13.7% (10/73) through year 3. Of these, the majority (54%) were considered to be mild in severity.

CONCLUSION: 3-year data suggest the Uromedica ACT® system can be an effective, simple, minimally-invasive and safe treatment for recurrent female SUI.

Key Words: stress urinary incontinence, recurrent stress incontinence, Stress incontinence, intrinsic sphincter deficiency, adjustable therapy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Suzette Sutherland:Uromedica:compensation for study participation: Co-investigator;Pfizer:honorarium:speaker;AMS:honorarium, fees: speaker, consultant;Medtronic:fees:consultant;Allergan:compensation for study participation:Co-investigator

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Oral Poster 21

Validation Of WEB-BASED Administration Of The Short Form Pelvic Organ PROLAPSE/ Urinary Incontinence Sexual Function Questionnaire (pisq-12)

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OBJECTIVES: To determine if the web-based short form Pelvic Organ Prolapse/ Urinary Incontinence Sexual Function Questionnaire (PISQ-12) is equivalent to the original paper-based version.

MATERIALS AND METHODS: After obtaining Institutional Review Board approval, we performed a prospective crossover study from April 2009 until August 2009. We recruited women presenting to a single university Female Pelvic Medicine and Reconstructive Surgery clinic. After obtaining informed consent, we randomized women into two groups: administration of either the web-based or paper-based version of the PISQ-12. All participants ultimately completed both versions of the questionnaire. Randomization was performed using random number blocks of four in a one to one ratio using a computer random number generator. Sequentially numbered, opaque, sealed envelopes with the randomization paper folded twice secured concealment of the allocation. Two weeks after completing the first version of the questionnaire to which they were randomized, either web-based or paper-based, participants then crossed over and completed the alternate version of the questionnaire. They also responded to a question asking which version they preferred. We compared demographic variables using Student's t-test, chi-square, and Fisher's exact test. Total and individual PISQ-12 scores were compared using paired t tests. We assessed strength of association for total and individual scores of the web-based and paper-based versions using Pearson correlation coefficients.

RESULTS: We recruited 52 women and 50 (96.2%) completed the study. Completion rates for the two groups were similar (96.2% vs. 96.2%, $P = 1.0$). Demographics for the two groups, those completing the web-based PISQ-12 first and those completing the paper-based PISQ-12 first, did not differ in regards to age, race, computer access and computer use. The group randomized to complete web-based first had attended or completed college at a lower rate than the group randomized to complete paper-based first (11 vs. 19, $P = .012$). When comparing the web-based to the paper-based version of the PISQ-12, we found no difference in total scores (33.2 +/− 6.3 vs. 33.5 +/− 5.8, $P = .41$) or individual scores, except for question 9 (3.1 +/− 1.3 vs. 3.3 +/− 1.1, $P = .036$). We found a high degree of correlation between the web-based and paper-based versions of the PISQ-12 for total ($r = 0.88$) and individual scores. The order in which participants completed the two versions of the PISQ-12 did not affect the total or individual scores. Overall, women preferred the web-based PISQ-12 to the paper-based version (77.6% vs. 22.4%). Women who preferred the web-based version were more likely to use the internet on at least a weekly basis (100.0% vs. 81.8%, $P = .047$). There were no other differences in preference based on demographics such as age, race, and education.

CONCLUSION: The web-based version of the PISQ-12 is a viable alternative to the standard paper-based version and is preferable to women regardless of age, race or education. Computer access may affect willingness to use the web-based version.

Key Words: sexual function, questionnaire validation, PISQ-12, web, internet

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

OBJECTIVES: To investigate the incidence of hip and proximal lower extremity pain following tension-free vaginal tape obturator (TVT-O) surgery, and to evaluate the association between pain and body mass index (BMI).

MATERIALS AND METHODS: We conducted a retrospective analysis of all patients undergoing the TVT-O (Ethicon, Inc; Somerville, NJ) procedure at our institution from July 2008 through June 2009. Charts were abstracted for demographic, preoperative, operative, and postoperative data. The primary outcome was postoperative hip or proximal lower extremity (groin, thigh, leg, or inguinal) pain, and the primary exposure was BMI: normal (18.5–24.9 kg/m^2), overweight (25.0–29.9 kg/m^2), and obese (over 30.0 kg/m^2). The $\chi 2$ or Fisher's exact test were used as appropriate. Log-binomial regression was used to calculate risk ratios (RR) and 95% confidence intervals (CI).

RESULTS: During the study period, 226 TVT-O procedures were performed by four urogynecologic surgeons. Five patients were excluded due to incomplete exposure or outcome data. Two underweight patients were excluded. The study population had a mean age of 51 years and a mean BMI of 29 kg/m^2. Stress urinary incontinence was completely cured in 87%, improved in 10% and unchanged in 3%. The incidence of postoperative hip or proximal lower extremity pain was 16%. Eight (22%) of these patients were referred for further evaluation or treatment. When controlling for menopausal status, women of normal BMI had a higher risk (RR = 2.5; 95% CI: 1.01–6.22) of developing postoperative hip and proximal lower extremity pain than obese women. While not statistically significant, compared to obese women, overweight women were twice (RR = 1.99; 95% CI: 0.79–4.99) as likely to develop the primary outcome. The following variables did not have an appreciable effect on the association between BMI and the primary outcome: age, smoking status, parity, postoperative urge or stress incontinence, mean preoperative POPQ stage, mean urethral closure pressure, concurrent surgery, or surgical time. The adjusted RR for isolated proximal lower extremity pain was 2.12 (95% CI: 0.83–5.46) for normal weight women compared to obese women.

CONCLUSION: The incidence of postoperative hip and proximal lower extremity pain in TVT-O patients is approximately 16%. Women of normal weight have an increased risk of developing hip and proximal lower extremity pain compared to obese women. Although not statistically significant, the risk also appears to be increased for overweight women. One potential physiologic mechanism is that increased adipose tissue serves to cushion the sling, thereby causing less irritation of nearby nerves. Further study is needed to investigate this relationship, elucidate the physiological mechanism, and determine how long this effect persists. Understanding these associations will lead to optimal counseling of women desiring TVT-O.

Key Words: Body mass index, TVT-O, surgical outcomes, thigh pain, groin pain, hip pain

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 22

Role Of Bmi In Development Of Postoperative Hip And Thigh Pain In TENSION-FREE Vaginal Tape Obturator Patients

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Non-Oral Poster 23

Excretion Of Colored Urine After Intravenous Injection Of Indigo Carmine Dye

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OBJECTIVES: To evaluate predictors of the time required to cystoscopically visualize excretion of colored urine after intravenous injection of 2.5 milliliters of 0.8% indigo carmine dye.

MATERIALS AND METHODS: Consecutive females who undergo routine cystoscopy as part of a surgical procedure for prolapse and/or incontinence were included in this prospective study. Demographic information, preoperative serum creatinine values, and operative fluid balance at the time of cystoscopy were gathered.

RESULTS: Sixty-two consecutive patients were enrolled in the study and one patient was excluded from the analysis due to history of unilateral kidney resection. Indigo carmine dye was visualized from the first ureteral orifice at a mean of 4:01 minutes (SD 1:35) and from the second ureteral orifice at 5:34 minutes (SD 1:20) following intravenous administration. Predictors of seeing the dye sooner included older patients ($P < 0.05$) and an increased estimated blood loss ($P < 0.01$). Factors that did not affect time to colored urine efflux included higher body mass index, and higher serum creatinine. Dye effluxed from the left ureteral orifice at a statistically significantly sooner time period compared to the right ureteral ureteral orifice ($P < 0.04$).

CONCLUSION: If the gynecologic surgeon does not see efflux of dye from a ureteral orifice within 7:12 minutes (greater than 2 standard deviations from the mean time of dye efflux) then we recommend further intra-operative evaluation of ureteral patency.

Key Words: Pelvic organ prolapse, Cystoscopy, Urinary bladder, Indigotindisulfonate Sodium, Intraoperative complications

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 24

Factors Associated With Erosion Of Transvaginally Placed Polypropylene Mesh For Pelvic Organ Prolapse

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OBJECTIVES: To assess the degree to which smoking, age, menopausal status, hormone replacement therapy, diabetes, body-mass index (BMI) and perioperative complications are associated with the risk of mesh erosion following transvaginal placement of polypropylene mesh for pelvic organ prolapse.

MATERIALS AND METHODS: A matched case-control study was performed. Women with transvaginally placed polypropylene mesh for the repair of pelvic organ prolapse between January 1, 2004 and May 31, 2009 were included. Cases were all women treated at our tertiary care center with mesh erosion requiring surgical revision. Controls did not develop mesh erosion and were matched for similar date and type of surgery (location and brand of mesh). Cases were identified by CPT codes 57295 and 57296, indicating a surgical mesh revision from a vaginal or abdominal approach. Controls were identified by CPT code 57267, indicating the vaginal placement of mesh. Charts were manually reviewed to assess for all inclusion criteria. Patient demographics, characteristics, comorbidities, perioperative variables, complications and erosion status were ascertained from the medical records. Complications were those recorded by the surgeon, including: bleeding, transfusion, cystotomy, rectal injury, hematoma, sciatic pain, and urinary retention. A conditional logistic regression was used to control for matching; adjusted odds ratios (OR) with 95% confidence intervals (CI) were obtained from this model. The model included smoking status, menopausal status, hormone replacement therapy, diabetes status, BMI and age. A restricted cubic spline was used for BMI and age to relax assumptions of linearity in these variables. Analysis was performed with STATA version 9.

RESULTS: Forty-eight cases were matched with 48 controls. The mean age for cases was 54.5 years and controls was 59.9 years. Parity, body mass index and menopausal status were similar between both groups (Mean parity 3; BMI 28.1 and 27.2, 38% and 40% menopausal, respectively). Results were inconclusive regarding the factors of interest and mesh erosion: The adjusted odds of developing mesh erosion were 3.4 fold higher among smokers than non-smokers (95% CI, 0.34 to 33.66), 2.3 fold higher among patients taking hormonal replacement therapy (95% CI, 0.57 to 9.19), and lower among those who were younger, (OR 0.96; 95% CI, 0.92 to 0.99), and those with diabetes (OR 0.46; 95% CI, 0.07 to 2.86). Mesh erosions tended to be more common among patients with perioperative complications, (OR, 6.04; 95% CI, 0.66 to 55.53). Complications among the cases included bleeding requiring transfusion (n = 1), cystotomy (n = 2), hematoma (n = 2), rectal perforation (n = 1), sciatic pain (n = 1) and urinary retention (n = 1). Only one control had a complication: postoperative urinary retention which resolved.

CONCLUSION: Our results were inconclusive regarding whether smoking, age, menopausal status, hormone replacement therapy, diabetes and body-mass index are risk factors for the development of mesh erosion. There was a trend toward mesh erosion being more common after surgeries with perioperative complications.

Key Words: Mesh Excision, Polypropylene mesh, Vaginal Mesh Placement, Vaginal prolapse surgery, Mesh complications, Smoking

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 25

Sexual Dysfunction: Does It Matter Which Vaginal Compartment Is Predominately Prolapsed?

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OBJECTIVES: To determine if a one compartment of the vagina, when prolapsed, is associated with a greater risk of sexual dysfunction than another.

MATERIALS AND METHODS: A total of 678 consecutive women presenting for evaluation from a consultative urogynecology practice completed validated questionnaires regarding pelvic floor symptoms and their quality of life. Women were categorized into three groups based on the compartment with the maximum extent of prolapse: anterior, posterior and apical. The scores for responses to the pelvic organ prolapse/urinary incontinence sexual function questionnaire (PISQ-12) were compared.

RESULTS: 390 subjects did not meet criteria to be classified as a predominate compartment. Of these, 158 (41%) were sexually active and completed the PISQ-12. 288 subjects with stage 2 or greater prolapse were broken into predominate compartment. There was no difference between those with a predominant prolapsed compartment and those without in regards to who was sexually activity and

completed the PISQ-12 (n = 123, 42% vs n = 158, 41%, $P = 0.695$). When comparing predominate anterior (n = 77) to posterior prolapse (n = 38), there was borderline statistical significance ($P = 0.053$) in PISQ-12 scores. When comparing the no predominate group to the anterior, posterior and apical groups no difference in sexual dysfunction was seen.

CONCLUSION: A predominate prolapsed vaginal compartment may not be a predictor of sexual dysfunction.

Key Words: prolapse, sexual dysfunction, PISQ-12

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Adam Steinberg:Pfizer:honorarium:Speaker

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Non-Oral Poster 26

Prevalence Of Pelvic Floor Symptoms After Treatment For Cervical Cancer

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OBJECTIVES: Our primary goal was to assess the prevalence of anal incontinence (fecal or flatal incontinence) in women treated for cervical cancer. Our secondary goals were to assess the prevalence of other pelvic floor symptoms in women treated for cervical cancer and to determine if radiation therapy affected the prevalence of these symptoms.

MATERIALS AND METHODS: We performed a prospective cross-sectional study of women attending the Gynecological Oncology clinic at the LAC+USC Medical Center between July 2007 and July 2009. Women with a documented history of stage IA2 to IIB cervical cancer with no evidence of disease for at least one year were asked to complete the short form of the Pelvic Floor Distress Inventory (PFDI-20), a validated questionnaire assessing the presence and degree of bother of bladder, bowel, and prolapse symptoms, in either English or Spanish, depending on participant preference. Power analysis indicated that we would need to enroll 96 women in order to detect a 15% prevalence of anal incontinence with a 5% margin of error and alpha 0.05 The institutional review board at the University of Southern California approved this protocol.

RESULTS: One hundred eligible women completed the PFDI-20. Eighty-eight women completed the questionnaire in Spanish. Mean (standard deviation) age and BMI were 52.8 (10.5) years and 30.7 (6.8) kg/m^2, respectively. Median parity was 4 (Range 0–13). The median time since last treatment was 4 (range 1–29) years. Twenty-three women received surgical treatment alone, 23 women received definitive chemoradiation, and 54 women received a combination. 19 women had diabetes mellitus; one woman had a history of a cerebrovascular accident; and two women had previous incontinence surgery. Thirty-six (36%) women reported anal incontinence, and 18 (18%) women reported fecal incontinence (loss of solid or liquid stool). Thirty-one of 36 (86%) women with anal incontinence found the symptoms to be bothersome. All but one (94%) woman with fecal incontinence found the symptom to be bothersome. The most common pelvic floor symptoms reported in this group of women were frequent urination (61%), loss of urine with cough, sneeze, or other activity (42%), strong sense of urgency to have a bowel movement (41%), sensation of incomplete bowel evacuation (41%), and needing to strain hard to have a bowel movement (39%). We found no significant difference in median PFDI-20 score or prevalence of pelvic floor symptoms between women who did and did not receive radiation as part of their treatment.

CONCLUSION: Anal incontinence and fecal incontinence affect 36% and 18% of women at a median of 4 years after treatment for cervical cancer, respectively. The most common pelvic floor symptoms in this group of women are frequent urination, stress urinary incontinence, fecal urgency, and sensation of incomplete bowel evacuation.

Key Words: urinary incontinence, fecal incontinence, anal incontinence, pelvic floor symptoms, cervical cancer

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 27

The First 66 Robotic Sacrocolpopexy Analysis Of The Learning Curve

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OBJECTIVES: Learning curve for Robotic Sacrocolpopexy (RSCP) performed by a single surgeon.

MATERIALS AND METHODS: Retrospective reviews of consol time for the first 66 RSCP using Y-mesh comparing the first 22 cases with the second 22 cases and the third 22 cases. All surgeries performed at a community hospital with a Robotic team from October 2007 to August 2009. Sixty six patients with advanced vaginal or uterine prolapse underwent RSCP with or without SupraCervical Hysterectomy/ Bilateral Salpingo Oophorectomy. Six to eight sutures were placed on the anterior wall. Eight to ten sutures placed on the posterior wall. Three sutures placed on the longitudinal ligament in all patients except three with two sutures. Reperitonealization was performed on all. Consol time includes SupraCervical Hysterectomy/ Bilateral Salpingo Oophorectomy, lysis, morcellation, and closure of the fascia at the assist site. All patients admitted for 24 hours except one, for 48 hours, and three days for the converted. There was no bowel, bladder, or ureter injury, or mesh erosion and minimal blood loss (less than 50 cc). Complications include: one patient with post operative infection resulted in removal of the mesh, and one patient with back pain (Discitis), requiring antibiotics, and one patient readmitted with herniated bowel at the 8mm trocar site treated laparoscopically. Consol time obtained from DVD.

See Table 1.

RESULTS: See Table 2.

CONCLUSION: Learning curve of RSCP is steep with maximum improvements in consol time (in the first 22 cases) with increased experience of the surgeon and the team. Consol time is related to the extent of adhesions and to the highly variable vascular anatomy in the presacral space and exposure of the anterior longitudinal ligament. Robotic sacrocolpopexy is feasible and safe.

Key Words: Learning Curve, Sacrocolpopexy, da Vinci

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 28

The Use Of Cystoscopy To Detect Urothelial Carcinoma In Patients With Pelvic Organ Prolapse And Asymptomatic Microscopic Hematuria

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OBJECTIVES: To evaluate the utility and cost effectiveness of cystoscopy to detect urothelial carcinoma in patients with pelvic organ prolapse and microscopic hematuria.

MATERIALS AND METHODS: A retrospective review was performed on 151 patients presenting to a single outpatient urogynecologic centre with pelvic organ prolapse and asymptomatic microscopic hematuria between 2007 and 2008. Pelvic organ prolapse was diagnosed by physical exam and quantified using the pelvic organ prolapse quantification system (POPQ). Microscopic hematuria was defined as >/ = 3 rbcs per high power field on urinalysis. All patients included in the study underwent cystoscopy as part of the routine workup for hematuria. Patients were excluded if they had gross hematuria or a urinary tract infection diagnosed by urine culture.

RESULTS: 151 patients were identified as having asymptomatic microscopic hematuria, pelvic organ prolapse and had undergone cystoscopy. Mean age was 63.3 (range 38 to 86), mean BMI was 28.2 (range 19.1 to 42.8) and mean parity was 2 (range 0 to 8). Only 12 (8%) patients were found to have positive findings on cystoscopy while 139 (92%) had negative findings. Positive findings included polyps, diverticulum, erythema and interstitial cystitis. No patients were identified as having urothelial carcinoma. Eighty-three patients had urine cytology in addition to cystoscopy. Nine (11%) of these patients had abnormal findings on urine cytology. Eight patients were found to have atypia and one patient was found to have dysplasia. Of note, none of these patients had positive findings on cystoscopy. A total of $38,900 was spent on cystoscopy at a cost of $258 per cystoscopy.

CONCLUSION: The evaluation of hematuria costs the United States $520 million to $1.09 billion a year. The National Cancer Institute quotes a 4.8% incidence of bladder cancer identified in patients undergoing cystoscopy for microscopic hematuria. However, there is controversy over the utility of cystoscopy in the workup of women with microscopic hematuria as some studies report the prevalence of bladder cancer in this cohort as less than 1%. In our study no patients were identified as having bladder cancer after cystoscopy. The use of cystoscopy for routine workup of these patients cost a total of $38,900 without yielding a single diagnosis of bladder cancer. Our study does not support the routine use of cystoscopy in the workup of microscopic hematuria in women with pelvic organ prolapse. A larger cost-benefit analysis should be performed in this patient population.

Key Words: pelvic organ prolapse, cystoscopy, Microscopic hematuria

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Harvey Winkler:Boston Scientific:Consulting fees:Consultant,Vesicare:Honorarium: Speaker;Intuitive Surgical:Honorarium:Proctor;Novasys:Consulting fees: Consultant

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Non-Oral Poster 29

Sexual Functioning In Women Undergoing Prolift Vaginal Mesh Surgery

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OBJECTIVES: To determine sexual functioning using the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12) in women undergoing Prolift vaginal mesh surgery.

MATERIALS AND METHODS: We conducted a case series with repeated measures at baseline, and 3, 6 and 12 months post-op in women undergoing Prolift vaginal mesh augmentation of any compartment. Patients presenting for diagnostic evaluation of prolapse were screened for sexual activity. Those indicating they were sexually active, or inactive due to their prolapse, were recruited for participation. At baseline, participants completed the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12), which is scored 0 to 48 with higher scores suggesting better functioning. Other variables obtained included socio-demographic information and Pelvic Organ Prolapse Quantification (POP-Q) measurements. Follow-up questionnaires and POP-Q were performed at 3- 6- and 12-months after surgery. Baseline and postop scores were compared using repeated measures analysis on JMP 8.0 (Carey, NC).

RESULTS: Twenty-nine subjects have been enrolled. Twenty-seven (93%) have completed baseline and 3 month questionnaires, 21 (72%) completed 6 month, and 13 (45%) completed 12 month. Mean age was 56 (±9.3) years, and BMI 28 (±4.9). One of 29 (3%) were African American and 28 (97%) were Caucasian. Sixteen (55%) had prior hysterectomy, 15 (52%) had previous vaginal surgery, and 21 (72%) were postmenopausal. Baseline POP-Q stages were 10 (34%) stage 2, 17 (59%) stage 3, and 1 (0.03%) stage 4. Significant improvements were noted in POP-Q stages at 12 month follow-up, with 12/13 (92%) stage 0, 1 (8%) stage 1, and 0 (0%) stage 2, 3 or 4 (p-value <0.001). PIS-Q 12 scores were 28.0 (±5.9) preop, compared to 34.5 (±7.0) at 3 months, 37.3 (±4.8) at 6 months, and 35.3 (±6.2) at 12 months. On repeated measures, the improvement in scores from baseline to 3 months in PISQ-12 was significant (6.5 ± 5.5; 95% CI 4.3–8.7; *P*-value <0.001). A significant change from 3 months to 12 months was not observed (p-value>0.05).

CONCLUSION: Sexual functioning as measured by PISQ-12 improved significantly at 3 months after surgery and appears to be maintained at 1 year.

Key Words: sexual function, pelvic organ prolapse, Prolift

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 30

The Impact Of Overactive Bladder Symptoms And Treatments On Quality Of Life Measures In Patients With Multiple Sclerosis

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OBJECTIVES: To determine the impact of overactive bladder (OAB) symptoms and treatments on quality of life (QoL) measures in patients with multiple sclerosis (MS).

MATERIALS AND METHODS: After obtaining IRB approval, results from the Fall 2005 North American Research Committee On Multiple Sclerosis (NARCOMS) survey were reviewed, including the Urogenital Distress Inventory (UDI-6) with an additional question regarding nocturia, the SF-12 (mental and physical scores), and the Patient Determined Disease Steps (PDDS), a subjective measure of MS symptom severity (scored 0 to 8). A total OAB symptom score was created by summing individual responses to the frequency, urgency, small leakage and nocturia questions, resulting in a possible score of 0 to 12. Data were analyzed using descriptive statistics, the chi-square and Student's t-tests, analysis of variance, and multivariate logistic regression.

RESULTS: Of 16,858 surveys mailed, 9702 (58%) complete responses were returned (75.4% females and 24.6% males). Participants with a surgically altered bladder were excluded (N = 21). At least one moderate to severe urinary symptom (score >1) was reported by 6263 (65%) respondents. The median OAB symptom score for all respondents was 5.1. A significant correlation between increasing OAB symptom score and increasing disability as gauged by PDDS score was noted (r = 0.291, $P < 0.001$). Quality of life assessments based on SF-12 scores were adversely impacted by increasing OAB symptom and PDDS scores ($P < 0.001$). Among respondents with at least one OAB symptom score >1, significant reductions in SF-12 physical (PCS-12) and mental (MCS-12) scores in all domains were noted (all $P < 0.001$). When disability was controlled for, reduced physical and mental QoL were correlated with increasing OAB symptom scores (PCS-12 r = 0.17; MCS-12 r = 0.16; both $P < 0.001$). Among respondents with an OAB symptom score >4, only 2361 (51.3%) had been treated with an anti-cholinergic medication. No significant difference in QoL measures based on the MCS-12 were noted between patients treated [44.65 (SD = 11.78)] or not treated [44.21 (SD = 11.67)] with anti-cholinergic medications ($P = 0.142$). However, lower median PCS-12 scores were noted among anti-cholinergic medication treated patients [32.84 (SD = 9.85)] versus untreated patients [36.34 (SD = 11.47); $P < 0.001$]. Respondents who utilized any form of urinary catheterization reported greater disability and reduced QoL (both $P < 0.001$). When compared, catheterizing respondents reported lower mean (SD) MCS-12 score of 44.1 (12.2), PCS-12 score of 30.5 (9.2) and PDDS score of 5.4 (2.0) versus mean MCS-12 score of 45.7 (11.5), PCS-12 score of 38.1 (11.8), and PDDS score of 3.2 (2.3) (t = 4.9, 23.9, 35.6 respectively, all $P < 0.001$) in non-catheterizing respondents.

CONCLUSION: Overactive bladder symptoms have a significant negative impact on the QoL of MS patients. Although greater reductions in QoL are noted in patients treated with anti-cholinergic medications or catheterization for OAB symptoms, these differences may be secondary to increased physical disability associated with more severe disease.

Key Words: urinary incontinence, overactive bladder, urge incontinence, Multiple sclerosis

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Sangeeta Mahajan:Pfizer Inc:Honorarium, Educational grant:Speaker, Investigator

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Non-Oral Poster 31

Do Types Of Urine Incontinence Predict Fecal Incontinence Symptoms?

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OBJECTIVES: Patients with urine incontinence often have fecal incontinence. Some therapies for urge urine incontinence (e.g. neuromodulation) are effective treatments for fecal incontinence. We sought to determine if specific types of urine incontinence were predictive of symptoms of fecal urgency or fecal incontinence.

MATERIALS AND METHODS: After receiving IRB approval, patients presenting for care between September, 2007, and June, 2009, prospectively completed validated surveys on urine and bowel dysfunction. Pertinent demographic and historical information was also recorded. Type of incontinence was defined by patient responses to items on the PFDI. Responses of moderate or greater bother were considered to be positive responses.

RESULTS: 1,203 patients completed our evaluation. Urge urine incontinence (UUI) was present in 460 patients (43%). Stress urine incontinence (SUI) was found in 463 patients (44%). 285/1,070 (27%) women had both urge and stress incontinence. 173 (16%) women reported bothersome fecal urgency. 144/1,082 (13%) had fecal incontinence. Of the women with UUI, 112/435 (26%) also reported fecal urgency. Of the women with SUI, 102/435 (23%) reported fecal urgency. The risk of having symptoms of fecal urgency was greater if the patient had UUI (OR 3.30, 95%CI 2.32–4.68, $P < 0.001$) compared with SUI (OR 2.28, 95%CI 1.63–3.20, $P < 0.001$). However, when both were evaluated together, UUI was more strongly associated with fecal urgency (OR 2.76, 1.89–4.03, $P < 0.001$) than was SUI (OR 1.61, 1.11–2.33, $P = 0.012$).

Of the women with UUI, 84/434 (19%) had fecal incontinence. Of the women with SUI, 83/439 (19%) had symptoms of fecal incontinence. The risk of having fecal incontinence was greater if the patient had symptoms of UUI (OR 2.91, 1.97–4.30, $P < 0.001$) compared with SUI (OR 2.47, 1.70–3.61, $P < 0.001$). When both were evaluated together, UUI was more strongly associated with fecal incontinence (OR 2.38, 1.56–3.63, $P < 0.001$) than was SUI (OR 1.74, 1.15–2.63, $P = 0.009$).

CONCLUSION: Patients with symptoms of urge urine incontinence are more likely to have symptoms of fecal urgency than those with stress urine incontinence. Patients with urge urine incontinence are also more likely to have fecal incontinence. There may be a common pathophysiology between urge urine incontinence and fecal incontinence symptoms.

Key Words: fecal incontinence, urine incontinence, urge urine incontinence, stress urine incontinence, fecal urgency

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Cheyenne Beach:Astellas Pharma Inc.:Unrestricted grant:Researcher

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Non-Oral Poster 32

Comparison Of Abdominal Sacral Hysteropexy To Abdominal Sacral Colpopexy With Concomitant Total Abdominal Hysterectomy: A Pilot Study

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OBJECTIVES: To determine the efficacy of abdominal sacral hysteropexy (ASH) with respect to subjective patient impression of improvement, anatomical cure and symptom change compared to abdominal sacral colpopexy with concomitant total abdominal hysterectomy (ASC/TAH).

MATERIALS AND METHODS: We performed a retrospective cohort study of 29 patients who underwent abdominal sacral hysteropexy (n = 20) or abdominal sacral colpopexy with concomitant total abdominal hysterectomy (n = 9) for Stage 2 or greater pelvic organ prolapse. All patients were assessed preoperatively and at 1 year with history, examination (pelvic organ prolapse quantification system (POPQ)) and questionnaires (PFDI-20, PFIQ-7). At 1 year patients also completed a Global Impression of improvement question. The primary outcome measure was impression of improvement, and secondary outcome measures were anatomical cure, change in symptoms and complication rates including mesh erosion. Anatomical cure was

defined separately for the apical, anterior and posterior compartments as follows; apical cure as point C/D + (TVL −2) ≤0, anterior/posterior cure as point Aa/Ba or Ap/Bp >-2. Symptom change was assessed using change in symptom subscales of the PFDI-20 and PFIQ-7.

RESULTS: There were no significant differences in baseline characteristics between groups. Median age was 50 years (range 37–71) with 48% of patients being menopausal. 9 patients had had previous vaginal or incontinence surgery. 23 patients had polypropylene and 6 had porcine dermis as the suspensory graft. Mean follow up was 12 months (range 10–15 months). All patients, irrespective of surgery, indicated improvement being "much better" or "very much better". One patient in the ASH group had anterior wall recurrence. There were no failures in the ASC/TAH group. There were no significant inter-group differences in symptom subscales. Mean operating time for ASH and ASC/TAH was 200 min and 230 min respectively ($P = 0.13$). Estimated blood loss was not significantly different (189ml (ASH) vs 333 ml (ASC/TAH), $P = 0.1$). Hospital stay did not differ significantly between the groups. Operative and post-operative complications were rare. 3 mesh erosions occurred, all in the ASC/TAH group, at a mean of 5.3 months (range 3–8 months).

CONCLUSION: There were no differences in patient impression of improvement, anatomical cure or symptom change between groups. Given the small numbers, this pilot study was not powered to detect significant differences in the outcome measures. We are undertaking a prospective, multicentre study in order to provide definitive data.

Key Words: sacral colpopexy, hysterectomy, sacral hysteropexy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Kristina Cvach:Johnson & Johnson:Educational grant to partly sponsor the FPMRS Fellowship, Department of Obstetrics and Gynecology, UBC. I personally do not receive benefit financially from this arrangement:Not applicable

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Non-Oral Poster 33

Teaching Residents The Repair Of Obstetric Fistulae: Our Mission Experience In Honduras

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OBJECTIVES: To review our experience pertaining to the surgical repair of rectovaginal fistulae during a medical mission at Hospital Escuela in Tegucigalpa, Honduras. Included are the scope of the problem, surgical repair, and the opportunity for resident learning experience during the mission.

MATERIALS AND METHODS: In May 2009, a MEDRETE (medical readiness mission) involving urogynecologic surgical care was undertaken for two weeks at the Hospital Escuela in Tegucigalpa, Honduras. Two attending urogynecologists, 2 OB/GYN senior residents, 4 aneshtesia providers, and OR staff were deployed to Tegucigalpa from Brooke Army Medical Center and Wilford Hall Medical Center in San Antonio, Texas. Seventy-two patients were evaluated for surgery with problems including pelvic organ prolapse, urinary incontinence, and rectovaginal fistula. Sixty-one surgical procedures were performed over 9 operating days. Eleven patients were identified as having rectovaginal or anovaginal fistulae. The average age of these patients was 26 years and average parity was 3. Nine of these patients sustained injury during childbirth which was not attended by physician or mid-wife or not properly repaired. The average time these patients waited for evaluation was 18 months. Hospital Escuela in Tegucigalpa, Honduras is the main teaching hospital and also provides free care to patients with little means. There are approximately 65 deliveries per day in this hospital with an average of 2 attending obstetricians and 2 residents each day.

RESULTS: Eleven patients underwent surgical repair of rectovaginal or anovaginal fistulae. Eight of these underwent sphincteroplasty, and three underwent perineoplasty alone. Each spent one night in the hospital and were discharged the next day. Each case was staffed by an attending urogynecologist with a senior level OB/GYN resident. At the conclusion of the mission, the senior resident was acting as primary surgeon with attending assistance. Prior to the mission, each resident reported exposure to 2 4th degree repairs and no rectovaginal fistulae procedures. To date, there were no major complications reported with only one patient with a perineal skin separation. Ten of the eleven patients were seen in follow up by the Honduran Gynecologist. At the conclusion of the mission, there were approximately 50 patients with the similar condition waiting for evaluation.

CONCLUSION: Recto-vaginal fistula is a devastating condition in 3rd world countries where it is a common complication of childbirth resulting from obstructed labor or either poorly or unrepaired obstetric lacerations. It is exceedingly rare in developed countries. Social, emotional and psychological consequences incurred by women with obstetric fistulas can lead to stigmatization, isolation and loss of social support and in some cases divorce or separation. In the United States, with diminishing use of episiotomy and fewer operative vaginal deliveries utilizing forceps, the opportunity to train Obstetric and Gynecology residents this important skill has decreased. Other than the obvious benefit of providing surgical care to the impoverished population of a Third World country, it provided a robust learning experience for OB/GYN residents.

Key Words: resident, rectovaginal fistula, Honduras, obstructed labor, teaching

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None; 30 y/o G2P2 with rectovaginal fistula

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Non-Oral Poster 34

Correlation Between Volume At First Leak And Maximum Cystometric Capacity, Maximum Urethral Closure Pressure, And Incontinence Related Quality Of Life

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OBJECTIVES: Our goal was to determine the relationship between the cystometric volume at the time of first detection of urodynamic stress incontinence and maximum cystometric capacity (MCC), maximum urethral closure pressure (MUCP), and condition-specific quality of life.

MATERIALS AND METHODS: We performed a secondary analysis of data collected prospectively for a study examining the relationship between depression and urodynamic diagnosis. Data from participants diagnosed with pure urodynamic stress incontinence (USI) were examined. Each participant completed the short forms of the Urinary Distress Inventory (UDI-6) and Incontinence Impact Questionnaire (IIQ-7) prior to urodynamic testing. During filling cystometry, women were asked to give three strong coughs at 50 mL intervals starting at 50 mL of bladder volume. USI volume was defined as the cystometric

volume at the first detection of USI. Maximum urethral closure pressures were obtained at MCC. Spearman correlations and one way ANOVA were used to compare independent groups with respect to continuous variables.

RESULTS: Ninety-five women, aged 34 to 69 years (median 48 years), were included in this analysis. Median (range) parity was 3 (0–10). USI volume was positively correlated with MCC (Spearman's rho = 0.25, $P = 0.014$) and MUCP (Spearman's rho = 0.25, $P = 0.014$) and inversely correlated with IIQ-7 score (Spearman's rho = −0.25, $P = 0.015$). There was no statistically significant correlation between USI volume and UDI-6 (Spearman's rho = −0.14, $P = 0.18$). When we grouped the women into three groups based on USI volume (<100 mL, 100–200 mL, >200 mL), there was a significant difference in mean IIQ-7 between the three groups ($P = 0.02$) and the difference in MUCP approached significance ($P = 0.06$).

CONCLUSION: There is a very low but statistically significant correlation between USI volume and MCC, MUCP, and IIQ-7. Women who experience urodynamic stress incontinence at lower bladder volumes have lower MCC, lower MUCP, and report greater impact of incontinence on quality of life.

Key Words: stress incontinence, urodynamics, maximum urethral closure pressure, maximum cystometric capacity, incontinence impact questionnaire, urinary distress inventory

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 35

Does Advancing Age Negatively Influence Success Of The Adjustable Continence Therapy (act®) Device For Recurrent Sui?

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OBJECTIVES: Age is often considered a risk factor for successful treatment of stress urinary incontinence (SUI). We assessed whether age remains a risk factor when treating patients with the Adjustable Continence Therapy (ACT®) device for recurrent SUI with respect to efficacy and safety.

MATERIALS AND METHODS: The Uromedica ACT® system is a novel device under FDA investigation that provides bulk at the bladder neck with adjustable silicone balloons for urethral coaptation and bladder neck support. Each balloon is attached to a titanium port buried in the labia majora allowing for post-operative size titration of the balloons for continued maximal efficacy. A small incision between the labia majora and minora at the level of the urethra allows for passage of a trocar under fluoroscopic guidance to the bladder neck. The device is delivered and the balloons filled with 1.5 cc contrast. The injection port for balloon adjustment is placed into a subcutaneous pouch in the labia majora. Device adjustments begin 6 weeks post-operatively, as needed.

162 patients were implanted, ranging in age from 31 to 94 (mean 67.4 ± 11.6), with recurrent SUI diagnosed as urethral hypermobility (UHM) and/or intrinsic sphincter deficiency (ISD). 140 (86%) and 68 (42%) completed 1 and 2 years follow-up, respectively. Patients were divided in three age groups: 54 (38.6%) patients <65yrs; 55 (39.3%) patients 65–74 yrs; and 31 (22.1%) patients >75yrs old. Age was associated with more HTN ($P < 0.001$), CAD ($P = 0.012$) as well as prior failed incontinence surgeries ($P = 0.021$). Younger patients had more non-surgical treatments for SUI ($P = 0.024$). Older patients had greater severity of SUI as indicated by direct visual stress test (DVST) and provocative pad weight testing (PPWT) ($P = 0.025$). Older patients were less likely to be sexually active ($P < 0.001$).

RESULTS: At 1 year all three age groups demonstrated significant ($P \leq 0.005$) improvement on all efficacy endpoints compared to baseline including the Stamey score, DVST severity, PPWT, number of incontinence episodes/day, number of pads/day, UDI-6, IIQ-7 and IQoL scores. At 2 years all three age groups continued to show significant improvement ($P \leq 0.021$) on most tests conducted. There were no significant differences between the three age groups on any of the efficacy endpoints or complication rates.

CONCLUSION: The 1- and 2-year results demonstrate that the ACT® system can be effectively used for recurrent SUI in adult women, regardless of age. Age does not appear to be a risk factor for this therapy.

Key Words: stress incontinence, Intrinsic sphincter deficiency, stress urinary incontinence, recurrent stress incontinence, adjustable continence therapy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Suzette Sutherland:Uromedica:compensation for study participation:Co-investigator; Pfizer:honorarium:speaker;AMS:honorarium, fees:speaker, consultant; Medtronic:fees:consultant;Allergan:compensation for study participation:Co-investigator

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Non-Oral Poster 36

Are Women Who Have Had Their First Child In Adolescence More Likely To Have Pelvic Floor Disorders?

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OBJECTIVES: The purpose of this study was to determine if childbirth during adolescence increases the risk of developing, and the severity of urinary incontinence and/or pelvic organ prolapse symptoms when compared to those women who delay childbearing until adulthood.

MATERIALS AND METHODS: Women presenting for routine care to gynecological offices associated with a University-based tertiary referral center were asked to anonymously complete the Urogenital Distress Inventory-6 (UDI-6), the Pelvic Floor Impact Questionnaire-Short Form (PFIQ-7), and a brief medical history form. Women over 34, who presented between July 2008 and April 2009 were eligible. Delivery during "adolescence" was defined as the incident vaginal delivery occurring before a subject's 20th birthday. Pregnant and recently postpartum women were excluded. Descriptive statistics were used with demographic and medical data. One-way analysis of variance was used to analyze the UDI-6 and PFIQ-7. Chi-square and t-test were used to compare nominal and continuous variables, respectively. A multivariate logistic regression was used to identify independent variables affecting UDI-6 and PFIQ-7 scores.

RESULTS: During the study period, 562 surveys were distributed and 504 were returned fully complete (89.6%). Of those, 93

(18.5%) had their first child in adolescence (adolescent group), 314 (62.3%) had their first child in adulthood (adult group), and 97 (19.2%) were nulliparous. The mean age for women in each group was not statistically significant ($P = .080$) with means being 48.1, 49.2, 46.7 years of age for the adult, adolescent, and nulliparous group respectively. The mean age at time of incident delivery was 26.7 for the adult group and 17.5 for the adolescent group ($P < .0005$). The majority of women in all groups were Caucasian. The adolescent group had the greatest number of African American women. The mean score for UDI-6 and PFIQ-7 for the adolescent group was 30.71 and 36.98 respectively compared to 20.46 and 13.61 for adult group with *P*-values of .001 and .002. Results from a multivariate logistic regression showed delivery during adolescence was an independent variable for increase scores on the UDI-6 and PFIQ-7, $P = .005$ and $P < .0005$ respectively. Other statistically significant variables between each group were number of viable deliveries, operative vaginal deliveries, history of hypertension, and past or current smoking. However, neither the number of viable deliveries nor operative vaginal deliveries was an independent variable affecting the scores of the UDI-6 or PRIQ-7.

CONCLUSION: Delivery during adolescence is an independent factor for development of more severe pelvic floor disorder symptoms, as measured by the UDI-6 and PFIQ-7.

Key Words: pelvic floor disorders, pelvic organ prolapse and urinary incontinence, adolescence

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None

Non-Oral Poster 37

One-year Anatomic And Quality Of Life Outcomes Following The Anterior Pinnacle Lift Kit Procedure For The Treatment Of Pelvic Organ Prolapse

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OBJECTIVES: To evaluate one-year anatomic, subjective and quality of life outcomes following pelvic reconstructive surgery using the Anterior Pinnacle Lift Kit.

MATERIALS AND METHODS: We conducted a retrospective chart review of patients who underwent pelvic reconstruction using the Anterior Pinnacle Lift Kit (PLK) performed by one urogynecologist at our institution between February 2008 and August 2008. Data collected included any concomitant procedures performed, pre and one-year post operative POP-Q examinations and responses to validated quality of life questionnaires (PFDI, PFIQ, PISQ). Subjective evaluation at the one-year visit was based on the following three questions: 1) Would you do the surgery all over again? 2) Would you recommend the surgery you had to a friend? 3) In terms of your prolapse how do you feel; 1: Markedly worse 2: Worse, 3: Same, 4: Improved 5: Markedly improved?

RESULTS: Twenty-one patients underwent pelvic reconstructive surgery using the PLK during the 7 month period. Sixteen patients (76.2%) returned for the 1-year follow up visit and were included in the analyses. The mean age at the time of surgery was 62.5 (+/− 8.1) years. Ninety-three percent of patients were post-menopausal and 43.8% had a hysterectomy prior to reconstructive surgery. All 16 patients underwent an anterior repair and sacrospinous ligament fixation (SSLF) using the PLK. Twelve patients underwent combined anterior and posterior mesh augmented repairs while the remaining 4 patients were anterior-only repairs. Eleven patients underwent concomitant sub-urethral sling procedures for urodynamically proven stress urinary incontinence (SUI). The mean POP-Q evaluation at the 1-year follow up showed a statistically significant improvement compared to pre-operative measurements. These points were: anterior compartment (Ba): +2.78, −2.31 respectively ($P < .01$); posterior compartment (Bp): −0.59, −2.50 respectively ($P = .013$); vaginal apex (C): −0.31, -6.84 respectively ($P < .01$). Mean responses of PFDI and PFIQ at 1-year follow up showed significant improvement compared to pre-operative scores. Mean PFDI scores pre-operatively and at 1-year were 95.9 and 46.9 respectively ($P = .001$), while PFIQ scores were 51.9 and 9.7 respectively ($P = .003$). Eight patients (50.0%) were not sexually active at the time of surgery and only 3 patients completed pre and postoperative PISQ questionnaires. Of those, mean pre-operative and 1-year PISQ were 30 and 35.7 respectively. Four patients complained of leakage of urine at the 1-year evaluation and 2 patients had recurrence of prolapse (defined as Point Ba, Bp or C >-1). Of all 16 patients who completed the subjective evaluation at the 1-year visit, 75% scored a 5 (marked improvement), while 100% said they would have the surgery again and would recommend the surgery to a friend.

CONCLUSION: There was a statistically significant improvement in both anatomic and quality of life outcomes at the 1-year postoperative visit following pelvic reconstruction using the PLK. All patients said they would have the surgery again and would recommend it to a friend. Most patients considered themselves markedly improved.

Key Words: prolapse, mesh, transvaginal surgery for pelvic organ prolapse

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 38

Physical Activity Levels In Women With Pelvic Floor Disorders

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OBJECTIVES: To estimate the association between physical activity level and pelvic floor disorders (PFDs) symptoms.

MATERIALS AND METHODS: We performed a cross-sectional study of women seeking care for urinary incontinence (UI), fecal incontinence (FI), and/or pelvic organ prolapse (POP) between June 2009 and August 2009. Women were recruited to participate and gave informed consent. Physical activity level was measured using the International Physical Activity Questionnaire (IPAQ), a validated questionnaire. IPAQ responses were converted into metabolic equivalents (METS) and subjects were categorized into "low", "moderate" or "high" activity levels based on standard IPAQ scoring cutoffs and guidelines. The subjective severity of PFD symptoms was measured using the Pelvic Floor Distress Inventory-20 (PFDI-20) and the Pelvic Floor Impact Questionnaire-7 (PFIQ-7). All women underwent complete urogynecologic exams, including POPQ exams and urodynamic testing as appropriate. Multiple Poisson regression was used to estimate the association between physical activity levels and PFD symptom severity by using overall PFDI-20 and PFIQ-7 scores and the subscale scores for urinary (UDI-6 and UIQ-7), prolapse (POPDI-6 and POPIQ-7) and colo-rectal anal (CRADI-8 and CRAIQ-7) symptoms.

RESULTS: 122 women agreed to participate in the study. Based on IPAQ scores, 13% of women seeking care for PFDs were categorized as having low

activity level, 31% were moderately active, and 56% were highly active. Compared to highly active women, low-moderately active women were older, (mean age 58 vs 53 years, $P = .02$), had a higher body mass index (BMI) (mean BMI 31 vs 27 kg/m^2, $P = .001$), had worse scores on the Urinary Impact Questionnaire-7 (UIQ-7) (mean score 40 vs 27, $P = .01$) and the Urogenital Distress Inventory-6 (UDI-6) (mean score 52 vs 44, $P = .09$). The mean scores for the POPDI-6 was 31 vs 28 ($P = .5$), POPIQ-7 was 11 vs 8 ($P = .5$), CRADI-8 was 21 vs 19 ($P = .5$), and CRAIQ-7 was 12 vs 9 ($P = .4$) for low-moderate vs high activity levels, respectively. In multivariable analyses, the risk of being low-moderately active was increased for each 10-point increase in UIQ score compared to highly active women (RR 1.07, 95% CI 1.01–1.14, $P = .04$), after adjusting for age, BMI and POPQ stage. Pelvic organ prolapse and colo-rectal anal symptom severity scores were not associated with worse physical activity levels on multivariable analyses.

CONCLUSION: Urinary incontinence severity is associated with lower physical activity levels in women.

Key Words: quality of life, pelvic floor disorders, physical activity, physical function

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 39

A Comparison Of Anatomical Outcomes Of Hysteropexy With Acellular Cadaveric Dermal Graft Versus Polypropylene Mesh Augmentation

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OBJECTIVES: To compare the outcomes of bilateral sacrospinous hysteropexy after anterior and apical augmentation using an acellular cadaveric dermal graft versus polypropylene mesh.

MATERIALS AND METHODS: 40 women who underwent anterior colporrhaphy augmented with an acellular dermal matrix (Group I) were compared to 71 women who had anterior colporrhaphy with polypropylene mesh augmentation (Group II). All women with >Stage II pelvic organ prolapse who underwent concomitant bilateral anterior sacrospinous hysteropexy using single permanent sutures placed 1.5 cm medial to the ischial spines on both the right and left sacrospinous ligament (SSL) were included in this analysis. Each SSL suture was also secured to either the allograft or polypropylene mesh to a fixation point on the ipsilateral vaginal apex located 1 cm lateral to the cervix on both sides simultaneously suspending the vaginal apices in both groups. The allograft was additionally secured to the arcus tendineus fascia pelvis ATFP bilaterally. The polypropylene mesh was approximated to the ATFP without fixation sutures. Concomitant midurethral slings and posterior repairs were performed as indicated. Wilcoxon two sample tests were used to assess the differences in pre and postoperative changes in POP-Q stage between groups I (hysteropexy with anterior allograft) and group II (hysteropexy with anterior synthetic mesh).

RESULTS: Mean follow-up was 16.6 and 12.5 months in Group I and II ($P = 0.005$), respectively. Mean age (56.2, 57.8), BMI (27.8, 25.8), and median parity (3, 3) were similar between groups. There were no graft erosions in the allograft group. There were 10 (14%) erosions in women who underwent polypropylene mesh augmentation. There was a greater improvement in POP-Q stage for the anterior compartment and point C in Group II versus Group I with the following median changes: Aa: −3 vs. −3.5, $P = 0.346$; Ba: −3 vs. −3.5, $P = 0.061$; and −6.5 vs. −3.5, $P < .001$, respectively. TVL and apical support was not significantly different between hysteropexy with acellular dermal matrix and hysteropexy with anterior polypropylene mesh.

CONCLUSION: Postoperatively, hysteropexy with polypropylene mesh reinforced anterior colporrhaphy conferred better anterior and uterine support than hysteropexy with acellular cadaveric dermal graft reinforced anterior colporrhaphy. Polypropylene mesh augmentation had a higher erosion rate.

Key Words: graft, anterior colporrhaphy, hysteropexy, uterine prolapse

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 40

An Innovative Approach For The Treatment Of Vesicovaginal Fistulas Using Surgisis (sis) Graft

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OBJECTIVES: To perform a retrospective review of a series of women who have undergone vaginal surgical correction for vesicovaginal fistulas with Surgisis (SIS) biomaterial graft.

MATERIALS AND METHODS: The most common etiology of vesicovaginal fistula (VVF) in North America is injury to the bladder following gynecologic surgery. The transvaginal approach is more amenable to an early repair, is less invasive, and is accompanied by a high success rate. Fistulae related to pelvic irradiation and recurrent fistulae are complex and may require interposition of vascularized tissue (ie thigh or omental flaps) for successful repair through a transvaginal or transabdominal approach.

Surgisis (SIS) (Cook Surgical, Bloomington, Indiana, USA) is a small intestinal submucosa extracellular matrix biomaterial that provides temporary strength and a rich environment that signals the body to repair itself by signaling the surrounding tissue to grow into and around it, gradually replacing the SIS with native tissue that has the necessary properties to continue the repair. Ultimately, these properties allow for a functional, long-lasting repair without the presence of a permanent foreign body that can cause problems years later. Well documented in the scientific and medical literature, SIS has been investigated as a biomaterial graft since 1989 and has been published for use in over 20 applications in humans including: multiple types of hernia repair, dermal wound healing, dural repair, anal fistula closure, stress urinary incontinence treatment, pelvic organ prolapse repair, and Peyronie's disease treatment. This makes it suitable for many surgical applications, including VVF repairs.

A retrospective analysis of a case series of 6 women who have undergone surgical correction vaginally of VVF with SIS biomaterial graft from 2/11/08 until 5/11/09 was undertaken. Patients' age, medical co-morbidities, type and cause of current fistula, history of prior repairs, type of current repair and leakage post-fistula repair were reported.

RESULTS: There were 6 patients included in this analysis, median age being 37 years (range 36–75). Median and mean length of follow-up was 6 months with a range of 5–9 months for analysis. Medical co-morbidities included: Type II insulin dependent DM, HTN and smoking. VVF etiologies included: abdominal hysterectomy (4

patients), vaginal hysterectomy (1 patient) and prior pelvic radiation (1 patient). 2 patients had had prior VVF repairs without the use of graft insertion prior to their presentation to our institution. Post-operatively, of the 6 vaginal VVF repairs with insertion of SIS biomaterial graft, there was only one recurrence occurring in a patient with extremely poorly controlled Type II insulin dependent DM. All the others were cured.

CONCLUSION: The use of SIS biomaterial graft in the vaginal repair of VVF is a fitting surgical application. This is likely due to its composition necessary for the immediate repair signaling surrounding tissue to grow into and around it replacing it with native tissue to continue the repair. In addition, it acts as a barrier between the bladder and vaginal closures allowing for tissue in-growth, improved scarring and augmented healing.

Key Words: Surgisis, Treatment, Graft, SISVesicovaginal Fistula, Small Intestine Submucosa

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 41

Approach To The Giant Acrochordon

S. J. Wallach *Obstetrics and Gynecology, U C Davis Medical Center, Sacramento, CA*

OBJECTIVE: To describe a cosmetic surgical approach to a giant labial acrochordon.

DESCRIPTION: Acrochordons or skin tags usually form in skin folds. They are soft flesh colored lesions that can be sessile or pedunculated. Their surface maybe smooth or irregular in appearance. Typically they are 1–2 mm long slow growing lesions. On histologic examination, they have a fibrovascular core with loose connective tissue and a normal epidermis.

Giant acrochordons arising on the genitals have been reported rarely in the literature. To my knowledge, I am reporting on the largest labial acrochordon to date.

A 17 year old female was referred for suicidal ideations secondary to an 18 inch acrochordon. The patient discovered the skin tag at age 12. It grew slowly over the next 5 years such that she was able to fold and tuck it into her underwear. It was not preventing her from any physical activity except she was afraid to have sexual relations with her boyfriend for fear of rejection. Physical exam revealed a 48 cm acrochordon arising from the left labia majora.

The goal of the surgical approach was two fold; complete excision of the acrochordon and to make the remaining labia majora symmetrical to the other side. The vascular pedicles were identified and secured. Primary closure was performed. Attempt was made to have the incision lay medial on the labia majora so that it would be less noticeable with healing. Postoperatively, the upper edge of the incision separated and was secondarily closed for an excellent cosmetic outcome. The patient was emotional relieved. She became sexually active within 3 months of the surgery. Pathology confirmed the diagnosis of a benign acrochordon. The surgical approach and postoperative healing will be presented.

CONCLUSION: Giant acrochordons arising on the genitalia have been reported rarely. Given the sensitivity of the location, a well thought out surgical approach to achieve the best cosmetic outcome is warranted.

Key Words: sexual function, acrochordon, skin tag

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 42

The Impact Of Increasing Age And Body Mass Index On Cystocele Severity

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OBJECTIVES: To determine whether known risk factors for pelvic organ prolapse such as age and body mass index (BMI) affect cystocele severity

MATERIALS AND METHODS: All patients presenting to a single outpatient urogynecologic center from 2007 to 2009 were reviewed. Patients with symptomatic cystoceles diagnosed by physical exam were included in the study. The Baden-Walker system was used to grade cystoceles and patients were separated into two groups based on the severity of their prolapse. Patients with grade I-II cystoceles were placed into the "low severity" group and those with Grade III-IV cystoceles were placed into the "high severity" group. Age and BMI were evaluated for their effect on cystocele severity using the student's t-test. Multivariate ordinal regression analysis was performed to determine if age and BMI are independent risk factors for cystocele severity and to quantify the magnitude of their effect.

RESULTS: 67 patients met criteria for inclusion in the study. Of these, 63% were classified as low severity (24% Grade I, 39% Grade II) and 37% were classified as high severity (28% Grade III, 9% Grade IV). Age was noted to be significantly different between the two groups, with increasing age being a risk factor for greater cystocele severity (52 ± 14.4 vs. 61 ± 8.3, $P < 0.05$). BMI had no significant effect on cystocele grade (29.2 ± 5.22 vs. 31.4 ± 7.49, $P = 0.25$). In the multivariate ordinal regression analysis, age was shown to be independently correlated with cystocele severity (OR 6.46, CI 2.02–20.61, $P = 0.01$). BMI was not correlated with cystocele severity (OR 1.17, CI 0.21–6.53, $P = 0.43$).

CONCLUSION: Patient age and BMI are documented risk factors for pelvic organ prolapse according to the current literature. However, there are no reports of the effects of these risk factors on the severity of cystocele alone. In our study increasing age was significantly correlated with cystocele severity in both univariate and multivariate analyses. There was no positive or negative correlation identified between BMI and cystocele grade.

Key Words: Body mass index, Age, cystocele

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 43

Uterine Preservation In Women Undergoing Surgery For Prolapse With Mesh

G. Ralph, G. Mueller, and B. Plotho *OB/GYN, LKH Leoben, Leoben, Austria*

OBJECTIVES: To review outcomes in patients undergoing surgery for uterovaginal prolapse with mesh and uterine preservation.

MATERIALS AND METHODS: We reviewed thirty patients undergoing surgery for stage III/IV prolapse with a Prolift (Gynecare/EWHFU) implant between 2005 and 2008 who requested preservation of the uterus. The mean age of the patients was 62.5 years (range, 38–81). All patients received an anterior and a posterior Prolift implant. All patients were seen and examined at least 1 year postoperatively.

RESULTS: There were no intraoperative complications. Three of the 30 women underwent vaginal hysterectomy within 3–4 months for persisting uterine prolapse. At 1 year 5 women had stage I vaginal prolapse, two women had developed vaginal mesh erosions, and 3 patients developed stress urinary incontinence.

CONCLUSION: Preservation of the uterus is an option in patients undergoing surgery for prolapse with mesh. Some patients will require subsequent hysterectomy, which can be performed vaginally.

Key Words: Prolapse, Prolapse surgery, Mesh

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: George Ralph:Gynecare/EWHFU:Fee for department:Course leader, speaker

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Non-Oral Poster 44

Short-term Outcomes Of Robotic Sacrocolpopexy Compared With Abdominal Sacrocolpopexy: A retrospective Cohort Study

Q. Tran, and M. Bonidie *Obstetrics and Gynecology, Western Pennsylvania Hospital, Pittsburgh, PA*

OBJECTIVES: To compare short-term outcomes of robot assisted laparoscopic sacrocolpopexy vs. abdominal sacrocolpopexy.

MATERIALS AND METHODS: We conducted a retrospective cohort study comparing robotic to abdominal sacrocolpopexy in pelvic floor defect repair with placement of permanent mesh. Our primary goal is to evaluate and compare the pelvic floor support at 6 weeks after the operation using the pelvic organ prolapse quantification (POP-Q) system. Our secondary outcomes compare blood loss, change in hemoglobin, operative time, length of stay, and complications such as blood transfusions, pulmonary embolisms, gastrointestinal or genitourinary tract injuries, ileus, small bowel obstructions, postoperative fever, pneumonia, wound infections, and urinary retention.

RESULTS: The analysis included 58 patients (22 in the robotic and 36 in the abdominal sacrocolpopexy arm). Except for the body mass index (29.1 $\pm$ 5.6 kg/m^2 in the robotic cohort vs. 26.4 $\pm$ 4.0 kg/m^2 in the abdominal cohort, with $P < 0.04$), there were no differences in demographic data including age, race, gravida, parity, number of vaginal deliveries, and average neonatal weight at delivery. There were no differences in stage of prolapse preoperatively (POP-Q point "C" 0.33 $\pm$ 2.03 vs. -0.31 ± 2.8, $P < 0.36$). At six weeks postoperative, both groups showed similar improvement in POP-Q point "C" (-7.29 ± 1.85 vs. -7.45 ± 3.40, $P < 0.82$). Regarding secondary outcomes, robotic sacrocolpopexy showed less blood loss (57 $\pm$ 44 mL vs. 190 $\pm$ 145 mL, $P < 0.0001$), lower decrease in hemoglobin (1.91 $\pm$ 0.92 g/dL vs. 2.58 $\pm$ 0.99 g/dL, $P < 0.0168$), increased operative time (244 $\pm$ 49 minutes vs. 177 $\pm$ 36 minutes, $P < 0.0001$), and decreased length of stay (41 $\pm$ 14 hours vs. 64 $\pm$ 15 hours, $P < 0.0001$). Robotic sacrocolpopexy demonstrated a lower urinary retention rate (4.5% vs. 30.6%, $P < 0.04$) compared to abdominal sacrocolpopexy and no difference in other complication rates.

CONCLUSION: Robotic sacrocolpopexy demonstrated similar improvement in POP-Q point "C" compared to abdominal sacrocolpopexy. Robotic sacrocolpopexy patients tend to have decreased blood loss, decreased length of stay, and increased operative time compared to patients undergoing abdominal sacrocolpopexy. Both procedures carried similar low complication rates. Long-term data are needed to assess the durability of this procedure.

Key Words: POP-Q, abdominal sacrocolpopexy, prolapse surgery, robotic sacrocolpopexy, pelvic floor defect

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 45

Surgical Treatment Of Persistent Vaginal Granulation Tissue Using CO2 Laser Vaporization Under Colposcopic And Laparoscopic Guidance

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OBJECTIVES: To describe an innovative and safe surgical approach to remove persistent vaginal granulation tissue and underlying mesh material using colposcopically guided C02 laser vaporization with simultaneous laparoscopy of the Space of Retzius.

MATERIALS AND METHODS: The successful use of polypropylene mesh in midurethral slings for stress urinary incontinence is becoming more common. One of the known complications of vaginal mesh placement is vaginal mesh erosion and may present as persistent granulation tissue. The majority of these can be successfully treated in the office. Rarely, removal of tissue in the operating room may be necessary. Even more infrequently, this may be required more than once. We describe an innovative surgical approach to persistent vaginal mesh erosion presenting as recurrent granulation tissue. The patient is a 68-year old woman status post Mentor Obtape® placement who presented with a 3-year history of vaginal discharge and spotting. Her symptoms continued despite removal of the ObTape®, multiple attempts at cauterization, and subsequent removal of the granulation tissue in the operating room (Figure 1). Using the optiview port, a 5 mm camera was placed in the umbilicus. The preperitoneal space was insufflated until the Space of Retzius was reached. Bilateral lower quadrant trocars were subsequently placed to assist in the complete dissection of the space. The right paravaginal space was filled with sterile water to protect the area from CO2 laser injury during vaginal fulguration. Using the colposcope, the remaining granulation tissue located in the right paravaginal space was fulgurated using the CO2 laser under direct visualization set at 5 watts. The fulguration exposed the remaining piece of ObTape® that was subsequently removed from the vagina. The vaginal epithelium was re-approximated utilizing 2–0 Monocryl in an interrupted fashion.

RESULTS: There were no intraoperative or postoperative complications. Our estimated blood loss was 100mL. After her 8-week post-operative visit, her symptoms were completely resolved requiring no further treatment.

CONCLUSION: Compared to conventional surgical approaches, CO2 laser fulguration with concurrent laparoscopy appears to improve visualization for the safe and effective removal of persistent granulation tissue and its underlying mesh material.

Key Words: laser vaporization, granulation, C02 laser

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None; Pre-operative Granulation Tissue

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Non-Oral Poster 46

Is The Outcome Of Anterior Vaginal Wall Repair Affected By Type Of Vaginal Apical Suspension?

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OBJECTIVES: To determine if a sacrospinous ligament fixation compared to uterosacral ligament suspension affects the outcome of anterior vaginal wall repair.

MATERIALS AND METHODS: A cohort study comparing the outcome of anterior vaginal wall in women undergoing anterior repair with sacrospinous ligament fixation versus uterosacral suspension. This study was conducted at Jackson Memorial Hospital between January 2000 and October 2008. Patients with other types of apical suspension, no apical suspension or incomplete data sets were initially excluded, thus leaving 117 patients for evaluation. Patients were divided into two groups; Anterior repair with sacrospinous ligament fixation 58(49.6%) and Anterior repair with uterosacral suspension 59(50.4%). All the patients underwent standardized preoperative work up and urodynamics. Pelvic organ prolapse was assessed utilizing the ICS Pelvic Organ Prolapse Quantification System (POP-Q) on preoperative and post operative visits. Data was analyzed using t-test for independent samples, Fischer exact test and Chi square test.

RESULTS: There was no significant difference in parity [median (range), 3(0–9) vs. 3(0–11] or BMI (mean ± SD, 27.7 ± 4.2 vs. 27.3 ± 3.8) in the two groups. Patients in the sacrospinous group were older in age (mean ± SD, 62.2 ± 8.4 vs. 56.3 ± 10.7, P 0.001). All patients were followed for at least 1 month and underwent a POP-Q exam on each of the postoperative visits. There was no significant difference in the rate of failure of the anterior vaginal wall amongst patients undergoing a sacrospinous ligament fixation 13.8%(n = 8) compared to uterosacral ligament suspension 16.97%(n = 10), P = 0.8.

CONCLUSION: Sacrospinous ligament fixation as compared to uterosacral ligament suspension does not appear to negatively affect the outcome of the anterior vaginal wall repair.

Key Words: Uterosacral ligament suspension, Sacrospinous ligament fixation, Anterior vaginal wall prolapse

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 47

Surgical Management Of Apical Pelvic Support Defects: Evaluation Of The Introduction Of Robotic Technology

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OBJECTIVES: To determine the effect the Da Vinci robotic system made on our surgical approach to apical pelvic support defects during the first year of its institution at our medical center.

MATERIALS AND METHODS: A retrospective review of our surgical database from June 2007 to June 2009 was conducted. The total number of uterosacral suspensions, sacrospinous ligament fixations, iliococcygeus fascia suspensions and abdominal sacrocolpopexy procedures during the year prior to the introduction of the robotic system (June 2007 to June 2008) was compared to the corresponding numbers in the following year after the robotic system was in use. The total number of robotic sacrocolpopexy procedures was also determined. Statistical analysis was performed using the chi-square statistical test with a P-value <0.05 was considered significant.

RESULTS: During the two-year period, there were 135 total cases (39 in the first year, 96 in the second) performed for apical prolapse repair. In the first year, the primary surgery for apical prolapse was the uterosacral suspension with a rate of 72% (28/39). In the following year there was a notable decline in this procedure to only 27% (26/96) with a difference of 45% ($P < 0.0001$). Similarly, the rates of abdominal sacrocolpopexy declined from 17.9% (7/39) in the first year to 4.16% (4/96) in the year following the introduction of the robot with a difference of 13.7% ($P < 0.004$). There were no statistically significant changes in the rates of sacrospinous ligament fixation and iliococcygeus fascia suspensions in the two years with total rates less than 8%. During the second year, with the addition of the da Vinci system, the rates of robotic sacrocolpopexy were 57% (55/96), making this the primary method of apical prolapse repair during this year. In comparing vaginal to abdominal approaches there was a decline in the overall percentage of vaginal cases from 82% in the year prior to the robot to 38.5% the year following, which was a statistically significant change ($P < 0.0001$).

CONCLUSION: At our institution, the surgical approach to apical prolapse repair significantly changed after the introduction of robotic technology. Evaluation of surgical outcomes following this paradigm shift are ongoing.

Key Words: Uterosacral suspension, Robotic sacrocolpopexy, Apical vaginal prolapse, vaginal repair of prolapse

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Catherine Matthews:Intuitive Surgical:Honorarium:Surgical Proctor.

Non-Oral Poster 48

A Two-component Polyethylene Glycol Sealant As An Adhesion Prevention Device Does Not Influence Intraperitoneal Infection In A Refined Animal Model

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OBJECTIVES: Adhesion prevention devices are used during abdominal and peritoneal surgery, where there is a risk of bacterial contamination through the incision and laparoscopic ports or damage to peritoneal organs, including the bowel. Therefore, assessment of adhesion prevention devices on the course of intraperitoneal infection is prudent. The purpose of this study was to determine whether intraperitoneal administration of a two-component polyethylene glycol surgical sealant as an adhesion prevention device would alter sepsis-related mortality and/or systemic bacterial translocation to the spleen. The primary endpoint of this study was survival time as determined by core body temperature via telemetry. The secondary endpoints were mortality within a 3-day observation period and bacterial enumeration of E. coli and Bacteroides fragilis in the spleen. These quantitative measures increase the sensitivity of the traditionally, non-specific quantal metrics of previous models.

MATERIALS AND METHODS: This study consisted of 50 female rats treated with 0.4 mL of a two-component polyethylene glycol surgical sealant (Coseal, Baxter Healthcare Corporation, Deerfield, IL, USA) and 49 female rats treated with 0.4 mL of Saline. Each rat received an intraperitoneal bacterial challenge of 35 ± 1 mg, based on animal weight, of a wide-spectrum inoculum. The bacterial challenge level of 35 ± 1 mg was designed to cause 50% mortality based on a pilot evaluation. The bacterial inoculum and a telemetry probe were

surgically implanted in rats on Day 0 with humane euthanasia performed on Day 3. The telemetry probe monitored core-body temperature for the duration of the study to determine the time of death. The spleens of surviving rats were collected on Day 3 and homogenized for quantitative bacteriology of E. coli and B. fragilis.

RESULTS: Telemetry data for untreated control rats (N = 49) indicated a median survival time of 47.5 hours and a mortality of 55.1% by day 3. Telemetry data for treated rats (N = 50) indicated a median survival time of 37.0 hours and a mortality of 54.0% by day 3, which was statistically non-inferior to control. Quantitative bacteriology of splenic homogenates indicated that E. coli titers were significantly reduced in treated rats (2.24 log CFU/spleen) compared to untreated control rats (4.32 log CFU/spleen) ($P < 0.05$). B. fragilis titers were not different between treatment groups (0.00 log CFU/spleen for both treatments).

CONCLUSION: In conclusion, this study used a refined animal model and indicated that intraperitoneal administration of a two-component polyethylene glycol surgical sealant as an adhesion prevention device did not adversely alter time to death or sepsis-related mortality and/or systemic bacterial translocation to the spleen. In addition to this preclinical data, published efficacy data of adhesion reduction, and the demonstrated ease of use in open and laparoscopic surgery suggest that this two-component polyethylene glycol surgical sealant can make a meaningful difference in the lives of patients undergoing abdominal and peritoneal surgery.

Key Words: CoSeal Surgical Sealant, Baxter Healthcare Corporation, Animal Model Refinement, Intraperitoneal infection, Intraabdominal infection, Adhesion Barrier

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Kevin Lewis:Baxter Healthcare Company:Salary:Employee;Veterinary Bioscience Institute:Consulting Fee:Consultant

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Non-Oral Poster 49

Use Of ROBOTIC-ASSISTED Laparoscopy In Ureteral RE-IMPLANTATION Sustained After Pelvic Surgery

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OBJECTIVES: Ureteral injury is one of the most common complications of pelvic surgery. It is estimated that ureteral injury occurs in 0.4% of gynecologic cases and in two thirds of these patients the initial procedure is abdominal hysterectomy. Treatment of this injury consists of ureteral stenting, and in cases in which a stent cannot be placed, nephrostomy tube with subsequent implantation of the ureter is required. Current advances in robotic assisted laparoscopic surgery have made it an ideal tool for performing ureteral reimplantation.

MATERIALS AND METHODS: : In the past 24 months four patients in our institution incurred ureteral injury during pelvic surgery; one during cesarean section, two patients after total abdominal hysterectomy and one after total robotic hysterectomy. In the first case ureteral injury was recognized two days after surgery; in three cases of hysterectomy patients developed ureterovaginal fistulas within two weeks of surgery. All patients had attempted stenting of the affected ureter, and, after failed stenting, nephrostomy tube was placed. Six weeks after placement of nephrostomy, all patients underwent robotic assisted extravesical ureteroneocystostomy with stent placement and psoas hitch. All patients were discharged with foley catheter for two weeks. Ureteral stent was removed six weeks after surgery and retrograde ureterogram done.

RESULTS: Robotic ureteral reimplantation was successful in all cases as demonstrated by ureteral patency on retrograde ureterogram. All patients were discharged from the hospital within 24 hours of surgery. There were no complications noted during any of the procedures.

CONCLUSION: Robotic assisted laparoscopic ureteral neocystostomy offers excellent surgical outcomes. When compared to traditional open procedure it offers shortened hospital stay and quicker recovery.

Key Words: Robotic surgery, Ureteral reimplantation, Ureteral injury

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Michael Hibner:Intuitive Surgical:precepting/speaker honorarium:speaker, preceptor

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Non-Oral Poster 50

Correlation Of Microscopic Endometriosis At Specific Biopsy Sites In Patients With Pelvic Pain With BENIGN-APPEARING Pelvis On Laparoscopy

M. Dassel, N. Desai, and M. Hibner *Obstetrics and Gynecology, St. Joseph's Hospital and Medical Center, Phoenix, AZ*

OBJECTIVES: Endometriosis is defined as the presence of endometrial glands and stroma outside of the uterine cavity. It is a disease of pre-menopausal women, and can manifest in mild to severe pain symptoms which can severely affect a woman's quality of life. Gold standard for diagnosis has been to obtain peritoneal biopsies for pathologic presence of ectopic endometrial tissue. Based on this standard, we questioned if there is a correlation between microscopic endometriosis in patients with pelvic pain and benign-appearing pelvis on laparoscopy.

MATERIALS AND METHODS: A retrospective chart review was performed on all patients, with pelvic pain, who underwent peritoneal biopsy surgeries at our institution between January 1, 2007 to September to 9, 2009. Pathology data was collected; presence of endometriosis and site of the biopsy were recorded.

RESULTS: Of 247 patients, 17 were found to have benign-appearing pelvis, on laparoscopy, with no gross visualization of endometriosis. Of these 17 patients, 4 were found to have biopsy site positive for endometriosis, resulting, in 23% of those with normal-appearing pelvis to have pathologic evidence of endometriosis.

CONCLUSION: Given this initial data, it may be possible to extrapolate that peritoneal biopsies should be performed in all patients undergoing surgical evaluation for pelvic pain.

Key Words: Endometriosis, Pelvic pain, Laparoscopic surgery

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Michael Hibner:Intuitive Surgical:precepting/speaker honorarium: speaker, preceptor

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Non-Oral Poster 51

Preoperative Indicators For Postoperative Subjective Improvement Following Midurethral Sling Procedure For Stress Urinary Incontinence

E. E. Weber LeBrun, A. E. Howard, X. Liao, E. Habecker, A. Morse, M. P. Aronson, and S. B. Young *ObGyn, University of Massachusetts, Worcester, MA*

OBJECTIVES: To determine if typical pre-operative clinical measures and validated questionnaires can consistently predict the risk of subjective failure following midurethral sling (MUS) procedures

MATERIALS AND METHODS: This prospective cohort included 157 of 550 women who underwent MUS between 2006 and 2008, returned mailed PFDI/PFIQ surveys and met inclusion criteria. Pre-operative data included urodynamics, age, weight, menopausal status, prior incontinence and prolapse surgery, co-morbid diseases and concomitant reconstructive surgery. Subjective improvement was defined as achievement of the minimally important difference (MID) for the UDI-6, UIQ-7 and UDI stress subscale (Barber, AJOG 2009).

RESULTS: Overall the mean age of the study sample was 57 years, parity 2.5, BMI 28 with a mean of 21 months of subjective follow-up. 23% had prior prolapse surgery and 5% had prior incontinence surgery. Following multivariate analysis, preoperative intrinsic sphincter deficiency (ISD) remained significantly associated with a lower symptom improvement on the UDI ($P = 0.03$) and failure to achieve the MID-UDI ($P = 0.03$). Subjects with high preoperative UIQ scores were more likely to achieve the MID on the UIQ postoperatively ($P < 0.0001$). On the UDI stress subscale, menopausal status was associated with achievement of the MID ($P = 0.02$) although advancing age predicted failure to achieve the MID ($P = 0.02$). Mean preoperative urodynamic parameters include MUCP of 43.1 cm H_2O and LPP of 86.5 cm H_2O. Twenty percent had straining Q-tip angles less than 30 degrees. MUCP $\leq$20 cm H_2O and LPP $\leq$60 cm H_2O identified ISD equally (12.9%). The MUS was performed with anterior repair in 40.8% and with apical suspension in 34.4% and the cohort equally represented the retropubic and transobturator routes. The mean decrease in the UDI-6, UIQ-7 and UDI stress subscale scores was -34.0 ($\pm$29.3, range -87.5 to 33.3), -19.1 ($\pm$30.5, range -100 to 61.9) and -46.6 ($\pm$42.8, -100 to 75), respectively. Univariate analysis performed for each outcome measure showed that age, BMI, cystocele Grade/Stage, duration of follow-up, ISD and concomitant apical suspension were associated with less symptom improvement whereas the Q-tip angle, preoperative UIQ score and concomitant anterior repair predicted greater symptom improvement.

CONCLUSION: Preoperative diagnosis of ISD was a consistent predictor of less subjective improvement after MUS in this cohort. We did not find the expected relationship between failure to achieve the MID and other clinical measures that have previously been associated with poor MUS outcome. Our results suggest that further studies are needed to effectively correlate preoperative indicators and subjective outcomes following MUS.

Key Words: Urodynamics, stress incontinence, risk factors, midurethral sling, patient outcomes

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 52

The Use Of The Negative Pressure Wound Therapy In Vulvar Wounds

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OBJECTIVES: This study aimed to evaluate wound outcomes following the application of negative pressure wound therapy to vulvar wounds resulting from surgical treatment of hidradenitis suppurativa (HS) or Necrotizing Fasciitis

MATERIALS AND METHODS: Four patients treated at Thomas Jefferson University Hospital in Philadelphia, PA who underwent radical vulvectomies for HS or Necrotizing Fasciitis with subsequent application of negative pressure wound therapy were identified. Retrospective chart reviews of these four patients were conducted and data was collected regarding their postoperative course. These patients required extensive surgical debridement of the vulvar, perirectal, and buttock area. Following debridement, negative pressure wound therapy was placed. Patients continued to have negative pressure wound therapy dressing changes three times a week for a variable amount of time. Degree of granulation and details of wound healing were documented in patient charts. At Thomas Jefferson University Hospital negative pressure wound therapy was achieved using the Vacuum Assisted Closure Device (VAC) (KCI Inc.; San Antonio, TX).

RESULTS: Most case reports on this topic have used the VAC device initially to aid in wound healing; however, complete wound closure was typically achieved using split-thickness skin grafts. Very few case reports have used the VAC device alone to achieve complete closure. Three of the four patients in our series achieved complete closure of their vulvar wounds with the VAC device alone. One patient required closure with a split thickness skin graft after the VAC device was removed.

CONCLUSION: Patients with severe Hidradenitis Suppurativa and Necrotizing Fasciitis often require extensive surgical debridement. Data conflict over the optimal methods of management of post-surgical vulvar wounds. Our experience supports good outcome for complete closure of vulvar wounds with negative pressure wound therapy.

Key Words: wound vacuum, necrotizing fasciitis, hidradenitis suppurativa, vulvectomy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None; Negative pressure wound therapy applied to a vulvectomy wound

Non-Oral Poster 53

Long Term Results Of The Adjustable Continence Therapy (ACT®) For Recurrent Female Stress Urinary Incontinence

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OBJECTIVES: The Adjustable Continence Therapy (ACT®) is a minimally invasive treatment for females with Stress Urinary Incontinence resulting from Intrinsic Sphincter deficiency (ISD) with or without bladder hypermobility. This study represents six year follow up of our first series of patients.

MATERIALS AND METHODS: The ACT® device consists of two silicone balloons sited on either side of the proximal urethra under the bladder neck, each attached to a titanium port buried in the labia allowing post operative titration of the balloons. The bilateral balloon placement allows for stabilisation of the bladder neck and enhances urethral resistance. Female patients who had failed previous pelvic surgery underwent Urodynamic assessment; daily pad usage and Incontinence Quality of Life (I-QoL) questionnaire measures prior to implantation of ACT balloons and evaluated post operatively at 1, 3, 6 and 12 months then annually thereafter. Patients were also asked to record their overall impression and percentage of improvement post operatively based on the Patient Global Impression Index (PGI) and

Visual Analogue Score (VAS). In addition, complications were recorded.

RESULTS: Fifty seven females (mean age 67.2 years) have undergone ACT implantation. Mean follow up is 55 months (range 12–72 months). At last follow-up, mean pad usage improved from 5.6 at baseline to 0.41 and IQOL improved from 27.2–78.6 with 68% patients completely dry based on VAS. Global assessment indicated 17.2% were significantly improved, and 16.9% remained unchanged. Postoperative complications necessitating device removal included migration seen in 7% patients and urethral erosion in 3.5% patients. Additionally, 5 balloons were explanted due to device failure. In total, 12 balloons were removed in 10 patients with only 3 patients requiring bilateral removal performed in the outpatient department. Five patients underwent replacement of their devices with 2 becoming dry (pad free) 2 becoming significantly improved (<1 pad per day) and 1 remaining unchanged

CONCLUSION: The relative ease of insertion and the ability to tailor this therapy to an individual patient's needs makes this a very attractive option for the challenging treatment of recurrent stress urinary incontinence due to ISD. Device removal is simple and possible without retention of any foreign body material.

Key Words: ISD, ACT, Stress Urinary incontinence

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: ErvinKocjancic:Uromedica:Honorarium:consultant;Medtronic:Honorarium:consultant;Coloplast:honorarium:consultant

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Non-Oral Poster 54

How Much Do Women Know About HYSTERECTOMY? A survey Of Women In An Academic Obstetrics And Gynecology Practice

O. Harmanli, I. Ilarslan, A. Knee, S. Kirupananthan, and H. Z. Sankey *Obstetrics and Gynecology, Tufts University School of Medicine Baystate Medical Center, Springfield, MA*

OBJECTIVES: To assess women's knowledge about hysterectomy and the demographic factors which may influence their perceptions.

MATERIALS AND METHODS: In this cross-sectional observational study, all adult women who were seeking any type of care at our academic obstetrics and gynecology outpatient facility from June to August of 2009 were asked to complete a self administered anonymous questionnaire about hysterectomy and their perceived effects on sexual and reproductive function. We needed 300 subjects for a power of 80% and $\alpha<0.05$ to show 20% difference in percent correct score for education level. We recruited 500 participants in order to compensate for incomplete surveys. We assessed the accuracy of their knowledge and analyzed the demographic factors such as education, age, marital status, sexual preference insurance status, religion, and the reason for the visit. P value of 0.05 was used to determine significance.

RESULTS: Women in 18-59-age range comprised 93% of our sample; 56% were married; 73% were college graduates; 80% were Caucasian, and 81% had private insurance. The reason for the visit was either annual visit or a non-obstetrical problem for 64% of the participants while 14% were pregnant. Mean correct score was 63% with a standard deviation of 20%. Women in 18-24-age bracket scored the lowest (54%) while 50–59 year old women had the highest score (68%). Women with private insurance achieved higher scores than the women on public assistance(64 and 55%). College graduates were significantly more accurate than the rest (59 and 64%). Reason for visit did not make any difference.

When asked the meaning of hysterectomy, 29% included removal of ovaries and tubes as a part of hysterectomy. Six percent did not know the uterus was necessary to get pregnant, 5% thought it was possible to get pregnant after removal of the uterus. 24% responded that menstrual function would continue after removal of the uterus. The question for whether removal of the uterus resulted in climacteric changes was correctly answered only by 34%. Six percent thought their external appearance would be different after removal of the uterus. 7% of women thought their femininity would be affected by hysterectomy.

When sexual function was asked, significant number of the subjects noted that sex was possible but not as enjoyable (6% after total and 9% after supracervical hysterectomy), and 17 and 25%, respectively, were without an opinion about it.

While 59% of women did not agree that removing the entire uterus eliminated the cervical cancer risk, 66% concluded that she would continue to need Pap smears after total hysterectomy. Twenty two percent did not have any knowledge about the risk of cervical cancer or need for Pap after total hysterectomy. Of note, while age and education level did not make a difference in this response, type of insurance did.

CONCLUSION: Women's knowledge about hysterectomy is not satisfactory. Detailed counseling is necessary especially for women who are younger, on public assistance and lack college degree.

Key Words: sexual function, hysterectomy, age, education, menopause, Pap smear

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 55

Differences Between Patients With Interstitial Cystitis Alone Compared To Those With Concomitant Disorders

E. J. Stanford *Gynecology, University of Tennessee, Memphis, TN*

OBJECTIVES: To evaluate patients with interstitial cystitis (IC) alone compared to patients with IC and concomitant disorders.

MATERIALS AND METHODS: A retrospective database review and telephone survey was conducted at a Urogynecologic center. The records of 212 confirmed IC patients were identified of which 122 patients completed a telephone survey (58%) to confirm results. Statistical analysis included Mann-Whitney U test and Kruskal-Wallis 1-way ANOVA). IRB approval was obtained.

RESULTS: Baseline demographics revealed a mean age of 40.9 ± 14.4 years, age at initial diagnosis of 35.6 ± 14.6 years, and an average PUF scores at diagnosis of 19. Concomitant disorders were analyzed including endometriosis, adhesions, vulvar vestibulitis, and irritable bowel syndrome (IBS). Total disorders were IC alone (N = 37), one disorder (N = 54), and greater than one disorder (N = 31) (2 disorders (N = 18), 3 disorders (N = 11), and 4 disorders (N = 2). Patients with >1 disorder were significantly younger when first seen ($P = 0.007$) and the age when they became symptomatic ($P = 0.001$). PUF scores were significantly higher for patients with >1 concomitant disorder compared to patients with IC alone ($P = 0.021$). Table 1.

CONCLUSION: It appears that patients diagnosed with IC and concomitant disorders develop symptoms and present at a younger age and have significantly higher PUF scores compared to patients with a diagnosis of IC alone.

Key Words: Interstitial cystitis, Endometriosis, Chronic pelvic pain, Vulvar vestibulitis, Irritable bowel syndrome

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Edward Stanford:Ortho McNeil:Research grant:Researcher

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Non-Oral Poster 56

A Comparison Of Sexual Function And Quality Of Life In Two Augmented Hysteropexy Techniques

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OBJECTIVES: To compare the functional outcomes of bilateral sacrospinous hysteropexy after anterior colporrhaphy with anterior and apical augmentation using an acellular cadaveric dermal graft versus polypropylene mesh.

MATERIALS AND METHODS: 40 women with Stage ≥2 prolapse who underwent sacrospinous hysteropexy and allograft augmented anterior colporrhaphy (Group I) were compared with 71 women who underwent a bilateral anterior sacrospinous hysteropexy and anterior colporrhaphy with polypropylene augmentation of the anterior compartment (Group II) and returned for follow-up examinations at median 16.6 and 12.5 months follow-up, respectively. The dermal allograft was secured using single permanent sutures placed 1.5 cm medial to the ischial spines on both the right and left sacrospinous ligament (SSL) and along the arcus tendineus fascia pelvis ATFP bilaterally. In Group II, the polypropylene mesh was approximated over the anterior colporrhaphy site distally and not anchored to the ATFP laterally. In both groups each SSL suture was secured to both the allograft and polypropylene mesh to a fixation point on the ipsilateral vaginal apex located 1 cm lateral to the cervix on both sides simultaneously suspending the vaginal apices in both groups. Midurethral sling procedures and posterior colporrhaphy were performed if indicated. Women reported on dyspareunia on Likert scales and completed the Pelvic Floor Distress Inventory short form (PFDI-20) as well as the Pelvic Organ Prolapse/ Urinary Incontinence Sexual Questionnaire (PISQ-12) before and after surgery. Change in PISQ-12 total scores and individual scores was assessed using signed rank test. McNemar's test was used to assess dyspareunia Likert scales pre and postoperatively.

RESULTS: Mean age (56.2, 57.8), BMI (27.8, 25.8), and median parity (3, 3) were similar between groups. There were no graft erosions in the allograft group. There were 10 (14%) erosions in women who underwent polypropylene mesh augmentation. Group I had higher a higher posterior repair rate than group II (95% vs. 78.9%, $P = 0.024$). There was no difference in the rate of urethrolysis between women who had hysteropexy with allograft augmented anterior colporrhaphy (Group I) versus those with polypropylene mesh repair (Group II). Postoperatively, 7/34 (20.6%) and 11/56 (19.6%) reported dyspareunia ($P = 0.913$) at a median follow of 12.3 and 11.7 months in Group I and II, respectively. De novo dyspareunia was reported in 19.2% and 14.3% of women in Group I and II respectively, $P = 0.712$. Total PISQ-12 scores significantly improved in both groups postoperatively (4.05 vs. 0.64, $P < .005$ for both), at 14.6 and 12.5 months follow-up, the improvement was not different between the two groups ($P = 0.352$). Postoperative PFDI scores significantly improved in both groups. Mean change between Groups I and II, was −35.6 versus −39.9, ($P = 0.716$), respectively.

CONCLUSION: There was no difference in self-reported quality of life or sexual function in women who underwent hysteropexy with allograft versus polypropylene mesh augmented anterior colporrhaphy.

Key Words: prolapse, mesh, hysteropexy, dermal graft

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Non-Oral Poster 57

Medical Therapy Is Perceived As Most Helpful By Patients With Interstitial Cystitis

E. J. Stanford *Gynecology, University of Tennessee, Memphis, TN*

OBJECTIVES: To evaluate perceived response to treatment in patients diagnosed with interstitial cystitis (IC).

MATERIALS AND METHODS: A retrospective database review and telephone survey was conducted at a reference Urogynecologic center. The records of 212 confirmed IC patients were identified of which 122 patients completed a telephone survey (58%) to confirm results. Of the 122 patients, 37 (30.3%) had a diagnosis of IC alone, 54 had one concomitant disorder (44.3%) and 31 had >one concomitant disorder (25.3%). Patients were given a list of treatments and were asked to rate which treatment was most effective in relieving their symptoms related to their chronic pelvic pain (CPP) and IC. IRB approval was obtained.

RESULTS: Treatments of interest were diet, pentosan polysulfate (PPS), intravesical heparin, or other (neuromodulation). Cystoscopy with hydrodistension and dimethyl sulfoxide (DMSO) were not offered to this patient cohort. Patients ranked PPS (29.6%), diet with PPS (23.5%), and intravesical heparin with PPS (15.7%) as most helpful in improving their symptoms related to the chronic pelvic pain and IC. Diet alone was judged as helpful in only 5.2%. Despite the fact that 85 patients (69.7%) had IC and concomitant disorders, surgery was not judged as particularly helpful compared to medical therapy in relieving chronic pain symptoms.

CONCLUSION: Patients with IC with or without concomitant disorders perceive medical therapy with PPS alone, PPS with diet modifications, and PPS with intravesical heparin as most helpful in relieving CPP/IC symptoms. Surgical therapies were judged as less helpful.

Key Words: Interstitial cystitis, Treatment, Chronic pelvic pain, Heparin, Pentosan polysulfate

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Edward Stanford:Ortho McNeil:Research grant:Researcher

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Video 1

Difficult Vaginal Hysterectomy

A. C. Frick, G. B. Diwadkar, M. D. Walters, and M. D. Barber *Cleveland Clinic, Cleveland, OH*

OBJECTIVE: To demonstrate multiple techniques for overcoming the challenges of a difficult vaginal hysterectomy.

DESCRIPTION: This video demonstrates techniques for approaching a vaginal hysterectomy with a difficult anterior peritoneal entry, difficult posterior entry, pelvic organ prolapse, cervical elongation, or an enlarged uterus. Difficult anterior and posterior peritoneal entry

can be facilitated by traction-countertraction, sharp dissection, ligation of extraperitoneal pedicles until entry can be achieved, as well as identification of the peritoneal reflection digitally, with a uterine sound or bladder backfilling. Transcervical posterior entry is an alternative approach which minimizes risk of rectal injury. In pelvic organ prolapse, normal anatomic relationships can be distorted. Careful identification of the peritoneal reflections is key to safe cul-de-sac entry in these patients. Finally, uterine enlargement is not a contraindication to vaginal hysterectomy, as wedge resection, myometrial coring, uterine bivalving, and facilitating myomectomy are effective uterine debulking techniques.

CONCLUSION: Having a diverse armamentarium of approaches to a difficult vaginal hysterectomy will increase the liklihood of a safe, successful procedure.

Key Words: vaginal hysterectomy, morcellation, vaginal prolapse surgery, peritoneal entry

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Matthew Barber:TivaMed:honorarium:consultant

Video 2

Steps To Improve Efficiency Of Robotic Sacral Colpopexy

A. I. Sokol,[1] D. Shveiky,[1] H. Nghiem,[1] R. E. Gutman,[1] M. F. Paraiso,[2] and C. B. Iglesia[1] *[1]Division of Female Pelvic Medicine and Reconstructive Surgery, Washington Hospital Center, Washington, DC; [2]Division of Female Pelvic Medicine and Reconstructive Surgery, The Cleveland Clinic Foundation, Cleveland, OH*

OBJECTIVE: The purpose of this video is to review steps to improve the efficiency of robotic sacral colpopexy.

DESCRIPTION: We demonstrate procedural steps with time-saving measures for robotic sacral colpopexy. These include various docking and surgical techniques as well as new technologies that have allowed us to reduce operative time by approximately 25%.

CONCLUSION: The application of these techniques may lead to more efficient performance of robotic sacral colpopexy.

Key Words: efficiency, operative time, robotic sacral colpopexy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Video 3

Findings On Cystourethroscopy

E. R. Casiano, J. A. Occhino, J. B. Gebhart, and C. J. Klingele *Gynecologic Surgery, Mayo Clinic, Rochester, MN*

OBJECTIVE: Illustrate specific examples and pathophysiology of both benign and pathologic findings on cystourethroscopy

DESCRIPTION: This video will focus on bladder pathology seen on routine cystourethroscopy. It is intended for trainees in urology, urogynecology, as well as those in general gynecology, who plan to use cystoscopy in the office and operating room. Providers should be able to identify iatrogenic injuries as well as incidental findings in order to properly triage and treat patients.

Our goals are to discuss the pathophysiology of common benign and pathologic findings on cystourethroscopy and to show specific examples of these findings from previously completed office cystourethroscopies.

Videos taken during office cystoscopy were reviewed for content. Those with common benign as well as pathologic findings were compiled into a video library. Medical records were reviewed to confirm the findings seen as well as any pathology that was done after biopsies taken. All videos used were from patients who authorized their use for purposes of research. No patient identifiers can be noted from the video.

CONCLUSION: Cystourethroscopy is a useful tool in evaluation of a patient pre, intra and postoperatively. Familiarity with the appearance of common findings is imperative in properly diagnosing and treating patients.

Key Words: cystourethroscopy, bladder, pathology

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Elizabeth Casiano:Dr. Gebhart - CR Bard:Honorarium:Consultant

Video 4

Management Of Large Vesicovaginal Fistula And Uterine Prolapse With Modified Lefort Colpocleisis

P. L. Rosenblatt, P. Dramitinos, and C. A. Apostolis *Division of Urogynecology, Mount Auburn Hospital, Cambridge, MA*

OBJECTIVE: The objective of this video is to demonstrate a technique for management of a large, iatrogenic vesicovaginal fistula and uterine prolapse with a combination of a Latzko procedure and LeFort colpocleisis.

DESCRIPTION: This 91 year-old woman presented with continuous urinary incontinence and was found to have a large vesicovaginal fistula caused by erosion of the stem of a Gelhorn pessary. An uncomplicated Latzko and LeFort procedure was performed and the patient was discharged the following day. A post-operative cystogram was normal at 14 days and she was continent and without prolapse at her 6-week visit.

CONCLUSION: A combination of a Latzko procedure and LeFort colpocleisis should be considered in patients who present with a vesicovaginal fistula along with uterine prolapse.

Key Words: prolapse, fistula, Latzko, vesicovaginal, LeFort

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Peter Rosenblatt:American Medical Systems:consulting, intellectual property rights, research:consulting, contracted research;Ethicon Women: intellectural property rights, research, consult:consulting, contracted research;Bard Medical:consulting, honoraria:speaker;Boston Scientific: consulting, honoraria, research:speaker, consulting, contracted research; Cook Ob/Gyn:consulting, intellectual property rights:consulting;Pfizer: honoraria:speaking;Gyrus ACMI:honoraria:speaking, teaching

Video 5

Robotic-assisted Supracervical Hysterectomy And Cervicosacropexy For The Management Of Apical Prolapse

C. A. Matthews *Obstetrics and Gynecology, VCU Medical Center, Richmond, VA*

OBJECTIVE: To present a video demonstrating the technique of a robotic-assisted supracervical hysterectomy and cervicosacropexy that is exactly modeled after the open technique

DESCRIPTION: This video outlines a technique of robotic supracervical hysterectomy and cervicosacropexy with the following steps: dissection of the anterior longitudinal ligament; dissection of the rectovaginal and vesicovaginal spaces; uterine artery ligation and supracervical hysterectomy; attachment of a y-shaped graft; passage of the graft through a retroperitoneal tunnel; suturing of the graft to the anterior longitudinal ligament; and closure of the peritoneum over the graft

CONCLUSION: Robotic-assistance affords the opportunity to efficiently perform a supracervical hysterectomy and cervicosacropexy using a technique that is exactly modeled after the open procedure.

Key Words: colposacropexy, cervicosacropexy, da Vinci robot

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Catherine Matthews:Intuitive Surgical:Honorarium:Surgical Proctor

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Video 6

Robotic Assisted Trachelectomy For A Cervical Mass

K. Jacob, and P. Magtibay *Gynecology, Mayo Clinic Arizona, Phoenix, AZ*

OBJECTIVE: To demonstrate a pelvic dissection with safe isolation of the ureter.

DESCRIPTION: We present a 42 year old female with a symptomatic cervical mass following supracervical hysterectomy bilateral salpingo-oophorectomy for endometriosis 4 years prior. Radiologic evaluation revealed a 6 cm complex, cystic cervical mass. Ureteral dissection can be complicated by anatomic distortion. Mass removal with safe ureteral isolation can be performed robotically using a technique similar to a modified radical trachelectomy.

CONCLUSION: Comfort in developing the paravesical and pararectal spaces allows for delineation of vital retroperitoneal structures. This, combined with the enhanced vision and articulation afforded by robotic technology, makes this complex dissection safe and effective.

Key Words: Ureter, Robotic, Trachelectomy, Ureteral, Dissection, Retroperitoneal

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Video 7

Robotic Sacral Colpopexy After Vaginal Hysterectomy

S. A. Collins, and P. K. Tulikangas *Obstetrics and Gynecology, Division of Urogynecology, Hartford Hospital, University of Connecticut Health Center, Hartford, CT*

OBJECTIVE: The purpose of this video is to demonstrate advantages of performing hysterectomy at the time of robotic sacral colpopexy by the vaginal approach.

DESCRIPTION: The video begins with a total vaginal hysterectomy performed on a woman with a stage 2 cystocele and a stage 2 uterovaginal prolapse. After the uterus and cervix are removed, the vesicovaginal and rectovaginal planes are dissected from the vaginal cuff, eliminating these steps from the following robotic procedure. In an attempt to minimize risk of mesh erosion, a double-layered vaginal cuff closure is performed. Next, we begin the robotic portion of the procedure using the Da Vinci S Robotic System by Intuitive Surgical. We prefer a side-docking approach, which maximizes the surgical assistant's access to the vaginal manipulator and Foley catheter during colpopexy. The advantages of the previously completed vesicovaginal and rectovaginal dissections are visualized robotically. The key steps of the colpopexy are then shown.

CONCLUSION: Vaginal hysterectomy before robotic colpopexy should be considered in select candidates to save time, improve safety, and increase surgical teaching volume in academic urogynecology practices.

Key Words: Pelvic organ prolapse, Vaginal hysterectomy, Robotic colpopexy, Combined approach in prolapse surgery

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Video 8

Laparoscopic Sacrohysteropexy

A. Broach, and T. Lee *UPMC, Magee Womens Hospital, Pittsburgh, PA*

OBJECTIVE: To demonstrate our laparoscopic sacrohysteropexy in a nulliparous woman with stage 4 uterovaginal prolapse.

DESCRIPTION: Studies have shown that uterine preservation is an option for women undergoing pelvic reconstructive surgery for uterovaginal prolapse. Several procedures have been described including the use of sutures to shorten the stretched uterosacral ligaments as well as the use of mesh to anchor the posterior cervix to the sacrum. The anterior compartment maybe left unsupported in most the techniques previously described. We present a case of a 39 year-old female with congenital muscular dystrophy who suffers from symptomatic stage 4 uterovaginal prolapse. She desired the potential for future child bearing, and therefore, wished to retain her uterus. We performed laparoscopic sacrohysteropexy, utilizing a prolene mesh. Our procedure is unique as it utilizes an avascular plane between the ascending uterine vessels and the cervix to tunnel the mesh from the sacrum to anterior cervix and vagina. This tunnel will prevent the potential compromise of uterine blood flow that could occur during a pregnancy due to the prolene mesh. With this technique, the surgeon can address anterior compartment support defect which is usually neglected in most uterine preserving prolapse repair procedures.

CONCLUSION: Concurrent anterior compartment support defect can be addressed without compromising uterine blood flow in our version of laparoscopic sacrohysteropexy.

Key Words: laparoscopy, uterine preservation, sacrohysteropexy, uterovaginal prolapse

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Ted Lee:Ethicon Endosurgery:honorarium:speaker/ consultant

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Video 9

Hysterotomy Closure Using Barbed Suture - an Evolution Of Our Technique

J. I. Einarsson, and J. A. Greenberg *Ob/Gyn, Brigham and Women's Hospital, Boston, MA*

OBJECTIVE: The purpose of this video is to demonstrate our novel technique for hysterotomy closure using bidirectional barbed sutures. We will briefly demonstrate our original technique and then show the

efficient use of this material to close a hysterotomy defect without the need to tie knots.

DESCRIPTION: Bidirectional barbed sutures are created by cutting barbs into the suture with the barbs facing in an opposite direction to the needle. The barbs change direction at the midpoint of the suture. The anchoring of bidirectional barbed suture resists migration and can be conceptualized as a "continuous interrupted" suture without knots. We have used bidirectional barbed suture since March of 2008 and have performed over 100 hysterotomy closures with this material. In our experience, barbed suture greatly facilitates suturing by preventing backwards sliding of the suture, thereby enabling continuous suturing without the need for suture locking or to have another surgeon follow the suture. The initial version had a 6 cm "smooth" or non-barbed segment next to the needle. This resulted in sliding of the suture if the repair extended beyond the barbed segment of suture. To counteract this, we utilized LapraTy clips to secure the smooth segment of suture. The use of LapraTy in this manner was off-label, as LapraTy is indicated for use with 2/0, 3/0 and 4/0 Vicryl only. Despite this, we did not have any complications utilizing the LapraTy clips in this setting. With the advent of a second generation of Quill suture where the barbs extend all the way to the needle, the use of the LapraTy clip is not required.

CONCLUSION: The use of barbed suture greatly facilitates hysterotomy closure at the time of a laparoscopic myomectomy. We believe that the further integration of barbed suture into the armamentarium of the gynecologic surgeon is inevitable.

Key Words: Barbed, Suture, Laparoscopic, Myomectomy

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: None.

Video 10

Robotic-assisted Vesico-cervical Fistula Repair

C. A. Matthews *Obstetrics and Gynecology, VCU Medical Center, Richmond, VA*

OBJECTIVE: To present a video demonstrating a robotic-assisted vesico-cervical fistula that is exactly modeled after an open technique

DESCRIPTION: This video presents the following steps: Robotic-assisted transvesical approach to the fistula, excision of the fistula tract, wide mobilization of the bladder base from the anterior vaginal wall and bladder dome from the anterior abdominal wall, closure of the cervix, and layered closure of the bladder. The patient was discharged home on POD 1 taking only oral pain medications. She has no evidence of a recurrent fistula 6 months post-procedure.

CONCLUSION: Robotic-assistance affords the opportunity to efficiently perform a vesico-cervical fistula repair through a minimally-invasive technique that is exactly modeled after the open procedure

Key Words: vesicocervical, fistula, da Vinci robot, cesarean section

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Catherine Matthews:Intuitive Surgical:Honorarium:Surgical Proctor

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Video 11

Robotic-assisted Laparoscopic Ureteral Re-implanatation In Patients With Uretero-vaginal Fistula

N. Desai, and M. Hibner *Obstetrics and Gynecology, St. Joseph's Hospital and Medical Center, Phoenix, AZ*

OBJECTIVE: Ureteral injury is one of the most common complications of pelvic surgery. It is estimated that ureteral injury occurs in 0.4% of gynecologic cases and in two thirds of these patients the initial procedure is abdominal hysterectomy. Treatment of this injury consists of ureteral stenting, and in cases in which a stent cannot be placed, nephrostomy tube with subsequent implantation of the ureter is required. Objective of this presentation is to demonstrate robotic assisted ureteral reimplantation.

DESCRIPTION: Robotic-assisted laparoscopy was utilized, in this case, to dissect the ureter, and perform minimally invasive Ureteral re-implantation with stent placement and Psoas hitch.

CONCLUSION: Robotic ureteral reimplantation is excellent choice of procedure in repair of uretero-vaginal fistula.

Key Words: Robotic surgery, Ureteral reimplantation, Fistula

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Michael Hibner:Intuitive Surgical:precepting/speaker honorarium:speaker, preceptor