Oral Presentation 1

Uterosacral Ligament Suspension Sutures: Anatomic Relationships in Unembalmed Female Cadavers

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Objectives: To characterize the anatomic relationships of the uterosacral ligament (USL) suspension sutures and to correlate findings to lower extremity sensory nerve symptoms.

Materials and Methods: In 8 unembalmed female cadavers, two permanent sutures were placed through each USL in the following standardized manner. The cadavers were placed in lithotomy position, the vaginal cuff opened, and the bowel packed away. The posterolateral wall of the vagina was grasped with Allis clamps. The rectum was retracted medially, the USL palpated, and a suture placed through the ligament 7.5 cm from the hymen (distal suture). A second suture was then placed 1 to 1.5 cm cephalad to the first (proximal suture). A laparotomy was then performed, and the small bowel removed. Ureteral stents were placed from the pelvic brim to the bladder and distances between the sutures and the ureters were recorded. Metal pins were placed perpendicular through the USL at the level of the sutures and anchored to the sacrum. The presacral space was then exposed, and the anatomic relationships of the sutures to the anterior sacral foramina and sacral nerve roots were noted. The rectum was then opened, and distances between the rectal lumen and the sutures were documented.

Results: The mean distance of the proximal sutures to the ureter was 11 mm (0–20 mm) on the right and 14 mm (5–31 mm) on the left. The mean distance of the distal sutures to the ureter was 10 mm (4–16 mm) on the right and 12 mm (6–23 mm) on the left. None of the suspension sutures were noted through or around sacral nerve roots. The relationships of the right sutures to the sacral foramina were as follows: medial in 43%, anterior in 43%, and lateral in 14% of cadavers. Right USL sutures were noted at the level of S1 in 43%, S2 in 29%, and S3 in 29% of specimens. Left sutures were medial to the foramina in 29%, anterior in 29%, and lateral in 43% of the specimens. Left USL sutures were noted at the level of S1 in 50%, S2 in 14%, and S3 in 36% of cadavers. The mean distance of the proximal suture to the rectal lumen was 12 mm (4–33 mm) on the right and 9 mm (0–15 mm) on the left. The average distance of the distal suture to the rectal lumen was 12 mm (3–23 mm) on the right and 16 mm (10–22 mm) on the left.

Conclusion: USL suspension sutures were in close proximity to the ureters and rectum. Although sacral nerve roots were not directly injured in this study, about 2/3 of the sutures were placed just anterior to or lateral to the sacral foramina at the S1–S3 level. Thus, sutures that are placed "too deep" into the USL may directly compromise branches of the sacral plexus, leading to various sensory and/or motor deficits in the gluteal region or lower extremity. Another possible explanation for the buttock and posterior thigh pain and numbness experienced by some women after this procedure is the association between the USL, pelvic autonomic nerves, and sacral nerve roots. The nerves that supply the pelvic viscera also arise from the S2–4 nerve roots and course through or in close proximity to the USL. Therefore, stretching of the USL and accompanying nerve fibers when the vaginal apex is suspended may result in irritation of the somatic component of the sacral nerve roots.

Key Words: anatomy, uterosacral ligament suspension suture, nerve injury

Disclosure - Nothing to disclose.

Oral Presentation 2

MRI and 3-D Anatomy of the Posterior Compartment in Asymptomatic Nulliparas

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Objectives: To identify the characteristic anatomical features of the normal posterior compartment on MR images and to use 3-D modeling to elucidate and integrate MR cross-sectional anatomy.

Materials and Methods: MR images of 25 asymptomatic nulliparas under the age of 50 years were analyzed (Mean age = 36.3 ± 10.4 years). Women were recruited through advertisements as normal controls for studies of pelvic organ prolapse. Proton-density MR images were obtained in the supine position in axial, coronal, and sagittal planes. There were 3 phases to this study. In phase 1, preliminary analysis of MR images in 5 women was performed to determine key structures defining the posterior compartment and visibility of the structures in the varying scan planes. The orthogonal (axial, coronal, and sagittal) images were examined in the same 3-D space using 3-D slicer (v 2.1b1) to verify structures and to determine the 3-D relationship of the structures comprising the posterior compartment. In phase 2, images were examined for the visibility of these characteristic features, then tallied for all the subjects to obtain a percentage visibility in 25 nulliparas. For phase 3, MR images were imported into 3-D slicer and 3-D models were created in selected exemplars to integrate cross-sectional and 3-D anatomy.

Results: The posterior compartment is bounded by the uterosacral ligaments cephalad, perineal body caudad, the levator ani muscles dorsally and laterally, and the posterior vaginal wall ventrally. The compartment can also be divided into upper, mid, and lower segments, which have characteristic features in the axial scan plane. In the upper third, the uterosacral ligaments can be seen forming the lateral borders of the compartment (visible in 88%). Its visceral insertions on the cervix and vagina are visible (84%) on the axial images. The vertical orientation of the ligaments is sometimes (40%) seen on the coronal scan plane; however, the insertions are often not seen (visible 32%). In this region, the vagina is not in direct contact with the levator ani muscles but rather is surrounded by a perivascular "halo" in all patients. In the mid portion of the compartment, the vagina has a "W" shape with prominent posterior vaginal sulci that can also be seen in all patients. In the lower portion of the compartment, the vagina fuses with the levator ani muscles and lateral structures in the majority of patients (92%). The perineal body, seen as a low signal intensity (dark) structure between the posterior vaginal wall and the anal sphincter complex, is best seen on the sagittal scan plane (100%) but can also be seen in axial (100%) and coronal scan planes (92%). The levator plate, which forms the dorsal margin of the posterior compartment, was visible in all subjects in the sagittal plane. The 3-D modeling shows the posterior compartment to narrow in the region where the pubic portions of the levator ani are in close proximity with the posterior vaginal wall. The compartment is obliterated caudally where structures fuse to create the perineal body.

Conclusion: The posterior compartment from MR images has characteristic anatomic features in cross-sectional anatomy that can be further elucidated and integrated with 3-D anatomy.

Key Words: posterior compartment, MR anatomy, 3-D modeling

Disclosure - Nothing to disclose.

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Oral Presentation 3

Neurovascular Anatomy of the Greater Sciatic Foramen and Sacrospinous Ligament Region in Female Cadavers: Implications in Vaginal Vault Suspensions

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Objectives: The objective of this study was to further characterize the neurovascular anatomy of the greater sciatic foramen (GSF) and sacrospinous ligament (SSL) region and to correlate these findings to sacrospinous ligament and iliococcygeus fascia fixation procedures.

Materials and Methods: Detailed dissections of the neurovascular structures that exit through the GSF and that are associated with the coccygeus muscle-sacrospinous ligament (C-SSL) complex were performed in 14 (8 embalmed and 6 unembalmed) female cadavers. Dissections were completed through the transabdominal and gluteal approaches. The C-SSL complex, sacral nerve roots, pudendal nerve, internal pudendal artery, inferior gluteal artery, and the nerves to the coccygeus and levator ani muscles were identified. The relationship of these structures to the ischial spines and superior border of the C-SSL complex were recorded. In addition, the origin and course of the nerves to the coccygeus and levator ani (LA) muscles were documented. Measurements were repeated twice, and photographs were taken of all dissections.

Results: The average age of the cadavers was 75 years (range 34–100 years). The mean length of the C-SSL complex from the medial border of the ischial spine to the lateral aspect of the coccyx was 53 mm (range 40–62 mm). In 100% (n = 12) of cadavers, the third and/or fourth sacral nerves (S3, S4) coursed parallel to and just on the superior border of the C-SSL complex at its mid point. In all 14 cadavers, the internal pudendal artery reached the superior and lateral border of the C-SSL complex and exited the pelvis by passing behind the ischial spine. In 12 of 14 cadavers, the inferior gluteal artery passed behind the mid segment of the C-SSL complex. The average distance of this artery from the ischial spine was 21 (16–26) mm at the point of exit through the GSF in these specimens. In the remaining 2 cadavers, the inferior gluteal and internal pudendal arteries arose from a common trunk that divided posterior to the ischial spine. In all dissections, nerves originating from S3, S4, S5, or a combination of these roots passed over the anterior surface of the C-SSL complex at its mid segment before perforating the coccygeus or LA muscles.

Conclusion: Based on these findings, arterial vascular complications associated with SSL fixations are likely the result of injury to the inferior gluteal artery, which lies over the area where sutures are placed. The internal pudendal artery is more likely to be injured during an iliococcygeus fascia fixation where sutures are placed inferior and medial to the ischial spine. Postoperative gluteal and lower extremity pain may result from injury to the S3 or S4 component of the sacral plexus, which is closely associated with the superior border of the C-SSL complex. Other less described sequelae of SSL and iliococcygeus fascia fixations may result from entrapment of the nerves that supply the pelvic floor muscles. These nerves are especially vulnerable as they course in the region where sutures are placed. Clinical implications may include levator spasm, dyspareunia, and other pelvic floor dysfunctions.

Key Words: anatomy, sacrospinous ligament, greater sciatic foramen

Disclosure - Nothing to disclose.

Oral Presentation 4

Evidence for a Heritable Contribution to Pelvic Organ Prolapse

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Objectives: To describe the familial and genetic contribution to pelvic organ prolapse using a population-based resource.

Materials and Methods: We have analyzed a unique resource, the Utah Population Database, that has previously provided evidence for the familial and genetic contribution to many diseases, including breast cancer. This resource combines the computerized genealogy of descendants of Utah state pioneers linked to diagnosis and procedure data for 1.5 million hospital and clinic patients in the state. Genealogies represented in the resource range from 3 to 10 generations. Individuals considered as affected with POP included all women with ICD-9 codes for prolapse (618.X codes) or with any procedure CPT codes involving surgery for POP. Relative risks of POP in female relatives of women with POP were calculated using age and birthyear-specific rates of POP estimated internally from the resource. We used the genealogical index of familiarity statistic to compare the average relatedness of all POP cases, using the genetic distance between each pair of cases and comparing to average expected relatedness in the state population.

Results: Since 1994 there have been 1292 women identified with diagnostic and procedure codes for POP who also have genealogical data. The relative risk of POP was significantly elevated in first-degree female relatives (RR 4.15, $P < 0.001$) and third-degree female relatives (RR 1.24, $P = 0.05$) of women diagnosed or treated for POP. Second-degree relatives did exhibit increased risk (RR 1.20), but the increase was not significant ($P = 0.21$). Average relatedness between individuals with POP was significantly higher than controls ($P < 0.001$). Even when all first- and second-degree relationships were ignored (to discount common familial factors seen in people living together), the average relatedness of women diagnosed with POP was still significantly higher than controls ($P = 0.01$).

Conclusion: These results strongly support a significant heritable contribution to pelvic organ prolapse. Many individual pedigrees with a significant excess of POP have been identified now using this resource. Study of these high-risk pedigrees will enable localization and identification of the predisposing gene(s) contributing to this condition. Relatives of women with pelvic organ prolapse may represent a high-risk population for future epidemiological studies.

Key Words: genetics, pelvic organ prolapse, heritability

Disclosure - Nothing to disclose.

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Oral Presentation 5

Incidence of Pelvic Floor Repair After Hysterectomy: A Population-based Study

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Objectives: Up to 5% of women who have a hysterectomy (HYS) and 30% who have a pelvic floor repair procedure (PFR) respectively, will

require a PFR for primary or recurrent prolapse. However, the risk factors for PFR after HYS are unclear. Our objectives were to estimate the incidence and risk factors for subsequent PFR in the community.

Materials and Methods: Using the data resources of the Rochester Epidemiology Project, we tracked the incidence of PFR procedures (through June 2006) in 7557 Olmsted County, Minnesota, women who had a HYS for benign indications between 1965 and 2002. The cumulative incidence for specific subgroups was estimated using the Kaplan-Meier method. The relative risks (hazard ratios, HR) of a subsequent PFR were estimated for indication and type of initial procedure (ie, abdominal or vaginal, with or without concomitant PFR), and for time period, using proportional hazard regression models, adjusting for age at initial procedure.

Results: The overall cumulative incidence of subsequent surgery for pelvic organ prolapse after HYS was 5.1% by 30 years. Among women who had a HYS, the risk of a subsequent PFR was associated with (i) observation time; (ii) type of procedure [ie, higher for vaginal than abdominal HYS alone, but higher after abdominal HYS among women who had a HYS + PFR ($P < 0.001$, log rank test)]; and (iii) indication for the initial procedure (ie, highest for patients with uterine or vaginal prolapse, HR = 4.1 [95% CI, 2.7–6.4], relative to women who had an abdominal HYS alone for precancerous conditions between 1965 and 1977. The risk of a subsequent PFR was 4.5 (95% CI, 2.8–7.2), 2.5 (95% CI, 1.5–4.3), and 0.6 (95% CI, 0.2–1.8) among women who had and initial vaginal HYS procedure alone during 1965–1977, 1978–1990, and 1991–2002, respectively.

Conclusion: In this population, vaginal hysterectomy alone was associated with a higher risk of subsequent surgery for pelvic organ prolapse. When vaginal hysterectomy was performed concomitantly with pelvic floor repair, the risk of subsequent surgery for prolapse was the lowest.

Key Words: prolapse, hysterectomy, pelvic floor repair, incidence

Disclosure - Nothing to disclose.

Oral Presentation 6

The Effect of Anterior Compartment Mesh-augmentation on Urinary Continence

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Objectives: This study was undertaken to determine the effect of an anterior compartment mesh augmentation procedure on the continence status of women when performed alone or with a concomitant midurethral sling.

Materials and Methods: This was a retrospective chart review looking at 39 consecutive patients who underwent the anterior Prolift procedure (Ethicon, Sommerville, NJ). Prolapse was staged using the POP-Q system. All patients underwent preoperative urodynamic testing (including complex cystometrogram, Valsalva leak point pressure at 200 cc and capacity, and urethral pressure profilometry) in an attempt to unmask occult urodynamic stress incontinence. At bladder capacity a cough stress test was also done. Both the urodynamics and cough stress test were performed in the native position and with the prolapse reduced. If stress urinary incontinence (SUI) was documented, then a tension-free vaginal tape (TVT) was placed at the time of the anterior Prolift procedure. All patients had a concomitant perineorrhaphy and posterior compartment repair without the use of a graft. Our previously established TVT success (objective and subjective dryness) rate was used for statistical comparison.

Results: The mean age and BMI of the 39 patients was 65.6 (42–79) and 26.6 years (19–43), respectively. All patients had greater than Stage II prolapse with 77% (30/39) having Stage III or IV. Twenty-six of 39 had pelvic surgery in the past with 24 (62%) having had a hysterectomy and 10 (25%) having had an antiprolapse procedure. Of the 39 women who underwent the anterior Prolift procedure, 14 also underwent the midurethral sling procedure using TVT. Postoperatively, 9/25 (36%) developed de novo SUI. Of the 14 patients who did suffer from SUI preoperatively (including those with occult SUI), 6 (43%) continued to have symptomatic SUI post-operatively confirmed by a positive cough stress test. The success rate of the TVT procedure when done concomitantly with the anterior Prolift procedure was 57% (8/14). TVT with an anterior Prolift has a significantly lower success (95% CI.04-.48) when compared to our division's previously established TVT success rate of 83%.

Conclusion: When a TVT is done concomitantly with an anterior Prolift, our success rate is lower than historical controls. In patients with no demonstrable or potential stress incontinence, 36% developed de novo SUI. Overcorrection of the anterior vaginal wall or migration of the TVT may occur during the anterior Prolift, which may make the TVT less effective. A 2-stage surgery may be warranted to improve incontinence rates.

Key Words: prolapse, anterior Prolift, stress urinary incontinence, tension-free vaginal tape

Disclosure - Nothing to disclose.

Oral Presentation 7

Anatomic Relationships of the Transvaginal Mesh Trocars

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Objectives: To describe the distances between the major bony, vascular, and visceral structures to the path of the transvaginal mesh (TVM) trocars and to determine the points of trocar entry into the vagina.

Materials and Methods: Four anterior and 2 posterior TVM trocars (Prolift™ Ethicon, Sommerville, NJ) were inserted bilaterally into 8 fresh frozen cadavers placed in high lithotomy. The anterior superior trocar was inserted lateral to the ischiopubic ramus at the level of the urethra, while the anterior inferior trocar was placed 2 cm inferior and 1 cm lateral of the superior trocar. The posterior trocar was inserted 3 cm lateral and inferior to the anus. Vaginal, abdominal, and inner thigh dissections were performed with the trocars in place. Mean distances with 95% confidence intervals (CI) were measured between the closest points along the trocar's path and anatomic structures.

Results: The anterior superior trocar passed through the gracilis, adductor magnus, obturator externus, obturator membrane, and obturator internus muscles. The anterior inferior trocar passed through the same muscles except for gracilis. The mean distances between the arcus tendineous fasciae pelvis and the 2 anterior trocars were 0.3 cm. All anterior trocar passes were within 1 cm of the closest branch of the obturator vessel, while only the anterior superior trocar passed within 1 cm of the bladder. The posterior trocar passed through the ischiorectal fossa into the pararectal space. In 13 of 16 passes (81%),

the trocar pierced the sacrospinous ligament. All passes were within 1 cm of the rectum and the inferior rectal vessels. The mean distance of anterior superior trocar entry into the vagina from the hymen was 3.3 cm (2.9–3.6), anterior inferior trocar 5.2 cm (4.8–5.7), and posterior trocar 6.8 cm (6.5–7.1) with a mean total vaginal length of 8.0 cm (7.7–8.3).

Conclusion: The bladder and nearest branch of the obturator vessel may be at risk of injury during the passage of the anterior trocars, while the rectum and inferior rectal vessels may be at risk during the passage of the posterior trocar. The posterior portion of this technique appears to provide adequate vaginal length. The anterior portion may not be sufficient to support the proximal anterior wall as this support may depend upon the proximity of the anterior inferior trocar to the ischial spine.

Key Words: anatomy, prolapse, Prolift, tension-free, cadaver

Disclosure - Nothing to disclose.

Oral Presentation 8

Does Host Response (Incorporation, Encapsulation, Mixed, and Resorption) Affect the Tensile Strength of Graft Reinforced Repair in the Rat Ventral Hernia Model?

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Objectives: To determine whether the host response affects the subsequent strength of xenograft and synthetic mesh reinforced repair, a ventral hernia Wistar rat model was used to compare the incorporation, encapsulation, mixed and resorption host responses (as elicited by Gynemesh, Pelvicol, Pelvisoft, and Surgisis, respectively). We hypothesized that hernia repaired with graft would have greater tensile strength compared to the suture plication control. Furthermore, we hypothesized that Gynemesh (incorporation) would have greater tensile strengths compared to the other 3 materials.

Materials and Methods: The protocol was approved by the IACUC of the Mayo Clinic. Sixty-three Wistar rats were used. Three rats were initially sacrificed, and the abdominal wall harvested to establish the baseline tensile strength of the intact abdominal wall. The remaining 60 rats were divided into 5 groups with 12 rats each corresponding to each of the 4 grafts listed above and a control group (suture plicated without graft). In the experimental group, a 3.0 × 1.5 cm abdominal wall defect was repaired tension-free with graft. In the control, a 3.0 × 0.5 cm defect was suture plicated without the addition of graft. Half of the animals (n = 6) were sacrificed at 1 month and half (n = 6) animals were sacrificed at 3 months following implantation. The graft and adjacent abdominal wall was harvested, cut into dumbbell shape, and used for testing. The tensile strength of the graft-abdominal wall interface was measured with a servohydraulic testing machine, and the value normalized to the width of the interface. Baseline values of preimplantation tensile strength were also obtained for each graft material.

Results: Pelvicol (11.0 N/mm) had a greater preimplantation normalized tensile strength (peak force/width of material tested) than the rat abdominal wall (2.2 N/mm; $P = 0.0001$) and the other 3 grafts tested (3.1, 1.0, and 3.3 N/mm for Surgisis, Pelvisoft, and Gynemesh, respectively; $P = < 0.05$). There was no difference in the normalized tensile strength of the explant (graft and abdominal wall interface) among the 4 different grafts and between each graft and the control group at 1 and 3 months following implantation.

Conclusion: There was no statistically significant difference in the normalized tensile strength among Gynemesh, Pelvicol, Pelvisoft, Surgisis, and suture plicated control at 1 and 3 months postimplantation, which would suggest that the elicited histologic response, incorporation, encapsulation, mixed and resorption, does not affect the tensile strength of xenograft and synthetic mesh reinforce repairs. Furthermore, the range of tensile strength differences observed (Gynemesh 6.0 and control 2.8 N/mm) at 3 months far exceed the intact, native rat abdominal wall tensile strength (2.2 N/mm) and are likely of little physiologic relevance.

Key Words: xenografts, Gynemesh, Pelvicol, Pelvisoft, Surgisis

Disclosure - Nothing to disclose.

Oral Presentation 9

The Relationship Between Suture Type and Adhesion Formation After Peritoneal Closure in a Rabbit Model

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Objectives: Peritoneal and bowel adhesion occur in more than 90% of all patients undergoing major abdominal surgery, most commonly beneath the anterior abdominal wall incision. Many surgeons have stopped closing the peritoneum after laparotomy based on animal studies where closure of peritoneal defects was associated with more adhesion formation than leaving the peritoneum open. However, these peritoneal defects were made distant from the laparotomy incisions. Subsequent human studies have not been able to demonstrate a decrease in adhesions and, thus, other methods for decreasing adhesions need to be determined. This study was designed to determine whether adhesion formation could be decreased by the use of less reactive suture material and whether peritoneal abrasion increased adhesion formation after peritoneal closure beneath laparotomy incisions in the rabbit model.

Materials and Methods: Sixteen mature, New Zealand white female rabbits were used for this study under a protocol approved by the University Laboratory Animal Care and Use Committee. After general anesthesia was induced, 6 4-cm longitudinal incisions were made through the abdominal wall. Two incisions were located in the midline above and below the umbilicus, and the remaining 4 were located at the same levels bilaterally to the midline. In half of the rabbits, the edges of the incision were abraded by pulling a laparotomy pad through each incision in 2 directions. Nonclosure of the peritoneum was compared to closure with 5 different types of 3-0 suture material: chromic gut; nylon, braided coated polyglactin 910, monofilamentous polydioxanone and poliglecaprone 25 using a continuous, noninterlocking technique. The location of each closure technique was randomly assigned before surgery. Animals were sacrificed on the 7th postoperative day, and adhesions were scored by the length of involvement of the 4-cm incision involved (0 none, 1 one-third, 2 two-thirds, 3 entire length), adhesion density (0 none, 1 filmy, 2 dense) and adhesion vascularity (0 none, 1 avascular, 2 vascular) by 2 surgeons blinded to the closure technique and each other's scores. Microscopic evaluation was also conducted. Values for each closure type in rabbits with or without incisional abrasion were expressed as means ± SEM, and compared using a 2-factor analysis of variance (ANOVA).

Results: Unexpectedly, nonclosure of the peritoneum resulted in the greatest amount of adhesions. Closing the peritoneum significantly

decreased adhesion formation regardless of type of suture used, and no particular suture was superior. Abrading the incision edges did not increase adhesion formation except after nylon suture closure.

Conclusion: When the peritoneal incision is made immediately below a laparotomy incision, closing the peritoneum results in fewer adhesions than leaving the incision open in a rabbit model. Abrasion of the peritoneal edges with a laparotomy sponge did not increase adhesion formation in most groups. This suggests that factors other than abrasion and suture reactivity are important causal factors in adhesion formation associated with peritoneal closure.

Key Words: adhesions, peritoneal, suture, rabbit, pelvic, laparotomy

Disclosure - Nothing to disclose.

Oral Presentation 10

Sexual Function Before and After Sacrocolpopexy for Advanced Prolapse

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Objectives: Our goal was to describe sexual function before and 1 year after sacrocolpopexy for women enrolled in the Colpopexy and Urinary Reduction Efforts (CARE) trial.

Materials and Methods: We conducted telephone questionnaires before and 1-year after surgery. Sexual function was assessed using the Pelvic Floor Impact Questionnaire and the Pelvic Organ Prolapse /Urinary Incontinence/Sexual Function Questionnaire (PISQ-12). We defined "sexually active" as sexual activity with a partner in the past 3 months.

Results: Of 322 participants, 288 completed 1-year follow-up. Of these, the 224 women who had a sexual partner before and after surgery comprise our study population.

Two-thirds (148) were sexually active before surgery. Compared to sexually inactive women, the sexually active women were younger (58.0 ± 10.2 vs. 63.8 ± 7.6 years ($P < 0.01$), less likely to have stage IV prolapse (12.2% vs. 25.0%, $P = 0.02$), and less likely to report that pelvic or vaginal symptoms affected sexual relations (25.7% vs. 39.5%, $P < 0.01$).

The number of sexually active women rose from 148 (66.1%) before surgery to 171 (76.3%) 1 year after surgery ($P < 0.01$). After surgery, fewer women reported sexual interference from "pelvic or vaginal symptoms" [preoperatively 67 (32.5%), 1-year 16 (7.8%); $P < 0.01$] and fewer women reported that fear of incontinence restricted sexual function [preoperatively 23 (10.7%), 1-year 7 (3.3%); $P < 0.01$]. There was a decrease in the number of women who avoided sex because of bulging in the vagina [preoeratively 103 (47.3%), 1-year 10 (4.6%); $P < 0.01$] and fewer women reported intercourse limitations related to pain [preoeratively 87 (39.9%), 1-year 47 (21.6%); $P < 0.01$]. The frequency of sexual desire did not change after surgery ($P = 0.5$). Among women who were sexually active before and after surgery, mean PISQ score increased significantly (34.1 ± 6.8 to 37.3 ± 5.2, $P < 0.01$).

Of the 76 women 40 who were sexually inactive before surgery avoided intercourse because of "bulging in the vagina"; of these 27 (68%) were sexually active after surgery. Only 7 of the 36 (19%) without this complaint became sexually active after surgery. Of 148 preoperatively sexually active women 11 (7%) became sexually inactive after surgery. These women did not differ in age or preoperative prolapse severity. Women who became sexually inactive were not more likely to report sexual limitations related to pain with intercourse, fear of incontinence, or vaginal bulging but they were more likely to report sexual desire "seldom" or "never" (70% vs. 22%, $P < 0.01$).

Conclusion: In summary, most women in this trial were sexually active before sacrocolpopexy despite advanced POP. After sacrocolpopexy, most women reported improvements in pelvic floor symptoms that interfere with sexual function. Nearly half of sexually inactive women with partners resumed sexual activity after surgery. The relatively few women who ceased sexual activity after surgery apparently did not do so because of pelvic floor disorders or pain.

Key Words: sexual function, sacrocolpopexy, prolapse

Disclosure - Nothing to disclose.

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Oral Presentation 11

Sexual Function After Vaginal Surgery for Pelvic Organ Prolapse and Urinary Incontinence

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Objectives: To determine whether vaginal surgery for prolapse or incontinence leads to alterations in sexual function and to assess whether this differs in subjects undergoing anti-incontinence surgery at the time of their repair.

Materials and Methods: This was a prospective study of sexually active women undergoing vaginal repairs for pelvic organ prolapse or urinary incontinence. Information was collected via a standardized questionnaire assessing sexual frequency, degree of bother from sexual symptoms and barriers to sexual activity, as well as validated indices for sexual function (Female Sexual Function Index, FSFI) and urinary incontinence (Urogenital Distress Inventory, UDI-6 and Incontinence Impact Questionnaire, IIQ-7). Follow-up occurred at 6 months postoperatively. Statistical analysis was performed using Student t test or χ^2 tests and Spearman ñ correlations. Power calculation was completed using n-Query version 6.0.

Results: Fifty-one subjects were enrolled; 49 subjects returned their postoperative surveys. Of these, 48 (98%) were sexually active. The mean age was 54 and the majority was premenopausal (73%). Twenty-five subjects underwent an anti-incontinence procedure at time of their repairs. Significant improvements were noted in postoperative prolapse stage, UDI-6, and IIQ-7 scores. However, there were no differences in FSFI domain or total scores pre- and postoperatively. Sexual frequency and degree of bother from sexual symptoms were similar before and after surgery. The single most bothersome barrier to sexual activity prior to surgery was vaginal bulging, while postoperatively it was vaginal pain. No significant correlation between total FSFI scores and vaginal measurements, stage of prolapse, IIQ-7 or UDI-6 scores was noted. However, the symptom of vaginal bulging preoperatively and vaginal pain postoperatively was correlated with pain scores of the FSFI. Twelve subjects (25%) made specific

comments regarding the negative impact that vaginal pain had on their sexual life following surgery. Finally, there were no significant differences in FSFI scores in patients undergoing concurrent anti-incontinence repairs compared with prolapse surgery alone.

Conclusion: There is no difference in sexual function scores or sexual activity in patients following vaginal surgery for prolapse or incontinence despite anatomic and functional improvements; lack of benefit may be attributable to postoperative dyspareunia.

Key Words: sexual function, vaginal surgery, prolapse, incontinence, dyspareunia

Disclosure - Nothing to disclose.

Oral Presentation 12

Surgical Outcomes After Excision of Eroded Mesh in Patients With Prior Abdominal Sacrocolpopexy

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Objectives: We previously described an endoscopic transvaginal mesh excision technique. This study compares surgical outcomes after open transvaginal mesh excision versus endoscopic transvaginal mesh excision. In addition, we reviewed our postoperative outcomes with excision via laparotomy.

Materials and Methods: This is an inclusive retrospective analysis of subjects presenting to our institution from 1997 to 2006 for surgical management of vaginal erosion of permanent mesh after sacrocolpopexy. Three techniques were used: endoscopic vaginal, open vaginal, and laparotomy. For the patients undergoing both transvaginal techniques, data recorded included number and type of re-excisions performed, number of prior excisions performed at outside facilities, intraoperative and postoperative complications (including blood transfusions, pelvic abscess, or bowel complications), use of postoperative antibiotics, persistent symptoms of vaginal bleeding and discharge at follow-up, and demographic characteristics. The intra- and postoperative complications and the postoperative symptoms were recorded for the laparotomy cases.

Results: Thirty-one subjects underwent transvaginal mesh excision during this time period, of which 17 were endoscopic vaginal and 14 open vaginal. In addition, 8 patients underwent abdominal excision via laparotomy. Comparison of the 2 vaginal methods revealed no difference in the demographics or in success rate, with success defined as no symptoms at follow-up. Endoscopic vaginal excision was successful in 7/17 subjects and open vaginal in 9/13 subjects (1 patient excluded for lack of follow-up data) for a total vaginal success rate of 53.3%. No intraoperative, and only minor postoperative, complications occurred with either vaginal method. Three of 4 subjects undergoing 3 vaginal attempts achieved complete symptom resolution. The average follow-up time for the entire vaginal cohort was 14.1 months. Eight subjects underwent abdominal excision and all had symptom resolution, however, not without complications. Two had bowel injury during lysis of adhesions requiring bowel resection in 1 case and repair in another; 1 had a postoperative wound infection with breakdown; 1 was readmitted for postoperative fever requiring antibiotics; and 1 had an acute coronary syndrome requiring transfer to the cardiology service.

Conclusion: Transvaginal excision of mesh with or without endoscopy appears to be a safe and less invasive method for excision of eroded vaginal mesh in patients with prior abdominal sacrocolpopexy. Up to 3 vaginal excision attempts may be necessary to achieve symptom resolution. Although abdominal excision can be considered the gold standard for excision of eroded mesh, it is not without potentially increased morbidity.

Key Words: mesh erosion, sacrocolpopexy, mesh excision, transvaginal

Disclosure - Nothing to disclose.

Oral Presentation 13

Bowel Symptoms in Women 1 Year After Sacrocolpopexy

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Objectives: To evaluate changes in bowel symptoms after sacrocolpopexy (SC).

Materials and Methods: Baseline and 1-year postoperative data were analyzed in 305 women in the Colpopexy and Urinary Reduction Efforts (CARE) study, a randomized trial of SC with or without Burch colposuspension in stress continent women with stages II-IV prolapse. In addition to SC (±Burch), subjects underwent concomitant posterior vaginal or perineal procedures at each surgeon's discretion. Participants completed the Colorectal-anal Distress Inventory (CRADI) scale and underwent Pelvic Organ Prolapse Quantification (POP-Q) at baseline and after surgery. Postoperative changes in CRADI scores and prevalence of persistent and new postoperative bowel symptoms were measured in women who did and did not undergo concomitant posterior vaginal or perineal procedures. Mantel Haenszel and Wilcoxon tests were used.

Results: A total of 215 women underwent SC without posterior vaginal or perineal procedures (SC group), and 90 underwent SC with posterior vaginal and/or perineal procedures (SC+Post), including posterior colporrhaphy (68), perineorrhaphy (66), and sacrocolpoperineopexy (20). Data at 1 year were available for 203 and 79 women in the SC and SC+Post groups, respectively. The SC+Post group had lower parity (2.7 ± 1.4 vs. 3.1 ± 1.5, $P < 0.01$), larger baseline GH (5.9 ± 1.8 vs. 5.3 ± 1.4 cm, $P < 0.01$) and less frequent prior posterior repair (19 vs. 34%, $P = 0.03$). Posterior vaginal descent was similar between the 2 groups at baseline (mean POP-Q point Bp +1.1 cm in SC+Post group and +1.2 cm in SC group) and at 1 year (POP-Q point Bp −2.3 cm in SC+Post group and −2.1 cm in SC group). However, the SC+Post group had more baseline obstructive colorectal symptoms (higher CRADI and CRADI-Obstructive scores: $P = 0.03$ and <0.01, respectively). CRADI total, obstructive, and pain/irritation scores significantly improved in both groups after surgery (P values all <0.01). Postoperative CRADI scores were not significantly different in the SC and SC+Post groups. Most bothersome baseline symptoms resolved after surgery in both groups. However, new bothersome bowel symptoms occurred more frequently after surgery in the SC+Post group (fecal incontinence with activity (10.3 vs. 1.1%, $P < 0.01$), pain before defecation (11.4 vs. 3.1%, $P = 0.02$) and pain with defecation (15 vs. 7.1%, $P = 0.02$). Postoperative prolapse outcomes were not significantly different in women with and without persistent or new bothersome bowel symptoms.

Conclusion: Most preoperative bowel symptoms (obstructive, irritative, and fecal incontinence) improve in women after sacrocolpopexy, whether or not concomitant posterior vaginal and/or perineal repair is performed. However, bothersome new symptoms,

including fecal incontinence with activity and pain before and with defecation, occur more frequently in women after SC with posterior vaginal and/or perineal repair.

Key Words: abdominal sacral colpopexy, colorectal symptoms, obstructive defecation, rectocele repair

Disclosure - Nothing to disclose.

Supported by grants from the National Institute of Child Health and Human Development (U01 HD41249, U10 HD41268, U10 HD41248, U10 HD41250, U10 HD41261, U10 HD41263, U10 HD41269, and U10 HD41267).

Oral Presentation 14
Withdrawn.

Oral Presentation 15

Where to Look for the Sentinel Lymph Node in Cervical Cancer?

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Objectives: The aim of this study was to assess different patterns of lymphatic spread to pelvic, parametrial, and paraaortic lymph nodes in cervical cancer to locate possible sentinel lymph node metastases.

Materials and Methods: Between 1971 and 2005, 619 patients with invasive cervical cancer were treated by radical abdominal hysterectomy and systematic pelvic or systematic pelvic and paraaortic lymphadenectomy at our institution. The present study includes 61 (10%) patients with 1 positive lymph node and 59 (10%) patients with 2 positive lymph nodes at any location.

Results: The external iliac (43%) and obturator (26%) were the most commonly involved pelvic lymph node sites with isolated metastases. Solitary parametrial lymph node metastases were found in 21% of patients. Isolated metastases to common iliac, presacral, and paraaortic nodes were observed in 7%, 1%, and 1% of patients, respectively. Patients with 2 positive nodes most commonly had combined parametrial and pelvic nodes involved (32%). Two lymph node metastases were found at the same pelvic side or within the parametrium in 31% and 10% of patients, respectively. One positive lymph node to each pelvic side was observed in 27% of patients.

Conclusion: External iliac, obturator, and parametrial lymph nodes are the most common sites to locate a single positive lymph node. Sentinel node identification should primarily include these lymph node sites. If 1 positive lymph node is found, further metastases are unpredictable within pelvic and parametrial lymph node sites. Paraaortic spread without pelvic node involvement is extremely rare.

Key Words: cervical cancer, lymph nodes, sentinel node

Disclosure - Nothing to disclose.

Oral Presentation 16

Analysis of Factors Contributing to Complications in Ovarian Cancer Surgery—Need for Risk Adjustment Model of Surgical Outcomes

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Objectives: Reporting complications after surgery is generally done in absolute terms without risk adjustments; however, this can lead to erroneous conclusions. If reporting outcomes does not involve a mechanism to risk-adjust, no valid conclusions can be drawn. We hypothesize that the risk of complications after ovarian cancer surgery depends on patient performance status as well as surgical complexity. Purpose of the study is to evaluate the impact of patients' age and ASA score on surgical outcome, overall survival, and morbidity.

Materials and Methods: Presurgical patient characteristics, surgical procedures performed and outcomes were assessed in a cohort of consecutive ovarian cancer surgery patients. A surgical complexity score (SCS) from 1 to 3 was developed to quantify and adjust for extent of surgery performed (simple to complex, respectively). Outcomes measured were: 30-day major morbidity (sepsis, thromboembolic, cardiac, readmission or reoperation), ability to receive planned chemotherapy, 3-month mortality, overall survival (OS), operative time (OT), and residual disease (RD).

Results: A total of 244 consecutive patients with stage IIIC-IV epithelial ovarian cancer were included. For the entire cohort of patients we observed a correlation between ASA and short-term morbidity ($P = 0.003$), 3-month mortality ($P = 0.004$) ,and ability to receive planned chemotherapy ($P < 0.001$). Age was independently associated with 3-month mortality ($P = 0.004$) and inability to receive chemotherapy ($P = 0.001$) but not with short-term morbidity ($P = 0.194$). SCS correlated directly with morbidity ($P < 0.001$), and inversely with the ability to receive planned chemotherapy ($P = 0.020$) but was not correlated with mortality ($P = 0.305$). Both ASA and SCS independently predicted short-term morbidity. Finally, patients with poor performance status and older age were less likely to be optimally debulked ($P < 0.001$, and $P = 0.009$, respectively) and tended to have shorter, less complex procedures. Regardless, RD holds a prognostic significance independent of age and ASA ($P < 0.001$ and $P < 0.001$, respectively).

Conclusion: Because of the survival benefit from lower RD, we do not find evidence supporting a less aggressive surgical effort based upon ASA or age if patients are considered reasonable surgical candidates. Surgical complexity is a strong predictor of surgical morbidity; however, poor performance status predicts both morbidity and mortality, independent of complexity of surgery. Any reporting system of surgical outcomes and complications that does not take into account endogenous patient factors and surgical complexity will be misleading; a national database similar to the American College of Surgeons NSQIP program would appear relevant in gynecologic surgery.

Key Words: quality assessment, cytoreductive surgery, performance status

Disclosure - Nothing to disclose.

Oral Presentation 17

A Randomized Controlled Trial Evaluating Two Techniques of Postoperative Bladder Testing After Transvaginal Surgery

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Objectives: The purpose of this pilot study is to compare the efficacy of two techniques for evaluating bladder function after transvaginal surgery.

Materials and Methods: Women scheduled for transvaginal, outpatient surgery were consecutively enrolled in this prospective investigation. Subjects were randomized in the operating room to receive a backfill-assisted voiding trial or a trial of spontaneous voiding in the perioperative anesthesia care unit (PACU). We collected demographic data, intraoperative and postoperative data, and queried subjects concerning their satisfaction with the process of evaluating bladder function.

Results: A total of 60 subjects were enrolled. We excluded 5 subjects from analysis for whom either intraoperative events prompted inpatient observation or incidental intraoperative cystotomy mandated continuous catheter drainage. The experimental groups had similar characteristics. Mean PACU time for the backfill group was 199.5 minutes, compared to 226.6 minutes in the spontaneous voiding group ($P = 0.08$). Subjects randomized to the backfill group were more likely to adequately empty their bladder and be discharged home without catheter drainage than subjects in the spontaneous voiding group (61.5% vs. 32.1%, respectively, $P = 0.02$). Multiple logistic regression tested the hypothesis that anesthesia type (regional vs. general), method of bladder testing (backfill vs. spontaneous), inclusion of an anti-incontinence procedure (yes/no), maximum cystometric capacity, subject weight, and subject age would predict successful bladder emptying after surgery. The logistic regression model was significant ($P = 0.04$, c-statistic 0.78). Only 1 method of testing (backfill technique, $P = 0.04$) significantly predicted successful bladder emptying after vaginal surgery. There was no difference in proportion of satisfied subjects when comparing the backfill technique to spontaneous voiding (91.7% vs. 96.3%, $P = 0.22$).

Conclusion: Women undergoing transvaginal outpatient surgery are more likely to empty their bladder effectively before discharge if they are evaluated with a backfill-assisted voiding trial. Additionally, our data suggest that an appropriately powered study may determine that PACU times are significantly shortened by using the backfill-assisted technique.

Key Words: vaginal surgery, postoperative voiding trial, perioperative anesthesia care unit

Disclosure - Nothing to disclose.

Oral Presentation 18

Patient Readiness: Important Predictor of Surgical Outcome

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Objectives: To determine influence of patient expectations and preparedness for reconstructive pelvic surgery (PS) on surgical outcomes.

Materials and Methods: After IRB approval, consecutive women scheduling PS were invited to participate. Clinical care included preoperative testing and surgical counseling, including standardized informed consent and written handout detailing events around the time of PS. At the end of the visit, participants completed a questionnaire assessing their knowledge of the planned procedure (alternatives, purpose, risks, benefits and complications) as well as their overall preparedness and preparedness for hospital stay, recovery at home, and catheter use. Study surgeons were blinded to questionnaire results. Women underwent standardized follow-up 3 months after PS: 1) Pelvic organ prolapse quantification (POPQ) 2) Cystometrogram (CMG) 3) Postoperative symptom and satisfaction questionnaire 4) Pelvic Floor Distress Inventory: Urinary (UDI) and prolapse (POPDI) subscales 5) Patient Global Impression of Improvement (PGI). We considered women "prepared" if they answered "strongly agree" (5 point Likert scale from "strongly agree" to "strongly disagree") to the statement "Overall, I feel prepared for my surgery". We used a conservative definition of objective cure (OC): prolapse OC was stage 0 or I support; urodynamic stress incontinence OC was no leakage on CMG. For analysis, the 7 PGI categories were condensed to: "better", "no change", and "worse". Preoperative questionnaire responses were compared to subjective and OC using χ^2 test of association and to continuous variables using Kruskal-Wallis.

Results: A total of 79 women completed pre- and postoperative questionnaires. Participants self-rated their symptom severity as severe (34%), moderate (58%), and mild (8%). Baseline mean + SD UDI and POPDI scores were 44 + 31 and 36 + 24. Fifty-eight percent reported that they were "prepared" for PS. Half of participants (54%) had combined POP/USI procedures; 34% only USI; 12% only POP. Seventy-one percent had OC of USI and 64% of POP. There were no significant differences in OC ($P = .372$), PGI ($P = .222$), or satisfaction ($P = .374$) by surgery type. Self-reported improvement on PGI was: 72% "better", 21% "no change", and 7% "worse". The majority were completely satisfied (62%) with 23% somewhat satisfied, 6% neutral, 6% somewhat dissatisfied, and 2% completely dissatisfied. There were no differences in symptom severity, POPDI, and UDI scores among women prepared and not prepared for PS ($P = .41$, $P = 58$, and $P = .38$). Women who were prepared were more likely to be improved on PGI ($P = .004$), completely satisfied ($P < .0005$), and have higher postoperative POPDI ($P = .021$) and UDI ($P = .022$) scores, while OC measures did not differ by preparedness ($P = .760$). POPDI and UDI scores were higher in women who were completely satisfied ($P = .001$, $P < .0005$) and improved on PGI ($P = .04$, $P = .001$), but did not differ by OC ($P = .89$, $P = .28$).

Conclusion: Preparedness for PS is measurable and associated with patient-perceived surgical outcome. Satisfaction, symptom improvement, and quality of life after PS are strongly associated with patient's expectations and preparedness for PS, but not OC.

Key Words: patient satisfaction, surgical outcome, patient expectations

Disclosure - Nothing to disclose.

Oral Presentation 19

Informed Surgical Consent: What Information Do Gynecological Surgeons Provide to Patients?

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Objectives: To describe surgeon self-reported behaviors and training in obtaining informed surgical consent from their patients.

Materials and Methods: We surveyed 330 guests and members of the Society of Gynecological Surgeons (SGS). Data collected included surgeon characteristics including age, gender, race, practice setting, and years of experience after residency. Surgeons were asked to rate descriptions of information they give patients when obtaining surgical consent on a 3-point scale, ranging from "simple overview with no details" to "very detailed", including risks, benefits, and alternatives to

surgery, postoperative course, functional and anatomical changes to expect after surgery, and personnel participating in the operation. Surgeons also responded to questions regarding training in obtaining informed consent. Data were analyzed using frequency tables and repeated measures Multivariate Analysis of Variance (MANOVA).

Results: Forty-four percent (145/330) of surveys were returned. The majority of respondents were male (56%), white (86%), in academic practices settings (55%), with >10 years of experience after residency (53%). Surgical consent training was most often acquired through observation (96%) without a standardized curriculum. Mean ratings by description ($F[8,126] = 91.1$, $P < 0.0001$; $n2 = 0.85$) (maximum Cohen's $d = 2.29$) showed that different issues related to surgery are conveyed to patients in widely varying degrees of detail. For example, very detailed descriptions are given of risks and alternatives to surgery, while somewhat detailed descriptions are given of the postoperative course, benefits expected from surgery, and functional and anatomic changes after surgery. In contrast, little or no description of personnel participating in the operation was given to patients (all $P < .05$). Surgeons were more likely to provide detailed descriptions of the risks of surgery than any other information. Neither surgeon gender nor years of experience were related to surgical consent descriptions.

Conclusion: Surgeons give very detailed descriptions of the risks of surgery during informed surgical consent counseling, and they provide widely varying attention to various issues and topics related to communicating with their patients preoperatively. No differences in informed consent descriptions based on gender or years of experience were observed.

Key Words: informed consent, gynecologic surgery, information to patients

Disclosure - Nothing to disclose.

Oral Presentation 20

Clinical Anatomy and Surgical Skills Training (CASST): Assessment of Learners

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Objectives: Last year at SGS, we presented a needs assessment, learning objectives, curricular content, and course evaluation from a novel, multicenter, multidisciplinary Clinical Anatomy and Surgical Skills Training (CASST) program. Our current aim is to evaluate the final aspect of the CASST program: assessment of learners. Pre- and post-test results are presented.

Materials and Methods: The CASST program was designed to teach junior residents in gynecology and urology clinical anatomy and basic surgical skills. Gynecology and/or urology residents and faculty from 3 academic institutions in Chicago participated. The course was developed to address the challenges associated with limited resident work hours, decreased surgical volume, and increasing clinical demands of academic faculty. The course consisted of 5, 3-hour workshops, including didactics, surgical skills laboratories, and cadaver dissections to teach basic surgical skills and anatomy. A written pretest was given before the first session to assess baseline knowledge. The same test was administered at the conclusion of the 5th session. The test was comprised of 2 sections: anatomy (13 questions) and surgical knowledge, including suture material, instrumentation, and incisions (10 questions). Each section was scored from 0 to 100 (perfect score). Pre- and post-test scores in each category (anatomy and surgical skills) were compared. The paired *t* test was used to compare dependent groups with respect to noncategorical variables. Pearson correlations were used to compare dependent groups with respect to continuous variables. A 0.05 significance level was used for all statistical tests.

Results: A total of 28 residents completed the course (15 first-year residents (PGY-1) and 13 second-year residents (PGY-2)). At completion of the program, residents showed significant improvement in anatomy and surgical skills knowledge (scores: 38 + 15 vs. 65 + 15, $P < .001$ and 50 + 12 vs. 80 + 11, $P = 0.39$, respectively). The PGY-2 residents had significantly higher baseline scores than the PGY-1 residents in anatomy (48 + 14 vs. 28 + 10, $P < .001$) and surgical skills test scores (59 + 9 vs. 42 + 9, $P < 0.001$). However, there were no significant differences in the post-test scores of the PGY-2 residents compared to the PGY-1 residents in either anatomy or surgical skills (70 + 12 vs. 61 + 16, $P = .107$ and 83 + 10 vs. 78 + 11, $P = .216$, respectively). There was high correlation between pre- and postcourse performance on the anatomy test questions ($\rho = .68$, $P < .001$). In contrast, the pre- and postcourse scores on the surgical skills questions were only weakly correlated ($\rho = .392$, $P = .03$).

Conclusion: The CASST program improved gynecology and urology residents' knowledge of anatomy and basic surgical skills. A multicenter, multidisciplinary clinical anatomy and surgical skill training program is feasible and effective.

Key Words: anatomy, resident surgical skill, education

Disclosure - Nothing to disclose.

Oral Presentation 21

Transobturator Tapes for Stress Incontinence: Results of the Austrian Registry

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Objectives: Transobturator (TO) tapes for the treatment of stress urinary incontinence were introduced commercially in Austria in 2003. We established a Registry to collect data on the perioperative course and complications of these procedures.

Materials and Methods: Participating centers voluntarily completed a 1-page, 15-item questionnaire per TO tape procedure. The questionnaire asked for (anonymous) information on the patient, on the operation itself, and on the postoperative course. The Registry was adapted to include new systems as these became available.

Results: Data on a total of 1418 operations (639 TVT-Obturator, Gynecare; 541 Monarc, AMS; 94 Obtape, Mentor-Porgès; 144 other) were collected between 2003 and June 2006. Approximately 65% of procedures were done in isolation and 35% in combination with other operations. Approximately 40% of patients had had significant previous pelvic surgery. Intraoperative complications included 52

(3.7%) cases of increased bleeding, 10 vaginal perforations (.7%), 6 bladder perforations (.4%), and 1 hip dislocation.
Reoperations due to the TO procedure were reported for 28 patients (14 tapes cut or loosened for voiding dysfunction, 11 vaginal erosions, 3 abscesses with erosions). There were no reports of reoperations for bleeding/hematoma or bowel injuries. Significant postoperative pain was reported for 12 patients (0.8%), although this was not specifically addressed in the questionnaire.

Conclusion: Overall, significant complications with TO tapes for incontinence appear to be uncommon. Vaginal erosions, infectious complications (abscesses), and pain may be more common with TO tapes than with retropubic tapes, and this may be due to the structure of the various tapes rather than to the route of passage. The Registry was to be closed in December 2006.

Key Words: surgery, stress incontinence, transobturator, complications

Disclosure - Honorarium: Lilly Boehringer, Speaker; Honorarium for Dept.: Gynecare, Speaker/Trainer.

Oral Presentation 22

Development of a Bioengineered Functional Ring Model of the Internal Anal Sphincter Derived From Isolated Porcine Internal Anal Sphincter Smooth Muscle Cells

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Objectives: Anal incontinence is a prevalent and devastating condition. The internal anal sphincter (IAS) plays an important role in maintaining anal continence, yet little is known about its pathophysiology. We sought to: 1) develop and bioengineer a functional ring model of the internal anal sphincter derived from isolated porcine IAS smooth muscle cells and 2) determine whether this ring could demonstrate normal physiologic responses: a) to acetylcholine (ACh), indicating the presence of functional ACh receptors, and b) to the activation and inhibition of known biochemical pathways that modulate gastrointestinal smooth muscle physiology at the cellular level.

Materials and Methods: Smooth muscle cells isolated from porcine IAS were seeded in culture on top of a fibrin gel, where they migrated and self-assembled in circumferential alignment around a 5-mm-diameter SYLGARD post, resulting in a cylindrical ring of sphincteric tissue. Two rings were made and tested. Force was measured in micro-Newtons (μN) in real time using a microforce transducer. Each ring was stretched to 150% of its resting internal diameter. Baseline resting tone was measured. Contractions were induced by adding ACh in sequentially increasing doses of 10^{-10} through 10^{-6} molar (M) to develop a dose-dependent response. Contractions were then induced with Phorbol-12,13-Dibutyrate (PdBu), which activates the protein kinase C (PKC) pathway. Relaxation was induced by the addition of cyclic adenosine monophosphate (cAMP). This ACh dose-response sequence was then repeated in the presence of Calphostin-C, an inhibitor of the PKC pathway, and Y-28376, an inhibitor of Rho kinase.

Results: We were able to bioengineer functional IAS ring models from isolated porcine IAS smooth muscle cells in vitro. The rings demonstrated spontaneous basal tone. The addition of Ach resulted in a dose-dependent, sustained increase in force generation, indicating the preservation of functional ACh receptors in the cells. The maximum dose of 10^{-6} M Ach induced similar contractility patterns (amplitude and frequency) and magnitude of force generation when compared with the response to PKC-pathway activator PdBu. The rings therefore possess an intact PKC pathway which, when activated, generates a response similar to the direct receptor-mediated response to ACh. Tone decreased with the addition of cAMP, and with the addition of inhibitors of the PKC and Rho-A pathways.

Conclusion: For the first time, we have bioengineered a functional physiologic ring model of the internal anal sphincter from isolated porcine IAS smooth muscle cells. These rings behave similarly to the internal anal sphincter in vivo: they generate spontaneous tone, they have functional ACh receptors, and they possess the intracellular biochemical pathways (PKC and Rho-A) that are known to regulate gastrointestinal smooth muscle activity in humans. Comment: The pig provides an excellent mammalian animal model because its gastrointestinal physiology is similar to that of humans.

Key Words: internal anal sphincter, bioengineering, anal incontinence

Disclosure - Nothing to disclose.

Oral Presentation 23

Bladder Symptoms 1 Year After Abdominal Sacrocolpopexy With and Without Burch Colposuspension in Women Without Preoperative Stress Incontinence Symptoms

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Objectives: To describe changes in irritative bladder symptoms, obstructive voiding symptoms, and stress incontinence 1 year after abdominal sacrocolpopexy (ASC) with versus without Burch colposuspension in women without preoperative stress incontinence symptoms.

Materials and Methods: We analyzed 1-year outcomes of the Colpopexy and Urinary Reduction Efforts (CARE) Study, a prospective randomized trial aimed to assess whether adding Burch colposuspension to ASC in stress continent women with pelvic organ prolapse decreases postoperative stress incontinence. One year after surgery, participants completed the 28-item Urogenital Distress Inventory (UDI) subscale of the PFDI administered by telephone interview. Irritative, obstructive voiding, and stress incontinence symptoms were assessed using the UDI subscales and categorized as bothersome if the woman recorded that they were at least "moderately" or "quite a bit" bothersome. A composite "stress endpoint" was defined as a "yes" response to any of the 3 questions on the UDI stress subscale regarding leakage with "coughing, sneezing or laughing," "physical exercise," or "lifting or bending over;" or urine loss on standardized stress test; or any treatment or retreatment of stress incontinence. Urge incontinence was defined as a positive response to the UDI urge incontinence question.

Results: At 1 year, 282 of 322 (88%) randomized subjects completed assessment. Participants were a predominantly white sample with a mean age of 61 years. Fewer women in the Burch group met criteria for the stress endpoint compared to the No Burch group (23.9% vs. 40.7%; $P = .006$); they had lower scores on the stress incontinence subscale of the UDI (5.0 vs. 10.8, $P = .003$). However, the percentage of women with bothersome stress incontinence symptoms did not differ significantly between the Burch and No Burch groups (5.9%

(n = 8) vs. 11.1% (n = 16); $P = .21$). Urge incontinence was less prevalent in the Burch group compared to the No Burch group (13.1% vs. 26.9%, $P = .03$). Among 152 women with at least one bothersome irritative symptom before surgery, 111 (73.0%) reported no bothersome irritative symptoms after surgery. New bothersome irritative symptoms were reported by 11 of 125 (8.8%) women without prior symptoms. Among 228 women with bothersome obstructive symptoms before surgery, 195 (85.5%) reported no bothersome obstructive symptoms after surgery. New bothersome obstructive symptoms occurred in 3 of 50 (6.0%) women without prior symptoms. No differences in either resolution or de novo development of bothersome irritative or obstructive symptoms were found between the Burch and No Burch groups.

Conclusion: Bothersome irritative and obstructive symptoms improved after ASC, with no apparent impact of Burch colposuspension. However, the Burch procedure significantly reduced postoperative symptoms of stress and urge incontinence.

Key Words: sacrocolpopexy, urinary incontinence, Burch, irritative symptoms, obstructive symptoms, one-year outcomes

Disclosure - Nothing to disclose.

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Oral Presentation 24

Quality of Life and Sexual Function Following Tension-free Vaginal Tape Versus the "In-To-Out" Tension-free Vaginal Tape Obturator

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Objectives: Improvements in validated quality of life measures following the retropubic tension-free vaginal tape (TVT-R) procedure have been well documented, but many surgeons have shifted to obturator slings, given a potential increased safety profile of this approach. We sought to compare perioperative morbidity, quality of life, sexual function, and patient-assessed cure in women treated with the TVT-R versus the "in-to-out" TVT obturator (TVT-O) approach.

Materials and Methods: This was a multicenter, ambidirectional cohort study of 329 women without prolapse treated for stress urinary incontinence between January 2004 and March 2006. Selection of TVT-R versus TVT-O was left to the individual surgeon, but given some early reports of outcomes with "out-to-in" obturator slings, the authors tended to minimize the use of TVT-O in patients with closure pressures (MUCP) that were <40 cm H_2O. Preoperative demographics, perioperative morbidity, and responses to the Urogenital Distress Inventory (UDI-6) and Incontinence Impact Questionnaire (IIQ-7) were collected in a retrospective chart review. We then mailed the same questionnaires, as well as the Pelvic Organ Prolapse/ Incontinence Sexual Questionnaire (PISQ-12), to these subjects postoperatively. Two additional questions regarding cure and effect of surgery on sexual function were included in the mailing.

Results: 239 (73%) patients completed the questionnaire with a mean follow-up time of 14.7 (±6.9) months. Demographics were comparable between responders and nonresponders as well as between the two surgical arms with the following exceptions; mean age and preoperative incontinence severity were statistically greater in the TVT-R (n = 97) vs. the TVT-O (n = 232) group. There were fewer intraoperative complications (0% vs. 2.5%, $P = .02$) in the TVT-O arm. Mean operative (OR) time (27.0 vs. 33.0, $P < .01$) and return to normal voiding (0.5 vs. 1.1 days, $P < .01$) were also shorter in the TVT-O arm. Postoperative PISQ-12 scores and changes from the pre- to postoperative UDI-6 and IIQ-7 were comparable between groups. There were no statistically significant differences in patient-assessed cure (86.6 vs. 77.5%, $P = .08$) or de novo sexual dysfunction rates (1.9 vs. 8.3%, $P = .07$), although both these measures showed a trend toward more favorable outcomes in the TVT-O group. However, in a subanalysis of patients with intrinsic sphincter deficiency (ISD) (MUCP ≤20 and/or LPP ≤60), a trend towards higher cure rates was seen in the TVT-R group (84.6% vs. 50.0%, $P = .15$).

Conclusion: In stress incontinent women without ISD, TVT-O appears to be as effective as TVT-R in improving incontinence-related quality of life and maintaining good sexual function while minimizing complications, OR time, and return to normal voiding. On the other hand, use of the obturator approach in women with ISD should be carefully considered until randomized trials demonstrate equal efficacy this subpopulation.

Key Words: TVT, urinary incontinence, TVT-O, quality of life, sexual function

Disclosure - Consultant fee: Ethicon Women, Consultant.

Tips & Tricks 1

Identifying the Sacrospinous Ligament in Pelvic Reconstructive Surgery

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Objective: In the course of vaginal sacrospinous fixation or posterior compartment level I reconstructive surgery many surgeons prefer to visualize the sacrospinous ligament before inserting sutures or passing needles through the ligament. We describe a safe and reliable method to visualize the sacrospinous ligament and to expose it sufficiently.

Description: Step-by-step description for the right side: 1) The posterior vagina is opened and the vaginal wall is mobilized laterally. 2) The right pararectal space is entered by blunt dissection until the index finger reaches the ischial spine. 3) When the index finger is in close contact with the ischial spine, it is now moved medially over the ligament. 4) During this maneuver, the index finger is pressed firmly against the sacrospinous ligament, pushing the connective tissue covering the ligament medially. 5) While the index finger is pressed against the sacrospinous ligament, a long Breisky is inserted along the index finger until its tip reaches the sacrospinous ligament. 6) The long Breisky is pressed against the ligament—with the plane of the Breisky parallel to the fibers of the ligament—and the index finger is retracted. 7) A second long Breisky is inserted parallel to the first and rotated clockwise, pushing the rectum medially. 8) A third Breisky is inserted in the same fashion and rotated counterclockwise, pushing connective tissue and extraperitoneal fat laterally. 9) The 3 Breiskys thus open and expose the presacral cavity, with the sacrospinous ligament running at the bottom of this pyramid shaped space.

Conclusion: The method described offers full exposure of the lateral 2/3 of the sacrospinous ligament with the rectum and the bottom of the pouch of Douglas kept out of the field of surgery. Needles can be

passed through the ligament safely and at the required distance from the ischial spine.

Key Words: sacrospinous ligament, pararectal space, vaginal sacrospinous fixation

Disclosure - Nothing to disclose.

Tips & Tricks 2

Laparoscopic Vecchietti Procedure Made Easy: Innovative Ideas to Improve the Technique and Patient Discomfort

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Objective: The Vecchietti procedure, an originally Italian technique that offers a simpler and faster alternative for creation of a neovagina, has been gaining popularity in the United States. We have been using the laparoscopic modification of this operation with satisfactory functional and anatomic results. Recently, we introduced several innovative additions to this approach, which remarkably improved the surgical technique and alleviated patient discomfort.

Description: One of the improvements is in the suture selection. 1. Due to constant friction at the attachment site to the Vecchietti traction device, we had 2 suture breakage incidents when we used the #5 Ethibond (Ethicon, Somerville, NJ) suture. Although we were fortunate enough to avoid reoperation, which would be the only way for retrieval of the retracted suture, we decided to switch to Fiberwire #2 (Arthrex, Naples, FL), an orthopedic suture that completely eliminated suture breakage during the daily suture advancements. 2. Laparoscopic suture retrieval with the straight suture carrier of the Vecchietti surgical set may be challenging and time-consuming. We turned this to the easiest part of the procedure by passing both ends of a vascular guide wire through the eye of the suture carrier. Passing the traction sutures through the loop is instant. 3. We also noted that most of the discomfort comes from the cutting like feeling at the medial side of the skin incisions due to the tense sutures. We eliminated this by passing each suture through a trimmed pediatric 12Fr rubber catheter providing padding around the suture during its passage through the abdominal wall. 4. Finally, epidural analgesia is a very effective way to deal with the pain issues of an occasional patient who experiences extreme discomfort

Conclusion: The aforementioned improvements in the laparoscopic Vecchietti procedure make this minimally invasive surgical approach even more desirable for the surgeon and the patient for creation of a neovagina.

Key Words: Vecchietti, neovagina, vaginal agenesis, Mayer-Rokitansky-Kuster-Hauser syndrome

Disclosure - Nothing to disclose.

Oral Poster 1

Objective and Quality of Life Outcomes of Vaginal Prolapse Repairs Using a Synthetic Polypropylene Mesh Kit (Prolift™)

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Objectives: The purpose of this study was to assess the short-term success and quality of life outcomes in patients undergoing vaginal prolapse repair using polypropylene mesh. Complications and adverse events including effect on sexual function were also assessed.

Materials and Methods: This was a prospective cohort of 25 patients undergoing vaginal reconstructive surgery for prolapse using synthetic polypropylene mesh (Prolift™; Ethicon, Sommerville, NJ) from July 2005 to April 2006. History and physical examination including POP-Q measurements, as well as validated quality of life (QoL) questionnaires (PFDI and PFIQ short forms, PISQ-12) were assessed at baseline and 3 months. Baseline urodynamic studies were performed. Adverse events including mesh erosion and partner dissatisfaction were also assessed.

Results: Patient demographics [reported as mean (±SD)] include: age 65.6(±7.35), parity 3.0(±1.78), and BMI 28(±7.35). Seventeen patients (68%) had prior surgery for prolapse. Seventy-six percent of patients were white and 20% were black. Thirteen patients (56%) were sexually active at baseline. All patients were postmenopausal and only 8 (32%) were on systemic hormone or estrogen therapy. Baseline POP-Q stages were: 5 (20%) stage 2; 18 (72%) stage 3; and 2 (8%) stage 4. Eleven patients had urodynamic stress incontinence; 2 had urodynamic detrusor overactivity; and 6 had mixed incontinence. Most procedures were performed under general anesthesia (65%). Mean EBL was 92 cc (±51.4). Vaginal colpopexies and total Prolift™ mesh insertions were performed in 18 patients; anterior Prolift™ in 5 and posterior Prolift™ in 2. Concomitant vaginal hysterectomy was performed in 3 patients and concomitant suburethral tape slings in 4 patients. Eleven patients were sexually active at 3 months, and 1 patient who was previously not active became sexually active at 3 months. Baseline mean POP-Q stage decreased from 2.88 (±0.53) to stage 0.55 (±0.74), $P < .0001$. PFDI summary scores decreased from 136 (±46.57) to 32.86 (±30.80), $P < .0001$. PFIQ summary scores decreased from 78.37 (±68.43) to 3.03 (±6.66), $P < .0001$. PISQ 12 scores decreased from 12.75 (±3.89) to 9.04 (±4.48), $P < .0001$. Complications were noted in 4 patients (16%): superficial vaginal mesh erosion in 2 (8%) treated with local excision and re-approximation; and seroma with delayed bleeding at 2 weeks in 2 (8%). There were no blood transfusions, visceral injuries, fistulae, nerve injuries, or mesh infections.

Conclusion: Prolapse stage was significantly improved in this cohort of 25 patients undergoing vaginal prolapse repair using a synthetic polypropylene (Prolift™) kit. Vaginal mesh erosion requiring resection occurred in 8% of patients by 3 months. Long-term objective and QoL outcomes are needed with particular emphasis on sexual function and patient/partner satisfaction.

Key Words: pelvic organ prolapse, mesh erosion, anterior wall vaginal prolapse, apical vaginal wall prolapse, quality of life, Prolift

Disclosure - Nothing to disclose.

Oral Poster 2

Does Change in Quality of Life Predict Continued Pessary Use?

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Objectives: To compare quality of life (QOL) changes in patients who continue to use pessaries to those who discontinue use and to determine if QOL changes predict continued pessary use.

Materials and Methods: This is a prospective cohort study. Women successfully fitted with pessaries for treatment of prolapse and/or urinary incontinence from September 2004 through January 2006 were eligible to participate. Patients enrolled in the study completed the short form Pelvic Floor Distress Inventory (PFDI-20) before pessary placement and again at 2- and 6-12-month follow-up. History, physical exam, and demographic information were gathered. PFDI-20 scores were compared in those who continued pessary use versus those who did not. ANCOVA adjusted for baseline differences in QOL scores and logistic regression was used to find a cut-score that predicted pessary continuation.

Results: Eighty women agreed to participate in the study; 58 (73%) had complete follow-up data. Thirty-three of the 58 women (57%) continued pessary use at 6 to12 months, and 25 (43%) discontinued use. The majority of patients discontinued pessary use either because they did not fit well (31%) or because pessaries were uncomfortable (24%). Only 2/58 (3%) of women chose to have reconstructive surgery. Pessary discontinuation and continuation groups did not differ in age, Body Mass Index, menopausal status, ethnicity, parity, prior prolapse or incontinence operations, prolapse stage, or types of pessaries used (all $P < 0.05$). The only baseline difference between groups was the difference in perineal body (pb) length, which was increased in women who continued pessary use ($P = 0.04$). After adjustment with ANCOVA for differences in baseline scores between the 2 groups, PFDI-20 total, bladder and prolapse subscale scores at 6 to12 months improved more in the group that continued pessary use ($P < 0.05$). Bowel subscale scores did not differ between groups ($P = 0.80$). Stepwise logistic regression of PFDI-20 total and subscale scores at baseline and 2 months identified the 2-month PFDI-20 total score as the best predictor of pessary continuation at 6 to 12 months ($P = 0.004$). A 2-month PFDI-20 score of ≤ 45 predicts pessary continuation (OR = 3.54, CI = 1.08–11.57).

Conclusion: Women who continue using pessaries have greater improvement in PFDI-20 total scores and prolapse and bladder symptoms than those who discontinue use. This improvement in QOL predicts satisfaction with pessary treatment as substantiated by the patient's choice to continue pessary use.

Key Words: pessary, PFDI-20, quality of life

Disclosure - Nothing to disclose.

Oral Poster 3

Sexual Function in Women With Pelvic Organ Prolapse

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Objectives: To describe sexual function in women with prolapse and describe predictors of worse sexual functioning as measured by the Pelvic Organ Prolapse-Urinary Sexual Function Questionnaire (PISQ-12).

Materials and Methods: This prospective study evaluated pelvic floor symptoms in 337 women with ≥ Stage I prolapse. Women completed the Pelvic Floor Distress Inventory (PFDI), the PISQ-12, and were examined using the POP-Q. Bladder function was assessed by either single- or multichannel urodynamics (UDS) without prolapse reduction. Women had to be sexually active within the 3 months prior to enrollment for the PISQ-12 to be valid. Regression models with PISQ-12 score were performed with prolapse-, bladder-, and bowel-related PFDI questions and POPQ stage as independent variables.

Results: Ninety-eight (29%) of the 337 women were sexually active in the 3 months prior to enrollment. Most women (92%) were white with mean age of 57 ±12 years. One woman (1%) had stage I prolapse, 38 (38%) had stage II, 53 (54%) had stage III, and 5 (5%) had stage IV. The mean PISQ-12 score was 85 ±15. Linear regression modeling revealed loss of urine during sexual activity and loss of gas/stool with a sense of urgency were strongly predictive of worse sexual function. On average, women who lost urine during sexual activity scored 10 points lower on the PISQ-12 than women who did not ($P = 0.006$), and women who lost gas/stool after a sense of urgency scored 9 points lower ($P = 0.013$). Logistic regression modeling revealed that women who lost urine during sexual activity and those who lost gas/stool after a sense of urgency had a 3- and 4-fold increased risk of worsened sexual functioning, respectively. Prolapse, measured by POPQ stage ($P = 0.933$) or maximal leading edge ($P = 0.573$), prior prolapse surgery ($P = 0.152$), prior incontinence surgery ($P = 0.458$), or UDS findings ($P = 0.464$) were neither associated nor predictive of worse sexual functioning.

Conclusion: In sexually active women, sexual function is not affected by prolapse. Urinary and anal incontinence are associated with worse sexual functioning in women with prolapse.

Key Words: sexual function, prolapse, incontinence

Disclosure - Nothing to disclose.

Oral Poster 4

Racial Differences in Pelvic Floor Musculature in Asymptomatic Nulliparas as Seen on MRI Based 3-D Color Thickness Mapping

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Objectives: To compare levator ani and obturator internus muscle thickness between asymptomatic, nulliparous African American (AA) and white American (WA) women using reconstructed 3-dimensional (3D), color thickness mapped magnetic resonance images (MRI).

Materials and Methods: Three-dimensional, color thickness mapped MRI data set of levator ani and obturator internus was evaluated in 22 nulliparous women (12 AA and 10 WA). Levator ani and obturator internus muscle groups were divided into right and left. Additionally, the levator ani muscle group was subdivided into the puborectalis (PR) and ileococcygeus (IC) portions. A blinded investigator used a standardized color mapping scale to record the thickest aspect of each muscle segment. Maximal thickness in each muscle was compared between the AA and WA groups using the nonparametric Mann-Whitney test. Significance considered at $P < .05$.

Results: Subjects were similar in age and BMI. Levator ani thickness was significantly greater in the AA women on both the right and left compared to WA women (median right PR- 8.5 vs. 6.0 mm, $P = .001$; right IC- 6.5 vs. 4.5 mm, $P = .002$; left PR- 9.5 vs. 5.75 mm, $P = .0002$; left IC- 6.5 vs. 5.75mm, $P = .02$). No significant difference was noted in right/left maximal obturator internus thicknesses (median right OI- 20.0 vs. 19.5 mm, $P = .259$; left OI- 19.25 vs. 19.25 mm, $P = .498$).

Conclusion: 3-D MRI color thickness mapping is an effective way to assess pelvic floor musculature. Asymptomatic, nulliparous AA women have significantly thicker levator ani muscles compared to otherwise similar white nulliparas. However, no significant difference was noted between the right and left obturator internus muscle thickness between the groups. It is possible that these baseline differences in levator ani thickness may differentially impact the susceptibility to pelvic floor dysfunction. Further work is required to assess the clinical significance of these findings.

Key Words: pelvic floor MRI, 3D reconstruction, racial differences, levator ani

Disclosure - Nothing to disclose.

Oral Poster 5

Pelvic Architectural Distortion Is Associated With Pelvic Organ Prolapse

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Objectives: Women with pelvic organ prolapse are 6.6 times as likely to have major levator ani defects seen on magnetic resonance (MR) scans, when compared to women without prolapse. In women with levator defects, we have observed 2 distinct morphologic subtypes: 1) those with normal-appearing fascial structures in the region adjacent to the vagina and levator ani muscles, and 2) those with architectural distortion in the adjacent tissues. We sought to determine whether there is an association between architectural distortion and prolapse among women with levator defects.

Materials and Methods: Two investigators independently reviewed axial MR scans from a completed study of women with and without prolapse. The investigators were blinded to prolapse status and prior classification of levator defects. The presence of architectural distortion was determined for each subject. Architectural distortion was defined as: lateral and posterior "spill" of the vagina from its normal position, and posterior extension of the space of Retzius beyond the superior lateral sulcus of the vagina. Inter-rater reliability was calculated. Disagreements were resolved by group consensus. Levator ani muscle defects had been scored in a previous study. All subjects were categorized into 1 of 3 morphologic groups: 1) no levator defects and no architectural distortion, 2) levator defects and no architectural distortion, and 3) levator defects and architectural distortion. Please note that we did not observe any women to have architectural distortion and intact levator ani muscles. A χ^2 test was performed, and odds ratios were calculated.

Results: The 3 morphologic groups did not differ with respect to age, race, or BMI. Women with architectural distortion have the highest proportion of prolapse. Among women with levator defects, those with prolapse were 2.2 times as likely to have architectural distortion (95% CI = 1.1–4.6) as those without prolapse. When we used the morphologically normal women (no levator defect, no distortion) as a reference group, we found that women with prolapse were 3.7 times as likely to have a levator defect and normal architecture (95% CI = 2.1–6.6), as women without prolapse. Furthermore, women with prolapse were 8.3 times as likely to have a levator defect and architectural distortion (95% CI = 4.0–17.0) as women without prolapse. Inter-rater agreement for the presence of architectural distortion was 87% with a κ of 0.64 (95% CI 0.54–0.75).

Conclusion: Among women with levator ani muscle defects, pelvic organ prolapse is associated with the presence of visible architectural distortion of the tissues adjacent to the vagina.

Key Words: pelvic organ prolapse, levator ani, muscle injury, pelvic floor

Disclosure - Consulting fee: Boston Scientific, Consultant, Johnson & Johnson, Consultant.

Oral Poster 6

Posterior Division of the Internal Iliac Artery: Anatomic Variations and Clinical Applications

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Objectives: To further characterize the anatomy of the posterior division branches of the internal iliac artery and to correlate these findings to the internal iliac artery ligation.

Materials and Methods: Detailed dissections of the common and internal iliac arteries were performed in 37 unembalmed female cadavers. The lengths of the common and internal iliac artery were recorded. The internal iliac was measured from the point of bifurcation of the common iliac to the origin of the posterior division. Branching patterns of the 3 posterior division arteries, iliolumbar (IL), lateral sacral (LS), and superior gluteal (SG), were documented.

Results: The cadavers ranged in age from 45 to 103 years with mean 80 years. Average body mass index was 23.7 kg/m^2. The mean length of the common iliac artery was 57.1 (30–94) mm on the left and 55.2 (25–91) mm on the right. The average length of the internal iliac artery was 29.0 (17–52) mm on the left and 29.0 (0–49) mm on the right. The posterior division arteries arose from a common trunk in 65.7% (23/35) of cadavers on the left and in 59.5% (22/37) on the right. In the remaining specimens, posterior division branches arose independently from the internal iliac, with the IL noted as the first branch in 27.8%, the LS in 5.6%, and the SG in 4.2%. In all cadavers, the posterior division branches originated from the posterior and lateral aspect of the artery. The SG coursed laterally and inferiorly and passed through numerous internal iliac venous branches before exiting the pelvis.

Conclusion: Current gynecology texts advocate ligation of the internal iliac artery below the posterior division branches, specifically the SG artery. Buttock claudication and necrosis have been associated with ligation of the internal iliac artery proximal to this branch. In the setting of acute hemorrhage a detailed dissection is not always feasible. Therefore, understanding the approximate location and orientation of the posterior division branches should aid in preventing further blood loss. On average, posterior division branches can be found 2.9 cm from the common iliac artery bifurcation; however, great variability exists. These branches were always noted to arise from the dorsal and lateral aspect of the internal iliac. The course of the SG through the internal iliac venous branches makes identification of this vessel especially hazardous. In this study, the SG arose from a common trunk in the majority of specimens. Thus, ligation below this trunk should preserve blood flow through the SG artery and avoid unnecessary dissection and additional blood loss.

Key Words: anatomy, internal iliac artery ligation, hypogastric artery

Disclosure - Nothing to disclose.

Oral Poster 7

The Impact of Fecal and Urinary Incontinence on Quality of Life 6 months After Childbirth

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Objectives: The goal of this study was to investigate whether postpartum fecal incontinence (FI) and urinary incontinence (UI) impact quality of life (QOL) 6 months after delivery.

Materials and Methods: This study was conducted as a part of the Childbirth and Pelvic Symptom (CAPS) study. We included 759 primiparas (335 who delivered vaginally with an anal sphincter tear; 319 who delivered vaginally without a recognized sphincter tear; and 105 who delivered by cesarean prior to labor). Standardized symptom inventories and QOL questionnaires were completed by telephone interview 6 months after delivery. The Fecal Incontinence Severity Index was used to categorize subjects as having FI (mucus, liquid stool, or solid stool), flatus incontinence (without fecal incontinence), or neither of the two. The Medical, Epidemiological, and Social Aspects of Aging Questionnaire was used to categorize participants as having pure stress urinary incontinence (SUI), urge or mixed urinary incontinence (UUI), or no UI. QOL was described by: the physical and mental components of the SF-12 (PCS and MCS), a Health Utility score (a self rating of health, with perfect health at 100 and death at 0), and the modified Manchester Health Questionnaire (a condition-specific QOL scale designed to assess impact of bowel symptoms).

Results: Subjects averaged 27.5 years of age, 71% were white, and 73% had attended college. We found that women with FI were more likely to report UI than women with "no FI" (52.7% vs. 25.4%, $P < 0.01$). Women with both FI and UI reported more impact than those with only one of these conditions. With respect to the QOL impact of only UI (excluding women who also had FI), women with UI (n =189) had lower mean SF-12 PCS (53.6 ±7.1 vs. 56.1 ±4.5, $P < 0.01$) and MCS scores (48.3 ±9.8 vs. 51.6 ±7.8, $P < 0.01$), and lower overall self-rated health (84.1 ±12.5 vs. 88.7 ±10.1, $P < 0.01$) than women with no UI (n = 479). There were no QOL differences between SUI and UUI.

Conclusion: Six months after delivery, FI and UI have important negative effects on health-related QOL. Among young, primiparous women, about 1 in 5 with FI reported a "moderate" to "extreme" life impact. Flatus incontinence appears to have a less measurable influence on quality of life than FI. Dual incontinence (FI and UI) had a greater negative impact than either FI or UI alone.

Key Words: urinary incontinence, fecal incontinence, quality of life, childbirth, anal sphincter

Disclosure - Nothing to disclose.

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Oral Poster 8

National Trends and Costs of Surgical Treatment for Female Fecal Incontinence

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Objectives: Despite the devastating effects that fecal incontinence may have on a woman's quality of life, there is limited information regarding the costs associated with surgical treatment. The purpose of this study is to describe national trends and report the associated charges and costs of inpatient surgical treatment for fecal incontinence in the United States.

Materials and Methods: We used the Nationwide Inpatient Sample, an all-payer national database, from 1998–2003. Women with the diagnosis of fecal incontinence who underwent surgical repair were identified using ICD-9-CM coding. We examined national trends in the number and types of procedures, variations in patient demographics, trends in outcomes, and the charges and costs associated with inpatient surgical treatment. Hospital charges were defined as the amount hospitals billed for their services and costs were defined as the amount hospitals received in payment. We used multiple linear regression to identify variables that were associated with increased costs per surgical admission. All analyses were performed using SAS 8.0 and SUDAAN 9.0.1.

Results: A total of 11,073 women underwent inpatient surgery for fecal incontinence during the study period. This number has steadily increased, with 1609 procedures performed in 1998 and 1971 procedures in 2003. The overall mean age of women undergoing surgery was 55.3 + .09 years, remaining stable during the study period. The majority of women were white (82.4%); however, the proportion of black and Hispanic women increased slightly in recent years. Thirty-seven percent of procedures were performed in the South, 28% in the West, 22% in the Midwest, and 13% in the Northeast. The most common procedure performed for fecal incontinence was anal sphincteroplasty (overall 98.4% of all procedures), which remained stable over the study period. Although the mean number of total procedures per admission increased from 2.7 in 1998 to 3.0 in 2003, the mean length of stay decreased from 2.6 days in 1998 to 2.3 days in 2003 ($P < .05$ for both). Following surgeries for fecal incontinence, the overall risk of complications was 15.4% and the risk of death was .02%, which remained stable throughout the study period. Total charges associated with surgical treatment increased from $16.3 million in 1998 to $33.6 million in 2003, translating to a total cost of $24.5 million dollars in 2003. Using multiple linear regression, variables found to significantly increase the cost of surgical admissions for fecal incontinence in 2003 included number of procedures per admission, length of stay, patient race, and complications ($P < .05$ for all). Age and comorbidities were not associated with increased costs.

Conclusion: The number of women undergoing inpatient surgical treatment for fecal incontinence has steadily increased since 1998 and is associated with a significant economic impact to the health care system.

Key Words: fecal incontinence, surgery, economic costs, trends

Disclosure - Nothing to disclose.

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Oral Poster 9

Prevalence and Risk Factors of Fecal Incontinence in Women Undergoing Stress Incontinence Surgery

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Objectives: The objective of this cross-sectional study is to evaluate the prevalence of fecal incontinence (FI) subtypes (liquid and both liquid and solid stool loss) in women with stress predominant urinary incontinence (UI) and to determine which potential factors (sociodemographic, health status, history, and severity) are associated with FI.

Materials and Methods: Information was collected at baseline in 655 women enrolled in the Stress Incontinence Surgical Treatment Efficacy Trial (SISTEr). FI type and frequency was determined by questionnaire which asked: "Do you have leaking or loss of control of liquid/solid stool?" and "How often does this happen—less than once a month, more than once a month but less than once a week, more than once a month or less than every day, or every day?" FI was defined as occurring at least "more than once a month." Women with FI occurring monthly were included in the analysis (n = 102). Independent variables in the analysis were: sociodemographic characteristics (age, race, education, and occupational score), health status and history (body mass index [BMI], smoking status, diabetes, obstetrical history, prior surgical history, and menopausal status), physical exam findings (stage of pelvic organ prolapse [POP-Q], pelvic muscle strength and duration [Brink's score], anal sphincter contraction, severity of UI (accidents per day on 3-day bladder diary, pad test weight [g]) and UI symptom bother (urogenital distress inventory [UDI], incontinence impact questionnaire [IIQ], and the pelvic organ prolapse/UI sexual questionnaire [PISQ]). In univariate analysis women with incontinence of liquid stool FI (n = 64) and both liquid and solid stool FI (n = 38) were compared to women without FI (only UI) (n = 553). Multivariable logistic regression analysis models were constructed among women with monthly FI in comparison to women who did not report FI.

Results: The prevalence of monthly FI was 10% for liquid stool FI and 6% for liquid and solid FI. In univariate analysis, women with liquid stool FI and with both liquid and solid FI were more likely ($P < 0.05$) to have: advanced age, higher BMI, decreased anal sphincter tone, lower pelvic squeeze duration, peri- and postmenopausal status, prior UI surgery, higher pad test weights, and increased symptom bother (UDI, IIQ, PISQ) compared to women without FI. Multivariate analysis demonstrated significant increased risk (odds ratio, 95% confidence interval) of monthly FI with decreased anal sphincter contraction (4.7, 2.1–10.3), perimenopausal status (2.4, 1.2–5.0), and prior UI surgery/treatment (1.7, 1.1–2.7). Prior obstetrical history (parity, vaginal delivery, and weight of the largest baby) were not associated with FI. No differences were found in factors associated with FI subtypes.

Conclusion: Approximately 16% of women enrolled in a clinical trial of 2 surgical techniques for stress predominant UI reported monthly FI. The prevalence in this study may be lower than previously reported due to our strict definition of FI. Risk factors for FI included decreased anal sphincter tone, being perimenopausal, and prior UI surgery/treatment.

Key Words: fecal incontinence, stress urinary incontinence, surgical treatment of stress urinary incontinence

Disclosure - Nothing to disclose.

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Oral Poster 10

Obesity and Physiologic Parameters Related to Stress Urinary Incontinence

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Objectives: Obesity is a known risk factor for stress urinary incontinence (SUI). The pathophysiology underlying this phenomenon is not known. Our objectives were: 1) to compare physiologic parameters related to incontinence in incontinent obese and nonobese women and 2) to determine how obesity might affect these parameters.

Materials and Methods: Women with at least daily symptoms of SUI were recruited from a University Urogynecology practice and advertisements. In this secondary analysis, cases were divided into 3 groups based on WHO obesity classification: Body Mass Index (BMI) <25, BMI 25–29 and BMI >30 kg/m2. Subjects underwent pelvic examination including pelvic organ prolapse quantification (POP-Q), urethral angle measurement at rest and with Valsalva via cotton-tipped swab (QREST and QSTRAIN), urethral profilometry, and leak point pressure determination. Vaginal closure forces at rest and with maximum vaginal contraction (VCFREST and VCFAUG) were quantified using an instrumented vaginal speculum. ANOVA and Pearson's correlations were performed.

Results: Age, parity and race did not differ among the 3 groups. Resting bladder pressure and maximum cough pressure were significantly higher with increasing BMI ($P < 0.001$). Maximal urethral closure pressure did not differ across the three groups ($P = 0.71$); however, cough leak point pressures were higher with increasing BMI ($P = 0.04$). Mean resting urethral angle (QREST) was significantly more upwardly directed with increasing BMI ($r = 0.3$, $P < 0.001$). Point AA and other POP-Q measurements as well as vaginal closure force did not differ among these 3 groups.

Conclusion: Parameters consistent with increased load (resting bladder pressure and maximum cough) are associated with increasing BMI, suggesting that forces on the continence mechanism, rather than problems with the intrinsic sphincter mechanism, are the primary factors predisposing women with higher BMI to stress incontinence.

Key Words: obesity, urinary incontinence, pathophysiology

Disclosure - Nothing to disclose.

Oral Poster 11

Changes in Urinary and Anal Incontinence Associated With Weight Loss Surgery

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Objectives: The objective of this study was to examine changes in the prevalence and severity of urinary and anal incontinence in morbidly obese women 12 months following laparoscopic weight loss surgery.

Materials and Methods: Participants were 92 women with body mass index (BMI) ≥40 who underwent laparoscopic Roux-En-Y weight loss surgery and were followed to 12 months postsurgery. Presence and severity of urinary incontinence symptoms were assessed using the Medical, Epidemiological, and Social Aspects of Aging Questionnaire (MESA). Anal incontinence was assessed by asking, "Do you have any uncontrolled anal leakage?" and "If yes, specify gas, liquid, solid or a combination." Changes from baseline to the 12-month follow-up were tested using McNemar's test for paired proportions. Selected clinical and demographic variables were examined as potential predictors of change in urinary continence status. Predictors of anal incontinence could not be examined because the sample of participants with anal incontinence was too small for standard statistical methods.

Results: Mean age was 40.7 ±8.7 years (range = 20–55). Mean BMI decreased from 48.4 before surgery (SD: 7.09, range: 40 to 77) to 30.0 at 12 months (SD: 5.55 range: 20 to 45). Mean change in BMI was 18.4 ±4.24 (range: 11 to 22). Prevalence of urinary incontinence decreased significantly from 66.3% before surgery to 37.0% at 12 months (P <.001). Reduction in prevalence of urinary incontinence was significantly associated with decreases in BMI (P = .01), but not associated with age (P = .39), sleep apnea (P = .21), or arthritis (P = .71). Among incontinent women who lost at least 16 BMI points, 58.7% had regained urinary continence at the 12-month follow-up. Scores on the MESA urge scale decreased from a mean 2.52 to 1.34 and the MESA stress score from a mean 7.32 to 3.25 at 12 months (both P <.001), indicating reduction in the severity of urinary incontinence. Reductions in these scores were not correlated with magnitude of change in BMI (MESA urge score: r = .16, P = .12; MESA stress score: r = .20, P = .06). Prevalence of anal incontinence did not change significantly, 32.3% before surgery to 38.7% at 12 months (P = .32). However, considering only loss of solid or liquid stool but not flatus, there was a significant decrease from 19.4% to 8.6% (P = .018).

Conclusion: The prevalence of urinary incontinence and incontinence of liquid or solid stool decreases following weight loss surgery. The association between magnitude of weight loss and reduction in prevalence of urinary incontinence strengthens the inference that improvements in continence status are attributable to weight loss.

Key Words: fecal incontinence, urinary incontinence, weight loss, bariatric surgery, obesity

Disclosure - Nothing to disclose.

Oral Poster 12

Intra-abdominal Pressure Changes Associated With Lifting: Implications for Postoperative Activity Restrictions

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Objectives: The purpose of this study was to describe potential differences between intra-abdominal pressure generation in relation to technique and quantity of weight lifted.

Materials and Methods: To determine safe and applicable lifting techniques, consultation with a physical therapist was performed. Forty-one women undergoing urodynamic evaluation and meeting inclusion criteria participated. Intra-abdominal pressure was recorded using a rectal microtip catheter. The lifting techniques included elevation from a squat position (Squat), elevation from a squat position using an arm on the counter to assist with rising (Squat Assist), lifting the weights off a hip high counter (Counter), and receiving the weight into slightly bent outstretched arms (Receive). The subjects lifted a sequence of weights with each technique consisting of 0, 2.5, 5, 10, and 15 kg. Each lift was performed twice and the average pressure increase was recorded. Mixed-models repeated-measures ANOVA was performed on the natural log of the lift pressures across the different weights.

Results: The ANOVA revealed a significant interaction between lift weight and lift type ($F_{12, 609}$ = 16.9, P < 0.001), and Tukey honestly significant difference confirmed that differences existed across lift types by lift weights. Age, pubococcygeal muscle strength assessment, POPQ quantification, BMI, pelvic floor symptom assessment and waist-to-hip ratio were controlled for in the model. Lifting greater quantities of weight resulted in higher generation of intra-abdominal pressure regardless of lift technique. Significant changes in intra-abdominal pressure generation were demonstrated between lifting 15 kg and 5 kg or less with Squat, between 15 kg and 5 kg or less with Squat Assist, between 5 kg and 2.5 kg or less when lifting from a Counter and between 15 kg and 5 kg or less when Receiving weights (all P < .05). Lifting weight using a squat technique with or without arm assist was associated with the generation of the highest intra-abdominal pressures. There were significant differences between Squat 15 kg versus Counter 10 kg or less, and Squat 15 kg versus Receive 15 kg or less (all P < .05).

Conclusion: In conclusion, both lifting technique and quantity of weight should be considered when counseling patients regarding postoperative activity restrictions, although it is unclear at this time whether this may impact on surgical outcomes.

Key Words: intra-abdominal pressure, weight lifting, postoperative activity restrictions, incontinence surgery

Disclosure - Nothing to disclose.

Oral Poster 13

Are Mid-urethral Slings Superior to Autologous Rectus Fascial Slings in Women With Urinary Incontinence?

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Objectives: To compare medium term objective and subjective continence rates for women who had undergone autologous rectus fascial sling (ARFS) and synthetic midurethral slings (MUS).

Materials and Methods: The study was IRB-approved. All women who had an ARFS or MUS without additional pelvic floor repairs between January 2000 and September 2005 were identified. Each eligible patient was mailed validated questionnaires containing

questions regarding surgical history and lower urinary tract symptoms. Patients who answered yes to the question "Since your incontinence surgery, have you had any other surgeries for urine leakage?" were considered to have an objective failure. Patients who answered yes to "Since you incontinence surgery, do you regularly leak urine?" and who had an incontinence severity index score of ≥6 were considered to have a subjective failure. The survival free of incontinence was estimated using the Kaplan-Meier method. Cox proportional hazard was used to summarize the association between type of procedure (and other known confounders) and survival free of incontinence.

Results: Of the 241 patients surveyed, 205 returned surveys 71/88 ARFS (80.7%) and 134/153 MUS (87.6%) and are the subject of this study. There was no difference in median BMI, smoking status, parity, race, and number of previous pelvic floor repairs between groups. The ARFS differed from the MUS group in number of patients having >2 prior incontinence surgeries (12/71 vs. 3/134, $P < 0.001$) and preoperative mixed incontinence diagnosis (32/69 vs. 86/133, $P = 0.012$). With a median postoperative follow-up of 3.9 and 2.8 years, respectively in the ARFS and MUS groups, a total of 7 patients needed a reoperation (survival-free of reoperation at 3 years, 95.7% for ARFS and 97.6% for MUS). A total of 27 women reported subjective incontinence at a median follow-up of 0.6 months. BMI was identified as being univariately associated with reporting subjective incontinence (hazard ratio (HR) = 1.2 per 5 unit increase, $P = 0.034$), however age, preoperative diagnosis, number of prior incontinence surgeries, and ISD did not attain statistical significance (all $P > 0.05$). The type of procedure was also not associated with subjective incontinence (HR = 1.3 for ARFS vs. MUS, $P = 0.55$). The survival free of subjective incontinence at 3 years was 83.9% and 86.9% in the ARFS and MUS groups, respectively. However, women who had ARFS were more likely to require an urethrolysis (10/71 vs. 2/134, odds ratio (OR) = 10.8, $P < 0.001$), had longer suprapubic catheter (SPC) use (median days, 13 vs. 7, $P < 0.001$), and were more likely to need intermittent self-catheterization after SPC removal (16/71 vs. 1/134, OR = 36.7, $P < 0.001$) compared to MUS.

Conclusion: There was no difference in objective and subjective continence rates for ARFS and MUS in women undergoing isolated incontinence procedures. ARFS tended to be more obstructive and were more likely to require urethrolysis, prolonged SPC and ISC.

Key Words: rectus fascial sling, midurethral sling, historical cohort

Disclosure - Nothing to disclose.

Oral Poster 14

Outcomes of Vaginal Prolapse Surgery (Anterior Wall and Apical) Comparing Abdominal Sacral Colpopexy (Open) to Uterosacral Suspension With or Without Anterior Colporrhaphy

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Objectives: We evaluated the hypothesis that anterior vaginal wall and apical anatomic failure rates were lower when performing an abdominal sacral colpopexy (ASC) compared to a uterosacral ligament suspension (USLS), with or without concomitant anterior vaginal wall surgery. A MEDLINE search revealed no studies comparing these operations in regard to outcomes of the anterior vaginal wall.

Materials and Methods: Inclusion criteria in this observational study were women with anterior vaginal wall prolapse(Stage 2 or greater) and the cervix/cuff being within 4 cm of the introitus (C = −4) or lower. A single surgeon performed the ASC, and another surgeon performed the USLS (by either the abdominal, vaginal, or laparoscopic route). The mesh used in the ASC was expanded polytetrafluoroethylene attached both to the anterior and posterior vagina. Permanent sutures were used in the USLS. Postoperative staging of the anterior and apical segments was performed at a minimum of 1 year. Over 46% of the staging was done by a physician blinded to the procedure.

Results: A total of 104 patients with objective data was used in the analysis (ASC = 72; USLS = 32). There was no difference in age, number of vaginal deliveries, weight, ethnicity, smoking, diabetes, complications, hospital length of stay or months of follow-up (average 55.1 months). The ASC group experienced greater incidence of prior estrogen use, prior anterior colporrhaphy, prior hysterectomy, concomitant paravaginal defect repairs and intraoperative blood loss. There also was a difference in follow-up staging exams (USLS 84% vs. ASC 57%). In the USLS group, concomitant anterior vaginal wall surgery was performed in 16/32 patients. Failure rate of the anterior segment (stage 2 or greater) in the USLS group was 16/32 (50%) compared to 6/72 (8.3%) in the ASC group. Of the failures in each group, 10/16 and 3/6 respectively had anterior prolapse at or below the hymen. Using life table analysis the probability of anterior segment failure in the ASC group is 90% lower than in the USLS group (adjusted hazard ratio = 0.1; 95%CI = 0.2-.55; $P = 0.009$). Stage 2 failures in the apical segment were 3/32 for the USLS group, but absent in the ASC group. The prevalence for success in the apical segment was higher within the ASC group after controlling for possible confounding influences of prior anterior repair and prior estrogen use ($P = 0.02$ and adjusted $\chi^2 = 3.56$;CMH).

Conclusion: In women with stage 2 or greater anterior wall vaginal prolapse, a USLS (with or without concomitant anterior wall surgery) has a high anterior wall failure rate (50%). An ASC, including application of the mesh to the anterior vaginal wall, should achieve a much higher level of anterior wall anatomic success (91.7%).

Key Words: abdominal sacral colpopexy, uterosacral ligament suspension, anterior wall vaginal prolapse, apical vaginal wall prolapse

Disclosure - Nothing to disclose.

Oral Poster 15

Does Supracervical Hysterectomy Provide More Support to the Vaginal Apex Than Total Abdominal Hysterectomy?

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Objectives: It has been suggested that cervical preservation at the time of abdominal hysterectomy may be helpful in preventing subsequent apical vaginal vault prolapse. This belief stems from the preservation of natural attachments of the uterosacral and cardinal ligament complexes to the cervix and upper vagina in a supracervical hysterectomy. The objective of this study was to compare the ability of the cervical stump with the vaginal cuff to resist downward traction and use these findings to help predict which procedure may be more resistant to future apical vaginal prolapse.

Materials and Methods: After receiving IRB exemption, supracervical hysterectomies were performed in 12 unembalmed female cadavers in the supine position with fundal transection at the

internal cervical os. A 9/16- to 3/4 -inch diameter metal washer was placed above the cervical stump and attached to a 1/8-inch diameter bolt that was threaded through the cervical canal and out the vagina. This bolt was affixed to waxed surgical filament oriented parallel to the table and over a fixed pulley at the table's end. Successive weights of 1, 2, 3, and 4 kg were added to provide increasing loads on the cervical stump, and the distances traversed by the stump were recorded. Two sets of measurements were taken for each weight applied. The same process was repeated after completion of a total hysterectomy. Comparisons between the 2 procedures and the mean distances pulled for each weight were accomplished with paired *t* tests using SigmaStat version 2.03 with *P* values less than 0.05 considered statistically significant.

Results: The mean age of the cadavers at time of death was 76.3 years. Average BMI was 23.9 kg/m2. Ninety-two percent were white and 8% African American. Average distances (±standard deviation) pulled with 1, 2, 3, and 4 kg of traction against the cervical stump were 17.8 (±6.5), 24.1 (±8.6), 29.0 (±9.9), and 34.3 (±12.0) mm, respectively. After total hysterectomy, these distances were 17.5 (±8.6), 23.5 (±8.9), 29.3 (±10.9), and 34.5 (±12.3) mm, respectively. There were no statistical differences in the distances moved between the 2 procedures.

Conclusion: Using each body as its own control, there was no difference in the ability of a cervical stump compared with the vaginal cuff to resist downward traction of up to 4 kg; distances moved with each successive weight were nearly identical. In unembalmed cadavers, it appears that total abdominal hysterectomy provides equal support to the vaginal apex when compared with supracervical hysterectomy.

Key Words: supracervical hysterectomy, prolapse, anatomy

Disclosure - Nothing to disclose.

Non-Oral Poster 16

Sacral Neuromodulation Therapy Surgical Site Infection: Two Case Reports

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Objectives: To report the identification and investigation process of two surgical site infections at the time of sacral neuromodulator placement for the treatment of refractory urge urinary incontinence.

Materials AND Methods: Chart review and investigation of 2 patients with sacral neuromodulator therapy placed on the same date, in the same operating room, and by the same staff who developed similar sacral cellulitis postoperatively. Presentation of the surveillance methods of the infectious control committee are in conjunction with the Department of Microbiology.

Results: Patient #1 is an 85-year-old female for whom 2 years of conservative treatment for urge incontinence failed. Sacral neuromodulator therapy completed in December 2004 provided her with complete continence for 2 years. Decreased efficacy led to lead removal and replacement in the operating room under sterile conditions on 7/10/06. She presented on 7/24/06 with grossly infected sacral area requiring surgical debridement and 2 weeks of IV antibiotics. Patient #2 is an 81-year-old female for whom 6 months of conservative treatment for urge incontinence failed. She was successfully treated with sacral neuromodulator therapy for 2 years until sudden failure occurred in June 2006. On 7/10/2006 a battery replacement and lead testing was performed under sterile conditions in the operating room. On 8/1/2006 patient presented for follow-up with sacral cellulites that required surgical debridement and 2 weeks of IV antibiotics. Both patients' blood cultures and wound cultures were positive for a penicillin-resistant coagulase-positive *Staphylococcus* species. Investigation revealed that both cases were done on the same date in the same operating room 30 minutes apart. The instruments were unique to each case. All 6 persons identified in each case had nasal swabs done, and 2 swabs were positive for coagulase-positive *Staphylococcus*. Only 1 swab had the same antibiogram susceptibility pattern as the patients' isolates. Matching susceptibility patterns were sent to the Mayo Clinic Laboratory for pulsed field gel electrophoresis. Findings showed Patient #1 and Patient #2 were infected with different strains of the same organism. However, Patient #1 and the company representative had the same strain of the same organism.

Conclusion: Sacral neuromodulation therapy consists of a first or percutaneously placed testing stage and a second or permanent implantation stage. Both stages are performed in the operating room under sterile conditions. Lead setting and reprogramming is done by company representatives on an outpatient basis. Retrospective reviews of individual institutions report an infection rate of 2 to 10%. Most institutions manage infections with explanation; however, no reports of source identification are made. The investigation of the specific DNA strain that infected our patients led to the representative who manipulated the settings in the recovery room and as an outpatient. This surveillance reveals that reprogramming and handling of all wires should be done under standard universal infection control standards including hand washing, wearing gloves, and perhaps even wearing masks.

Key Words: InterStim, infection, complication, urge incontinence, sacral neuromodulation therapy

Disclosure - Nothing to disclose.

Non-Oral Poster 17

Data Mining From a Large Prospective Surgical Trial Using Geometric Processing

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Objective: To evaluate the utility of a novel data mining tool in assessing a large prospective surgical trial database.

Materials and Methods: We present a 2-year prospective multicenter study to evaluate treatment of patients with GSI or mixed incontinence (stress predominant) and a positive (+) standing cough stress test (CST) at 300 cc with the aIVS. Other concomitant site-specific procedures were performed as indicated. At 3 weeks, patients completed pain scale assessments, Pelvic Floor Impact Questionnaire (PFIQ) (including urinary, colorectal-anal, and prolapse subscales), CST; and 6, 12 and 24 months, POPQ,

PFIQ and CST were recorded. Data mining is accomplished by laying 200 variables in from this study out along parallel coordinate axes. By logically combining visual color-coded queries associated with good, better, and best outcomes (blue, pink, and yellow bands, respectively) at multiple time points, latent patterns are uncovered in the clinical data set.

Results: Visual queries, are logically combined to interrogate the dataset. This visualization analysis points to best urinary outcome for all lowest POPQ points. A bimodal distribution potentially exists with respect to patient height and optimal urinary outcome. Best urinary outcomes may be seen to cluster between patient ages 30 and 42 years old.

Conclusion: Multidimensional data visualization and analysis holds promise for rapid discovery of relationships otherwise invisible in this large dataset for this prospective surgical trial. Verification of insights gained by this data mining technique through conventional statistical analysis may confirm the utility of these visual methods for future clinical trials.

Key Words: geometric processing, data mining, surgical trial

Disclosure - Honorarium and Grant support: Tyco US Surgical, Consultant and PI.

Non-Oral Poster 18

A Comparison of the Hospital Course of Patients Undergoing Abdominal Colposacropexy With Those Undergoing Sacrospinous Ligament Fixation

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Objective: To compare the hospital course of patients undergoing abdominal colposacropexy with those undergoing sacrospinous ligament fixation.

Materials and Methods: A retrospective analysis of 81 consecutive patients undergoing abdominal colposacropexy (53 patients) and sacrospinous ligament fixation (28 patients) in a single institution. A series of comparisons between those groups was performed, including demographic information, estimated blood loss, decrease in hemoglobin count, procedure length, and hospital length of stay. An analysis of concomitant procedures in the 2 groups was also performed.

Results: There were no statistically significant differences in the patient cohort with regard to age, parity, or body mass index. The percentage of patients undergoing concomitant procedures was 74% in the abdominal colposacropexy (group A) and 89% in the sacrospinous ligament fixation (group B). The mean estimated blood loss was 198 ml (+/−129) in group A and 433 ml (+/−261) in group B ($P < 0.001$). The mean OR time was 170 minutes (+/−43.5) in group A and 147 minutes (+/− 34.6) in group B ($P = 0.031$). The mean length of stay in the hospital was 2.66 days (+/− 0.872) in group A and 2.62 days (+/−0.852) in group B ($P = 0.832$). The mean change in the hemoglobin was 2.56 g/dL (+/−1.03) in the colposacropexy group and 3.72 g/dL (+/− 1.52) in the sacrospinous ligament fixation group ($P<0.001$).

Conclusion: There was no difference observed between the patients undergoing abdominal colposacropexy and sacrospinous ligament fixation with regard to hospital length of stay. There may be a trend toward increase in blood loss and decrease in the hemoglobin count in the patients undergoing sacrospinous ligament fixation. There may be a trend toward increased OR time with abdominal colposacropexy.

Key Words: colposacropexy, sacrospinous, hospital course

Disclosure - Nothing to disclose.

Non-Oral Poster 19

The Evaluation of Efficacy for Transobturator Tape and Tension-free Vaginal Tape Procedures in Patients Undergoing a Concomitant Abdominal Sacral Colpopexy

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Objective: The purpose of this study was to evaluate the efficacy of two minimally invasive slingplasty methods: tension-free vaginal tape (TVT), and transobturator tape (TOT) performed with a concomitant abdominal sacral colpopexy (ASC), as well as evaluating the short-term success of ASC on apical vault prolapse.

Materials and Methods: A retrospective analysis was performed on patients who had an ASC and either a concomitant TOT or TVT for genuine stress urinary incontinence (GSUI) between 1/28/03 and 1/10/06.

Results: The 2 groups were statistically similar in demographic characteristics evaluated. There was a statistically significant difference when preoperative signs and symptoms were compared to postoperative times 1 (mean 2.4 weeks) and 2 (mean 17.2 weeks) in both TOT and TVT groups with all P values <0.0003. There was no statistically significant difference in the TOT versus TVT group when the variables of subjective stress urinary incontinence (SUI), positive cough stress test (CST) or post-void residual values (PVR) were evaluated in the postoperative period. The overall success rate (optimal and satisfactory) of ASC on prolapse was 98.7% in a mean follow-up of 17.2 weeks. The proportion of patients with a postoperative stage > 0 was not significantly different among those patients who underwent a TOT versus TVT (P value=0.6767). The proportion of patients with a postoperative prolapse stage >0 who had an abdominal paravaginal repair (A-PVR) was not significantly different from those who did not (P value=0.584). Of patients 98.8% had a (+) CST preoperatively, but only 14.8% had a (+) CST at the first follow-up, and 15.0% had a (+) CST at the second follow-up visit. The median post-void residual (PVR) was 40 ml preoperatively and decreased to 10 ml at the first follow-up visit and 8.5ml at the second follow-up visit.

Conclusion: Both TOT and TVT slingplasties are efficacious for patients with genuine stress urinary incontinence as previously reported, and performing a concomitant ASC does not appear to affect their efficacy. In this series ASC is effective in short-term treatment for apical vault prolapse, with or without an A-PVR being performed. The median PVR is significantly greater presurgery than at either postsurgery follow-up visit, likely secondary to urethral kinking, which resolved after an ASC was performed.

Key Words: slingplasty, abdominal sacral colpopexy, paravaginal repair

Disclosure - Nothing to disclose.

Non-Oral Poster 20

Even Unexposed, Tegress Urethral Bulking Agent May Initially Increase Urinary Incontinence

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Objective: To review our initial experience in the use of transurethral injection of Tegress [aka Uryx]. To review and compare complications obtained from the Federal Drug Administration Manufacturer and User Facility Device Experience Database (MAUDE).

Materials and Methods: A chart review was performed on the first 9 patients who were treated by 2 surgeons experienced in transurethral injection of bulking agents. Injections were performed using the 1-1-1 rule described on the product's website. MAUDE was reviewed from the time of FDA approval.

Results: Patient characteristics: Average age was 56 years (range 40–50); average BMI 34 (range 26–43); previous bladder neck surgery, 4 (44%); and previous bulking agents, 3 (33%). Four patients exhibited pure urodynamic stress incontinence, 2 with intrinsic sphincter deficiency. The remainder exhibited mixed incontinence and were treated with antimuscarinic medications prior to Tegress injection. Posttreatment: Three patients subjectively improved after 1 or 2 injections. One patient with scleroderma experienced no improvement after 2 injections, but improved after a sling. Four patients experienced extrusion of material, not necessarily evident at the time of injection: 1 with minimal extrusion improved. One has not returned for follow-up. Two patients with extrusions worsened: because no re-epithelialization occurred over 1 month with vaginal estrogen, they required urethroscopic removal of the material over 1 and 3 visits: 1 improved with Contigen; 1 improved with rectus fascial sling. Histologic examination of the implant plus tissue removed from 1 patient demonstrated foreign body granulomas. Two patients developed unconscious, unpredictable incontinence of large amounts of urine without evidence of infection during the first month following injection. Cystourethroscopy demonstrated no extrusion of material in these patients. Both improved with injection of Contigen. MAUDE: of 129 patients 124 (96%) experienced complications related to exposure of material. The remaining 5 patients experienced urinary retention without reported exposure.

Conclusion: Tegress injection may present technical difficulties during the learning curve. Extrusion may not be visualized at the time of injection. Even in the absence of erosion or extrusion of Tegress, patients may worsen during the first month postinjection. If re-epithelialization does not occur, the material may be removed via office cystourethroscopy. This worsening of incontinence in the absence of extrusion has not been specifically described. Since Tegress may not only cause irritative urinary symptoms, but may worsen incontinence, at least in the short term, patients should be extensively counseled about this emotionally distressing possibility before treatment.

Key Words: stress incontinence, bulking agent, urethral erosion

Disclosure - Honorarium: Ortho, Speaker, Cook, Speaker, Consultant.

Non-Oral Poster 21

Long-term Followup of a Transvaginal Burch Urethropexy for Stress Urinary Incontinence

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Objective: To describe long-term objective and subjective outcomes and complications following transvaginal Burch urethropexy for stress urinary incontinence.

Materials and Methods: We performed a case series of women who underwent vaginal Burch urethropexy for stress urinary incontinence from February 2000 through November 2002. Preoperative evaluations included standardized pelvic organ prolapse quantification (POP-Q) examination, multichannel urodynamic and cystoscopic assessment. The procedure was performed by developing the retropubic space through a vaginal incision and placement of permanent (braided polyester or polypropylene) sutures through Cooper's ligament using a Capio CL curved suturing device (Boston Scientific, Natick, MA); these sutures were then brought through the anterior fibromuscularis of the vagina and tied to enhance urethrovesical support. Concurrent prolapse repairs were performed as indicated. Objective failure was defined as positive cough stress test. Subjective outcomes included patient report of incontinence and were defined as dry, improved, or failed. Variables associated with failures and complications were identified. Descriptive statistics, Fisher's exact test, and Student *t* test were performed as indicated.

Results: Sixty-six women (mean age 49.4, ± 12.1 years) underwent vaginal Burch urethropexy during the study period. Mean follow-up time was 20.9 +/− 18.9 months. The majority of women were white (81.3%) and 15% were Hispanic. Concurrent procedures included anterior colporrhaphy (65%), posterior colporrhaphy (33%) and hysterectomy with vault suspension (16%). Six patients (9%) experienced febrile illness, 4 (6%) experienced intraoperative hemorrhage, 1 (1.5%) received transfusion, and 1 patient (1.5%) experienced pelvic abscess. Objective failure was observed in 16 (24.2%) patients. Subjective failure was reported by 20.7% of patients, with 50% and 27.6% reporting success and improvement, respectively, and median time to failure was 6 months (range 1–38 months). Twelve patients (18.2%) experienced suture erosion, at a median of 15 months (range 1–48 months); 6 of these patients required surgical revision or excision of sutures, while 6 were managed in the office setting. Age, BMI, preoperative urodynamic indices, and concurrent repairs were not associated with failure or suture erosion. However, suture erosion was associated with a higher risk of both objective and subjective failure ($P = .003$ and .013, respectively).

Conclusion: Vaginal Burch urethropexy is generally well tolerated but is associated with poor long-term success and high permanent suture erosion rates.

Key Words: surgical treatment of stress urinary incontinence, stress incontinence, Burch urethropexy, incontinence, erosion

Disclosure - Nothing to disclose.

Non-Oral Poster 22

"Putting Things Back Where They Belong": Short-term Anatomic Outcomes of High Uterosacral Ligament Suspension at the Time of Hysterectomy for Prolapse

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Objective: We report 3-month anatomic outcome data of women who underwent hysterectomy and high uterosacral ligament suspension (USLS) for pelvic organ prolapse (POP).

Materials and Methods: We reviewed charts of all women who underwent USLS at the time of hysterectomy from 1/2002 to 5/2005. Demographic and clinical variables were extracted from charts. Pelvic floor symptoms were accessed using a validated questionnaire. Diagnoses of stress incontinence (USI) or detrusor overactivity (DOI) were made urodynamically (UDS). Prolapse was accessed using the Pelvic Organ Prolapse Quantification (POP-Q) system at maximal strain. Subject underwent an abdominal or vaginal hysterectomy and USLS. Three Gortex sutures were placed in each of the uterosacral ligaments proximal and medial to the ischial spine as described by Shull. Standardized postoperative assessment was done 3 months after surgery, including pelvic floor symptom assessment and POP-Q exam. Statistical analyses were performed using the Wilcoxon Signed Ranks and χ^2 tests.

Results: Pre- and postoperative POP-Q measures were available for 88 women who are included in the final analysis. The mean age was 56 years (range 35–83). The majority of women were white (95%) with median parity of 3. Sixty-seven percent of women had stage III/IV POP, 33% stage II, and none had stage 0 or I POP. The majority of women reported symptoms of POP, stress and urge incontinence (89%, 72% and 52%) while one-fourth reported defecatory and sexual dysfunction (24% and 25%). Preoperative UDS demonstrated urodynamic stress incontinence (USI) and mixed incontinence (MUI) in 63% and 14% of women, respectively. Sixty-one women (76%) underwent an abdominal approach while 19 (24%) chose a vaginal route. Burch was more common in women with USI undergoing abdominal USLS (66%), in contrast to a sling (100%) with a vaginal approach. The median stage at the 3-month postoperative visit improved from stage III to stage 0 ($P < 0.0001$, n = 80) independent of the surgical route. Anterior and apical POP-Q measurements demonstrated the following improvements postoperatively (reported as mean): point Ba from +2.1 to −2.0 cm ($P < 0.0001$, n = 57) and point C from −1.5 to −7.2 cm ($P < 0.0001$, n = 52). Point Bp did not significantly change from −1.7 to −2.2 cm after surgery ($P = 0.690$, n = 57). Symptoms of prolapse and stress incontinence improved following surgery ($P < 0.0001$). In contrast, urge incontinence, defecatory and sexual symptoms were unchanged following surgery.

Conclusion: This is the first series reporting outcome after abdominal USLS and supports that USLS can be done abdominally or vaginally with good short-term anatomic and symptomatic outcomes. Long-term studies evaluating 1-year outcomes are underway.

Key Words: uterosacral suspension, prolapse, prolapse surgery, apical suspension

Disclosure - Nothing to disclose.

Non-Oral Poster 23

Bilateral Iliococcygeus Fixation Compared to Sacrospinous Ligament Fixation: Effect on Total Vaginal Length

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Objective: To compare the preoperative and postoperative total vaginal length (TVL) following bilateral iliococcygeus fixation (BICF) or sacrospinous ligament fixation (SSLF) at the time of pelvic reconstructive surgery.

Materials and Methods: A retrospective study was undertaken at the University of Miami, Miller School of Medicine, to determine the effect of BICF and SSLF on total vaginal length. Eighty-four patients undergoing BICF or SSLF between January 2003 and June 2006 were identified, and of these 61(73%) patients had complete data and were eligible for this study. There were 32 patients in BICF group and 29 in the SSLF group. TVL was assessed preoperatively and postoperatively using the ICS POP-Q system. The signed rank test, paired and unpaired *t* test were employed for statistical analysis.

Results: There was no significant difference in age [mean + SD, 62 + 9 years and 64 + 8 years], and parity [median (range), 3 (0–6) and 3 (range 1–13)], between the BICF group and SSLF group, respectively. There was no statistical difference between the preoperative and postoperative TVL in the BICF group [7.6 + 0.8 cm vs. 7.6 + 0.6 cm]. Contrary to this, TVL was significantly shorter in the postoperative compared to the preoperative SSLF group [8.0 + 0.8 cm vs. 7.3 + 1.1 cm, $P < .001$]. The mean vaginal length was not significantly different between the preoperative BICF group compared to the SSLF group. In addition, there was no difference between the postoperative TVL between the BICF group compared to the SSLF group.

Conclusion: Contrary to prevailing belief, this study revealed that vaginal reconstruction utilizing the BICF does not have any significant shortening effect on the total vaginal length. However, SSLF was found to significantly shorten the vaginal length. The degree of shortening is not likely to be clinically significant. We recommend either the SSF or BICF for vaginal fixation at the time of reconstructive surgery for POP.

Key Words: vaginal reconstruction, iliococcygeus formation, sacrospinous ligament fixation, vaginal length

Disclosure - Nothing to disclose.

Non-Oral Poster 24

Patient's Ability to Perform Pelvic Floor Muscle Contractions Is Linked to Apical Prolapse

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Objective: To assess the association between the patient's ability to perform pelvic floor muscle (PFM) contractions and site and severity of pelvic organ prolapse.

Materials and Methods: A chart review of 696 new patients presenting to a urogynecology clinic in a university setting during a 24-month period starting in August 2003 was conducted. Data collected included patient demographics and past medical and surgical history. The patient's ability to perform PFM contractions was scored on a scale of 0–5 with zero indicating absence of a detectable PFM contraction and 5 indicating a strong contraction. Prolapse was described for site and severity according to the Pelvic Organ Prolapse Quantification scale (POPQ) and was defined as > stage 2. Data were analyzed using *t* test, Fischer exact test, and a multivariate logistic regression model.

Results: Eighty-five percent (594/696) of charts reviewed contained PFM contraction and complete POPQ measurements. Most patients were parous (89%) and menopausal (69%) with a mean age of 56 +/− 13 years. Eighty-two percent (488) women were able to perform a PFM contraction, and 475(80%) women had Stage 2 or greater

prolapse. In a multivariate analysis controlling for confounders, ability to perform a PFM contraction was not correlated with presence of prolapse ($P > .05$), nor was it correlated with PFM contraction strength ($P = 0.85$). When analyzed by site of prolapse, women able to perform PFM contractions were less likely to have apical prolapse than women unable to perform these exercises (36% vs. 52% apical prolapse, OR 0.622, 95% CI 0.389–0.996). PFM strength was not associated with site of prolapse (OR 1.103, 95% CI 0.962–1.266).

Conclusion: Women able to perform PFM contractions are less likely to have apical prolapse.

Key Words: Kegel exercise, pelvic muscle exercise, pelvic organ prolapse, POP-Q

Disclosure - Nothing to disclose.

Non-Oral Poster 25

Long-term Durability of an In-office, Nonsurgical Transurethral Radiofrequency Treatment for Female Stress Urinary Incontinence: A Retrospective Analysis

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Objective: This retrospective study aimed to determine the long-term durability of a nonsurgical, transurethral radiofrequency (RF) collagen remodeling treatment for women with stress urinary incontinence (SUI).

Materials and Methods: In a prospective, randomized, controlled clinical trial, 110 women with SUI were blindly randomized to receive RF collagen remodeling applied to the bladder neck and proximal urethra; 63 comparable women underwent identical sham treatment. All women were treated as outpatients. Ninety-one active treatment group patients were evaluated at 1-year post-treatment. Further follow-up was conducted at ≥3 years post-treatment. This follow-up included 21 women who had received active treatment. Patients completed the Incontinence Quality of Life questionnaire (I-QOL), a 3-day voiding diary, and a questionnaire about satisfaction with RF collagen remodeling and other SUI treatments.

Results: Outcome measures were ≥10-point I-QOL improvement from baseline; any improvement from baseline at 1 year, with ongoing improvement at ≥3 years; and decreased number of incontinence episodes at 1 year, with an ongoing decrease from baseline at ≥3 years. Women who had not achieved success at 1 year and sought alternative treatments were evaluated for the impact of RF collagen remodeling on subsequent treatments. No long-term safety issues were identified. Sixteen women (73%) had improved I-QOL scores (mean improvement, 17.6), similar to results at 12 months. Twelve women (55%) had ≥10-point I-QOL improvement at ≥36 months. A minority of women were dissatisfied with results after 3 years. Five women with recurrent SUI symptoms had undergone additional incontinence procedures prior to the 3-year follow-up, without negative impact.

Conclusion: Nonsurgical, transurethral RF collagen remodeling is a safe and effective SUI treatment and has demonstrated durable improvements in quality of life, incontinence frequency, and patient satisfaction at ≥3 years post-treatment. This treatment does not negatively impact subsequent incontinence procedures.

Key Words: stress urinary incontinence, radiofrequency energy, bladder outlet hypermobility, in-office nonsurgical treatment

Disclosure - Consultant: American Medical Systems, Consultant; Grant Research: Novasys, Inc, Research; Honorarium: Boston Scientific, Instructor; Share holder: American Medical Systems, Share holder.

Non-Oral Poster 26

A Comparison of Cystotomy Rates During TVT Vs. TOT Type Suburethral Slings

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Objective: The purpose of this study was to analyze cystotomy rates during TVT type slings compared to the TOT type suburethral slings.

Materials and Methods: A retrospective analysis of 74 consecutive TOT type sling procedures performed by 10 physicians within the gynecology department from June 2003 to June 2006 was performed. The results were compared to a prior study, which retrospectively reviewed 106 consecutive TVT type slings performed by 14 physicians from January 2000 to December 2003 at the same institution. Cystotomy rates for the TOT type slings were compared to cystotomy rates from the previous study of TVT type slings. Comparisons were performed for physicians performing greater than 10 versus less than or equal to 10 procedures during the above stated period. Additional comparisons were made between patients undergoing sling only versus sling plus concomitant pelvic surgery.

Results: The overall cystotomy rate for the TOT sling was 2.6% versus 16.9% for the TVT group based on the previous study [OR 0.13; 95% CI (0.03–0.60)]. Patients undergoing a TOT type suburethral sling only (n = 58; rate 3.4%) were more likely to have a cystotomy than patients who underwent TOT type slings with concomitant pelvic surgery (n = 16; rate 0%). Patients having a TOT type sling performed alone in the less than or equal to 10 physician group (n = 25; rate 8%) were more likely to have a cystotomy than patients having a TOT type sling alone in the >10 physician group (n = 33; rate 0%). In the previous TVT study, patients who underwent suburethral sling and concomitant surgery (n = 46; rate 27%) were more likely than patients having sling only (n = 60; rate 10%) to have a cystotomy [OR 3.17; 95% CI (1.09–9.26)]. Patients having sling only procedures performed within the <10 physician group (n = 23; rate 21.7%) were more likely than patients having sling only procedures in the >10 physician group (n = 37; rate 2.7%) to have a cystotomy [OR 10; 95% CI (1.09–92.11)].

Conclusion: Patients who undergo a TOT type suburethral sling procedure may have a lower risk of cystotomy than patients who undergo a TVT type sling. For patients having a TOT type suburethral sling procedure alone, the risk of cystotomy may be increased compared to TOT with concomitant surgery. Physicians who perform TVT or TOT type suburethral sling procedures less often may have a higher incidence of cystotomy.

Key Words: transobturator, suburethral sling, cystotomy

Disclosure - Nothing to disclose.

Non-Oral Poster 27

Correlation of Maximum Urethral Closure Pressure and Valsalva Leak Point Pressure With Air-charged Urodynamic Catheters

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Objective: Our aim was to determine the correlation of maximum urethral closure pressure (MUCP) and Valsalva leak point pressure (VLPP) in patients with urodynamic stress incontinence using air-charged catheters and to determine the relationship between these two measurements and incontinence-related quality of life.

Materials and Methods: Records of all women who underwent urodynamic evaluation for urinary incontinence since the introduction of air-charged catheters in our clinic were reviewed retrospectively. All patients were asked to complete the short form of the Urogenital Distress Inventory (UDI-6) and the Incontinence Impact Questionnaire (IIQ-7). VLPP was measured at 200 cc and again at maximum bladder capacity. Correlations were determined using Pearson's correlation coefficient using SPSS for Windows 14.0 statistical package.

Results: Three hundred eighty-eight women underwent urodynamic evaluation using air-charged catheters. Two hundred twelve women with a mean age of 57 years (standard deviation = 13) were diagnosed with pure urodynamic stress incontinence. Age was negatively correlated with MUCP, VLLP at 200 cc, and VLPP at maximum capacity ($r = -0.44$, $P < 0.001$; $r = -0.30$, $P = 0.002$; and $r = -0.28$, $P < 0.001$, respectively). A modest correlation was found between VLPP at 200 cc and MUCP ($r = 0.44$, $P < 0.001$) and VLPP at bladder capacity and MUCP ($r = 0.38$, $P < 0.001$). VLPP at 200 cc and at maximum capacity were strongly correlated ($r = 0.68$, $P < 0.001$). There were no correlations between UDI-6 or IIQ-7 scores with MUCP or VLPP.

Conclusion: Correlation between VLPP and MUCP with air-charged catheters is similar to that found with water perfusion and microtransducer catheters. There is no correlation between these measurements and the impact of incontinence on quality of life as measured by the UDI-6 and IIQ-7.

Key Words: urodynamics, MUCP, VLPP, air-charged catheters, intrinsic sphincter deficiency

Disclosure - Nothing to disclose.

Non-Oral Poster 28

Pudendal Neuralgia After Pelvic Surgery

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Objective: Pudendal neuralgia is a rare but debilitating condition that causes severe neuropathic pain in the vulva, rectum, and perineum. Its incidence is unknown, since most patients are undiagnosed for many years. Although the exact etiology of pudendal neuralgia is unclear, the most common anatomical problem seems to be entrapment of the pudendal nerve. This entrapment may occur in several locations on the course of this nerve, and its causes may be idiopathic, traumatic, or iatrogenic. The hypothesis of this study is that gynecologic pelvic surgery may lead to pudendal nerve entrapment and neuralgia.

Materials and Methods: Twenty-eight patients with symptoms typical of pudendal neuralgia were seen in our practice in the past 10 months. Twenty-six were women and 2 were men. All patients filled out a pelvic pain questionnaire, urinary symptoms questionnaire, and underwent physical exam. Reproduction of symptoms by palpation of the sacrospinous ligament (Valleix phenomenon) was considered diagnostic for pudendal neuralgia. Twelve patients had CT-guided injection of bupivacaine and triamcinolone, and in all cases diagnosis of pudendal neuralgia was confirmed by immediate reduction of pain. Events preceding beginning of neuropathic pain were recorded as well as location of pain and duration of symptoms.

Results: Twelve of 26 female patients (46%) have developed pudendal neuralgia as a result of gynecologic surgery. Six of these patients (23%) had anterior colporrhaphy, 3 (11.5%) had a paravaginal defect repair, and 1 had an IVS tunneler procedure. Four patients had a TVT procedure as a part of their surgery, and 3 had a vaginal hysterectomy. In this group there were also 2 patients who developed pudendal neuralgia after removal of the Bartholin's gland; 1 after an abdominal hysterectomy and 1 after a loop electroexcision procedure (LEEP). Two patients developed pudendal neuralgia within weeks of vaginal delivery. There were also 2 patients who developed pudendal neuralgia after surgical procedures not related to gynecology (cervical spine fusion and abdominoplasty). Average time to diagnosis in this group was 4.1 years (range 3 months to 30 years). Of 12 patients, 5 have pain localized to the vulva/labia, 1 to the labia and the rectum, 3 to the rectum and 2 to the clitoris. Patient after LEEP procedure has pain localized in the vaginal apex.

Conclusion: Our data show that almost half of the cases of pudendal neuralgia in women may be due to pelvic surgery, and anterior colporrhaphy is the procedure that most commonly causes this condition. As a general rule, patients with any type of neuropathic pain caused by the nerve compression have better treatment outcomes if decompression is preformed early. It is important therefore for pelvic surgeons to be aware of this potential complication, and symptoms of pudendal neuralgia, so prompt treatment can be offered.

Key Words: pudendal neuralgia, pelvic pain, pelvic surgery complications, CT-guided injection

Disclosure - Nothing to disclose.

Non-Oral Poster 29

Can Detrusor Overactivity Be Reliably Diagnosed by Risk Factors?

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Objective: To identify predictors of detrusor overactivity (DO) using a logistic regression model based on specific risk factors. This model may further our understanding of the risk factors that contribute to DO pathophysiology.

Materials and Methods: This observational study included data on all active patients attending our urogynecologic clinic during 6/2005 to 8/2005. A multivariable logistic regression was fit to all patients in the dataset with DO as the dependent variable and the following independent variables: interstitial cystitis (IC) (yes/no), frequency (8 or more/<8), urodynamic stress urinary incontinence(yes/no), urge urinary incontinence (yes/no), rectocele (grade 3–4/<3), cystocele (grade 3–4/<3), nocturia (2 or more/<2), urgency (yes/no), age (up to 50 years/>50) and parity (0/1/2/>2). Receiver operating characteristic (ROC) curve analysis was used to evaluate the utility of the predicted probability of DO and to determine the best cutoff for classification. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were estimated for the chosen cutoff.

Results: Of 551 active patients, 383 (70%) had DO diagnosis by urodynamic testing. Complete data regarding DO status and all symptoms above were present for 528 women. Median age was 60

years (10–94) and median parity was 2 (0–10). Nocturia (=/>2), IC, age (>50), and advanced rectocele were significantly predictive of DO. The area under the ROC curve was 0.697 indicating fair diagnostic ability. The best cutoff value balancing sensitivity and specificity was determined to be 0.712. The performance of the cutoff was fair showing a sensitivity of 62.5%, specificity of 69.1%, PPV of 81.7% and NPV of 45.6%. Frequency, analyzed as well, was not significantly related to DO, after adjustment for all other factors in the multiple logistic regression model.

Conclusion: Using this model and after IC exclusion, presence of age >50, nocturia, and advanced rectocele were risk factors that could predict DO diagnosis with fair diagnostic ability. This model allows integration of additional risk factors. The next step for model building is to validate this prediction model in an external sample.

Key Words: urinary incontinence, rectocele, detrusor overactivity, logistic regression model, nocturia, risk factors

Disclosure - Nothing to disclose.

Non-Oral Poster 30

Weight-based Outcomes in Laparoscopic-Assisted Vaginal Hysterectomy

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Objective: To evaluate outcomes in laparoscopic assisted hysterectomy of obese versus nonobese patients

Materials and Methods: A retrospective chart review of all laparoscopic-assisted hysterectomies performed at the University of Mississippi Medical Center from 2000 to 2005 was performed.

Results: The population used in our analysis all had laparoscopic-assisted hysterectomies performed at UMMC over the past 5 years. Two hundred twenty-eight patients underwent these procedures during the study period. Statistically significant patient characteristics and complications included the following: diabetes mellitus, hypertension, estimated blood loss, operative time, wound infection, and uterine weight. Average age, gravity and parity were similar between the 2 groups. The proportion of African Americans was greater in the obese group. There is a 2-fold increase in hypertension in the obese group and a 3-fold increase in diabetes. Transfusion appears to be slightly higher in the obese group, but failed to reach statistical significance at the 5% level ($P = 0.077$). Wounds, however, are much higher in the obese group (0.7% vs. 11.0%, $P < 0.001$). EBL is 32% higher in obese group without considering for variables (ie, race, diabetes). EBL is still 19% higher with adjustment for variables. Conversion rates between groups were similar 19.9% nonobese versus 25.6% ($P = 0.10$). In a subset of converted patients, obese patients wound infection rates were 23.8% versus 0%. In this same subset of patients fever was 14.3% versus 0% ($P = 0.68$).

Conclusion: Laparoscopic-assisted vaginal hysterectomy complication rates are similar in obese versus nonobese patients with only wound infection being statistically significant. This increased rate of wound infection is noted markedly in subset of converted patients in comparing obese to nonobese. Wound infection rates in converted patients are 5 times greater than completed laparoscopic procedures. Converted rates of infection are similar to reported rates of abdominal surgery.

Key Words: laparoscopic, hysterectomy, obese, complication

Disclosure - Nothing to disclose.

Non-Oral Poster 31

Double-blinded Randomized Trial of Preoperative Antibiotics in Midurethral Sling Procedures: Preliminary Results

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Objective: To determine if the use of prophylactic antibiotics before midurethral sling procedures reduces postoperative infectious complications.

Materials and Methods: All women who underwent midurethral sling procedure via either retropubic or transobturator approach at Baystate Medical Center were eligible unless they had antibiotics use within preoperative 3 days, concomitant surgical procedures, penicillin or cephalosporin allergy, risk factors for endocarditis, and immunosuppression. The patients were administered cefazolin or placebo preoperatively in a double-blinded randomized fashion. We collected prospective information regarding patient characteristics and surgical outcomes.

Results: We were able to enroll 43 women between April 2005 and May 2006: 21 in the cefazolin, and 22 in the placebo group. Total follow-up was 7 (range 3–12) months. The groups were similar with respect of age, parity, body mass index, race distribution, smoking history, and medical conditions such as diabetes. There was no wound infection but one mesh extrusion in each group (4.8 vs. 4.5%). Urinary tract information was more common in the cefazolin group (4, 19%) than the placebo group (1, 4.5%) but this difference was not statistically different. There were no other relevant complications.

Conclusion: The preliminary data suggest that there is no difference in infectious outcomes between the women who received preoperative antibiotic and placebo. With the current results, it is safe to continue this study to achieve statistical significance.

Key Words: urinary incontinence, tension-free vaginal tape, midurethral sling, transobturator tape, antibiotic prophylaxis, preoperative antibiotics

Disclosure - honorarium: AMS, proctor; honorarium: Boston Scientific, proctor.

Non-Oral Poster 32

Ultrasound Measurement of Bladder Neck Deflection With Rigid Catheter Guide During a TVT

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Objective: This study was designed to determine, using 2-D transvaginal ultrasound, whether there is a measurable difference in the bladder neck position when deflected using a rigid catheter guide.

Materials and Methods: All Spanish or English speaking patients undergoing TVT between March and June 2006 at Bellevue Hospital were invited to participate in this IRB-approved study. This is a descriptive, nonrandomized study and is therefore not powered. Patients with prior bladder surgery or pelvic radiation were excluded.

A transvaginal ultrasound was performed on each patient in the operating room under anesthesia prior to performance of any procedures. The rigid guide was then placed into the bladder. The urethrovesical junction (UVJ) was identified on ultrasound and marked on the screen as the point of rest. The guide was maximally deflected to one side, and the UVJ was followed to this point, and the distance between rest and maximal deflection was measured. Measurements were first performed after filling the bladder with 180cc of fluid, then with the bladder empty. Measurements were taken twice on each side. The means of these distances were calculated and the Student *t* test was used to compare subgroups.

Results: Thirteen patients were enrolled in the study, with ages ranging from 33 to 86 years (mean 52.3). All women were parous (mean parity 3.2) but only 2 had a history of cesarean delivery. Of patients 84.6% were Hispanic and the remainder were white. The mean distance of deflection was 1.82 ± 0.61 cm when measured with the bladder empty. Mean distances were very similar, 1.79 to 2.0cm, for measurements taken with the bladder empty and full, and to the right and left. Because the TVT is performed with the bladder empty, these measurements are most clinically relevant. When comparing these measurements in women who had ≤ stage I (n = 6) versus ≥ stage II anterior wall prolapse (n = 7), there was no statistically significant difference in the mean deflection distances (1.70 ± 0.54cm vs. 1.92 ± 0.66cm, $P = 0.195$ with bladder empty). In comparing measurements in pre- (n = 32) and postmenopausal women (n = 20), the full bladder measurements were significantly different, with postmenopausal patients having larger deflection distances ($P < 0.02$). However, the empty bladder measurements were not significantly different between the 2 groups ($P = 0.32$).

Conclusion: The rigid catheter guide moves the bladder neck by nearly 2 cm on average. Previous anatomic studies have demonstrated that, when performed correctly, the path of the TVT trocar passes 2 cm from the midline. Deflection of the bladder neck by the rigid catheter guide could increase the distance from the trocar to the middle of the bladder neck by 91%, nearly doubling the distance, and possibly decreasing the risk of bladder injury.

Key Words: TVT, rigid guide, bladder neck, tension-free vaginal tape, ultrasound

Disclosure - Nothing to disclose.

Non-Oral Poster 33

Single Incision for Midurethral Sling Procedure and Pelvic Reconstructive Surgery

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Objectives: Separate incisions are often recommended when a tension-free midurethral sling procedure is combined with other pelvic floor repairs. Our objective was to compare the postoperative outcomes between women who underwent midurethral sling placement with and without additional pelvic reconstructive surgery through a single incision. Materials and Methods: In this prospective observational study, we included all of the patients with at least 6-month follow-up after a midurethral sling procedure that was performed by the same surgeon with or without concomitant pelvic reconstructive surgery through the same incision between October 2004 and September 2006. In all cases, the surgeon made one midsagittal incision on the anterior wall, and when necessary, extended it to perform anterior, apical, and posterior compartment repairs. We compared the demographic characteristics, medical and surgical history, and postoperative outcome measures between women who underwent midurethral sling placement with and without additional pelvic reconstruction.

Results: Of 135 patients, 120 had 6-month follow-up information: 41 (34.2%) in the sling only group (Group A) and 79 (65.8%) in the sling with other pelvic reconstructive surgery group (Group B). Total follow-up period was 13 (6-22) months. There were no significant differences with respect to parity (2.4 ± 1.2 vs. 3.0 ± 1.4), body mass index (32.1 ± 5.9 vs. 28.5.3 ± 6.5), preoperative estrogen therapy (17.5 vs. 16.1%), history of stroke (6.3 vs. 5.7%), neurologic disease (0 vs. 1.4%), lumbar disc disorder (3.0 vs. 1.6%), previous pelvic surgery (68.1 vs. 66.7%), and smoking (9.4 vs. 10.8%) between Groups A and B, respectively. Group A was significantly younger than Group B (50.1 ± 13.6 vs. 61.5 ± 13.7 years, $P = 0.01$). The success rates for Group A (83.6%) and B (90.4%) were similar. Groups A and B did not significantly differ with respect to the number of days with a catheter (1.6 ± 1.8 vs. 1.7 ± 1.6) and de novo urge incontinence (7.5 vs. 7.8%). One patient (2.4%) from Group A required loosening of the tape, whereas this was necessary in 2 women (2.5%) in Group B. Mesh extrusion occurred in 1 patient (2.4%) in Group A, and in 2 (2.5%) in Group B. There was no patient with wound infection in Group A but 1 (1.3%) in Group B. However the only case of bladder perforation happened in Group A. $P < 0.05$ was considered significant.

Conclusion: Safety and efficacy of the tension-free midurethral sling procedures are not significantly affected by concomitant pelvic reconstructive surgery done through the same incision.

Key Words: urinary incontinence, complication, cystocele, midurethral sling, pelvic reconstructive surgery

Disclosure - Honorarium: American Medical Systems Proctor: Boston Scientific

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Non-Oral Poster 34

Gastrointestinal Complications After Vaginal and Abdominal Surgery for Pelvic Organ Prolapse

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Objective: To compare the incidence of gastrointestinal (GI) complications after vaginal vault suspension to that seen after abdominal or laparoscopic sacrocolpopexy for pelvic organ prolapse (POP).

Materials and Methods: A retrospective review was performed on all subjects who underwent surgery for POP including intraperitoneal vaginal vault suspension (uterosacral vault suspension or high McCall's culdoplasty via a vaginal approach) or sacrocolpopexy (abdominal or laparoscopic approach) from January 1, 2001 through December 31, 2003 at the Cleveland Clinic. GI complications, including postoperative ileus or bowel obstruction, were identified using ICD-9 codes 560.1, 560.81, 560.9, 997.4, 997.5, and 569.49, and confirmed by review of the health system-wide electronic medical record. GI complications occurred during the perioperative period (within 6 weeks after surgery). Risk of developing GI complications was compared between groups using logistic regression.

Results: Four hundred and forty-four subjects underwent a vaginal vault suspension, including 251 (57%) uterosacral vault suspensions and 193 (43%) high McCall's culdoplasties. Sixty-two subjects underwent sacrocolpopexy including 30 (48%) via the abdominal approach and 32 (52%) via the laparoscopic approach. The mean age

was 61.2 (±12.6) years with a body mass index of 27.5 (±5.9) kg/m2 and a median (range) estimated blood loss of 200 mL (range 0–3500 mL) with no differences between groups. The incidence of postoperative ileus in women undergoing vaginal vault suspension was 1/444 or 0.23% (95% CI, 0.04–1.3) compared to 4/62 or 6.5% (95%CI, 2.5–15.4) in women undergoing sacrocolpopexy (OR 0.03, 95% CI, 0.002–0.23). All subjects had symptoms of nausea, vomiting, abdominal pain, or distension. We were unable to demonstrate differences in the rates of postoperative ileus between the open and laparoscopic sacrocolpopexy groups (3/30 versus 1/32, $P = 0.27$). There were no cases of bowel obstruction or reoperation during the time period. The average hospital stay was 2.8 days, and no subjects required readmission.

Conclusion: Undergoing a vaginal vault suspension for pelvic organ prolapse is associated with a significantly lower incidence of postoperative ileus compared to sacrocolpopexy. Furthermore, these GI complications do not appear to result in prolonged hospitalization or significant morbidity.

Key Words: surgery, prolapse, complications, ileus, gastrointestinal

Disclosure - Nothing to disclose.

Non-Oral Poster 35

Lead Location Done With Fluoroscopy Does not Predict Clinical Success During the Interstim Implant in Patients With Overactive Bladder

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Objective: The purpose of this study is to determine whether there is an ideal lead position based on fluoroscopy that would aid in a successful outcome in patients undergoing sacral nerve root stimulation (InterStim) implantation.

Materials and Methods: Records of 25 patients who had undergone InterStim implantation from 2004 to 2005 were reviewed. Intraoperative fluoroscopy films were studied for the position of lead markers during first stage. Using lateral sacral view, the lead markers were located anterior to the anterior cortex of sacrum (ACS) and assigned objective position marks identified as 0a,0b,1,1a, 1b,2,2a,2b,3,3a or 3b. The subjects were divided into 2 groups. The first group had patients with lead positions 1, 1a, 1b, 2, 2a or 2b while the remaining patients were considered the second group. Films of patients were compared with the clinical outcome of InterStim therapy. We evaluated whether the patient progressed to second stage permanent implant, and whether the overall outcome of therapy was successful. Successful implant is defined by alleviation of preoperative overactive bladder symptoms by at least 50% based on voiding diaries. Results were analyzed using SAS statistic software. Postoperative follow-up x-rays were scored to evaluate lead migration. This was scored as 0 for no migration, +1 for inward displacement by one mark, and −1 for outward displacement by one mark relative to the ACS.

Results: Inclusion criteria allowed enrollment of 25 patients (ages 36 to 82 years) who qualified to have InterStim first stage implant. No patients had the lead 0, 0a, or 0b located anterior to the ACS. Eighteen patients had position 1, 1a, 1b, 2, 2a, or 2b; 5 patients showed position 3; while no patients had position 3a or 3b anterior to the ACS. Two intraoperative films were missing. Of the 18 patients 13 (72.2%) in the first group progressed to second stage permanent implant, while 3 of 5 (60%) patients in the second group were able to move on to the second stage. Using Fisher's exact test, this was not found to be significant ($P = 0.62$). Additionally, the groups were compared for successful outcome. Of 18 patients 12 (66%) reported having a successful therapy in the first group, while 3 of 5 (60%) were successful in the second group. Fisher's exact test showed no significant relation with the initial lead position ($P = 0.99$). There was also evidence of lead migration in some of the patients. Of 16 patients 6 who moved to second stage did not have follow-up x-ray. Of the remaining 10 patients, 4 had migration of 0, 3 had migration of +1, and 3 had migration of −1.

Conclusion: No statistically significant relationship was observed between the initial position of the InterStim lead and the clinical outcome. However, this study shows that patients with lead position 1, 1a, 2, 2a or 2b anterior to the ACS in first stage implant do clinically better than those with lead position 3 anterior to the ACS. When observed, lead migration, did not exceed +1 or −1 relative to the ACS on the lateral sacral x-ray films.

Key Words: sacral neuromodulators, overactive bladder, fluoroscopy

Disclosure - Nothing to disclose.

Non-Oral Poster 36

Social Support for Women Suffering With Vesicovaginal Fistulae in Niger. A Report From a Survey Given at the National Hospital Fistula Center, Niamey, Niger by The International Organization for Women and Development

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Objective: Women suffering from vesicovaginal fistulae are known to be ostracized from their community as a result of their infliction. We propose to determine what support remains for these women who are able to seek care.

Materials and Methods: From 9/05 to 1/06, 58 women who were treated for vesicovaginal fistulae at the National Hospital in Niamey, Niger, were given a questionnaire translated into their native languages.

Results: Of these women 65.5% considered themselves married, 24.1% were separated, and 13.8% were divorced. However, of the women who considered themselves married, only 33.3% lived with their husband prior to traveling to the hospital. There were 36.1% who lived with one or both parent, and 30.5% had lived so long at the fistula hostel in Niamey that they considered it to be their home. As previously reported, the journey to the hospital is both difficult and costly. While 72.4% of the women presented to the hospital accompanied by a family member, 27.6% presented alone. Of those who presented with family, only 10.3% presented with their husband, which represents 16.7% of those who considered themselves married. The other family members who accompanied the women were: mother - 25.8%; both parents - 10.3%; brother - 9.1%; father - 6.9%; sister - 5.2%; grandmother - 3.4%; and aunt - 1.7%. Upon completion of their care at the National Hospital, 65.5% of the women planned on returning to their village. Only the 10.3% who came with their husbands planned to live with their husbands; the rest planned to live

with their parents. A total of 31.0% planned to continue to live at the fistula hostel; 3.4% were to live in Niamey but not in the fistula hostel. Of the women 51.7% claimed that they would not want to get pregnant again due to fear of recurrence of their fistula. However, 70% of these women believed that their family would not be supportive of their decision to not have more children.

Conclusion: Social supports for women suffering from vesicovaginal fistulae are limited in Niger. Nursing care at the hospital is provided primarily by family members, leaving over a quarter of these women to support themselves. Because of social expectations, many of these women would chose to risk recurrence of their fistula and have another pregnancy than face the social isolation as a result of choosing not. It is not surprising that a third of these women choose to remain at the fistula hostel with those who understand the hardships they have suffered and do not have the social expectations that may result in a return to that condition.

Key Words: incontinence, vesicovaginal fistula, Africa

Disclosure - Nothing to disclose.

Non-Oral Poster 37

Medical Student Career Choice and Innate Surgical Skills

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Objective: We evaluated the correlation between third-year medical students' career choice of a surgical specialty and their innate surgical skills.

Materials and Methods: All third-year medical students were asked to complete a 30-item questionnaire. The items in the questionnaire addressed demographics and factors known to influence career choice. The surgical skills were evaluated using the virtual reality laparoscopic simulator specifically LapSim machine as well as a traditional video box trainer. Using the LapSim virtual simulator, students performed three basic modules: coordination (C), lifting and grasping (LG) and handling the intestines (HI). Students completed similar surgical tasks using a box trainer: moving rings on a peg board (PB), cup drop (CD) and rope pass (RP). None of the students had previously used the equipment. Each student was asked to perform select laparoscopic tasks on both the trainers, and their innate surgical skills were compared to their career choice. Mean values of performance variables were calculated using Microsoft Excel, and data were compared between students planning to pursue surgical with nonsurgical residencies. Study was conducted in the Temple University Center for Clinical Simulation and Patient Safety after IRB approval.

Results: A total of 47 third-year medical students rotating at Temple University Hospital completed only box trainer tasks, while 34 demonstrated performance on both the box trainer and LapSim. The total number of errors made across all box trainer tasks for the medicine group was higher (mean 4.0, SD 3.0) than for surgical students (mean 5.1, SD 3.3). Across all LapSim tasks, the mean score of the students entering medicine was 72.6 (mean 72.6, SD 11.9) with a mean tissue damage score of 7.3 (mean 7.3, SD 5.9). For those in the surgical group, the mean score for all LapSim tasks was 79.4 (mean 79.4, SD 11.7), with an average tissue damage score of 4.6 (mean 4.6, SD 3.6). Surgical(Mean), Surgical(Mean) C Score 63.08, 77.17 LG Score 65.84, 78.11 HI Score 87.86, 82.99 C Completion Time (sec.) 113.23, 67.4 LG Completion Time (sec.) 107.16, 76.03 HI Completion Time (sec.) 175.74, 194.11 C Maximum Damage 10.19, 4.67 LG Maximum Damage 8.59, 6.38 PB Completion Time (sec.) 130.43, 163.45 CD Completion Time (sec.) 112.53, 109.06 RP Completion Time (sec.) 221.1, 187.47 PB Errors 1.2, 1.7 CD Errors 0.58, 0.78 RP Errors 0.7, 0.39.

Conclusion: Students planning on pursuing surgical and nonsurgical careers were statistically similar on laparoscopic surgical tasks. However, those pursuing surgery demonstrated marginally better performance scores and faster completion times with less tissue damage, especially while using the LapSim surgical simulator.

Key Words: career choice, surgical skills, LapSim

Disclosure - Nothing to disclose.

Non-Oral Poster 38

Sexual Function Following Anal Sphincteroplasty for Fecal Incontinence

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Objective: To assess sexual function in subjects following anal sphincteroplasty as well as to determine whether there is an association between sexual function scores and symptoms of fecal incontinence.

Materials and Methods: Forty women having undergone external anal sphincteroplasty with or without other prolapse or incontinence surgery between January 1997 and May 2004 were identified as cases. Subjects were matched by age, time of surgery, and nature of repair excluding sphincteroplasty to controls. All subjects were at least 12 months postoperative at time of inclusion. Subjects were mailed the Female Sexual Function Index (FSFI), the Fecal Incontinence Quality of Life (FIQOL), and the Fecal Incontinence Severity Index (FISI), as well as general questions about their symptoms. Data were analyzed using Student t test, χ^2 test, Mann-Whitney test and Spearman ñ correlations.

Results: Twenty-six cases and 26 controls returned the questionnaires. The mean age of all subjects was 51 (range 21–78). There were no significant differences between cases and controls in any demographic data. Nineteen case subjects and 19 controls were sexually active and completed the FSFI (73%). There were no differences in either domain or total scores between the groups. Twelve cases and 10 controls were classified as having sexual dysfunction based on the FSFI; this was also not significantly different ($P = .524$). Seventeen sphincteroplasty patients (65%) and 8 controls (31%) complained of fecal incontinence at time of follow-up. There were differences noted in this symptom ($P = .046$) and total FISI score ($P = .022$). Of the sphincteroplasty cases 40% underwent an end-to-end repair and 60% an overlapping procedure. There were no differences in prevalence of fecal incontinence, FSFI, or FISI scores based on the nature of the repair. However, in the FIQOL scale of Depression/Self-Perception subjects that underwent an end-to-end repair had a lower quality of life ($P = .006$). A relationship between fecal incontinence and sexual function symptoms was assessed: significant correlations were found for arousal, orgasm, and satisfaction scores of the FSFI with the Depression/Self-Perception Domains of the FIQOL. With respect to the FISI, correlations were found for fecal incontinence of solid stool with arousal, lubrication,

orgasm, pain, and total FSFI scores, and for total FISI scores and FSFI domains of pain and satisfaction.

Conclusion: There is no difference in sexual activity or sexual function scores in women following anal sphincteroplasty compared with control subjects despite higher rates and severity of fecal incontinence. However, fecal incontinence of solid stool and symptoms of depression related to fecal incontinence are most likely to be correlated with poor sexual function.

Key Words: sexual function, anal sphincteroplasty, fecal incontinence

Disclosure - Nothing to disclose.

Non-Oral Poster 39

Symptom-Based and Urodynamic Diagnosis of Urinary Incontinence: How Well Do They Correlate in Postmenopausal Women?

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Objective: The purpose of this study was to determine the correlation of symptom-based and urodynamic diagnosis of urinary incontinence in postmenopausal women.

Materials and Methods: Women with signs or symptoms of urinary incontinence were identified from a cohort of postmenopausal sisters. Pairs of postmenopausal biological sisters were recruited from the general population in Western New York State and Northern Vermont between October 2002 and March 2005 as part of a study evaluating the prevalence of urinary incontinence and pelvic organ prolapse in nulliparous postmenopausal women and their parous sisters. The participants completed a survey, which included questions about the presence and type of incontinence symptoms, as well as a quality of life impact questionnaire and questions on past medical and surgical history. In addition, they completed a 48-hour voiding diary. Study participants were evaluated for pelvic support and urinary incontinence. Subjects with signs or symptoms of urinary incontinence underwent a multichannel urodynamic evaluation. Positive predictive values (PPV) were calculated for subtype of incontinence by subject history, as related to urodynamic diagnosis. In evaluation of the data, descriptive tabulations of relevant demographic and clinical variables are presented. This study was approved by the internal review board of the University of Rochester.

Results: One hundred and three postmenopausal women with symptoms of urinary incontinence were identified. The average age was 61 years (SD +/−9). The subjects were predominantly white (95.1%). Diagnosis by symptoms matched urodynamic diagnosis 51% of the time. The positive predictive value of a voiding diary for urodynamic diagnosis for incontinence of any type was 0.77. Report of urine loss with Valsalva had a PPV of 0.73, for the urodynamic diagnosis of stress urinary incontinence. Urgency related symptoms had a PPV of 0.35 (6/17) for urodynamic confirmation of detrusor instability, and symptoms of mixed incontinence had a PPV of 0.2 for the same diagnosis by urodynamics.

Conclusion: Our findings corroborate findings of poor correlation between symptoms and urodynamic diagnosis in postmenopausal women. Overall, the correlation between symptoms and urodynamic findings is highest with stress incontinence and lowest with mixed incontinence. In postmenopausal women reporting symptoms of mixed urinary incontinence, the likelihood of establishing a urodynamic diagnosis of any type of incontinence is close to 80%.

Key Words: incontinence, urodynamics, postmenopausal

Disclosure - Nothing to disclose.

The NICHD funded the initial study. The grant locator is RO1HD 41165

Non-Oral Poster 40

Perioperative Complication Rate With Vaginal Reconstructive Surgery

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Objective: We compared the perioperative complication rate with vaginal reconstructive surgery to that of vaginal hysterectomy alone.

Materials and Methods: Over a 2-year period 111 women underwent vaginal hysterectomy alone (Group 1) compared to 81 women who underwent a vaginal reconstructive procedure (Group 2). A retrospective review was performed. The χ^2 or Fisher exact test was used to compare categorical variables such as complications. Because of observed non-normality of the numeric variables, the Wilcoxon rank sum test was used to compare numeric variables such as age and hospital stay. Separate simple logistic regression analyses determined factors significantly associated with whether or not a patient had a complication. Multiple logistic regression analysis using a stepwise selection of variables identified independent predictors of complication.

Results: Women in Group 1 were younger than those in Group 2, 41.0 ± 6.8 years compared to 54.3 ± 13.1 years, $P < .01$. In Group 2 there were 47 anterior repairs, 38 vaginal hysterectomies, 31 tension-free vaginal tapes, 29 high uterosacral vaginal suspensions, 23 posterior repairs, 8 sacrospinous ligament vaginal suspensions, 3 pubovaginal slings, and 4 total colpocleises. Average hospital stay in Group 1 was 2.1 ± 0.7 days compared to 2.6 ± 1.0 days for Group 2, $P < .01$. The complication rate in Group 1 was 15.3% compared to 54.3% in Group 2, $P < .01$. Being discharged with a Foley catheter in place was the only complication that was significantly different between the 2 groups. There was a highly significant positive correlation between having at least 1 complication and being discharged with a catheter ($\tilde{n} = 0.74$, $P < 0.01$). Using separate simple logistic regression models, 4 procedures in Group 2 were associated with a postoperative complication: anterior colporrhaphy, tension-free vaginal tape, enterocele repair, and high uterosacral vaginal suspension. The number of procedures performed on a patient was also significantly associated with experiencing a complication. Because number of procedures is a linear combination of the different procedures, it would be highly positively correlated with any 1 procedure. Hence, in determining independent significant predictors for complication, only age, hospital stay, and number of procedures were entered in multiple logistic regression model. Because age correlated with hospital stay and number of procedures, it dropped out as an independent significant predictor for complication when using a multiple logistic regression model. Hospital stay and number of procedures performed were independent significant predictors of complication. The odds ratio for number of procedures and the risk of a complication was 1.37 (1.03 to 1.83. $P = .03$). Hence, for every

increase in number of procedures performed on a patient, there was a 37% increase in risk of a complication.

Conclusion: Women undergoing a vaginal reconstructive procedure have a significantly higher complication rate than women undergoing vaginal hysterectomy alone. Fortunately, discharge from the hospital with a Foley catheter accounts for the majority of complications. The risk for experiencing a complication increases with the number of procedures performed.

Key Words: vaginal hysterectomy, vaginal reconstruction, perioperative complications

Disclosure - Nothing to disclose.

Non-Oral Poster 41

Anatomic Relationships of the Distal Third of the Pelvic Ureter, Trigone, and Urethra in Unembalmed Female Cadavers

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Objective: The primary objectives of this study were to examine the anatomy of the distal part of the ureter, trigone, and urethra, and to evaluate the relationship of these structures to the anterior vaginal wall and paravaginal tissue. Secondary objectives were to correlate these findings to paravaginal defect repairs (PVDR) and vaginal surgeries for pelvic organ prolapse.

Materials and Methods: Detailed dissections of the retropubic space were performed in 24 unembalmed female cadavers. The arcus tendineus fascia pelvis, ischial spines, and paravaginal connective tissue were identified bilaterally, and a suture was placed through the paravaginal tissue at the level of the ischial spine. Lighted ureteral stents were then placed from the pelvic brim into the bladder to facilitate identification of the ureter in its distal third. The distance from the lateral aspect of the ureter to the PVDR suture was measured. The dome of the bladder was then incised in its extraperitoneal portion to identify the ureteral orifices and trigone. Distances between ureteral orifices, from each ureteral orifice to the internal urethral meatus, and from the mid-intertrigonal ridge to the internal meatus were measured. The lengths of the anterior vaginal wall and urethra were recorded.

Results: The mean age of the cadavers at time of death was 82.7 years. Average BMI was 22.5 kg/m2. All specimens were white, and none had a known history of vaginal prolapse or evidence of retropubic surgery. The mean distance between PVDR sutures and the ureter at the level of the ischial spines was 22.8 mm (range 5–36 mm). The mean distance between ureteral orifices was 29.3 (13–41) mm, from ureteral orifice to internal urethral meatus was 28.3 (17–40) mm, and from mid-intertrigonal ridge to internal meatus was 24.0 (14–32) mm. The average length of the anterior vaginal wall and urethra was 83.9 (64–110) mm and 29.7 (19–44) mm, respectively.

Conclusion: In its distal third, the ureter courses embedded in abundant loose connective tissue, preventing its direct visualization. Therefore, careful exposure of the paravaginal connective tissue and medial retraction of the bladder prior to placement of the proximal PVDR sutures is necessary to avoid injury to the ureter. Care should also be taken when placing hemostatic sutures, especially if medial to the PVDR sutures, as these can certainly increase the risk of ureteral entrapment. The bladder trigone lies over the mid-third of the anterior vaginal wall. Therefore, the distal portion of the ureter is in proximity to the upper third of the anterior vaginal wall. Sutures placed deep and through the lateral portions of the proximal anterior vaginal wall during an anterior colporrhaphy or a colpocleisis could potentially entrap or kink the ureters. During a vaginal hysterectomy, a cystotomy that results during dissection of the vesicovaginal septum would be located approximately 3 cm above the trigonal ridge and should not harm the ureters as long as dissection is kept near the midline plane.

Key Words: anatomy, paravaginal defect repair, ureter

Disclosure - Nothing to disclose.

Non-Oral Poster 42

Do Abdominal Leak Point Pressures Correlate With Subjective Incontinence Severity?

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Objective: The purpose of this study is to evaluate the correlation between preoperative abdominal leak point pressure (ALPP) and the Sandvik Incontinence Severity Index before and after surgery.

Materials and Methods: A retrospective review of all women who presented to the Dartmouth-Hitchcock Medical Center between August 2004 and April 2006 who underwent a midurethral sling suspension procedure was conducted. Eligible women had completed multichannel urodynamic testing before surgery with ALPP determination. In addition, eligibility included completed subjective incontinence severity assessment using the Sandvik Incontinence Severity Index before and 6 weeks after surgery. The relationship between incontinence severity and ALLP was analyzed using a Spearman Rank correlation.

Results: Ninety-nine women had values for preoperative ALPP and the Sandvik Incontinence Severity Index before and after surgery. The mean age of subjects was 55.7 years (range 28–90 years) with a mean parity of 2.7 (0–7). The mean body mass index (kg/m2) was 28.6 (19.4–45.3). Fifty-nine percent of subjects were post-menopausal, and 57% had concurrent prolapse surgery. The mean ALPP was 77.7 cm H_2O (25–172). The mean change in Sandvik Severity Index following the midurethral sling was 4 (−8–12). Among all 99 subjects, presurgery Sandvik incontinence severity was weakly but significantly correlated with ALPP (Spearman ñ −0.28, $P = 0.01$). The change in Sandvik incontinence severity 6 weeks following a midurethral sling was also weakly but significantly correlated with ALPP (Spearman ñ −0.23, $P = 0.02$). The effect of barrier testing on ALPP determination did not alter the direction of the relationship between Sandvik severity and ALPP; however, the magnitude did change and the relationship was no longer statistically significant.

Conclusion: Lower ALPPs appear to weakly correlate with higher subjective incontinence severity; however, continence improvement following a midurethral sling was greatest among those with lowest ALPP.

Key Words: leak point pressure, urodynamic testing, Sandvik Incontinence Severity Index, incontinence

Disclosure - Nothing to disclose.

Non-Oral Poster 43

Botulinum Toxin A for Idiopathic Detrusor Overactivity: 2-year Follow-up

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Objective: Injections of botulinum toxin A (BTX-A) into the detrusor are an effective treatment in neurogenic detrusor overactivity (NDO). There is also increasing evidence for the short-term efficacy for BTX-A in idiopathic detrusor overactivity (IDO). This is the first study to report on the long-term efficacy (2 years) of 11 women with IDO after a single BTX-A injection.

Materials and Methods: Twenty-six female patients with a urodynamically proven overactive bladder/wet due to IDO resistant to antimuscarinic treatment were enrolled in this prospective observational study. One hundred I.U. of BTX-A were injected into 30 different sites of the detrusor, sparing the trigone. A urodynamic examination was performed preoperatively as well as after 4 weeks, 12 weeks, 36 weeks, and 2 years. Quality of life (QoL) was assessed using the validated German version of the King's Health Questionnaire.

Results: At 2 years 11 patients had needed another BTX-A injection after a mean duration of 14 ± 5, 5 to 26 months (mean ± standard deviation, range); 1 patient had not responded to BTX-a at all and was considered a primary failure and 3 patients had been lost to follow-up (1 had emigrated to the United States, 2 were physically not able to attend the follow-up examination). In the remaining 11 patients maximum cystometric bladder capacity (MCBC) was still statistically significantly elevated compared to the preoperative situation (360 ± 80ml vs. 238 ± 96ml ($P < 0.0001$)). Cystometric detrusor contractions were seen in 4/11 (36%) patients compared to 11/11 (100%) prior to treatment. Daytime frequency and nocturia were still reduced (9.5 ± 3.0 vs. 11.4 ± 2.9, 2.1 ± 1.0 vs. 1.9 ± 0.5), and first and strong desire to void were still elevated compared to the preoperative situation (138.4 ± 53.1 vs. 128.9 ± 66.7 ml, 209.2 ± 65.5 vs. 198.1 ± 66.4 ml) but the difference was small and thus not statistically significant. Two years after a single BTX-A injection, there was still an improvement in various aspects of QoL such as in household and outdoor activities, ability to travel, effects on nocturnal sleep, and the necessity of wearing pads in 70%, 80%, 40%, 20%, 20% of the patients, respectively, compared to the preoperative situation.

Conclusion: Two years after a single BTX-A injection an improvement in various aspects in QoL was associated with a statistically significant increase in mean MCBC and a decrease in the number of patients with urodynamically proven detrusor contractions.

Key Words: Botulinum toxin, overactive bladder, nonneurogenic detrusor overactivity, idiopathic detrusor hyperactivity, alternative to antimuscarinic treatment in OAB, Botox

Disclosure - Nothing to disclose.

Non-Oral Poster 44

Characteristics of Women With Severe Mesh Complications

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Objective: To describe the efficacy and morbidity of the surgical management of graft erosions following sacral colpopexy.

Materials and Methods: We retrospectively evaluated all graft-related sacral colpopexy complications between 1998 and 2005. All erosions that did not respond to office treatment underwent vaginal excision of the exposed mesh with partial colpocleisis. Recurrent or persistent erosions underwent a similar but more aggressive vaginal excision and closure. Two vaginal failures usually prompted abdominal resection. We defined surgical failure as recurrent/persistent erosion, chronic sinus tract, or fistula.

Results: Between 1998 and 2005, we performed 499 sacral colpopexies and surgically treated 21 patients for mesh erosion, including 18 (3.6%) from our practice and 3 referrals. On average, patients were postmenopausal with a mean age of 51 years (SD ± 11), parous (mean 2.5, SD ± 0.9) with an average BMI of 28 kg/m2 (SD ± 5). Mean time to diagnosis of mesh erosion was 10.3 months (SD ± 13) and the first site of erosion in 19 out of 21 patients was the vaginal apex. Grafts materials included: Mersilene (13), prolene (7) and Pelvicol (1). Forty-eight percent (10/21) of erosions were cured by the initial vaginal surgery, 9 (43%) required a second vaginal excision, and 2 (10%) required a third operation. All of the second and third vaginal excisions failed. Eight patients went on to have an abdominal excision, and 2 patients required a second abdominal excision. The success rate for the first and second abdominal resections was 38%(3/8) and 100% (2/2), respectively. When compared to the vaginal excisions, the abdominal surgeries had higher blood loss (84 vs. 378cc) and longer hospitalization (outpatient vs. 4.2 days). For the 15 cures, the mean number of surgeries to achieve cure was 1.7 (range 1–4). Failures include 2 persistent graft erosions and 2 chronic sinus tracts. Additional morbidity included 2 (9%) vesicovaginal fistulas, 1 (4.8%) small bowel obstruction, and 1 (4.8%) case of sacral osteomyelitis. Potential contributing factors to surgical failure were: presence of *Actinomyces* (mean of 3 surgeries for 60% cure) and current smoking (mean of 2.8 surgeries for 60% cure).

Conclusion: The overall success rate for surgical management of graft erosions is less than 75%, and multiple surgeries are frequently required with an associated major morbidity of almost 20%. An initial vaginal approach seems reasonable; however, those patients who fail an initial vaginal approach may be better served by an abdominal excision. Potential variables associated with failure include current smoking and the presence of *Actinomyces*.

Key Words: graft complication, sacral colpopexy, erosion

Disclosure - Nothing to disclose.

Non-Oral Poster 45

Hysterectomy Rates in the United States, 2003

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Objective: As hysterectomy is the most common nonobstetric major surgery performed on women in United States, it is important to understand national trends of this procedure. Our primary objective was to describe hysterectomy rates by type of hysterectomy in the United States. Our secondary aim was to assess regional variation in type of hysterectomy, mean age at surgery, and length of stay for hysterectomies performed for benign indications.

Materials and Methods: We conducted a descriptive statistical analysis of national discharge data using the 2003 Nationwide Inpatient Sample of the Healthcare Cost and Utilization Project. These data represent a 20% stratified sample of hospitals in the United States. All women older than 15 years who underwent a hysterectomy were identified by International Classification of Disease, 9th Revision, Clinical Modification (ICD-9-CM) procedure codes. We

extracted data regarding age, ICD-9-CM diagnoses codes, length of stay, and hospital characteristics. Using hospital sampling weights and the 2000 National Census data, we calculated a total hysterectomy rate, as well as individual rates for abdominal, vaginal, and laparoscopic hysterectomies performed for benign disease. We assessed the rate, mean length of stay, and mean age for each type of hysterectomy by region of the United States.

Results: In women older than 15 years, 602,457 hysterectomies were performed in 2003, for a rate of 5.38 per 1000. Of the 538,722 hysterectomies for benign disease, abdominal hysterectomy was the most common (66%) followed by vaginal (22%) and laparoscopic hysterectomies (12%). The most common indications were leiomyoma (39%), menstrual disorders (20%), prolapse (14%), and endometriosis (12%). There was a statistically significant difference between mean length of stay by type of hysterectomy ($P < .001$). The mean age was 44.5 ± 0.1 years for abdominal hysterectomy, 48.2 ± 0.2 for vaginal hysterectomy and 43.6 ± 0.3 for laparoscopic hysterectomy ($P < .001$).

Conclusion: The overall hysterectomy rate for benign disease was highest in the South and lowest in the Northeast. Despite a shorter length of stay and reduced recovery time, vaginal and laparoscopic hysterectomies remain far less common than abdominal hysterectomy for benign disease.

Key Words: hysterectomy, rates, United States, length of stay, age

Disclosure - Nothing to disclose.

Non-Oral Poster 46

Prepubic Mid-urethral Sling for Stress Urinary Incontinence: Prospective Single-arm Clinical Study of Efficacy, Safety, and Sexual Function

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Objective: A prospective single arm clinical study was performed to establish safety and preliminary efficacy of a midurethral sling that passes in front of the pubic bone rather than behind. Exploring a surgical sling procedure that may eliminate or reduce bladder perforation, bowel injury, and major vascular injury is an inviting project; however, the unique safety concerns of the prepubic pathway require formal evaluation.

Materials and Methods: Seventy-eight women from 12 institutions who had stress incontinence based on urodynamic testing enrolled in the study. At 3 months and at 12 months, efficacy and safety parameters were measured comparing pre- and postsurgery scores for pad testing, sexual function (PISQ-12), and pelvic floor function (PFDI-20). Intraoperative and postoperative adverse events were recorded. Fifty-six percent of patients had concomitant pelvic reconstructive surgery.

Results: At 3 months, 78% of patients achieved cure or significant improvement based on strict pad testing. An additional 9% had moderate improvement. At 12 months 77% maintained cure or significant improvement, and an additional 12% reported moderate improvement. Sexual dysfunction scores for patients at 12 months were almost identical to preoperative scores with no statistical difference compared to baseline. One patient had transient dyspareunia that completely resolved. Pelvic floor dysfunction scores were improved at 12 months with statistical significance ($P = .002$). One patient required the sling be removed due to local tissue discomfort or possible abscess. Three patients had transient perineal or vulvar pain. There were no events of excessive bleeding requiring transfusion. There were no bladder perforations, bowel perforations, or major vascular injuries.

Conclusion: Early data on 78 women suggests that a prepubic anatomical path for a midurethral sling is relatively safe. In particular, sexual dysfunction or perineal pain did not appear to be significant problems following the procedure. Efficacy based on strict objective pad testing supports early efficacy for this procedure. These early data, particularly the safety data, are encouraging for further evaluation of a surgical pathway that may eliminate retropubic injuries to bladder, bowel, and major vasculature.

Key Words: sling, prepubic, stress incontinence, minimally invasive sling, surgery

Disclosure - consultant fees: Boston Scientific, consultant.

Non-Oral Poster 47

Predictors of Success With Postoperative Voiding Trials After a Midurethral Sling Procedure

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Objective: The purpose of this study was to identify predictors of passing a voiding trial (VT) after incontinence surgery with a midurethral sling and to examine whether successful performance on a voiding trial was maintained.

Materials and Methods: Eighty-nine women scheduled for incontinence surgery were enrolled from July 2005 to April 2006. Demographic data, select medical and physical parameters, cystometrogram and uroflowmetry results, and procedural data, including patient-controlled anesthesia, were collected. VTs were performed the day of discharge by retrograde filling of the bladder with 300 cc of sterile water. If a subject passed her first VT, a second VT was repeated 3 hours later. VTs were performed on postoperative day 1 for 66 participants (75.0%). A successful VT was defined as the ability to void at least two-thirds (200 cc) within 10 minutes.

Results: Sixty participants underwent a TVT procedure, while 29 underwent a TOT procedure. Sixty-four (71.9%) participants underwent concurrent vaginal repairs. Participant mean, SD age was 58.4, 10.5 years. Sixty (68.2%) participants passed the first voiding trial. Of these, 9 (16.4%) participants failed the second voiding trial. Univariate analysis identified 12 potential predicting variables, using a P value < 0.10, for passing the first voiding trial: BMI, race, current estrogen use, previous hysterectomy, previous incontinence procedure, concurrent anterior repair, uroflow pattern, post-void residual, maximum flow, average flow, flow volume and Q-tip strain angle. Model building via backward stepwise linear regression found max flow on uroflowmetry to be the only significant variable after removing average flow because of collinearity ($\chi^2 = 14.0$, df = 1, $P = .0002$). Since 1 cystotomy occurred, for which VTs were deferred in that participant, and 3 participants did not undergo uroflowmetry as part of their preoperative evaluation of incontinence, the model included 85 participants.

Secondary to only 9 failures on the second VT, modeling could not be performed.

Conclusion: Increasing max flow rates were the best predictor of passing an initial voiding trial after a midurethral sling for incontinence surgery. However, the ability to maintain performance on a second voiding trial, even after only 3 hours of passing an initial trial, is not assured. Repeating a VT based on max flow and/or the ratio of voided volume on the first fill may be considered.

Key Words: TVT, incontinence surgery, voiding trial, TOT

Disclosure - Nothing to disclose.

Non-Oral Poster 48

Short-term Results of the PROLIFT™ Procedure in 350 Patients Used in the Treatment of Pelvic Organ Prolapse

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Objective: The aim of this study was to determine the efficacy and perioperative outcomes for the Prolift™ (Ethicon, Sommerville, NJ) procedure in 349 patients with a 6-month median follow-up.

Materials and Methods: This large multicenter, retrospective study included 350 patients who underwent the above procedure between February 2005 and May 2006. The procedure involves a transvaginal extraperitoneal colpopexy (VEC) with placement of a polypropylene mesh graft in the anterior and/or posterior compartments. The mesh is held in place by tension-free extension arms running through the obturator and/or ischio-rectal spaces, which are delivered using a cannula and suture retrieval system. Preoperative assessment included a history and physical examination including POP-Q staging, and urodynamics as indicated. Outcome measurements included perioperative data, mesh erosion, postoperative complications including prolapse recurrence and postimplant pain.

Results: Patient demographics were as follows [mean (+ S.D.)]: age 65 (+ 11.7), parity 2.8 (+ 1.3) and BMI 28.6 (+ 5.4). The mean preoperative POP-Q stage was 2.65 and mean point C was −1.7 (+ 4.4). Of the VECs 178 were anterior, 81 were posterior, and 90 were total (anterior and posterior). Two hundred and ninety-three (83%) surgeries were completed under regional anesthesia. Two hundred and sixty-four had concomitant midurethral slings placed. Additional surgical procedures performed at the time of the Prolift™ surgery as indicated included: enterocele repair (24 patients), perineorrhaphy (76), rectocele repair (63), hysterectomy (7), and uterosacral vault suspension (2). Mean operative times and estimated blood loss were 102.8 (+ 35.8) minutes and 83.4 (+ 52.2) ml. Intraoperative complications included: 9 (2.6%) cystotomies, 1 (0.3%) ureteral obstruction, and 1 (0.3%) pelvic hematoma. Nearly all patients were discharged on postoperative day 1. Catheters were removed on postoperative day 1 in 298 patients with the remaining removed between days 2–14 (mean of 1.7 days). Vaginal packing was placed for an average of 1.1 days. Median follow-up was 6.0 months, ranging from 0.5 to 14 months. Postoperative findings included: de novo OAB in 14 (4%), de novo SUI in 8 (2.3%), postoperative voiding dysfunction in 12 (3.4%), constipation in 31 (8.9%), and dyspareunia in 22 (6.3%) patients. Mesh exposure was seen in 4 (1.1%) patients, all treated with office resection and/or vaginal estrogen. Postoperative POP-Q evaluation revealed a 90.6% cure rate (with recurrence defined as Grade 2 or greater prolapse at the 3 month or greater follow-up visit). Most recurrences were seen in patients who had a single compartment VEC with recurrence in the opposite compartment. Of the 33 recurrences, 11 underwent subsequent surgical correction.

Conclusion: Based on these short-term results, the Prolift™ procedure is a safe procedure with low complication rates and excellent cure rates for the treatment of moderate to severe POP. Dyspareunia and vaginal pain are a concern for use in young, sexually active patients

Key Words: synthetic mesh, Prolift, pelvic organ prolapse, pelvic surgery complications

Disclosure - Nothing to disclose.

Non-Oral Poster 49

What Proportion of Patients Report That They Are Better off Following Urogynecologic Surgery?

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Objective: To measure the correlation between the assessment of patient satisfaction following prolapse and/or urinary incontinence surgery using the Urinary Distress Inventory (UDI) and Incontinence Impact Questionnaire (IIQ) and a single global satisfaction question.

Materials and Methods: Charts of 209 women who underwent surgery for prolapse or urinary incontinence between 6 and 18 months prior to the start of this study were reviewed. The 194 (93%) women who had completed a preoperative UDI and IIQ between January 2005 and January 2006 were sent a mailed survey and/or were contacted by phone. The postoperative survey included the UDI and IIQ and a global satisfaction question: "Considering how you feel now, do you feel you are better off as a result of having had your surgery?" Changes from preoperative UDI and IIQ were correlated with the subject's response to the global satisfaction question using logistic regression.

Results: Of the 144 respondents (74%), 54 (38%) underwent TVT alone, and 90 (62%) underwent major urogynecologic procedures. Of the 144, 15 (10.4%) answered no to the global satisfaction question "Do you feel you are better off as a result of having your surgery?". Of those women undergoing TVT alone, 8 of 54 (15%) answered no to the global question. Of those women undergoing major urogynecologic procedures 7 of 90 (7.8%) answered no. There was a statistically significant correlation ($R = 0.359$, $P < .001$) between a nondecline in the UDI and IIQ scores and an answer of "no" to the global question. There were no statistically significant differences between responders and nonresponders, with respect to the type of procedure or attending physician. There was a trend toward older patients being more likely to answer "no" to the global satisfaction question ($P < 0.06$).

Conclusion: Following TVT or surgery for prolapse, approximately 1 in 10 women reported they were not better off as a result of the surgery. Although the risk of catastrophic medical complications of incontinence and prolapse surgery is very low, the "risk" of not feeling the surgery was worthwhile after the operation is an important one when patients make decisions about whether to undergo surgery. Global, subjective failure rate measures such as this one should be used when counseling and consenting our patients.

Key Words: prolapse, incontinence, satisfaction, global question, better off

Disclosure - Nothing to disclose.

Non-Oral Poster 50

Validation of Telephone Administration of Two Condition-specific Quality of Life Questionnaires

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Objective: The objective of this study was to validate a telephone-administered version of two condition-specific quality of life questionnaires: Pelvic Floor Impact Questionnaire - Short Form 7 (PFIQ-7) and Pelvic Floor Distress Inventory - Short Form 20 (PFDI-20).

Materials and Methods: Between December 2005 and September 2006, 36 women were recruited from a population presenting for their 6-week postpartum visit at a university hospital. Exclusion criteria were age less than 18 years and delivery of multiple gestation. The subjects completed both telephone and written versions of the PFIQ-7 and the PFDI-20 with a 2-week interval between administration of the two different versions. The order of administration was randomized. Each questionnaire was comprised of three subscales that addressed prolapse, urinary tract, and gastrointestinal symptoms. Student *t* test was used to compare total and subscale scores between the telephone and written versions. Pearson correlation coefficients were used to measure the degree of correlation between the two versions of each questionnaire.

Results: The scores of the telephone-administered PFIQ-7 and PFDI-20 were not significantly different from the written scores. These scores were also highly correlated. There were also no significant differences in the scores of the three subscales of each questionnaire when comparing the telephone and written versions. The subscale scores correlated highly as well.

Conclusion: Administration of a telephone version of the PFIQ-7 and PFDI-20 led to no significant differences in scores in comparison to the original written version in a postpartum population. Our results verify that telephone administration of these instruments is a reliable and accurate measure of the impact of pelvic floor disorders on quality of life and may facilitate clinical and epidemiologic research by decreasing cost and improving access to patients.

Key Words: PFDI-20, questionnaire validation, telephone administration, pelvic floor disorders, PFIQ-7

Disclosure - Nothing to disclose.

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Non-Oral Poster 51

Vaginal Paravaginal Repair With an Alloderm Graft: Long-term Outcomes

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Objective: To describe the long-term objective and subjective outcomes after vaginal paravaginal repair with AlloDerm graft (LifeCell, Branchburg, NJ).

Materials and Methods: Thirty-three women with either recurrent stage II or with primary or recurrent stage III-IV anterior vaginal wall prolapse underwent a vaginal paravaginal repair with AlloDerm (cadaveric dermal graft) between November 1998 and April 2002. Short-term outcomes were previously reported; long-term outcomes are now presented. Our primary outcome was objective failure, defined as a stage II or greater anterior wall defect on pelvic organ prolapse quantification exam. Secondary outcomes included recurrent symptomatic cystocele (defined as a vaginal bulge or pressure), recurrence requiring further treatment (repeat surgery, pessary, or physical therapy), other compartmental defects, graft complications, urinary symptoms, and new onset dyspareunia. Long-term outcomes were measured on an annual basis after the 1-year postoperative visit. Descriptive statistics were performed.

Results: Follow-up data were obtained on 24/33 (72.7%) subjects. The median length of follow-up for all 33 patients was 38 months (mean 40.9 months, range 2–86). Seventeen of the 33 patients (51.5%) had recurrent stage II prolapse in the anterior compartment. Eighty-eight percent of these failures occurred by 18 months, and their stage of prolapse did not progress at subsequent follow-up visits (mean follow-up of 28.5 months). No new failures were detected beyond 2 years. Of the failures, only 3 (9.1%) were symptomatic; 1 of whom underwent an abdominal sacrocolpopexy. Subsequent defects in other compartments requiring surgical repair and/or physical therapy occurred in 6 patients (18.2%): 4 developed stage II-III rectoceles and 3 developed stage II apical prolapse. There were no graft erosions. Two patients had granulation tissue: 1 resolved after 5 months, the other still had granulation tissue at 67 months. Three patients (9.1%) reported de novo urge incontinence and another 3 (9.1%) had de novo stress incontinence. Seventy-five percent of these were remote from the time of surgery. One patient developed new onset dyspareunia after the paravaginal repair; a second developed dyspareunia years later after a subsequent rectocele repair.

Conclusion: Long-term evaluation of vaginal paravaginal repairs with AlloDerm graft reveals good subjective success, despite a high rate of objective failure within the first 24 months.

Key Words: graft, cystocele, long-term outcomes

Disclosure - Nothing to disclose.

Non-Oral Poster 52

Informed Surgical Consent: How Do Gynecological Surgeons Assess Patient Understanding During Informed Surgical Consent?

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Objective: To describe surgeon assessment of patient understanding when obtaining informed surgical consent.

Materials and Methods: We surveyed 330 guests and members of the Society of Gynecological Surgeons (SGS). Data collected included surgeon characteristics including age, gender, race, practice setting, and years of experience after residency. Surgeons were asked to rate frequency of use of common behaviors utilized in assessing patients' understanding when obtaining informed surgical consent. Each behavior was answered on a 5-point scale ranging from "never" to "always". Surgeons were asked to respond to how often they asked patients if they have any questions, if they understood instructions, or to repeat instructions back (teach back) after surgical consent counseling. In addition, surgeons were asked how often they determined a patient's last year of formal education completed, reading ability, or used their subjective assessment to determine patient's literacy level. Finally, surgeons were asked how often they

provided brochures or referred patients to Web sites or newspaper or magazines for additional information. Surgeons were also asked to describe their patient population including numbers of indigent, elderly and non-English speaking women. Data were analyzed using frequency tables and repeated measures Multivariate Analysis of Variance (MANOVA).

Results: Forty-four percent (145/330) of the surveys were returned. The majority of respondents were male (56%), white (86%), in academic practices settings (55%), with > 10 years of experience after residency (53%). Over seventy percent of surgeons reported that at least 40% of their patient population was over the age of 65, 20% of their patients were indigent, and up to 20% of their patients did not speak English, all known factors that decrease patient understanding of health-related materials. Mean ratings by description ($F[11,118]=363.8$, $P < 0.0001$; $n2 = 0.97$)(maximum Cohen's $d = 3.54$) showed that the most common surgeon behaviors in evaluating patient understanding were asking if the patient had any questions or if they understood instructions. Teach back and referring patients to Web sites were behaviors that were sometimes utilized. Surgeons rarely evaluated patient literacy level including asking patients about their comfort with reading or last year of education completed and almost always relied on their subjective assessment of patient literacy, despite serving patient populations at risk for low health literacy. Surgeons rarely referred patients to outside sources of information such as Web sites or newspapers/magazines, but did often provide brochures with additional information. Neither surgeon gender nor years of experience influenced surgeon behaviors in assessing patient understanding during informed surgical consent counseling (all $P < 0.05$).

Conclusion: Gynecological surgeons serve populations at risk for low health literacy. Assessment of patient understanding during informed surgical consent counseling was most commonly performed by asking the patient if they understood instructions or if they had any questions.

Key Words: informed consent, health literacy, patient understanding

Disclosure - Nothing to disclose.

Non-Oral Poster 53

Age Is not a Risk Factor for Perioperative Complications in Vaginal Reconstructive and Anti-incontinence Pelvic Surgery

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Objective: The purpose of this study was to determine whether the age of a patient undergoing vaginal reconstructive and anti-incontinence pelvic surgery is a risk factor for perioperative complications.

Materials and Methods: A retrospective chart review was conducted of women who underwent vaginal reconstructive and/or anti-incontinence pelvic surgery between 2000 and 2006. The women underwent surgery by 1 urogynecologist, at 2 city hospitals. Patients with incomplete medical documentation were excluded from the study. The variables investigated included demographics, smoking history, prior surgical history, comorbidities, length of surgery, estimated blood loss, DVT prophylaxis, perioperative antibiotics, type of anesthesia, and the American Society of Anesthesia classification (ASA). The outcome variables included change in hematocrit, length of hospitalization, intraoperative injury, and prevalent postoperative complications. Postoperative complications include febrile morbidity, documented infection (acute cystitis, wound or pelvic infection, and pneumonia), cardiovascular compromise (MI, CVA, congestive heart failure, hypotension, arrhythmia), renal failure, graft erosion, dyspareunia, urinary retention, anemia (hematocrit <24), ileus, hematoma, seroma, and ICU admission. A point system was created for each complication to limit the variation in data collection. Morbidity and mortality were determined for women ages <56 years old (group I), 56–69 years old (group II) and >69 years old (group III). One way ANOVA was used to determine whether a difference existed between the age groups, and exact χ^2 tests were used to identify the association between age and the aforementioned outcome variables. An α level of 0.05 was predetermined as the level of statistical significance.

Results: We identified 500 surgical cases of vaginal reconstructive and anti-incontinence surgery. We analyzed 404 surgical procedures with complete medical documentation (group I n = 168, group II n = 152, group III n = 84). Patients in group II were more likely to have a prior history of a midurethral sling ($P = 0.02$). Patients in group III were more likely to have a prior history of an abdominal hysterectomy ($P = 0.01$) and anterior colporrhaphy with graft ($P = 0.01$). Older women were also more likely to have a history of cardiovascular disease (CAD, MI, hypertension, and hyperlipidemia) and a higher ASA classification. Group II underwent more salpingectomies ($P = 0.01$) and group III underwent more hysterectomies($P = 0.01$), oophorectomies ($P = 0.05$) and posterior colporrhaphies ($P = 0.001$). The women were followed for an average of 185 days (group I), 243 days (group II) and 248 days (group III). There was no significant difference in the operative time, length of hospitalization or follow-up period between the groups. Overall, the rate of intraoperative complications was 2.2%. There was no statistical difference in the postoperative complication rate among the three age groups ($P = 0.27$). No fatality occurred in either age group.

Conclusion: The age of a patient undergoing vaginal reconstructive and/or anti-incontinence pelvic surgery is not a risk factor for perioperative complications.

Key Words: vaginal surgery, complications, reconstructive surgery, age

Disclosure - Nothing to disclose.

Non-Oral Poster 54

The Effect of Surgical Consultation on Patient-Selected Goals

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Objective: Patient-reported goals in a clinical setting can be used to direct evaluation and treatment and improve satisfaction. The aim of this study was to determine whether patients' self-reported goals change after their initial urogynecologic consultation.

Materials and Methods: After obtaining IRB approval, we reviewed consecutive charts of new patients presenting to our tertiary care referral practice from July to September 2006. All patients completed an open-ended questionnaire asking them to describe and rank their personal goals before and immediately after their initial visit. Demographic information, comorbidities, clinical diagnoses, and responses to the Medical Epidemiological and Social Aspects of Aging (MESA) questionnaire and the short form of the Pelvic Floor Distress

Inventory (PFDI) were recorded. Goals were categorized as: (1) treatment related, (2) symptom resolution, (3) lifestyle (quality of life improvement), (4) emotional (less embarrassed by incontinence), and (5) information seeking. Three reviewers categorized goals with consensus obtained in cases of disagreement. Data analysis was done using SPSS Version 13 (Chicago, IL). Wilcoxon signed rank test was used to compare continuous variables among related groups. χ^2 test of association was used for ordinal data. All tests were considered significant at the .05 level.

Results: Fifty-four women with a mean age of 53 (18–83) years reported a total of 258 goals. Eighty-four percent were white, 9% African American, and 7% Hispanic. Women listed significantly more goals after than before their first visit (2.7±1.2 vs. 2.1 ± 1.2, respectively, $P < .004$). The proportion of goal categories changed significantly after the visit. Symptoms resolution (45%) and information-seeking (20%) goals were most common prior to visit; while treatment related goals (37%) were most common after the visit. Emotional goals increased significantly after the visit (32.5% from 11. 8% before the visit, $P < .0001$).

Conclusion: Surgeon consultation affects patient-selected goals. Not surprisingly, post-visit goals focus less on information seeking and more on treatment. Given the association between patient satisfaction and goal achievement, clinicians should regularly assess patient's goals as they may change over time, and thus, impact satisfaction.

Key Words: patient goals, surgical consultation, patient satisfaction

Disclosure - Nothing to disclose.

Non-Oral Poster 55

Urge on Bladder Palpation as a Predictor of Detrusor Overactivity

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Objective: Many patients report urgency on transvaginal palpation of the bladder and the diagnostic utility has not been adequately studied. The purpose of this study was to determine the usefulness of urge on bladder palpation during pelvic examination as a predictive test of cystometric detrusor overactivity.

Materials and Methods: Six hundred women who had been referred to a tertiary-care academic urogynecology practice were included in the study. The initial evaluation involved uroflowmetry, catheterized residual urine, history, and urogenital examination including single-digit transvaginal bladder palpation. The sensation of urgency during palpation was recorded as a dichotomous variable. Women who met the International Continence Society (ICS) definition for overactive bladder (OAB) were selected for testing with standing single- or multichannel cystometry (CMG). The other indications for CMG were most commonly stress urinary incontinence, insensible urine loss, and urinary retention. Standardized CMG testing was performed at a follow-up visit. Test indices were calculated based on the result of bladder palpation and the presence of detrusor overactivity.

Results: Five hundred fifty-three women underwent CMG; 97 tested positive for urgency on bladder palpation and 456 tested negative. Detrusor overactivity (DO) was diagnosed in 383 women, making the prevalence of DO in this sample 0.69 (0.65–0.73, 95%CI). The sensitivity and specificity of the ICS definition for OAB were 0.76 (0.73–0.80) and 0.34 (0.30–0.38), respectively. Urgency on bladder palpation predicted DO with a specificity of 0.92 (0.90–0.95) and a positive predictive value of 0.86 (0.84–0.89). The likelihood ratio for a positive result from this test was 2.9 (1.6–5.0). The sensitivity was 0.22 (0.18–0.25), and the negative predictive value was 0.34 (0.30–0.38). The likelihood ratio for a negative result from this test was 0.84 (0.79–0.90). The diagnostic odds ratio was 3.4 (1.8–6.3). Multivariate regression analysis revealed age to be a potential confounding factor and the results were stratified according to age.

Conclusion: Bladder palpation is easy to perform, inexpensive, and without significant risk. The presence of urgency on bladder palpation should be considered a possible indication for CMG. Testing for urgency on bladder palpation is not an appropriate screening method for DO, especially in high-prevalence elderly individuals, because a negative test cannot confidently exclude the diagnosis of DO.

Key Words: detrusor overactivity, overactive bladder, diagnosis

Disclosure - Nothing to disclose.

Non-Oral Poster 56

Leakage at Low Volumes Is Associated With Increased Severity and Impact in Women With Detrusor Overactivity, but not Stress Incontinence

L. Lowenstein, Y. Dooley, K. Kenton, M. FitzGerald, E. Mueller, and L. Brubaker *Obstetrics and Gynecology, Loyola Medical Center, Maywood, IL*

Objective: Our aim was to explore the relationship of cystometric volume at the time of first detection of urodynamic detrusor overactivity incontinence (DOI) to validated quality of life (QOL) measures.

Materials and Methods: After obtaining IRB approval, we reviewed consecutive charts of all women with urodynamic proven pure DOI on filling cystometry with saline at 80 ml\minute. "DOI volume" was defined as the volume at the first detection of DO with urine leakage. For purposes of analysis, we divided women into 4 groups: (1) "DOI volume" < 149 ml, (2) "DOI volume" 150–249 ml, (3) "DOI volume" 250–349 ml, and (4) "DOI volume" > 350 ml. Demographic variables and responses to the Urinary Distress Inventory (UDI-6), Incontinence Impact Questionnaire (IIQ-7) and Medical Social and Epidemiological Aspects of Aging questionnaires (MESA) were recorded. The Kruskal-Wallis test was used to compare independent groups with respect to noncategorical variables. Spearman correlations were used to compare independent groups with respect to continuous variables. A 0.05 significance level was used for all statistical tests. No one-sided tests were done.

Results: Eighty-nine women with pure DOI and a mean age of 61 (23–89) years were included in this analysis. Twenty-four percent of women were in "DOI volume" < 149 ml group; 18% in the "DOI volume" 150–249 ml group;18% in "DOI volume" 250–349 ml group; and 40% in "DOI volume" > 350 ml group. Median UDI6, IIQ7, and MESA scores were significantly higher in groups (1) and (2) than groups (3) and (4). DOI volume was moderately correlated with UDI6 and IIQ7 scores (Spearman's r = −.514, $P < .001$ and Spearman's r = −.611, $P < .001$ respectively). MESA score was also moderately correlated with DOI volume (Spearman's r = −.538, $P < .001$).

Conclusion: Women who demonstrated DOI at lower bladder volumes had significantly greater bother and QOL impact than women with DOI at higher volumes. These findings are in contrast to our previous work, demonstrating pure urodynamic stress incontinence (USI) volume was not related to QOL. This suggests that patient bother and QOL impact from incontinence differs by incontinence subtype.

Key Words: quality of life, detrusor overactivity, stress incontinence

Disclosure - Nothing to disclose.

Non-Oral Poster 57

Effect of Age on Urinary Incontinence Quality of Life

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Objective: To estimate the effect of age on urinary incontinence quality of life measures before and after anti-incontinence surgery

Materials and Methods: We performed a retrospective cohort study of women who underwent surgery for stress urinary incontinence between December 2003 and August 2005. Women were categorized into two age groups: ≤ 60 and > 60 years. Quality of life was measured using IIQ-7 and UDI-6 questionnaires, which women completed preoperatively and up to 12 months postoperatively. We compared mean IIQ and UDI scores preoperatively and postoperatively, as well as the mean change in scores following treatment between the two age groups. Descriptive statistics, Student's t test, χ^2 and paired t tests were performed as appropriate. Multiple linear regression was performed to estimate the effect of age on improvement in quality of life scores while adjusting for confounders.

Results: A total of 249 women were included in this study. Of those women, 67% (168/249) were ≤ 60 years and 33% (81/249) were > 60 years old. Eighty-three percent of women underwent a midurethral sling, 6.4% underwent Burch urethropexy, 5.6% underwent a suburethral Mersilene sling, and 5.0% had transurethral collagen injection. Eighty-eight percent of women were white, 64.1% were menopausal, and 66.4% underwent a concurrent prolapse repair. The mean follow-up time was 10.3 +/− 1.2 months. Preoperatively, older women had lower mean IIQ scores compared to younger women (34.6 +/− 3.1 vs. 43.5 +/− 2.2, $P = .02$). When individual items on the IIQ were compared, older women reported a lower impact of incontinence on the physical activity and emotional health domains compared to younger women ($P < .05$ for both). There was no difference in preoperative UDI scores between the two age groups. Postoperatively, both age groups had significant improvement in IIQ scores compared to baseline ($P < .01$ for both age groups). However, younger women had greater improvement in their scores than older women (mean improvement 30.8 +/− 4.7 vs. 15.9 +/− 5.0, $P = .02$). There was no difference in mean improvement in UDI scores between the two age groups. Using multiple linear regression to adjust for race, type of anti-incontinence procedure, and concurrent prolapse repair, increasing age was still associated with decreasing improvements in IIQ scores following surgical treatment ($P = .02$).

Conclusion: Younger women report more severe effects of urinary incontinence on quality of life and have greater improvement after surgery; however, women of all ages have significant improvement in quality of life following surgical treatment for stress urinary incontinence.

Key Words: urinary incontinence, quality of life, age, anti-incontinence surgery

Disclosure - Nothing to disclose.

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Non-Oral Poster 58

Can a Surgeon Rely on Obstructive Symptoms to Detect Urinary Retention?

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Objective: To explore the relationship between obstructive urinary symptoms (OS) and post-void residual urine volumes (PVR).

Materials and Methods: After IRB approval, we reviewed consecutive charts of new patients presenting to our tertiary care urogynecologic clinic from January 2004 to October 2005. Demographic and clinical data were recorded. Responses to urinary (UDI) and prolapse (POPDI) subscales of the short form of Pelvic Floor Distress Inventory (PFDI) were extracted. Four PFDI items were selected for individual analysis (items 5, 6, and 19 for OS and 17 for stress incontinence). The patient was categorized as "bothered" if she responded that she was "moderately" or "greatly" bothered by that symptom. A PVR > 150 ml was considered elevated (retention). We used Spearman correlations to compare continuous variables and Mann-Whitney Test to compare independent groups.

Results: Six hundred and thirty-six patients with mean age of 56 years (range 15–93) were included. The majority (86%) were white. The primary clinical diagnoses included urinary incontinence 46%, prolapse (POP) 38%, defecatory problems 6%, and other diagnoses10%. No patient had a primary diagnosis of "retention". Sixty percent had stage 0-I POP, 20% stage II, and 20% stage III-IV. The mean PVR for the group was 49 (0–750); The UDI+SD score was 35+27; and POPDI score was 27+23. Thirty-one women had urinary retention with a mean PVR of 247+128 (median 200). Continuous PVR values were not correlated with UDI scores (Spearman's $\rho = -.031$, $P = .45$) or with POPDI scores (Spearman's $\rho = .135$, $P = .001$). Similarly, there was no difference in UDI and POPDI scores in women with and without urinary retention ($P = .235$). UDI scores were 32+24 and 36+27 and POPDI scores were 29+21 and 28+23 for women with and without retention, respectively. Women who were "moderately" or "greatly" bothered on OS PFDI items 5, 6, and 19 had mean PVR 16 ml higher than women who were not bothered, a statistically, but not clinically different volume. Women with stage III/IV POP had higher mean PVR (67+92) than those with < stage II (41+51) ($P < .001$). Likewise, 48% with retention had stage III/IV POP, whereas only 21% without retention had stage III/IV POP ($P = .004$). PFDI items 5 and 6 were not associated with bother more commonly in women with elevated PVR ($P = .07$ and $P = .53$) or stage III/IV POP ($P = .88$ and $P = .16$). Individual OS PFDI items have poor sensitivity and specificity for elevated PVR: (5) 57%, 38%; (6) 9% 6%; and (19) 13%, 18%; while PFDI item 17 for stress incontinence has 65% sensitivity and 66% specificity for elevated PVR.

Conclusion: Surgeons should not rely on the presence or magnitude of bother from obstructive urinary symptoms to detect urinary retention in women presenting for urogynecologic care. OS have lower sensitivity and specificity for retention than incontinence symptoms.

Key Words: pelvic organ prolapse, urine retention, obstructive symptoms

Disclosure - Nothing to disclose.

Non-Oral Poster 59

Defecatory Symptoms in Pregnant Women Compared to Nonpregnant Controls

B. Ozel, R. Urwitz-Lane, J. Wei, and L. Matos *Obstetrics and Gynecology, University of Southern California, Los Angeles, CA*

Objective: Our aim was to assess the frequency of defecatory symptoms among pregnant women compared to nonpregnant controls.

Materials and Methods: A prospective case-control study was performed. After informed consent was obtained, the short form of the pelvic floor distress inventory (PFDI-20) was administered to women attending the prenatal clinic and nonpregnant women from 18 to 45 years attending the gynecology clinic for routine health screening. The CRADI subscale of the PFDI-20 was analyzed to assess frequency of defecatory symptoms. Demographic data, including age, parity, height, weight, and gestational age were also collected. Women with bowel disorders, including irritable bowel syndrome, inflammatory bowel disease, or colorectal or anal malignancies, were excluded. Student t test and χ^2 analysis were used to compare the two groups. The institutional review board at our institution approved this study.

Results: Seventy-five pregnant and 75 nonpregnant women were included. There was no significant difference in mean (standard deviation) age [30.2 (5.7) vs. 31.0 (5.2) years, $P = 0.40$], parity [1.3 (1.5) vs. 1.5 (1.6), $P = 0.31$], body mass index [29.2 (6.4) vs. 29.2 (7.2), $P = 0.99$] between the pregnant and nonpregnant women. Thirty-three (44%) women in each group were nulliparous. Among the pregnant women, the median (range) gestational age was 22.1 (5.4–39.3) weeks. Pregnant women were significantly more likely to report feeling that they had not completely emptied their bowels at the end of a bowel movement (37.5% vs. 19.2%, $P < 0.05$), loss of well-formed stool (8.6% vs. 1.4%, $P < 0.05$), and loss of loose or liquid stool (12.5% vs. 1.4%, $P < 0.05$), compared to nonpregnant women. There was no significant difference in other defecatory symptoms, including straining to defecate, flatal incontinence, dyschezia, fecal urgency, and rectal prolapse, between pregnant women and nonpregnant controls.

Conclusion: Sensation of incomplete bowel emptying and incontinence of both well-formed and loose stool is more common among pregnant women when compared to nonpregnant controls. Fecal incontinence among nonpregnant women of childbearing age is not common.

Key Words: anal incontinence, pregnancy, defecatory

Disclosure - Nothing to disclose.

Non-Oral Poster 60

Transition of SGS Meeting Abstracts to Full Journal Articles: How Are We Doing?

B. Ozel *Obstetrics and Gynecology, University of Southern California, Los Angeles, CA*

Objective: To find out how many abstracts presented at the Society of Gynecologic Society (SGS) scientific meetings are later published as full-length manuscripts, to determine the time interval from presentation to publication, and to identify any predictors of full publication.

Materials and Methods: The abstract archives of the SGS for 2002 and 2003 were used to identify all abstracts presented. Tip and tricks and video presentations were excluded from the analysis. We chose to examine publication outcomes of abstracts presented at least 3 years before the time of our literature search because the median time to publication noted in previous studies was 2 years. A search of electronic databases was conducted using a combination of key words and author last names to identify abstracts that were later published in full. Each study was classified as to type of research (basic science, clinical, epidemiologic, or other), country (U.S., non-U.S.), and institution of origin (academic, non-academic). Of clinical trials, we noted if the study was randomized. χ^2 analysis was used to compare characteristics associated with published and unpublished abstracts.

Results: One hundred sixteen abstracts were presented in 2002 and 2003. There were 37 podium presentations, 18 oral poster presentations, and 61 non-oral poster presentations. Eight-six (74.1%) abstracts were clinical studies; only 7 (8.1%) of these were randomized clinical trials. Sixty-three (54.3%) abstracts were published as full-length journal articles. Median time to publication was 9 months (range −4 to 48 months) after presentation. Thirty-three (28.4%) abstracts were published 9 months after presentation in the *American Journal of Obstetrics and Gynecology* (AJOG) under the proceedings of the SGS annual meeting. One manuscript was published 4 months prior to the meeting. Of the 30 manuscripts that were not published in the AJOG under proceedings from the meeting, the median time to publication was 16 months. Abstracts presented as paper podium presentations were significantly more likely to be published ($P < 0.0001$). In fact 34 (91.9%) podium presentations were published in full, while only 7 (38.9%) of oral poster and 22 (36.1%) of non-oral poster presentations were published in full. There was no difference in the rates of publication based on the type of research. Of the 7 randomized trials, 2 (28.5%) were not subsequently published. Publications from academic institutions were significantly more likely to be subsequently published (61.7% vs. 22.7%, $P = 0.002$). There was no difference in publication rates based on country of origin.

Conclusion: The rate of full publication of abstracts presented at SGS meetings is 54%, which is similar to publication rates from other specialty meetings. More than half are published in the AJOG as proceedings from the meeting. Mean time to publication of manuscripts not published under the proceedings of the meeting was 16 months. The factors that appear to predict subsequent full-length publication are the type of presentation and the type of institution. Researchers presenting at the SGS are encouraged to publish their results, especially when randomized trials are performed.

Key Words: abstract, publication, Society of Gynecologic Surgeons

Disclosure - Nothing to disclose.

Non-Oral Poster 61

Nearly Half of Women Having Reconstructive Pelvic Surgery Report New Pelvic Symptoms Postoperatively

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Objective: Objective: To determine rates of new pelvic symptoms after reconstructive pelvic surgery (RPS) and how new pelvic symptoms impact surgical outcomes

Materials and Methods: After IRB approval, consecutive women scheduling RPS for symptomatic prolapse (POP) and/or incontinence were invited to participate. Women underwent standardized preoperative assessment, including urodynamics and pelvic organ prolapse quantification (POPQ). All women also completed the short form of the Pelvic Floor Distress Inventory, including urinary (UDI) and prolapse (POPDI) subscales. Women underwent standardized

follow-up 3 months after RPS: 1) Pelvic organ prolapse quantification (POPQ) 2) Cystometrogram (CMG) 3) Questionnaire eliciting overall satisfaction and new pelvic symptoms 4) PFDI 5) Patient Global Impression of Improvement (PGI)
We defined objective cure conservatively: POP cure = stage 0 or I support; Urodynamic Stress Incontinence (USI) cure = no leakage on CMG. An answer of "very much better" or "much better" on the PGI was considered "improved". An answer of "completely satisfied" on a 5-point Likert scale ("completely satisfied" to "completely dissatisfied") was considered "satisfied". χ^2 test of association was used to compare nominal data, and Mann-Whitney test was used to compare independent groups and continuous variables.

Results: Seventy-nine women had RPS during the study period. Baseline mean + SD UDI and POPDI scores were 44+31 and 36+24. Half of participants (54%) had combined POP/USI procedures; 34% only USI; 12% only POP. Three months after surgery, nearly half (42%) of women reported new pelvic symptoms. New incontinence symptoms were most common (27%), followed by urinary urgency (25%) and frequency (23%), difficulty with defecation (22%), voiding difficulty (10%), and POP (2%). Baseline UDI and POPDI scores were not significantly different amongst women with and without new pelvic symptoms (P = .12 and P = .51) nor was type of surgery (P = .11). Women with new symptoms had lower postoperative mean UDI scores (23±21 vs. 6±11, $P < .0005$) and POPDI scores (11±12 vs. 4±9, P = .02) than those without new symptoms. Objective cure rates were 71% for USI, and 64% for POP. Neither objective cure of POP (P = .306) or USI (P = .07) was associated with new pelvic symptoms. Only 58% of women with new symptoms were improved on PGI compared to 83% without new symptoms (P = .014). Likewise, 33% with new symptoms were completely satisfied compared to 83% without new symptoms ($P < .0005$). In multivariate analysis, satisfaction was significantly associated with new pelvic symptoms (P = .008), but not postoperative UDI or POPDI scores (P = .07 and P = .09).

Conclusion: Women undergoing RPS report high rates of new pelvic symptoms after surgery. Not surprisingly, new pelvic symptoms are associated with decreased self-reported improvement and satisfaction despite objective cure and improvement on validated quality of life (QOL) measures. Given this strong association between decreased satisfaction, new pelvic symptoms, and QOL, further investigation is necessary to determine optimal methods for assessing surgical success.

Key Words: surgical outcome, patient satisifaction, quality of life, prolapse surgery, incontinence surgery, PFDI

Disclosure - Nothing to disclose.

Non-Oral Poster 62

Demographics, Fistula Classification, and Treatments of Obstetrical Fistulae Treated in Niamey, Niger, by Physicians Affiliated With the International Organization of Women and Development (IOWD)

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Objective: To assess the demographics, classification of fistulae, and the medical and surgical management of patients suffering from obstetrical fistulae treated by physicians affiliated with the IOWD in Niamey, Niger.

Materials and Methods: The IOWD is a comprehensive, long-term care program dedicated to the treatment and prevention of obstetrical fistulae. A retrospective review of records from patients evaluated and treated between January 2003 and September 2006 were analyzed for demographic information (age, parity, stillbirths), fistula classification (vesicovaginal, urethrovaginal, total amputation of the proximal urethra - TAPU, cervical or uterovaginal, and/or rectovaginal), incontinence, and medical or surgical treatments.

Results: A total of 319 patient records were available for this initial data review. Demographic data include: average age 27.9 ± 9.13 years (range 16–68 years), pregnancies 3.08 ± 2.71 (range 1–16), and stillbirths/fetal death 1.23 ± 1.76 (range 0–8). Fistulae were classified as per location and included: vesicovaginal (VVF) (n = 124), urethrovaginal (UrVF) (n = 60), TAPU (n = 56), cervico- or uterovaginal (CVF/UtVF) (n = 15), and rectovaginal (RVF) (n = 10). Multiple, concomitant fistulae were noted in 49 patients (49/319, 15.4%). Surgical treatments included primary VVF repair (vaginal, n = 95, 76.6%, primary vaginal repair with transposition flap, n = 2, 1.6%) and repeat VVF repairs (vaginal, n = 11, 8.9%; abdominal, n = 9, 7.3%). Forty-seven primary vaginal UrVF repairs (78.3%) and 13 repeat repairs (21.7%) were done. TAPU were repaired via a primary vaginal approach (n = 47, 83.9%), repeat vaginal approach (n = 4, 7.1%), vaginal repair with a transposition flap (n = 1, 1.8%), or by urinary diverting technique (n = 8, 14.3%). Other fistulae included 10 RVF, 1 enterocutaneous, and 1 vesicocutaneous fistula. Additional findings include SUI-treated with a primary sling (n = 54), repeat sling (n = 10), detrusor overactivity treated with anticholinergics (n = 15), nephrolithiasis (n = 2), bladder cancer (n = 1), and nonfunctioning kidney (n = 1). Hysterectomies were performed in 10 patients. Seven patients underwent anal sphincteroplasty, and 2 required removal of eroded sling material.

Conclusion: This initial analysis outlines the demographics, fistulae classification, concomitant diagnoses, and treatments offered to patients suffering from obstetrical fistulae in Niger. This comprehensive program is dedicated to the management and long-term follow-up of Nigerian women suffering from obstetrical fistulae. Follow-up data on treatment outcomes, complications, fistula recurrence rates, incontinence rates, postoperative management, fistula staging, and surgical techniques are forthcoming.

Key Words: vesicovaginal fistula, TAPU, fistula, anal sphincteroplasty, treatment

Disclosure – Nothing to disclose.

Video Presentation 1

Ureteroneocystostomy

J. B. Gebhart *OB/GYN, Mayo Clinic, Rochester, MN*

Objective: To review the surgical procedure and emphasize pertinent teaching points

Description: Ureteral obstruction can and does occur during the course of pelvic surgery, particularly pelvic reconstructive surgery. When other methods have failed to relieve obstruction, ureteral reimplantation is an option available to the pelvic surgeon. We review the surgical procedure utilizing video footage and computer animation.

Conclusion: Ureteroneocystostomy is an option when dealing with ureteral obstruction, and a procedure with which the pelvic surgeon should be familiar.

Key Words: surgical technique, ureteral surgery, ureteral obstruction

Disclosure - Grant/Research Support: CR Bard Inc, Researcher.

Video Presentation 2

Readjustable Sling Procedure for Treatment of Female Stress Urinary Incontinence

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Objective: Following a sling procedure, one potential complication is voiding dysfunction or overt obstruction of voiding due to sling tension which is too great. Another disappointing outcome is failure to correct urinary incontinence that may result from tension that is too low. The objective of this video is to demonstrate a surgical method for placing a sling which allows for postoperative adjustment of sling tension.

Description: A 1 cm. × 4 cm. polyester sling is placed in the midurethral position via a small transvaginal incision. Polyester sutures attached to the lateral ends of the sling are transferred to a 1-inch suprapubic incision with Stamey needles. The sutures are threaded into a sling tensioning device, which remains as a surgical implant post-operatively. An adjustment arm is attached to the tensioning device and emerges from the closed suprapubic incision. Postoperative adjustment (either tighter or looser) is performed during the first 48 hours after surgery, and the adjustment arm is removed in the office. The implanted tensioning device can be reaccessed in the office or in an Ambulatory Surgery setting at a time remote from surgery to accomplish additional fine-tuning if necessary.

Conclusion: Sling tension has been a debated topic relating to slings for many years. A procedure for placement of a midurethral sling that may be adjusted tighter or looser has been presented. The ability to adjust sling tension may improve outcomes in patients who require surgery for female stress urinary incontinence.

Key Words: stress incontinence, sling, adjustable sling

Disclosure - Honorarium: Tri-Annum Corp., consultant.

Video Presentation 3

Repair of Recurrent Pelvic Organ Prolapse Using Polypropylene Mesh

J. T. Stubbs *Savannah Pelvic Reconstructive Surgery Center, Savannah, GA*

Objective: The surgical DVD details the correction of recurrent pelvic organ prolapse using a using a woven, single-strand, monofilament interlocked macroporous polypropylene mesh (Gynemesh PS, Ethicon) and a suture capturing device (Capio Standard Device, Boston Scientific).

Description: Surgery begins anteriorly with hydrodissection using 1% lidocaine with epinephrine injected subepithelially. The vaginal epithelium is then sharply dissected away from the underlying bladder base, and the paravesical spaces are entered bilaterally. Using a suture capturing device (Capio Standard Device, Boston Scientific) a permanent suture (0 Gortex) is placed through each sacrospinous ligament-coccygeus muscle complex approximately one and one half fingerbreadths medial from each ischial spine. A second Gortex suture is place in a similar fashion through the distal segment of each arcus tendineus fasciae pelvis (white line). These four sutures are then threaded through each corresponding corner of a trapezoid-shaped piece of woven, single-strand, monofilament interlocked macroporous polypropylene mesh (Gynemesh PS, Ethicon). The sacrospinous sutures are also placed in an in-to-out, out-to-in fashion of the lateral apices of the vaginal cuff, and once tied, they will provide bilateral apical support. The epithelium is closed in a longitudinally running, nonlocking manner using absorbable suture. Posteriorly, dissection begins in a similar fashion. The pararectal spaces are entered bilaterally, and a Gortex suture is placed through each iliococcygeus muscle immediately posterior to each ischial spine. The iliococcygeus sutures are then placed in an in-to-out, out-to-in fashion of the lateral apices of the posterior vaginal cuff, then through the apices of the arms of a Y-shaped piece of mesh and tied. The distal portion of the mesh is secured to the perineal body, and the vagina is repaired in an episiotomy-like fashion.

Conclusion: It has been estimated that 50% of parous women will experience some degree of pelvic organ prolapse, and approximately 11% of women will have surgery to correct the prolapse. Unfortunately, 30 to 40% of these women will undergo a second operation within 5 years from the original surgery, and a subset of these women will have a third or fourth operation for recurrent prolapse. The techniques illustrated in this surgical video represent a viable option for such cases.

Key Words: prolapse, polypropylene mesh, sacrospinous ligament

Disclosure - Nothing to disclose.

Video Presentation 4

Robotic Sacrocolpopexy

A. G. Visco *Obstetrics and Gynecology, University of North Carolina, Chapel Hill, NC*

Objective: This video demonstrates our technique of robotic sacrocolpopexy for the treatment of vaginal vault prolapse.

Description: We present a stepwise approach to a robotic sacrocolpopexy that begins with port placement and describe techniques to facilitate this complex surgery. We demonstrate the dissection of rectovaginal septum and the attachment of the polypropylene mesh to the anterior and poster vagina. The dissection of the presacral space and the use of a slipknot to attach the mesh to the sacrum is also shown. Finally, we close the peritoneum over the mesh to reduce the risk of small bowel obstruction.

Conclusion: Robotic sacrocolpopexy is an alternative for patients who desire a minimally invasive approach to sacrocolpopexy. The improved dexterity afforded by the robotic instruments allows for accurate placement of the mesh and sutures. Clinical trials are needed to evaluate the short- and long-term outcomes of this relatively new surgical approach.

Key Words: sacrocolpopexy, vaginal vault prolapse, robotic, uterine prolapse

Disclosure - Honorarium for proctoring: Intuitive Surgical, Proctor.

Video Presentation 5

Excision of Eroded Mesh in Patients With Prior Abdominal Sacrocolpopexy

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Objective: For women with vaginal vault prolapse, the abdominal sacrocolpopexy procedure using mesh has been shown to be a durable surgical repair. However, this procedure is not without potential long-term complications. No prospective randomized trials have been performed to compare the treatment of mesh erosion. The techniques of mesh excision used at our institution include abdominal excision and transvaginal excision with or without the use of endoscopy. In this video, we compare and demonstrate two of these methods of mesh excision.

Description: Abdominal mesh excision may appear to be the gold standard for resolution of symptoms after an abdominal sacrocolpopexy. However, this procedure is more invasive than the vaginal approach, is an inpatient rather than an outpatient procedure, requires a longer recovery time, and is associated with increased morbidity. The transvaginal mesh excision procedure was less successful in symptom resolution in an analysis of a patient cohort from our institution. However, no intraoperative and only minor postoperative complications were noted. We did find that some patients required a repeat procedure and that multiple attempts may be necessary to achieve successful resolution in those patients who desire to avoid abdominal excision. We demonstrate both techniques of mesh excision in this video.

Conclusion: Transvaginal excision of mesh with or without the use of endoscopy is safe and less invasive than an abdominal approach. Although multiple attempts may be necessary to achieve symptom resolution, this may be preferred by those patients wishing to avoid the increased morbidity associated with the abdominal approach.

Key Words: mesh erosion, abdominal sacrocolpopexy, transvaginal mesh excision, endoscopic mesh excision

Disclosure - Nothing to disclose.

Video Presentation 6

Systematic Approach to Deep Rectovaginal Dissection in Laparoscopic Sacrocolpoperineopexy

T. Lee *Magee Womens Hospital, Pittsburgh, PA*

Objective: To demonstrate a system of reproducible techniques to facilitate safe and efficient rectovaginal dissection in laparoscopic sacrocolpoperineopexy.

Description: A significant portion of patients with severe vaginal vault prolapse or procidentia have coexisting large posterior vaginal wall support defect. Sacrocolpopexy alone frequently leaves patients with large posterior bulge. Ideally, sacrocolpoperineopexy will fix both apical and posterior vaginal support defects. A recent study by Antiphon et al. shows that laparoscopic sacrocolpoperineopexy reduces the posterior compartment failure associated with laparoscopic sacrocolpopexy from 31.3 to 5.9%. Sacrocolpoperineopexy requires deep rectovaginal dissection to the level of the levator ani and perineal body. However, laparotomy provides limited exposure and lighting in the deep rectovaginal space. The lighting and magnification of laparoscopy can provide outstanding exposure during this dissection. This video will demonstrate a system of reproducible techniques that will improve exposure and facilitate dissection in the deep rectovaginal space. There are three crucial aids in this dissection: 1. upward retraction of rectosigmoid colon; 2. anteflexion of vagina with the Breisky-Navratil retractor; 3. proper use of the rectal probe. The epiploica of sigmoid colon are sutured with monofilament suture. The suture in turn is anchored to the left upper quadrant of the abdomen. The retraction of rectosigmoid colon will provide uncompromised exposure to the operative field and provide adequate tissue tension, which will facilitate the dissection. The anteflexion of vagina with the Breisky-Navratil retractor will increase the margin of safety by expanding the rectovaginal space. In addition, the retractor will also increase tissue tension, which will lessen the difficulty in the identification of the correct tissue plane. The rectal probe is deviated to the contralateral side to provide additional room and safety when developing the ipsilateral pararectal space. Downward blunt dissection immediately lateral to the edge of the Breisky- Navratil retractor will quickly expose the medial pararectal space and the puborectalis portion of levator ani. After developing the pararectal space, correct tissue plane can be developed to allow for safe separation of midline fibrosis resulting from previous posterior colporrhaphy

Conclusion: A systematic approach to deep rectovaginal dissection will enable the reconstructive pelvic surgeons who are already proficient in laparoscopic sacrocolpopexy to perform the necessary dissection for sacrocolpoperineopexy with minimal additional effort.

Key Words: sacrocolpoperineopexy, rectovaginal, laparoscopy

Disclosure - Honorarium: Ethicon Women, proctor.

Video Presentation 7

Techniques in Vaginal Oophorectomy

J. B. Gebhart*, R. Kho†, and J. Magrina† **OB/GYN, Mayo Clinic, Rochester, MN; †OB/GYN, Mayo Clinic, Scottsdale, AZ*

Objective: To review a variety of surgical techniques for removal of the ovaries via a transvaginal route.

Description: As vaginal hysterectomy has become less commonly performed in the United States, so too has vaginal oophorectomy. If oophorectomy is indicated and planned at the time of vaginal hysterectomy, then performance of this procedure transvaginally is desirable. We review several techniques to assist in vaginal oophorectomy.

Conclusion: Vaginal oophorectomy is often easily performed via a variety of techniques and should be a familiar procedure to all pelvic surgeons.

Key Words: vaginal surgery, oopherectomy, surgical techniques

Disclosure - Grant/Research Support: CR Bard Inc, Researcher.

Video Presentation 8

Laparoscopic Ovarian Transposition

P. Tulikangas, M. Schimpf, and J. Sorosky *University of Connecticut/Hartford Hospital, Hartford, CT*

Objective: This video demonstrates the technique of laparoscopic ovarian transposition.

Description: Laparoscopic ovarian transposition involves mobilization of the ovaries from their native pelvic position to the abdomen. This is done in premenopausal women prior to pelvic radiation therapy. The goal of the procedure is to preserve ovarian function.

Conclusion: Laparoscopic ovarian transposition is a minimally invasive procedure that may allow premenopausal women to maintain ovarian function during and after pelvic radiation therapy.

Key Words: laparoscopy, ovarian transposition, radiation therapy, premenopausal

Disclosure - Nothing to disclose.

Video Presentation 9

Combined Perineoplasty With Overlapping Anal Sphincteroplasty for Symptomatic Anal Sphincter Injury

M. M. South, R. T. Foster, and A. C. Weidner *OB/GYN, Duke University Medical Center, Durham, NC*

Objective: Fecal incontinence and associated defecatory dysfunction is increasingly recognized as a significant contributor to female pelvic floor dysfunction. Success rates for surgical therapy for fecal incontinence have varied but, in general, have not been particularly favorable. We demonstrate a combined perineoplasty with overlapping anal sphincteroplasty for repair of a symptomatic anal sphincter defect. This video illustrates our approach to selection of the patient appropriate for surgical treatment of fecal incontinence and specific important principles of surgical technique.

Description: The technique we advocate involves a layered repair that includes reestablishment of the integrity of the internal and external anal sphincters with a substantial reconstruction of the perineal body. The perineoplasty is accomplished by creating multiple layers of connective tissue over the repaired anal sphincter.

Conclusion: Long-term follow-up (37 months, range 6 to 67 months) by Fecal Incontinence Severity Index questionnaire revealed continued satisfaction with symptom control and overall bowel function for our patients. Combined perineoplasty with overlapping anal sphincteroplasty for anal sphincter defect is an effective method for decreasing symptoms of fecal incontinence in properly selected patients.

Key Words: fecal incontinence, anal sphincteroplasty, perineoplasty

Disclosure - Nothing to disclose.

Video Presentation 10

Retropubic Urethropexy in Patients With Recurrent Stress Incontinence and Low Pressure Urethra

M. Moen*† **Advocate Lutheran General Hospital, Park Ridge, IL; †Illinois Urogynecology, Park Ridge, IL*

Objective: To demonstrate a retropubic technique for treating patients with recurrent stress incontinence complicated by low pressure urethra

Description: Key steps demonstrated include exposure of the retropubic space, excision of previously placed graft material, urethrolysis, intentional cystotomy, and suture placement

Conclusion: The demonstrated technique results in increased urethral closure pressure and can be utilized to treat recurrent stress incontinence complicated by low pressure urethra

Key Words: stress incontinence, retropubic urethropexy, low pressure urethra

Disclosure - Nothing to disclose.