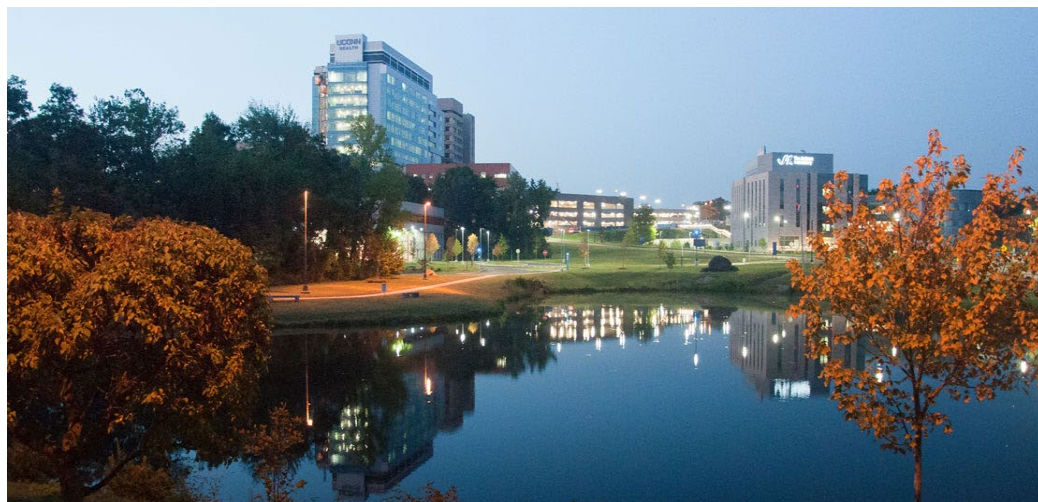


11th Annual State of Connecticut Obstetrics and Gynecology Residents' Research Day

September 28, 2023

UConn HEALTH

OB/GYN RESIDENCY
PROGRAM



Resident Presenters

Bridgeport Hospital

Dr. Koraima Cedeno
Dr. Arlene Gutman
Dr. Amy Hackett
Dr. Kayla Smith

Danbury Hospital

Dr. Anya Laibangyang
Dr. Taylor Langevin
Dr. Cynthia McKinney
Dr. Zeynep Tek

Saint Francis Hospital and Medical Center

Dr. Paola Comas Vargas
Dr. Ashley Garcia
Dr. Rajeshwari Kalyanaraman

Stamford Hospital

Dr. Sharon Amir
Dr. Brady Coad
Dr. Kristen Langan
Dr. Jenna Maurer
Dr. Heather Toskos

University of Connecticut

Dr. Nili Amir
Dr. Tejeshwar Bawa
Dr. Madison Buchman
Dr. Laura Cheng
Dr. Kachenta Descartes
Dr. Louisa Drake
Dr. Rose Emlein
Dr. Britton Gibson
Dr. Lucille Howard
Dr. Moli Karsalia
Dr. Chioma Ogbejesi
Dr. Korey Onulack
Dr. Dillon Paulo
Dr. Candice Quarella
Dr. Monica Saleeb
Dr. Natali Senocak
Dr. Rosanne Zandvliet

Yale-New Haven Medical Center

Dr. Bertie Geng
Dr. Melissa Markowitz
Dr. Sarah Wang

In Partnership With:

Hartford Hospital

&

The Hospital of Central Connecticut

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of Central
Connecticut
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We are delighted to host the 11th Annual State of Connecticut Obstetrics and Gynecology Residents' Research Day. What a wonderful opportunity for the Connecticut residency programs to join together and share their research experiences. Each year the event has continued to evolve and we have been increasingly impressed with the quality of research that is occurring within the state. We would like to congratulate the presenters for their hard work and achievements and thank you all for coming today to celebrate their accomplishments.

A special thank you goes to the UConn Research Committee, the Department of Graduate Medical Education, and our distinguished speaker, Dr. Courtney Townsel.

Molly Brewer, MD
The University of Connecticut
Department Chair

Amy Johnson, MD
The University of Connecticut
Residency Program Director

KEYNOTE SPEAKER 2023

Courtney Townsel, MD, MSc, FACOG

“Becoming a Physician-Scientist: It takes more than Grit”



Courtney Townsel MD MSc, FACOG, is a tenure track Assistant Professor of Obstetrics and Gynecology at the University of Maryland. She received her undergraduate degree in Clinical Laboratory Science at Howard University, her medical degree from the University of South Florida and completed her Obstetrics and Gynecology residency at George Washington University. She completed her Maternal-Fetal Medicine Fellowship along with a Master of Science in Clinical and Translational Research at the University of Connecticut. Dr. Townsel joined the University of Maryland Maternal Fetal Medicine faculty in September 2023 and serves as the Director of Perinatal Research for the division.

She is an award-winning educator and clinician scientist. Her research interests include health disparities, substance use disorders in pregnancy, and placental biology. Her primary research investigates placental transport and metabolism of opioids. In addition to her research, she serves as the Diversity and Equity Council member for the Perinatal Research Society and is on the editorial board for the Green Journal (Obstetrics and Gynecology).

11th Annual State of Connecticut Obstetrics and Gynecology Residents' Research Day

Thursday, September 28, 2023
UConn Health Academic Rotunda
 (263 Farmington Ave, Farmington, CT)

8:00am	Breakfast and Registration
9am – 9:15am	Welcome Message and Opening Remarks Molly Brewer, MD - Academic Chair for Ob/Gyn, UConn Health Amy Johnson, MD - Residency Program Director, UConn Health Jonathan Shepherd, MD - Residency Research Chair, UConn Health
9:15am - 10:30am	Keynote Speaker- Courtney Townsel, MD, MSc “Becoming a Physician-Scientist: It takes more than Grit”
10:35am- 10:45am	Amy Johnson, MD- Instruction on Poster Session & Break
10:45am-11:45am	Poster Session (break into poster rooms as directed)
11:45am- 12:30pm	Lunch – Academic Rotunda
1:00pm – 2:30pm	Oral Presentations- Academic Rotunda Moderator: Jonathan Shepherd, MD
1:00pm- 1:15pm	Louisa Drake, DO <i>Impact of the ARRIVE Trial on Nulliparous Term Singleton Vertex (NTSV) Births at Hartford Hospital (PGY4, UConn)</i>
1:15pm- 1:30am	Rajeshwari Kalyanaraman, MBBS <i>Validation of an Ultrasound Staging System for Diagnosis of Adenomyosis in Premenopausal Women Who Present with Dysmenorrhea, Pelvic Pain, or Abnormal Uterine Bleeding (PGY4, St. Francis)</i>
1:30pm-1:45pm	Melissa Markowitz, MD <i>Body Mass Index and Surgical Diagnosis of Endometriosis: Do Obese Patients Experience an Operative Delay? (PGY4, Yale)</i>
1:45pm-2pm	Monica Saleeb, MD <i>The Impact of Smoking on Sacrocolpopexy Perioperative Outcomes (PGY2, UConn)</i>
2:00pm-2:15pm	Sarah Wang, MD <i>Molecular Analysis of Endometriosis: Underlying Pathways of Symptomaticity in Endometriosis (PGY3, Yale)</i>
2:15-2:30pm	Refreshment Break / Judge deliberations
2:30 pm	Awards and Closing Remarks

Ob/Gyn Resident Participants



Nili Amir, MD
UConn



Sharon Amir, MD
Stamford



Tejeshwar Bawa, MD
UConn



Madison Buchman, DO
UConn



Koraima Cedeno, MD
Bridgeport



Laura Cheng, MD
UConn



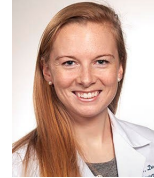
Brady Coad, MD
Stamford



Paola Comas Vargas, MD
St. Francis



Kachenta Descartes, MD
UConn



Louisa Drake, DO
UConn



Rose Emlein, MD
UConn



Ashley Garcia, MD
St. Francis



Bertie Geng, MD
Yale



Britton Gibson, MD
UConn



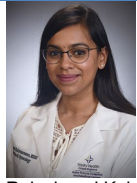
Arlene Gutman, MD
Bridgeport



Amy Hackett, MD
Bridgeport



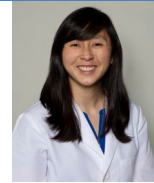
Lucille Howard, MD
UConn



Rajeshwari Kalyanaraman,
MBBS
St. Francis



Moli Karsalia, MD
UConn



Anya Laibangyang, MD
Danbury



Kristen Langan, MD
Stamford



Taylor Langevin, DO
Danbury



Melissa Markowitz, MD
Yale



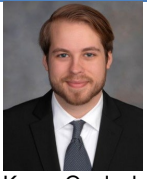
Jenna Maurer, MD
Stamford



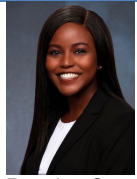
Cynthia McKinney, MD
Danbury



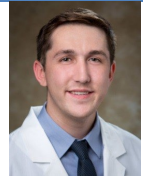
Chioma Ogbejesi, MD
UConn



Korey Onulack, MD
UConn



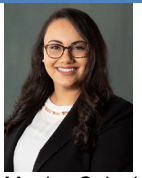
Roselyn Oyenuga, DO
UConn



Dillon Paulo, MD
UConn



Candice Quarella, MD
UConn



Monica Saleeb, MD
UConn



Natali Senocak, MD
UConn



Kayla Smith, MD
Bridgeport



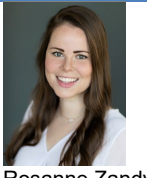
Zeynep Tek, MD
Danbury



Heather Toskos, MD
Stamford



Sarah Wang, MD
Yale



Rosanne Zandvliet, DO
UConn

Poster Breakout Rooms

Resident(s)	Poster Title	Site	Room Assignment
Nili Amir, MD	A Case Report on Abnormal Cell-Free DNA Screening Unveiling Malignancy in a Pregnant Woman	UConn	A3
Sharon Amir, MD	Septic Abortion at 17 Weeks Gestation After Radical Trachelectomy and Abdominal Cerclage	Stamford	A2
Tejeshwar Bawa, MD	Implementing A Protocol to Improve Knowledge and Confidence of Initiating Ovulation Induction for the Obstetric and Gynecology (OB/GYN) Resident	UConn	A1
Madison Buchman, DO	Intraoperative Ultrasound Evaluation of Mid-Urethral Sling Position: with and without Apical Suspension	UConn	A1
Koraima Cedeno, MD	Effect of Immediate vs Delayed Timing of Postpartum Glucose Tolerance Test in Patients with Gestational Diabetes	Bridgeport	A1
Laura Cheng, MD	Improving Resident Knowledge and Preparedness in Colposcopy through Implementation of a Colposcopy Curriculum	UConn	A1
Brady Coad, MD	Effectiveness of Telehealth Physical Therapy for Patients with Pelvic Floor Disorders in a Community Hospital Setting	Stamford	A1
Paola Comas Vargas, MD	Management of Periviable Labor and Delivery Outcomes	St. Francis	A2
Graham Dersnah, MD Amy Hackett, MD	A Mother's Dilemma: Cancer in Pregnancy – A Case Series	Bridgeport	ROTUNDA
Kachenta Descartes, MD	Adherence to Updated HPV Vaccination Guidelines at WAHS	UConn	A6
Rosie Emlein, MD	Inhaled Tranexamic Acid (TXA) for Management of Pulmonary Hemorrhage in Stage III Mixed Trophoblastic Tumor	UConn	A3
Bertie Geng, MD	Dilated fetal small bowel with polyhydramnios and lack of resolution is associated with acute neonatal bowel pathology	Yale	A7
Bertie Geng, MD	Evaluating the relationship between early glucose tolerance test screening and adverse neonatal and maternal outcomes	Yale	A7
Bertie Geng, MD	Effective Reduction in Unindicated Cervical Cancer Screening in Adolescent Females in a Large Healthcare System	Yale	A7
Bertie Geng, MD	Genetic screening trends and outcomes in pregnancies with a vanishing twin	Yale	A7
Britton Gibson, MD	Pre-Exposure Prophylaxis (PrEP) for HIV Prevention: eligibility, knowledge and attitudes of women attending an ambulatory OB/GYN Clinic	UConn	ROTUNDA
Britton Gibson, MD	Pre-Exposure Prophylaxis (PrEP) for HIV Prevention: Knowledge and attitudes of women's health providers	UConn	ROTUNDA
Arlene Gutman, MD	First trimester early detection of placenta increta in setting of suspected cesarean scar ectopic pregnancy; a case report.	Bridgeport	A2
Lucille Howard, MD Roselyn Oyenuga, DO	Diagnosis and Treatment of Myomectomy Scar Pregnancy	UConn	A6
Lucille Howard, MD	Factors Associated with DCF Referral using a Universal Toxicology Testing Approach to Screen for Substance Use in Pregnancy	UConn	A6
Moli Karsalia, MD	Analysis of Hypertension Clinic Referral Follow up Rate in Patients with Severe Hypertensive Disorder of Pregnancy	UConn	A8
Ashley Garcia, MD Haviva Kobany, MD	Late diagnosis of pemphigoid gestationis following pre-eclampsia and preterm delivery at 24 weeks gestational age in a patient with brown skin: a case study	St. Francis	A2
Anya Laibangyang, MD	Recurrent cervical cancer after trachelectomy diagnosed by hysteroscopy: A case	Danbury	A3

Kristen Langan, MD	Short Interval Pregnancy and COVID-19: Impact of Access to Bilateral Tubal Ligation During COVID-19 on Short-Interval Pregnancy	Stamford	A8
Taylor Langevin, DO	A Case of Acute Hyponatremia Secondary to Suspected Water Intoxication in Labor	Danbury	A2
Melissa Markowitz, MD	Expedited Partner Therapy: A Multi-Component Initiative to Boost Provider Counseling	Yale	A8
Jenna Maurer, MD	Delayed Presentation of Placenta Accreta Following a First Trimester Medical Abortion	Stamford	A4
Cynthia McKinney, MD	Laparoscopically-Treated Ovarian Torsion in a 32-Week Pregnancy	Danbury	A5
Chioma Ogbejesi, MD	De Novo Abdominal Wall Endometrioma Following Robotic Assisted Laparoscopic Myomectomy: Case Report	UConn	A5
Chioma Ogbejesi, MD	Hereditary Cancer Screening at an Underserved Continuity Clinic	UConn	A5
Chioma Ogbejesi, MD	Growth of Intravascular Leiomyomatosis (IVL) with a Decreasing Pelvic Mass in a Postmenopausal Female: Case Report	UConn	A5
Korey Onulack, MD	The Incidence of Venous Thromboembolic Events in Patients with Ovarian Cancer Receiving Neoadjuvant Chemotherapy: A Multi-Institutional Experience	UConn	A8
Dillon Paulo, MD	Hartford Hospital Cerclage Outcomes	UConn	A8
Candice Quarella, MD	Post abortal GAS endometritis diagnosed via endometrial biopsy	UConn	A4
Natali Senocak, MD	Emergency Contraception in the Postpartum Setting: An Educational Intervention to Improve Resident Knowledge and Prescribing Practices	UConn	ROTUNDA
Kayla Smith, MD	Delayed Diagnosis of Placenta Accreta with Secondary Postpartum Hemorrhage	Bridgeport	A5
Zeynep Tek, MD	A Case of Ewing Sarcoma of the Uterus	Danbury	A3
Heather Toskos, MD	ASA Prophylaxis for Clinic Patients: A Quality Improvement Initiative	Stamford	A6
Heather Toskos, MD	Postcoital Vaginal Perforation in an Adolescent with Anorexia Nervosa	Stamford	A6
Rosanne Zandvliet, DO Candice Quarella, MD	Metastatic rectosigmoid carcinoma in a 37-year-old pregnant patient at 33 weeks gestation	UConn	A4
Rosanne Zandvliet, DO	Implementing a Validated Sexual Dysfunction Screening Tool at an Inner-City Women's Health Clinic	UConn	A4
Helen Zhao, MD Britton Gibson, MD	Postpartum CMV Endometritis: a case report	UConn	ROTUNDA

ORAL Presentations

Impact of the ARRIVE Trial on Nulliparous Term Singleton Vertex (NTSV) Births at Hartford Hospital

Louisa Drake, DO, PGY4 and Adam F Borgida, MD
UCONN Health, Hartford Hospital, Hartford, CT

INTRODUCTION – The ARRIVE trial was published in August 2018 showing that elective induction of labor at 39 weeks in low risk nulliparous patients decreased cesarean rates compared to expectant management. We investigated changes in NTSV induction and cesarean rates, pre and post ARRIVE publication at Hartford Hospital.

METHODS – We reviewed our Epic EHR for all nulliparous, term, singleton, cephalic presenting deliveries at Hartford Hospital from January 2017 through December 2021. We then compared the population of patients delivering between January 1, 2017 through August 31, 2018 (pre-ARRIVE cohort) to patients delivering between January 1, 2019 through December 31, 2021 (post-ARRIVE cohort). We excluded patients delivering between September 1, 2018 and December 31, 2018 (washout period). Data reviewed included maternal characteristics, rates/types of induction and pregnancy outcomes. Continuous variables were compared using t-test and categorical data were compared with Chi square, with $p < 0.05$ considered significant.

RESULTS – There were 5233 NTSV deliveries in the study period. Our study population included all patients in the pre and post-ARRIVE cohorts. The mean maternal age for this population was 28.46 years and mean gestational age was 39.11. With regards to race, 50% of patients were Caucasian, 24% were listed as “other”, 11% were African American, 4% were Asian, and the race for 10% of patients was unknown. 43% of patients had an induction of any kind while 57% of patients were not induced. Of the patients who were induced, 73% were induced medically while 23% of patients were induced with a combination of both medical and mechanical methods. 20% of the inductions were elective inductions. 72% of births were vaginal while 28% were cesarean deliveries; the mean birth weight was 3337.5g.

When comparing the pre and post ARRIVE cohorts, 37.5% of patients were induced pre-ARRIVE and 47% of patients were induced post-ARRIVE. The percent of inductions that were elective increased from 11 to 27%. These numbers were statistically significant. The mode of delivery remained consistent between the two groups – approximately 71% of patients had a vaginal delivery while 29% of patients had a cesarean section. When comparing patients in the post-ARRIVE cohort who had an elective induction vs. spontaneous labor at 39-41 weeks, there was also no difference in the mode of delivery: 28% of patients who had an elective induction at 39 weeks had a cesarean section, whereas 25% of patients who went into spontaneous labor had a cesarean section. This was not statistically significant.

CONCLUSION – After the publication of the ARRIVE trial, Hartford Hospital had significantly more elective inductions; however, the cesarean rates for NTSV births did not significantly change despite this increase.

Validation of an Ultrasound Staging System for Diagnosis of Adenomyosis in Premenopausal Women who Present with Dysmenorrhea, Pelvic Pain, or Abnormal Uterine Bleeding.

Rajeshwari Kalyanaramn, MBBS.², Katie White, MD.², Kelly Flynn, MD.², Alexis Newmark, MD.³, Marielle Morgan, PA-C.², Wesley Nilsson, MD, MBA.^{2,3}, Danielle E. Luciano, MD.³, Rachel LaMonica, MD.^{1,2}

1. Progressive Women's Health, 499 Farmington Ave, Suite 220, Farmington, CT 06032
2. Trinity Health of New England/Saint Francis Hospital and Medical Center, 114 Woodland Ave, Hartford, CT 06101
3. University of Connecticut School of Medicine, 263 Farmington Ave, Farmington, CT 06032

INTRODUCTION – The true incidence of adenomyosis has been difficult to determine given the lack of standardization of diagnostic criteria. However, over the past decade imaging modalities have made strides at diagnosing adenomyosis non-invasively through MRI, and 2D and 3D ultrasounds. A system recently developed by Lazzeri et al (2018) for the diagnosis and staging of adenomyosis through interpretation of 3D transvaginal ultrasound holds promise for non-invasive assessment of this condition. However, the staging system requires further validation, preferably using providers in community practice.

METHODS – This is a prospective observational study performed at three non-affiliated outpatient facilities. 92 premenopausal women ages 18-55 presenting for ultrasound for abnormal uterine bleeding, dysmenorrhea, dyspareunia, pelvic pain or infertility were included in the study. All patients rated their pelvic pain, dysmenorrhea, dyspareunia, and bowel/bladder symptoms for severity using visual analog scales (VAS). A Pictorial Blood Loss Assessment Chart (PBAC) was used to obtain estimates of menstrual blood loss. Pelvic ultrasounds were scored for adenomyosis according to the Lazzeri staging system in a blinded fashion by two independent examiners, who rated the presentations as mild, moderate or severe disease.

RESULTS – Interrater reliability between the two blinded independent examiners of the ultrasounds using the Lazzeri staging system was high, indicating that the system is reliable even when used by community providers. VAS scores on dysmenorrhea, abnormal uterine bleeding, pelvic pain, dyspareunia, and/or infertility did not differ significantly between women who were scored as having mild, moderate, or severe disease. However, there was a trend towards higher PBAC scores in women who were scored with moderate to severe disease.

CONCLUSION – This study indicated that extent of disease in adenomyosis was associated with increased bleeding, but not necessarily with other symptom indices. The Lazzeri ultrasonographic scoring system, however, appears to be a reliable means to assess presence and stage of adenomyosis. The scoring system may thus be a useful tool for the non-invasive detection of adenomyosis in community clinics.

Body Mass Index and Surgical Diagnosis of Endometriosis: Do Obese Patients Experience an Operative Delay?

Dr. Melissa A. Markowitz, MD¹, Ms. Molly Doernberg, MPH¹, Dr. Howard J. Li, MD¹, Dr. Yonghee K. Cho, MD¹

¹Department of Obstetrics, Gynecology and Reproductive Sciences, Yale School of Medicine, New Haven, CT

INTRODUCTION- Body mass index (BMI) and endometriosis have historically shared an inverse relationship, with endometriosis diagnosed less frequently in overweight and obese individuals. However, this may be due to diagnostic delay or underdiagnosis of endometriosis in patients with elevated BMI, as endometriosis is diagnosed histologically. With over 40% of the U.S. population classified as obese, it is critical to understand if physician bias poses a disparity in the diagnosis of endometriosis in obese patients. Thus, our study aimed to quantify the time to surgical diagnosis of endometriosis for patients of varying BMI at a tertiary academic institution. Secondly, we evaluated the safety of laparoscopy for endometriosis by BMI.

METHODS- We conducted a retrospective chart review of all reproductive age women receiving a primary laparoscopic diagnosis of endometriosis at an academic tertiary hospital from January 2017 to December 2020. CPT codes were used for medical record identification. Patients excluded were those without endometriosis on pathology, previously histologically diagnosed endometriosis, incidental endometriosis, an unknown first encounter for pelvic pain, or an unknown initial BMI. Descriptive statistical analysis and logarithmic transformations were performed using GraphPad Prism 9.

RESULTS- Patients who received a primary surgical diagnosis of endometriosis (n = 152) included 44% normal or underweight patients, 29% overweight patients, and 27% obese patients. Obese patients experienced a delay from presentation to a gynecologic surgeon to diagnostic laparoscopy (18.4 months, IQR 3.1-42.8) compared to overweight patients (9.0 months, IQR 2.5-23.2) and normal and underweight patients (3.8 months, IQR 1.1-17.0) ($p = 0.02$). Obese patients underwent laparoscopy at an older age (median age 35, IQR 28-42) compared to normal or underweight patients (median age 31, IQR 24-39), though the trend was not significant ($p = 0.17$). Though a higher percentage of overweight and obese patients were Hispanic and non-Hispanic Black, multiple linear regression adjusting for race/ethnicity maintained a significant relationship between time to surgery and BMI ($p = 0.03$). Intra-operatively, no cases were converted to laparotomy and only one case involved an organ injury (Fisher's exact test, $p=1.00$). Overweight and obese patients had a higher Mallampati score (Chi-square test, $p<0.01$); however, there were no differences in number of intubation attempts (Kruskal-Wallis test, $p=0.44$). Post-operatively, one wound complication occurred (Fisher's exact test, $p=1.00$) and no venous thromboembolisms occurred within thirty days of surgery. No differences were observed in rates of repeat laparoscopy for endometriosis within three years by BMI (Fisher's exact test, $p=0.99$).

CONCLUSION- Obese patients undergo an approximate 14-month delay in surgical diagnosis of endometriosis compared to normal and underweight patients. Obese patients may undergo laparoscopy at an older age and visit the emergency department more frequently, though our findings are limited by sample size. Our data may highlight provider biases in diagnosing endometriosis, building on prior studies that inversely associate BMI with rates of endometriosis.

The Impact of Smoking on Sacrocolpopexy Perioperative Outcomes

Monica Saleeb, MD, Rui Wang, MD, Elisabeth Sappenfield, MD
UCONN Health, Hartford Hospital, Hartford, CT

OBJECTIVE- To investigate the effect of smoking on perioperative outcomes after abdominal and minimally invasive sacrocolpopexy for pelvic organ prolapse.

INTRODUCTION: Pelvic organ prolapse is multifactorial in etiology and affects the quality of life of many women. When symptomatic, women can suffer emotional and physical distress and pelvic organ prolapse can have a negative impact on social, physical, and psychological well-being. Sacrocolpopexy has proven to be a very effective treatment of pelvic organ prolapse and can be performed abdominally or minimally invasively. The prevalence of reoperation is reported to be approximately 6%-12%. Smoking is a risk factor for perioperative complications after surgery. Tobacco smoke influences wound healing, vessel vasoconstriction, formation of microthrombi, and local circulation.

METHODS- This is a retrospective cohort study of data obtained from the American College of Surgeons-National Surgical Quality Improvement Project's (ACS-NSQIP) database. All adult women who underwent surgery for pelvic organ prolapse via abdominal sacrocolpopexy (ASCP) or minimally invasive sacrocolpopexy (MISCP) procedure from 2011 to 2021 were identified by Current Procedural Terminology (CPT) codes (57425, 57280). Data was analyzed based on procedure performed and tobacco use. Bonferroni correction was used with significance cut off of p-value < 0.002. Tobacco use was defined as current smoker within one year. Demographic, medical and surgical history, intraoperative, and 30-day perioperative outcomes were compared. Composite perioperative morbidity score was created using variables blood transfusion, wound dehiscence, wound infection, reoperation, readmission, pneumonia, sepsis, and venous thromboembolism.

RESULTS- Overall, 21,980 women underwent an MISCP (1,890 smokers, 20,090 non-smokers) and 3,775 underwent an ASCP (330 smokers, 3,445 nonsmokers). Patients undergoing sacrocolpopexy who smoked tobacco were significantly more likely to have chronic obstructive pulmonary disease (MISCP 5.1% vs. 1.0%, $p < 0.001$; ASCP 6.1% vs. 1.6%, $p < 0.001$) as well as wound infections (MISCP 3.0% vs. 1.6%, $p < 0.001$; ASCP 8.5% vs. 3.2%, $p < 0.001$). Readmission after MISCP was more frequent in smokers than nonsmokers (3.4% vs. 2.3%, $p = 0.002$). The composite perioperative morbidity score was different for MISCP and ASCP between smokers and nonsmokers (MISCP 7.0% vs. 5.0%, $p = 0.001$; ASCP 16% vs. 10%, $p = 0.002$). No difference was found in return to the operating room, incidence of UTI, DVT, sepsis, and pneumonia for both minimally invasive sacrocolpopexy or abdominal sacrocolpopexy. Multivariate analyses of MISCP outcomes found an association between smoking and wound infection (OR 1.5; 95%CI 1.08,2.05, $p = 0.02$), readmission (OR 1.4; 95%CI 1.04,1.85, $p = 0.03$), and composite score (OR 1.3; 95%CI 1.02-1.58, $p = 0.03$). Multivariate analyses of ASCP outcomes found an association between smoking and wound infection (OR 2.0; 95%CI 1.21,3.41, $p = 0.007$) only.

CONCLUSION- Smoking at the time of sacrocolpopexy greatly increased the risk of wound complications. Risk of readmission and composite perioperative morbidity score were greater in smokers who underwent a minimally invasive sacrocolpopexy. Smoking cessation prior to sacrocolpopexy surgery should be encouraged to reduce postoperative complications. Future studies should elucidate the required time from smoking cessation to surgery that would reduce these risks as well as assess the risk of smoking on long term complications after sacrocolpopexy.

Molecular Analysis of Endometriosis: Underlying Pathways of Symptomaticity in Endometriosis

Sarah F. Wang MD, Howard J. Li MD, Ramanaiah Mamillapalli PhD, Nishita Pondugula BA, Gabriela de Queiroz Campos MS, Sumaiya Sayeed BS, Yonghee Cho MD, Hugh S. Taylor MD, Yale School of Medicine

INTRODUCTION- Pelvic pain is one manifestation of endometriosis, yet symptom burden varies widely and does not correlate with extent of disease. The molecular correlates of symptomaticity (pain) in endometriosis have not been studied.

METHODS- RNAseq of peritoneal biopsies of patients with symptomatic and asymptomatic (incidental) endometriosis. Differential expression analysis (DESeq2), Weighted Gene Correlation Network Analysis (WGCNA), and Gene Set Enrichment Analysis (GSEA) were used to identify genes, modules, and pathways of interest.

RESULTS- RNAseq analysis of 13 specimens from asymptomatic (Asx) patients and 14 from symptomatic (Sx) patients identified 890 differentially expressed genes (DEGs) (Adj. $P < 0.05$). Among the top 15 DEGs, multiple genes were involved in inflammation (IL16, IL17RA, JAK3, SMPD3, RELT), cell adhesion (OLFML1, CDON, VCAN), and neuromodulation (SEMA6D, ADRA2C, SLC7A5). GSEA of DEGs identified functional enrichment in gene ontology (GO) pathways, including nervous system development (GO:51962), neurogenesis (GO:50767) and adaptive immune response (GO:2250) among the top 20 most significant gene sets.

WGCNA reconstructed 40 co-expression modules; of these, four (arbitrarily named Blue, Red, Tan, and Cyan) correlated with symptomaticity and yielded significant GSEA results. The Blue module ($P = 0.0017$) was enriched for Cell-Cell Junction (GO:45216), Lymphocyte Activation (GO:2285), B-cell activation (GO:42113), and Synaptic transmission (GO:50806). Tan ($P = 0.0161$) was enriched for immunologic functions (e.g. xenobiotic response (GO:9410), leukocyte-mediated immunity (GO:2443), lymphocyte activation (GO:46649)), while Red ($P = 0.0126$) and Cyan ($P = 0.0027$) were enriched for pathways related to RNA processing and catabolism (GO:956, GO:6396, GO:6397).

Stratifying Sx patients into mild and severe groups by defined criteria (history of failed medical management and ≥ 2 laparoscopies for pelvic pain), there was higher IL16 expression in severe pain compared to mild pain ($P = 0.034$).

CONCLUSIONS- Changes in gene expression rather than location or bulk of lesions distinguish symptomatic from asymptomatic endometriosis. Symptomatic endometriosis is associated with altered activity of pathways related to inflammation, neuromodulation, and cell adhesion. These may be potential markers for disease stratification and prognostication, as well as therapeutic targets.

Special thanks to The UConn Foundation, UConn Graduate Medical Education, Hartford Hospital and The Hospital of Central Connecticut Departments of Obstetrics and Gynecology for helping to fund this event.

We want to especially thank all the CT Ob/Gyn Residency Programs' Chairs, Program Directors and Faculty for their involvement and assistance in reviewing abstracts and judging the final research projects.

Last but not least:

Residency Program Managers make the world go round.
Thank you to all the CT Ob/Gyn Residency Program Managers
for all you have done to put this day together!
This day could not be possible without you all.



Christine Robertson, Program Manager, UConn, 2023 Host Site
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Michelle Tomczyk, Program Manager, Stamford, 2020 Host Site (virtual)
Jennifer Franke, Danbury, 2019 Host Site
Lynn-Marie Wright, Bridgeport, 2018 Host Site...and 2024 :🤗

Thank you for coming and see you in Bridgeport in 2024!