

SCIENTIFIC POSTERS

POSTER SESSIONS

THURSDAY

OCTOBER 16, 2025

6:00 A.M. – 12:00 NOON

FRIDAY

OCTOBER 17, 2025

6:00 A.M. – 10:30 A.M.

Poster #1

“Missed Conversations: Educational Opportunities in Pelvic Floor Counseling During Obstetric Care for Minority Mothers in Urban and Suburban Communities”

Amber N. Hunt, M.S.M.P.

Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #2

“Bridging the Divide: A Multi-institutional Curriculum to Integrate Private Practice Physicians into Academic Health Systems”

Erik J. Belanger, B.S.

Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #3

“Management and Outcomes of Maternal Anemia in the Third Trimester: A Retrospective Cohort Study”

Mark R. Alvarez, M.D.

Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #4

“Navigating Dual Obstetric Risks: Intrauterine Transfusion for Rh D Alloimmunization in the Setting of PPROM”

Mark R. Alvarez, M.D.

Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #5

“Dual Threat: Management of Stanford Type B Aortic Dissection with Suspected Type A Progression in a Dichorionic Twin Pregnancy”

Christopher Menefee, M.D.

Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #6

“Recurrent Mature Cystic Teratomas in Adolescence and Young Adulthood”

Michael A. Mahoney, II, M.D.

Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #7

“Unusual Presentation of Vulvar Hematoma in Postpartum Period: A Case Report”

Amanda R. Ragland, B.S.
Louisiana State University Health Sciences Center
Shreveport, Louisiana

Poster #8

“The Relationship Between Baseline Depression, Perceived Stress and Pregnancy Experiences: The Role of Physical Activity”

Gouri Babu Ambily, M.A.
Indiana University School of Medicine
Indianapolis, Indiana

Poster #9

“Assessing the Feasibility of Identifying Early-Onset Preeclampsia Samples Using a Centralized Biobank Directory”

Chris E. Philip, M.D.
Indiana University School of Medicine
Indianapolis, Indiana

Poster #10

“Does Maternal Smoking Affect the Efficacy of Antenatal Betamethasone in Reducing Respiratory Distress Syndrome? A Secondary Analysis of the Antenatal Late Preterm Steroids (ALPS) Trial”

McKenzie M. Sundall Gaspar, D.O.
UnityPoint Lutheran
Des Moines, Iowa

Poster #11

“Outcomes in Expectant Management for Patients with Preeclampsia with Severe Features”

Callie J. Bednarek, B.S.
Medical College of Wisconsin
Milwaukee, Wisconsin

Poster #12

“Assessment of a ‘Meds-to-Beds’ Approach to Improve Hypertensive Control in the Postpartum Period”

Kyra Webster, B.S.
Southern Illinois University School of Medicine
Springfield, Illinois

Poster #13

“First Trimester Uterine Artery Doppler Screening for Preeclampsia”

Alexander Harrison, M.D.
University of Kentucky
Lexington, Kentucky

Poster #14

“Pandemic-Related Increases in Chronic Hypertension and Superimposed Preeclampsia in Pregnancy”

Jasmine T. Rios, M.P.H.
University of Chicago
Pritzker School of Medicine
Chicago, Illinois

Poster #15

“Mindfulness on the Go: A Study of Mobile App Usage and Mental Health in Pregnant Patients”

Nuong Truong, M.D.
Loyola University Medical Center
Maywood, Illinois

Poster #16

“Pharmacologic Management of Diabetes Mellitus in Pregnancy: A Nationwide Survey of Maternal-Fetal Medicine Physicians”

Nuong Truong, M.D.
Loyola University Medical Center
Maywood, Illinois

Poster #17

“Pelvic Floor Dysfunction in Gynecologic Surgical Patients”

Mary Murphy Fay, M.D.
Loyola University Medical Center
Maywood, Illinois

Poster #18

“Intentional or Spontaneous: Does Hysterotomy Extension Type Affect Maternal and Neonatal Outcomes?”

Lauren A. Hutka, D.O.
University of Arkansas for Medical Sciences
Little Rock, Arkansas

Poster #19

“Comparison of Pain Scores and Birth Satisfaction Between Nulliparous and Multiparous Patients Receiving Prenatal Labor Pain Education”

Samiksha S. Annira, M.D.
Henry Ford Hospital – Detroit
Detroit, Michigan

Poster #20

“The Effects of Statins in Patients with Endometrial Carcinoma on Cancer Progression, Recurrence, and Survival”

Katina R. Massad, B.A.
University of Missouri School of Medicine
Columbia, Missouri

Poster #21

“Acute Colonic Pseudo-Obstruction Following Total Abdominal Hysterectomy Utilizing Spinal Anesthesia: A Case Report and Review of Ogilvie's Syndrome in the OB/GYN Population”

Madalyn M. Barnett, M.D.
University of Missouri - Columbia
Columbia, Missouri

Poster #22

“Timing of Preoperative Antibiotics and Subsequent Cesarean Infectious Morbidity”

Macy J. Vickers, M.D.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #23

“Unexpected Turn: Cecal Bascule Presenting as Post-Cesarean Abdominal Pain”

Cya N. Johnson, B.A., M.S.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #24

“Cesarean Scar Pregnancy Delivered at 32 Weeks”

Madison A Poiroux, BS
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #25

“Medically Indicated Hysteroscopy D&C for a Cesarean Scar Ectopic Pregnancy in the Setting of Postpartum Cardiomyopathy with Possible Placenta Accreta Spectrum”

Charlie A. Crider, B.S.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #26

“Management of Sickle Cell Disease During Pregnancy Complicated by HELLP Syndrome”

Ashleigh K. Torrance, B.S.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #27

“An Unusual Presentation of a Cesarean Section Scar Ectopic: A Case Report”

William Perez, M.D.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #28

“Simple Paratubal Cyst Resulting in Contralateral Ovarian Torsion: A Case Report”

Nicolette P. Holliday, M.D.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #29

“Management of Delivery of Neonate with Large Umbilical Pseudocyst and Fetal Heterotaxy: A Case Report.”

Marianna S. Oditt, B.S.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #30

“38-Year-Old at 26 Weeks Gestation with Pituitary Macroadenoma”

Mary A. Faragalla, B.S.
Frederick P. Whiddon College of Medicine
at the University of South Alabama
Mobile, Alabama

Poster #31

“Adequacy of Prenatal Care: A Mapping Study with an Emphasis on Postpartum Hemorrhage”

Peter S. Marcus, M.D.
Ascension St. Vincent
Indianapolis, Indiana

Poster #32

“Saline Sonography vs Hysteroscopy for Evaluation of the Uterine Cavity”

Sonam A. Parag, M.D.
HCA Florida Brandon Hospital
Brandon, Florida

Poster #33

“When Autoimmunity Meets Pregnancy: Investigating Antiphospholipid Syndrome and Preeclampsia”

Madison R. S. Pearson, D.O.
HCA Florida Brandon Hospital
Brandon, Florida

Poster #34

“The Effect of Growth Hormone on Ovarian Response for In Vitro Fertilization”

Alexis M. Spangler, M.D.
HCA Healthcare
USF Morsani College of Medicine GME Program
Brandon, Florida

Poster #35

“The Neglected Curriculum: A Systematic Review of Financial Literacy in Medical Training”

Jyothi U. Patil

PCDS

Paradise Valley, Arizona

Poster #36

“Rates of Intraoperative Complications and Treatment Failure with Double Endometrial Ablation”

Rocco A. Rossi, M.D.

University of Cincinnati

Cincinnati, Ohio

Poster #37

“Removal of Retained Rectal Foreign Body Using Obstetric Forceps: A Case Report”

Rocco A. Rossi, M.D.

University of Cincinnati

Cincinnati, Ohio

Poster #38

“Evaluating Factors Associated with Obstetric Malpractice Lawsuits”

Chava R. Welton, M.D.

Mount Sinai South Nassau

Oceanside, New York

Poster #39

“No Place Like Home: A Retrospective Analysis of Increasing Home Birth Rates in North Dakota’s Maternity Desert (2015–2024)”

Alyssa J. Thielges, B.S.

Univ. of North Dakota School of Medicine & Health Sciences

Minot, North Dakota

Poster #40

“Foreign-Born Mothers: An Analysis of the Increasing Rates in North Dakota”

Annie R. Ferguson, B.S.

Univ. of North Dakota School of Medicine & Health Sciences

Minot, North Dakota

Poster #41

“Malaria in the Upper Midwest: A Pregnant Refugee’s Journey to Diagnosis”

Emma C. Weisner, B.S.

Univ. of North Dakota School of Medicine & Health Sciences
Grand Forks, North Dakota

Poster #42

“An Atypical Presentation of Turner Syndrome in an Adolescent Female”

Reese H. Siegle, B.S.

Univ. of North Dakota School of Medicine & Health Sciences
Minot, North Dakota

Poster #43

“Beyond the Womb: Unexpected Postnatal Presentation of Prune Belly Syndrome”

Annie R. Ferguson, B.S.

Univ. of North Dakota School of Medicine & Health Sciences
Minot, North Dakota

Poster #44

“The Choice Between Intrauterine Contraceptive Device Options: Examining the Evidence (2025)”

Elliot M. Levine, M.D.

Rosalind Franklin University Chicago Medical School
Chicago, Illinois

Poster #45

“Racial/Ethnic Health Outcome Disparity in Maternal Mortality: Addressing the Problem”

Elliot M. Levine, M.D.

Rosalind Franklin University Chicago Medical School
Chicago, Illinois

Poster #46

“Navigating Diagnostic Challenges: Distinguishing Between Endometrial Stromal Nodule and Endometrial Stromal Sarcoma in a Young Patient”

Teresa Tam, M.D.

Prime Healthcare St. Francis Hospital
Chicago, Illinois

Poster #47

“Pain Perception During Placement of a Copper Intrauterine Device Using a Single-Hand Insertion Device”

Megan R. Mays, DNP, WHNP-BC
CooperSurgical
Trumbull, Connecticut

Poster #48

“Primary Extranodal Marginal Zone B Cell Lymphoma of the Ovary, Fallopian Tube, and Uterus: A Rare Case Report and Review of the Literature”

Catherine A. Spencer, M.D.
University of Louisville School of Medicine
Louisville, Kentucky

Poster #49

“Identification of Placenta Accreta Spectrum: A Case Series”

Mehgan B. Lazenby, D.O.
University of Louisville School of Medicine
Louisville, Kentucky

Poster #50

“Lymphoplasmacytic Lymphoma/ Waldenström Macroglobulinaemia Initially Presenting as Postmenopausal Pelvic Pain and Bleeding: A Rare Case Report and Literature Review”

Mackenzie M. Dent, M.D.
University of Louisville School of Medicine
Louisville, Kentucky

Poster #51

“Anti-N-Methyl-D-Aspartate (NMDA) Receptor Encephalitis Associated with Ovarian Teratoma: A Case Report”

Aaron D. Adams, M.D.
University of Louisville School of Medicine
Louisville, Kentucky

Poster #52

“A Look at a Single Provider's Primary C-Section Rate Over Multiple Facilities Over a Three-Year Period”

Jordan A. Siegel, D.O.
Oklahoma State University Center for Health Sciences
Tulsa, Oklahoma

Poster #1

Missed Conversations: Educational Opportunities in Pelvic Floor Counseling During Obstetric Care for Minority Mothers in Urban and Suburban Communities

Amber N Hunt, MSMP, Dani G Zoorob, MD, MHA, MBA, MHI, EdM, Katelyn Parker, MD, MS, Amanda Mahoney, DPT, PhD(c)

Louisiana State University Health Sciences Center, Shreveport, LA

Background: Pelvic floor health is a foundational component of women's reproductive well-being, particularly in the context of pregnancy, delivery, and postpartum recovery. Disorders such as urinary incontinence, pelvic organ prolapse, and peripartum musculoskeletal dysfunction are prevalent, with far-reaching implications for maternal quality of life and long-term gynecologic health. Despite the clinical importance of pelvic floor conditions, structured education regarding risk factors, prevention, and management remains conspicuously absent from routine obstetric care.

This gap in knowledge is even more pronounced among African American and minority women, who experience higher rates of adverse maternal outcomes and face systemic barriers to equitable healthcare. Prior studies have linked disparities in health education access to limited provider communication, cultural stigma, and structural inequities in care delivery. However, few investigations have focused specifically on pelvic floor health literacy within these populations.

This study aimed to address these gaps by examining pelvic floor knowledge among women of various backgrounds in both urban and suburban clinical settings.

Objectives: The primary objective of this study was to assess the level of pelvic floor health knowledge among African American and minority women of reproductive age. Secondary aims included evaluating whether demographic variables such as race/ethnicity, educational attainment, and geographic setting (urban vs. suburban) were associated with differing levels of awareness; determining whether increased formal education correlated with improved knowledge of pelvic floor risks and resources; and identifying common deficits in provider-patient communication regarding pelvic floor health. The study further sought to explore how these disparities may influence peripartum outcomes and contribute to broader patterns of inequity in maternal healthcare access and education.

Methods: A cross-sectional survey study was conducted between January and March 2024 in multiple outpatient obstetrics and gynecology clinics in both urban and suburban regions of North Louisiana. Women aged 18–49 presenting for routine or prenatal visits were invited to participate. The survey instrument included demographic questions and a 15-item awareness-based and knowledge assessment focused on patient understanding of pelvic floor function, risk factors, and access to care.

Survey responses were anonymized and analyzed using descriptive statistics, frequency distributions, and cross-tabulations to examine associations between demographic variables and knowledge outcomes.

Results: Fifty participants completed the survey. Forty-two percent self-identified as African American, and more than 90% identified as part of a racial or ethnic minority group. Education levels ranged from less than high school to postgraduate degrees, with a majority reporting some college education.

Survey data suggested significant gaps in pelvic floor health awareness across the entire sample. Seventy-four percent of respondents were unaware of the existence or role of pelvic floor physical therapy. Similarly, 72% had not identified childbirth as a risk factor for pelvic floor dysfunction, and 60% had little to no understanding of general pelvic floor risks, including those associated with prolonged labor or assisted delivery.

Importantly, no statistically significant difference in knowledge scores was observed between urban and suburban participants, suggesting that suburban residence does not confer a protective effect in terms of pelvic health education. Furthermore, while 46% of respondents had completed some college education and 28% had a high school diploma or less, knowledge levels remained uniformly low. Even among those with higher education, understanding of pelvic floor anatomy and available treatment options was limited, indicating that formal education alone does not predict awareness of this topic.

Notably, respondents across all educational levels and locations reported minimal provider engagement and discussion of pelvic floor health during prenatal or postpartum care. Several participants indicated they had only learned about pelvic floor dysfunction informally, through social media or peer conversations, rather than from medical professionals. This trend reflects missed clinical opportunities for early intervention, especially in populations already at risk for obstetric complications. Additionally, cultural stigmas and taboos surrounding topics such as incontinence and

gynecologic dysfunction may inhibit open discussion, both within clinical encounters and among peer networks.

Conclusion: This study identifies a critical and persistent deficit in pelvic floor health knowledge among African American and minority women, irrespective of geographic setting or education level. The findings challenge assumptions that suburban residence or higher educational attainment may compensate for systemic deficiencies in reproductive health education. The absence of standardized pelvic floor education in clinical encounters represents a structural failure with measurable implications for peripartum outcomes.

Poster #2

Bridging the Divide: A Multi-institutional Curriculum to Integrate Private Practice Physicians into Academic Health Systems

Erik J Belanger, BS, Mackenzie Louviere, BS, Amber Hunt MSMP, Dani G Zoorob, MD, MHA, MBA, MHI, EdM

Louisiana State University Health Sciences Center, Shreveport, LA

Introduction: Academic Health Systems (AHSs) face ongoing workforce shortages, and integrating physicians from private practice has emerged as a viable solution. These individuals bring a wealth of clinical experience and practice management insight that can enrich patient care, education, and research. However, few structured processes exist to facilitate this transition, and no comprehensive curriculum has been established to support onboarding and retention. A clear gap remains in the literature and in practice regarding faculty development tailored to this unique population. This project identifies the struggles and strengths of private practice physicians entering academia and presents a novel onboarding and faculty development curriculum to support a seamless, sustainable transition into AHSs.

Methods: We employed a mixed-methods approach that included an integrative literature review and a qualitative survey distributed at two geographically distinct AHSs. The literature review sought to identify evidence-based strategies for adult learning, physician onboarding, faculty development, mentorship, and academic transitions. Sources were screened based on relevance to mid- or late-career physicians, particularly those without prior academic affiliation. Key themes extracted from the literature included mentorship models, time management strategies, institutional navigation, and cultural assimilation into academia.

Simultaneously, we developed a 16-question open-ended survey to assess the lived experiences of physicians transitioning from private practice to academia. The survey was distributed to 45 participants (20 from private practice, 25 academic physicians) and designed to elicit responses around common barriers and facilitators. Questions focused on perceptions of teaching, expectations of academic roles, barriers to productivity, and unmet institutional support needs.

Survey data were analyzed using thematic content analysis. Themes from both the literature and the qualitative survey informed the development of two complementary curricula: one targeted to academic leadership and faculty, and the other directed at private physicians entering academia.

Results: Survey findings revealed several high-frequency challenges reported by private practice physicians. The most prevalent concerns were time management difficulties, unclear institutional expectations, diminished clinical efficiency due to teaching obligations, unfamiliarity with academic promotion criteria, and lack of mentorship. These respondents consistently emphasized the need for practical guidance, structured support, and clarity around faculty roles and expectations. Based on the results, two constructs were devised. The first was an Onboarding Curriculum for Private Physicians and another Faculty Development Curriculum for Academic Mentors targets existing faculty and leaders.

The dual-construct ensures that both parties in the integration process are supported, with content aligned to their respective roles and responsibilities. The curricula also incorporate assessment tools and feedback loops to allow for adaptation over time.

Conclusion: This project presents a comprehensive framework to integrate private practice physicians into academic settings, addressing both logistical barriers (such as compensation, time, onboarding systems) and cultural challenges (such as role clarity, mentorship, academic identity). By supporting both private physicians and academic mentors through parallel curricula, this model fosters mutual understanding, collaboration, and long-term engagement.

The framework is positioned to enhance faculty satisfaction, reduce burnout during the transition period, and strengthen institutional missions by unlocking the contributions of this underutilized workforce. Its implementation may further serve to diversify academic pathways and promote a more inclusive definition of scholarly contribution.

Although this work synthesizes best practices with firsthand perspectives, its primary limitation is that the curriculum has not yet been piloted. Future research should focus on deploying this framework across multiple institutions and measuring its impact on faculty retention, academic productivity, and learner outcomes. Institutional investment in structured onboarding and faculty development for private physicians is not only timely—it is essential to sustaining and growing the academic healthcare workforce.

Poster #3

Management and Outcomes of Maternal Anemia in the Third Trimester: A Retrospective Cohort Study

Mark R. Alvarez, MD, Mila Shah-Bruce, MD, PhD, Dani Zoorob, MD, MHA, MBA, MHI, EdM, Reagan Abadie, BS, Driskell Greene, BA, Emily Hebert, BS, Jordyn Courville, BS, Isabella LaBruzzo, BS, Ameera Kattash, BS, MS, Courtlin Wadleigh, BS, MS

Louisiana State University Health Sciences Center, Shreveport, LA

This single center retrospective cohort study of obstetrical patients sought to investigate the potential improvement in maternal and/or fetal outcomes based on management of maternal anemia in the third trimester with intravenous versus oral iron supplementation. The primary endpoint was the rate of preterm delivery with secondary endpoints being fetal growth restriction (FGR) and postpartum Apgar scores. A higher 1-minute Apgar score among the oral iron group relative to the intravenous iron group (7.94 vs. 7.23, $p = 0.033$) was found to be statistically significant. Additionally, 12.1% of patients with an oral iron prescription were found to have FGR relative to the 6.2% of patients without an oral iron prescription ($p = 0.009$). Overall, this retrospective cohort study was underpowered in the intravenous iron arm. Future studies will be needed to build off this body of data in order to fully and adequately investigate the effects of the route of iron supplementation on maternal and/or fetal outcomes in pregnancy.

Introduction: Maternal anemia affects approximately one in three pregnant mothers in the United States and is known to be associated with significant maternal complications as well as fetal morbidities including premature delivery and fetal growth. Multiple studies have established these associations but few studies evaluate the effects on the rates of both maternal and fetal complications with treatment via antepartum intravenous iron infusions. This study seeks to analyze the effect of antepartum treatment of significant maternal anemia with intravenous iron on the rate of premature delivery.

Methods: A retrospective cohort study was undertaken by evaluating the electronic medical records for obstetrical patients at Ochsner LSU Shreveport St. Mary's Campus who delivered between January 1, 2021 through June 30, 2024; specifically, those patients who had established with an obstetrical provider at Ochsner LSU Shreveport and were

found to have a hemoglobin of ≤ 10 between 27 0/7 - 31 6/7 weeks. Other inclusion criteria include age ≥ 18 years old and ≤ 50 years old with a singleton pregnancy with well-established gestational dating per ACOG guidelines.

Patients were excluded from the study included those with prior history of cesarean delivery, those with diagnoses of Sick Cell Disease or Congestive Heart Failure, those patients with known or suspected fetal anomalies, and those who were diagnosed with FGR prior to 27 0/7 weeks.

Retrospective chart review was used to analyze the electronic medical records of those patients who met study criteria to evaluate treatment of significant maternal anemia with oral versus intravenous iron supplementation. Treatment strategies were then analyzed against resultant delivery sequelae, with the primary endpoint being differences in rates of all cause preterm delivery. Secondary endpoints included indication for preterm delivery, rates of FGR, postpartum Apgar scores, need for maternal postpartum blood transfusion, and NICU admission/duration of admission. Chi-squared testing was employed for evaluation of categorical data, while two-sided independent-samples t-testing was used to evaluate the numerical data.

Results: An independent-samples t-test was conducted to compare the 1-, 5-, and 10-minute Apgar scores at time of delivery for both the IV iron and PO iron groups. There was no significant difference for the 5-minute Apgar scores between IV iron ($M = 8.69$, $SD = 0.832$) and PO iron ($M = 8.85$, $SD = 0.650$; $t(386) = -1.104$, $p = 0.276$, two-tailed). The magnitude of the differences in the means (mean difference -0.160 , 95% CI: -0.453 to 0.133) was very small. There were no 10-minute Apgar scores for patients who had received IV iron, so direct comparison of the 10-minute Apgar between groups was not possible. There was, however, a significantly higher 1-minute Apgar score in the PO iron group ($M = 7.94$, $SD = 1.214$) relative to the IV iron group ($M = 7.23$, $SD = 1.864$; $t(386) = -2.212$, $p = 0.033$, two-sided).

A chi-square test of independence was performed to examine the relation between having been prescribed PO iron and FGR. The relation between these variables was significant, $X^2(2, N = 386) = 9.342$, $p = 0.009$. This demonstrates a higher rate of FGR in those patients with a PO iron prescription relative to those without.

Discussion/Conclusion: Although based on our current data analysis there was no significant positive value to IV iron relative to PO, this retrospective cohort study was overall underpowered in the intravenous iron arm. Based on an a priori g-power analysis, this study would require 19 additional patients in the IV iron arm in order to achieve 80% power.

The significance of the increased rate of FGR in those patients with a PO iron prescription relative to those without was not fully evaluated based on severity of maternal anemia or presence of anemia prior to the third trimester. As well as the addition of more patients to the IV iron group, further study is needed to delineate the effects of profound anemia in the organogenesis relative to what could merely represent a dilutional anemia of the third trimester. Further analysis is already underway into whether rates of delivery secondary to equivocal fetal testing were significantly different with IV versus PO iron.

Poster #4

Navigating Dual Obstetric Risks: Intrauterine Transfusion for Rh D Alloimmunization in the Setting of PPRM

Mark R Alvarez, MD, P Scott Barrilleaux, MD, David F Lewis, MD, Dani Zoorob, MD, MHA, MBA, MHI, EdM, Kaysie Winston, MD, Isabella LaBruzzo, BS

Louisiana State University Health Sciences Center, Shreveport, LA

Purpose: To describe the successful use of percutaneous umbilical blood sampling (PUBS) and intrauterine transfusion (IUT) for fetal anemia in a Rh D-alloimmunized pregnancy complicated by preterm premature rupture of membranes (PPROM), highlighting a rare but feasible therapeutic intervention in a high-risk obstetric setting.

Introduction: Hemolytic disease of the fetus and newborn, primarily due to Rh D alloimmunization, remains a significant cause of fetal anemia and perinatal morbidity. Management typically includes close fetal surveillance with middle cerebral artery peak systolic velocity (MCA-PSV) Doppler measurements, and, when indicated, intrauterine transfusion. While IUT is well-established, its use in pregnancies complicated by PPRM is exceedingly rare due to increased risks of infection, preterm labor, and procedural complications. This case represents the only known reported instance of successful PUBS and IUT in a pregnancy affected by both Rh alloimmunization and PPRM, allowing for safe prolongation of gestation.

Methods: Case Report.

Results: A 38-year-old G10P2162 woman presented at 29 3/7 weeks gestation with confirmed PPRM. Her pregnancy was complicated by Rh D alloimmunization, with an Anti-D antibody titer of 1:64 and serial MCA-PSV Dopplers demonstrating progressive elevation, reaching 1.7 MoM. A diagnosis of fetal anemia was suspected. The patient was counseled extensively by the Maternal-Fetal Medicine team regarding the risks and benefits of intervention and consented to undergo PUBS and IUT at 30 5/7 weeks.

Under spinal anesthesia and continuous ultrasonographic guidance, a 20-gauge needle was inserted into an accessible portion of the umbilical vein. Fetal blood sampling confirmed anemia (hematocrit 30%, macrocytic indices). A total of 30 mL of O Rh-negative, CMV-negative, Kell-negative, buffy coat-poor packed red blood cells was transfused without

complication. Streaming of transfused blood into the umbilical circulation was confirmed via color Doppler.

Postprocedural evaluation was reassuring and a normalization of the MCA doppler value was encountered within the week at 1.02 MOM. Throughout the rest of her pregnancy course, the patient was monitored daily and received frequent fetal assessments. The MCA doppler values never exceeded critical values (1.55 MoM) prior to the spontaneous onset of labor.

The patient subsequently delivered at 33 2/7 weeks via repeat cesarean section with bilateral tubal ligation due to preterm labor and malpresentation. Neonatal Apgar scores were 4 at 1 minute, 6 at 5 minutes, and 8 at 10 minutes with initial neonatal hemoglobin/hematocrit of 12.7/39.2. The patient's surgery was uncomplicated, and neonate subsequently was admitted to the Neonatal Intensive Care Unit (NICU). The neonate remained in the NICU for 12 days prior to discharge during which time her total bilirubin was frequently trended. Total bilirubin peaked at 16.4 on postpartum day 5, but was adequately treated with phototherapy. The neonate did not require transfusion but did receive a single dose of IVIG. She was discharged from the NICU 12 days after delivery with no significant sequelae. Postoperatively, the patient remained stable and received routine postpartum care throughout her admission prior to being discharged on postpartum day 4.

Conclusion: This case demonstrates that intrauterine transfusion via PUBS is technically feasible and clinically effective even in the setting of PPROM. It reinforces the importance of vigilant fetal surveillance in alloimmunized pregnancies and the value of timely intervention to mitigate the risks of severe anemia. The decision to proceed with transfusion must be individualized, balancing the risk of preterm labor or infection against the morbidity and mortality of untreated fetal anemia. A multidisciplinary approach, including MFM, neonatology, anesthesiology, and transfusion services, is essential for optimizing maternal and fetal outcomes in such complex scenarios. This case also provides novel clinical insights into a scarcely reported situation and supports the role of PUBS/IUT in prolonging gestation and improving neonatal outcomes, even under compromised membrane conditions.

Poster #5

Dual Threat: Management of Stanford Type B Aortic Dissection with Suspected Type A Progression in a Dichorionic Twin Pregnancy

Christopher Menefee, MD, Daniel Core, MD, P Scott Barrilleaux, MD, David F Lewis, MD, Matthew Bennett, MS, Camille F Petty, MS

Louisiana State University Health Sciences Center, Shreveport, LA

Objective: This case report aims to present the multidisciplinary management and maternal-fetal outcomes of a dichorionic-diamniotic (di-di) twin pregnancy complicated by the progression of a chronic Stanford Type B aortic dissection with concern for interval development of a Type A dissection.

Introduction: Aortic dissection (AD) during pregnancy is a rare but life-threatening condition, especially when compounded by risk factors such as chronic hypertension, obesity, tobacco use, and a history of connective tissue disease or preeclampsia. ADs are classified via the Stanford system as Type A (involving the ascending aorta) or Type B (descending aorta only). Pregnancy-induced hemodynamic and hormonal changes may predispose or exacerbate dissection progression. Twin gestations further increase cardiovascular demands, yet literature on AD in multifetal pregnancies is sparse. This report details a case of AD in a twin gestation, managed through multidisciplinary coordination.

Methods: Case Report.

Results: A 30-year-old gravida 3 para 1011 with a known history of chronic Type B aortic dissection extending from the thoracic aorta to the left iliac artery, presented at 24 weeks of a di-di twin pregnancy. She had a past history of hypertensive urgency, tobacco use, obesity (BMI 47), and preeclampsia. After initial stabilization with oral antihypertensives, she presented two weeks later with uncontrolled hypertension (170/118 mmHg) and peripheral edema. Subsequent imaging revealed interval progression of dissection toward the aortic arch, raising concern for Type A involvement.

The patient was transferred to a tertiary care center and admitted to the labor unit under a multidisciplinary team involving maternal-fetal medicine (MFM), cardiology, vascular and cardiothoracic surgery, anesthesiology, and neonatology. Medical management included magnesium

sulfate, corticosteroids, IV antihypertensives (clevidipine, esmolol), and intensive fetal monitoring. Serial imaging with CT angiography and echocardiography was performed.

Initial workup confirmed chronic dissection extending into the abdominal aorta with interval development of an intimal flap proximal to the left subclavian artery. Fetal monitoring showed growth restriction and subsequently non-reassuring fetal heart rate patterns, including minimal variability and prolonged decelerations. Despite optimization of maternal hemodynamics to systolic BP <140 mmHg and HR 60–70 bpm, fetal testing deteriorated, suggesting placental compromise likely secondary to acute uteroplacental hypoperfusion.

Cesarean delivery was undertaken at 26 weeks gestation after completing a course of betamethasone and magnesium for fetal neuroprotection and seizure prophylaxis. A Swan-Ganz catheter was placed for intraoperative monitoring due to elevated pulmonary artery pressures. The delivery was uncomplicated, and both twins were admitted to the NICU in stable condition. Postoperative maternal recovery included 48 hours in the MICU for cardiovascular monitoring, followed by resolution of an ileus and discharge on postoperative day 7.

Evidence suggests maternal survival takes precedence in early gestation (<28 weeks), yet decisions become nuanced when fetal viability is imminent. In this case, the development of fetal compromise mandated preterm delivery. The case also underscores the need for postpartum vigilance, as physiological volume shifts may exacerbate dissection risk. Our report reflects a coordinated care model involving obstetric, cardiovascular, and neonatal services to optimize outcomes.

Conclusion: This case exemplifies the life-threatening interplay between aortic pathology and pregnancy, particularly in multifetal gestation. Management necessitates a flexible, multidisciplinary approach with a focus on individualized maternal-fetal risk stratification. Delivery timing in the setting of maternal AD should weigh hemodynamic optimization against fetal status, with anticipatory planning for postpartum decompensation. Chronic Type B AD, even if initially stable, may extend proximally under hemodynamic stress, as observed here with suspected progression to a Type A dissection. AD management in pregnancy requires precise blood pressure control, yet this must be balanced with maintaining adequate uteroplacental perfusion—particularly in growth-restricted twins. Increased awareness and targeted studies are needed to guide evidence-based management for AD in pregnancy, especially in twin gestations.

Poster #6

Recurrent Mature Cystic Teratomas in Adolescence and Young Adulthood

Michael Mahoney, II, MD, Mila D Shah-Bruce, MD, Macie A Serio, BS

Louisiana State University Health Sciences Center, Shreveport, LA

Background: Mature cystic teratomas (MCTs) are benign ovarian germ cell tumors composed of well-differentiated tissues arising from ectoderm, mesoderm, and endoderm. Grossly, these tumors are found to have cystic structures filled with sebaceous material, hair, teeth, or bone with a thin outer lining of squamous epithelium. MCTs represent the most common neoplasm of the ovary in young females aged 10 to 30 years, with over half of reported cases occurring in individuals under 20 years old. While many MCTs are discovered incidentally, patients may present with nonspecific symptoms such as abdominal distention, a palpable mass, constipation, nausea, vomiting, and anorexia. Ultrasound remains the imaging modality of choice, often revealing characteristic features such as Rokitansky nodules, dermoid mesh, heterogenous cystic contents, and acoustic shadowing. Definitive management typically involves laparoscopic cystectomy, with histopathological examination confirming the diagnosis. This report describes the case of a young female with recurrent MCTs following two prior ovarian-sparing cystectomies. Currently, standardized guidelines for surveillance and long-term management of recurrent MCTs remain limited. This report focuses on the clinical course, including ongoing follow-up with serial ultrasounds to monitor lesion progression and guide future management.

Case Presentation: The patient is a nulligravid female in her 20s presenting to outpatient gynecology clinic for an annual well-woman exam. She endorses abdominal bloating and generalized tenderness that began a few months prior and has persisted since. The patient has a past medical and surgical history significant for laparoscopic ovarian cystectomy for a left MCT in her mid to late teens and an unspecified surgical procedure to remove a lesion from her right ovary a few years later. At the time of her visit, she was found to have bilateral complex cysts with mixed echogenicity on transvaginal ultrasound. She underwent laparoscopic bilateral ovarian cystectomy with ovarian preservation and was found to have 10-12 cm MCTs bilaterally confirmed by pathology. There were no complications of the surgery. Two years following the removal of these dermoid cysts, the patient had an

uncomplicated live vaginal birth. The patient presented for routine follow up one year postpartum, at which time she was asymptomatic and requested a pelvic ultrasound to evaluate for any potential recurrence of dermoid cysts. Transvaginal ultrasound demonstrated a right ovarian heterogenous mass with solid and cystic components separated by ovarian tissue measuring 2.9 cm in greatest dimension. The left ovary was unremarkable. She had tumor markers including cancer antigen-125 (CA-125), carbohydrate antigen 19-9 (CA 19-9), and carcinoembryonic antigen (CEA) obtained and resulted within normal limits. Her follow up plan is expectant management to include follow up every 6 months with transvaginal ultrasound or as indicated by the presence of any symptoms.

Discussion: This case report outlines a young woman in her early 20s who has recurrent bilateral ovarian dermoid cysts. MCTs were first identified incidentally in her early teens. Recurrence was identified in young adulthood due to symptoms of generalized abdominal bloating and tenderness. Literature supports factors such as young age (less than 30 years old), large cyst (greater than or equal to 8 cm in diameter), and bilaterally to be predictive of recurrence. MCTs were confirmed on histopathologic evaluation which is the gold standard for diagnosis. However, as she is now presenting with a recurrent lesion on her right ovary, her negative serum tumor markers can provide a stronger probability of a benign lesion. Furthermore, MCTs are the most common tumor in nulliparous young women, and ovarian and fertility preservation is often desired. In the late 1900s and early 2000s, traditional oophorectomy was often recommended to patients when a combination of large cyst size, concern for malignancy, risk of spillage, and decreased viability of remaining ovarian tissue were a concern. However, more recent literature supports the first-line treatment as ovarian function-preserving cystectomy in patients with MCTs.

Conclusion: The clinical course outlined in this patient's care significantly contributes to the current literature surrounding mature cystic teratomas (MCTs). The patient has multiple risk factors for recurrence of ovarian dermoid cysts with recurrence now documented twice in her care. The positive outcome in this patient including complete removal of bilateral cysts, confirmation of MCT by pathology, no postoperative complications or immediate recurrence, and ovarian and fertility preservation support the recommendation that ovarian cystectomy should be the first-line treatment strategy. This allows young women the opportunity to have children while ensuring no malignant process is at hand.

There is no definitive recommendation for monitoring of patients with recurrent MCTs, and management decisions are made on a case-by-case basis. The authors propose expectant management with careful follow up to include assessment of symptoms and transvaginal ultrasound every 6 months in young women of childbearing age with recurrent MCTs.

Poster #7

Unusual Presentation of Vulvar Hematoma in Postpartum Period: A Case Report

Michael Mahoney, MD, Amanda R Ragland, BS, Danielle Cooper, MD

Louisiana State University Health Sciences Center, Shreveport, LA

The purpose of this case study is to describe an unusual presentation of a vulvar hematoma formation in a 24 year-old female three days following a primary c-section; in addition to describing this unique case, the purpose of this study is to explore the possible mechanisms for this unusual presentation, diagnostic considerations of vulvar hematomas, and management strategies for this complication, especially in the postpartum period.

The method used in this case report of a 24-year old gravida 2 para 0010 female was evaluation of: the clinical findings of her spontaneous vulvar hematoma three-days after a primary low-transverse c-section; diagnostic imaging with CTA and CT pre- and postoperatively; surgical intervention and operative note; hospital course and 10-day stay; clinical outcomes; and follow-up reports via chart review of the electronic medical record at our hospital. In addition, a comprehensive literature review was performed to contextualize this case report, identify probable etiologies of a spontaneous vulvar hematoma in the postpartum period, and explain management considerations for vulvar hematomas.

A gravida 2 para 0010 female presented with a pregnancy complicated by superimposed preeclampsia with severe features and fetal growth restriction with abnormal umbilical artery dopplers. Per Maternal-Fetal Medicine recommendation, the patient underwent a cesarean delivery via low-transverse hysterotomy at 24 weeks and 2 days. The c-section procedure was uncomplicated and did not involve any trauma to vulvar structures. Hemostasis was confirmed upon closure, and the patient tolerated well.

Three days following the primary c-section, the patient presented with an acute drop of hemoglobin to 5.2 gm/dL with complaints of a firm, tender vulvar mass measuring 10cm x 6cm. Upon physical examination, a left-sided vulvar hematoma was observed involving the labia majora, labia minora, and mons pubis. A CTA scan was completed to further evaluate, and it revealed a left-sided inguinal hematoma with bulbar edema but no active arterial extravasation.

An extensive conversation was had with the patient and her husband, and due to the size of the vulvar hematoma and acute anemia, the decision to surgically evacuate the

hematoma was made. In the operating room, a 6 cm incision was made over the vulvar hematoma, and blunt dissection was used to reveal clotted blood but no active bleeding vessel, even in the underlying tissue. A complete evacuation of blood clots was performed and extensive irrigation with sterile water was done. The wound was closed in three layers. During the procedure, the patient received 3 units of packed RBCs due to the severe anemia and IV antibiotics. Wound cultures days later revealed MRSA, which was managed with oral clindamycin PO for 7 days.

The patient was kept inpatient for 10 additional days for monitoring, wound care, and antibiotic therapy. Her hemoglobin eventually stabilized at 10.5 gm/dL, and the swelling and pain improved gradually. Repeat CT imaging on postoperative day three revealed decreased edema and no evidence of new hematoma formation. The patient was discharged in stable condition on postoperative day ten; she was ambulating and urinating without difficulty. She was followed up at multiple visits. At the final follow-up visit, the surgical wound was well-healed and the patient continued to endorse no symptoms.

After analyzing this case, there was no identifiable source of trauma that would explain the formation of a spontaneous hematoma. This presentation was highly unusual in the absence of vaginal manipulation or direct perineal trauma in a routine cesarean-section.

The concluding findings regarding this case presentation is that spontaneous vulvar hematoma formation following c-section delivery is a rare, but possible and important postpartum complication that clinicians must promptly recognize. Although this presentation is commonly associated with vaginal delivery or trauma to the vulvar region, this case patient demonstrates that cesarean delivery does not eliminate the possibility of significant hematoma formation. The exact cause of this patient's vulvar hematoma was not identified, but possible contributing factors include preeclampsia-related vascular fragility, heparin use prior to delivery, elevated intra-abdominal pressure associated with pregnancy, and localized infection in the vulvar region. The signs of a presenting vulvar hematoma include early vulvar swelling, pain, ecchymosis, and anemia. CT or CTA imaging, as in this case, can be useful to determine the extent of the hematoma and discover sources of active bleeding. Vulvar hematomas can be managed based on size, suspected etiology, and ultimately patient stability. The management can vary from conservative measures to surgical evacuation and debridement. This 24-year old patient case illustrates the need for ongoing postpartum vigilance and broader differential diagnosis in patients presenting with vulvar symptoms, even if the delivery method is not vaginal.

Poster #8

The Relationship Between Baseline Depression, Perceived Stress and Pregnancy Experiences: The Role of Physical Activity

Gouri Babu Ambily, MA, Kevin L Moss, BS, David M Haas, MD, MS, Aric Joseph Kotarski, BS, David Guise, MSc, MPH

Indiana University School of Medicine, Indianapolis, IN

Objective: To evaluate whether perceived stress and baseline depression predict the intensity and frequency of pregnancy-specific experiences, and to assess whether physical activity moderate these relationships. The study also explores the role of demographic factors—particularly age and education—in shaping maternal mental health outcomes.

Study Design: This study is a secondary analysis using data from Hoosier Mom Cohort (HMC), a pregnancy cohort of individuals with singleton gestation enrolled at < 20 weeks. A total of 411 participants were recruited, and data from 391 participants were included in this analysis. Baseline depression was assessed by Edinburgh Postnatal Depression Scale (EPDS) at Visit 1 (<20 weeks gestation), and perceived stress was measured at Visit 1 and Visit 2 using Perceived Stress Scale (PSS), prior to delivery. Pregnancy experiences, the main outcome was collected at Visit 2 using Pregnancy Experiences Scale (PES), which provided hassles-to-uplift ratios for both intensity and frequency. Physical activity was measured at Visit 1 and Visit 2 and converted into metabolic equivalents (METs). MET values were dichotomized at recommendation levels (≥ 150 min/week = active). Linear regression models analyzed the associations between EPDS, PSS and PES outcomes. An interaction term was included to explore the moderation effect of physical activity.

Results: Participants with high perceived stress scores (PSS ≥ 14) at Visit 1 were significantly younger (28.7 vs 30.2 years, $p = 0.006$), more likely to have lower educational attainment (high school or less, $p < 0.0001$) and reported more intense negative pregnancy experiences (PES intensity ratio: 0.81 vs 0.62, $p < 0.0001$). Although the frequency ratio of negative pregnancy experiences seemed higher in high-stress group (0.86 vs 0.67), the differences were not statistically significant ($p=0.35$). Participants with high stress levels at Visit 1 were also more likely to meet physical activity guidelines ($p = 0.03$). Similarly, participants with high depression scores (EPDS ≥ 10) at Visit 1 were significantly younger (28.2 vs 29.8 years, $p = 0.03$), less likely to have a college degree ($p = 0.0001$) and reported more intense ($p < 0.0001$) and frequent

($p = 0.009$) negative pregnancy experiences. No significant differences in activity level were found between EPDS groups.

In adjusted regression models, perceived stress at Visit 2 remained associated with negative pregnancy experiences (intensity ratio: $\beta = 0.010$, $p = 0.003$; frequency ratio: $\beta = -0.017$, $p = 0.0001$).

A significant interaction effect was observed between perceived stress and physical activity at Visit 2. Individuals reporting higher physical activity who also reported high stress experienced significantly more intense ($\beta = 0.029$, $p = 0.0007$) and frequent ($\beta = 0.040$, $p = 0.006$) negative experiences during pregnancy, compared to those with lower physical activity (intensity: $\beta = 0.013$, $p < 0.0001$; frequency: $\beta = 0.017$, $p < 0.0001$). This relationship was visualized in an interaction plot, where the slope of perceived stress predicting PES outcomes was steeper in the physically activity group (0.029 vs 0.013 , $p = 0.04$)—highlighting that under high stress, physical activity may amplify rather than buffer the intensity and frequency of negative pregnancy-related experiences.

Conclusion: Perceived stress is a robust and consistent predictor of pregnancy-specific hassles and uplifts. While physical activity is typically considered as a benefit to overall health, our findings suggest that under high stress conditions, it may amplify perceived hassles during pregnancy. These results underline the need to integrate targeted stress management strategies to enhance maternal mental health outcomes during pregnancy.

Poster #9

Assessing the Feasibility of Identifying Early-Onset Preeclampsia Samples Using a Centralized Biobank Directory

Chris E Philip, MD¹, Hani Faysal, MD², Sara K Quinney, PharmD, PhD¹, Shaohong Feng, BS³, David M Haas, MD, MS¹

Indiana University School of Medicine, Indianapolis, IN¹, University of Texas Southwestern, Dallas, TX², Ohio State University, Columbus, OH³

Objective: The Collaborative Online Perinatal & Pediatric Repository (COPPER), supported by the NICHD Maternal and Pediatric Precision in Therapeutics (MPRINT) initiative, functions as a centralized directory of pregnancy and pediatric biobanks. Biobanks in the directory include a wide range of sample types and data, enabling a broad spectrum of research inquiries. This feasibility exercise aimed to evaluate whether a hypothetical study to evaluate biomarkers for early-onset preeclampsia with severe features could be facilitated by the COPPER database. The objective was to use the database to identify the number of qualifying biospecimens across COPPER-linked repositories.

Study Design: We contacted coordinators of the 17 current COPPER biobanks and requested information on available biospecimens from participants who (1) had plasma or serum collected before 16 weeks' gestation and (2) were diagnosed and/or delivered by 32 weeks with preeclampsia with severe features. They were instructed to exclude anyone with chronic hypertension at baseline. No physical specimens or participant specific information were requested, only information on the number of samples that could be available and basic cohort characteristics.

Results: Of the 17 biobanks contacted, 10 did not meet eligibility criteria based on specimen type or clinical characteristics. Among the remaining 7, five (71%) provided data. One biobank reported limited sample availability due to prior use in another project.

In total, up to 112 cases of early-onset preeclampsia with early gestation biospecimens were identified across the five responding biobanks. Nearly equal amounts of plasma and serum samples could be available. Only one of the responding biobanks was NIH funded and in the NICHD Data and Specimen Hub (DASH).

Conclusion: Our feasibility assessment demonstrated that most qualifying biobanks within the COPPER directory were responsive and willing to share biospecimen data. If researchers were in need of biospecimens, the COPPER resource can provide an additional source for specimens, in addition to other data and specimen repositories such as DASH. For uncommon conditions, single studies are often not sufficient to obtain enough early pregnancy biospecimens, necessitating collaborative ways to obtain enough samples to have meaningful power. In this exploration, the identification of up to 112 potential cases of early-onset preeclampsia with severe features #could substantially enhance the statistical power of biomarker prediction studies targeting this high-risk but relatively uncommon condition. While COPPER does not store or broker biospecimens, it offers a streamlined way for researchers to locate relevant biospecimen sources for maternal and child health studies. These results support COPPER's value in connecting researchers to biospecimens and data as a tool for accelerating perinatal and pediatric translational research.

Poster #10

Does Maternal Smoking Affect the Efficacy of Antenatal Betamethasone in Reducing Respiratory Distress Syndrome? A Secondary Analysis of the Antenatal Late Preterm Steroids (ALPS) Trial

McKenzie M Sundall Gaspar, DO¹, Chunfa Jie, PhD², James F Smith, MD³, Oscar A Viteri, MD³

UnityPoint, Des Moines, IA¹, Des Moines University, West Des Moines, IA², Creighton University, Omaha, NE³

Background: The Antenatal Late Preterm Steroids (ALPS) Trial demonstrated that antenatal betamethasone reduces respiratory morbidity among infants delivered between 34 0/7 and 36 5/7 weeks of gestation. Maternal smoking is a known risk factor for adverse neonatal outcomes; paradoxically, some studies report lower rates of respiratory distress syndrome (RDS) among very preterm infants born to smokers, possibly due to accelerated fetal lung maturation (Curet et al. AJOG 1983). Proposed mechanisms include increased cortisol in amniotic fluid promoting surfactant production, nicotine-induced structural and functional lung changes via nicotinic acetylcholine receptors, and enhanced surfactant gene expression (Rehan et al. Lung 2009). The EPIPAGE study noted reduced antenatal steroid benefits among smokers delivering between 27–32 weeks' gestation (Burguet et al. ADC Fetal Neonatal Ed 2005). Late preterm infants inherently have lower RDS rates compared to very preterm infants, with gestational age remaining the primary predictor of respiratory outcomes (Lorenzo et al. Neonatology 2021). Whether maternal smoking modifies the respiratory benefit of betamethasone in late preterm newborns remains unclear.

Objective: To determine whether maternal smoking during pregnancy affects the efficacy of antenatal betamethasone in reducing a composite of respiratory distress syndrome (RDS), transient tachypnea of the newborn (TTN), and apnea in late preterm infants.

Methods: This secondary analysis was limited to participants randomized to the active treatment arm (N=1,428) of the ALPS Trial. Seven participants were excluded due to missing data on neonatal resuscitation (N=1,421). All participants were assigned to receive two intramuscular injections containing 12mg of betamethasone 24 hours apart. Analyses for both the ALPS Trial and this secondary analysis were performed according to the intention-to-treat principle. Maternal smoking status was determined at enrollment and

defined as any cigarette use during pregnancy; frequency and amount were not recorded.

The primary respiratory outcome was a composite of neonatal respiratory morbidity: RDS, TTN, and apnea. RDS was defined as the presence of clinical signs of respiratory distress (tachypnea, retractions, flaring, grunting, or cyanosis), with a requirement for supplemental oxygen with a $FiO_2 > 0.21$ and a chest radiograph showing hypoaeration and reticulogranular infiltrates. TTN was diagnosed when tachypnea occurred in the absence of chest radiography or with a radiograph that was normal or showed signs of increased perihilar interstitial markings and resolved within 72 hours.

Secondary outcomes included a composite of CPAP or high-flow nasal cannula (HFNC) use for ≥ 2 hours, inspired oxygen $\geq 30\%$ for ≥ 4 hours, mechanical ventilation (MV), or extracorporeal membrane oxygenation (ECMO) within 72 hours after birth; and the need for neonatal resuscitation within the first 30 minutes of life, defined as the use of blow-by oxygen, cannula, oxyhood, mask, bag-mask ventilation, CPAP, intubation, chest compressions, or administration of cardiac medications.

Baseline clinical and maternal characteristics were compared using chi-square tests for categorical variables. Logistic regression was performed to account for confounding factors identified on univariate analysis: mode of delivery, maternal age, race or ethnicity, marital status, and primary source of medical payment for prenatal care. Odds ratios (ORs) with 95% confidence intervals (CIs) were calculated for unadjusted group comparisons. Adjusted odds ratios (aORs) were derived using multiple logistic regression.

Results: Compared to non-smokers, smokers were more likely to deliver via cesarean, be Caucasian or African American, under age 35, unmarried or not living with a partner, and use government-assisted health insurance. The primary composite respiratory outcome occurred in 14.4% of neonates born to smokers and 13.9% of those born to non-smokers. After adjusting for potential confounders, smoking was not associated with increased rates of RDS, TTN, or apnea in late preterm infants (aOR 1.04; 95% CI:0.65–1.62).

The secondary outcome of a composite of CPAP or high-flow nasal cannula (HFNC) use for ≥ 2 hours, inspired oxygen $\geq 30\%$ for ≥ 4 hours, mechanical ventilation (MV), or extracorporeal membrane oxygenation (ECMO) within 72 hours after birth occurred in 10.4% of neonates born to smokers and 11.8% of those born to non-smokers. After logistic regression, maternal smoking did not increase these risks (aOR 0.82; 95% CI:0.47–1.35). Resuscitation within the first 30 minutes of life occurred in 22.3% of neonates born to

smokers and 21.4% of those born to non-smokers. Similarly, maternal smoking was not significantly associated with receiving any resuscitative intervention within 30 minutes of birth, including blow-by oxygen, oxygen by cannula/oxyhood/mask, bag-mask ventilation, CPAP, intubation, chest compressions, or cardiac medications (aOR 1.00; 95% CI:0.68–1.45).

Conclusion: In this secondary analysis of the ALPS Trial, maternal smoking during pregnancy was not significantly associated with a composite of neonatal morbidity, including RDS, TTN, apnea, or the need for neonatal resuscitation after antenatal betamethasone. Although prior studies suggest smoking may accelerate fetal lung maturation, it did not appear to alter the protective effect of corticosteroids in this late preterm infant population.

Poster #11

Outcomes in Expectant Management for Patients with Preeclampsia with Severe Features

Callie J Bednarek, BS, Jennifer Jury McIntosh, DO, MS, Amy Pan, PhD, Liyun Zhang, MS

Medical College of Wisconsin, Milwaukee, WI

Purpose: This study aims to evaluate the outcomes of expectant management of preeclampsia with severe features compared to immediate delivery.

Methods: Immediate delivery included anyone at or before steroid benefit (<48 hours) and those managed expectantly (> 48 hours). Retrospective chart review was conducted to identify patients diagnosed with preeclampsia with severe features at a large urban medical center from 2014 to 2020. Patients diagnosed after 34 weeks gestational age were excluded, as ACOG guidelines universally recommend delivery over expectant management for those individuals. Demographic data was collected including age, race, parity, marital status, and insurance type. Preeclampsia labs on admission were also collected. Hospital stays were reviewed to determine maximum blood pressures between admission and delivery, days between diagnosis and delivery, gestational age, and whether patients were delivered vaginally or by cesarean. Postpartum blood pressure values were collected at discharge, one week, six weeks, and one year postpartum. Documentation of antihypertensive prescriptions at discharge and follow-up visits was also reviewed.

Chi-squared or Fisher's exact test was used to compare categorical variables while t test was used for continuous variables. Data were log transformed to meet parametric assumptions and geometric mean (GM) was reported. A two-sided p-value<0.05 was used for the term of statistically significant. SAS 9.4 (SAS Institute Inc., Cary, NC) was used for all the data analysis.

Results: A total of 149 patients met the inclusion criteria, with 48.3% (n=72) delivering within 48 hours, and the remaining 51.7% (n=77) delivering beyond 48 hours. Mean duration of expectant management was 9.96 days (range 3 - 77 days). There was a significant difference between groups with regard to parity, with nulliparous patients more likely to be in the expectant management group compared to multiparous patients (58.4% vs 41.7%, p=0.045). Additionally, patients delivered within 48 hours had a higher ALT (GM 25.81) and AST (GM 33.13) on admission when compared to others in expectant management group (with GM

ALT 17.75 and AST 24.76). The differences were significant with $p=0.019$ and 0.025 , respectively.

There was no significant difference between groups with regard to race ($p=0.63$), maternal age ($p=0.69$), marital status ($p=0.66$), or insurance type ($p=0.49$). Gestational age at delivery and mode of delivery were also comparable between groups ($p=0.14$ and $p=0.42$, respectively). Postpartum blood pressure assessments at one week, six weeks, and one year showed no significant differences between groups. Similarly, readmission rates were not significantly different between the two groups (6.94% vs 5.19% for expectant management, $p=0.74$).

Conclusion: Expectant management of preeclampsia with severe features lasted on average 8.95 days longer than immediate delivery. Despite this, there were not differences in mode of delivery, postpartum blood pressures, or adverse maternal outcomes. Notably, demographic factors such as race, age, marital status, and insurance type did not influence clinical outcomes, indicating that expectant management can be feasible across diverse patient populations. Given that delaying delivery did not result in worse long-term maternal outcomes, these findings support the potential for individualized management strategies in patients with severe preeclampsia. Further research is needed to refine expectant management protocols and assess neonatal outcomes to ensure optimal care for both mother and baby.

Poster #12

Assessment of a ‘Meds-to-Beds’ Approach to Improve Hypertensive Control in the Postpartum Period

Nabeel Salka, MD¹, Teresa Wilson, BA^{1,2}, Lindsay Stine, BS¹, Kyra Webster, BS¹, Paula L Diaz-Sylvester, PhD², Kristin Delfino, PhD², Kristina Sondgeroth, MD³

Department of Obstetrics and Gynecology, Southern Illinois University School of Medicine, Springfield, IL¹, Center for Clinical Research, Southern Illinois University School of Medicine, Springfield, IL², Department of Clinical Affairs, Maternal-Fetal Medicine, Southern Illinois University School of Medicine, Springfield, IL³

Background: Hypertensive disorders of pregnancy are one of the leading causes of maternal morbidity and mortality worldwide. They are also the leading cause of hospital readmission in the postpartum period. At the time of hospital discharge, various barriers prevent women from receiving anti-hypertensive medication. These include, but are not limited to, child-care needs and availability of transportation. The ‘Meds-to-Beds’ initiative helps overcome these barriers by ensuring that patients receive their prescription medications prior to leaving the hospital. Although Meds-to-Beds programs have been implemented to improve disease control and reduce readmission rates in other specialties, there is a lack of data regarding its use for postpartum discharge in obstetrics. We hypothesized that implementation of an educational intervention to train Obstetrics & Gynecology (Ob/Gyn) resident physicians in the utilization of a Meds-to-Beds protocol to provide anti-hypertensive medications prior to discharge from labor and delivery (L & D) will lead to: 1) an increase Meds-to-Beds utilization and 2) fewer postpartum readmissions for poorly controlled hypertension.

Purpose Statement/Objective: Increase Meds-to-Beds utilization for anti-hypertensive medications at a university-affiliated hospital L&D unit and assess the impact of this intervention on postpartum hypertensive control.

Methods: This study was approved by the local Institutional Review Board under protocol IRB #23-396. In preparation for this study, the frequency of Meds-to-Beds utilization for anti-hypertensive medications at our L&D unit in the year 2022 was determined. Baseline demographic information was collected as well as the frequency of postpartum readmission and clinic follow up. The Department of Ob/Gyn residents were then informed about the Meds-to-Beds service during weekly educational conferences. Following resident

education, post-intervention data was collected from 8/12/2024 – 02/10/2025. These data included the frequency of Meds-to-Beds utilization for anti-hypertensive medications, demographic information, postpartum readmission rates and the frequency of clinic follow-up. Inclusion criteria were those patients that delivered at our university-affiliated hospital who were prescribed a new anti-hypertensive medication or a new dose of anti-hypertensive medication upon hospital discharge. Those discharged from the hospital on a weekend or major holiday when the hospital's outpatient pharmacy is closed, as well as non-English speakers were excluded from the study. Continuous variables were summarized as means \pm S.E.M. and categorical variables were reported as frequencies (percentages). The pre- and post-intervention categorical variables were compared using the chi-squared test.

Results: 435 patients met the study inclusion criteria. We excluded 131 patients who were discharged on weekends and holidays and 4 non-English speakers. Ultimately, 300 records were analyzed—213 baseline records from 2022 and 87 post-intervention records. When demographics were compared, type of insurance, age, parity and tobacco use were not significantly different before vs. after the educational intervention. The percent of new anti-hypertensive drugs prescribed with Meds-to-Beds was significantly higher post-intervention compared to pre-intervention (38% vs. 7%, respectively; $p < .0001$). The percent of new doses of existing anti-hypertensive drugs prescribed with Meds-to-Beds was significantly higher post-intervention compared to pre-intervention (42% vs. 12%, respectively; $p < .0001$). However, readmission within 30 days was not different between pre- and post-intervention (7% vs. 8%, respectively; $p = 0.762$).

Conclusions: Ob/Gyn resident education resulted in a significant improvement in the utilization of Meds-to-Beds for new anti-hypertensive medications and new doses of existing anti-hypertensives. The 30-day readmission rate remained unchanged. Despite this improvement in Meds-to-Beds utilization (currently at 40%), further improvements can be made by making Meds-to-Beds the default route of prescribing any medications at the time of hospital discharge in the electronic medical record. In addition, increased patient awareness during the prenatal period and nursing education can further increase utilization. With continued Meds-to-Beds utilization, we hope to demonstrate improved postpartum hypertensive control through fewer readmissions and better medication adherence.

Poster #13

First Trimester Uterine Artery Doppler Screening for Preeclampsia

Alexander Harrison, MD, Elizabeth Mirsky, MD, Emily A DeFranco, DO, MS

University of Kentucky, Lexington, KY

Background: Several screening strategies have been proposed to identify patients in early pregnancy at increased risk of preeclampsia who may benefit from low dose aspirin (LDA) to reduce their risk. One approach is risk-stratification based on patient-level risk factors that can be identified in the first trimester without assessment of biomarkers. This risk factor-based approach is the preferred approach in the US, with low dose aspirin 81 mg daily advised for those with identified risk factors prior to 16 weeks of gestation [Recommendation supported by American College of Obstetricians and Gynecologists (ACOG), Society of Maternal-Fetal Medicine (SMFM) and United States Preventive Services Task Force (USPSTF); ACOG committee opinion #743]. In 2017 the Aspirin for Evidence-Based Preeclampsia Prevention (ASPREE) trial reported results utilizing a screening algorithm including first-trimester serum markers, such as placental growth factor and pregnancy-associated plasma protein-A, as well as uterine artery Doppler to identify high-risk patients. Subsequently, societies such as the Fetal Medicine Foundation (FMF) and International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) endorsed a screening algorithm including serum and ultrasound biomarkers. As these laboratory screens have limited availability in the US, this combined screening approach utilizing serum and ultrasound-based biomarkers has not been adopted widely in the US. Further, the efficacy of utilizing uterine artery Doppler alone as an independent biomarker approach to identify preeclampsia risk is unclear.

Objective: To quantify the impact of utilizing first trimester uterine artery Doppler as a screening approach to identify patients at risk of preeclampsia.

Study Design: At the study institution, all patients underwent first trimester ultrasound at 11-14 weeks, which included uterine artery Doppler (utAD) as a preeclampsia screening approach. Mean pulsatility index of >90th percentile identified those at high-risk, and they were advised to consider LDA for preeclampsia prevention. Medical records were reviewed over one year, 4/1/2024-3/31/2025, to ascertain the proportion of those with abnormal utAD who

received LDA (compliance). We performed a retrospective cohort study quantifying the proportion of those with abnormal utAD (U/S strategy) who would have been identified based on the ACOG recommended risk-factor based strategy (RF strategy). Based on these factors, the resultant number of patients identified by U/S strategy and cases of preeclampsia prevented utilizing U/S strategy over RF strategy were estimated.

Results: During the study period, a total of 2,426 patients underwent utAD screening during the first trimester. Of those, 221 (9.1%) had abnormal utAD. Of those with abnormal utAD, 153/221 (69%) received LDA and 68/172 (31%) did not, despite LDA being recommended in nearly all cases.

Over two-thirds of those with abnormal utAD, 156/221 (71%) had indications for LDA based on RF strategy, and would have been identified as at-risk without undergoing utAD. Of those, over three-quarters, 118/156 (76.3%), received LDA. Just over one quarter, 65/221 (29%), screened positive by U/S strategy (abnormal utAD) alone, and would not have screened positive based on RF strategy. Of those who screened positive by U/S strategy alone, only 35/65 (54%) received LDA.

In summary, use of a first trimester U/S screening approach rather than RF approach identified only an additional 35/2426 (1.4%) patients per year who received LDA. Using assumptions from prior published studies that 4.3% of high-risk patients who screen positive with utAD and do not receive LDA will develop preeclampsia, 1.5 of the 35 patients identified by U/S screening alone in our cohort would go on to develop preeclampsia if LDA was not given. Assuming that LDA results in as high as 62% reduction in preeclampsia risk, less than one case of preeclampsia per year would be prevented with the universal U/S uterine artery Doppler screening strategy over a RF based approach.

Conclusion: A first trimester preeclampsia U/S screening strategy using uterine artery Doppler has minimal benefit over screening based on the ACOG recommended risk-factor based screening approach, identifying less than one preventable case of preeclampsia per year among a population of nearly 2,500 screened.

Poster #14

Pandemic-Related Increases in Chronic Hypertension and Superimposed Preeclampsia in Pregnancy

Jasmine T Rios, MPH¹, Chuhan Wu, MSc², Alexa Freedman, PhD³, Linda Ernst, MD², Greg Miller, PhD⁴, Lauren Keenan-Devlin, PhD, MPH⁵, Ann Borders, MD, MSc, MPH⁵

University of Chicago Pritzker School of Medicine, Chicago, IL¹, Endeavor Health, Evanston, IL², Northwestern University Feinberg School of Medicine, Chicago, IL,³ Northwestern University, Evanston, IL⁴, Endeavor Health, University of Chicago Pritzker School of Medicine, Evanston, Chicago, IL⁵

Background: Pregnancy during the COVID-19 pandemic was associated with significant increases in psychosocial stress and mood disorders, which have been implicated in the pathway to hypertensive disorders of pregnancy (HDP). We investigated whether COVID-19 pandemic exposure was associated with an increased prevalence of HDP.

Study Design and Methods: This study was a secondary analysis of the Stress, Pregnancy, and Health (SPA) prospective cohort trial. The SPAH study recruited participants from March 2018 through August 2022. Exposure to the COVID-19 pandemic was defined based on the timing of study participation and delivery relative to the onset of the pandemic in the United States. Unexposed participants completed the mid-pregnancy study survey and delivered before December 2019. Exposed participants completed the mid-pregnancy study survey and delivered on or after March 15, 2020, aligning with the initial peak in COVID-19 cases and related healthcare disruptions. HDP included chronic hypertension (HTN) with or without superimposed preeclampsia (PE), gestational HTN, and preeclampsia or eclampsia (PE). Infection during pregnancy with the SARS-COV-2 virus, indicated by a positive test result in the medical record, was also collected, and HDP prevalence was evaluated for this group. All models used logistic regression to model HDP prevalence as a function of pandemic or viral exposure, adjusted for age, race/ethnicity, socioeconomic disadvantage, and body mass index. Socioeconomic disadvantage was defined as a count (0–5) of five indicators: low income (IPR < 2.0), limited savings, receipt of public assistance, low household education, and current unemployment, with higher values indicating greater disadvantage. All analyses were conducted in SAS, and $p < 0.05$ denoted statistical significance.

Results: The sample included 569 participants, with 214 (37.6%) unexposed and 355 (62.4%) exposed to the pandemic. The sample had a mean age of 33.2 years (SD 5.6), a BMI of 31.0 (SD 7.9), and was majority white race (65.4%), followed by Hispanic ethnicity (24.4%), then Black race (19.0%). 57 participants were identified as infected with the SARS-COV-2 virus during pregnancy. Overall, 97 participants (17.1%) were diagnosed with any form of HDP. Specifically, 49 had chronic HTN, 40 had gestational HTN, 57 had preeclampsia or eclampsia, and 20 had chronic HTN with superimposed PE.

The prevalence of any HDP in those exposed to the COVID-19 pandemic (n=64, 18.0%) was similar to the prevalence of any HDP in those unexposed (n=33, 15.4%). The results demonstrated no significant association between COVID-19 pandemic exposure and the occurrence of any HDP ($\chi^2 = 0.71$, $df = 1$, $p = 0.399$). However, we observed a significant association between pandemic exposure and chronic HTN ($\chi^2 = 5.16$, $df = 1$, $p = 0.023$). In the adjusted linear regression model, individuals exposed to the pandemic had 2.35 times greater odds of developing chronic HTN compared to those unexposed to the pandemic (95% CI: 1.07-5.15). Additionally, the prevalence of chronic HTN with superimposed PE was significantly associated with pandemic exposure ($\chi^2 = 6.73$, $df = 1$, $p = 0.010$). In the adjusted model, those exposed to the pandemic were 6.22 times more likely to develop chronic hypertension with superimposed preeclampsia (95% CI: 1.34-29.0).

No significant associations were found for gestational HTN ($\chi^2 = 0.00$, $df = 1$, $p = 0.969$) or preeclampsia ($\chi^2 = 0.98$, $df = 1$, $p = 0.323$). Infection with the SARS-COV-2 virus during pregnancy was not associated with higher odds of any HDP ($\chi^2 = 1.09$, $df = 1$, $p = 0.297$).

Conclusions: We found that the risk of chronic HTN and chronic hypertension with superimposed PE or eclampsia was significantly elevated in those pregnant during the COVID-19 pandemic compared to before the pandemic. The odds of chronic HTN were more than twice as high, and the odds of superimposed HDP six times greater in the pandemic-exposed group. However, there were no significant differences observed in rates of HDP when restricting the sample to those who were known to be infected with the SARS-COV-2 virus compared to those unexposed to the pandemic. These findings highlight the need for further research to explore the role of pandemic-related psychosocial factors in the diagnosis and development of these conditions.

Poster #15

Mindfulness on the Go: A Study of Mobile App Usage and Mental Health in Pregnant Patients

Nuong Truong, MD, Haley Zanga, BS, Namisha Dhillon, MD, Ann K Lal, MD, Nicole Sprawka, MD, Joana Lopes Perdigao, MD, Layan Alrahmani, MD

Loyola University Medical Center, Maywood, IL

Objective: Nearly 20% of pregnant individuals are diagnosed with an anxiety disorder or major depression during pregnancy, both of which have been associated with adverse outcomes such as preterm birth and low birth weight. Mindfulness meditation has been shown to effectively reduce symptoms of anxiety and depression in pregnancy. This study aims to assess the typical usage patterns of mobile applications offering mindfulness training and to identify characteristics of individuals who actively engage with these apps.

Methods: We conducted a prospective study evaluating the impact of the Expectful meditation app on mental health and sleep in pregnant patients. Participants were enrolled during pregnancy and granted access to the app. Surveys assessing depression (Edinburgh Postnatal Depression Scale [EPDS], Hospital Anxiety and Depression Scale [HADS]), perceived stress (Perceived Stress Scale [PSS]), and sleep disturbance (PROMIS Sleep Disturbance Scale) were administered at enrollment, 30 days post-enrollment, and postpartum. Hours of usage were obtained through the application. Patient demographic information and pregnancy outcomes were collected. Participation in the study was voluntary and of no cost to the patients.

Results: Forty-nine patients consented to the study, and 18% (n=9) of them used the meditation app at least once, with total usage ranging from 1 second to 107,713 seconds (approximately 29 hours). There were no significant differences in baseline demographics or pregnancy outcomes between app users and non-users. However, at baseline, app users reported significantly higher anxiety (HADS-anxiety score, $p=0.011$) and stress (PSS, $p=0.025$) compared to non-users. Baseline EPDS scores did not differ significantly between groups, with an average score of 9.33 among app users and 5.58 among non-users ($p=0.0541$). Postpartum, there was no difference in the rate of postpartum depression diagnoses between the groups. However, postpartum EPDS scores remained significantly higher among app users

compared to non-users (7.67 vs. 3.38, $p=0.023$). Within-group comparisons of baseline and postpartum survey results showed no significant changes among app users. In a secondary analysis based on the presence of social determinants of health (SDoH), participants with reported SDoH ($n=21$) had significantly higher EPDS ($p=0.0421$), PSS ($p=0.0495$), and HADS-depression ($p=0.0054$) scores compared to those without SDoH ($n=24$).

Conclusion: This study suggests that despite free access to a mindfulness-based mobile application, patients may not fully engage with it. The preference for in-person settings may stem from the structure they provide, including physical presence and dedicated time. While not statistically significant, patients affected by social determinants of health appeared to use the app more frequently than those without, possibly due to barriers limiting their participation in in-person programs. These findings highlight the potential value of mobile apps in offering accessible mindfulness resources, particularly for individuals facing social limitations.

Poster #16

Pharmacologic Management of Diabetes Mellitus in Pregnancy: A Nationwide Survey of Maternal-Fetal Medicine Physicians

Nuong Truong, MD, Layan Alrahmani, MD, Ann K Lal, MD, Nicole Sprawka, MD, Joana Lopes Perdigao, MD

Loyola University Medical Center, Maywood, IL

Objective: Diabetes mellitus (DM) in pregnancy is a common perinatal complication. With rising levels of obesity in the United States, rates of DM in pregnancy are increasing. Insulin is recommended as the first line pharmacologic intervention. No medical society explicitly states a specific type of insulin as the first-line therapy in pregnancy. This study aims to examine the pharmacologic management of diabetes in pregnancy preferred by Maternal-Fetal Medicine specialists in the United States.

Study Design: An electronic survey was sent to a random sample of maternal fetal medicine (MFM) physicians via email and online MFM forums. All responses were anonymous and participation was voluntary. Survey questions include basic demographics, preference for insulin initiation and monitoring for glycemic control in pregnancy.

Results: The survey was completed by 85 MFM specialists, all of which reported managing DM in pregnancy. Approximately 41% of respondents (n=35) have been in practice for greater than 10 years (Table 1). All five regions of the United States were represented, with most respondents from the Midwest (n=26, 31%). Most specialists prescribe more than one intermediate to ultra-long acting insulin analogue (Table 2). Glargine and NPH were prescribed the most by specialists, 91% (n=76) and 82% (n=71), respectively. For shorter acting insulins, Lispro and Aspart were most prescribed, 99% (n=84) and 91% (n=77), respectively. For oral pharmacologic management, 11% (n=9) reported that they do not prescribe Metformin or Glyburide (Table 3). When asked which medications the specialists have previously used and no longer prescribe, 47% (n=40) reported they no longer prescribe Regular insulin and 67% (n= 57) reported that they no longer prescribe Glyburide. The majority of specialists (n=52, 61%) have Endocrinology manage insulin pumps, while 39% (n=33) report that they manage the insulin pumps in pregnancy themselves.

Conclusions: This study shows that MFM specialists use a

broad range of pharmacologic options for management of DM in pregnancy. The most common medications used were Lispro, Aspart, Glargine, NPH, and Metformin. The use of multiple different medications by MFM specialists highlights the lack of standardized guidelines among professional societies.

Additional research is needed to assess if there should be a first line pharmacologic management for DM in pregnancy.

Table 1. Duration of practice for the sample was:

Duration of practice % of respondents (n=85)

> 20 years 14% (n=12)

10-20 years 27% (n=23)

5-10 years 28% (n=24)

< 5 years 31% (n=26)

Table 2. Use of Intermediate to ultra-long-acting insulins for pharmacologic management of DM in pregnancy.

Insulin % of respondents (n=85)

NPH and Glargine (+/- Detemir, +/- Degludec) 91% (n=77)

NPH only* 8% (n=7)

Glargine only 1% (n=1)

*For the seven specialists that prescribe only NPH: region, duration of practice and monitoring of HbA1C varied.

Table 3. Use of oral antihyperglycemics for pharmacologic management of DM in pregnancy.

Oral Antihyperglycemics % of respondents (n=85)

Metformin and Glyburide** 13% (n=11)

Metformin only 75% (n=64)

Glyburide only** 1% (n=1)

Neither 11% (n=9)

**Of the 12 specialists who also prescribe glyburide: region, duration of practice and monitoring of HbA1C varied.

Poster #17

Pelvic Floor Dysfunction in Gynecologic Surgical Patients

Mary Murphy Fay, MD¹, Mirelle Dawoud, MD¹, Hannah Pope, MD¹, Jameela Media, MD³, Jessica Shaker, MD¹, Jacqueline Tarsitano, MD², Abigail Winder, MD¹

Loyola University Medical Center, Maywood, IL¹, Loyola University Stritch School of Medicine, Chicago, IL²

Introduction: Gynecologic surgery is a common management strategy for management of gynecologic conditions, with over 600,000 major gynecologic surgeries performed annually in the U.S. While surgery is an important management tool for gynecologic conditions, it can lead to both short and long term quality of life concerns, including affecting the pelvic floor function. The cause of pelvic floor dysfunction is often multifactorial; our study looks to describe the implications of gynecologic surgery on pelvic floor function.

Methods: This is a descriptive study, administered to patients presenting postoperatively after a gynecologic surgery in the gynecologic oncology clinic. Patients were screened for pelvic floor dysfunction after gynecologic surgery. Pelvic floor dysfunction, defined as symptoms affecting bowel, bladder, and sexual function. The Pelvic Floor Dysfunction Index 20 (PFDI-20) is a validated short form screening tool to assess for pelvic floor symptoms. Patients who met inclusion criteria were asked to complete the survey between four and twelve weeks post-surgery. After completion of the survey, the data was collected and review of the electronic medical record was performed for demographic and surgical information. Demographic information included age, race, parity, weight/BMI, presence of cancer on final pathology, surgical history, and preexisting conditions. Surgeries were defined as “major” (including hysterectomy via any route or any open surgery) or “minor” (any minimally invasive procedure, excluding hysterectomy, hysteroscopy, or vulvar procedures).

The PFDI-20 was scored and categorized, negative (score of 0), mild (1-15), moderate (16-34) and severe (35-40). We then calculated the incidence of any pelvic floor dysfunction in the immediate postoperative period based on mode of surgery (minimally invasive vs open surgery), major vs minor surgery, and presence or absence of invasive cancer on final pathology.

Results: A total of 20 patients were recruited for the study with the average time from surgery at the time of form

completion being 38 days. Patients were on average 56 years old with an average BMI of 32 and majority of patients being white. 70% of patients underwent major surgery and 30% had minor surgeries. 20% of the surgeries were performed open, with the rest being minimally invasive or minor. 60% of patients had malignancy on their final pathology, distributed between ovarian, vulvar, uterine, and cervical.

All patients completed the PFDI-20 and 90% screened positive for any pelvic floor dysfunction (score >0). 80% of patients had mild dysfunction (score <15) and 10% with moderate (score 16-34). No patients scored with severe dysfunction. The average score of all patients was 6.5 (mild dysfunction) with a total range of 0-24.

Our study compared PFDI-20 scores between major and minor surgeries, major surgeries had an increased average score (8.2) versus minor surgeries (2.5). Our study also compared malignant versus benign pathology, with patients with malignant pathology having an average score of 7.3, compared to 5.3 for benign pathology. Finally, we looked at type of surgery and pelvic floor dysfunction, with minimally invasive surgeries having an average score of 7.72, and open surgeries having an average score of 7.75.

Conclusion: In our study assessing pelvic floor dysfunction after gynecologic surgery, our results show that mild pelvic floor dysfunction occurs in almost every patient after gynecologic surgery. This pelvic floor dysfunction was demonstrated in the immediate postoperative period. Regardless of type of surgery or malignant pathology, mild pelvic floor dysfunction was present for our study patients, with a trend to higher scores in patients who undergo major surgery and have malignant pathology. This study provides important baseline information that pelvic floor dysfunction does occur after surgery, and further studies are needed to assess if pelvic floor dysfunction persists long term, as well as if any interventions can have a positive impact on pelvic floor function in the postoperative period.

Poster #18

Intentional or Spontaneous: Does Hysterotomy Extension Type Affect Maternal and Neonatal Outcomes?

Lauren A Hutka, DO¹, Everett F Magann, MD¹, Michael Wendel, MD², Ruofei Du, PhD¹

University of Arkansas for Medical Sciences, Little Rock, AR¹, SSM Health/St. Louis University School of Medicine, St. Louis, MO²

Background: Hysterotomy extensions at the time of caesarean delivery are classified as spontaneous or intentional, and have been associated with complications including increased blood loss and operative time. The aim of this study was to compare risk factors and outcomes of spontaneous and intentional hysterotomy extensions.

Methods: We conducted a retrospective cohort study at a large tertiary academic medical centre between January 2015 and July 2020 and included patients who had caesarean deliveries complicated by hysterotomy extensions as described in operative reports. Demographic, medical, obstetric, and surgical data were collected. Descriptive statistics and logistic regression were used to determine significant associations between risk factors and the odds of a specific type of hysterotomy extension. Propensity score weighting was applied to balance the distribution of risk factors between spontaneous and intentional extensions, allowing for the evaluation of their potential causal effects on selected maternal and birth outcomes.

Results: During the study period there were 6,593 caesarean sections that were performed and 250 were complicated by hysterotomy extension (4%). Of these, 137 were spontaneous (55%) and 113 were intentional (45%). Risk factors significantly associated with spontaneous extension included labor, increasing cervical dilation, and increasing birth weight. Intentional extension was significantly associated with inability to deliver the fetus. There were no significant differences in adverse outcomes between the two extension types.

Conclusion: Although different risk factors exist for hysterotomy extension type, there were no significant differences in adverse outcomes when performed. This may help guide surgeons when making decisions on whether intentional hysterotomy extension is needed, as our study suggests no difference in outcomes among extension type.

Poster #19

Comparison of Pain Scores and Birth Satisfaction Between Nulliparous and Multiparous Patients Receiving Prenatal Labor Pain Education

Samiksha S Annira, MD¹, Saachi Mittal, BS², Maria Tjilos, BS², Laila Al-Jerdi, BS², Heba Basha, MD³, Taylor Stanton, MD¹, Gregory L Goyert, MD¹

Henry Ford Health System, Detroit, MI¹, Wayne State University School of Medicine, Detroit, MI², Michigan State University College of Human Medicine, East Lansing, MI³

Purpose: This study aims to identify educational strategies to mitigate differences in pain experience among nulliparous and multiparous patients.

Introduction: Research shows that patients' understanding of the birthing process and pain control methods influences their labor experience (Hodnet, et al. 2002). Unfortunately, many patients lack comprehensive knowledge of pain relief options before labor begins (Garlock, et al. 2017, Rhode, et al. 2022). Existing literature highlights the need for further education and research on how informed patients may experience labor differently (Garlock, et al. 2017). Furthermore, research demonstrates notable differences in pain experiences among nulliparous vs multiparous women. However, most studies focus on intervention rates (e.g., epidural utilization) rather than direct pain scoring, leaving gaps in understanding how education modulates pain experiences across parity (Lowe, et al. 1992, Labor, et al. 2008). This study evaluates patient-reported pain scores and birth experience satisfaction among nulliparous and multiparous patients receiving standardized prenatal pain education.

Methods: An IRB approved randomized control trial was conducted (IRB Approval #16937). First a pilot survey was administered to a convenience sample of pregnant patients in the clinic setting to assess baseline knowledge about labor pain control options to inform creation of a standardized patient education guide about pain control options available during labor. Pregnant patients in the third trimester of all ages were then recruited from a high-volume urban OB/GYN clinic. Demographic information including age, parity, and race was collected. Recruited patients were then randomized into the experimental or control group via 1:1 randomization. The experimental group received the educational guide during a third trimester prenatal visit, and the control group received standard prenatal care. Patients were then followed through their delivery to the postpartum period where a final survey

was administered to assess patients' pain scores and satisfaction during labor and birth between the two groups. Patients of all ages with either singleton or multiple gestations were included regardless of parity and mode of prior deliveries. Exclusion criteria included patients who were non-English speaking, scheduled for delivery via planned Cesarean section, or experiencing chronic pain conditions or coagulopathy precluding spinal anesthesia. Statistical analysis was conducted through univariate testing, Wilcoxon rank-sum tests, to assess associations between survey variables and whether or not patients received guides.

Results: This pilot analysis studied 22 patients comprised of various ages, races, and parity. 11 patients were randomly assigned to both experimental and control groups. Younger patients (age < 30) had higher overall birth satisfaction scores than older patients (age ≥ 30) (mean = 4.37, 95% CI [3.75, 4.99], compared to mean = 4.21, 95% CI [3.52, 4.90] in the ≥ 30 group), but lower pain control method satisfaction ratings (mean = 4.12, 95% CI [3.42, 4.82] compared to a mean = 4.28, 95% CI [3.62, 4.94], in the ≥ 30 group). Multiparous patients on average had higher pain control method satisfaction and birth satisfaction scores than nulliparous patients (mean = 4.50 95% CI [4.12, 4.87], and 4.78 95% CI [4.45, 5.11], respectively in multiparous patients, compared to mean = 3.75, 95% CI [2.58, 4.91], and 3.37 95% CI [2.48, 4.26], respectively in nulliparous patients). In the Wilcoxon rank sum tests, the difference in birth satisfaction scores between nulliparous and multiparous patients was statistically significant ($p < .05$).

Conclusion: This pilot study suggests that younger patients may experience higher birth satisfaction and lower pain satisfaction compared to older patients with the addition of a standardized pain guide. Additionally, multiparous patients may have higher satisfaction with pain control and birth experience than nulliparous patients overall. Future larger datasets will allow for multivariate analysis to determine whether factors such as age, race, parity, and/or educational group, significantly affect pain and birth-related satisfaction scores.

Poster #20

The Effects of Statins in Patients with Endometrial Carcinoma on Cancer Progression, Recurrence, and Survival

Amanda Hull, MD, Katina R Massad, BA, Alexandra Marko, BS, Jessalyn Hultz, BS, Jae-Wook Jeong, PhD, Tae Hoon Kim, PhD, Mark Hunter, MD

University of Missouri School of Medicine, Columbia, MO

The objective of our pilot study was to evaluate the effects of statins on progression free survival (PFS) and 5-year, 10-year, and overall survival (OS) in patients with endometrial cancer (EC). We conducted a retrospective cohort study of 197 patients diagnosed with EC between 01/01/2008 – 10/31/2023 at a single academic institution in central Missouri. All stages were included. Patients were excluded from the study if they had inadequate records of treatment or follow up or received care outside of the university clinics. Cancer history, medication use, and patient demographics were collected from the electronic medical records and coded into REDCap using standardized operating procedures developed by the research team. Survival analysis was conducted using log rank and Kaplan-Meier estimates as well as Cox modeling for multivariate analysis. P-value <0.05 was used to determine statistical significance. A total of 197 patients met inclusion criteria with a mean age of 68 and mean BMI of 39.6. Among the included patients, 98 (49.7%) had grade 1 EC while 69 (35.0%) and 30 (15.2%) had grade 2 and 3 EC, respectively. There were no differences in age or BMI in patients using statin therapy versus those not using statin therapy. Of 197 patients included in the study, 89 (45.2%) had a history of statin use and 108 (54.8%) did not have a history of statin use. The mean overall survival of patients with statin use was approximately 115 months vs 104 months for patients without a history of statin use (p=0.4403). Further data analysis of our clinical cohort revealed a longer PFS in patients who have used a statin (66.2 months) compared to the group without statin use (53.7 months, p = 0.9258). Five year survival rate was 46.6 months for statin users and 50.2 months for those with no use (p=0.5920) while the 10-year survival rate was noted to be 86.9 months vs 84.3 months, respectively (p=0.3087). Multivariate analysis of OS and PFS was only significantly affected by cancer grade. The current pilot study suggests that OS and PFS may be longer among statin users when compared to patients who have not used a statin. Both differences lack statistical significance in our cohort; however, given the magnitude of difference in PFS and OS in our study, there is a suggestion of possible

clinical impact. Further results from our lab's study of statin treated murine models showed reduced rates of distant metastasis and longer PFS, which supports the results of our clinical cohort. However, it is important to note that we did not see this trend amongst statin users within our 5-year survival model indicating that statin impact on cancer progression may have a time-dependent component. Therefore, we plan to expand our exploration of this data and our objectives to include a new multicenter consortium of patient records across several states. We suspect expanding our cohort may further reveal a statistically significant interplay between the cancer progressing effects of poor diet and lipid rich environments in the setting of cancer suppressing effects of statins.

Poster #21

Acute Colonic Pseudo-Obstruction Following Total Abdominal Hysterectomy Utilizing Spinal Anesthesia: A Case Report and Review of Ogilvie's Syndrome in the OB/GYN Population

Madalyn M Barnett, MD, Karen M Thies, PhD, DO

University of Missouri School of Medicine, Columbia, MO

Purpose: To increase awareness and management of Acute Colonic Pseudo-Obstruction (ACPO), a rare complication that can be associated with spinal anesthesia commonly used in OB/Gyn surgeries.

Methods: This is a case report describing the hospital course of a patient undergoing total abdominal hysterectomy and bilateral salpingectomy (TAH-BS) with spinal anesthesia, who developed ACPO with colonic perforation. A literature review was conducted to review the incidence, presentation, and management of ACPO and highlight the importance of recognizing this complication.

Results: The patient was a 45-year-old G2P2 who presented for scheduled TAH-BS for abnormal uterine bleeding (AUB). The patient's past surgical history was significant for two prior cesarean sections, an appendectomy, and an open umbilical hernia repair that was done through a large midline incision for unknown reasons. This patient received a Duramorph spinal before her procedure. Intraoperative findings included dense adhesions from the anterior abdominal wall to the lower uterine segment and a 2 cm right ovarian simple cyst. Given location of anterior adhesions, an Alexis-O retractor could not be placed. Instead, the bowel was packed with moist laparotomy sponges and the occasional use of hand-held retractors. The uncomplicated procedure was completed in under two hours. On postoperative day 1 (POD1), the patient's pain was controlled, she was tolerating a diet without nausea or vomiting, voiding spontaneously, and reported flatus. Her abdominal exam was benign and labs were notable for a white blood cell count (WBC) of 15.43. On POD2, the patient's status was grossly unchanged. On POD3, the patient's condition worsened with increased pain overnight, new nausea, and one episode of emesis that was improving with medications. The exam was now significant for moderate distension, tenderness to palpation, and diminished and high-pitched bowel sounds. Her WBC was also increasing. The patient was made NPO and given a Dilaudid PCA and scheduled IV Toradol for pain. A CT A/P showed a dilated proximal colon with her cecal pole

measuring 8 cm in diameter and dilated distal ileal loops consistent with ileus (no signs of mechanical obstruction or evidence of pneumatosis). A nasogastric (NG) tube was not placed as patient declined. On POD4, the patient was stable overall but still symptomatic. That evening, the team was alerted of patient's acutely worsening pain control. A CT Urogram was done to rule out possible bladder/ureter injury and showed similar dilated proximal colon and cecum with cecal diameter now measuring up to 10.9 cm. Moderate volume pneumoperitoneum and slight interval increase in small volume abdominopelvic free fluid and pseudo-pneumatosis in region of the cecum was noted. The findings were concerning for possible bowel perforation, suspected at the proximal colon/cecum. Acute care surgery was consulted at this time and they elected to take the patient to the OR for an emergent exploratory laparotomy and proceeded with a right hemicolectomy with handsewn ileocolonic anastomosis. They noted turbid fluid in the abdomen upon entry and a normal-appearing small bowel with small mesenteric rents without compromise to bowel viability. There was, however, a large area of full-thickness necrotic tissue involving the ascending colon and cecum with perforation and spillage of stool noted once cecum was reflected medially.

Conclusions: ACPO, also known as Ogilvie's syndrome, is characterized by colon dilation with decreased or absent peristaltic activity without any evidence of mechanical/anatomic obstruction. Estimated incidence is approximately 100 cases out of 100,000 admissions. Thought to occur most commonly in elderly (>60 years old) and severely ill individuals, particularly men, this condition also develops following surgery, including OB/GYN surgery. A large retrospective series found that the most common predisposing conditions for ACPO were nonoperative trauma, infection, and cardiac disease and that hip surgery and cesarean sections were the most common surgical procedures. Gynecologic cancers and benign gynecologic conditions were also found to be associated with ACPO. The mechanism of ACPO is still uncertain, but a leading hypothesis is impairment of the autonomic nervous system that occurs with trauma, spinal anesthesia, and other pharmacologic agents— noting that spinal anesthesia is common in OB/GYN surgeries. This case highlights the need for awareness of ACPO in the postoperative period, particularly in cases where spinal anesthetic is utilized or other motility-modifying pain regimens regardless of patient age or other co-morbidities to avoid severe complications. Colonic ischemia and perforation risk increases when cecal diameter exceeds 10-12cm on CT and duration is >6 days, but as demonstrated in this case, can occur with less. Initial management for cases where cecal

diameter is <12cm and no signs of perforation includes supportive care measures (NG tube, NPO, IVF, etc.) and close monitoring. More severe symptoms/cecum >12cm may warrant treatment with neostigmine, cecal decompression, or surgery. Colonic ischemia and perforation are the two main complications of ACPO which develops in 3-15% of patients. In the absence of complications, mortality is 15% and with complications, mortality is 36 to 44%.

Poster #22

Timing of Preoperative Antibiotics and Subsequent Cesarean Infectious Morbidity

Macy J Vickers, MD, William M. Perez, MD, Candice P Holliday, JD, MD, Nicolette P Holliday, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Background: Perioperative antibiotics are administered to reduce infectious complications in planned surgical procedures with a goal of obtaining optimal tissue levels at the time of microbial contamination. The American College of Obstetricians and Gynecologists recommends cesarean antibiotic prophylaxis within 60 minutes of surgical start while the World Health Organization recommends 30-60 minute prior to skin incision. Data from general surgical literature suggests that administration of preoperative antibiotic surgical prophylaxis is most effective when given 30-60 minutes prior to surgery start.

Objective: We aimed to explore associations between timing of antibiotic preoperative surgical prophylaxis between 0 and 30 and 30 and 60 minutes. We hypothesized that antibiotic prophylaxis between 30-60 minutes is associated with less infectious morbidity compared to antibiotic prophylaxis given between 0-30 minutes preoperatively.

Methods: We performed a retrospective cohort study of women receiving preoperative antibiotic prophylaxis undergoing cesarean in a single academic tertiary care center. We collected demographic, obstetric intrapartum variables, and postoperative composite infectious outcome data. We analyzed infectious morbidity by timing of preoperative antibiotic exposure between 0-30 and 30-60 minutes. We then created Kaplan Meier survival curves for composite infectious outcomes.

Results: Eighteen hundred forty-eight subjects underwent cesarean birth during the study period. Mean time between antibiotic administration and incision was 9.2 minutes. The overall cesarean-related infectious morbidity was 6.64% and was similar between groups, 6.25% in the 0 to 30 minute group, 6% in the 30 to 60 minute group, $p > 0.05$. The only demographic and intrapartum variables associated with infectious morbidity were body mass index > 40 kg/m² and indication for cesarean. Survival curves failed to demonstrate any difference in composite infectious morbidity at 30-60 minutes compared to <30 minutes, though there was

significant improvement in infectious morbidity up to 30 minutes in the 0 to30 minute group.

Conclusions: Although there were limitations in our study groups, there was reduction in cesarean related infectious morbidity up to 30 minutes between antibiotic administration and cesarean start. Between 30-60 minutes there was no further reduction in cesarean-related composite infectious morbidity. Our findings suggest a time window of antibiotic prophylaxis of at least 30 minutes within the 0-60 minutes recommended time frame may be superior to 0 to 30 minutes.

Poster #23

Unexpected Turn: Cecal Bascule Presenting as Post-Cesarean Abdominal Pain

Cya N Johnson, BA/MS, Candice P Holliday, JD, MD, Nicolette P Holliday, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Department of Ob-Gyn, Mobile, AL

Background: Intestinal obstruction during pregnancy is a rare but serious complication associated with significant maternal and fetal mortality. The most common causes include adhesions (59%), volvulus (23%), idiopathic (8%), intussusception (5%), and hernia (3%). Cecal bascule, a rare subtype of cecal volvulus, involves anterior and upward folding of the cecum onto the ascending colon without axial torsion. When a competent ileocecal valve is present, a closed-loop obstruction promotes cecal distension and increases the risk of ischemia, necrosis, and perforation. It is theorized that increased intra-abdominal pressure and gravid uterus displacement following cesarean delivery can predispose a mobile cecum to abnormal positioning. Therefore, early recognition of cecal bascule is crucial to initiating life-saving interventions.

Purpose: To report a rare case of cecal bascule following elective cesarean delivery.

Methods: Case Report.

Results: A 29-year-old G3P2002 female at 26 weeks' gestation with a past medical history of chronic hypertension was admitted for severe anemia, acute kidney injury (AKI), and concern for pre-eclampsia. Her obstetric history is significant for two elective cesarean deliveries, one of which was complicated by pre-eclampsia. Initial review of systems was positive for headache, lightheadedness, and fatigue. Blood pressure on arrival was elevated to 143/83 mm Hg. Laboratory workup revealed a hemoglobin of 6.8 g/dL and elevated creatinine of 1.5 mg/dL. Urinalysis was consistent with urinary tract infection (UTI). A retroperitoneal ultrasound showed normal kidneys. She was treated with oral nitrofurantoin for the UTI and received a course of betamethasone for fetal lung maturity. Her anemia improved with a blood transfusion, and she remained hospitalized for observation. Nephrology attributed her AKI to renal ischemia from severe anemia, while hematology suggested pure red cell aplasia as the underlying cause. Over the course of her hospitalization, her systolic blood pressure progressively increased to 170 mm Hg. This prompted initiation of oral

nifedipine, intravenous antihypertensives, and magnesium sulfate for seizure prophylaxis. The patient subsequently developed chest pain, dry cough, dyspnea, and persistent headaches over two days. Computed Tomography (CT) of the chest revealed small bilateral pleural effusions.

Electrocardiogram was unremarkable. Given the progression of her symptoms and maternal-fetal risks, the patient underwent repeat cesarean delivery of a viable infant at 26 weeks and 6 days. On postoperative day 1, the patient was initially meeting postpartum milestones. By postoperative day 2, she developed significant diffuse abdominal pain without nausea or vomiting. She remained afebrile but was hypertensive with a blood pressure of 161/95 mm Hg. Physical examination revealed abdominal distension with no rebound or guarding and normoactive bowel sounds. She had not yet regained bowel function. An abdominal X-ray showed evidence of a developing bowel obstruction at the level of the cecum without pneumoperitoneum. A CT scan of the abdomen and pelvis with contrast confirmed significant cecal distention up to 8.1 cm, multiple dilated, fluid filled loops of small bowel, and a collapsed proximal large bowel. On repeat examination, the patient had worsening abdominal distension with tympany and decreased bowel sounds. General surgery performed emergent exploratory laparotomy, lysis of colonic adhesions, and partial colectomy. Intraoperative findings confirmed a cecal bascule causing large bowel obstruction. Decompression of the cecum was achieved. Bowel function returned on postoperative day 3, and her abdominal pain had improved. Her care was transferred to the internal medicine service for further management. The remainder of her hospitalization was complicated by empyema, intraabdominal abscess secondary to uterine dehiscence, and acute respiratory distress syndrome. Ultimately, she was transferred to a tertiary care facility with ECMO capabilities and discharged two weeks later following stabilization.

Conclusions: Although cecal bascule is rare, it should be included in the differential diagnosis of abdominal pain following cesarean section. In our patient, contributing factors included colonic adhesions and two prior cesarean deliveries. We suggest that any postpartum patient presenting with progressive abdominal distension, pain, nausea, vomiting, constipation, or obstipation should undergo prompt evaluation for abdominal pathology. An abdominal X-ray can serve as an initial diagnostic tool. However, a CT scan with contrast remains the gold standard for identifying the site of obstruction and confirming diagnosis. Early surgical intervention is advised to minimize morbidity and mortality.

References: Available upon request.

Poster #24

Cesarean Scar Pregnancy Delivered at 32 Weeks

Madison A Poiroux, BS¹, Candice P Holliday, JD, MD²,
Nicolette P Holliday, MD²

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL¹, University of South Alabama Children's and Women's Hospital, Mobile, AL²

Purpose: To report a rare case of cesarean scar ectopic pregnancy (CSEP) complicated by placenta accreta spectrum (PAS), managed expectantly, culminating in cesarean hysterectomy at 32 weeks of gestation.

Methods: Case Report.

Results: A 40-year-old G5P3013 with three prior cesarean deliveries presented with spotting and pelvic cramping. Transvaginal ultrasound suggested a 6-week CSEP. She was hemodynamically stable, with minimal vaginal bleeding and a closed cervix. Her body mass index (BMI) was 40 kg/m², and she had a 15-pack-year smoking history. Maternal-fetal medicine (MFM) confirmed the diagnosis and counseled her extensively on risks, benefits, and alternatives, recommending management via termination or hysterectomy. Risks of significant hemorrhage, cesarean hysterectomy, bladder injury, uterine rupture, miscarriage, and other serious maternal morbidities were discussed thoroughly. The patient chose expectant management and close MFM follow-up. At 15 weeks, her ultrasound raised concerns for placenta accreta spectrum (PAS). She also had several blood pressures around 140/90 mmHg and was started on 81 mg of daily aspirin for preeclampsia prevention in the setting of her chronic hypertension. She failed both the 1-hour and 3-hour glucose tolerance tests, despite an early first-trimester A1c of 4.9%. She met with a diabetes educator and began logging her blood sugar levels. At 24 weeks, ultrasound confirmed placenta increta. Risks of hemorrhage, invasion of surrounding structures, cesarean hysterectomy, blood transfusion, and maternal and fetal death were again extensively discussed. Gynecologic Oncology was consulted and noted definitive need for hysterectomy and the possibility of leaving the placenta in situ to avoid life-threatening hemorrhage. This would be a decision at time of cesarean delivery, regardless of imaging. Magnetic resonance imaging was negative for placenta percreta. At 32 weeks, she was admitted from high-risk clinic due to ultrasound findings of extreme thinning of the lower uterine segment, with much of the pregnancy either bulging or extrauterine. Betamethasone was administered for

fetal lung maturation, which lead to hyperglycemia. The decision was made to deliver within the week. Four units of type and crossmatched packed red blood cells (pRBCs) were made available. The day prior to delivery, the patient became hypoxic, and a chest x-ray revealed pulmonary edema and/or atelectasis. She was placed on an IV insulin drip for 24 hours preoperatively, and tight glucose control was achieved. At 32 weeks and 4 days, she underwent cesarean delivery via vertical midline and vertical uterine incisions. The infant had APGARs of 8 and 9 and weighed 5 lbs 14 oz. Gynecology oncology then performed an exploratory laparotomy, cesarean hysterectomy, and lysis of adhesions. Estimated blood loss was 2,300 mL. She received 2 units of pRBCs, 1 unit of fresh frozen plasma, and 4.6 L of crystalloids intraoperatively. Placental vessels were visualized invading the bladder dome serosa anteriorly. Pathology confirmed placenta increta, maternal and fetal vascular malperfusion, and a 3-vessel cord with marginal insertion. On postoperative day (POD) 0, she was diagnosed with chronic hypertension with superimposed severe preeclampsia. On POD 1, she again developed hypoxia and pulmonary edema. One MFM specialist suggested her hypertension and pulmonary edema were likely due to volume overload rather than severe preeclampsia. She was discharged home on POD 4. Her baby was doing well in the NICU. On POD 9, the patient returned with a 1 cm area of superficial wound dehiscence, serosanguineous discharge, induration, erythema, and a leukocytosis of 17,000 cells/ μ L. Wound culture grew *Serratia marcescens*, and she was treated with antibiotics. At her six-week postpartum visit, her wound was closed and the visit was unremarkable.

Conclusions: CSEP is rare type of ectopic pregnancy with significant maternal morbidity and mortality risk. Scar tissue from a prior cesarean delivery is weaker and less vascular than the surrounding uterine wall. In rare cases, a CSEP embryo may have a heartbeat, leading to a difficult decision to either terminate the pregnancy or accept serious risks including hemorrhage, uterine rupture, PAS, cesarean hysterectomy. If expectant management is chosen, a multimodal team is essential to ensure the patient is receiving appropriate management.

References: Available upon request.

Poster #25

Medically Indicated Hysteroscopy D&C for a Cesarean Scar Ectopic Pregnancy in the Setting of Postpartum Cardiomyopathy with Possible Placenta Accreta Spectrum

Charlie A Crider, BS, Nicolette P Holliday, MD, Candice P Holliday, JD, MD, William Perez, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Cesarean scar ectopic pregnancies (CSEP) are becoming increasingly more common due to rising rates of cesarean deliveries worldwide. Approximately 21% of pregnancies are currently delivered by cesarean delivery, with a projected increase to 33% by 2030¹. This method of delivery whether by classical, low transverse, or low vertical incision requires incision and subsequent sutured closure of the uterus at time of delivery, which can result in varying degrees of scarring within the myometrium. CSEP is a rare form of ectopic pregnancy in which the gestational sac implants within the myometrial defect of a previous cesarean scar. It poses significant risks, including uterine rupture and severe hemorrhage. According to the Society for Maternal-Fetal Medicine, it is a Grade B recommendation not to proceed with expectant management². Diagnosis is primarily achieved through transvaginal ultrasound, which typically reveals a gestational sac embedded in the anterior lower uterine segment with absent or thin overlying myometrium. Doppler imaging can further confirm the diagnosis by demonstrating increased vascularity around the implantation site. Due to the potential for a thin myometrium at that scar site, the potential for morbidly adherent placentation due to placenta accreta spectrum can add additional morbidity, as this can frequently result in significant hemorrhage at time of delivery, necessitating hysterectomy. Combining these two co-morbid conditions with history of postpartum cardiomyopathy presents a significantly high risk to the life of a pregnant patient and necessitates collaboration and insight from a multiprofessional team in order to develop the most appropriate treatment plan.

Case: A 30yr G3P1102 at 9 weeks gestation presented to clinic to establish care. She had a medical history significant for recent postpartum cardiomyopathy with an ejection fraction of 20-25%, history of preeclampsia, hypertension, obesity, and history of two cesarean deliveries. She had discontinued her sacubitril, valsartan, carvedilol, dapagliflozin, spironolactone, and furosemide in December

2024 following loss of insurance coverage and learning she was pregnant. She was symptomatic at intake and was sent to the hospital for evaluation. Her electrocardiogram showed no evidence of acute myocardial infarction, but a possible old infarct was noted. Echocardiogram demonstrated global left ventricular hypokinesis with ejection fraction of 20-25%. A V/Q scan was negative for pulmonary thromboembolism. Cardiology recommended to avoid pregnancy and adjusted the patient's medication regimen to metoprolol succinate 12.5 mg daily. On ultrasound, a CSEP was noted along with thin overlying myometrium and early trophoblastic invasion anteriorly concerning for possible placenta accreta spectrum. The patient was counseled regarding the extreme morbidity of her condition and termination was discussed. Patient requested a week to process the information and had her metoprolol increased to 25mg daily. At follow-up, the patient elected to proceed with termination of pregnancy. She requested a bilateral tubal ligation at time of the procedure. A multidisciplinary meeting was held between Maternal Fetal Medicine, Gynecologic Oncology, Academic Generalist Specialists, and Anesthesiology to discuss possible management options for addressing this patient's CSEP: hysterectomy en bloc, potassium chloride and methotrexate injection, and/or ultrasound guided suction dilation and curettage (D&C). Given the patient's cardiac risks, desire to minimize fluid shifts/blood loss, and gestational sac communication with cervical/endometrial cavity, the group recommended suction D&C via ultrasound guidance with neuraxial anesthesia. Due to concerns of general anesthesia, laparoscopy could not be performed for sterilization. The requirements for termination of pregnancy in compliance with Alabama law were completed. She was re-evaluated twenty-four hours prior to procedure and was stratified to moderate/high risk. The patient was counseled about the option to start with hysteroscopy, and she consented. On day of surgery, spinal anesthesia was administered without complication. Her cervix was serially dilated under ultrasound guidance. An operative hysteroscope was then introduced into the uterus. The ectopic pregnancy was visualized near the cervical-uterine junction, which was confirmed with ultrasound. A tissue removal device was utilized to remove the ectopic tissue under ultrasound guidance. When the fluid deficit reached 1000 cc of normal saline, the decision was made to transition to suction curettage to remove the remaining anterior placenta, under ultrasound guidance. At the end of the procedure, a levonorgestrel releasing intrauterine device (IUD) was placed under ultrasound guidance. The patient tolerated the procedure well with minimal blood loss and was admitted for observation. She received a dose of methotrexate for the treatment of potential

residual tissue. The patient was discharged later that day with no apparent complications.

Discussion: This high risk patient was able to have a minimally invasive procedure to manage a complex CSEP with potential placenta accreta spectrum under spinal anesthesia. She is currently asymptomatic, and her beta-hcg levels are nearing zero. Currently there exist several alternative measures of management, which were considered individually and in combination as part of treatment planning above.

Poster #26

Management of Sickle Cell Disease During Pregnancy Complicated by HELLP Syndrome

Ashleigh K Torrance, BS, Nicolette P Holliday, MD, Candice P Holliday, JD, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Introduction: Hemoglobin SC sickle cell disease in the setting of pregnancy with pre-eclampsia or HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelet count) is a challenging clinical scenario that greatly increases maternal and fetal risks during pregnancy. Hemoglobin SC sickle cell disease is a variant of sickle cell disease characterized by the presence of both hemoglobin S and C. This can exacerbate pregnancy complications through its vaso-occlusive properties, which can impair placental function, lead to fetal growth restriction, and increase the risk of pre-eclampsia, preterm birth, stillbirth, and maternal morbidity and mortality. Pre-eclampsia is a hypertensive disorder of pregnancy paired with proteinuria that occurs after 20 weeks gestational age. It can lead to HELLP syndrome, a severe form of pre-eclampsia characterized by hemolysis, elevated liver enzymes, and thrombocytopenia. The pathophysiology of HELLP syndrome involves endothelial dysfunction and microangiopathic hemolytic anemia, which can be particularly severe in the setting of Hemoglobin SC sickle cell disease due to an underlying hemolytic state. Management of Hemoglobin SC sickle cell disease in the setting of pregnancy with pre-eclampsia or HELLP syndrome requires a multidisciplinary approach, involving OB/GYNs, hematologists, and sometimes even gastroenterologists, to optimize maternal and fetal outcomes and provide patient-centered care.

Methods: Case report.

Case Description: Patient is a 27-year-old G1 with a history of Hemoglobin SC sickle cell disease (managed with hydrocodone outpatient), asthma, retinopathy, and avascular hip necrosis. She was admitted at 37+0 weeks for a sickle cell pain crisis characterized by 10/10 lower back pain with radiation to her bilateral hips and legs. Her pain was unrelieved with hydromorphone, and she declined increases to her medications due to her concern for fetal harm after her biophysical profile (BPP) showed a score of 6/10- likely secondary to the effects of narcotics. She ruled into pre-eclampsia without severe features based on proteinuria and mildly elevated blood pressures. As a result, she was induced

at 37+3 weeks with a spontaneous vaginal delivery complicated by postpartum hemorrhage (PPH) of 882 mL. After delivery, she developed tachycardia of 147. Her hemoglobin dropped from 10.7 g/dL to 8.6 g/dL a few hours prior to delivery, then to 5.6 g/dL at 4 hours after delivery. Her alanine aminotransferase (ALT) was 444 units/L and her aspartate aminotransferase (AST) was 865 units/L. She experienced reactive leukocytosis with up trending white blood cell count of $25.37 \times 10^3/\text{mcL}$, but was asymptomatic with negative urine and blood cultures. She was started on cefepime, vancomycin, and metronidazole for prophylaxis. Her platelets had been down trending throughout her hospitalization. Her thrombocytopenia in combination with pre-eclampsia led to the diagnosis of pre-eclampsia with severe features. A coagulation panel was obtained and trended after the PPH, and it showed worsening levels with lactate dehydrogenase of 990 units/L, an international normalized ratio increase to 1.37, and a fibrinogen drop from 316 to 280 mg/dL. Due to her anemia, she was transfused with 2 units of packed red blood cells (pRBCs). Her tachycardia and sickle cell pain continued despite escalating hydromorphone doses, and there was concern for HELLP syndrome versus acute worsening of sickle cell crisis.

Due to her hemodynamic instability and worsening of her labs, she was transferred to the MICU. An electrocardiogram showed sinus tachycardia. Splenic ultrasound showed stable splenomegaly. A computed tomography angiogram (CTA) was negative for acute pulmonary embolism but showed bilateral small pleural effusions with atelectasis. Her right lower extremity doppler ultrasound was negative.

In the MICU, she was treated with magnesium for seizure prophylaxis, and she remained stable without seizure activity. Her pain regimen was escalated per sickle cell protocols, and her pain improved. She received an additional 2 units of pRBCs for hemoglobin of 6.4 g/dL, and her hemoglobin stabilized at 9.9 g/dL. Additionally, her platelets stabilized at $146 \times 10^3/\text{mcL}$, and her ALT and AST down trended. Additional imaging showed grade 1 hepatic steatosis. A CT brain without contrast was unremarkable. Once she was stabilized, she continued to meet postpartum milestones and remained hemodynamically stable. She also continued to deny symptoms of pre-eclampsia. Her reactive leukocytosis improved, and antibiotics were discontinued.

Discussion: In the case of this patient, several discussions and many multidisciplinary decisions were made to optimize maternal and fetal outcomes and manage postpartum complications with the goal of minimizing long term negative effects and organ damage to the mother. Hydromorphone can be a mainstay of treatment for sickle cell pain crises, but in

the setting of pregnancy, some women may be reluctant to take the medication due to potential risks of poor fetal growth, stillbirth, preterm delivery, neonatal abstinence syndrome, and the need for cesarean delivery. In this patient's case, her BPP score was 6/10, suspected to be secondary to hydromorphone use. Due to patient concern about this, the increased doses were held prior to delivery, and other management routes were taken, which demonstrated patient-centered care.

Poster #27

An Unusual Presentation of a Cesarean Section Scar Ectopic: A Case Report

Olivia G Brookins, BS, Candice P Holliday, JD, MD, Nicolette P Holliday, MD, William Perez, MD, J Y Pierce, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Introduction: An ectopic pregnancy is when a fertilized egg implants in a different location than the endometrium of the uterine cavity. Over 90% of ectopic pregnancies occur in the fallopian tube, but other locations are possible, including in the scar of a prior cesarean delivery. This weaker scar tissue can lead to uterine rupture, placenta accreta spectrum, or hemorrhage. While this is rare, at 1 in 2,000 women with prior cesarean delivery, there has been a rise in cesarean scar ectopic pregnancies as the number of cesarean deliveries has increased. On the other hand, molar pregnancies occur due to abnormal fertilization causing tumor-like growth instead of a healthy fetus or placenta. Molar pregnancies are either complete (diploid set of paternal chromosomes), or partial (triploid set from two sperm enucleating one egg or one sperm with diploid set of chromosomes).

Purpose: To report an unusual presentation of a cesarean scar ectopic pregnancy.

Methods: Case Report

Results: We present a rare case of a previously healthy 31-year-old G7P2133 at eight weeks gestation, as dated by last menstrual period, with history of three previous cesarean sections who presented to an outside hospital with a two-week history of brown vaginal spotting. In addition, she experienced lower abdominal cramping and nausea without associated vomiting. She was found to have an elevated beta-hCG level of 198,086 mIU/ml and was transferred to our hospital due to concern for molar pregnancy. Upon ultrasound, findings were concerning for a potential partial molar pregnancy as well as cesarean section scar ectopic pregnancy. The findings were confirmed with Magnetic Resonance Imaging (MRI), which showed the gestational sac involving the cesarean scar and the additional complication of potential extrauterine invasion of the possible molar pregnancy through the anterior mid-body uterine serosa into the anterior abdominal wall and along the uterine cesarean scar in the lower uterine segment. As the patient stated she

had completed childbearing, she consented to a robotic assisted total laparoscopic hysterectomy with bilateral salpingo-oophorectomy performed by Gynecologic Oncology. The Beta-hCG was 149,376 mIU/ml on the day of surgery. During the surgery, significant infiltration of the placental tissue was noted, creating adhesions between the uterus, the anterior abdominal wall, and the bladder. After the specimen was removed, it was bivalved and cystic trophoblastic tissue was noted in the fundus with almost complete myometrial invasion. Her postoperative recovery was unremarkable. She met all postoperative milestones and was discharged on postoperative day one. She continued to follow with Gynecology Oncology, where cytogenetics showed no chromosomal abnormalities. While this was not a true molar pregnancy, the cesarean scar ectopic and the placenta percreta still made this a life-threatening pregnancy.

Conclusions: While our patient had a classic presentation for a molar pregnancy including vaginal spotting, an elevated beta hCG, and concerning imaging findings, her cytogenetics were negative for any chromosomal abnormalities. Regardless, the cesarean scar ectopic pregnancy compounded by placenta accreta spectrum with placenta percreta imposed significant risk for the mother and was successfully navigated with early surgical intervention.

Poster #28

Simple Paratubal Cyst Resulting in Contralateral Ovarian Torsion: A Case Report

Madelyn H Campbell, BS, Candice P Holliday, JD, MD,
Nicolette P Holliday, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Purpose: To report a rare case of simple cyst progression to contralateral ovarian torsion in a previously healthy adolescent

Methods: Case Report

Introduction: Paratubal cysts are typically benign and asymptomatic, often discovered incidentally during imaging or surgery. However, their potential to cause significant complications, including adnexal torsion, especially in pediatric populations, is less commonly reported. Adnexal torsion is the fifth most common gynecologic emergency.¹ This case presents an unusual scenario of a simple right-sided paratubal cyst leading to torsion of the contralateral (left) ovary and fallopian tube in a premenarchal adolescent girl. The case emphasizes the importance of timely surgical evaluation in the setting of persistent abdominal pain and demonstrates how even benign-appearing lesions on imaging may result in complex intra-abdominal pathology.

Results: We present the case of a 12-year-old premenarchal, virginal female with no significant medical or surgical history who presented to a rural medical clinic with severe lower abdominal pain. The patient endorsed roughly two weeks of pain that was initially attributed to constipation; however, over the past week, the pain had significantly progressed, despite more regular bowel movements. She endorsed pain so severe that she was unable to tolerate any food intake.

A pelvic ultrasound revealed a uterus measuring 4.42 x 2.3 x 1.54 cm with an endometrial thickness of 3.91 mm. The left ovary appeared normal, while the right ovary contained a 5.8 x 5.5 x 7.3 cm unilocular, anechoic cyst with a smooth inner wall, consistent with ORADS-2. No free fluid was seen.

Due to persistent pain and the size of the adnexal mass, the patient underwent diagnostic laparoscopy. Inspection revealed torsion of the left ovary and fallopian tube with appropriate coloration. Manipulation of the left ovary showed a large, dark cystic mass within the cul-de-sac. The mass appeared adherent with the left adnexa and contiguous to the right ovary. The uterus was mobile and not involved.

Due to the complexity and extent of the mass, Pediatric Surgery was consulted intraoperatively. They performed lysis of adhesions and identified the mass as a large, right-sided, paratubal cyst. The mass was carefully dissected from surrounding structures, including shelling it out from the left fallopian tube before removal. The fimbriae were involved and could not be preserved. The left ovary was de-torsed and noted to have good perfusion.

Due to its size of the mass in the bag, the specimen bag was brought towards the anterior abdominal surface, and the cyst was then ruptured. The dark brown fluid was aspirated with a suction irrigator – taking care to ensure no spillage. The cyst wall was then removed in its entirety and sent to pathology.

The final intraoperative assessment showed that the remaining left ovary and fallopian tube appeared viable with good color. Pathology revealed a 5.8 x 5.3 x 3.5 cm disrupted cyst with a markedly dusky outer surface and a cobblestone, trabeculated inner lining containing an adherent blood clot. The cyst wall measured 0.2–0.5 cm in thickness and lacked distinct anatomic features, consistent with a paratubal cyst.

The patient recovered well postoperatively and was discharged in stable condition. Follow-up will focus on monitoring the return of ovarian function and future pubertal development.

Conclusion(s): This case highlights the importance of maintaining a broad differential diagnosis when evaluating premenarchal patients with persistent lower abdominal pain, particularly in rural or resource-limited settings where access to specialty care may be delayed. Although initial imaging suggested a benign ovarian cyst, the patient's escalating symptoms warranted surgical evaluation, ultimately revealing a large paratubal cyst with adnexal torsion. Prompt surgical intervention facilitated ovarian preservation and resolution of symptoms. This case underscores the value of timely referral, multidisciplinary intraoperative collaboration, and the need for careful post-operative follow-up to ensure normal pubertal progression and reproductive health in pediatric patients.

References: Available upon request.

Poster #29

Management of Delivery of Neonate with Large Umbilical Pseudocyst and Fetal Heterotaxy: A Case Report

Marianna S Oditt, BS, Candice P Holliday, JD, MD, Nicolette P Holliday, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Purpose: Present a unique case of a large umbilical cord pseudocyst with a two-vessel cord associated with fetal heterotaxy and extensive congenital vascular malformations.

Introduction: Umbilical pseudocysts found during the first trimester are a rare anomaly, occurring in 0.4%-3.4% of pregnancies and are most commonly transient¹. An umbilical cord cyst is one that communicates with the urachus, while a pseudocyst is composed of Wharton's jelly. The prevalence of a pseudocyst in the third trimester, however, is unknown due to insufficient data. In literature reviews, the prevalence of fetal anomalies with a third trimester umbilical cyst is reported to be 38-100%¹. It is worth noting that this data is likely biased by the tendency to report abnormal and unique cases in literature.

Case Description: The patient was a 23-year-old G3P2 who desired a trial of labor after cesarean (TOLAC) under the care of a midwife. She had an anatomy ultrasound at 30 weeks' gestation which demonstrated fetal heart defects and an umbilical cyst. The fetal echocardiogram showed a double outlet right ventricle (DORV) with mild pulmonary stenosis, right aortic arch, large ventricular septal defect, and visceral situs inversus with levocardia. A two-vessel umbilical cord with umbilical cyst measuring 4.1 x 3.1 x 2.8cm with absent flow within was also noted. The parents decided at this time to do cell-free DNA which was low risk. On repeat ultrasound at 37 weeks' gestation, the azygous vein was noted coursing into the inferior vena cava. The abdominal anatomy was also clarified – the stomach and spleen were on the right side and liver and gallbladder on the left side. Upon discovery of the DORV on fetal echo, consultation with pediatric cardiology was initiated with close monitoring of the degree of pulmonic stenosis (PS) of the fetus. It was discussed whether the fetus could be delivered at our center, a level III NICU – or need immediate cardiac surgery upon delivery. It was determined the PS was mild, and the fetus would be well-supported by our NICU. Additionally, no additional complications were anticipated for the patient's planned TOLAC.

The patient presented in latent labor at 39+0 weeks' gestation with a VBAC success calculated score of 73.4%. During labor, the patient was monitored using external tocodynamometry and fetal doppler. She opted for no epidural and delivered a viable baby girl. After 60 seconds, delayed cord clamping was performed, and the neonate was passed to a NICU team for standard resuscitation. The neonate had APGAR's of 7 and 8 at 1 and 5 minutes, respectively. She initially required NCPAP but was quickly transitioned to room air. The cord was tied off distal to the umbilical pseudocyst and secured to the neonate for transfer to the NICU. In the NICU, the umbilical cord pseudocyst was noted to have minimal bleeding but was clamped, cut, and sent for pathology. The neonate spent 11 days in the NICU and was discharged to home with close cardiology follow up and referral to pediatric cardiothoracic surgery. Pathology noted a 5.3 cm diameter 2-vessel umbilical cord consistent with a pseudocyst – segmental myxoid degeneration and edematous Wharton's jelly. Also sent to pathology was the placenta, which showed both maternal and vascular malperfusion. Comments included findings consistent with increased resistance to blood flow in the umbilical vein, probably secondary to congenital vascular alterations due to heterotaxy and congenital heart anomalies.

Conclusions: While data is very limited on the prevalence and comorbidities of umbilical cord cysts and pseudocysts, the presence of an umbilical cyst on prenatal ultrasound should warrant advanced imaging and referral to a tertiary care center.

References: Available upon request.

Poster #30

38-Year-Old at 26 Weeks Gestation with Pituitary Macroadenoma

Mary A Faragalla, BS, Candice P Holliday, JD, MD,
Nicolette P Holliday, MD

Frederick P Whiddon College of Medicine at the University of South Alabama, Mobile, AL

Purpose: To report a rare case of pituitary macroadenoma in pregnancy. Pituitary macroadenomas are benign tumors of the pituitary gland. Routine presentation may include endocrine abnormalities or visual field defects. The prevalence of pituitary macroadenomas in the general population is approximately 40.67 per 100,000 individuals.¹ In pregnancy, the occurrence is even more rare, and diagnosis and management require a multidisciplinary approach to minimize potential complications. This case highlights the diagnostic process, management considerations, and potential impact on pregnancy outcomes.

Method: Case Report

Results: A 38-year-old G8P3043 female at 26+2 weeks of gestation presented with intractable headache. The patient stated she choked while drinking juice the night before, which led to a coughing spell. She reported that the headache began soon after the coughing spell. The headache was persistent, dull, and diffuse in nature and associated with photophobia, phonophobia, and two episodes of vomiting. She denied visual changes, dizziness, or weakness. The patient was administered a pain cocktail with minimal relief. Computed tomography (CT) and magnetic resonance imaging (MRI) of the head showed a 2.6 x 1.3 x 1.8 cm expansile mass in the sella with suprasellar extension, elevating and compressing the optic chiasm. The primary diagnosis was a pituitary macroadenoma. Neurology was consulted, and the patient was evaluated. Neurological physical exam was unremarkable, including cranial nerves, motor, sensation, coordination, and higher integrative functions. Neurology concluded there was no need for further neurological workup at this time and to follow up with the neurologist in 2 months. Her pregnancy has been complicated by fetal growth restriction (FGR), abnormal non-invasive prenatal testing (NIPT) with high suspicion for Trisomy 21, chronic hypertension, and advanced maternal age. Past medical history includes chronic hypertension on labetalol 100 mg twice a day and occasional migraines. She was never evaluated by a neurologist for the migraines because she reported only a few episodes a year.

The patient was receiving twice weekly fetal testing for FGR with follow up ultrasounds every 3 weeks to assess fetal growth in the setting of highly suspected Trisomy 21. The patient remained asymptomatic throughout this time and did not require pain medication. The patient expressed a desire for a vaginal delivery. Due to the findings of pituitary adenoma and concerns for labor, an anesthesia referral was requested to determine if she was an appropriate candidate for regional anesthesia. She was evaluated by anesthesia, and they deemed her an appropriate candidate. At her 2 month follow-up visit with neurology, she denied any complaints, including headache or visual changes. Neurology referred her to neurosurgery for further evaluation. Neurology plans to follow up with her in 6 months. The team plans for delivery at 38 weeks pending continued normal antenatal testing.

Conclusion: Pregnancy is a physiological state that induces significant changes in the endocrine system, particularly affecting the pituitary gland. These anatomical and functional changes make the management of pituitary disease more complex compared to the non-pregnant state. Due to hyperplasia and hypertrophy of lactotroph cells, the pituitary gland may increase in size by up to 40% in the second trimester and up to 70% in the third trimester, reaching two to three times its normal size.² A pituitary adenoma greater than 10 mm in diameter, classified as a macroadenoma, has a 15-36 % chance of increasing in size during pregnancy. This growth risk necessitates close monitoring for symptoms such as headaches or visual disturbances, which may indicate tumor progression and could require neurosurgical evaluation. The treatment and surveillance of macroadenomas during pregnancy should be individualized. Patients should undergo close clinical follow-up with visual field testing during each trimester. In cases of non-functioning adenomas or hormone-secreting adenomas, surgery may be considered when there is significant visual impairment or life-threatening endocrine dysfunction. The second trimester is typically considered the safest period for surgical intervention, as it is associated with lower risks of congenital anomalies and preterm birth.³ The majority of women with macroprolactinomas or non-functioning adenomas experience favorable pregnancy outcomes.⁴ The primary goal of management is to ensure maternal and fetal safety while effectively controlling the tumor. Although rare, pituitary apoplexy, which involves infarction or hemorrhage within the pituitary gland often in the context of a pre-existing adenoma, can occur and may require emergency intervention. A collaborative, multidisciplinary approach involving obstetrics, endocrinology, neurology, neurosurgery, and maternal-fetal

medicine is essential to optimize outcomes for both the mother and the fetus.

References: Available upon request.

Poster #31

Adequacy of Prenatal Care: A Mapping Study with an Emphasis on Postpartum Hemorrhage

Nicole L Walden, DO¹, Peter S Marcus, MD¹, Todd Foster, PhD²

Ascension St Vincent, Indianapolis, IN¹, Depauw University, Greencastle, IN²

Objective: This study aims to assess whether the adequacy of prenatal care influences the risk of postpartum hemorrhage (PPH), and to identify modifiable risk factors within our patient population that could reduce PPH incidence.

Methods: A retrospective cohort study was performed with permission from the Institutional Review Board (Ascension Health IRB #RIN20230014). Study participants were patients from the Ascension St. Vincent Women's Health Clinic in Indianapolis, a community hospital residency based program. Eligibility criteria was only on the basis of the patient delivering at the Ascension St. Vincent Women's Hospital. A total of 5,502 patients were eligible; of these, 663 women were included in the final analysis. All data were de-identified. Patient information was collected using the REDCAP platform, with supplemental qualitative data extracted from Sovera, Athena, Centricity, and Allscripts-Sunrise. Data were collected from January 2017 to February 2023. Variables included patient age at delivery, gestational age at delivery (in weeks), mode of delivery (vaginal or cesarean section), gravida and parity, and the presence or absence of PPH during the index pregnancy (defined as a blood loss > 1000mL).

The adequacy of prenatal care was assessed using the Adequacy of Prenatal Care Utilization (APNCU) developed by Dr. Milton Kotelchuck. This index considers the gestational week care began, total number of prenatal visits, and birth weight at delivery

Statistical analysis included descriptive statistics and bivariate comparisons to assess the relationship between patient characteristics and occurrence of PPH. Categorical variables were analyzed using Pearson's chi-square test. Continuous variables, such as maternal age and gestational age, were compared using the Mann-Whitney U test due to non-normal distribution. Adequacy of prenatal care was categorized and compared between groups (inadequate vs. intermediate/adequate/adequate plus) using Pearson's chi-square test to evaluate its association with PPH. Statistical significance was defined by $p < 0.05$.

Results: Of the 663 patients initially included, 12 were excluded due to missing documentation on PPH status, resulting in a final sample of 651 patients. Among them, 35 (5.4%) experienced PPH.

Median patient age at delivery for the PPH group was 30.13 years compared to 27.43 years in the non-PPH group ($p=0.18$). Median gravidity was 3 for both groups ($p = 0.60$), and median parity was 1 ($p = 0.30$). Median birth weight was 3,170 g in the non-PPH group and 3,130 g in the PPH group ($p = 0.93$). Patients with PPH had a significantly lower median gestational age at delivery (38.1 weeks vs. 39.1 weeks, $p = 0.04$).

Cesarean delivery was significantly associated with PPH. Among 200 cesarean deliveries, 23 (11.5%) resulted in PPH, compared to 12 out of 450 (2.7%) vaginal deliveries ($p < 0.001$).

A total of 248 patients had sufficient documentation to calculate APNCU. Of these, 113 received inadequate prenatal care, while 135 received intermediate, adequate, or adequate plus care. PPH occurred in 6.2% of patients with inadequate care and 5.9% of those with intermediate/adequate/adequate plus care ($p = 0.93$), indicating no significant difference.

Conclusion: In this study, adequacy of prenatal care as measured by the APNCU index was not statistically associated with the occurrence of PPH. These findings suggest that quality of prenatal care, rather than quantity alone, may influence PPH risk. Further research with larger samples is needed to confirm these results. This study was limited by a relatively small number of PPH cases ($n = 35$), reducing statistical power. Additionally, 403 patients lacked sufficient documentation to assess prenatal care adequacy using the APNCU index, highlighting a limitation in the electronic medical records analyzed.

The observed PPH rate of 5.4% exceeds the national average (2019), possibly reflecting the implementation of quantitative blood loss (QBL) monitoring in our institution beginning January 2021, in contrast to prior reliance on estimated blood loss (EBL). This underscores the importance of accurate and standardized blood loss measurement. Furthermore, delivery route and gestational age at delivery were statistically significant which highlights the importance of clinical decision-making in labor and delivery.

Poster #32

Saline Sonography vs Hysteroscopy for Evaluation of the Uterine Cavity

Sonam A Parag, MD¹, James Baron, MD¹, Yissa Fonticiella, MD², Mark Sanchez, MD²

HCA Florida Brandon, Brandon, FL¹, Florida Fertility Institute, Clearwater, FL²

Introduction: Saline infusion sonography (SIS) and hysteroscopy are commonly used methods for the evaluation of the uterine cavity prior to fertility treatments. One common finding that may inhibit or prolong fertility treatment is uterine polyps. The prevalence of polyps in patients with abnormal uterine bleeding has been reported to range from 13-50%. The incidence of disease in primary infertility is 3.8%–38.5%, and 1.8%–17% in secondary infertility. It has a combined infertility incidence of 1.9%–24%. Transvaginal ultrasound (TVUS) is an easy and cost effective method for initial assessment of the uterine cavity, however cannot distinguish intrauterine pathology with certainty. Hysteroscopy is the gold standard for diagnosis of intrauterine pathology, however it is invasive, expensive, and requires anesthesia. SIS is a cheaper and less invasive alternative to hysteroscopy that can identify intrauterine pathology with reasonable accuracy.

Methods: The objective of this study was to compare the sensitivity and specificity of saline sonography to hysteroscopy in identifying uterine polyps in patients with infertility. Patients were identified by searching the patient database at Florida Fertility Institute by CPT 58558, which codes for a surgical hysteroscopy with biopsy and/or polypectomy, from September 1, 2022 to September 23, 2024. One hundred and 29 patient charts were identified. Paper charts were manually evaluated by a single investigator and de-identified results were collected. After accounting for exclusion criteria, the final sample size was 127 patients. Exclusion criteria included missing pathology reports, incomplete records, Mullerian anomalies, cancer, and complications from surgery. Some patients underwent hysteroscopy multiple times and encounters were documented as separate data points. Statistical analyses were then performed to obtain sensitivity, specificity, positive predictive value, and negative predictive values for various imaging studies.

Results: This study demonstrated that within this patient population, SIS had a similar sensitivity to hysteroscopy,

95.31% and 95.51% respectively. Therefore, 95% of patients with polyps would have positive testing for polyps on SIS. SIS can be performed in the office, is inexpensive, and has less complications compared with hysteroscopy. TVUS demonstrated a sensitivity of 47.62% and specificity of 76.47%. TVUS is an easy and cost effective method for initial assessment of the uterine cavity, however cannot distinguish intrauterine pathology with certainty, and is better for ruling out polyps. Endometrial biopsy (EMB) and hysterosalpingogram (HSG) had better sensitivity than TVUS for evaluation of polyps, 70% and 84.62% respectively. Limitations that exist within this study included the chance of error as information was collected manually from paper charts, small sample sizes within each imaging modality group, and a potential for bias due to patients who had multiple imaging studies done with prior positive results. It is also provider dependent on which study is completed and the order of completion, therefore sample sizes are varying.

Conclusion: In conclusion, hysteroscopy is an excellent sensitive method for evaluation of the uterine cavity, however saline infusion sonography may be just as sensitive and have more advantages. Providers should consider in-office SIS prior to hysteroscopy for evaluation of the uterine cavity when endometrial polyp is suspected.

Poster #33

When Autoimmunity Meets Pregnancy: Investigating Antiphospholipid Syndrome and Preeclampsia

Madison R S Pearson, DO¹, Brianna McDonald, DO¹, Shiloh Smajstrla, MD¹, James Baron, MD¹, Stephen Zweibach, MD², Uma Perni, MD, MPH³

HCA Florida Brandon, Brandon, FL¹, HCA Florida Brandon Women's Health, Brandon, FL², Johns Hopkins All Children's, Brandon, FL³

This is a case report of a 23 year old primiparous female with past medical history of antiphospholipid syndrome, unprovoked deep venous thromboses and venous thromboembolisms, chronic hypertension and class III obesity. She presented to us at 20 weeks and 1 day gestation with known left sided pulmonary embolism who was being managed on the antepartum service. She was taking therapeutic anticoagulation; however, her clinical picture worsened when she then had worsening bilateral pulmonary embolisms and was subsequently diagnosed with superimposed preeclampsia with severe features at 23 weeks and 1 day gestation. She had acutely worsening proteinuria and difficult to control hypertension despite multiple medications. Management included a multidisciplinary approach including maternal fetal medicine, hematology, neonatology, anesthesia and interventional radiology in addition to routine obstetrical care inpatient. As she desired full neonatal resuscitation, she received betamethasone for fetal lung maturity and magnesium sulfate for fetal neuroprotection (in addition to maternal seizure prophylaxis). Fetus was diagnosed with fetal growth restriction at 23 weeks and 5 days gestation, with elevated umbilical artery Dopplers. Patient was ultimately delivered at 24 weeks gestation for worsening preeclampsia via an uncomplicated primary classical cesarean section utilizing perioperative heparin drip, with no excessive bleeding noted intraoperatively or thrombotic events.

Antiphospholipid syndrome (APS) is an autoimmune disorder characterized by circulating antiphospholipid antibodies Lupus Anticoagulant, Anticardiolipin Antibody (IgG/IgM), or Anti-B2 Glycoprotein I (IgG/IgM) (1,2). Diagnostic criteria include one laboratory finding with positive antiphospholipid antibodies on two occasions at least 12 weeks apart as well as one clinical finding (2). Clinical findings include vascular thrombosis, unexplained death of a morphologically normal fetus > 10 weeks gestation, premature birth of a morphologically normal neonate <34 weeks gestation due to preeclampsia, eclampsia or placental

insufficiency, or > 3 unexplained pregnancy losses < 10 weeks gestation (with maternal hormonal, anatomic, chromosomal and paternal chromosomal causes excluded) (2). Pregnancy complications can include venous and arterial thrombosis, fetal loss, fetal growth restriction, preeclampsia and preterm delivery (1,2). Pregnancy management of APS can include daily low dose aspirin and prophylactic anticoagulation in addition to treating any complications in pregnancy(1,3,4). The APS complications seen in our patient included pulmonary embolism, fetal growth restriction, preterm preeclampsia with severe features, preterm delivery, placental insufficiency, livedo reticularis, autoimmune hemolytic anemia, and a false positive RPR. Multidisciplinary approach to this patient including played a crucial role to the success of this delivery and should be considered in delivery planning in all high-risk obstetric patients with multi-system compromise and high risk for maternal and fetal morbidity and mortality from medical condition.

References: Available upon request.

Poster #34

The Effect of Growth Hormone on Ovarian Response for In Vitro Fertilization

Sierra Struble, DO¹, Alexis Spangler, MD¹, Mark Sanchez, MD³, Yissa Fonticiella, MD², James Baron, MD¹

Department of Obstetrics and Gynecology at HCA Florida Brandon Hospital/ USF Morsani College of Medicine GME Program, Brandon, Florida¹, Department of Reproductive Endocrinology and Infertility at Florida Fertility Institute, Clearwater, FL², Department of Reproductive Endocrinology and Infertility at Florida Fertility Institute, Department of Obstetrics and Gynecology at HCA Florida Brandon Hospital/ USF Morsani College of Medicine GME Program, Clearwater, FL³

Growth hormone has been postulated to improve ovarian response, increasing the number of oocytes retrieved and eggs fertilized, in patients undergoing in vitro fertilization (IVF). Growth hormone as an adjuvant to IVF has been previously investigated, however ovarian response outcomes have been conflicting. Some studies show no increase in ovarian response while others show an increase in oocytes retrieved and positive pregnancy tests, but not an increase in live birth rates. Due to conflicting outcomes, this study explored whether a growth hormone adjuvant to IVF would increase ovarian response in patients with previously poor ovarian response defined as less than 3 oocytes retrieved. This retrospective study was from October 2022 to October 2023 and a total of 24 female participants ages 32 to 46 years old were included. In order for participants to meet criteria for this study they had poor ovarian response in at least one previous IVF cycle, defined by less than or equal to 3 follicles, with subsequent cycle(s) using a growth hormone adjunct. Using a within subject design, participants in this study acted as their own controls using the data from their IVF cycle without growth hormone (control) and with growth hormone (experimental). The growth hormone was injected subcutaneously and ranged from 25units daily for 4 weeks to 2-3 units daily for 1-2 months. Additional medications used for the ovarian stimulation protocol included gonadotropins, GnRH agonist or antagonist, and a human chorionic gonadotropin. Variations in the medications chosen were based on the outcome of prior IVF cycles and poor ovarian response. The primary study outcome was the number of oocytes retrieved and fertilized. The secondary study outcomes were the total follicles, follicles greater than 15mm, and the embryo quality. Decision was made to include follicles greater than 15 mm in size because they likely

reached maturity. After statistical analysis, the number of follicles greater than 15 mm and the total number of follicles with and without adjuvant growth hormone were not statistically different (P value of 0.268 and 0.085, respectively). In addition, the number of oocytes retrieved and fertilized with and without the addition of growth hormone were not statistically different (P value of 0.327 and 0.11, respectively). Lastly, the number of quality embryos with and without adjuvant growth hormone was not statistically significant (P value of 0.85). These findings suggest that human growth hormone adjuvant may not be beneficial in improving ovarian response. Prior similar research has conflicting results regarding the benefits of human growth hormone on ovarian response and these studies are often underpowered. Some of this is postulated to be secondary to the nature of the participants who already have poor pregnancy prognosis and no established dose and duration of growth hormone treatment. Akin to other studies, this study also had a small sample size. However, in the setting of a within subject design, as this study used, a smaller sample size is often still able to detect a causal relationship. Another benefit of the use of a within-subject design in this study, is that individual variations are removed and therefore it is more statistically powerful. While this study contributes to the ongoing debate surrounding the efficacy of growth hormone in fertility treatments, it also highlights the complexity of factors influencing IVF success. Further research with larger sample sizes and more controlled methodologies (standardization of growth hormone dose and duration of treatment) may be necessary to explore this topic more comprehensively.

Poster #35

The Neglected Curriculum: A Systematic Review of Financial Literacy in Medical Training

Jyothi U Patil¹, Corenthian Booker, MD², Ravindu Gunatilake, MD³, Mohammad Islam, MD⁴, Mohammad Vaziri, MD⁵, B J Ho, MD⁶, Avinash Patil, MD²

PCDS, Paradise Valley, AZ¹, East Carolina University Brody School of Medicine, Greenville, NC², Creighton University Phoenix, Phoenix, AZ³, University of Arizona College of Medicine, Phoenix, AZ⁴, Midwestern University College of Medicine, Glendale, AZ⁵, Valley Perinatal Services, Phoenix, AZ⁶

Background: Financial literacy is important for medical professionals, affecting career choices and well-being. Despite its importance, formal financial education remains rarely included in medical training. This systematic review examines how financial literacy progresses from medical school through residency and into attending practice, and evaluates interventions designed to improve literacy at different career stages.

Methods: We searched the Semantic Scholar database to identify papers addressing financial literacy in medical trainees. After screening against inclusion criteria, we included 32 papers for full review. We extracted data on study design, participant characteristics, financial literacy measurements, and key findings related to literacy progression. The studies spanned from 2007 to 2024 and the majority utilized cross-sectional survey study design (19). The population covered medical students (7 studies), residents (20), fellows (4), and attending physicians (4). Geographic distribution included the United States (25 studies), India (3), Canada (2), South Africa (1), and Turkey (1). We analyzed financial literacy development throughout the training pipeline and assessed educational program effectiveness at different career stages.

Results: Our analysis revealed a clear developmental progression of financial literacy throughout medical training. First-year medical students scored lowest (38-45% correct on assessments), with scores gradually improving through medical school (50-60% by graduation), residency (65-73% for early residents, 70-79% for senior residents), and into practice as attending physicians (75-85%). This trajectory demonstrated that financial knowledge accumulates with professional development. The progression was most

pronounced in practical topics like loan management, while complex concepts like investment strategy showed slower improvement.

The transition from senior resident to early-career attending represented a critical period where financial literacy either accelerated or plateaued. Physicians entering private practice demonstrated faster growth compared to those in academic settings, likely due to increased exposure to business management responsibilities. Practice type emerged as more influential than specialty choice, with similar literacy challenges observed across specialties.

Gender differences persisted across training levels, with male trainees scoring 10-13% higher than females at all career stages. Socioeconomic background significantly impacted baseline literacy, with trainees from middle or higher socioeconomic backgrounds demonstrating better financial knowledge that persisted through training. However, the socioeconomic gap narrowed somewhat during residency, suggesting structured training environments may partially mitigate initial disparities.

Training programs offering even minimal structured financial education showed accelerated literacy growth compared to those without formal curricula. Few trainees had received formal financial education before entering medicine (less than 15% in most studies). Interest in financial education was consistently high across all career stages (over 80% in multiple studies), with attending physicians frequently reporting regret about insufficient financial training. The perceived importance of financial education increased significantly as trainees progressed, with senior residents and new attendings rating it nearly twice as important as first-year students.

Educational interventions showed effectiveness that varied by career stage. Early medical student interventions produced modest improvements (10-15% increase in assessment scores), while programs targeting senior residents and new attendings achieved more substantial gains (20-30%). The transition to attending practice emerged as a critical "teachable moment" when physicians demonstrated peak motivation for financial learning.

Interactive approaches incorporating case-based learning and personalized financial plans showed superior results compared to traditional lectures. Programs with physician instructors having financial expertise demonstrated better outcomes than those staffed by financial industry professionals. The optimal timing for interventions appeared to be during transitional periods: late medical school, final year of residency, and early attending years.

Conclusion: Financial literacy demonstrates a clear

developmental progression throughout medical training, with scores steadily increasing from medical school through residency and into practice. The trainee-to-attending transition represents a particularly critical period where financial knowledge either accelerates or plateaus depending on the practice environment. Educational interventions show consistent effectiveness when properly timed and designed, with optimal impact during key career transitions. These findings emphasize the need for strategically timed financial education that evolves alongside the physician career lifecycle. Future studies should focus on defining optimal thresholds for competency, as well as topics of high utility at different career stages. Professional societies should increasingly prioritize assisting physicians to bridge the gap in financial education.

Poster #36

Rates of Intraoperative Complications and Treatment Failure with Double Endometrial Ablation

Rocco A Rossi, MD¹, David Runnoe, MD¹, Chris Carls, DO²

University of Cincinnati, Cincinnati, OH¹, Henry Community Health, New Castle, IN²

Background: Radio frequency endometrial ablation (EA) is a procedure used to treat abnormal uterine bleeding (AUB). It is a less invasive method compared to hysterectomy, however the procedure fails to resolve AUB in 20-30% of patients. Double ablation (running the ablation cycle again if the endometrium is not fully ablated with a single cycle) is an off label use of the Novasure endometrial ablation device but is performed by some surgeons. To date, there has been no published research on the effectiveness of this method, or the rates of intraoperative complications.

Objectives: Measure the rates of treatment failure and intraoperative complications in patients who received single and double ablations using the Novasure device.

Study Design: A retrospective cohort study at a large academic hospital system. Patients who received EA between January 2017 and December 2021 were evaluated, and follow-up extended through May 2022. Charts were evaluated for intraoperative complications (hemorrhage, hematoma, infection, uterine perforation, gastrointestinal injury, or genitourinary injury) and late onset treatment failure (hysterectomy or lack of resolution of AUB).

Results: 89 patients were reviewed (61 single ablations, 28 double ablations). No intraoperative complications were observed in either group. The relative risk of treatment failure was not significantly different between the two groups.

Conclusions: The data from this study show that there is unlikely to be a large difference between single and double ablation in any outcome. A larger, more controlled study is needed to evaluate the procedures further as this study is not powered adequately. Preliminary results point to double ablation as being safe, but more data is needed.

Poster #37

Removal of Retained Rectal Foreign Body Using Obstetric Forceps: A Case Report

Rocco A Rossi, MD, Julia Maier, MD

University of Cincinnati, Cincinnati, OH

Background: The incidence of rectal foreign bodies is increasing in the United States. Of patients who present with retained rectal foreign bodies, most are male. Objects can be retained in the rectum after oral ingestion or, more commonly, are inserted transanally. Rectal foreign bodies pose risks including impaction, peritonitis, and perforation. Methods of removal include extraction manually, endoscopically, or via laparotomy. Many patients will ultimately require colostomy with surgical interventions. The literature documents the use of obstetric instruments being used to remove rectal foreign bodies including vacuum delivery systems and, more rarely, obstetric forceps. This case will review the transanal extraction of a rectal foreign body using Tucker-McClane obstetric forceps.

Case Report: A 50 year old male presented to the Emergency Department with a retained rectal object. On presentation, the patient was clinically stable, though he reported feeling constipated and bloated after four days with the object in situ. A CT abdomen and pelvis with intravenous contrast was performed which demonstrated a 8.2 cm spherical foreign body in the distal sigmoid colon with thickening of the distal sigmoid colon and rectum. There was no evidence to suggest perforation. The retained object was a sphere made of hard plastic with a light inside. A chain attached to the sphere had broken off, not allowing the patient to remove the object himself. Initial attempts made to evacuate the object in the emergency department included the use of an obstetric vacuum delivery system; however, the patient was unable to tolerate these attempts. He was then taken to the operating room for removal under general anesthesia. In the dorsal lithotomy position, the sphere was able to be palpated. Given the hard material of the object, it was not able to be grasped or penetrated with Kocher clamps or myoma screws. An obstetrical vacuum was able to guide the object caudally into the rectum, but the vacuum was not able to fully extract the object. Ultimately, an obstetrician-gynecologist applied Tucker McClane obstetric forceps around the object and was able to successfully deliver the sphere. A general surgeon subsequently performed endoscopy to confirm there were no rectal or sphincter lacerations. The patient was able to be discharged home the same day.

Discussion: In the management of rectal foreign bodies, lesser invasive techniques should be utilized before more invasive alternatives. Imaging via either abdominal X-ray or contrast enhanced CT of the abdomen should be performed if the patient is hemodynamically stable in order to assess size, position, location, and for possible perforation. Often rectal foreign bodies are unable to be manually extracted either due to position, shape of the object, or due to patient intolerance. These patients should be taken to the operating room for removal under anesthesia. As the incidence of rectal foreign objects continues to rise, the need for wider methods of extraction will be helpful in avoiding more morbid procedures such as laparotomy and colostomy for removal. In cases where a rectal foreign body is hard, smooth, and spherical, traditional methods of removal either manually or endoscopically can be especially difficult due to lack of purchase with traditional instruments.

On review of the literature surrounding using obstetric instruments for removal of rectal foreign bodies, vacuum delivery devices are more commonly used compared to obstetric forceps. There are some case reports of extraction with obstetric forceps using both a single blade technique as well as traditional method with two articulated blades. Similar to use of obstetric forceps in a vaginal delivery, there is a risk of laceration to the gastrointestinal tract; therefore, the use of endoscopy after extraction should be used to assess for these potential complications. The patient in our case had no lacerations or evidence of perforation. They were able to avoid more invasive surgery and were discharged home the same day. Emergency medicine physicians and general surgeons are most commonly the providers who perform extractions of rectal foreign bodies; however, there may be a role for obstetrician-gynecologists. In our case, the retained object was difficult to remove due to its size, shape, and material. A board certified obstetrician-gynecologist, who is trained in the insertion and articulation of obstetrical forceps blades, successfully removed the rectal foreign body without additional damage to the rectum or anus. Obstetric forceps should be considered as a potential instrument for extracting retained rectal foreign bodies in certain situations.

Poster #38

Evaluating Factors Associated with Obstetric Malpractice Lawsuits

Chava R Welton, MD, Marie Gambale, RN, Alan Garely, MD, Cheryl Dinglas, DO

Mount Sinai South Nassau, Oceanside, NY

Objective: To assess if there is an association between maternal, pregnancy, neonatal and provider characteristics and the obstetric malpractice lawsuits at our institution.

Study Design: This was a retrospective case control study. Inclusion criteria included all female patients who delivered at MSSN with obstetric-related allegation claims filed during 2011-2021. Cases were matched to controls who had similar outcomes during that same year and did not file a lawsuit. Outcomes included patient demographics, medical conditions, pregnancy complications, neonatal complications, and provider characteristics. T-test, Chi-square, and Fisher's exact test were used to compare cases and controls.

Results: Amongst over 20,000 deliveries performed over the 10-year period, 12 cases were identified and included 4 shoulder dystocia cases with fetal injury, operative delivery with fetal injury, 2 re-operations, 2 intrauterine fetal demise cases, 1 postoperative complication, 1 cystotomy during C-section, and 1 maternal death. These cases were matched to 2-3 controls based on similar outcome except for the 1 maternal death due to lack of other cases with this outcome. There were no differences in age, BMI, race, ethnicity, language, religion, employment or marital status, parity, insurance type, mode of delivery, prematurity, or neonatal outcomes between the groups. There was a significant difference in the lack of underlying medical conditions in the cases group, (33.3% vs 0%, $p < 0.05$). There was also a trend toward malpractice cases not having any pre-existing pregnancy complications (50% vs. 22.6%, $p = 0.066$). There was no association with race or gender of the provider however, more years in practice was associated with a higher likelihood to have a lawsuit filed (26.7 years vs. 21.8 years, $p < 0.05$).

Conclusion: Cases were more likely to have no underlying medical or pregnancy complications suggesting that low risk patients that end up with adverse outcomes are more likely to proceed with litigation. Additionally, providers with more years in practice have a higher likelihood of malpractice litigation.

Poster #39

No Place Like Home: A Retrospective Analysis of Increasing Home Birth Rates in North Dakota's Maternity Desert (2015–2024)

Alyssa J. Thielges, BS¹, Phillip G. Hoffarth, BS¹, Annie R. Ferguson, BS¹, Thomas F. Arnold, MD², Dennis J. Lutz, MD¹

University of North Dakota School of Medicine and Health Sciences, Minot, ND¹, University of North Dakota School of Medicine and Health Sciences, Dickinson, ND²

For centuries, giving birth at home in attendance of family and midwives was considered the standard. This paradigm shifted in the early 20th century as physician-attended hospital deliveries became more common, especially among affluent women. By the mid-1970s, nearly all U.S. births occurred in hospitals or accredited birthing centers. Today, however, home births are once again gaining popularity. According to the Centers for Disease Control and Prevention (CDC), national home birth rates increased by 22% in 2019 and an additional 12% in 2020. There are several reasons why women may choose to deliver at home, including reduced medical intervention, increased autonomy during labor, familiarity and comfort, and dissatisfaction with hospital care. Economics may also play a substantial role, with some reports indicating hospital-based vaginal delivery may come with a fourfold increased price tag when compared to deliveries at home. The safety and potential adverse outcomes of home delivery have also been debated. While several retrospective analyses suggest planned home births are safe for low-risk individuals attended by certified nurse midwives, organizations such as the American College of Obstetricians and Gynecologists (ACOG) maintain that hospitals and accredited birthing centers are the safest, particularly considering increased risks for adverse neonatal outcomes, including seizures and mortality. Regardless, risk mitigation for adverse obstetric and neonatal outcomes alike hinges on the idea that emergent, high-level care is readily accessible in a timely fashion; a luxury those living in exceedingly rural or impoverished areas may not afford. While national level data of home birth rates have been well documented, recent, state-level patterns (especially rural regions) remain underexplored. North Dakota presents a unique case, as 74% of its counties are classified as maternity care deserts, more than double the national average of 35%, ranking it #1 in the nation for least access to maternity care by far. As such, understanding updated trends in home birth rates is essential for equipping local providers, emergency responders, and public health officials with the data needed to anticipate needs, allocate

resources, and safeguard maternal and neonatal outcomes in North Dakota. The purpose of this study was to explore home birth rate trends in the state of North Dakota over the last decade. This retrospective analysis utilized public birth record data from the North Dakota Department of Health and Human Services for the years 2015–2024. Home births were defined as all deliveries occurring outside of hospitals or accredited birth centers. Annual home birth rates were then calculated and simple linear regression analysis was performed to assess trends over time. Home birth rates in North Dakota were found to rise from 1.06% in 2015 to 1.73% in 2024. Linear regression models demonstrated a statistically significant absolute increase in home birth rates by about 0.08% per year ($F(1,8) = 22.624$, $p = 0.001$, adjusted $R^2 = 0.706$), mirroring national trends. These findings underscore the urgent need to strengthen rural maternal care infrastructure and incorporate obstetric-friendly emergency transfer systems, ensuring that all birthing individuals, regardless of geography, have access to safe, timely, and equitable care.

Poster #40

Foreign-Born Mothers: An Analysis of the Increasing Rates in North Dakota

Annie R Ferguson, BS¹, Phillip G Hoffarth, BS¹, Alyssa J Thielges, BS¹, Thomas F Arnold, MD², Dennis J Lutz, MD¹

University of North Dakota School of Medicine and Health Sciences, Minot, ND¹, University of North Dakota School of Medicine and Health Sciences, Dickinson, ND²

In 2024 almost 11% of the 11,000 North Dakota births were to foreign-born mothers. In the 18 years from 2006-2023, there were a total of 206,096 births in North Dakota with 19,183 (9.3%) being to foreign-born mothers. The vast majority of these mothers (80%) came from the following regions/countries of the world: Africa (6,082), Asia (3,553), Europe (1,777), Central America (1,713) and the Middle Eastern countries (1,007). Unfortunately, 2,198 mothers either did not or would not record their country of origin on the birth certificate. Many assume that most individuals immigrating to the United States settle in urban areas or highly populated coastal states like New York or California. However, in recent years, rural states such as North and South Dakota have experienced significant increases in immigration, with many rural communities previously facing depopulation now contending with the opposite (Weber, 2014). Despite this trend, little research has been conducted on the unique health needs of immigrant populations in rural settings, particularly in the context of obstetric and gynecologic care. Previous studies have found that refugee women face increased risks of stillbirth and spontaneous abortion and are less likely to receive adequate prenatal care (Harakow, 2021; Agbemenu, 2019). Among the several barriers to care, transportation to healthcare appointments is of special importance in rural areas (Ho, 2023), even more so in the context of relatively high-frequency obstetrical visits. Additionally, immigrants in the U.S. often experience stigma and marginalization, which can create barriers to accessing proper medical care (Chang, 2018). Poor reproductive health outcomes carry not just monetary costs, but also emotional and physical burdens for some of the most vulnerable members of society (Agbemenu, 2019).

North Dakota's foreign-born population has been steadily increasing, with the most rapid growth occurring between 2010 and 2014, during which the foreign-born population grew by 62.4%, the highest rate of any state (New American Economy, 2016). This population increase coincided with the North Dakota oil boom, which both created high-paying jobs and left many social services overstretched (Weber, 2014).

Many of the jobs created, and thus the immigration into the state were in rural areas, which were already relatively underfunded. This, combined with a hesitance to invest in social services born of previous boom-bust cycles in the state, have a disproportionate impact on immigrant populations (Weber, 2014). By 2018, immigrants made up 5% of North Dakota's population, and another 5% of native-born residents had at least one immigrant parent (American Immigration Council, 2025). Immigrants in North Dakota play a crucial role in revitalizing communities that were previously in decline, contributing significantly to the rural healthcare workforce and generating over \$120 million in tax revenue in 2014 (New American Economy, 2016) and over \$200 million in tax revenue in 2018 (American Immigration Council, 2025).

Immigrants comprise a diverse group of individuals and cultures which may respond better to certain interventions. Tracking the trends in foreign-born mothers' country of origin can provide valuable insights for tailoring interventions and allocating funding where it will provide the greatest benefits. According to the North Dakota State Birth Records beginning in 2006 - 2008, most foreign-born mothers in North Dakota originated from Canada, Central America, and Europe; over the next 15 years, these demographics changed drastically, with data from 2021 - 2023 showing most foreign-born mothers to be from Africa, Asia, and Central America. From 2006 - 2023, most foreign-born mothers came from Africa, Asia, and Europe. Mothers born in Africa alone during the 2021- 2023 time period numbered greater than all combined foreign-born mothers of known origin from 2006 - 2008. Also during 2006 - 2008, there were more foreign-born mothers of unknown origin than all known origins combined. The much lower proportion of mothers of unknown origin in recent years allows for a better appreciation of the true makeup of the foreign-born mother community. These dramatic changes indicate a need to adapt approaches to provide culturally competent care to these individuals.

As births to foreign-born mothers continue to rise, healthcare providers must be prepared to address the distinct medical needs of immigrant populations, particularly those residing in rural areas. This project will explore the health disparities foreign-born mothers face and examine how living in a rural community influences these challenges. Additionally, it will analyze the current state of rural healthcare and immigration to provide insights that can help healthcare providers improve patient care.

Poster #41

Malaria in the Upper Midwest: A Pregnant Refugee's Journey to Diagnosis

Emma C Weisner, BS¹, Timothy R Beiswenger, MD², Erica L Argall, MD², Dennis J Lutz, MD³

University of North Dakota School of Medicine and Health Sciences, Grand Forks, ND¹, Sanford Health, Fargo, ND², University of North Dakota School of Medicine and Health Sciences, Minot, ND³

Malaria in pregnancy remains a significant global health challenge, posing substantial risks for both pregnant women and infants. An estimated 125 million pregnancies are exposed to malaria annually, causing over 100,000 deaths in pregnant women and 200,000 deaths in neonates each year. Despite significant advancements in prevention and treatment, malaria during pregnancy continues to contribute to high rates of maternal mortality, perinatal death, low birth weight, and preterm delivery in endemic areas. While malaria primarily affects people in the Global South, modern migration patterns have led to an increasing number of cases in non-endemic areas. North Dakota, which has one of the highest per capita rates of refugee resettlement in the United States, serves as a representative example of the challenge of providing culturally competent care to globally diverse populations. In these non-endemic areas, delayed diagnosis may occur due to low clinical suspicion and provider inexperience with tropical infectious disease. This case report highlights the need for heightened clinical awareness of malaria in pregnant migrants from endemic regions and the importance of incorporating a global health perspective into routine prenatal care.

A 31-year-old G4P2 female at 29 weeks gestation presented to a hospital in Fargo, North Dakota, with nausea, vomiting, and weakness. Having recently arrived from a refugee camp in Kenya, this was her first healthcare encounter in the United States. Initial workup revealed mild anemia, thrombocytopenia, and labs suggestive of dehydration, leading to a presumptive diagnosis of nausea and vomiting of pregnancy. She was given intravenous fluids and her symptoms transiently improved. Over the next few weeks she was managed as an outpatient with anti-emetics and oral hydration but continued to deteriorate, experiencing severe fatigue, weight loss, and persistent vomiting.

At 33 weeks' gestation, a routine hemoglobin test at a WIC appointment revealed a critically low level of 4.5 g/dL, prompting immediate hospital admission. Further investigation demonstrated elevated bilirubin (2.3 mg/dL), elevated AST (55 U/L), low haptoglobin (<8 mg/dL), and an

elevated lactate dehydrogenase (687 U/L) suggesting severe hemolytic anemia. A peripheral blood smear confirmed intraerythrocytic *Plasmodium falciparum* parasites with 0.1% parasitemia. Infectious disease recommended the initiation of artemether-lumefantrine (Coartem) for treatment of malaria in pregnancy. During her seven day hospital stay she received five units of packed red blood cells. She responded well to treatment, and repeat malaria smear before discharge was negative.

Following discharge, biweekly antenatal surveillance was conducted due to ongoing concerns about fetal growth and amniotic fluid volume. At 38 weeks, labor was induced for IUGR. She had an uncomplicated vaginal delivery of a healthy male infant, weighing 6 lb 0.7 oz, with APGAR scores of 7 and 9. Placental pathology revealed no residual parasites, and the neonate underwent routine malaria monitoring for four weeks with no signs of infection.

This case underscores the diagnostic complexity of malaria in pregnancy, particularly in non-endemic regions where clinical suspicion may be low. Malaria may initially masquerade as hyperemesis gravidarum or anemia of pregnancy, delaying diagnosis and treatment. Though malaria can cause serious disease in all populations, pregnant women and their neonates are particularly vulnerable as parasites can sequester in the placenta, leading to impaired fetal oxygenation and nutrient transfer and ultimately contributing to IUGR, preterm birth, and maternal anemia. In severe cases, complications such as hypoglycemia, pulmonary edema, and cerebral malaria can develop significantly increasing maternal morbidity and mortality

Despite global efforts to control malaria, challenges remain, including drug resistance, limited access to healthcare in some endemic regions, and the emergence of cases in non-endemic areas due to migration. Prevention strategies include insecticide-treated bed nets, chemoprophylaxis in high-risk populations, and recently developed malaria vaccines. For pregnant patients, prompt diagnosis and treatment with artemisinin-based combination therapies (ACTs) are critical to reducing adverse outcomes.

Healthcare systems must adapt to these demographic changes by implementing robust screening protocols, providing ongoing education for clinicians, and ensuring access to diagnostic tools and treatments for uncommon conditions. Incorporating global health curricula into medical education and fostering multidisciplinary collaborations with infectious disease specialists and public health experts are essential steps toward improving outcomes for immigrant and refugee populations.

This case also highlights the importance of ongoing research into the epidemiology, prevention, and treatment of

malaria in pregnancy. As global migration patterns continue to evolve, healthcare providers must be equipped with the knowledge and resources to meet the needs of diverse populations. By embracing a global health perspective, clinicians can better address the unique challenges posed by infectious diseases like malaria, ultimately improving outcomes for mothers and infants both at home and abroad.

Poster #42

An Atypical Presentation of Turner Syndrome in an Adolescent Female

Reese H Siegle, BS, Annie R Ferguson, BS, Phillip G Hoffarth, BS, David A Billings, MD, Dennis J Lutz, MD

University of North Dakota School of Medicine and Health Sciences, Minot, ND

Primary amenorrhea is defined by absence of menarche by age 13 in an adolescent who has normal growth and secondary sexual development or by age 15 in an adolescent with abnormal growth and secondary sexual development. When evaluating for primary amenorrhea one must consider three major systems that could be responsible for absence of menstruation. Uterine anatomic abnormalities such as an imperforate hymen, Mullerian dysgenesis, vaginal agenesis, or a transverse vaginal septum. Neuroendocrine regulation via the hypothalamic-pituitary-ovarian (HPO) axis and adrenal synthesis pathways responsible for both the menstrual and uterine cycles could be involved and absence, underactivity, or overactivity in different checkpoints of this system may be the culprit. Hormonally responsive endometrial tissue which differentiates and sheds in the presence of the appropriate hormones if absent, as seen in Asherman syndrome, may be responsible. The most common cause of primary amenorrhea is Turner syndrome.

Turner syndrome is a genetic disorder characterized by a 45,XO (monosomy), 46,XX/45,XO (mosaic), or 46,Xi,(Xq) (isochromosome) karyotype. Half of patients present with the monosomic form in which all cell lines are derived from a 45,XO cell lineage while most others present with mosaicism with at least 1 cell line being derived from a non-45,XO karyotype. A smaller subset of patients presents with an isochromosome or duplication of the long arm of the X chromosome. The pathogenesis of karyotype abnormalities in Turner syndrome commonly results from paternal meiotic nondisjunction in monosomy and mitotic errors in mosaicism. Isochromosome presentation can result from either meiotic or mitotic duplication of a long or short arm of the X chromosome, though most commonly the long arm.

Not all patients will present with the same constellation of symptoms. In neonates the most common finding is edema of the hands and feet, though not always present. Turner syndrome is commonly diagnosed in adolescent patients presenting with post-pubertal height of less than 5ft. Consideration for diagnostic testing is supported by at least 2 of the somatic findings: short stature, metabolic abnormalities (overweight, hypertension), craniofacial abnormalities (high

palate, micrognathia, prominent epicanthal folds, low-set ears), musculoskeletal abnormalities (osteoporosis, shield chest), dermatologic/lymphoreticular abnormalities (nail hypoplasia, pigmented moles, lymphedema, cutis laxa, keloids), cardiac abnormalities (coarctation of the aorta, bicuspid aortic valve), intellectual disability, intestinal telangiectasia, and deafness.

Diagnostic imaging classically reveals streak ovaries, resulting from premature ovarian failure, and potentially other genitourinary abnormalities. Lab values typically reveal an elevated total gonadotropin level with an FSH of greater than 50mIU/mL and LH of greater than 90mIU/mL. Urinary estrogen is low due to insufficient ovarian production and lower filtered load.

A 17-year-old nulligravid female presented to an obstetrician-gynecologist for evaluation of primary amenorrhea. She had never experienced a menstrual period, spotting, vaginal bleeding or discharge. Past medical history revealed headaches, recurrent otitis externa prompting 5 ear surgeries including myringotomies and cochlear implant placement. Family history was significant for short stature. On sexual history, the patient had never had sexual intercourse. Physical examination was negative for cervical and axillary lymphadenopathy. Pelvic examination revealed normal pubic hair distribution and external female genitalia. A pediatric speculum was inserted, though cervical examination proved difficult for this patient, thus examination was terminated early. Laboratory evaluation of TSH, free T3, free T4, anti-Mullerian hormone, testosterone, prolactin, luteinizing hormone, FSH, estradiol, DHEAS, and 17-hydroxyprogesterone and diagnostic imaging with a transabdominal ultrasound were planned. Transvaginal ultrasound of the internal pelvic organs was not preferred given the patient's inability to tolerate pelvic examination.

Laboratory values revealed an elevated TSH (5.36 IU/mL), free T3 (5.06 pg/mL) and FSH (27.1 mIU/mL) and low estradiol (<15 pg/mL), testosterone (11 ng/dL), and anti-Mullerian hormone (<0.03 ng/dL). Transabdominal ultrasound showed a small uterus, endometrial thickness of 3mm, and adnexa without separately identifiable ovaries. These findings suggest premature ovarian failure prompting genetic testing. A Mayo clinic CHCRB test for Chromosome Analysis, Congenital Disorders, Blood was ordered to assess for congenital chromosome abnormalities. Results showed 20 chromosomes in metaphase, 16 revealing monosomy (45,XO) and 4 showing disomic (46,X,r(X)) with a ringed X chromosome. These findings align with the mosaic form.

This case highlights subtle findings that may prompt investigation for Turner syndrome in patients with primary amenorrhea. Though the only typical findings in this case

were short stature (though positive in family history) and primary amenorrhea. The history of recurrent otitis media with subsequent hearing loss may represent maldevelopment of the cervical lymphatics. In many typical cases this abnormality may cause the constitutional webbed neck finding. Mosaicism represents a small subset of Turner syndrome patients, though identification proves important for support and management.

Poster #43

Beyond the Womb: Unexpected Postnatal Presentation of Prune Belly Syndrome

Annie R Ferguson, BS¹, Shirley Yang, BS¹, Ana M Tobiasz, MD², David A Billings, MD³, Dennis J Lutz, MD³

University of North Dakota School of Medicine and Health Sciences, Minot, ND¹, University of North Dakota School of Medicine and Health Sciences, Bismarck, ND², University of North Dakota School of Medicine and Health Sciences, Minot, ND³

Prune belly syndrome (PBS) is a rare congenital disorder characterized by a spectrum of symptoms, with most cases presenting a consistent triad: abdominal wall musculature deficiency, cryptorchidism, and urinary tract abnormalities. Aplasia or hypoplasia of the abdominal wall muscles generally has a thin, wrinkled skin or “prune-like” appearance. Aside from the pathognomonic triad, the presentation of PBS often varies and coexists with other associated anomalies involving the musculoskeletal, gastrointestinal, and cardiopulmonary systems. The exact etiology of PBS remains unknown. The condition primarily affects male infants, occurring in approximately 3.6 to 3.8 per 100,000 live male births and 1.1 per 100,000 in females. The detection of PBS features has appeared on ultrasound as early as 10-13 weeks of gestation primarily due to obstruction or stricture of the urinary tract. However, early findings of PBS on ultrasound were associated with very poor prognosis including intrauterine fetal demise. Therefore, establishing the diagnosis of PBS antenatally plays an essential role so physicians can provide expectant parents with appropriate management strategies and adequate counseling and support.

This case report details the prenatal course of a 33-year-old primigravida woman at 27 weeks and 3 days of gestation who underwent a primary cesarean delivery of a nonviable male infant due to failure to progress following induction of labor. Past medical history is significant for type 2 diabetes mellitus managed with metformin and insulin glargine, exogenous obesity, and attention-deficit/hyperactive disorder (ADHD). Based on the characteristic findings on clinical examination, PBS was suspected to be the most likely diagnosis. An ultrasound performed at 20 weeks of gestation revealed fetal malformations, including the absence of structures below the diaphragm and a large fluid-filled structure thought to be separate from the fetus. Initially, these findings were suspected to be consistent with amniotic band syndrome resulting in a limb body wall complex. Follow-up ultrasonography confirmed the previous observations and

indicated that the fetus would not be viable.

At delivery, the nonviable fetus exhibited significant abdominal ascites, the absence of abdominal musculature, and a two-vessel umbilical cord, which was normal in length. A histopathology examination of the placenta revealed hydrops placentalis without any infectious etiology. Notably, the placental weight and size were greater than the 95th percentile for the gestational age of 27 weeks. Chromosomal microarray analysis demonstrated normal results. Unfortunately, an autopsy was not performed due to financial constraints, including the additional costs associated with transportation to an autopsy facility. Despite appropriate prenatal care, ultrasound evaluation failed to accurately diagnose PBS in this case, underscoring the importance of provider discretion when interpreting ultrasound imaging.

This report further explores the obstetrical care provided to the patient, her associated health conditions, and the prenatal screening procedures undertaken. By presenting this case, we aim to enhance awareness and diagnostic accuracy of PBS, aiding physicians in the timely identification and management of this condition.

Poster #44

The Choice Between Intrauterine Contraceptive Device Options: Examining the Evidence (2025)

Elliot M Levine, MD¹, Teresa Tam, MD², Carlos M Fernandez, MD³

Rosalind Franklin University Chicago Medical School, North Chicago, IL¹, Ascension St. Francis, Evanston, IL², Advocate Illinois Masonic Medical Center, Chicago, IL³

Introduction: A wealth of clinically relevant information on long-acting reversible contraception (LARC) is available to support shared decision-making and enhance patient discussions. A scoping review of the topic was conducted to identify and present key clinically applicable evidence, providing valuable insights for clinical practice

Methods: A comprehensive review of published literature was conducted to identify key clinical aspects of intrauterine contraceptive device selection, excluding contraceptive implants from the scope of long-acting reversible contraception. A systematic search was performed using the PubMed and Web of Science databases, covering publications from 2015 to 2024. The review followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure methodological rigor. Multiple search strategies were employed to capture relevant clinical data comprehensively. Given the diverse nature of medical evidence, no study types were excluded, allowing the inclusion of randomized controlled trials, cohort studies, clinical perspectives, reviews, and case reports.

Results: The review examined data obtained through multiple search strategies, focusing on commercially available intrauterine contraceptive devices in the U.S., including the Copper T380 and levonorgestrel intrauterine systems. Key aspects of device use were analyzed, including contraceptive effectiveness, recent updates in duration of use (e.g., Mirena extended from 5 to 8 years, Paragard from 10 to 12 years), and comparative complication rates (e.g., expulsion, embedment, fracture, malposition, perforation, and migration). Additional factors reviewed included common side effects such as dysmenorrhea and heavy menstrual bleeding, relative contraindications, pain associated with insertion and mitigation strategies, the relevance of device frame size, and the potential role of ultrasound for pre- and post-insertion assessment. While the full scope of this review cannot be presented in this abstract, the findings can be detailed in a more comprehensive format.

Discussion: The effectiveness, ease of use, and simplicity of LARC, particularly in comparison to permanent sterilization, underscore its significant impact on female reproductive health. This topic warrants discussion in a large forum of Obstetrics and Gynecology practitioners. A systematic or comparable review like the one presented here does not appear to be readily available in the published medical literature.

Poster #45

Racial/Ethnic Health Outcome Disparity in Maternal Mortality: Addressing the Problem

Elliot M Levine, MD¹, Teresa Tam, MD², Carlos M Fernandez, MD³

Rosalind Franklin University Chicago Medical School, Chicago, IL¹, Ascension Health, Evanston, IL², Advocate Illinois Masonic Medical Center, Chicago, IL³

Introduction: Racial and ethnic disparities in health outcomes, particularly in maternal mortality, have been highlighted in recent times. This issue demands a thorough analysis due to its profound social and medical implications. Evidence from public data in obstetrics and gynecology highlights a systemic bias that affects patient care. Beyond the well-known racial disparities, ethnic disparities in maternal mortality are also evident, as demonstrated by data from the National Center for Health Statistics in 2024. These disparities suggest that implicit biases, possibly linked to skin color, may influence healthcare outcomes. It is crucial to explore these biases to understand their impact on perinatal care

Methods: A comprehensive literature review was conducted using the PubMed database, focusing on articles published between January 2020 and December 2024. The search targeted English-language manuscripts addressing racial and ethnic disparities in maternal mortality. A total of 243 articles were identified, and 64 were selected for detailed review based on their relevance and conclusiveness.

Results: Analysis of the reviewed manuscripts revealed critical insights into maternal mortality disparities. Contrary to widely held beliefs that Black women face a three-fold greater risk of mortality during childbirth, the intersection of ethnicity and race (i.e., women of color) actually reveals a four-fold increased risk compared to white women. Furthermore postpartum hemorrhage (PPH) emerges as the leading cause of maternal mortality. The data also indicate that Black women are more frequently delivered via cesarean section than White women. Additionally, the increasing rates of cesarean deliveries have led to a higher incidence of uterine scarring, contributing to the development of placenta accreta spectrum (PAS), which may be exacerbating the rising incidence of PPH. These findings underscore the urgent need for targeted interventions to address these disparities and improve maternal outcomes.

Discussion: It has been well-recognized that race and ethnicity, as social constructs, have little to do with any biological cause of maternal mortality. Reports suggest that disparities in maternal mortality, particularly among women of color, may be best explained by delays in providing optimal therapy for conditions like postpartum hemorrhage (PPH). Instead of biological differences, these disparities may be more closely related to implicit biases among healthcare providers, though research in this area is still developing. Therefore, it is crucial to focus our efforts on educating all healthcare professionals, including practicing physicians, nurses, and medical students, to address and rectify these disparities. By fostering a more equitable healthcare environment, we can work towards significant improvements in maternal health outcomes across diverse populations.

Poster #46

Navigating Diagnostic Challenges: Distinguishing Between Endometrial Stromal Nodule and Endometrial Stromal Sarcoma in a Young Patient

Teresa Tam, MD, Christopher Z Mabini, DO, Yuan Yuan Groves, MD

Prime Healthcare St. Francis Hospital, Evanston, IL

Background: Endometrial stromal tumors, including Endometrial Stromal Nodule (ESN) and Endometrial Stromal Sarcoma (ESS), originate from the stromal tissue of the endometrium but differ significantly in their clinical behavior and histopathological characteristics. ESNs are benign, well-circumscribed tumors that do not infiltrate surrounding tissues, whereas ESS is malignant, with potential for local invasion and metastasis.

Case Presentation: A 27-year-old, gravida 0 para 0, presented with ongoing heavy menstrual bleeding. Pelvic ultrasound revealed an anteverted uterus with a complex heterogeneous mass, initially suspected to be a submucosal leiomyoma. A hysteroscopic myomectomy was performed but terminated early due to reaching a maximal fluid deficit of 2,500 mL, caused by a large endocervical mass resembling a submucosal fibroid and difficulty maintaining hydrodistention. Histopathology suggested a differential diagnosis of ESN versus low-grade ESS, with myometrial invasion difficult to assess due to the fragmented curettage specimen. Immunohistochemical stains (IHS) were performed. Diffuse or patchy positivity for Caldesmon, CD10, Cyclin D1, Desmin, ER, PR, and SMA, is consistent with an endometrial stromal neoplasm (ESN), but it does not reliably differentiate between an endometrial stromal nodule (ESN) and low-grade endometrial stromal sarcoma (LG-ESS).

Concerned about fertility preservation, the patient was distressed by the potential need for a hysterectomy. Pelvic MRI identified a prolapsed endometrial polypoid mass in the lower segment/endocervical cavity measuring 4.8 cm, with no adnexal masses or pelvic adenopathy. A Gynecologic Oncologist recommended a repeat hysteroscopic excision of the endocervical/lower uterine mass. Further work-up included negative CT scans of the abdomen, pelvis, and chest for metastatic disease. A repeat hysteroscopic excision was performed, successfully resecting the mass down to the endometrial base and possible myometrium.

Despite these efforts, histopathology reports remained inconclusive in differentiating between ESN and low-grade

ESS. The final pathology report indicated that the differential diagnosis includes both ESN, a benign lesion, and low-grade ESS. It noted that the distinction between these entities typically requires a hysterectomy specimen for definitive diagnosis. Clinical correlation was recommended. While uterine smooth muscle was present and some invasion appeared to be present, definitive criteria for low-grade stromal sarcoma were not identified.

Clinical Insights:

- Endometrial Stromal Nodule (ESN): ESNs are benign and typically symptomatic, presenting with abnormal uterine bleeding in some cases. They are characterized by well-defined borders and uniform cells with no significant atypia. Surgical excision is usually curative.
- Endometrial Stromal Sarcoma (ESS): ESS is malignant, with low-grade forms capable of recurrence and metastasis. Histologically, ESS shows infiltrative growth with atypia and a higher mitotic rate. Treatment often involves a hysterectomy and may include additional therapies.

Management Plan:

- Consultation with a Gynecologic Oncologist: Referral for specialized management, who recommended a chest, abdominal, and pelvic CT scan with IV contrast for accurate staging and assessment of disease spread. This imaging helps evaluate potential metastasis, guide treatment decisions, and establish a baseline for future monitoring.
- Pelvic MRI: To assess for myometrial invasion and further characterize the uterine lesion.
- Abdominal, pelvic, and chest CT: To exclude metastasis.
- Fertility-Sparing Options: Discussed conservative management if the lesion is benign or a low-grade malignancy without invasion.
- Hormonal Therapy: Consideration of progestins or GnRH analogs to manage symptoms.
- Regular Follow-up: Implemented a schedule for repeated imaging and clinical assessments.

Conclusion: This case underscores the importance of distinguishing between ESN and ESS for accurate diagnosis and management. A multidisciplinary approach is essential to balance optimal medical care with the patient's reproductive goals, emphasizing the need for continued monitoring and patient-centered care.

Poster #47

Pain Perception During Placement of a Copper Intrauterine Device Using a Single-Hand Insertion Device

Rebecca Dunsmoor-Su, MD¹, Erica Pandolfi, PhD², Corinne Audette, PhD, CNM², Vrunda Desai, MD², Laura McKain, MD³, Megan Mays, DNP²

Seattle Clinical Research Center, Seattle, WA¹, CooperSurgical, Trumbull, CT², Laura McKain Consulting, San Antonio, TX³

Introduction: A single-hand Paragard® intrauterine system (IUS) inserter was investigated for insertion and safety. The objective of this sub-analysis is to explore patient reported pain during placement of a copper intrauterine device (IUD).

Methods: In this phase four, multicenter clinical study, a total of 117 subjects underwent an IUS placement attempt with the redesigned inserter. Patients reported pain scores on an 11-point Likert scale (0-10) immediately after: speculum placement, tenaculum placement, uterine sounding, and IUD insertion attempt. Analgesia was administered at the discretion of the investigator.

Results: In 117 placement attempts, the mean pain scores for all steps of IUD insertion were in the mild range 0-5 (1.3-4.1). Similar pain scores and placement success were seen in nulliparous and parous patients. Investigators utilized cervical dilation in 41% of patients (mechanical 36%, misoprostol 5%) and analgesics in 59% of patients (oral analgesia 26%, cervical block or topical analgesia 46%) with some patients receiving more than one analgesic. No significant differences in reported pain based on dilation or use/type of medication were observed. Perceived pain at insertion was not affected by uterine positioning, nor was pain correlated with clinician reported ease of insertion. The only factor identified to be correlated with pain score at insertion was the pain reported at the sounding phase of procedure.

Conclusion: In this study, perception of pain during IUD insertion is an individualized experience and is not significantly impacted by analgesic or patient characteristics but may be influenced by patient pain tolerance or anticipation.

Poster #48

Primary Extranodal Marginal Zone B Cell Lymphoma of the Ovary, Fallopian Tube, and Uterus: A Rare Case Report and Review of the Literature

Catherine A Spencer, MD, Jenci L Hawthorne, MD, Mackenzie Dent, MD, Sarah Todd, MD, Ju-Hsein Chao, DO, Vijaya Kadam Maruthi, MD, Samer Al-Quran, MD, Mustafa Al-Kawaaz, MD

University of Louisville School of Medicine, Louisville, KY

Purpose: To report a rare case of extranodal marginal zone B cell lymphoma of the ovary, fallopian tube, and uterus.

Methods: Case report.

Results: A 78-year-old nulliparous female with several year-history of intermittent periodic burning in the vulva managed with topical estrogen, presented to her gynecologist due to acute worsening of vulvar pain. A transvaginal ultrasound was performed revealing a left adnexal tubular mass. She was then referred to Gynecology Oncology for management. She endorsed some lower back pain and intermittent tenderness to palpation in bilateral lower pelvis and denied any fever, malaise, unintentional weight loss, or night sweats. Pelvic examination was benign, revealing no adnexal or uterine tenderness, fullness, or masses. Preoperative laboratory results, including a complete blood count, liver enzymes, and serum electrolytes were all within normal limits. The patient elected to proceed with total robotic hysterectomy, bilateral salpingo-oophorectomy, with plan for intraoperative frozen pathology of the adnexal mass. Intraoperative frozen section of the left fallopian tube mass showed a small blue cell tumor, favoring lymphoma, at which point the decision was made to proceed with staging. An infracolic omentectomy was performed and left pelvic sentinel lymph node were sent for analysis. Examination of histologic sections of the ovary revealed effacement of the architecture by a diffuse atypical lymphoid infiltrate composed predominately of small CD20(+) B-lymphocytes, including few with pale cytoplasm. Similar findings were noted in the endometrium, myometrium, serosa, left fallopian tube and ovary, and left pelvic sentinel lymph node (see Figure 2).

Immunohistochemical studies showed that the neoplastic cells were positive for PAX-5, and IgM, with low labeling of nuclei by Ki-67 (~10%). They were negative for CD5, Cyclin D1, LEF1, IgG and CD30. CD3 was positive in T cells. ISH for EBV encoded RNA was negative. Flow cytometric immunophenotyping performed on fresh tissue demonstrated

an abnormal population of kappa-restricted, CD20(+), CD19(+), CD79b(+), CD22(+), CD5(-), CD10(-), CD23(-) and CD38(-) small B-cells. The neoplastic cells comprised ~70% of lymphocytes. Molecular study was positive for MYD88 mutation but negative for CXCR4 was performed and was not detected. The patient was seen in Bone Marrow Transplant Clinic one month post-operatively. A hepatitis panel and human immunodeficiency virus (HIV) testing were nonreactive and lactate dehydrogenase was within normal limits. SPEP was obtained showing no monoclonal protein; serum free kappa light chain 12.8; serum free lambda light chain 9.4; and kappa:lambda 1.36. Given no IgM monoclonal gammopathy or CXCR4 mutation detected, a diagnosis of marginal zone lymphoma was rendered. A positron emission tomography scan was obtained which showed no evidence of lymphoma after surgical intervention. Through shared decision making with the patient, a plan was made to obtain surveillance imaging twice yearly.

Conclusions: Primary EMZL of the female genital tract is uncommon, with involvement of the fallopian tube and ovary being exceedingly rare, with only a few cases reported. To our knowledge, this is only the second case described involving the ovary. EMZL is an indolent lymphoma which can be asymptomatic on presentation. Among symptomatic cases, the clinical presentation tends to depend on the site of the organ involved. For previously described cases of EMZL involving the female genital tract, presenting symptoms were nonspecific including pelvic pain, dysmenorrhea, or menorrhagia, all lacking typical B symptoms commonly seen in lymphomas, making the diagnosis quite difficult. Our patient had a similar clinical presentation with no B symptoms and only intermittent tenderness to pelvic palpation. Marginal zone lymphomas are well known to be associated with autoimmune diseases, infectious etiologies, HIV, hepatitis C virus, or solid organ transplantation. The only other documented case of primary EMZL involving the ovary was associated with endometriosis. The authors hypothesized that the inflammatory mediators seen in endometriosis may share similarities with autoimmune diseases and infections in neoplastic transformation pathways through the stimulation of B-cell proliferation. Our patient was not found to have endometriosis or any of the common associations of autoimmunity or infectious etiology. Among the previously documented cases of primary EMZL involving the fallopian tube and ovary, all received surgery as their only treatment, except for one requiring antibiotics for treatment of a concurrent *Acinetobacter* infection. All patients were managed with surveillance and proved to be disease free for at least 12 months. Likewise, our patient received surgery will

be monitored with active surveillance. In conclusion, although EMZL of the ovary and fallopian tube is extremely rare, it should be maintained on the differential diagnosis if atypical lymphoid cells or dense lymphoid aggregates are observed in the surgical specimen.

Poster #49

Identification of Placenta Accreta Spectrum: A Case Series

Mehgan B Lazenby, DO, MSN¹, Tiffany R Tonismae, MD²,
Jeremy Gaskins, PhD³

University of Louisville, Louisville, KY¹, University of Louisville, Department of Obstetrics, Gynecology & Women's Health, Louisville, KY², University of Louisville School of Public Health & Information Sciences, Department of Bioinformatics and Biostatistics, Louisville, KY³

Background: Technological advancements continue to increase the antenatal suspicion and diagnosis of placenta accreta spectrum (PAS) prior to delivery. Therefore, further understanding is needed regarding the characteristics and outcomes in preparation for continued expected growth in the number of cases and to better prepare providers for care of the complexity of care in providing for these patients. The purpose of this study is to review outcomes and maternal characteristics for cases with suspected PAS at a tertiary care center.

Methods: This is a retrospective case series performed at The University of Louisville from January 2024 through March 2025 with a review of patients with suspected PAS. All cases were delivered at a single site. Outcomes reviewed included antepartum care (consults, ultrasound findings, maternal obstetric/surgical history), operating room care (estimated blood loss, units of RBC transfusion, operative complications) and final pathology. Demographics and clinical factors were summarized and compared by CS history (one or fewer previous CS vs 2 or more) using two-sample test for continuous, Fisher exact for categorical, and Mann-Whitney test for non-parametric features.

Results: A total of 17 cases over a 15-month period were identified for suspected PAS. The average maternal age was 33.7 years. Patients had a range of 2 to 14 prior pregnancies. All patients except one had at least one prior cesarean section (1CS= 7, 2CS= 6, 3+CS= 4).

The average gestational age at time of delivery was 34 weeks and 3 days. Average birth weight was 2344.44g. 88.2% of infants were admitted to the Neonatal Intensive Care Unit (NICU) following delivery with 23.5% requiring intubation, 64.7% CPAP, and 11.7% remaining on room air. The average length of admission was 22 days, with two infants requiring transfer for higher level of pediatric care.

94.1% of patients had ultrasound evaluation with Maternal-Fetal Medicine at our institution, and 88.2% obtained a MRI to confirm diagnosis. Placenta previa was present in 14 cases (73.7%). Imaging was sorted based on suspected degree of placental invasion with 10 suspected accreta cases (52.6%), 5 suspected increta cases (26.3%), and 2 suspected percreta cases (10.5%). There was one patient with PAS not suspected on imaging at outside institution with an accreta present at the time of delivery. In 5 cases, PAS was not confirmed at the time of delivery (26.3%). Of those cases that were confirmed at time of delivery, 5/13 (38.5%) were consistent with imaging suspicion, 5/13 (38.5%) had a higher level of placenta invasion, and 3/13 (23.0%) had a lower level of invasion.

The average blood loss during these deliveries was 1200ml with 9 patients requiring receipt of blood products. The average number of blood products received was 2 units. Only 3 patients had ureteral injury at the time of delivery, with one of those being intentional injury due to extent of placental invasion. Re-operation was needed in one patient due to continued intra-abdominal bleeding.

Overall, there was no statistically significant in patient outcomes based on number of prior cesarean sections. The cohort was further divided into 1 or less cesarean section vs multiple cesarean sections with no statistical significance in maternal blood loss, receipt of blood products, ureteral injury or need for re-operation. There was also no statistical significance in neonatal weight or APGAR scores at delivery.

Discussion: An extensive review of the 17 cases was performed including characteristics of our patient population, operative findings and severity of disease, radiographic findings consistency with pathology, and infant outcomes. Of particular interest is the rise of accreta cases after only one prior cesarean in our case population. Case statistics will continue to aid in guiding informed care for future accreta patients at our institution. We feel that our imaging correlates well with pathology evaluations, and this information is used for continued improvement in diagnosis.

Poster #50

Lymphoplasmacytic Lymphoma/Waldenström Macroglobulinemia Initially Presenting as Postmenopausal Pelvic Pain and Bleeding: A Rare Case Report and Literature Review

Mackenzie M Dent, MD, Jenci L Hawthorne, MD, Catherine Spencer, PharmD, Samer Al-Quran, MD, Mustafa Al-Kawaaz, MD

University of Louisville School of Medicine, Louisville, KY

Purpose: To report a rare case of lymphoplasmacytic lymphoma/ Waldenström macroglobulinemia with predominant myometrial and cervical involvement.

Methods: Case report.

Results: A 57-year-old G2P2 postmenopausal female with a history of tubal ligation and HPV+ HSIL on pap smear presented with an eight-month history of pelvic pain with associated urinary urgency and pelvic pressure as well as fatigue and a single episode of abnormal uterine bleeding and unremarkable transvaginal ultrasound. Endometrial sampling via hysteroscopy was attempted but unable to be completed due to stenotic cervical os. The patient subsequently underwent definitive surgical management with a total robotic hysterectomy with bilateral salpingo-oophorectomy. Pathology showed atypical perivascular lymphoid aggregates suspicious for involvement by low grade B cell lymphoma involving the cervical stroma, myometrium, and bilateral fallopian tubes and ovaries, with predominant myometrial and cervical involvement. Differential diagnosis at the time included marginal zone lymphoma (MZL) and lymphoplasmacytic lymphoma (LPL). Additional testing identified a MYD88 p.L265P mutation and an IgM kappa paraproteinemia. A PET scan revealed hypermetabolic bilateral axillary and upper abdominal lymph nodes. The patient underwent a bone marrow biopsy and aspirate that solidified the diagnosis of IgM-type lymphoplasmacytic lymphoma / Waldenström macroglobulinemia (LPL/WM).

Conclusion: Lymphoplasmacytic lymphoma / Waldenström macroglobulinemia (LPL/WM) is an extremely rare and indolent low-grade B-cell lymphoproliferative neoplasm that often presents with vague symptoms or asymptotically. While it most commonly involves the bone marrow, LPL/WM can sometimes involve the lymph nodes and spleen, and rarely the central nervous system, skin, and pleural cavities. To our knowledge, there have been only two cases

previously described in the literature of LPL/WM involvement in the female genital tract; both of which had prominent involvement of the ovaries. Although exceedingly rare, LPL/WM involvement of the female genital tract should be considered on the differential diagnosis if atypical lymphoid cells or dense lymphoid aggregates are observed.

Poster #51

Anti-N-Methyl-D-Aspartate (NMDA) Receptor Encephalitis Associated with Ovarian Teratoma: A Case Report

Aaron D Adams, MD, Tiffany R Tonismae, MD

University of Louisville, Louisville, KY

Anti-N-methyl-D-aspartate (NMDA) receptor encephalitis is a condition often characterized by acute neuropsychiatric manifestations such as psychiatric symptoms, seizures, automimic instability, and cognitive dysfunction. This exceedingly rare condition is an autoimmune disease in which early diagnosis and treatment are crucial for improving patient outcomes.

We present a case of a 28-year-old female admitted with known NMDA encephalitis experiencing progressive worsening of confusion, memory loss, and agitation in the setting of imaging suggestive of a teratoma. The patient was transferred to our tertiary care center for further evaluation and treatment. A computed tomography scan with contrast illustrated a 40mm complex mass in the right adnexa. She was hospitalized for 37 days requiring immunotherapy, psychiatric, cardiovascular, and operative management. Subsequent removal of the teratoma resulted in rapid clinical improvement.

This case underscores the importance of surgical management for ovarian teratoma in a reproductive-aged female with NMDA encephalitis. A multidisciplinary approach should be employed and individualized treatment should be sought and escalated to clinical status. Current research is lacking regarding optimal treatment strategy for this disease.

Poster #52

A Look at a Single Provider's Primary C-Section Rate Over Multiple Facilities Over a Three-Year Period

Jordan A Siegel, DO¹, Astrid Allen², Jonathan P Faro, MD²

Oklahoma State University Center for Health Sciences, Tulsa, OK¹, Luna OBGYN, Houston, Texas²

Introduction: The number of cesarean sections performed each year continues to increase globally. In 2021, the World Health Organization (WHO) estimated that this route of delivery accounted for 21% of all births. The WHO anticipates that nearly 29% of all births will be born via cesarean section by 2030 and states that while cesarean section may be “essential and lifesaving surgery, it can put women and babies at unnecessary risk of short- and long-term health problems if performed when there is not medical need.” (Caesarean section rates continue to rise, amid growing inequalities in access).

The Centers for Disease Control (CDC) continues to track cesarean section rates, and in April of this year, reported that the low-risk cesarean delivery rate (low risk is defined as nulliparous, term, singleton, vertex, and is often referred to as PC-02) was 26.6%. (Vital Statistics Rapid Release, Number 038 April 2025).

There is generally no agreed upon optimal primary cesarean section rate. In fact, the American College of Obstetricians and Gynecologists (ACOG) explicitly states, “...no single cesarean birth rate goal can be prescribed for a single clinician’s practice or care setting...” (Calculation and Coding of Cesarean Birth Rates | ACOG)

The primary cesarean section rate is likely due to a myriad of factors and not just solely the responsibility of the delivering physician. It has been proposed that the facility’s induction scheduling practice, duration of labor allowed before diagnosing arrest, use of hospitalists, nursing practices during labor, in addition to many other factors, may all contribute to the chance of a patient undergoing a primary cesarean section.

We previously reported on the primary cesarean section rate of a single provider who delivers at multiple institutions over the period of one year. Here, we add to this data.

Methods: Clinic data were reviewed from patients who saw a single practitioner, Jonathan Faro, MD, PhD, from October 1, 2021 through September 30, 2024. Patients were given the choice of where they would prefer to deliver: Memorial Hermann Hospital Memorial City, The Woman's Hospital of Texas, or Memorial Hermann Hospital Texas Medical Center.

As this was a retrospective chart review and no identifying patient data were obtained, no IRB approval was requested.

As with our previous study, patients were excluded if they were not nulliparous, were not full term, did not have a singleton pregnancy, or if the fetus was not in vertex presentation.

Results: From October 1, 2021 through September 30, 2022, a total of 105 patients were delivered by the physician. (This excludes patients that the physician delivered for any other physicians while on call.) 57 of these were delivered at Hospital A, 46 were delivered at Hospital B, and only 2 were delivered at Hospital C. Of these 105 patients, 19 met the criteria to be considered under the PC-02 criteria. Of the 9 patients delivered at Hospital A by the Physician, 11% resulted in C-section. Of the 8 patients delivered at Hospital B by the physician, 50% resulted in a C-section. Of the 2 patients who delivered at Hospital C, none underwent C-section.

From October 1, 2022 through September 30, 2023 a total of 159 patients were delivered by the Physician. 133 of these were delivered at Hospital A, and 25 were delivered at Hospital B. (Hospital C had one patient, a multiparous vaginal delivery.) 72 of these 159 patients met the criteria to be considered under the PC-02 criteria. Of the 47 patients delivered at Hospital A by the Physician, 23.4% resulted in C-section (11 out of 47). Of the 7 patients delivered at Hospital B by the Physician, 28.6% resulted in C-section (2 out of 7).

From October 1, 2023 through September 30, 2024 a total of 145 patients were delivered by the Physician. 126 of these were delivered at Hospital A, and 19 were delivered at Hospital B. Out of these 145 patients, 56 met the criteria to be considered under the PC-02 criteria. Of the 49 patients delivered at Hospital A by the Physician, 22.5% resulted in C-section (11 out of 49). Of the 7 patients delivered at Hospital B by the Physician, 71.4% resulted in C-section (5 out of 7).

Discussion: With rates ranging from 0% to 71.4%, one can easily see that it may be anything but the provider responsible for determining the primary C-section rate. This data illustrates that other factors separate from the provider likely contribute to a patient undergoing a primary C-section. The total number of patients delivered by a provider at a specific facility likely has a major impact in determining the provider's primary cesarean section rate, and it is likely that there exists a certain threshold in which this number becomes more reliable. Providers with low volume at a facility may be inordinately affected by factors that would not impact their rate otherwise.