

PROGRAM OF THE CENTRAL ASSOCIATION
OF OBSTETRICIANS AND GYNECOLOGISTS

88TH
ANNUAL
MEETING

OCTOBER 6-9, 2021
THE MERITAGE RESORT
NAPA CALIFORNIA



JOINTLY PROVIDED WITH THE UNIVERSITY OF NORTH DAKOTA
SCHOOL OF MEDICINE AND HEALTH SCIENCES

**CENTRAL ASSOCIATION OF
OBSTETRICIANS AND
GYNECOLOGISTS
(FOUNDED 1929)**

2021 ANNUAL MEETING

OCTOBER 6 – 9, 2021

**THE MERITAGE RESORT
875 BORDEAUX WAY
NAPA, CA 94558**

**Telephone (707) 251-1900
Facsimile (707) 254-8274
www.themeritageresort.com**

Since 1929, the Central Association of Obstetricians & Gynecologists (CAOG) has been promoting the optimal health care of women. Optimal healthcare assumes equitable opportunities at every encounter, every day.

As a women's health organization, we are cognizant of the many racial disparities in the delivery of quality health care, both in the United States and abroad. This is a time to reach out, to listen, and to strive to make changes as advocates for all women.

CAOG wishes to join other healthcare organizations to effect social changes that affects everyone, every day.

The CAOG extends its appreciation and gratitude to these valued friends from industry for their generous support of the educational and scientific objectives of the 88th Annual Meeting.

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2021 CENTRAL ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

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Toledo, Ohio

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Loyola Univ. Medical Center
Maywood, Illinois

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Meharry Medical College School of Medicine
Nashville, Tennessee

Tacoma A. McKnight, M.D. (2020 – 2023)
Northwestern Medical Faculty, Ob-Gyn
Central Region, Chicago, Illinois

CAOG Management/Headquarters

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PROGRAM COMMITTEE* - 2021

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Dickinson, North Dakota

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Little Rock, Arkansas

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Truman Medical Center
Kansas City, Missouri

* Ex officio members not listed

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Toledo, Ohio

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Chicago, Illinois

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CHI St. Alexius Health
Dickinson, North Dakota

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Southeast Texas Ob-Gyn Associates, PA
Beaumont, Texas

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Baylor College of Medicine
Houston, Texas

* Ex officio board members

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Chicago, Illinois

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Southeast Texas Ob-Gyn Associates, PA
Beaumont, Texas

Elliot M. Levine, M.D.
Advocate Illinois Masonic Med. Center
Chicago, Illinois

Sharon T. Phelan, M.D.
Univ. of New Mexico Health Sciences Center
Albuquerque, New Mexico

J. Coffy Pieternelle, M.D.*
Southeast Texas Ob-Gyn Associates, PA
Beaumont, Texas

Robert J. Carpenter, Jr., M.D., J.D.*
Baylor College of Medicine
Houston, Texas

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Chicago, Illinois

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CHI St. Alexius Health
Dickinson, North Dakota

Suneet P. Chauhan, M.D., Hon. D.Sc.*
McGovern Medical School-UTHealth
Houston, Texas

* Ex officio board members

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Angela K. Gangestad, M.D.
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Michael R. Handler, M.D.
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Rockford, Michigan

Jonathan K. Muraskas, M.D.
Loyola Univ. Medical Center
Maywood, Illinois

Sarah R. Novotny, M.D.
Univ. of Mississippi Medical Center
Jackson, Mississippi

* Ex officio members not listed

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President

J. Coffy Pieternelle, M.D.
Southeast Texas Ob-Gyn Associates, PA
Beaumont, Texas

Vice Chair

President Elect I

James W. Van Hook, M.D.
Univ. of Toledo Medical Center
Toledo, Ohio

Immediate Past President

Suneet P. Chauhan, M.D., Hon. D.Sc.
McGovern Medical School-UTHealth
Houston, Texas

Second Past President

Vanessa M. Barnabei, M.D., Ph.D.
Jacobs School of Medicine
Univ. at Buffalo-The State Univ. of NY
Buffalo, New York

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James F. Kirby, M.D.
Southeast Texas Ob-Gyn
Beaumont, Texas

Member-at-Large

Barbara V. Parilla, M.D.
Maternal-Fetal Medicine of Southwest Florida
Fort Myers, Florida

Member-at-Large

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UMKC School of Medicine
Kansas City, Missouri

* Ex officio members not listed

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Thomas F. Arnold, M.D.

Vanessa M. Barnabei, M.D., Ph.D.

Dana M. Benden, M.D.

Brent W. Bost, M.D.

Robert J. Carpenter, Jr., M.D., J.D.

Suneet P. Chauhan, M.D., Hon. D.Sc.

Jean R. Goodman, M.D.

Peter B. Greenspan, D.O.

Rochelle Hickel, CAOG Exec. Director

Mary L. Johnson, CME Program Admin.

Jessica W. Kiley, M.D., MPH

Luissa V. Kiprono, D.O.

Curtis L. Lowery, M.D.

Dennis J. Lutz, M.D.

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Andrew F. Wagner, M.D.

Kinion E. Whittington, D.O.

Robert A. Wild, M.D., MPH, Ph.D.

MEETING OBJECTIVES

The Central Association of Obstetricians and Gynecologists is one of the oldest and most prestigious specialty organizations in the United States. Since its founding in 1929, the CAOG has actively encouraged and promoted the study of obstetrics and gynecology and women's health care. In support of its mission, the national program this year is designed to address important advances in clinical care and practice management, as well as fundamental research. The program is integrated to promote open discussion between attendees, who are leaders in obstetrics, gynecology, genetics, reproductive endocrinology, gynecologic oncology and women's health care. The program format of hot topics, a keynote speaker and scientific research presentations will promote a better understanding of each subject by filling gaps in knowledge.

Specific learning objectives for each presentation are listed on the speaker evaluation forms.

DISCLOSURE OF FACULTY AND INDUSTRY RELATIONSHIPS

In accordance with ACCME policy, all faculty members have signed a conflict of interest statement in which they have disclosed any relevant financial interests or other relationships with industry relative to topics they will discuss at this program. At the beginning of the program, faculty members are expected to disclose any such information to participants. Such disclosure allows you to evaluate better the objectivity of the information presented in lectures. Please report on your evaluation form any undisclosed conflict of interest you perceive.

MEETING EVALUATION FORMS

Speaker evaluation forms for each lecture will be available electronically for all attendees. A signed, completed evaluation is required by our CME provider in order to receive credit. This also assists with CAOG's future needs assessment.

ACCME ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the University of North Dakota School of Medicine and Health Sciences and the Central Association of Obstetricians and Gynecologists. The University of North Dakota School of Medicine and Health Sciences is accredited by the ACCME to provide continuing medical education for physicians.

AMA/PRA CREDIT DESIGNATION STATEMENT

The University of North Dakota School of Medicine and Health Sciences designates this Live activity for a maximum of 16.75 *AMA PRA Category 1 Credit(s)*TM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CATEGORY 1 CREDIT CERTIFICATES

Award Certificates will be e-mailed to each attendee after the meeting and will include only those credits for presentations which you have attended and for which a completed and signed evaluation form has been returned.

ACOG COGNATES

The American College of Obstetricians and Gynecologists has assigned up to 17 cognate credits to this program.

SIGN-IN PROTOCOL

The only recognized “**official record**” of member attendance is your signature on the green card arranged alphabetically in the historic membership books. These have all been updated to begin with 2015, but show meeting attendance since 2005. Consecutive attendance records come from the green card signatures only.

Daily signature sheets are also required for credit documentation. Your attention to this is appreciated.

GENERAL INFORMATION

REGISTRATION (Carneros Ballroom)

Registration for all attendees will take place during the following hours:

Wednesday, October 16	1:00 p.m. – 9:00 p.m.
Thursday, October 17	6:00 a.m. – 1:00 p.m.
Friday, October 18	6:00 a.m. – 1:00 p.m.
Saturday, October 19	6:00 a.m. – 12:00 noon

NAME BADGES (two different colors)

Please wear your name badge to all CAOG events. This is your identification for admission to CAOG activities. Attendees registered for educational credits will receive a white badge. Spouses and guests will receive a tan badge. All badges will be in CAOG “green” holders with adjustable neck cords. Ribbons denote state and other information (officers, speakers, new members).

WELCOME RECEPTION (Wednesday, October 6)

The traditional CAOG Welcome Reception will be held in the Carneros Ballroom on Wednesday, October 16 from 6:00 p.m. – 9:00 p.m. in the Exhibit Hall, which also opens this evening. **Admission is by name badge** so please register on arrival.

SPOUSES/GUESTS PROGRAM (Thursday, October 7)

The traditional spouse/guest program will start with a continental breakfast at 8:30 a.m. on the Oakville Terrace. Following breakfast there will be a short program by the staff at the Meritage Resort. This program will introduce both the spectacular resort and nearby Napa, including the world famous Napa Valley. A tour of the Meritage Vineyard overlooking the resort, as well as the famous spa cave will be fun for all. Napa is at its most exciting during harvest and crush season.

SUNRISE LECTURES (white badge holders only)

Sunrise scientific lectures will be held each morning in the Carneros Ballroom. These will begin at 6:30 a.m. on Thursday, October 7, Friday, October 8, and Saturday, October 9. A buffet breakfast will precede each lecture at 6:00 a.m. Speakers and other audience members always appreciate your promptness. Sunrise lecture topics include twin-to-twin transfusion syndrome, unmet clinical needs of preeclampsia and vaginal pH modulator contraception.

SCIENTIFIC SESSIONS

All general scientific sessions will be held in the Carneros Ballroom. The sessions will begin at 7:30 a.m. on Thursday, Friday and Saturday. Hot topic lectures will be part of each general session.

HOT TOPIC LECTURES AND KEYNOTE ADDRESS

Five “hot topic” lectures will be presented, with three on Thursday, one Friday and one on Saturday. These will complement the 22 original research oral presentations by emphasizing the most up-to-date information on (1) surgical management of endometriosis, (2) past, present and future of robotic surgery, (3) addiction care in pregnancy, (4) ob-gyn patient advocacy opportunities, (5) optimizing reproductive outcomes in cancer survivorship.

The Keynote Address will be delivered on Friday, October 8th by Dr. Mark Evans from New York, NY. The title of his talk is “Resistance to Change”.

PRESIDENTIAL ADDRESS (Friday, October 8)

CAOG President J. Coffy Pieternelle, M.D. from Beaumont, Texas will be escorted to the podium by the Past Presidents of CAOG who are in attendance. He will deliver his Presidential Address at 12:15 p.m. on Friday in the Carneros Ballroom. All registrants are invited to attend his thought provoking presentation.

The 88th incoming CAOG President, James W. Van Hook, M.D., will be installed in a brief ceremony immediately following the Presidential Address.

ANNUAL BUSINESS MEETING (Friday, October 8)

The CAOG Annual Business Meeting will be held following the Presidential Address at 1:00 p.m. on Friday, October 8, in the Carneros Ballroom. New members elected in 2020 will be introduced at this time and membership certificates will be presented.

GALA RECEPTION/DINNER/AWARDS (Friday, October 8)

The traditional Friday Evening CAOG Gala Banquet is the highlight of the Annual Meeting. This year is no exception. The reception will begin at 6:00 p.m. on the Oakville Terrace. Dinner will follow at 7:00 in the Carneros Ballroom. Awards for the best papers and posters will be presented along with other special acknowledgements by Dr. Pieternelle.

Business dress is suggested for the reception and dinner, whereas business casual is appropriate for other meeting events.

CHILD CARE

The CAOG will not provide child care at this meeting. The Meritage can provide recommendations for child care. Please contact the hotel if interested in assistance arranging child care.

INDUSTRY EXHIBITS

The Industry Exhibits will be located in the **Carneros Ballroom**. The Scientific Posters will also be displayed in the same area. Hours are:

Exhibit Set-Up

Wednesday, October 6 1:00 p.m. – 5:00 p.m.

Exhibit Hall Hours

Wednesday, October 6 6:00 p.m. – 9:00 p.m.

Thursday, October 7 6:00 a.m. – 12:00 p.m.

Friday, October 8 6:00 a.m. – 10:30 a.m.

Exhibit Dismantle

Friday, October 8 10:30 a.m.

SCIENTIFIC POSTER DISPLAYS

The Scientific Poster session will be located in the Carneros Ballroom with the Exhibit Hall. Poster judging will be:

Thursday, October 7 10:00 – 10:45 a.m.

Friday, October 8 9:45 – 10:30 a.m.

Poster Set-Up

Wednesday, October 6 1:00 p.m. – 5:00 p.m.

Poster Hours

Thursday, October 7 6:00 a.m. – 12:00 p.m.

Friday, October 8 6:00 a.m. – 10:30 a.m.

Poster Take Down

Friday, October 8 10:30 a.m.

CAOG ANNUAL MEETING POLICY

Absolutely no refunds after
5:00 pm (CDT) Friday, September 10, 2021

PROGRAM SCHEDULE
88th Annual Meeting Central Association
of Obstetricians and Gynecologists
The Meritage Resort
October 6 – 9, 2021

WEDNESDAY, OCTOBER 6, 2021

- 1:00 – 9:00 p.m. General Registration (Carneros Ballroom)
- 6:00 – 9:00 p.m. Welcome Reception (Carneros Ballroom)
- 6:00 – 9:00 p.m. Industry Exhibits Open (Carneros Ballroom)

THURSDAY, OCTOBER 7, 2021

- 6:00 a.m. General Registration (Carneros Ballroom)
- 6 a.m. – 12 noon **INDUSTRY EXHIBITS OPEN**
- 6 a.m. – 12 noon **SCIENTIFIC POSTER SESSION OPEN**
- 6:00 – 6:30 a.m. Breakfast (Carneros Ballroom)
- 6:30 – 7:30 a.m. **Sunrise Lecture** (Carneros Ballroom)
“Twin to Twin Transfusion Syndrome:
Pathophysiology, Diagnosis and
Up to Date Management”
Saul Snowise, M.D.
Midwest Fetal Care Center
Minneapolis, MN

FIRST SCIENTIFIC SESSION
(Carneros Ballroom)

Moderators:

- J. Coffy Pieternele, M.D. – CAOG President**
Andrew F. Wagner, M.D. – CAOG President Elect II

- 7:30 a.m. Opening Remarks
- 7:30 - 8:30 a.m. **Hot Topic #1**
“Surgical Management of
Endometriosis”
Katherine A. Smith, M.D.
OU Health Physicians
Oklahoma City, Oklahoma

8:30 - 9:00 a.m. **Paper #1 Central Prize Award**
“Comparing Newborn Outcomes After Prenatal Exposure to Individual Antidepressants”
Claire E. Marks, MS3
Indiana University School of Medicine
Indianapolis, Indiana

Discussant: Charles W. Schauburger, M.D.
LaCrosse, Wisconsin

9:00 - 9:30 a.m. **Paper #2 Young Investigator’s Award**
“Discontinuation of Oxytocin in the Second Stage of Labor and its Association with Postpartum Hemorrhage”
Caitlin A. MacGregor, M.D.
NorthShore University HealthSystem
Evanston, Illinois

Discussant: Tiffany R. Tonismae, M.D.
Lithia, Florida

9:30 - 10:00 a.m. **Paper #3 President’s Certificate of Merit Award**
“Long-Term Childhood Outcomes for Babies Born at Term Who Were Exposed to Antenatal Corticosteroids”
Samantha J. Osteen, M.D., M.S.
Indiana University School of Medicine
Indianapolis, Indiana

Discussant: Michelle Y. Owens, M.D.
Jackson, Mississippi

10:00 – 10:45 a.m. **Break/Refreshments/Exhibits/Posters**
(Carneros Ballroom)

SECOND SCIENTIFIC SESSION (Carneros Ballroom)

Moderators:

Thomas Arnold, M.D. – CAOG Secretary/Treasurer
Dana M. Benden, M.D. – CAOG Trustee

10:45 – 11:30 a.m. **Hot Topic #2**
“Past, Present and Future of Robotic Surgery”
Javier Magrina, M.D.
Mayo Clinic
Scottsdale, Arizona

11:30 - 12:00 **Paper #4**
“The Hassan Neonatal Morbidity Composite Scale and Neonatal Length of Stay - A Validation Study”
Avinash S. Patil, M.D.
University Arizona College of Medicine
Phoenix, Arizona

Discussant: Jessica W. Kiley, M.D.
Chicago, Illinois

12:00 - 12:30 p.m. **Paper #5** **Dr. Kermit E. Krantz Memorial Paper**
“Implementation of a Standardized Surgical Site Infection Prevention Bundle to Decrease the Rate of Surgical Site Infections in Open Gynecologic Surgical Cases and Cesarean Sections”
Shruti Vaidyanathan, MS4
LSU Health Sciences Center
Shreveport, Louisiana

Discussant: Roopina Sangha, M.D.
Fort Worth, Texas

12:30 – 1:15 p.m. **Hot Topic #3**
“Addiction Care in Pregnancy”
Charles W. Schauburger, M.D.
Gundersen Health System
LaCrosse, Wisconsin

2:00 – 5:00 p.m. CAOG Officers and Trustees
Annual Meeting
Trinitas Boardroom

FRIDAY, OCTOBER 8, 2021

6:00 a.m. General Registration (Carneros Ballroom)

6:00 - 10:30 a.m. **INDUSTRY EXHIBITS OPEN**

6:00 - 10:30 a.m. **SCIENTIFIC POSTER SESSION OPEN**

6:00 - 6:30 a.m. Breakfast (Carneros Ballroom)

6:30 - 7:30 a.m. **Sunrise Lecture** (Carneros Ballroom)
“Unmet Clinical Needs of Preeclampsia”
David F. Lewis, M.D.
LSU Health Sciences Center
Shreveport, Louisiana

9:45 – 10:30 a.m. **Break/Refreshments/Exhibits/Posters**
(Carneros Ballroom)

FOURTH SCIENTIFIC SESSION
(Carneros Ballroom)

Moderators:

Suneet P. Chauhan, M.D. – CAOG Past President

Jean R. Goodman, M.D. – CAOG Trustee

10:30 - 11:00 a.m. **Paper #9**

“Correlation of Newborn Syndecan-1
Levels With and Without Exposure to
Maternal Chorioamnionitis”

Michaela J. O’Neill, MS4

Loyola Univ Chicago Stritch School Med.
Maywood, Illinois

Discussant: Jean R. Goodman, M.D.
Maywood, Illinois

11:00 - 11:30 a.m. **Paper #10**

“Male Factor Infertility in
Military Couples”

Courtney N. Mascoe, M.D.

Bayfront Health Saint Petersburg
Saint Petersburg, Florida

Discussant: David M. Haas, M.D.
Indianapolis, Indiana

11:30 - 12:15 **Keynote Address**

“Resistance to Change”

Mark I. Evans, M.D.

Comprehensive Genetics
New York, New York

12:15 – 1:00 p.m. **Presidential Address**

“Can We Improve Health Care
Insurance: A Rant”

J. Coffy Pieternelle, M.D.

Southeast Texas Ob-Gyn Associates, PA
Beaumont, Texas

1:00 p.m. **Installation of New President**

1:00 – 1:30 p.m. **Annual Business Meeting CAOG**

6:30 – 11 p.m. **Annual Gala Reception/Dinner/Awards**
(Carneros Ballroom)

SATURDAY, OCTOBER 9, 2021

- 6:00 a.m. General Registration (Carneros Ballroom)
- 6:00 – 6:30 a.m. Breakfast (Carneros Ballroom)
- 6:30 - 7:30 a.m. **Sunrise Lecture** (Carneros Ballroom)
“Yeast Vaginitis:
New Molecule, New Mechanism”
Lee P. Shulman, M.D.
Northwestern University
Chicago, Illinois

FIFTH SCIENTIFIC SESSION (Carneros Ballroom)

Moderators:

James W. Van Hook, M.D. – CAOG President Elect I
Kinion E. Whittington, D.O. – CAOG Trustee

- 7:30 a.m. Announcements
- 7:30 - 7:45 a.m. **Paper #11**
“Obstetric Outcomes and Long-Term
Cardiac Impact in Women with a
Fontan Circulation and Pregnancy”
Maria S. Schmoll, M.D.
Indiana University School of Medicine
Indianapolis, Indiana
- 7:45 - 8:00 a.m. **Paper #12** **Dr. George W. Morley**
Memorial Paper
“Prevalence and Outcomes of Positive
Cervical Cancer Screening in Female
Renal Transplant Waitlist Candidates:
A Single Center Experience”
Julia T. Berry, MS4
University of Toledo College of Medicine
Toledo, Ohio
- 8:00 - 8:15 a.m. **Paper #13**
“Evaluation of the Primary Cesarean
Section Rate in Patients who Do and Do
Not Meet ARRIVE Trial Criteria
Compared to the Institutional
Cesarean Section Rate”
Brittin C. Thibodeaux, M.D.
LSU Health Science Center
Shreveport, Louisiana

8:15 - 8:30 a.m. **Paper #14**
“Physician Burnout and Racialized Perceptions of Patient Pain Among Obstetrics & Gynecology Trainees”
Lindsay N. Poston, M.D.
Feinberg School Med/Northwestern Univ.
Chicago, Illinois

8:30 - 8:45 a.m. **Paper #15**
“Pregnancy Rates Using Donor Oocytes With and Without PGT-A in Patients Undergoing In-Vitro Fertilization”
Lana A. Nguyen, M.D.
Bayfront Health Saint Petersburg
Saint Petersburg, Florida

8:45 - 9:00 a.m. **Paper #16**
“Knowledge and Perceptions About Pre-eclampsia Among Women from a Border Population”
Janice M. Vivaldi, M.D.
Texas Tech Univ. Health Sciences Center
El Paso, Texas

9:00 – 9:30 a.m. **Break/Refreshments**
(Carneros Ballroom)

SIXTH SCIENTIFIC SESSION (Carneros Ballroom)

Moderators:

Veronica T. Mallett, M.D. – CAOG Trustee
Tacoma A. McKnight, M.D. – CAOG Trustee

9:30 - 10:30 a.m. **Hot Topic #5**
“Optimizing Reproductive Outcomes in Cancer Survivorship”
Leslie C. Appiah, M.D.
Univ. Colorado Anschutz Med. Campus
Denver, Colorado

10:30 - 10:45 a.m. **Paper #17** **Community Hospital Award**
“Efficacy of a Pilot Program for Obstructive Sleep Apnea Screening in Pregnancy”
Nicolina Smith, DO
Henry Ford Health System
Detroit, Michigan

- 10:45 - 11:00 a.m. **Paper #18**
“The Association Between Sleep and Depression During Late Pregnancy and the Early Postpartum Period”
Angela G. Jones, M.D.
Indiana University School of Medicine
Indianapolis, Indiana
- 11:00 - 11:15 a.m. **Paper #19**
“Clinical Presentation of Hemolysis, Elevated Liver Enzymes, Low Platelet Count (HELLP) Syndrome: A Retrospective Observational Study”
Miriam E. Hankins, M.D.
Louisiana State University Health
Shreveport, Louisiana
- 11:15 - 11:30 a.m. **Paper #20**
“Evaluation of Centering Pregnancy on Knowledge, Self-Esteem and Social Support in Rural North Dakota”
Thomas F. Arnold, M.D.
UND School of Med. & Health Sciences
Dickinson, North Dakota
- 11:30 - 11:45 a.m. **Paper #21**
“A Case of Discordant Transmission of COVID-19 Infection in a Dichorionic Twin Gestation”
Olga M. Colón-Mercado, M.D.
HCA Healthcare/USF Morsani Coll. Med
Brandon, Florida
- 11:45 - 12:00 noon **Paper #22**
“Physician Perception of IV Estrogen for the Management of Acute Abnormal Uterine Bleeding”
Anne M. Tjaden M.D.
Loyola University Medical Center
Maywood, Illinois

ADJOURN

A Qualtrics link will be sent out electronically for the evaluations.

The pre-tests & post-test will be done on paper forms available at the meeting.

Please complete all to trace attendance and receive educational credits.

**Thank You
For Attending!**

SCIENTIFIC PRESENTATIONS

THURSDAY, OCTOBER 7, 2021

- 6 a.m. - 12 noon **INDUSTRY EXHIBITS OPEN**
- 6 a.m. - 12 noon **SCIENTIFIC POSTER SESSION OPEN**
- 6:00 - 6:30 a.m. Breakfast (Carneros Ballroom)
- 6:30 - 7:30 a.m. **Sunrise Lecture** (Carneros Ballroom)
“Twin to Twin Transfusion Syndrome:
Pathophysiology, Diagnosis and
Up to Date Management”
Saul Snowise, M.D.
Midwest Fetal Care Center
Minneapolis, MN

Learning Objectives:

- Review current concepts of twin-to-twin transfusion syndrome.
- Discuss the Quintero stages in managing this dangerous pregnancy condition.

<p>FIRST SCIENTIFIC SESSION (Carneros Ballroom)</p>
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Moderators:

J. Coffy Pieternelle, M.D. – CAOG President
Andrew F. Wagner, M.D. – CAOG President Elect II

7:30 - 8:30 a.m.

Hot Topic #1

“Surgical Management of
Endometriosis”

Katherine A. Smith, M.D.

OU Health Physicians

Oklahoma City, Oklahoma

Learning Objectives:

- Compare medical versus surgical options for treating endometriosis.
- Outline a strategy for best practice in managing endometriosis patients.

8:30 - 9:00 a.m.

Paper #1 **Central Prize Award**
Comparing Newborn Outcomes After Prenatal Exposure to Individual Antidepressants

Claire E Marks, MS3, Rebecca Silvola, PharmD, Evgenia Teal, MS, Sara Quinney, PhD., David M. Haas, MD, MS

Indiana University School of Medicine, Indianapolis, IN

Research Support: This project was funded, in part, with support from the Indiana Clinical and Translational Sciences Institute funded, in part by UL1TR002529 from the National Institutes of Health, and in part by T32GM842528 (RS) from the NIH/NIGMS.

Objective: To compare associations between individual antidepressants and newborn outcomes.

Methods: Deidentified demographic, medical, and obstetric data from women who received at least one antidepressant (selective serotonin reuptake inhibitor [SSRI] and serotonin norepinephrine reuptake inhibitor [SNRI]) prescription prior to conception through delivery were obtained. Maternal characteristics and newborn outcomes (any adaptation syndrome, neonatal intensive care unit (NICU) admission, and others) were analyzed for each drug. Outcomes were compared using standard statistics and multivariable regression compared to exposure to bupropion. Odds of outcomes based on timing of exposure was also explored.

Results: A total of 3,694 women were prescribed bupropion (n=406), citalopram (n=385), desvenlafaxine (n=16), duloxetine (n=139), escitalopram (n=581), fluoxetine (n=579), paroxetine (n=55), sertraline (n=1653), or venlafaxine (n=132), and some women were prescribed more than one agent (n=252). Rates of any adaptation syndrome (p<0.001), NICU admission (p<0.001), and transient tachypnea of newborn (TTN) (p=0.006) were significantly different between drugs. Infants exposed to duloxetine had the highest rates of NICU admissions (39.6%) and adaptation syndromes (15.5%). Venlafaxine-exposed infants had the highest rates of TTN (18.2%). Controlling for maternal age, race, and insurance, early pregnancy exposure was associated with adaptation syndrome and admission for both duloxetine (OR 3.07 [95% CI 1.56-6.03] and 2.10 [1.38-3.18], respectively) and escitalopram (2.27 [1.30-3.97] and 1.53 [1.14-2.05], respectively). Exposure in the third trimester was associated with both any adaptation syndrome and/or NICU admission for several drugs.

Conclusion: Different antidepressants have associations with individual newborn outcomes. Duloxetine and escitalopram appear to have the strongest associations with any adaptation syndrome and NICU admission while bupropion and sertraline tended to have lowest risks of these outcomes. These results can help providers and patients discuss choice of individual antidepressant drugs during pregnancy.

Discussant: Charles W. Schauburger, M.D.
LaCrosse, Wisconsin

9:00 - 9:30 a.m.

Paper #2 **Young Investigator's Award**
Discontinuation of Oxytocin in the Second Stage of Labor
and its Association with Postpartum Hemorrhage

Caitlin A MacGregor, MD, Beth A Plunkett, MD, Marci Adams, MPH, Richard K Silver, MD

NorthShore University HealthSystem, Evanston, IL

Purpose: The aim of this study is to evaluate whether patients who had oxytocin discontinued during the second stage of labor (30 minutes or more prior to delivery) had a lower rate of postpartum hemorrhage (PPH) compared to those for whom oxytocin was continued until delivery or discontinued less than 30 minutes prior to delivery.

Methods: We performed a retrospective cohort study at a single site from 8/1/14 to 7/31/19. We included patients with singleton pregnancies between 24 and 42 weeks of gestation who reached the second stage of labor and received oxytocin during their labor course for either induction or augmentation. Patients treated with anticoagulants were excluded. Patients who had oxytocin discontinued ≥ 30 minutes prior to delivery represented our STOPPED cohort and those that did not comprised our CONTINUED cohort. Demographic and clinical data, including oxytocin start and stop times, were abstracted from the electronic medical record. Primary outcome was postpartum hemorrhage (PPH), defined as ≥ 1000 mL quantitative blood loss. Univariable analyses were performed to compare demographic and clinical characteristics between those who had oxytocin STOPPED and those who had it CONTINUED. Multi-variable logistic regression was performed to adjust for prespecified confounders (maternal age, parity, race, ethnicity, and public insurance). Planned univariable and multivariable sub-group analyses by route of delivery were also performed for our primary outcome. All statistical tests were 2-tailed and a p-value of <0.05 was considered significant.

Results: 10,421 patients were included in the analysis. 1288 patients had oxytocin STOPPED and 9133 had oxytocin CONTINUED. There were no significant differences in age, race, or ethnicity, BMI at delivery, public insurance, gestational diabetes, or pregnancy induced hypertension between STOPPED and CONTINUED. However, patients in STOPPED compared to CONTINUED were more likely to be nulliparous (56.8% vs 49.4%, respectively, $p < 0.001$), to have pregestational diabetes (2.1% vs 1.4%, respectively, $p = 0.038$), and greater gestational age at delivery (39.6 weeks vs

39.4 weeks, respectively, $p < 0.001$). Additionally, patients who had oxytocin STOPPED were delivered predominantly by cesarean delivery compared to those who had oxytocin CONTINUED (34.2% vs 1.8%, respectively, $p < 0.001$). With regards to our primary outcome, the rate PPH was 15.2% and 5.7% in STOPPED and CONTINUED, respectively ($p < 0.001$). After adjusting for prespecified confounders, patients with oxytocin STOPPED remained at higher odds for PPH as compared to those with oxytocin CONTINUED (aOR 2.859, 95% CI 2.394, 3.414, 0.418, $p < 0.001$).

With regards to our planned sub-group analyses, among cesarean deliveries only, there was no significant difference in the rate of PPH between STOPPED and CONTINUED (38.0% vs 36.4%, respectively, $p=0.730$), nor did adjusted analysis reveal any significant difference in the odds of PPH in this same comparison (aOR 1.075, 95% CI 0.736, 1.569, $p = 0.708$). However, among vaginal deliveries, the rate of PPH was actually lower in STOPPED than CONTINUED (3.4% vs 5.2%, respectively, $p = 0.024$), and in adjusted analysis, the odds of PPH remained lower in STOPPED compared to CONTINUED for the vaginal cohort (aOR 0.677, 95% CI 0.462, 0.993, $p=0.046$).

Conclusion: Among all deliveries, the rate PPH was higher in patients who had oxytocin STOPPED as compared to oxytocin CONTINUED. However, among vaginal deliveries, the rate of PPH was significantly lower in patients who had oxytocin STOPPED as compared to oxytocin CONTINUED. The discrepancy in these findings may be explained by the uneven distribution of cesarean deliveries between the STOPPED and CONTINUED groups and/or the greater baseline risk of PPH among patients undergoing cesarean delivery. Given the partitioning of our findings in relation to type of delivery, prospective evaluation of second stage oxytocin administration and PPH rates by delivery type appears warranted.

Discussant: Tiffany R. Tonismae, M.D.
Lithia, Florida

9:30 - 10:00 a.m.

Paper #3 President's Certificate of Merit Award
Long-Term Childhood Outcomes for Babies Born at Term
Who Were Exposed to Antenatal Corticosteroids

Samantha J Osteen, MD, MS¹, Ziyi Yang, MS¹, Alexandra H McKinzie, BS¹, Evgenia Teal, MS², Robert S Tepper, MD/PhD¹, David M Haas, MD, MS¹

Indiana University School of Medicine, Indianapolis, IN¹,
Regenstrief Institute, Indianapolis, IN²

Background: Antenatal corticosteroids (ACS) improve neonatal outcomes when administered to infants who are at risk of preterm delivery. Many women who receive ACS for threatened preterm labor go on to deliver at term. Thus, long-term outcomes should be evaluated for term-born infants who were exposed to ACS in-utero.

Objective: The objective of this study was to compare the long-term outcomes of term-born children at least 5 years of age who were born to women who received ACS for threatened preterm labor, compared to children whose mothers were also evaluated for threatened preterm labor but did not receive ACS.

Study Design: We performed a retrospective cohort study of children born at or after 37 weeks' gestational age (GA), who are now at least 5 years of age, born to mothers diagnosed with threatened preterm labor during pregnancy. Among the collected childhood medical conditions, the primary outcome of interest was a diagnosis of asthma.

Results: Of 3,556 women identified in the cohort of term-born children at least 5 years old, 629 (17.6%) were exposed to ACS (all betamethasone) and 2,927 (82.3%) were controls whose mothers were evaluated for threatened preterm birth but did not get ACS injections. Women receiving ACS had higher rates of maternal comorbidities (diabetes, hypertension) ($p \leq 0.01$). ACS-exposed children had no difference in diagnosis of asthma (12.6% vs 11.6%, p 0.40), ADD or developmental delay. Controlling for maternal and neonatal characteristics, asthma was not different between those exposed to ACS compared to controls (OR 1.05, 95% CI 0.79, 1.39). The odds of the child's weight percentile being <10% was increased for ACS-exposed children born at term (OR 2.00, 95% CI 1.22, 3.25).

Conclusions: Babies born at term who were exposed to ACS may have increased rates of being in a lower growth

percentile than those not exposed. However, rates of diagnoses such as asthma, developmental delay, and attention deficit disorders were not different.

Discussant: Michelle Y. Owens, M.D.
Jackson, Mississippi

10:00 - 10:45 a.m. **Break/Refreshments/Exhibits/Posters**

<p style="text-align: center;">SECOND SCIENTIFIC SESSION (Carneros Ballroom)</p>

Moderators:

Thomas Arnold, M.D. – CAOG Secretary/Treasurer
Dana M. Benden, M.D. – CAOG Trustee

10:45 – 11:30 a.m. **Hot Topic #2**

“Past, Present and Future of
Robotic Surgery”

Javier Magrina, M.D.
Mayo Clinic
Scottsdale, Arizona

Learning Objectives:

- Review progress made to date in robotic gynecologic surgery.
- Discuss the risks and benefits of the 5 most common robotic gyn procedures.

11:30 a.m. - 12:00 noon

Paper #4

The Hassan Neonatal Morbidity Composite Scale and Neonatal Length of Stay - A Validation Study

Avinash S Patil, MD^{1,2}, Chad A Grotegut, MD³, P. Brian Smith, MD^{4,5}, Reese H Clark, MD⁶, Rachel G Greenberg, MD^{4,5}

Department of Obstetrics and Gynecology, University of Arizona College of Medicine-Phoenix, Phoenix, AZ¹, Valley Perinatal Services, Phoenix, AZ², Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Wake Forest University, Winston-Salem, NC³, Division of Neonatology, Department of Pediatrics, Duke University, Durham, NC⁴, Duke Clinical Research Institute, Durham, NC⁵, MEDNAX Center for Research, Education, Quality, and Safety, Sunrise, FL⁶

Purpose: Preterm birth is associated with substantial risk for neonatal morbidity and mortality. Obstetric research studies often report neonatal morbidity as a composite score, which allows researchers to conduct smaller, more manageable trials. In addition, the use of composite outcome scores simplifies data analysis when multiple outcomes of interest are present. The Hassan scale is a neonatal morbidity composite scale that assigns high scores to infants with multiple morbidities and low scores to infants without or with single morbidities, allowing for discrimination between neonates with a single morbidity from those with multiple. The objective of this study was to validate the association between scores on the Hassan scale and length of stay in the neonatal intensive care unit.

Methods: We conducted a cohort study of all infants born between 22 and 36 6/7 weeks' gestation and cared for within 419 neonatal units in the Pediatrix Medical Group between 1997 and 2018. Each infant was assigned a Hassan score based on the number of neonatal morbidity events that occurred during the delivery hospitalization. The association between Hassan scores and neonatal length of stay was evaluated using linear regression. Multivariable models were constructed to determine if the Hassan score was independently associated with neonatal length of stay while accounting for confounding variables, including race/ethnicity, infant sex, gestational age of delivery, having received antenatal corticosteroids, small for gestational age, multiple gestation, and mode of delivery.

Results: There were 760,037 infants included in the study. For these infants, the median (IQR) gestational age of delivery was 34 (31, 35) weeks and the median (IQR) birthweight at delivery was 2000 (1503, 2430) g. The median length of stay for infants discharged home was 17 (10-33) days. Neonatal morbidities included in the Hassan scale were more common among infants born earlier in gestation. On adjusted analysis, the Hassan scale was found to be independently associated with neonatal length of stay ($p < 0.001$, coefficient 10.4 days [95% CI 10.3, 10.4 days]) with higher scores being associated with longer lengths of stay. Infants with a Hassan Score of 0 had a median (IQR) length of stay of 14 (9, 23) days, while infants with a Hassan Score of 1 had a median (IQR) length of stay of 33 (17, 53) days. Infants with Hassan Score of 2 had a median (IQR) length of stay of 80 (59, 102) days and infants with a Hassan score of 3 had a median (IQR) length of stay of 104 (84, 126) days. When length of stay was compared among infants with no neonatal morbidity (Hassan Score 0) to those with any morbidity (Hassan 1-3), infants without neonatal morbidity had a median (IQR) length of stay of 14 (9, 23) days while infants with one or multiple neonatal morbidities (Hassan Scores 1-3) had a median (IQR) length of stay of 42 (21, 71) days ($p < 0.001$ for difference in median length of stay).

Conclusions: The Hassan scale is a neonatal morbidity composite scoring system that accounts for the number of neonatal morbidities and is able to differentiate preterm infants with prolonged hospitalizations from those with short hospitalizations. In addition, the Hassan scale was able to better discriminate length of stay among infants with multiple morbidities from infants with a single morbidity than if a binary composite outcome was used to measure neonatal morbidity. Efforts to identify women at risk for delivering infants with high Hassan scores may allow for directed preventative strategies, which if successful could result in improved outcomes and more favorable health economic impact.

Discussant: Jessica W. Kiley, M.D., MPH
Chicago, Illinois

12:00 - 12:30 p.m.

Paper #5 Dr. Kermit E. Krantz Memorial Paper
Implementation of a Standardized Surgical Site Infection
Prevention Bundle to Decrease the Rate of Surgical Site
Infections in Open Gynecologic Surgical Cases and
Cesarean Sections

Shruti Vaidyanathan, MS4, Ashley L Aughenbaugh, MD,
Hollie B McCart, MD, Charles E McCathran, MD, David F
Lewis, MD, John A Morgan, MD

LSU Health Sciences Center Shreveport, Shreveport, LA

Background: Surgical site infections (SSI) remain as one of the most common complications of surgery. Particularly in the field of Obstetrics and Gynecology, approximately 28.8% of readmissions following hysterectomies were due to SSI. In addition, readmission costs due to SSI following gynecological surgery is about \$5086 more than those re-admitted for other causes. The SSI rate for total abdominal hysterectomy (TAH) during the fourth quarter of 2017 at LSUHSC-Shreveport was 5.00%, which was two standard deviations above the national mean of 1.75%. In order to decrease the SSI rate as well as reduce overall hospital costs for patients, the SSI prevention bundle was created, implemented, and evaluated on the effects of SSI rate, bundle cost, and average hospital bill for readmission following SSI.

Methods: This was a retrospective case-control study to monitor the rate of surgical site infections following open abdominal procedures, including total abdominal hysterectomy (TAH) and cesarean deliveries (CD), performed by the Obstetrics & Gynecology department at Ochsner-LSU Health Shreveport. Two groups were identified for comparison. The first group included patients who had TAH or CD during the five quarters prior to implementation of the SSI prevention bundle (10/2016 - 12/2017), and the second group included patients who had TAH or CD in the 5 quarters following the implementation of the SSI bundle (4/2018 - 6/2019). Demographic data was collected for each group including age, race, BMI, tobacco use, history of diabetes mellitus, urgency of CD, and indication for TAH. The primary outcome for the study was the overall rate of SSI. Secondary outcomes included percentage of SSI requiring readmission, length of stay during readmission, initial antibiotic therapy (oral vs intravenous), the number of outpatient wound care visits, need for and type of wound therapy, overall cost savings from SSI bundle, and cost savings per patient. Statistical analysis was performed using an unpaired t-test for continuous data. Chi-square and Fisher

exact tests were used for categorical data where appropriate. A probability level of < 0.05 was set as statistically significant.

Result: A total of 892 patients were included in the group prior to implementation of the SSI bundle and 842 patients after implementation of the SSI bundle. With regards to the demographic comparison between the two groups there were some statistically significant differences. Patients in the post SSI infection bundle group were younger (30.15 vs 31.07 years, $p=0.03$), more likely to be Caucasian (22.7% versus 18.4%, 0.03), and had a higher BMI (36.89 versus 35.89, $p=0.02$). These differences were statistically significant, however in the opinion of the authors, are not clinically significant differences. There were no differences between the two groups with regards to rates of diabetes mellitus or tobacco use. With regards to the primary outcome, the rate of surgical site infections between the two groups did show a statistically significant decrease following implementation of the SSI prevention bundle ($n=20$, 2.2% versus $n=8$, 0.9%, $p=0.03$). The rates of readmission, length of hospital stay, initial antibiotic therapy choice, need for wound therapy and mean number of outpatient visits for wound care were similar between the two groups. The average cost of readmission for a TAH associated SSI was \$19,235.10 and the average cost of readmission for a CD associated SSI was \$22,709.97. The cost per patient for an SSI prevention bundle associated with TAH was \$52.69 and CD was \$37.50. When factoring in the average cost of SSI readmission for the pre-implementation group versus the combination of the cost of SSI readmission and SSI prevention bundle for each patient in the post-implementation group, the overall cost savings during the 5-quarter study period was \$137,705.45, with an average cost savings per patient of \$163.54.

Discussion: Surgical site infections are one of the most common complications following surgical procedures which can lead to significant morbidity for patients as well as excessive health care costs. The implementation of a surgical site infection prevention bundle at Ochsner-LSU Health Shreveport showed a significant decrease in SSI rate from 2.2% to 0.9%, below the national mean SSI rate. Despite the extra cost of the SSI prevention bundle for each surgery, we did show a cost savings of \$163.54 per patient based on the reduction in the total number SSI readmissions. Based on our data, implementation of similar standardized protocols for SSI prevention can both improve patient outcomes and lower health care costs.

Discussant: Roopina Sangha, M.D., MPH
Fort Worth, Texas

12:30 – 1:15 p.m. **Hot Topic #3**
“Addiction Care in Pregnancy”
Charles W. Schaubeger, M.D.
Gundersen Health System
LaCrosse, Wisconsin

Learning Objectives:

- Compare methamphetamine and synthetic opioids with other illegal substances.
- Develop a plan for universal drug screening that will identify patients at risk.

SCIENTIFIC PRESENTATIONS FRIDAY, OCTOBER 8, 2021

- 6:00 a.m. General Registration (Carneros Ballroom)
- 6:00 – 10:30 a.m. **INDUSTRY EXHIBITS OPEN**
- 6:00 - 10:30 a.m. **SCIENTIFIC POSTER SESSION OPEN**
- 6:00 - 6:30 a.m. Breakfast (Carneros Ballroom)
- 6:30 - 7:30 a.m. **Sunrise Lecture** (Carneros Ballroom)
“Unmet Clinical Needs of Preeclampsia”
David F. Lewis, M.D.
LSU Health Sciences Center
Shreveport, Louisiana

Learning Objectives:

- List the 3 most important unmet clinical needs of preeclampsia today.
- Implement plans for incorporating these needs into a preeclampsia management plan.

<h3>THIRD SCIENTIFIC SESSION (Carneros Ballroom)</h3>
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Moderators:

Robert J. Carpenter, Jr., M.D. – CAOG Vice President
Peter B. Greenspan, D.O. – CAOG Trustee

7:30 - 8:00 a.m.

**Paper #6 Dr. Jack A. Pritchard Memorial Paper
Association Between Preterm Neonate Endocan Levels
and Maternal Obesity**

Emily A Holthaus, MD¹, Michaela O'Neill, MS⁴, Walter Jeske, PhD³, Phillip J DeChristopher, MD/PhD¹, Jean R Goodman, MD¹, Jonathon K Muraskas, MD¹

Loyola University Medical Center, Maywood, IL¹, Loyola University Chicago Stritch School of Medicine, Maywood, IL², Loyola University Chicago Health Sciences Division, Maywood, IL³

Purpose: The purpose of our study was to compare levels of a serum biomarker for endothelial dysfunction in preterm neonates of obese mothers and preterm neonates of non-obese mothers.

Background: Obesity in pregnant women is an epidemic in the United States. Maternal obesity has been associated with obesity, metabolic syndrome, and cardiovascular disease in offspring. The concept of developmental origins of disease hypothesizes that the in utero environment can have lasting effects on offspring. Proposed mechanisms include changes in neuronal development and epigenetics. Animal studies have demonstrated endothelial dysfunction in offspring of obese mothers. Endocan is expressed by vascular endothelial cells and has recently been studied as a biomarker for endothelial dysfunction and cardiovascular disease. We hypothesized that neonates of obese mothers would have increased serum endocan levels compared to neonates of non-obese mothers.

Methods: Between July 2015 and November 2020, parental informed consent was obtained for neonates less than 33 weeks gestational age. Initial blood specimens (0.5 cc) were drawn within 48 hours of birth and serum endocan levels were measured. Exclusion criteria were major congenital anomalies or chromosomal abnormalities. Maternal factors were obtained from the maternal charts. Obesity was defined as BMI of ≥ 30 Kg/m² at time of delivery. Neonatal endocan levels were compared between the obese and non-obese group using the Mann-Whitney U Test for nonparametric data.

Results: 120 neonates were included. Of those, 75 neonates had obese mothers at time of delivery and 45 neonates had non-obese mothers. The median endocan level (ng/mL) in neonates of obese mothers was 299 compared to a median endocan of 251 in neonates of non-obese mothers ($p = 0.045$). Gestational age at delivery was similar between neonates of

obese mothers (29.1 weeks) and neonates of non-obese mothers (29.5 weeks) ($p = 0.987$).

Conclusion: Our results suggest that offspring of obese mothers may have increased endothelial dysfunction compared to offspring of non-obese mothers. Our study was limited by the selection of only preterm neonates, as that was the original cohort recruited. There may be other variables that contribute to neonatal endothelial dysfunction. Next steps would include prospective collection of endocan levels of offspring over time, ideally with long term follow up of pediatric outcomes. Understanding the links between maternal obesity and neonatal endothelial dysfunction may help to elucidate the mechanisms of developmental origins of disease. If endocan is found to be a reliable biomarker in neonates, it could be used to evaluate the efficacy of pregnancy interventions on offspring, or as a risk factor for future pediatric pathology.

Discussant: James W. Van Hook, M.D.
Toledo, Ohio

8:00 - 8:30 a.m.

Paper #7

Correlation of Syndecan-1 (S1) Levels with Adjunct Hematological Markers of Sepsis in Preterm Newborns With and Without Exposure to Maternal Chorioamnionitis

Michaela J O'Neill, MS4², Emily Holthaus, MD², Phillip DeChristopher, MD, PhD⁴, Walter Jeske, PhD³, Marc Weiss, MD¹, Makio Iwashima MD⁶, Jean Goodman MD⁵, Loretto Glynn MD⁷, Samuel Levin MD⁸, Jonathan K Muraskas, MD¹

Loyola Univ Medical Center Dept of Pediatrics-Neonatology, Maywood, IL¹, Loyola Univ Chicago Stritch School of Medicine, Maywood, IL², Loyola Univ Medical Center Dept of Thoracic and Cardiovascular Surgery, Maywood, IL³, Loyola Univ Medical Center Dept of Pathology, Maywood, IL⁴, Loyola Univ Medical Center Dept of Ob-Gyn, Maywood, IL⁵, Loyola Univ Chicago Dept of Immunology, Maywood, IL⁶, NYU Langone Health, Mineola, NY⁷, Univ Oklahoma Medical Center, Oklahoma City, OK⁸

Purpose: The purpose of this study was to determine if common adjunct admission hematological tests of sepsis in preterm newborns (PN) (Immature/total neutrophils; I:T ratio and neutropenia) correlated with PN endothelial dysfunction (S1) and placental pathology.

Methods: This study was performed in the NICU of Loyola University Medical Center between July 2015 and March 2020. This study was approved by the University IRB and informed consent was obtained from parents of PNs at < 33 weeks gestational age. PNs with major congenital anomalies, chromo-somal abnormalities or significant congenital heart disease were excluded. All PNs had routine CBC and differential drawn upon admission. Within 48 hours of birth, enrolled PNs had 0.5 cc of blood drawn for S1 levels measured via ELISA (Abcam, Cambridge, MA). Placental pathology is routinely performed on all preterm births by the department of pathology and was done so prior to running S1 levels. All reports stated clearly if no chorioamnionitis (CA) was present, CA was present without umbilical cord involvement, or CA with extension to the cord was detected under microscopic examination. We defined fetal inflammatory response syndrome (FIRS)/funisitis as any detection of neutrophil invasion in any of the 3 vessels in the umbilical cord. We defined a left shift as an immature/mature neutrophils ratio of >0.2 and neutropenia as white blood cells/mL x % neutrophils <1500 meL. Distributions of left shift and neutropenia among the groups were compared by

Fisher Exact Tests. We defined statistical significance as $p < 0.05$.

Results: Of 56 total PNs, 13 were exposed to CA only and 14 were exposed to CA with FIRS/funisitis. From the 27 total CA exposed PNs 13 had a left shift, while from the 29 unexposed PNs 0 had a left shift ($p < 0.0001$). 3/13 CA only exposed PNs had a left shift and 10/14 CA with FIRS/funisitis exposed PNs had a left shift ($p < 0.021$). The 13 PNs with a left shift had a mean S1 value 302.68 ± 148.15 ng/ml.

From the 27 total CA exposed PNs 7 had neutropenia and from the 29 unexposed PNs 14 had neutropenia. The 21 FIRS/funisitis exposed PNs with neutropenia had a mean S1 level of 208.20 ± 106.41 .

Conclusions: CA is a perinatal condition characterized by inflammation of the fetal membranes and can complicate up to 70% of preterm births by premature rupture of membranes and/or preterm labor. Exposure to CA increases the risk of early onset neonatal sepsis ten-fold. Although there is significant overlap between clinical and histologic CA, the latter is a more common diagnosis based on microscopic exam of the placenta that encompasses clinically unapparent (subclinical CA) and clinical CA. S1 protein functions as an integral membrane protein of endothelial cells playing a major role in inflammation mainly by regulating leukocyte extravasation and cytokine function. Adjunct laboratory tests for sepsis include hematologic tests, acute phase reactants, and cytokine levels. All have imperfect sensitivity and positive predicative value.

The fetal inflammatory response syndrome (FIRS) to intraamniotic infection is manifest by chorionic vasculitis and funisitis (infiltration of the umbilical cord with fetal neutrophils). Nationally, 12% of PNs with FIRS have positive blood cultures compared with 1% of PNs without FIRS.

Compared to neutropenia on PN admission evaluation, a left shift with elevated S1 levels was significantly associated with fetal FIRS/funisitis. The presence of a left shift on admission in a PN could potentially guide both the maternal and neonatal diagnosis and management of intraamniotic and early onset neonatal infection. These findings could contribute to improved antibiotic stewardship, however clinical signs of infection should always replace reliance on adjunct markers of sepsis.

Discussant: Robert J. Carpenter, Jr., M.D., JD
Houston, Texas

8:30 - 9:00 a.m.

Paper #8

Accuracy of Ultrasound- Predicted Estimated Fetal Weights in Obese and Superobese Patients

Danielle E Frieson, MD, James P Hogg, MD, Brittany Mitchell, BA, Kedra Wallace, PhD, Wondwosen Yimer, PhD, Sarah Novotny, MD

University of Mississippi Medical Center, Jackson, MS

Purpose: The rate of adult obesity has continued to rise yearly in the United States. In the same manner, the rate of pre-pregnancy obesity has risen to 29 percent. The rate of obesity in our patient population is significantly higher than the national average at greater than 50 percent. The primary outcome of our study was to observe the association between maternal Body Mass Index (BMI) on the accuracy of ultrasound-predicted estimated fetal weight (EFW), specifically in the obese population. Secondary outcomes included observing the effects that fetal growth restriction (FGR) and diabetes mellitus have on the accuracy of ultrasound biometric measurements in pregnant patients with obesity.

Methods: We conducted an IRB-approved, retrospective chart review of ultrasound reports and delivery summaries from 2017 until 2020 at the University of Mississippi Medical Center. Patients included were women with a BMI ≥ 30 , singleton pregnancies, and ultrasound performed within 28 days of delivery, with accessible delivery information. Maternal BMI at the time of ultrasound, EFW (calculated based on the Hadlock formula), interval between the ultrasound and delivery date, and actual birth weight of the infant were recorded. Patients were categorized into three groups: Class I (BMI 30-34.9 kg/m²), Class II (BMI 35-39.9 kg/m²) and Class III (BMI ≥ 40 kg/m²). Patients were further stratified into the following groups: Obese (BMI 30-49.9 kg/m²) and super-obese (BMI ≥ 50 kg/m²). Time between ultrasound and delivery date was stratified as follows: 0-7 days, 8-14 days, 15-21 days and 22-28 days. Continuous data were summarized using mean, standard deviation, minimum and maximum by BMI category. Comparison of means among BMI groups was performed using ANOVA. Categorical data were summarized using frequency by BMI group. Association of categorical variables with BMI group was assessed using Chi-Square test and Fisher's Exact test. Accuracy of the estimated fetal weight was determined based on the absolute error and percent error as compared to the actual birth weight.

Results: 1778 patient charts were reviewed and 599 patient charts were included in the study based on the aforementioned inclusion criteria. There were 178 patients in the Class I Obesity group (30%), 179 patients in the Class II obesity group (30%), and 242 patients in the Class 3 obesity group (40%). Chronic hypertension and pre-existing diabetes increased significantly with increasing BMI ($p < .00001$ and $p = .047$, respectively). There was no significant difference in absolute error or percent error amongst BMI groups ($p = .0527$ and $p = .0657$, respectively). There was no significant difference in percent error when patients were divided into groups with a BMI < 50 and a BMI ≥ 50 . When controlled for BMI, the percent error increased significantly as the time interval between the ultrasound and delivery date increased. The percent error does not increase significantly as the time interval increases in superobese patients with a BMI ≥ 50 . There was no significant difference in the absolute error of EFW when comparing pregnancies affected by FGR and those that are not. When comparing obese patients with pre-existing diabetes to those without, the percent error was significantly increased in patients with diabetes. There was no significant difference in percent error when comparing those with gestational diabetes to those without diabetes.

Conclusions: When comparing all obese patients from one class to another, ultrasound-predicted estimated fetal weight appears to be reasonably accurate. Our data suggest that as the discrepancy in BMI increases, especially in the superobese population, percent error also increases. and EFW is not as accurate from week to week. These findings further emphasize the importance of counseling patients on the limitations of prenatal ultrasonography, especially in the setting of superobesity.

Discussant: Jacques S. Abramowicz, M.D.
Chicago, Illinois

9:00 - 9:45 a.m. **Hot Topic #4**
“Advocacy and Public Policy:
How the Ob-Gyn Can Help!”
Susan Klugman, M.D.
Albert Einstein College of Medicine/
Montefiore Medical Center
Bronx, New York

Learning Objectives:

- Enumerate opportunities for ob-gyn’s to support patient advocacy.
- Explain how patient advocacy can support diversity, equality and inclusion efforts.

9:45 - 10:30 a.m. **Break/Refreshments/Exhibits/Posters**

FOURTH SCIENTIFIC SESSION (Carneros Ballroom)

Moderators:

Suneet P. Chauhan, M.D. – CAOG Past President

Jean R. Goodman, M.D. – CAOG Trustee

10:30 - 11:00 a.m.

Paper #9

Correlation of Newborn Syndecan-1 Levels With and Without Exposure to Maternal Chorioamnionitis

Michaela J O'Neill, MS⁴², Emily Holthaus, MD², Phillip DeChristopher, MD, PhD⁴, Walter Jeske, PhD³, Marc Weiss, MD¹, Makio Iwashima MD⁶, Jean Goodman MD⁵, Loretto Glynn MD⁷, Samuel Levin MD⁸, Jonathan K Muraskas, MD¹

Loyola Univ Medical Center Dept of Pediatrics-Neonatology, Maywood, IL¹, Loyola Univ Chicago Stritch School of Medicine, Maywood, IL², Loyola Univ Medical Center Dept of Thoracic and Cardiovascular Surgery, Maywood, IL³, Loyola Univ Medical Center Dept of Pathology, Maywood, IL⁴, Loyola Univ Medical Center Dept of Ob-Gyn, Maywood, IL⁵, Loyola Univ Chicago Dept of Immunology, Maywood, IL⁶, NYU Langone Health, Mineola, NY⁷, Univ Oklahoma Medical Center, Oklahoma City, OK⁸

Purpose: The purpose of this study was to determine if correlations exist between serum Syndecan-1(S1) levels in preterm newborns (PN) with and without fetal exposure to placental chorioamnionitis (CA).

Methods: This study was performed in the NICU of Loyola University Medical Center between July 2015 and March 2020. This study was approved by the University IRB and informed consent was obtained from parents of PNs at < 33 weeks gesta-tional age. PNs with major congenital anomalies, chromosomal abnormalities or significant congenital heart disease were excluded. Blood samples (0.5 cc) were drawn within 48hrs of life measuring serum S1 levels via ELISA (Abcam, Cambridge, MA). Placental pathology is routinely performed on all preterm births by the department of pathology and was done so prior to running S1 levels. All reports stated clearly if no CA was present, CA was present without umbilical cord involvement, or CA with extension to the cord was detected under microscopic examination. We defined fetal inflammatory response syndrome (FIRS)/funisitis as any detection of neutrophil invasion in any of the 3 vessels in the umbilical cord. Groups were compared

for S1 levels by 2-tailed unpaired t-tests, with $p < 0.05$ considered significant.

Results: Of the 56 PNs enrolled, 27/56 (48.2%) had placental proven CA. Shortly after birth, those exposed to CA were found to have significantly elevated S1 levels compared to the unexposed PNs. The mean S1 level (ng/mL) in total CA exposed PNs was 266 ± 138 , while unexposed PNs averaged 166.6 ± 78.7 ($p < 0.02$). When comparing CA with (N=14) and without (N=13) FIRS/funisitis, the mean S1 level of CA only exposed PNs was 243.3 ± 111.7 and the mean S1 level of CA with FIRS/funisitis exposed PNs was 288.3 ± 155.6 ($p < 0.712$).

Conclusions: CA is a perinatal condition characterized by inflammation of the fetal membranes and can complicate up to 70% of preterm births by premature rupture of membranes and/or preterm labor. Exposure to CA increases the risk of early onset neonatal sepsis ten-fold. Although there is significant overlap between clinical and histologic CA, the latter is a more common diagnosis based on microscopic exam of the placenta that encompasses clinically unapparent (subclinical CA) and clinical CA. Adjunct laboratory tests for sepsis include hematologic tests, acute phase reactants, and cytokine levels. All have imperfect sensitivity and positive predictive value.

The endothelial glycocalyx is comprised of transmembrane core proteins known as syndecans. S1 modulates leukocyte recruitment via cytokine production, cell adhesion, cell migration and angiogenesis. Elevated serum S1 levels have been implicated in inflammation and oxidative endothelial injury. The study of S1 as a marker of endothelial dysfunction has not been investigated in human PNs.

Although S1 levels could not differentiate PN exposure to CA from CA with FIRS/funisitis, the combined CA groups had significantly higher S1 levels compared with no CA. S1 levels appear to be a reasonable biomarker that could assist in the diagnosis and management of mothers and PNs with CA and the potential for early onset neonatal sepsis. Further studies are needed to evaluate serial S1 levels. Our study was limited by the selection of only PNs as that was the original cohort recruited.

Discussant: Jean R. Goodman, M.D.
Maywood, Illinois

11:00 - 11:30 a.m.

Paper #10

Male Factor Infertility in Military Couples

Courtney N Mascoe, MD¹, Mark Sanchez, MD^{1,2}

Bayfront Health Saint Petersburg, Saint Petersburg, FL¹,
Florida Fertility Institute, Clearwater, FL²

Background: Military servicemen and women are a population that are at a significantly higher risk for occupational exposures when compared to the general population. In fact, there are several studies that suggest that involvement in the military, even without a history of deployment, may serve as a risk factor for an array of various chronic conditions. The available studies provide compelling data showing that many workplace toxins likely have profound, and adverse effects on human reproduction. Thus far, it has been difficult to obtain clear evidence on the adverse effects of workplace toxins and exposures when compared to pharmaceutical trials. Further study into the incidence of male factor infertility, as well as the potential influence of environmental and occupational exposures, may serve to facilitate increasing resources made available to this population. Additionally, further elucidation of the risks associated with exposure to these chemicals and environments may also result in improving protections for military members from those toxins where there is any evidence that they might lower fertility potential.

Purpose: To investigate the incidence of male factor infertility in military males in comparison to civilian males.

Methods: This study is a retrospective chart review of patients in Florida Fertility Institute from January 1, 2015 to January 31, 2021. Continuous variables were analyzed by Student t test or ANOVA test. Categorical variables were analyzed using chi square or Fishers exact test. A statistical significance determined by a p value <0.05. Data analysis performed used SPSS software. A study population of both civilians (93 individuals) and military members (96 individuals) was identified. Primary outcome investigated was semen quality of military males using WHO III criteria. Secondary outcomes investigated include pregnancy and birth rates in couples seeking fertility care in which the male is involved with the military, within one year of semen analysis.

Results: The study showed statistically significantly higher proportions of abnormal semen analysis findings amongst the military cohort, with 74 of the 96 semen analyses of military

participants (77.3%) demonstrating abnormal findings ($p < 0.0001$). Comparatively, the civilian population had a much less dramatic distribution with 50 of the 93 (53.7%) demonstrating abnormal semen analysis. Oligospermia, or a low sperm count, was found to have a statistically significant correlation with involvement with the military. Of note, teratospermia, defined by WHO III criteria as greater than 70% of sperm having abnormal morphology, was also have a statistically significant correlation to the involvement in the military ($p = 0.001633$). Mean values of percent abnormal sperm were not found to have a correlation to age in total study population. Additionally, there was not a statistically significant correlation to race or military branch. These findings suggest that involvement in the military may be a risk factor for infertility, independent of male partner age or race. Evaluation of the secondary outcomes show lower rates of pregnancy, with only 16 of the 42 pregnancies (38.1%) identified in the study population in military couples. This finding proved to be statistically significant ($p = 0.012$). Despite that they experienced lower rates of pregnancy, the military couples experienced higher rates of miscarriage, with 31.2% of the pregnancies ending in miscarriage. This was also a statistically significant finding ($p = 0.0048$).

Conclusions: Although servicemen generally have better overall health than their age-matched peers in the general population, they also show relatively lower sperm count and higher rates of abnormal morphology. Servicemen also experienced poorer pregnancy outcomes with their partners, with lower birth rates and higher rates of miscarriage. The study has important clinical significance for infertility management and fertility preservation, especially for those military personnel.

Discussant: David M. Haas, M.D., MS
Indianapolis, Indiana

11:30 - 12:15 **Keynote Address**
“Resistance to Change”
Mark I. Evans, M.D.
Comprehensive Genetics
New York, New York

Learning Objectives:

- Explain why there is so much resistance to change in medicine.
- Develop a strategy for effectively implementing changes when needed in medicine.

12:15 – 1:00 p.m. **Presidential Address**
“Can we Improve Health Care
Insurance: A Rant”
J. Coffy Pieternelle, M.D.
Southeast Texas Ob-Gyn Associates, PA
Beaumont, Texas

Learning Objectives:

- List the top 10 problems with the health care insurance industry.
- Develop a strategy for correcting health care insurance deficiencies.

1:00 p.m. **Installation of New President**

1:00 - 1:30 p.m. **Annual Business Meeting CAOG**

SCIENTIFIC PRESENTATIONS

SATURDAY, OCTOBER 9, 2021

6:00 a.m. General Registration (Carneros Ballroom)

6:00 - 6:30 a.m. Breakfast (Carneros Ballroom)

6:30 - 7:30 a.m. **Sunrise Lecture** (Carneros Ballroom)
“Yeast Vaginitis:
New Molecule, New Mechanism”
Lee P. Shulman, M.D.
Northwestern University
Chicago, Illinois

Learning Objectives:

- Describe the challenge of successfully treating yeast vaginitis.
- Implement a list of patient talking points for current treatment options.

<p>FIFTH SCIENTIFIC SESSION (Carneros Ballroom)</p>
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Moderators:

James W. Van Hook, M.D. – CAOG President Elect I
Kinion E. Whittington, D.O. – CAOG Trustee

7:30 - 7:45 a.m.

Paper #11

Obstetric Outcomes and Long-Term Cardiac Impact in Women with a Fontan Circulation and Pregnancy

Maria S Schmoll, MD¹, Nicole Lindsay, MD¹, Ziya Yang, MS¹, Georges Ephrem, MD, MSc², Caroline E Rouse, MD¹

Indiana University School of Medicine, Indianapolis, IN¹,
Krannert Institute of Cardiology, Indianapolis, IN²

Purpose: Small studies have shown that women with a Fontan circulation can have successful pregnancies, particularly when managed in a multidisciplinary team. The potential long-term effects of pregnancy on patients with single ventricle physiology should be a component of preconception and pregnancy counseling. The impact on long-term cardiac function following pregnancy, however, is not well documented. The objective of this study was to evaluate the pregnancy and long-term cardiac outcomes of women with Fontan circulation.

Methods: This was a retrospective case-control study of pregnant women with Fontan circulation and matched controls at a single institution from 2009 to 2019. Women with Fontan circulation were identified through chart search in all females with congenital heart disease between the ages of 18 to 50, and those with a documented pregnancy were selected as cases. Controls were selected by the Fontan patient with the closest birth date and same circulatory ventricle. An extensive chart review was conducted to elicit pregnancy and neonatal outcomes. We defined our composite outcome as incidence of preeclampsia, preterm labor, growth restriction, fetal demise, neonatal death, or Neonatal ICU admission. Long term follow-up was collected at 1- and 5-year intervals postpartum, and at equal time periods for controls from delivery date of matched cases. Worsening heart function was defined as worsening ejection fraction and new or worsening arrhythmia. Independent two-sample test or Wilcoxon-Mann-Whitney test were used for continuous variables. Fisher's exact test was used for categorical variables. The number of ER and Hospital visits per year was derived using the total number of visits for 5 years divided by the number of follow-up years.

Results: One thousand seventy-eight women were identified to have congenital heart disease, and 118 were confirmed to have Fontan circulation. 16 women with Fontan circulation had a confirmed pregnancy. Of these, 7 experienced a first trimester loss or delivered outside our system, resulting in 9

pregnancies and 9 controls for full review. No pregnant Fontan patient had worsening heart function during pregnancy, with an average EF of 57% (47-63%). Seven experienced the composite obstetric outcome (77.8%): 7 with fetal growth restriction (77.8%), 2 with NICU admission (22.2%), and three developed preeclampsia (33.3%). Seven had an assisted second stage (77.8%) and 2 had a cesarean delivery for fetal malpresentation (22.2%). In long term follow-up, two of the women with a pregnancy had worsening heart function (1 with worsening EF and 1 with worsening arrhythmia) compared to three women without a pregnancy (all 3 with worsening EF and worsening or new arrhythmia). Overall, there was no difference in patient health at 1 and 5 years between women who had a pregnancy and those who did not. There was no difference in ER visits between cases and controls.

Conclusion: While small, this retrospective review adds support to the current literature showing that a woman with a Fontan circulation who has adequate cardiac function may safely undergo a well monitored pregnancy without significant impact on her immediate or long-term cardiac health. However, she is at increased risk for poor pregnancy outcomes, such as preeclampsia, fetal growth restriction, and preterm delivery. We continue to support the use a multidisciplinary team in the antenatal, intrapartum, and postpartum period. Additional research is needed to further explore the long-term outcomes of patients with single ventricle physiology who experience pregnancy in order to more appropriate counsel our patients with this condition.

7:45 - 8:00 a.m.

**Paper #12 Dr. George W. Morley Memorial Paper
Prevalence and Outcomes of Positive Cervical Cancer
Screening in Female Renal Transplant Waitlist
Candidates: A Single Center Experience**

Julia T Berry, MS4, Jacob Lang, MS3, MSc, Obinna Ekwenna, MD, James W Van Hook, MD

University of Toledo College of Medicine, Toledo, OH

Background: An important aspect of the evaluation to determine waitlist eligibility for renal transplant candidates is a gynecologic clearance that includes Papanicolaou (pap) testing for cervical dysplasia and cancer, and high-risk-HPV testing. Women with a renal allograft are at an increased risk of post-transplant cervical dysplasia and cancer. However, less is known about the rates of cervical dysplasia, cancer, and HPV infection in female renal transplant waitlist candidates. Further, completing the screening process, including gynecologic evaluation, can be difficult for patients and may delay time to listing and ultimately transplantation.

Objective: We sought to identify if the gynecologic screening process is a significant barrier to waitlist listing in female renal transplant candidates. The primary objective of this study was twofold. First, we aimed to assess the prevalence of positive cervical screening, in female renal transplant waitlist candidates at a single transplant center. Second, we aimed to determine how a positive cervical screening affected waitlist status and ultimately, renal transplantation when compared to patients with a negative screening.

Methods: We conducted a retrospective, single center, chart review of all female renal transplant waitlist candidates between January 1, 2019 and December 31, 2020. All potential transplant candidates for which complete records of cervical screening were available were included. We defined a positive cervical screen as a positive pap smear (atypical cells of undetermined significance, low grade squamous intraepithelial lesion, or high grade squamous intraepithelial lesion), positive high-risk-HPV testing, or endocervical and/or metaplastic cells present. In order to determine prevalence of all types of positive gynecologic screening we calculated the proportion of positive screening results as well as the 95% confidence interval for each of the aforementioned categories. Transplant evaluation status was also extracted and summarized in order to determine the impact of the gynecologic screening on waitlist approval. Waitlist status categories included referral closed, evaluation active,

evaluation closed, evaluation inactive, approved, waitlist active, waitlist inactive, and waitlist removed. Approved, waitlist active, waitlist inactive, and waitlist removed categories represent patients who ultimately made it onto the waitlist, while all other categories represent patients have never been waitlisted.

Results: Of the 260 female patients presenting for waitlist evaluation reviewed for this study, 133 were eligible for inclusion. The remaining 127 patients did not have complete cervical cancer screening data available. Of these 133 patients, 20 (15.0% 95% C.I. [9.4%-22.3%]) had a positive pap smear or high-risk HPV testing. Of these, 8 (6.0% 95% C.I. [2.6%-11.5%]) had atypical squamous cells of undetermined significance, 4 (3.0% 95% C.I. [0.8%-7.5%]) had a low grade squamous intraepithelial lesion, 2 (1.5% 95% C.I. [0.2%-5.3%]) had a high grade squamous epithelial lesion, 6 (4.5% 95% C.I. [1.7%-9.6%]) had other results including positive high-risk-HPV testing or endocervical and/or metaplastic cells present. Of the 20 patients who did have a positive screening 8 (40.0% 95% C.I. [19.1-64.0%]) had a status of evaluation active, 2 (10.0% 95% C.I. [1.2-31.7%]) were approved, 0 evaluation closed, 1 (5.0% 95% C.I. [0.1-24.9%]) referral closed, 1 (5.0% 95% C.I. [0.1-24.9%]) waitlist removed, 4 (20.0% 95% C.I. [5.7-43.7%]) waitlist active, 3 (15.0% 95% C.I. [3.2-37.9%]) waitlist inactive, and 1 (5.0% 95% C.I. [0.1-24.9%]) evaluation inactive.

Conclusion: Compared to the prevalence of abnormal cervical cancer screening outcomes in screening-compliant women in the United States, our population of 133 female renal transplant waitlist candidates at a single center did not have a significantly higher incidence of positive cervical screening. However, many of the patients with a positive screen ultimately were not listed. It is not clear whether this was due to an abnormal gynecologic screen, or other factors. Importantly, 127 patients did not meet the inclusion criteria for the study due to incomplete cervical screening evaluation status. Future studies should seek to understand barriers to gynecologic evaluation in renal transplant patients and further assess whether a positive gynecologic screen delays the wait listing process.

8:00 - 8:15 a.m.

Paper #13

Evaluation of the Primary Cesarean Section Rate in Patients who Do and Do Not Meet ARRIVE Trial Criteria Compared to the Institutional Cesarean Section Rate

John A Morgan, MD, Brittin C Thibodeaux, MD, Miranda S Westhoff, MD

Louisiana State University Health Science Center-Shreveport, Shreveport, LA

Purpose: The main objective is to guide institutional practices regarding timing of elective labor induction of low-risk nulliparous patients to ensure the safest obstetric practices are being upheld.

Methodology: This quality improvement project retrospectively evaluated the cesarean section rate of nulliparous women who underwent elective induction of labor between 39 weeks 0 days and 39 weeks 4 days gestation. Data was collected from the delivery log for women induced between January 1, 2018 to June 24, 2021 at Ochsner LSU Shreveport and Monroe. To be included in the study, patients must have met the following criteria: nulliparous pregnant women or no previous pregnancy carried beyond 20 weeks and 0 days gestation; presence of a single live intrauterine gestation; gestational age of 39 weeks 0 days to 39 weeks 4 days at induction; maternal age 12-45 years old. Patients were excluded from the study for the following: spontaneous rupture of membranes prior to presentation; signs of spontaneous labor on presentation; gestational age at first ultrasound beyond 21 weeks 6 days; plan for cesarean section or contraindication to labor present; active vaginal bleeding more than bloody show; cerclage in current pregnancy; fetal demise or known major fetal anomaly. Patients were then divided into two groups: those who met ARRIVE trial standards and those who did not meet ARRIVE trial standards. In addition to the aforementioned criteria, patients were excluded specifically from the ARRIVE group if the following were present on admission: oligohydramnios, FGR, major maternal medical illness associated with increased risk for adverse outcome such as diabetes mellitus, lupus, hypertensive disorders, cardiac disease, renal insufficiency, HIV positive. The non-ARRIVE group comprised patients with conditions, such as well-controlled gestational diabetes, well-controlled chronic hypertension, a single elevated blood pressure on admission without the diagnosis of hypertensive disorder, or other low-risk comorbidities where delivery is not necessarily indicated by 39 weeks but would exclude the

patient from the ARRIVE group. Data was analyzed to determine the primary cesarean section rate for each study population and to ascertain whether a difference existed between the two groups. The primary cesarean section rate of each group was compared to the institutional cesarean section rate. Secondary outcomes included 10-minute neonatal APGARs less than 7 and NICU admission rate. A Fisher exact test was used to determine statistical significance. The primary cesarean section rate according to the American College of Obstetrics and Gynecology (ACOG) and as published for the state of Louisiana was used to further understand the findings of this quality improvement project.

Results: A total of 170 charts were reviewed. 91 patients were included in the ARRIVE trial group, while 79 patients were included in the non-ARRIVE trial group. Demographics, including age, race, BMI, and modified bishop score, of the ARRIVE group and non-ARRIVE group were found to be similar with the exception of Caucasian race (36.3% vs 12.7 % in the ARRIVE and non-ARRIVE group, respectively, $p=0.006$). In regard to delivery method, 21 patients (23.8%) in the ARRIVE group and 20 patients (25.3%) in the non-ARRIVE group were delivered via cesarean section ($p=0.86$). Thus, no significant difference in the primary cesarean section rate between the two groups was observed. The average institutional cesarean section rate for 2018, 2019, and 2020 was 33.65%. Additionally, the primary cesarean section rate for Louisiana and Caddo Parish from 2015-2018 was 25.6% and 25.7%, respectively. Review of secondary outcomes revealed no significant difference in either the NICU admission rate (18.7% vs 16.5%, $p=0.84$) or the rate of infants with 5-minute APGARs less than 7 (0% vs 1.3%, 0.47) between the two study populations.

Conclusions: According to the ACOG care consensus, “Safe prevention of the primary cesarean section,” the primary cesarean section rate for low-risk women ranges from 2.4% to 36.5% across the United States. Additionally, the reported primary cesarean section rate for Louisiana from 2015-2018 was 25.6%. In this study, the ARRIVE and non-ARRIVE groups had cesarean section rate of 23.8% and 25.3%, respectively. This is well within the ACOG consensus range, on par with Louisiana data, and less than the overall cesarean section rate for our institution. This is favorable and suggests elective induction of labor of low-risk nulliparous women at 39 weeks gestation does not necessarily increase the cesarean section rate from the baseline risk in this patient population. Interestingly, when comparing the rates between the two groups, no statistical significance was demonstrated. This may suggest that the co-morbid conditions of the patients in

the non-ARRIVE group did not confer an increased risk of cesarean delivery. Further investigation with a larger sample size is needed to definitively determine the impact of labor induction in this nulliparous patient population. In summary, clinical decision making based on ARRIVE trial findings is a reasonable approach to the nulliparous patient and could be confidently implemented further into obstetric practices at Ochsner LSU.

8:15 - 8:30 a.m.

Paper #14

Physician Burnout and Racialized Perceptions of Patient Pain Among Obstetrics & Gynecology Trainees

Lindsay N. Poston, MD¹, Andrea Henricks, MD², Ashish Premkumar, MD³, Whitney B You, MD¹, Andrew F. Wagner, MD¹

Department of Obstetrics and Gynecology, Feinberg School of Medicine Northwestern University, Chicago, IL¹, Department of Obstetrics and Gynecology, University of North Carolina, Chapel Hill, NC², Department of Obstetrics and Gynecology, John H. Stroger Jr. Hospital of Cook County, Chicago, IL³

Research Support: Pilot/Exploratory Grant from the Center for Bioethics and Medical Humanities Research through the Feinberg School of Medicine at Northwestern University

Objective: To explore trainee experiences and perceptions of patient pain in the clinical practice of obstetrics and gynecology, and to understand how physician burnout may modulate these perceptions.

Methods: This is a prospective mixed-methods study of resident physicians in a single urban academic obstetrics and gynecology program. Residents were randomly selected to participate in semi-structured interviews exploring their perceptions of patient pain. Recordings were transcribed and coded using a grounded theory approach. The Professional Fulfillment Index (PFI) was administered to assess different components of job satisfaction, including physician burnout, after semi-structured interviewing. In response to the emergence of an unanticipated theme - that of residents describing patient race or ethnicity as a factor modulating expression of pain or provider perception of pain - it was hypothesized that level of physician burnout would be associated with likelihood of making racialized commentary. Multivariate regression analyses were performed to compare the relationships between this emerging theme and PFI scores.

Results: Thirty-six residents completed in-person interviews, and 35 residents completed the PFI (97.2% response rate). Twenty-six residents (72.2%) expressed beliefs about pain expression as related to patient race or ethnicity. Eight residents (22.2%) acknowledged racial bias in their assessment of patient pain. PFI scores indicate a high degree of professional fulfillment, as well as a moderate degree of work exhaustion, interpersonal disengagement, and burnout.

On univariable and multivariable regression analysis, there was no association between self-rated physician burnout or other PFI subtest scores and resident description of pain expression as related to patient race or ethnicity.

Conclusion: A striking number of obstetrics and gynecology residents describe that a patient's race or ethnicity modulates their expression of pain. A smaller proportion of residents acknowledge racial bias in their perception of patient pain. PFI score did not predict likelihood of making racialized commentary about patient pain.

8:30 - 8:45 a.m.

Paper #15

Pregnancy Rates Using Donor Oocytes With and Without PGT-A in Patients Undergoing In-Vitro Fertilization

Lana A Nguyen, MD¹, Mark D Sanchez, MD^{1,2}

Bayfront Health Saint Petersburg, Saint Petersburg, FL¹,
Florida Fertility Institute, Clearwater, FL²

Objective: To study the effects of PGT-A on pregnancy rates in patients undergoing IVF using donor oocytes. DESIGN: Retrospective cohort data study.

Materials and Methods: A retrospective cohort study was conducted using clinical data for patients who participated in IVF cycles using donor oocytes with or without PGT-A at the Florida Fertility Institute from 2017 to 2020. Exclusion criteria were IVF cycles without donor oocytes, patients with morbid obesity with BMI >45, uncontrolled hypertension or diabetes mellitus, patients with missing data and transfers that were cancelled due to the absence of normal embryos. Outcomes included pregnancy rate, number and percentage of good quality blastocysts, and time to pregnancy rates.

Results: A total of 91 transfers were analyzed for the effect of PGT-A on IVF outcomes including 46 frozen oocyte transfers and 45 fresh oocyte cycles. No difference was seen in pregnancy rate between donor egg thaw vs. fresh cycles with or without PGT-A, with rates ranging from 56.7% to 70.0% ($P < 0.94$). There was no statistical difference among fresh vs. donor egg thaw cycles with or without PGT-A in terms of percentage of good quality blastocysts, however, there was a higher number of good quality blastocysts in the fresh donor oocytes regardless of PGT-A implementation ($P < 0.0013$). A difference in time to pregnancy was present in patients who underwent donor egg thaw vs fresh cycles with or without PGT-A ($P < 0.0018$).

Conclusion: PGT-A has been an increasingly utilized technology in IVF treatment. However, due to extra cost and requirements for additional embryo vitrification, patients may reconsider this technology if increased pregnancy rate is the main priority. This study demonstrates that PGT does not significantly affect pregnancy rates in IVF cycles using donor oocytes. These findings should be taken into account when counseling patients seeking infertility treatment who are considering using PGT-A if they are using donor oocytes.

8:45 - 9:00 a.m.

Paper #16

Knowledge and Perceptions About Pre-eclampsia Among Women from A Border Population

Janice M Vivaldi, MD, Carla A Martinez, MD, Zuber Mulla, PhD, Sheralyn Sanchez, MPH

Texas Tech Univ. Health Sciences Center El Paso, El Paso, TX

Pre-eclampsia is one of the leading causes of maternal morbidity and mortality worldwide. Studies have shown that patients don't have a good understanding of what preeclampsia entails and the impact it can have on their pregnancy and postpartum health. Our unpublished analysis of the Texas Public Use Data File found that the incidence of preeclampsia was about 11% at UMC of El Paso. Our population is a composite of patients who receive prenatal care in the US and those who receive prenatal care in Mexico and present for delivery. Our aim was to collect data about US-Mexico border patient's overall knowledge about pre-eclampsia and its effects on maternal-fetal health.

This preliminary analysis focused on 117 women who have never had preeclampsia. Patients were recruited from October 2019 - September 2020. We included women from our Ob/Gyn clinics who were 18 years of age or older and were either currently pregnant or postpartum. The outcome was the score on a 38-item preeclampsia knowledge survey and was reported as the percent of questions that were answered correctly. Primiparous and multiparous women combined were compared to nulliparous women. Two-sample t-tests and chi-square tests were performed. A multiple linear regression model was fit to identify predictors that were associated with the percent correct score.

A total of 26 nulliparous were compared to 91 women who were either a primiparous or a multiparous. The nulliparous were younger than the comparison group: 24.0 vs. 28.9 years, $P=0.0004$. The prevalence of Hispanic ethnicity was 88.5% and 74.7% in the nulliparous and comparison group, respectively ($P=0.14$). Nulliparous were more likely than the comparison group to be Medicaid beneficiaries: 84.6% vs. 53.9%, $P=0.005$. Overall, the mean percent correct score ranged from 0.0 to 84.2. The unadjusted mean percent correct survey score was 53.2 in the nulliparous and 50.1 in the comparison group ($P=0.36$). No association between parity and the percent correct outcome was detected in the multiple linear regression analysis. After adjusting for parity, maternal

age, education, and Medicaid status in a regression model, the percent correct score was, on average, lower in Hispanics than in non-Hispanics (adjusted slope: -8.03, P=0.03). Women who had completed four or more years of college had a score that was, on average, over 10 percentage points higher than those who had less education (adjusted slope: 10.92, P=0.002).

Our data suggest that non-Hispanic women that completed at least 4 years of college had better understanding about what pre-eclampsia is, risks factors for developing it, how it can impact their pregnancy and life after. Our results are significant because it is the first study of its kind to be done in a clinical setting and provided in two languages. Going forward it would be important to validate the survey that was used, as well as compare if having an educational intervention would change the results we have obtained.

9:00 - 9:30 a.m. **Break/Refreshments**

<p style="text-align: center;">SIXTH SCIENTIFIC SESSION (Carneros Ballroom)</p>
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Moderators:

Veronica T. Mallett, M.D. – CAOG Trustee
Tacoma A. McKnight, M.D. – CAOG Trustee

9:30 - 10:30 a.m. **Hot Topic #5**
“Optimizing Reproductive
Outcomes in Cancer Survivorship”
Leslie C. Appiah, M.D.
Univ. Colorado Anschutz Med. Campus
Denver, Colorado

Learning Objectives:

- Provide examples of cancer patients who request fertility presentation.
- Optimize reproductive outcome in gyn cancer therapy patients.

10:30 - 10:45 a.m.

Paper #17 **Community Hospital Award**
Efficacy of a Pilot Program for Obstructive Sleep Apnea
Screening in Pregnancy

Nicolina Smith, DO¹, Matthew Floyd, DO¹, Roopina Sangha, MD², Philip Cheng, MD/PhD¹, D'Angela S Pitts, MD¹, Luisa Bazan, MD¹

Henry Ford Health System, Detroit, MI¹, JPS Health Center for Women, Forth Worth, TX²

Background: Pregnant women with obstructive sleep apnea are at higher risk for eclampsia, gestational diabetes, cardiomyopathy, congestive heart failure, and higher in-hospital mortality than pregnant women without obstructive sleep apnea. Obstructive sleep apnea in pregnancy is underdiagnosed and opportunities for interventions are often missed.

Objectives: A screening pilot program was developed at an obstetrics clinic in an urban teaching facility to improve diagnosis of obstructive sleep apnea among pregnant women.

Methods: New obstetric patients were screened for OSA by a nurse using a 6-question screening protocol that assessed for snoring/apneas, body mass index > 35 kg/m², essential hypertension, glucose disorders, neck size > 36 cm, and sleepiness. For patients who scored 2/6 or greater, a home sleep apnea test was ordered after discussing the risks of obstructive sleep apnea and benefits of treatment with an obstetrician.

Results: In the 6 months before implementation of the obstructive sleep apnea screening program, 0 women were referred to the sleep medicine clinic. Over 8 months of obstructive sleep apnea screening, 571 women were screened and 124 (22%, 124/571) were at high risk for obstructive sleep apnea. Of the women who screened positive, 44 (35%, 44/124) had obstructive sleep apnea tests ordered. A total of 26 (59%, 26/44) women performed portable sleep tests, and 16 (62%, 16/26) were diagnosed with obstructive sleep apnea with an apnea-hypopnea index \geq 5. Only 4 patients followed up in the sleep clinic after diagnosis, and only 3 patients met initial compliance with continuous positive airway pressure therapy.

Conclusion: A significant increase in screening for obstructive sleep apnea was achieved after implementation of an in-clinic screening protocol for pregnant women. The high

rate of obstructive sleep apnea diagnosis via home sleep apnea tests points to the utility of the 6-question screening protocol. Although several patients screened positive, few underwent testing for obstructive sleep apnea, and even fewer started continuous positive airway pressure therapy and were compliant with therapy. This quality initiative program increased obstructive sleep apnea detection rates; however, there is room for improvement for educating patients and helping them maintain obstructive sleep apnea therapy.

10:45 - 11:00 a.m.

Paper #18

The Association Between Sleep and Depression During Late Pregnancy and the Early Postpartum Period

Angela G Jones, MD^{1,2}, Bachar S Hadaie, MD¹, Rachel Bennett, BA¹, Nimisha Kumar, MD¹, Chandan K Saha, PhD¹, David M Haas, MD¹

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Research Support: IU Grand Challenges Precision Health Initiative Grant

Purpose: Sleep disturbances are common during pregnancy and the postpartum period. Poor subjective sleep quality has been shown to be associated with a higher burden of depressed mood symptoms, and higher odds of suicidal ideation. The objective was to assess and correlate sleep quality and depressed mood symptoms in the late pregnancy and early postpartum periods.

Methods: This study was a prospective observational study of a subgroup of women enrolled in the Hoosier Moms Cohort, a prospective pregnancy cohort. Women who consented to participate completed the Pittsburg Sleep Quality Index (PSQI) and the Edinburgh Postnatal Depression Scale (EPDS) questionnaires at delivery, 1, and 2 months postpartum. The questionnaires at delivery represented the week prior to delivery (i.e. late pregnancy). Poor sleep was defined as a PSQI of 5 or greater. Depressed mood risk was defined as an EPDS score of 10 or higher. Pearson correlation coefficients were performed at each visit and Proc Mixed in SAS was used to estimate overall correlation in the presence of repeated measures.

Results: A total of 26 women were enrolled in the study with a mean (SD) age of 29.1(6.3) years and BMI of 29.0(5.9). The mean (SD) gestational age at delivery was 38.4(2.4) weeks. The cohort was 23% Hispanic and 18% African American. Completed PSQIs were available for 19 participants at delivery, 16 at 1 month postpartum, and 9 at 2 months postpartum. Poor sleep scores were noted by 84.2%, 87.5% and 66.7% of women at the three timepoints. Depressed mood data were available for 26 participants at delivery, 16 at 1 month postpartum, and 9 at 2 months postpartum. An elevated EPDS scores ≥ 10 was claimed by 19.2%, 12.5%, and 18.2% of women, respectively. Higher PSQI scores were positively associated with higher EPDS scores overall ($r=0.71$, $p<.001$)

and at each of the individual time points: late pregnancy ($r=0.84$, $p<.0001$), 1 month postpartum ($r=0.51$, $p=.04$), and 2 months postpartum ($r=0.68$, $p=.04$).

Conclusion: Our results demonstrate a high prevalence of poor sleep at late pregnancy, 1, and 2 months postpartum and further demonstrate a significant positive association between poor sleep and higher depression scores in late pregnancy and the early postpartum timepoints.

11:00 - 11:15 a.m.

Paper #19

Clinical Presentation of Hemolysis, Elevated Liver Enzymes, Low Platelet Count (HELLP) Syndrome: A Retrospective Observational Study

Miriam E Hankins, MD, John A Morgan, MD, David F Lewis, MD

Louisiana State University Health Shreveport, Shreveport, LA

Introduction: Current recommendations by the American College of Obstetricians and Gynecologists (ACOG) endorse obtaining weekly laboratory testing to screen for the development of preeclampsia with severe features and/or Hemolysis, Elevated Liver Enzymes, Low Platelet (HELLP) Syndrome in patients with preeclampsia without severe features that are being managed in the outpatient setting. A prior study by the current authors revealed, in a retrospective cohort of 204 patients being treated outpatient with mild hypertensive disorders, no patient had any change in clinical care based on laboratory values obtained in the outpatient setting. There is limited evidence in the literature describing the clinical circumstances surrounding the development and presentation of HELLP syndrome. The current study was designed as a retrospective observational study to describe the presentation of patients with HELLP syndrome to further investigate the utility of obtaining weekly laboratory testing in the outpatient management of preeclampsia.

Methods: This is a single-site retrospective observational study that evaluated all patients diagnosed with HELLP Syndrome at Ochsner-LSU Health Shreveport between January 1, 2015 and June 1, 2020. Demographic information was collected for all patients who developed HELLP syndrome including age, race, parity, tobacco use, BMI, history of chronic hypertension, history of preeclampsia, presence of diabetes mellitus, and presence of other medical conditions. The primary outcome of the current study is the clinical presentation of HELLP syndrome in each patient. The outcomes evaluated in the study included HELLP syndrome present on initial presentation, preeclampsia without severe features progressing to HELLP syndrome, severe preeclampsia progressing to HELLP syndrome, and HELLP syndrome developing postpartum. Secondary outcomes included gestational age at diagnosis of HELLP, latency from diagnosis of hypertensive disorders to development of HELLP, development of complete or partial HELLP syndrome, laboratory values, systolic and diastolic blood pressures, presence of fetal growth restriction, and mode of

delivery. Fetal outcomes were also evaluated including birth weight, NICU admission, 5 min APGAR score < 7, and fetal gender.

Results: Our study included 17 total patients diagnosed with HELLP syndrome during the 5-year study period. The mean age of the cohort was 28.4 years, the majority of the patients were African American (n=14, 82%), and the mean BMI of the cohort was 31.4 kg/m² (obese). 3 patients (17.6%) had a history of preeclampsia and 5 patients (29.4%) carried the diagnosis of chronic hypertension. With regards to the primary outcome, the most common presentation for HELLP syndrome in our cohort was severe preeclampsia progressing to HELLP syndrome during the postpartum period (n=7, 41.1%), followed by severe preeclampsia progressing to HELLP syndrome during the antepartum period (n=6, 35.1%). Less common presentations included HELLP syndrome on initial presentation to labor and delivery (n=3, 17%) and mild preeclampsia being managed inpatient presenting to preeclampsia with severe features followed by the development of HELLP syndrome (n=1, 5.8%). Overall, 14 of the 17 total patients in the cohort (82.3%) carried the diagnosis of preeclampsia with severe features prior to the development of HELLP syndrome. The other 3 patients had HELLP syndrome on initial presentation. The mean gestational age for diagnosis of hypertensive disorders in patients who went on to develop HELLP syndrome was 31w1d. The development of partial HELLP syndrome was slightly more common in our cohort (n=9, 52.9%). Fetal growth restriction was a common finding in patients who developed HELLP syndrome (n=8, 47.1%). The majority of patients in the cohort were delivered via cesarean delivery (n=15, 88.2%). Neonatal outcomes were variable and mostly dependent on gestational age at delivery, with 16 of the neonates being admitted to the neonatal intensive care unit.

Conclusion: The current study describes the clinical circumstances surrounding the development of HELLP syndrome in a cohort of 17 patients over a 5-year study period. The most common diagnosis preceding HELLP syndrome was preeclampsia with severe features 82.3%. In our cohort, HELLP syndrome developed in patients who had an early mean gestational age at diagnosis of hypertensive disorders and a high rate of fetal growth restriction. No patient in our cohort was treated as an outpatient for hypertensive disorders at any point during their gestation which further calls into question the utility of weekly laboratory testing for the outpatient management of hypertensive disorders of pregnancy. We hope our research will spark larger, prospective trials to describe the clinical circumstances

surrounding the development of HELLP syndrome and to develop a more patient friendly and cost-effective method to utilize laboratory testing for the outpatient management of hypertensive disorders.

11:15 - 11:30 a.m.

Paper #20

Evaluation of Centering Pregnancy on Knowledge, Self-Esteem and Social Support in Rural North Dakota

Quinci Paine, MD, Conner Baker, MD, Thomas F Arnold, MD

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

Purpose:

1. To establish a successful Centering Pregnancy program in a rural setting, the first in the state of North Dakota.
2. To evaluate the potential benefits of a rural Centering Pregnancy program on patient care, knowledge, self-esteem and social support.

Background: Centering Pregnancy, developed in the 1990's is an alternative to traditional one on one prenatal care which is designed to educate and empower women. It is built on the principle of "centering" three main components of prenatal care, namely: risk assessment, education and supportive care to create a well-rounded prenatal experience. Centering Pregnancy incorporates women of similar gestational ages who meet on a routine prenatal care schedule for group appointments. There, the patients independently perform their vital signs self-assessment, are evaluated and examined by a provider and then participate in group sessions for discussions of various gestational age specific prenatal topics and questions. It has been shown that patients who have access to more prenatal care experienced less stress during pregnancy, reported less substance abuse, and delivered babies of both higher birthweight and higher APGAR scores at 5 minutes of life (1). The Centering Pregnancy program specifically is designed to address community need for greater availability of prenatal care. It also offers patients the chance to develop a support network and become more actively involved in their own healthcare. Previous studies have demonstrated benefits of Centering Pregnancy, including increased ownership of care, improved overall prenatal knowledge and greater satisfaction with care (2).

Methods: During the last decade there has been a tremendous population explosion in western North Dakota due to the influx of oil and gas exploration activities in the region. With a doubling of the population in the subject community to over 30,000 inhabitants there has been a similar doubling of hospital births to nearly 750 per year. As might be expected

this previously homogeneous community has become widely diversified as oil field workers and their families come from all over the country. These tens of thousands of newly arrived patients are diverse in numerous ways - culturally, racially, religiously, geographically, educationally and socioeconomically. On arrival most women feel socially isolated, having left family, friends and support groups behind in search of a hopefully better life.

Over the last 3 years a Centering Pregnancy program was introduced to respond and quickly adapt to so many new patients. Centering was felt to be the best way to accommodate the wide ranging wants and needs of this dramatically changing population. Each Centering group initially included 6-10 pregnant patients and the total number soon comprised about 15% of the pregnant population. A retrospective chart review from the first 200 patients enrolled in the program and who met the study criteria were divided into 2 cohorts. Each pregnant woman had to be between the ages of 18 and 35 years with a single viable intrauterine pregnancy confirmed on ultrasound with no evidence of a placenta previa. Each cohort consisted of 70 patients, with one group receiving traditional 1 on 1 care matched with the other group who received care via Centering Pregnancy.

Results: The two study cohorts were then compared and any statistically significant differences between the two groups were noted. Data collected on both groups included, but was not limited to pregnancy outcomes, numbers of prenatal appointments including ER visits, appointment no-show rates, telephone encounters with staff, method and outcome of delivery, postpartum complications and newborn vaccination rates.

While small differences were noted in several areas, there were no statistically significant variations except the appointment no-show rate was higher in the traditional care cohort. The Centering Pregnancy program was recently named "The Outstanding Rural Health Program" by the North Dakota Center for Rural Health. Of overwhelming significance is the fact that pregnant patients in the Centering group repeatedly comment on feeling an emotional belonging to and acceptance by members of their group for the first time since they arrived in the community, a hallmark of both inclusion and equity. The Centering Pregnancy program had by necessity to be suspended during the coronavirus pandemic but is currently being reactivated amid better than ever patient demand based on word-of-mouth recommendations from initially enrolled Centering patients.

11:30 - 11:45 a.m.

Paper #21

A Case of Discordant Transmission of COVID-19 Infection in a Dichorionic Twin Gestation

Olga M Colón-Mercado, MD¹, Sanela Andelija, DO¹, James Baron, MD¹, Nicole L Plenty, MD², Tiffany R Tonismae, MD³

HCA Healthcare/USF Morsani College of Medicine GME Program, Brandon, FL¹, Obstetrix Medical Group of Houston, Houston, TX², Johns Hopkins All Children's Hospital, Maternal, Fetal, and Neonatal Institute, St Petersburg, FL³

Background: Severe Acute Respiratory Coronavirus 2 (SARS-CoV-2) is the virus responsible for the coronavirus disease 2019 (COVID-19) and it is transmitted primarily by respiratory droplets. A topic of ongoing debate is the possibility of vertical transmission of the virus from mother to neonate. Recent systematic reviews have shown indeterminate possibility of vertical transmission in singleton gestations in the third trimester. In the case reports and retrospective studies included in these analyses, most mothers tested positive for SARS-CoV-2 prior to delivery in the third trimester, and the route of delivery was primarily by cesarean section. Samples tested for the presence of the virus to prove transmissibility in these studies included amniotic fluid, umbilical cord blood, neonatal throat swabs, breast milk, placenta, IgM serology, vaginal secretions, urine and feces. In the cases where neonates tested positive for SARS-CoV-2 in nasopharyngeal swabs, placental analysis and IgM serology demonstrated further evidence of the likelihood of vertical transmission. However, few studies have included twin gestations. The following case is unique in that it follows the labor course of a symptomatic COVID-19 positive mother who underwent vaginal delivery of a dichorionic twin gestation in which one of the neonates tested positive for COVID-19 with supporting histopathological placental findings, while the other remained negative.

Case Presentation: Patient is a 28-year-old G2P1001 at 31 0/7 weeks gestation with a dichorionic, diamniotic twin gestation who presented to Labor and Delivery via ambulance with complaints of uterine contractions and preterm rupture of membranes. She tested positive for COVID-19 one week prior. Upon initial presentation, she was afebrile and in no respiratory distress. She was found to be grossly ruptured, experienced rapid cervical dilation and delivered twins vaginally shortly after arrival. Both viable baby girls had

Apgar scores of 8, 8 at 1,5 minutes, respectively. Placentas were sent to pathology for evaluation.

Prior to delivery, the patient received a betamethasone course and was managed on an outpatient basis due to her ability to maintain adequate oxygen saturations. After delivery, the patient became hemodynamically unstable, developing tachycardia, tachypnea, and hypoxia, with oxygen saturations between 86-89% at room air. She required a nonrebreather mask up to 10L to maintain oxygen saturations above 95%. Chest x-ray and chest computed tomography angiography showed bilateral airspace opacifications and extensive ground glass infiltrates, respectively, consistent with COVID-19 pneumonia. Laboratory results revealed elevated levels of c-reactive protein 14.40 mg/dL, procalcitonin 7.16 ng/mL, D-dimer 2.10 mg/L, and Interleukin 6 (IL-6) 32.7 pg/mL. Per standard protocol, the patient was started on prophylactic enoxaparin sodium, azithromycin, ceftriaxone, vitamin D3, zinc, dexamethasone, and remdesivir. She also received convalescent plasma. Her condition markedly improved and she was discharged home in stable condition on postpartum day 7.

Both twins were tested for COVID-19 via nasopharyngeal swab at 24 and 48 hours of life. Twin A, who had spontaneous rupture of membranes, tested negative at 24 and 48 hours of life and placental findings were unremarkable. Twin B, who had intact membranes until artificial rupture at the time of delivery, tested positive at 48 hours of life. Histopathological placental findings for Twin B included hemosiderin laden macrophages, thickened blood vessels in the membranous decidua and increased terminal villi. Though Twin B tested positive for COVID-19, she did not require additional respiratory support or develop additional complications prior to discharge.

Discussion: While some studies have concluded that there is no evidence of vertical transmission of SARS-CoV-2 in pregnancy, others suggest strong evidence in its favor. Our case serves as supporting evidence of the possibility of vertical transmission of COVID-19. It further enriches the literature on the subject due to the vaginal mode of delivery and multiple gestation, two factors that have been underrepresented in the retrospective studies to date. Despite similar delivery conditions as well as post-delivery contact and isolation precautions, only Twin B tested positive for SARS-CoV-2. Most importantly, Twin B's placenta showed signs of a chronic bleed and maternal vascular malperfusion, which have been reported in placentas of neonates born to mothers during the acute symptomatic phase of COVID-19. We believe this to be proof of transplacental transmission of the virus, since the patient did not have any underlying

conditions that could lead to similar placental findings. While the possibility of transcervical transmission was explored, it was quickly refuted due to Twin A not testing positive for the virus despite having longer contact time than Twin B due to spontaneous rupture of membranes. Still, the biggest limitation of the study is the absence of further testing of maternal and fetal tissues for the presence of the virus, information that would have helped confirm mode of transmission.

Conclusion: The vertical transmission of COVID-19 is rare, yet possible. Further studies are needed to determine the exact mode(s) of transmission, especially in twin gestations in which only one twin becomes infected.

11:45 - 12:00 noon

Paper #22

Physician Perception of IV Estrogen for the Management of Acute Abnormal Uterine Bleeding

Anne M Tjaden MD¹, Margaret Kistner MD¹, Abigail Otto MD¹, Elyse Schultz MD¹, Michael Wesolowski MPH², Paula White MD¹, Linda Yang, MD MS¹, Jean R Goodman, MD¹

Loyola University Medical Center, Maywood, IL¹, Loyola University Chicago, Maywood, IL²

Background: Abnormal uterine bleeding (AUB) is a common reason that women seek gynecologic care. Acute AUB, specifically, may cause women to seek more urgent treatment in an emergency room setting. There are many treatment options for acute AUB including oral contraceptive pill (OCP) tapers, oral progestins, tranexamic acid (TXA), intramuscular medroxyprogesterone acetate, and intravenous (IV) conjugated estrogen. Our study aimed to investigate physician preference for management options of acute AUB and examine their opinions and understanding of IV estrogen used for this purpose. We sought to determine whether physician (attendings and residents) preferences for management of AUB differ significantly by specialty, specifically internal medicine, emergency medicine, and obstetrics and gynecology.

Methods: An electronic web-based survey was emailed to Obstetrics & Gynecology (OBGYN), Emergency Medicine (EM), and Internal Medicine (IM) physicians in September 2020. Eligible participants included resident and attending physicians employed at Loyola University Medical Center. The REDCap (Research Electronic Data Capture) application was used for survey completion and data collection. Survey items included questions regarding participants' specialty and training level, a short case description and question to assess participants' preferred pharmacological management option for acute AUB, and questions to assess comfortability with prescribing IV estrogen. Descriptive statistics were used to calculate frequencies and percentages of responses. Simple and multivariable cumulative logit regression models were used to estimate the unadjusted and adjusted effects of predictors on the odds of a higher likelihood or preference for prescribing IV estrogen for AUB, respectively. Predicted probabilities of each IV estrogen prescribing preference rating were derived from a multivariable cumulative logit regression model. Prior to initiation of the study, Institutional Review Board approval was obtained (LU# 213181).

Results: A total of 39 physicians were surveyed with 20 physicians identifying as OBGYN (51.28%), 9 as EM (23.08%), 9 as IM (23.08%), and 1 not specifying (2.56%). Twenty-two participants identified as residents (56.41%) and 17 as attending physicians (43.59%). Fifteen participants (38.4%) indicated OCP taper as their first option for management of acute AUB, and 15 (38.4%) indicated oral progestins. Only 6 (15.38%) indicated IV estrogen as their first line choice. Despite IV estrogen being the only FDA approved treatment modality for the management of acute AUB, only 21 participants (53.85%) identified it as such, and only 13 participants (33.33%) indicated that they were comfortable prescribing it. The most common indication for not prescribing IV estrogen was being unfamiliar with the typical regimen (18/26, 69.23%). Two out of 26 participants (7.6%) stated they were not comfortable prescribing IV estrogen due to concern of its hypercoagulable effects. In examining physician specialty, there was no difference between IM and OBGYN physicians in regard to prescribing IV estrogen ($p=0.32$). The effects of EM specialty ($p = 0.01$) and resident training level ($p = 0.04$) were significant in unadjusted analyses, with EM physicians less likely to prescribe IV estrogen for acute AUB than OBGYN physicians, and with residents more likely to prescribe IV estrogen for acute AUB than attendings. Only the effect of EM specialty ($p = 0.01$) was significant in adjusted analyses, with EM physicians less likely to prescribe IV estrogen for acute AUB than OBGYN physicians, after adjusting for training level. Using predicted probabilities derived from a multivariate cumulative logit regression model, we found that OBGYN residents are most likely to prescribe IV estrogen for treatment of acute AUB and EM attending physicians are least likely to prescribe IV estrogen for treatment of acute AUB.

Conclusion: This study aimed to examine OBGYN, EM, and IM resident and attending preferences for management of acute AUB and their perception of IV estrogen. Our study demonstrated only a little over half of all respondents correctly identified IV estrogen as being FDA approved for management of acute AUB. Only ~1/3 of respondents indicated that they were comfortable prescribing IV estrogen. Out of those who did not feel comfortable prescribing IV estrogen, the majority indicated they were unfamiliar with the typical regimen (~69%). Overall, resident physicians were more likely to prescribe IV estrogen than attending physicians. By specialty, OBGYN physicians were most likely to prescribe IV estrogen for treatment of acute AUB, followed by IM physicians and EM physicians, respectively.

ADJOURN

A Qualtrics link will be sent out electronically for the evaluations.

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SCIENTIFIC POSTERS

POSTER SESSIONS

THURSDAY
OCTOBER 7, 2021
6:00 A.M. – 12:00 NOON

FRIDAY
OCTOBER 8, 2021
6:00 A.M. – 10:30 A.M.

Poster #1

Steroid Biomarkers as Predictors of Newborn Outcomes in Response to Antenatal Corticosteroid Therapy

David M. Haas, M.D.
Indiana University School of Medicine
Indianapolis, Indiana

Poster #2

A Case Report of Recombinant Tissue Plasminogen Activator (tPA) Use During Third Trimester of Pregnancy

Kaitlyn M. Enderle, MS4
Indiana University School of Medicine
Indianapolis, Indiana

Poster #3

Multifactorial Barriers to Diagnosis and Management of Vulvar Squamous Cell Carcinoma: A Case Report

Matthew S. Lang, MS4
Indiana University School of Medicine
Indianapolis, Indiana

Poster #4

Does Cerebroplacental Ratio Predict Adverse Outcomes in Pregnancies Complicated by Pre-Gestational Diabetes?

Lorraine M. Torres, M.D.
Bayfront Health St Petersburg
Saint Petersburg, Florida

Poster #5

Implementing the Use of Vaginal Preparation Prior to C-Sections to Decrease Postpartum Endometritis

Camille C. Imbo-Nloga, M.D.
Brandon Regional Hospital
Brandon, Florida

Poster #6

Surgical Management of Cervical Ectopic Pregnancy: A Case Report

Pamella M. Yamada, M.D.
HCA Healthcare/USF Morsani College of Medicine GMA,
Brandon Regional Hospital
Brandon, Florida

Poster #7

Retained Breus' Mole: Atypical Cause of Postpartum Hemorrhage

Sarah C. Swiezy, MS4
Indiana University School of Medicine
Indianapolis, Indiana

Poster #8

Calculating Quantitative Blood Loss in Vaginal and Cesarean Deliveries

Alexander M. Clavijo, M.D.
Texas Tech University Health Sciences Center - El Paso
El Paso, Texas

Poster #9

Evaluation of Anemia in Pregnancy

Lucas J. Bartl, B.A.
University of Kansas Medical Center
Kansas City, Kansas

Poster #10

Incidence and Characteristics of Women Presenting to the Emergency Department with Abnormal Uterine Bleeding

Nicolette Codispoti, MS, MPH
Loyola University Chicago Stritch School of Medicine
Chicago, Illinois

Poster #11

Preeclampsia as Presenting Symptom in Gestationally Advanced Molar Pregnancy

Abigail M. Otto, M.D.
Loyola University Medical Center
Chicago, Illinois

Poster #12

Unexplained Persistently Elevated Quantitative β -hCG in Post-Menopausal Female Remote from Total Laparoscopic Hysterectomy-Bilateral Salpingo-Oophorectomy

David A. Billings, M.D.
Univ. of North Dakota School of Medicine & Health Sciences
Minot, North Dakota

Poster #13

Are Primiparous Patients Able to Accurately Predict Length of Pushing

Alyssa R. Sickie, M.D.
Aultman Hospital
Canton, Ohio

Poster #14

Postpartum Bilateral Lung Transplantation in COVID-19 Associated Respiratory Failure

Gayathri D. Vadlamudi, M.D.
Henry Ford Hospital
Detroit, Michigan

Poster #15

Successful DaVinci Repair of Isthmocele for Metrorrhagia after Cesarean Delivery: A Case Report

Akash K. Jani, M.D.
Advocate Illinois Masonic Medical Center
Chicago, Illinois

Poster #16

Successful Laparoscopic Management of Type II Cesarean Scar Pregnancy: A Case Series

Carlos M. Fernandez, M.D.
Advocate Illinois Masonic Medical Center
Chicago, Illinois

Poster #17

Epidemiologic Principles in Obstetric/Gynecologic Practice

Elliot M. Levine, M.D.
Advocate Illinois Masonic Medical Center
Chicago, Illinois

Poster #18

Decidualized Endometrioma: Its Optimal Clinical Management

Carlos M. Fernandez, M.D.
Advocate Illinois Masonic Medical Center
Chicago, Illinois

Poster #1

Steroid Biomarkers as Predictors of Newborn Outcomes in Response to Antenatal Corticosteroid Therapy

David M Haas, MD, Ziyi Yang, MS, Sherrine A Ibrahim, MD, Hayley K Trussell, RN, Laura S Haneline, MD, Sara K Quinney, PhD

Indiana University School of Medicine, Indianapolis, IN

Research Support: NICHD grant R01HD088014

Objective: Antenatal corticosteroids act to enhance fetal lung development in anticipated preterm birth. Given that adrenal suppression of steroids occurs after receiving shots of betamethasone (BMZ), it is theorized that the degree of suppression of endogenous steroids may be a biomarker for BMZ response, and might provide insight into the variability in newborn outcomes. The objective of this study was to test a panel of steroids as possible biomarkers associated with development of newborn respiratory distress syndrome (RDS) after maternal BMZ administration for threatened preterm birth.

Methods: We performed a secondary case-control analysis of a cohort of women recruited for a BMZ pharmacokinetic study. Women had blood drawn before receiving BMZ and approximately 5 hours (3-7), 24 hours (22-25), and 48 hours (46-50) after BMZ. These were timed when clinical decisions could be made about giving subsequent doses of BMZ. Plasma samples were analyzed for a panel of steroid hormones including cortisol and dehydroepiandrosterone sulfate (DHEAS). Concentrations at different times and changes from baseline were compared for newborns who did and did not get RDS. Results were adjusted for gestational age at delivery, race, and fetal sex.

Results: 213 women were recruited. Valid steroid concentrations were available from 77 women at baseline, 118 at 5-hours, 160 at 24 hours, and 85 at 48 hours. Cortisol concentrations were not different for newborns with or without RDS at any of the time points measured. Maternal DHEAS concentrations were different at 48 hours for babies that got RDS (189.9 ± 141.3 vs 246.7 ± 159.9 , $p=0.038$). Adjusting for potential confounders, there were no differences in concentrations at different time points or in mean changes from baseline to any time points for RDS newborns compared to non-RDS newborns.

Conclusions: Concentrations and changes in cortisol and DHEAS did not predict development of RDS. As we search for biomarkers to help individualize BMZ therapy, other biomarkers will need to be tested.

Poster #2

A Case Report of Recombinant Tissue Plasminogen Activator (tPA) Use During Third Trimester of Pregnancy

Kaitlyn M Enderle, MS4, Jennifer Weida, MD, Maryann Chimhanda, MD, MS

Indiana University School of Medicine, Indianapolis, IN

Purpose: To discuss the appropriate timing for cesarean delivery after recent administration of recombinant tissue plasminogen activator during pregnancy. To provide more anecdotal data regarding the risks vs. benefits of tPA use during pregnancy.

Methods: We performed a chart review of the patient's medical records from February 2021 to March 2021. Her records included details from her hospitalization at our institution and available outside records from the transferring institution.

Results: We present the second case of gravid patient who underwent a cesarean delivery within 36 hours of receiving tissue plasminogen activator (t-PA). There is an ongoing debate regarding the treatment of stroke in pregnancy. Though tPA is the treatment of choice in a conventional stroke patient, there is a lack of research concerning t-PA use in pregnant women. During pregnancy, t-PA is reserved for scenarios where the likelihood of maternal or fetal morbidity or mortality from a thrombotic event clearly outweigh associated risks of t-PA administration. Case reports have demonstrated successful usage of t-PA in treating thrombotic events in pregnant women. Although these papers support the usage of t-PA in pregnant women in life-threatening scenarios, all but one article described cases in which delivery could be delayed for a week or more after administration of t-PA. This 28-year-old G2P1001 at 34 weeks was transferred to our institution after new sudden onset speech difficulties, headache, blurred vision and right-sided weakness. Her prenatal care was uncomplicated until her quick presentation that evening to the outside hospital. Objective assessment at the outside hospital was significant for normal vital signs, slurred speech and decreased bilateral grip strength. Head CT scan without contrast was negative and fetal tracing was appropriate. Patient's symptoms were concerning for an acute ischemic stroke. She was counseled on the risk of tPA use including but not limited to brain bleed, loss of pregnancy, permanent disability and death. After evaluation by the Emergency Medicine and Obstetrics team, the decision was made for administration of tPA and emergent transfer to our

tertiary hospital for further care. On arrival, repeat head CT scan without contrast was negative. A head and neck CT scan with IV contrast was subsequently performed and the results showed no acute intracranial abnormality. Hemoglobin was 9.2 gm/dl and platelet count was 143 K/cumm. Neurology was consulted and she was diagnosed with a left middle cerebral artery ischemic stroke. Patient was subsequently diagnosed with preeclampsia with severe features after admission to our facility. Protocol called for immediate delivery, and a cesarean section was indicated for breech position. A multidisciplinary approach was utilized in this patient's care, and there was appropriate hesitation from Neurology and Anesthesiology regarding immediate surgery due increased hemorrhagic risk from recent tPA administration. The Critical Care Medicine and Neonatal Intensive Care Unit teams were also involved. We waited 36 hours before proceeding with cesarean delivery. During this time, Magnesium Sulfate was administered continuously for seizure prophylaxis and betamethasone was given for fetal lung maturity. Serial labs showed stable thrombocytopenia, mild anemia and normal transaminases. Two units of cryoprecipitate were infused during surgery, and both the mother and the baby did well throughout the procedure, with an estimated blood loss of 830mL. Mother was discharged on post-op day 4 and the baby remained in the neonatal ICU due to usual concerns associated with prematurity at 34 weeks gestation. This case gives insight on outcomes of cesarean section shortly after t-PA administration.

Conclusions: The outcome for this gravid patient and her newborn was favorable. Our patient did not experience any adverse events from the administration of tPA. Prompt imaging of the brain is useful in evaluating symptoms that can occur during a stroke and/or preeclampsia.

Poster #3

Multifactorial Barriers to Diagnosis and Management of Vulvar Squamous Cell Carcinoma: A Case Report

Matthew S Lang, MS4¹, Annaliesa Worrel, FNP-C², Maryann Chimhanda, MD, MS

Indiana University School of Medicine, Indianapolis, Indiana¹, Eskenazi Medical Group, Indianapolis, Indiana²

Purpose: To recognize and improve our understanding of the risk factors for delayed diagnosis and treatment of vulvar squamous cell carcinoma (SCC) in order to improve outcomes and limit requirement for adjuvant treatment. To increase awareness of the intersection of Social Determinants on Health and Health Disparities.

Methods: We performed a chart review of the patient's medical record from October 2018 to May 2021. Informed consent was obtained from the patient for the purpose of this report and presentation.

Results: A 60-year-old Spanish-speaking G5P5005 with hyper-tension, insulin dependent type 2 diabetes mellitus, severe non-proliferative diabetic retinopathy, hypercholesterolemia and recurrent vulvovaginal candidiasis who presented to primary care with vaginal itching, vaginal discharge and a new onset left labial lesion. She reported the left vulvar lesion began over 1 month prior to her December 2020 primary care appointment. Patient went through menopause at age 45, did not use tobacco and reported no history of abnormal pap smears. Her medical care had been complicated by lack of insurance for more than 1 year, fear of providing family income details due to undocumented status of her daughter, poor medication adherence, severe emergency room visits and scheduling delays due to the COVID-19 pandemic. The patient reported a similar lesion in the same location that had resolved with cryotherapy during her first pregnancy at age 16. Gynecologic examination revealed an ulcerated 0.5 cm left labial lesion with excoriation and an intertriginous rash. A pap smear with co-testing and laboratory studies were obtained, her vaginitis was treated with topical terconazole and an Obstetrics and Gynecology referral was placed. Her medications were resumed including metformin, insulin detemir and atorvastatin. The pap smear and human papillomavirus test were both negative and the patient was notified of results. Her hemoglobin A1c was 14% and unchanged since 2018. The patient returned 3 months later as scheduled follow up and her primary care provider noted that the left labial lesion had grown to approximately 3

cm x 3 cm. Her Gynecologic referral was expedited and a left labial biopsy was performed. The vulvar biopsy revealed a well-to-moderately differentiated squamous cell carcinoma with involved margins and depth of invasion up to 3.0 mm in some sections. She was quickly seen by Gynecologic Oncology and partial radical vulvectomy with bilateral lymph node dissection was recommended. Her surgery scheduled 4 weeks later was cancelled due to severe hyperglycemia as the patient's blood glucose was greater than 500 mg/dL. At her follow-up Gynecologic visit, the patient noted that she had stopped taking her medications prior to surgery due to difficulty visualizing the numbers on her insulin pen, and limited transportation for her medical appointments. Based on her current medical status, the patient was determined to be too high of a risk to reschedule for surgery and was referred to the cardiovascular risk reduction clinic for careful management of diabetes. The patient was also scheduled for follow up with Ophthalmology for her diabetic retinopathy.

Conclusions: Patients with vulvar squamous cell carcinoma are at risk for delayed diagnosis for a multitude of reasons including variable initial presentation and misdiagnosis in the setting of overlapping benign vulvar pathology and complicated chronic disease. Additionally, social determinants of health such as language barrier, lack of health insurance, and transportation issues have the potential to further increase the risk of diagnostic delay in patients with vulvar cancer. It is important for health care providers to utilize a multi-disciplinary approach when caring for patients in this setting.

Poster #4

Does Cerebroplacental Ratio Predict Adverse Outcomes in Pregnancies Complicated by Pre-Gestational Diabetes?

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Background: Pre-gestational diabetes mellitus is estimated to complicate approximately 1-2% of pregnancies in the United States.¹ These pregnancies have higher rates of: stillbirths, spontaneous abortions, fetal malformations, fetal hyperglycemia, excessive fetal growth, preterm deliveries, and cesarean sections. Current recommendations to improve both obstetrical and neonatal outcomes include surveillance of blood glucose, hemoglobin A1C, ultrasound (US), fetal echocardiogram, non-stress test, and biophysical profile. Patients with additional risk factors for stillbirth due to fetal complications, including FGR, are required to undergo further monitoring with middle cerebral artery (MCA) and umbilical artery (UA) cord dopplers. Recently, the cerebroplacental ratio (CPR), which represents changes in blood flow to the brain, is emerging as a more precise predictor of fetal wellbeing. However, there is limited research on the utility of CPR to predict adverse neonatal and obstetrical outcomes in pregnancies complicated by pre-gestational diabetes.

Objective: Our primary aim to investigate the value of assessing the CPR in fetuses of mothers with Type I or II diabetes mellitus in order to predict and identify mothers and fetuses at increased risk of neonatal and obstetrical complications.

Study Design: This is a prospective single-center study conducted from October 2020 to May 2021. Women with singleton pregnancies complicated by pre-gestational diabetes mellitus were consented and scheduled for cord dopplers and growth ultrasound at or beyond 36 weeks 0 days gestational age with delivery to occur at Bayfront Health St Petersburg Baby Place. English and Spanish speaking patients were screened and approached for consent during their prenatal visits. The MCA, UA, EFW were measured during the US; the CPR was then calculated, and both neonatal and maternal charts were evaluated after delivery. Primary outcomes studied included: stillbirth rate, rate of neonatal intensive care unit (NICU) admissions and APGARs. Secondary outcomes studies were: birthweight, cord blood gases (pH), cesarean section rate (CS), incidence of category two or three tracings, and estimated fetal weights (EFW). Women with multifetal

gestations, hypertensive disorders, gestational diabetes, and chromosomal abnormalities were excluded.

Results: A total of 37 patients were screened; 3 of which declined and 19 who did not meet all of the inclusion criteria. A total of 11 women at more than 36 weeks gestational age were included. Mean gestational age for US was 36 weeks and 6 days. Mean CPR was 1.82. In all, one patient (0.09%) had a CPR of less than the 10th percentile; 7 patients (63%) had a CPR between the 10 and the 50th percentile; and 4 patients (36%) had a CPR higher than the 50th percentile. There were no stillbirths; the rate of livebirths was 100%. For the composite neonatal, one neonate (0.09%) was admitted to the NICU (p 0.845) vs 90.9% of neonates not admitted to the NICU. APGARs scores were >8 for 9 neonates (81%) vs 2 neonates (18%) who had APGARs <5 (p 0.11). For the 5 minute APGARs 11 neonates (100%) had scores of > 8 (p 0.67). The rate of vaginal deliveries was 27%, meaning 3 patients had vaginal deliveries vs 8 patients (72%) who had CS. However, of these 8 CS, only 3 were for concerns of fetal tracing status, all other were scheduled repeat CS (p 0.124). pH was collected in 5 patients but able to be read for 4 patients, 2 of which had abnormal values of <7.1 vs 2 with pH >7.1 (p 0.90). No neonate was found to have neither an abnormal EFW or birthweight; 100% of EFW were >30th percentile (p 0.192) and 100% of birthweights were > 45% for gestational age at time of US (p 0.61).

Conclusion: Neither the CPR value or the CPR percentile showed any significance in predicting the composite neonatal, CS rates, EFWs, NSTs or birthweights. No fetus was found to be SGA and there were no cases of stillbirths, so no correlation could be studied between CPR and these outcomes. Overall, this research did not identify any correlation between the CPR and the outcomes studied. Our results do provide a baseline knowledge for whether or not considering this surveillance modality to improve care and pregnancy outcomes for this patient population.

1. American College of Obstetricians and Gynecologists. "Pregestational Diabetes Mellitus." Practice Bulletin Number 201. Vol 132, No. 6, 2018. <https://www.acog.org/-/media/Practice-Bulletins/Committee-on-Practice-Bulletins---Obstetrics/pb201.pdf?dmc=1&ts=20190731T1840159393>

Poster #5

Implementing the Use of Vaginal Preparation Prior to C-Sections to Decrease Postpartum Endometritis

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Background: Endometritis, an infection of the uterine decidua, is one of the most common postpartum surgical site infections. It occurs 10 times more frequently in CS compared to vaginal deliveries. The current practice of prophylactic preoperative antibiotics and abdominal preparations does not target vaginal microbes which can travel up to the uterus and cause endometritis. In 2018, Haas et al wrote a meta-analysis which included 10 studies with 3283 women after CS deliveries describing a 4.9% decrease in endometritis rates (RR 0.36, 95% CI 0.20-0.63) after implementation of vaginal prep. Reduction of endometritis is important due to the associated sequelae of complications including longer hospital stays, increased costs, and increased maternal morbidity and mortality.

Purpose: The objective of this quality improvement (QI) project was to increase adherence to the 2013 ACOG recommendations for the use of vaginal preparations before Cesarean sections (CS), with a goal of 70 %. The secondary goal was to decrease the rate of postpartum endometritis related to C/S.

Methods: This QI project was conducted on the labor and delivery (L&D) unit at Brandon Regional Hospital (BRH), a community hospital. Pre-implementation data was collected from January 2019 to July 2020 including date of delivery, type of delivery, and type of preparation done. Data was also collected regarding endometritis rates on all CS during this period. Prior to implementation onset, attendings were surveyed on their interest to participate via SurveyMonkey and all L&D staff were educated on proper vaginal preparation technique via PowerPoint presentation and an in-person demonstration. Additionally, a champion team was made consisting of an L&D charge nurse, the L&D nurse manager, the BRH vice president of QI Projects, and a certified surgical technologist.

The implementation of vaginal preps started on September 26, 2020 and postimplementation data was collected for 6 months until March 2021. The vaginal preps were done using iodine scrub and prep kits. Patients delivered by CS were excluded if they were performed by an attending surgeon who responded 'no' in the participation survey, were categorized as stat, or were done secondary to a placenta previa. Data was collected weekly including date of CS, type and indication of CS, and if vaginal and/or abdominal preps were performed. Monthly updates were distributed to the L&D nurse manager and the BRH QI team. Using the Plan-Do-Study-Act (PDSA) method, additional implementations were performed, including a printed step-by-step protocol placed in all operating rooms. At the halfway point, an anonymous feedback survey was distributed to the nursing staff asking their understanding of why vaginal preps were indicated, their consistency performing the prep, and their comfort level with the prep. In response to survey results, an email with video instructions was shared with all staff.

Results: Pre-implementation data showed 950 CS were performed in 2019 with less than 1% of these having a vaginal preparation. From January 2019 to July 2020, there were 9 cases of endometritis out of 1639 CS (0.55%). During the implementation period, from September 2020 to March 2021, a total of 448 CS were performed. Of these, 86 were excluded: 56 performed by nonparticipating attendings, 16 stat CS, 1 placenta previa, and 13 were indeterminate due to incomplete charting. Of the 362 CS that were included, vaginal preparations were performed for 309 (85.36%).

The endometritis rate from implementation day (Sept 26th, 2020) to present time (June 22nd, 2021) was 3 out of 715 (0.28%). This excludes endometritis diagnosed after vaginal deliveries. All three of these CS received a vaginal prep. A Fisher's Exact Test was run to calculate the difference in rates. In comparison to the overall previous rates in January 2019 to July 2020, this is a decreased incidence from 0.55% but not statistically significant (Relative Risk (RR) 0.76, CI 0.13-3.07).

The nursing feedback survey included 3 questions rated 1 (least) to 5 (most) and a free comment section. Averaged responses for each question were as follow: 4.2/5 understand the indication for vaginal preps, 3.9/5 consistently perform vaginal preps, 2.9/5 feel comfortable performing vaginal preps. The comment section was overall positive.

Conclusion: Our primary goal was successful and well received with an 85% implementation of vaginal preps in the initial 6-month period. We did not find a statistically significant decrease in endometritis likely due to the low

starting rate of endometritis after CS at BRH. We recommend reassessing endometritis rates after a year of vaginal prep use. Limitations of this study include the lack of access to patients who may have been diagnosed outpatient or at other institutions, also confounding factors such as chorio-
amnionitis affecting the diagnosis.

Poster #6

Surgical Management of Cervical Ectopic Pregnancy: A Case Report

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Purpose: To demonstrate surgical management of cervical ectopic pregnancy following history of cesarean deliveries.

Case: A 30-year-old G6P2032 presented as a transfer from an outside facility due to suspicion of cesarean scar ectopic pregnancy by transvaginal ultrasound (TVUS). Patient had a history of two prior cesarean deliveries and two elective abortions via dilation and curettage (D&C). She denied abdominal pain, vaginal bleeding, and was otherwise hemodynamically stable. Quantitative beta hCG on admission was found to be 41,165 IU/L. A multi-dose regimen with alternating methotrexate (MTX) and leucovorin with intragestional injection of potassium chloride or MTX was offered for the patient, which she declined. A pelvic MRI was performed which showed a gestational sac within the lower uterine segment with dilated cervix and fetal cardiac activity. Repeat TVUS performed by perinatology confirmed suspicion for cervical ectopic pregnancy, with continued fetal cardiac activity, dated 8 weeks 4 days by crown-rump length. The perinatologist counseled the patient again on management options and the patient elected surgical removal via D&C under ultrasound guidance with perinatology. Suction with a 9mm curette followed by sharp curette was performed without complication. Intraoperative ultrasound confirmed empty uterus and cervix. The patient was followed weekly via beta hCG until a level of 2 IU/L was reached at 6 weeks post-operative.

Conclusion: Evidence regarding of surgical management of cesarean scar ectopic pregnancies is limited. In this case, the patient was successfully managed with a D&C performed by an experienced physician under ultrasound guidance. While these types of ectopic pregnancies are very rare, risk factors include conception via assisted reproductive technologies (ART), history of cesarean delivery, and prior D&C. With the increasing number of cesarean deliveries and use of ART, cervical ectopic pregnancies are expected to rise in prevalence. Advancements in imaging modalities can also

identify atypical presentations of ectopic pregnancies earlier. Medical treatment may require multiple steps and repeat doses of medications and may result in surgery if unsuccessful. However, our case demonstrated that cervical ectopic pregnancy can be managed successfully with minor surgical intervention.

Poster #7

Retained Breus' Mole: Atypical Cause of Postpartum Hemorrhage

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Background: Breus' mole is a rare disease of pregnancy in which fibrin (a clot-forming factor) from intervillous blood accumulates between the uterus and maternal side of the placenta [1]. Also known as a Massive Subchorionic Thrombohematoma (MST), Breus' mole increases in size throughout pregnancy, causing disruption in blood flow to the fetus, potentially resulting in fetal growth restriction (FGR), oligohydramnios, and intrauterine fetal death [1-2]. Here we present a case of delayed postpartum hemorrhage secondary to a Breus' mole.

Case Report: A 25-year-old G2P2002 presented for increased vaginal bleeding after vaginal delivery of a 38+2 week healthy infant girl. The patient had an induction of labor (IOL) for FGR (37+6 ultrasound showed fetal weight, 13th percentile, and abdominal circumference, 4th percentile). Pregnancy was complicated by fetal cleft palate, gestational hypertension, and tobacco use. Scheduled IOL occurred without complication using cytotec and pitocin. Placenta required manual extraction and was noted to be small and calcified. Placental pathology significant for "focally torn singleton placental disc." The postpartum hospital course was uncomplicated with appropriate lochia. The patient was discharged on postpartum day (PPD) #2 with Hemoglobin (Hgb) 10.0 g/dL on PPD #1.

On PPD #15, the patient was evaluated in the emergency room (ER) for increased vaginal bleeding. Hgb at that time was 12.1 g/dL. Pelvic ultrasound revealed an enlarged uterus with echogenic material and scattered foci within the endometrium. On PPD #17, the patient underwent a hysteroscopy with dilation and curettage (D&C). An actively bleeding fragment of placental tissue was seen adhered to the left uterine wall. Placental tissue was removed intraoperatively with sharp curettage; uterotonic agents were needed to control bleeding intraoperatively. Pathology of the removed specimen was consistent with retained products.

The patient called the office for increased cramping and bleeding on PPD#20 and PPD#33. She was seen in clinic on

PPD#36 and noted feeling symptomatic in association with heavy vaginal bleeding. She appeared pale and had a Hgb of 7.3 g/dL. Ultrasound showed an enlarged uterus with thickened, heterogeneous endometrium and increased vascularity.

Patient was admitted to the hospital on PPD#37 with a Hgb of 6.7 g/dL and normal coagulation studies. Pelvic MRI read, "avidly enhancing retained products of conception with myometrial invasion." Patient was transfused with two units packed red blood cells prior to minimally invasive hysterectomy on PPD #38. Gross inspection of surgical specimen in pathology revealed Breus' mole. Her postoperative course was uneventful and she was discharged from the hospital on postoperative day #1.

Discussion: The incidence of Breus' mole/MST is reported between 1 in 1200 to 1 in 3133 pregnancies [1-3]. In a series of 10 patients with MST, 6 (60%) resulted in a live infant, with 2 (20%) reaching term pregnancy, which is consistent with other case series [3,4]. To our knowledge, no instances of a postpartum Breus' mole causing uterine bleeding have been reported.

A Breus' mole is often identified by ultrasound; however, MRI can be useful for differentiating a Breus' mole from competing diagnoses, including invasive placental pathology [2,4].

While we did not identify any reports of postpartum retention of a Breus' mole, one study supports a correlation between first trimester subchorionic hemorrhage (SCH) and the need for post-vaginal delivery D&C for retained placenta. In this study, 11.8% of women requiring D&C had had a SCH, compared to 0.6% of controls. The authors suggest that SCH can disrupt the uteroplacental interface, resulting in abnormal placental adherence to the endometrium [5]. We find this to be the most compelling mechanism for the postpartum bleeding experienced by our patient. Following delivery, she had manual extraction of the placenta, which left a piece of abnormally adherent placenta (due to the Breus' mole) in the cornua of the uterus. It is possible that, as the study above suggests, if she had had a D&C immediately following delivery or the placenta had not partially inserted at cornua, she may have avoided the bleeding complications and eventual hysterectomy that followed.

Conclusion: Breus' mole/MST is a rare phenomenon that can have devastating effects for the fetus when diagnosed during pregnancy. We present this case as evidence that maternal complications can also arise. Additionally, we propose that MST should be considered as a differential diagnosis for delayed postpartum hemorrhage.

Poster #8

Calculating Quantitative Blood Loss in Vaginal and Cesarean Deliveries

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Purpose: Postpartum hemorrhage is a significant cause of postpartum morbidity and mortality worldwide. Determining the need to continue with aggressive care begins with estimation of blood loss during and immediately after delivery. Physician accuracy in measuring blood loss varies greatly by individual and scenario and decreases as blood loss increases. Domestic and international studies have previously demonstrated that there are occasions where the estimated blood loss (EBL) differs greatly from postpartum symptoms and, often used as the most accessible gold-standard, decrease in hemoglobin and hematocrit (H&H).

Our study objective was to determine if there is a better correlation between quantitative blood loss (QBL) and drop in H&H in comparison to conventional methods of visually estimated blood loss (EBL) and its associated drop in H&H.

Methods: Our retrospective chart review used data from the electronic medical records of patients at the University Medical Center of El Paso's labor and delivery who were admitted for delivery (including vaginal, operative, and cesarean section). Inclusion criteria were patient age over 18, no prior known history of bleeding disorders, admission and 24-hour postpartum H&H measurements, and an EBL recorded in the patient chart. Data variables collected included demographics, medical history, delivery type, fetal birth weight, lacerations, EBL, QBL, H&H at admission and 24 hours postpartum.

We calculated QBL using gravimetric measurements of any blood that collected in the under-buttock drape and any blood-soaked materials such as laps or chucks. The dry weight of these materials was subtracted from the wet weight and recorded as QBL. This QBL was then evaluated against the difference in patients' H&H levels at admission and at 24 hours postpartum. Data collection began approximately 6 months after QBL protocol implementation. This data was compared to the correlation of EBL and the associated drop in H&H. EBL data was collected from all deliveries that occurred over a two-month period in the year prior to QBL protocol implementation.

Qualitative variables were summarized using frequency and percentages while quantitative variables were summarized using mean and standard deviation (SD). The main outcome

variables (hemoglobin, hematocrit, & platelets) were analyzed at admission and post-delivery. The overall differences and percent differences were calculated and analyzed using an unpaired t-test when comparing them across estimated blood loss (EBL) and quantitative blood loss (QBL). A Fisher's exact test was used to determine the level of association between EBL and QBL with categorical variables of interest. EBL and QBL were log transformed in order to induce normality for parametric evaluation. Direct agreement between EBL and QBL was determined using a concordance correlation coefficient (ρ) and a Bland-Altman plot. The concordance between EBL and QBL was also analyzed depending on deliver type (Cesarean or Vaginal). A univariate linear regression was conducted to determine the relationship between the outcome (hemoglobin, hematocrit, or platelets) with EBL or QBL along with other variables of interest. The coefficient of determination (R^2) was used to determine the level of prediction for EBL or QBL with hemoglobin, hematocrit, or platelets levels. Multiple linear regression was also conducted to correct for any confounders. Linear regression (coef.), 95 % confidence interval (C.I.), and p-values were used to describe the results. P-values were considered statistically significant at 5%. All data analysis was conducted using Stata V.15.

Results: Overall, EBL and QBL showed a high concordance at 0.86 (p-value <.0001) when compared directly. The same level of concordance was found between vaginal and cesarean deliveries. EBL and QBL were compared directly with all outcomes, and QBL was found to be a better predictor of hematocrit and hemoglobin levels. After correcting for possible confounders, QBL continued to be a better predictor as compared to EBL. Comparison of EBL and QBL with platelet levels were found to be poor predictors.

Conclusions: Postpartum hemorrhage is a significant cause of morbidity and mortality worldwide. Considering whether to continue with aggressive care begins with an estimation of blood loss during and immediately after delivery. Physicians' accuracy in measuring blood loss varies greatly by individual and circumstance of the delivery. This retrospective chart review and statistical analysis showed that developing a protocol to determine quantitative estimated blood loss using gravimetric measurements was a better predictor of postpartum drop in hematocrit and hemoglobin when compared to visually estimated blood loss. Protocols such as this will help physicians more accurately predict blood loss to improve outcomes in morbidity and mortality in postpartum patients.

Poster #9

Evaluation of Anemia in Pregnancy

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Purpose: The purpose of the current study was to identify the incidence of iron deficient anemia and various hemoglobinopathies among pregnant women in a single center academic center.

Methods: A chart review of all patients with an initial prenatal visit and a hemoglobin electrophoresis at KUMC from 1/1/2012 to 12/31/2019 was conducted. Inclusion criteria consisted of age 12-60 years old and a resulted hemoglobin electrophoresis. Demographic data, including patient age, ethnicity, and insurance status was collected for each patient. Other data including the patient's parity, gestation, hemoglobin at initial prenatal visit, results of hemoglobin electrophoresis, presence of diagnosed iron deficient anemia, presence of other comorbid conditions (Type I or II diabetes, gestational diabetes A1 or A2, chronic hypertension), and the patient's smoking status was collected. Data regarding the outcome of the patient's pregnancy including gestational age at delivery, presence of intra-uterine growth restriction, mode of delivery, and NICU admission was also collected. If patients had multiple pregnancies during this time span, the data for each pregnancy was included. Hemoglobin of 10.5 g/dL or less was chosen as the definition for anemia. Chi square analysis or when appropriate Fisher's Exact test was used for data analysis.

Results: Overall, 508 patients had an initial prenatal visit at the University of Kansas Medical Center from 1/1/2012 to 12/31/2019 that included a hemoglobin electrophoresis. Of the included patients, 71% were African American, 8.7% were Caucasian/White, 7.8% were Hispanic/Latino, and the remainder were either Asian (4.33%) Asian American (1.37%), Hawaiian/Pacific Islander (0.23%), African (0.23%) or other (6.38%). In our patient population, 53% had public insurance or no insurance, 47% had private insurance. 48% of the women were nulliparous and the remaining 52% were multiparous. Of the multiparous women, 7% had a short interval pregnancy. 95% of the patients had a single gestation, and the remaining either had twins (4.38%) or triplets (0.23%).

Of the 508 patients reviewed, 30% were diagnosed with anemia. Reviewing the characteristics of patients with

anemia, 70.29% of patients were African American, followed by 13.04% of Hispanic/Latino and 5.80% Caucasian, although this result is nonsignificant ($P=0.066$). Patients who were anemic were statistically significantly more likely to be uninsured or have public insurance (72.46% vs 27.54%, $P=0.0001$). When analyzing the patients with anemia, only 56% received iron studies. After completing iron studies on these patients, 84% were ultimately diagnosed with iron deficient anemia.

For this patient population, 14% of patients had an abnormal hemoglobin electrophoresis result. The most common hemoglobinopathy was sickle cell trait (8.88%), followed by sickle cell disease (1.82%), hemoglobin C (1.82%), and beta thalassemia (1.14%). 37% of these patients were anemic at their initial prenatal visit, and the remaining had a normal hemoglobin level. Anemia at the initial prenatal visit was not associated with an abnormal hemoglobin electrophoresis ($P=0.2980$).

When analyzing comorbid conditions of our population, 8.9% had chronic hypertension, 15.4% had diabetes, and 15.5% used tobacco. For pregnancy outcomes, 71% of the women had vaginal deliveries, 25% had cesarean deliveries, and 4% had operative vaginal deliveries. 7% of the pregnancies were complicated by IUGR, and 15% required NICU admission. Data regarding the association between iron deficient anemia, hemoglobinopathies and pregnancy outcomes and other comorbid conditions is still being analyzed.

Conclusion: The incidence of anemia in our patient population is 30% and data highlights the relatively low incidence of hemoglobinopathy compared to iron deficiency anemia. Data on characteristics of anemia in the current American population is lacking even though anemia has been associated with adverse pregnancy outcomes. Outcome analysis is ongoing for our data. This data represents a predominantly African American patient population due to the inclusion criteria of requiring a hemoglobin electrophoresis. Current American College of Obstetrics and Gynecology recommendations are to perform routine hemoglobin electrophoresis screening for all African American women at their prenatal visits. This data, in addition to highlighting the characteristics of anemia in an academic center, also emphasizes the need for further research to identify risk factors more accurately for anemia and help facilitate screening guidelines for select patient populations.

Poster #10

Incidence and Characteristics of Women Presenting to the Emergency Department with Abnormal Uterine Bleeding

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Purpose: To describe incidence and characteristics of women presenting to the Loyola University Medical Center Emergency Department with abnormal uterine bleeding.

Background: Abnormal uterine bleeding (AUB) is a common problem affecting women of reproductive age and may cause women to present to the Emergency Department (ED) if experiencing acute episodes of vaginal bleeding. Although AUB is a frequent complaint of patients presenting to the ED, the true incidence is not well documented.

Methods: Specific ICD-9 codes were utilized to identify women presenting to Loyola University Medical Center (LUMC) ED with vaginal bleeding from 2014-2016. Patients who presented with vaginal bleeding associated with pregnancy, non-uterine sources, or a known cancer diagnosis were excluded. A retrospective chart review was performed to extract variables including race/ethnicity, age, pre- or postmenopausal status, and past medical history of anemia, Type 2 Diabetes (T2DM), or hypertension (HTN). Descriptive statistical analysis was performed to summarize variables of this cohort and incidence was calculated as the total number of cases of AUB divided by the total number of females presenting to the LUMC ED between 2014 and 2016.

Results: A total of 496 ED visits, comprised of 465 unique patients, were identified in which women presented with AUB. Within this unique patient cohort, outliers were determined using the interquartile range for age (25.0-43.9 years) and the lower limit (-3.40) and upper limit (72.3) were calculated. Nine patients exceeded the age of the upper limit, thus were removed from the dataset. Therefore, statistical analyses evaluated a cohort size of 456 women ages 11.3-69.8 years.

From 2014-2016, a total of 24,713 female patients, ages 11-70, presented to the LUMC ED. Out of the 24,713 patients, women with AUB (n=487) represented 1.97% of all encounters. Our reviewed cohort consisted of 94.1%

premenopausal women, with an average age of 34.5 years (SD=11.8). Approximately 40% of women identified as Black/Non-Hispanic, 35.3% Hispanic including White, American Indian, Multiracial or Other, 20.4% White/Non-Hispanic, and 4.61% Other Non-Hispanic including American Indian, Asian, or Other. In regard to past medical history, 21.5% had a history of anemia, 6.58% had T2DM and 18.9% had HTN.

Conclusions: Women who presented to the LUMC ED with AUB represented 1.97% of all female ED visits from 2014-2016. Most women with AUB were premenopausal and many had existing anemia and HTN, with a smaller percentage having T2DM. Identification of common characteristics of women presenting to the ED with AUB provides a more comprehensive understanding of this patient population, which can be utilized to improve treatment of AUB in the emergency room setting. Further research is needed to evaluate specific AUB management in the ED and subsequent gynecology follow up.

Poster #11

Preeclampsia as Presenting Symptom in Gestationally Advanced Molar Pregnancy

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Background: Molar pregnancies are an uncommon occurrence, complicating 1 in 10,000 pregnancies. Given the high frequency of ultrasound use in contemporary Obstetrics, molar pregnancies are now most commonly identified incidentally on routine first trimester ultrasound. However, that requires early access to Obstetric care. Those symptomatic from a molar pregnancy may present with severe abdominal pain, abdominal distention, vaginal bleeding, symptoms of hyperthyroidism, and/or preeclampsia. Preeclampsia diagnosed prior to 20 weeks gestation is a particularly rare event unique to molar pregnancy, having been reported in only 1-3.5% of cases. We present such a case of preeclampsia associated with a molar pregnancy in a patient with limited access to Obstetric care.

Case: A 46-year-old, G4P3003, initially presented to a primary care clinic with vague abdominal pain, nausea, vomiting, weight gain, and a recently positive home pregnancy test. The patient had no significant past medical or surgical history. She had three prior uncomplicated pregnancies and noted that her periods had become more irregular in the past year. She was unsure of her last menstrual period prior to her positive home pregnancy test. Over the course of several visits, she was noted to have "mild right sided abdominal tenderness without rebound or guarding", as well as 3+ pitting edema and blood pressure (BP) elevated to 183/73 mmHg. A referral was made for an obstetric provider. The patient was started on 100 mg labetalol twice daily.

Three days following her outpatient appointment, she presented to the Emergency Department with worsening abdominal distention, increasing vaginal bleeding, abdominal pain, nausea and headache. On admission, BP was 203/95 mmHg. Physical exam revealed an uncomfortable appearing woman, with a symmetric and non-enlarged thyroid, mild tachycardia and normal oxygen saturations. Her abdomen was acutely tender to palpation and the uterine fundus was palpated 5 cm above the umbilicus. Speculum exam revealed normal appearing cervix with slow bleeding. She had 3+ pitting edema of the lower extremities extending above the knees.

Pelvic ultrasound showed 20.1 x 12.8 x 16.9 cm uterus with heterogenous echogenic intrauterine cystic mass measuring 8.9 cm in thickness consistent with molar pregnancy. Computer tomography of the chest, abdomen and pelvis was performed and was negative for distant metastases, however redemonstrated "markedly enlarged uterus with a hypodense intrauterine mass ... with avid heterogeneous reticular enhancement". At this time, she was diagnosed with complete hydatidiform molar pregnancy complicated by preeclampsia with severe features.

An ultrasound-guided suction dilation and curettage for evacuation of the molar pregnancy. Pre-operatively magnesium was initiated for seizure prophylaxis. Intraoperatively, suction curettage was used to remove 1L of blood mixed with products of conception. At the end of the procedure, the uterus had significantly reduced in size and bleeding was minimal. Postoperatively, the patient was taken to the intensive care unit for blood pressure control and was initiated on a nicardipine drip. She received 24 hours of magnesium prophylaxis per hospital protocol of 2g/hr for seizure prevention. Postoperative beta human chorionic gonadotropin (β -hCG) was diluted out past typical laboratory scale and was 673,426 mIU/ml. The patient was discharged to home in stable condition with labetalol 800 mg three times daily and extended-release nifedipine 60 mg daily. Final pathology showed complete hydatidiform mole.

Conclusion: In this case, we describe a patient presenting with preeclampsia in the setting of molar pregnancy. This case serves as a reminder of a rare presentation associated with molar pregnancies, especially in those patients who may have limited access to Obstetric care.

New onset hypertension or an elevation of blood pressure in a patient with a positive pregnancy test should always prompt a physician to pursue further workup as this is an abnormal finding. Physicians should be attuned to newly elevated blood pressures early in pregnancy as the differential can include serious diagnoses that may affect the management of pregnancy. New-onset hypertension in early gestation is usually unrelated to pregnancy, such as undiagnosed chronic hypertension, neuro-endocrine tumors, hyperthyroidism, Cushing's syndrome or severe autonomic dysfunction.

Our patient had the diagnosis of preeclampsia with severe features, as evidenced by her significantly elevated blood pressures (greater than 160/110 mmHg), transaminitis, and symptomatology. If not promptly treated, preeclampsia with severe features can result in end-organ damage, such as renal failure, coagulopathy, hepatic rupture, eclampsia, stroke, and even death. Management is prompt administration of antihypertensive medications with a goal BP of less than 160

systolic or less than 110 diastolic, administration of magnesium for seizure prophylaxis, and delivery.

This case serves as an example of the importance of early Obstetric involvement in the setting of pregnancy and severe new-onset hypertension, as recognition of the diagnosis of a molar pregnancy, management, and prognosis can be significantly altered.

Poster #12

Unexplained Persistently Elevated Quantitative β -hCG in Post-Menopausal Female Remote from Total Laparoscopic Hysterectomy-Bilateral Salpingo-Oophorectomy

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Purpose:

1. To describe a case of a post-menopausal female with unexplained persistently elevated β -hCG remote from TLH-BSO with no findings of uterine, ectopic, or molar pregnancy, as well as malignancy.
2. To critically review the literature for causes of unexplained elevated β -hCG.
3. To formulate a differential diagnoses that includes uncommon causes of unexplained elevated β -hCG.

Methods: A 47-year-old post-menopausal African American female presented with a history of nausea, vomiting, abdominal and pelvic discomfort. She had a positive qualitative β -hCG followed by a quantitative level of 428.9 IU/L. She underwent a pelvic ultrasound which revealed no gestational sac inside or outside of the uterus. Serial β -hCG levels were obtained and continued to rise.

Patient history revealed amenorrhea for over 18 months with a most recent FSH level of 56.1 mIU/mL. A CT scan of the chest, pelvis, and abdomen revealed 4mm and 2mm pulmonary nodules in the right lower and upper lobes, respectively. There was also an 8mm cyst within the left ovary. A 6 month repeat CT scan later noted the same cyst but resolution of the pulmonary nodules. Her quantitative β -hCG levels reached a maximum of 1057.9 IU/L.

Following consultation with the gynecological oncology department, a total laparoscopic hysterectomy with bilateral salpingo-oophorectomy (TLH BSO) was accomplished. The pathology report was negative. Six weeks postoperatively, her β -hCG level was 855.2 IU/L. The patient was offered a PET scan, pituitary imaging, and serum prolactin along with a referral to a gynecological oncologist, but she declined further testing and chose to wait and watch. One year later, her repeat quantitative β -hCG was still elevated to 239.8 IU/L, but she remained totally asymptomatic.

Results: Human chorionic gonadotropin (hCG) is a heterodimeric glycoprotein hormone composed of two non-covalently bonded subunits, alpha and beta, the latter of

which is unique to hCG. hCG exists in multiple hormonal and non-endocrine forms. Monitoring its presence can be useful for tracking intrauterine and ectopic pregnancies, congenital defects, trophoblastic malignancies, and germ cell tumors.

β -hCG rises quickly in early pregnancy, being detected as early as six days following ovulation, doubling every 48 hours, and peaking at 8-10 weeks. Multiple gestations show higher elevations while ectopic pregnancies show levels with a lower than expected rise based upon dates. Values between 1500-2000 mIU/ml with the lack of a visible fetus on vaginal ultrasound strongly suggests the presence of ectopic pregnancy.

Gestational trophoblastic diseases (GTD) are rare conditions that can develop during or after a pregnancy due to proliferation of trophoblastic tissue. The premalignant end of the spectrum includes complete and partial hydatidiform mole, exaggerated placental site, and placental-site nodule. Significantly elevated levels will be detected with a complete mole and lower levels will be detected with a partial mole, particularly in the postpartum period. Abnormal β -hCG elevation, dyspnea, and hemoptysis with imaging showing "cannonball" pulmonary metastases may suggest progression to choriocarcinoma.

Aside from invasive mole and choriocarcinoma, other malignant disorders include placenta-site trophoblastic tumor and epithelioid trophoblastic tumors (ETT). Approximately 50% of ETT exist in the uterine cervix or lower uterine segment following a previous pregnancy with vaginal bleeding.

β -hCG is also an extremely sensitive and specific marker for trophoblastic tumors of placental and germ cell origin. Dysgerminomas have elevations in 10% of cases. Embryonal carcinomas show elevated β -hCG and alpha fetoprotein. Since a diagnosis of elevated β -hCG in an otherwise healthy woman carries an 11-19% risk of malignancy and 1-3% risk of mortality, it cannot be ignored.

More commonly, false positive β -hCG levels can be multifactorial and due to the various forms of hCG. Positive serum findings warrant additional testing of urine for β -hCG, serum for heterophile antibodies and serum β -hCG by different immunoassays, particularly in patients with impaired renal function.

While low levels of β -hCG production in peri- and postmenopause are a normal physiologic phenomenon, postmenopausal women have been shown to have higher levels than nonpregnant premenopausal women. The highest blood concentration in nonpregnant premenopausal women has been reported to be 4.6 IU/L, whereas postmenopausal levels less than 14 mIU/mL have been considered normal.

While rare, pituitary causes of elevated β -hCG have been well documented in the literature in women ages 41 to 55+. Additionally, rare, paraneoplastic β -hCG expression can also be a cause of elevation, including elevation due to squamous cell carcinoma of the tongue. These rare examples highlight the role of the clinical chemistry laboratory in resolving diagnostic dilemmas.

Conclusions: This case of unexplained persistently elevated β -hCG levels in a post-menopausal patient reinforces the need for formulating a broad differential diagnosis. After exclusion of common and neoplastic causes, persistently elevated β -hCG warrants conservative but ongoing observation, particularly when levels exceed 14 mIU/mL. This thoughtful but persistent approach avoids unnecessary medical and surgical intervention and associated anxiety for the patient, while increasing the likelihood of detecting any slow developing tumors. Monitoring prolactin levels is prudent whenever the source of β -hCG is unknown.

Poster #13

Are Primiparous Patients Able to Accurately Predict Length of Pushing

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Objective: Our purpose of the study is to see if primiparous patients can accurately predict how long that they will push before delivering their first child. Secondly, the study will evaluate maternal attitudes toward pushing. Additional secondary outcomes include how often health care providers are currently providing counseling on the second stage of labor in routine prenatal care and if this impacts length of pushing, as well as the impact of fetal weight.

Methods: A confidential written survey was administered to primiparous patients age 18 years or older at their 36-week appointment. This survey was given to patients for which spontaneous vaginal delivery was planned. Data was gathered after delivery through chart review regarding length of pushing efforts admission diagnosis, maternal demographics, fetal outcomes. Statistical analysis was performed using Spearmans Rho.

Results: After chart review, there was no statistically significant correlation between a patient's actual and predicted length of time pushing, $p=0.5$. 23 of 31 (76%) of patients predicted length of pushing was more than 1hr different than their actual length of time. 19 of 31 patients guessed that they would push for a longer period than they did, while 7 of 31 patients guessed that they would push for a shorter time. Secondary analysis looked at the 8 patients who were able to accurately predict, compared to the patients who were inaccurate in their estimations. Demographics, reasons for admission, Pitocin use, epidural rates, APGARS, and infant's genders were equivalent between the two groups. Length of pushing and length of admission was shorter in the accurate group, however this was not statistically significant. Infant weight was significantly lower in the accurate group (2.76kg) as compared to the inaccurate group (3.3kg) with a p value of 0.003. Certainty in their guess was higher in the accurate group (6.5/10) compared to the inaccurate group (3.8/10) with a p value of 0.01. Lastly, gestational age at delivery was shorter in the accurate group (38/6w GA) compared to the inaccurate group (39/5w GA) with a p value of 0.02. The most common maternal attitudes toward pushing were nervous, excited, and scared. Of note, a statistically signifi-

cant increase of the emotion "scared" was seen in the group of patients who were delivered by cesarean section. 9 of 31 patients received counseling on pushing during routine prenatal care and only 1 of 31 patients attended a birthing class. Counseling did not appear to have an impact on the accuracy of pushing predictions.

Conclusion: There was no correlation found between a primiparous patients predicted length of pushing efforts, and her actual length of pushing. The strength of correlation was found to be -0.12 with a p value of 0.5, indicating there was no statistically significant relationship. 76% of patient's estimates were greater than 1 hour different than their actual length of pushing efforts. Patients were slightly more likely to predict a longer length of pushing than their actual length of time spent pushing. Patients who were able to accurately predict the length of their pushing efforts were more likely to have smaller infants, a lower gestational age at delivery, and a higher certainty in their estimations. Secondary outcomes showed that prenatal counseling did not affect their accuracy of their estimations. Of all the provided emotional attitudes, the most commonly reported emotions were nervous, excited, and scared. Of note, the 42% of the patients who had a vaginal delivery reported that they were "scared" about the prospect of pushing. The 68% of the patients who underwent cesarean section's surveys reported the emotion of "scared," and the difference was found to be statistically significant.

Poster #14

Postpartum Bilateral Lung Transplantation in COVID-19 Associated Respiratory Failure

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Background: As of July 2021, there have been 33.6 million cases of coronavirus disease 2019 (COVID-19) infection in the United States, with more than 604,000 deaths. Of patients with COVID-19 infection, 5% become critically ill, and in these patients, the mortality rate is over 50%. Extracorporeal membrane oxygenation (ECMO) has been used for critically ill patients with COVID-19 related respiratory failure that is refractory to invasive mechanical ventilation.

Case: This case report describes a pregnant 31-year old woman at 35 weeks gestation who was hospitalized with mild COVID-19 disease. Her condition worsened following delivery, and she required intubation, maximum ventilatory support, and ECMO. Based on the severe and irreversible nature of her lung disease, she ultimately met criteria for and underwent bilateral lung transplantation.

Conclusion: This case showcases lung transplantation as an alternative life-saving option for patients with severe COVID-19—associated respiratory failure refractory to ECMO and mechanical ventilation. Further studies are needed to develop a multidisciplinary approach for patient selection for transplantation in COVID-19 infection and to assess long term outcomes.

Poster #15

Successful DaVinci Repair of Isthmocele for Metrorrhagia after Cesarean Delivery: A Case Report

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Advocate Illinois Masonic Medical Center, Chicago, IL

Purpose: The CDC reports that in 2019, nearly 32% of all pregnancies in the United States resulted in a cesarean section. The obstetric patient continues to be more complex with rising rates of obesity, diabetes, and maternal age. As a result, management of such patients in the postpartum period becomes a greater challenge. Current data shows that there is an anatomic defect from a previous cesarean section scar known as an isthmocele, where the myometrial thickness is reduced by 50% or greater. A significant amount of research has been devoted to what this means for our patients today. Case reports show uterine rupture, placenta accreta spectrum disorders, abnormal uterine bleeding (AUB), pelvic pain, cesarean scar pregnancy and secondary infertility related to patients with isthmocele. Although surgery is the problem for these patients, attention must be turned to see if surgery can also be the solution.

Methods: A case is described of a 39 year old G1P1 presenting 2 months after her cesarean delivery with longer and irregular menstrual periods. Subsequent three-dimensional transvaginal ultrasound (2D and 3D-TVUS) showed a 1.2 cm x 0.6 cm x 1.8 cm isthmocele with collections of free fluid.

Results: The patient was counseled for a repair of isthmocele given a systematic review of surgically repairing isthmocele for improving pelvic pain and uterine bleeding. The patient underwent an uncomplicated DaVinci repair of isthmocele and diagnostic hysteroscopy. The patient was followed with 3D TVS and noted to have a successful repair of the isthmocele and complete resolution of abnormal uterine bleeding and pelvic pain. She has since gotten pregnant approximately 16 months after her surgery and is currently in the third trimester.

Conclusions: Isthmocele, as demonstrated in our patient, can be a cause of abnormal uterine bleeding, pelvic pain, and possibly infertility. Other systematic reviews show its relation to increased rates of placenta accreta spectrum disorders as well as uterine rupture. Going forward, more case reports and systematic reviews will be needed to mature our knowledge

of isthmoceles so that we can optimize surgical technique to prevent it as well as treat it. Understanding its presentation as well as 2D and 3D TVS ultrasound with or without saline infusion sonohysterography (SIS) diagnosis will also help us manage this surgical complication so that we can counsel patients better on outcomes and expectations.

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Poster #16

Successful Laparoscopic Management of Type II Cesarean Scar Pregnancy: A Case Series

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Advocate Illinois Masonic Medical Center, Chicago, IL

Introduction: Cesarean scar pregnancy (CSP) is an iatrogenic pathological entity, and is a direct consequence of a cesarean delivery. There are two different types of CSP. Type I (CSP-I) is caused by implantation of the gestational sac (GS) on a previous cesarean scar with progression toward either the cervico-isthmic space or the uterine cavity. Type II (CSP-II) is caused by deep implantation of the GS into a previous Cesarean scar defect with infiltrating growth into the uterine myometrium and bulging from the uterine serosal surface. This may result in uterine rupture and severe bleeding during the first trimester of pregnancy. Thus, timely management with an early and accurate diagnosis of CSP-II is essential. Larsen and Solomon reported the first case of a CSP in 1978.

Methods: A series of three cases are described, which were diagnosed with the aid of Three-dimensional transvaginal sonography (3DTVS), and which were managed with laparoscopic surgery.

Results: Case 1 - Patient is a 33 y/o G5P2032 female. Two previous cesarean deliveries sections for history of open myomectomy. Embryo transfer was done on 5/21/19; history of hemicolectomy secondary to appendiceal carcinoid. Patient denies vaginal bleeding or pelvic pain. Quantitative hCG = 10,818. Operative Davinci resection of CSP with lysis of adhesions was performed. She also received methotrexate (MTX). Postoperative course was uneventful.

Case 2 - A 33 y/o G5P3013 female patient had one NSVD and two previous Cesarean deliveries. She presented with vaginal bleeding. Laparoscopy with resection of CSP and repair of isthmocele was performed. No MTX was given. Postoperative course was uneventful. At the time of this writing, the GS was seen in the fundus. The intent is to deliver at 34-36 weeks of gestation, based on recent SMFM recommendations.

Case 3 - A 35 y/o G7P3033 patient had three previous cesarean deliveries at 9W5D (by LMP) had vaginal bleeding without abdominal pain. Patient had strong desire for fertility preservation. Quant hCG = 44,283. She underwent laparoscopy with resection of the CSP with repair of

isthmocele. No MTX was given. Postoperative course was uneventful.

Conclusion: The epidemic of cesarean deliveries in this country is well-known to practicing obstetrician/gynecologists. Gynecologists. This includes its consequence of placenta accreta spectrum (PAS). The first-trimester CSP is less well-known and documented, however. No proper consensus exists as to the management guidelines for CSP. Transvaginal sonography (TVS) is the best first-line diagnostic tool for CSP, with magnetic resonance imaging (MRI) reserved for cases for which there may be a diagnostic uncertainty.

Laparoscopic removal of the CSP can allow subsequent wound repair to effectively occur. Laparoscopy can become an effective treatment alternative for CSP-II, as is demonstrated by this case series.

Poster #17

Epidemiologic Principles in Obstetric/Gynecologic Practice

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Northwestern University Medical Center, Chicago, IL³

Introduction: Obstetrician/Gynecologists provide care to women over the course of their lifetime, typically from the reproductive age to menopause. Specific conditions for which screening is indicated vary in different lifetime intervals. This communication presents an overview of the optimal screening tools for the most prominent GYN conditions. Screening is defined as appropriate testing in asymptomatic patients who may have a pertinent prevalence of a condition. On the contrary, if a patient has symptoms, testing to reveal a diagnosis is indicated. Each of the following scenarios represent instances of screening procedures performed for the detection of relevant conditions.

Infectious conditions: Though there are commonly presenting sexually transmitted pathogens, Chlamydia trachomatis often causes asymptomatic cervicitis. Fifteen percent of girls and women between the ages of 16 and 25 are found to have C. trachomatis by polymerase chain reaction (PCR) testing. C. trachomatis cervicitis can lead to Pelvic Inflammatory Disease (PID) in an estimated 10 % of Chlamydia cases. For this reason, such cervical testing may be considered in young women during a pelvic examination even in the absence of notable cervical exudate.

Pregnancy-related: Many pregnancy-related conditions are routinely screened for with prenatal laboratory testing. One currently important condition, preeclampsia, can be considered for screening to find historical predictors of preeclampsia, as it appears that administration of low-dose aspirin (LDA) may have prophylactic value.

Cervical Cancer Screening: Exfoliative cytology of the uterine cervix using the Papanicolaou staining technique (the "Pap Smear") has been used for more than half a century, to screen for cervical cancer and its precursors. Testing for high-risk Human Papillomavirus (HPV) serotypes has been considered as a screening replacement for this. The use of Cervical Cancer Screening with whichever of these tools, has reduced the incidence of cervical cancer mortality by 70% over the past ½ century.

Other GYN Cancers (Ovarian, Endometrial): Ultrasound is used by some providers, along with the serum biomarker,

CA125, to screen for Ovarian Cancer, though evidence of its utility for screening purposes appears to be limited. Ultrasound, as an imaging tool, is also used for measuring endometrial thickness to screen for Endometrial Cancer precursors, though this too may have a limited evidence basis.

Mammographic Breast Malignancy Screening: Recommendations for the regularity and timing of mammographic screening has not been agreed upon by all of the relevant medical societies (e.g., ACOG, USPSTF, ACS), and it is not uncommon for OB/GYNs to regularly order such screening for their patients.

Methods: The above-recognized routine clinical scenarios were reviewed, to report the apparent incidence of these practical professional behaviors. The medical literature was mined to determine the extent of each described pattern.

Results: In 2009, in the United States, according to the Centers for Disease Control and Prevention (CDC), there were 78 million outpatient visits performed by obstetric/gynecologic specialists. Specifically, with regard to Sexually Transmitted Infections (STIs), patients have a range of reported positivity of those who are tested, depending on age and risk factors, averaging a 14 % positivity rate, with 80% of cases originating from private physician offices. The number of cases of Chlamydial cervicitis was 1.7 million in 2018 in the U.S. Much evidence has linked untreated Chlamydial cervicitis with the incidence of PID, and it can be estimated that 170,000 of such cases may have been prevented.

Among the approximately 3.8 million certificates of live births in 2018 reported by the National Center for Health Statistics (NCHS), there was a 4.6% prevalence of preeclampsia, for which LDA can be considered for prophylaxis when specific risk factors indicate its use in pregnancy. It is possible, therefore, that over 10,000 cases of preeclampsia and its associated preterm births may have been prevented with antepartum LDA.

In 2016, there were 22.6 million pap smears performed, and over 22,000 cases of cervical cancer recorded. Presumably, a portion of those may have prevented with treatable precursors (e.g., CIN III) with pap smear (or alternative) screening prior to that diagnosis. Hence, the specific preventative value of cervical cancer screening can potentially be estimated.

The number of patient encounters for which ultrasound examinations were performed for screening of ovarian or endometrial cancer could not be quantified in this investigation. It is estimated that about 10,000 breast malignancy deaths may have been prevented from the 37 million such mammographic screenings done annually in the U.S. Many of these were ordered by obstetricians/gynecologists.

Conclusion: As can be seen by the above-described clinical scenarios, Obstetrician/Gynecologists routinely perform screening procedures in clinical practice, thereby diagnosing and treating a variety of conditions, successfully eliminating clinical problems that would otherwise be later expressed without such screening. This represents an important aspect of modern OB/GYN clinical practice, illustrated by this presentation. While such clinical screening occurs in every medical specialty, the value of regular ambulatory Women's Healthcare for promoting public health improvement, should be recognized.

Poster #18

Decidualized Endometrioma: Its Optimal Clinical Management

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Introduction: Endometriosis is a common gynecologic disorder affecting about 10% of women of reproductive age, and ovarian endometriomas account for 4-5% of ovarian cysts diagnosed in early pregnancy. Decidualization of an endometrioma (DE) may appear sonographically as having ultrasound (US) features similar to ovarian malignancy, which often prompts a surgical extirpative approach. Encountering this entity may become increasingly frequent since many pregnant women are having routine obstetrical US in the first trimester. An endometrioma is often well-characterized, and it is sometimes altered during pregnancy as a result of a process referred to as decidualization. DE can resemble a malignant ovarian tumor on US examination, which can cause anxiety to women and lead to unnecessary and potentially harmful surgical interventions. The authors wish to contrast a previous encounter with this condition with a more current instance, to offer a possibly improved modern approach to DE.

Method: A current Case Report was compared with a previous one that was reported five years ago at CAOG, in order to determine a possibly improved upon manner of treatment of the condition in question. Both cases are presented here for this Case Series.

Results: Case 1 - A 33 y/o G2P0010 was diagnosed with a 2.6 x 1.8 cm x 1.7cm left ovarian cyst at her routine 20-week gestation US. She had no history of ovarian endometrioma on previous US scans during earlier gestation. The cyst was unilocular with grounded-glass echogenicity and vascularized papillary projections suggestive of ovarian malignancy. Gynecologic oncology consultation was obtained, and patient underwent laparoscopy left salpingo-oophorectomy at 23 weeks gestational age without complications. The pathology diagnosis of the removed mass was decidualized endometrioma.

Case 2 - A 30 y/o G2P0010 female patient presented for initial US at 11 weeks and 4 days for a Nuchal Translucency Screen. Bilateral ovarian endometriomas were demonstrated with this initial US exam. Bilateral ovarian decidualized endometriomas were suspected during a repeat ultrasound at

28 weeks 3 days gestation, due to the presence of rounded vascularized papillary projections with smooth contours within an ovarian cyst and ground-glass low-level echogenicity of the cyst fluid. The patient was treated conservatively with serial follow-up US studies during her pregnancy. The patient had a NSVD at 36 weeks 6 days of gestation on 8/30/2020. Follow-up US at 2 months post-partum demonstrated persistent bilateral endometriomas without decidualization and with partial obliteration of the posterior cul-de-sac.

Conclusion: The contrasting management of both of the cases described in this report revealed that in Case #2, resolution of the appearance of malignancy occurred by the end of the pregnancy, which may have occurred in Case #1, had there not been the removal of the endometrioma. In the first case, surgery was performed, and in the second case, no surgery was performed, yet the results were the same for both cases.

The results of this comparison produced the following lessons:

1. When what appears as a Decidualized Endometrioma is sonographically identified during pregnancy in a patient who is otherwise asymptomatic, she can continue to be closely observed with US every 4 weeks during the pregnancy. Such sonographic features of DE can include:

- i) Papillary projections with smooth contours within the cyst
- ii) Color flow within the papillary projection
- iii) Usually unilocular but sometimes can have 2-4 cyst locules
- iv) Ground-glass or low-level echogenicity of the cyst fluid

2. After delivery, a repeat sonogram should be performed, and if resolution of the DE is identified, the patient can be reassured.

3. Observation of this in DE patients will continue, to observe the likelihood of recurrence, so patients can receive the appropriate counseling for this in the future.

Demonstrations such as what is presented here, have been reported in the literature previously, and there appears to be support for watchful waiting when similar sonographic findings in pregnancy are seen.

Central Prize Award

2005

“Impact of Chromic Catgut Versus Polyglactin 910 Versus Fast-Absorbing Polyglactin 910 Sutures for Perineal Repairs: A Randomized Control Trial”

Emmanuel Bujold, M.D.

Sainte-Justine Hospital, University Montreal
Montreal, Quebec

2006

“Comparison of the Adequacy of the Conventional Smears to Liquid-Based Preparations on Vaginal Cuffs”

Kory A. Harward, D.O.

Aultman Health Foundation/NEOUCOM
Canton, Ohio

2007

“Triggering Receptors of Myeloid Cells (TREM)-1: A Novel Marker of Infection Associated Spontaneous Preterm Birth”

Stephen J. Fortunato, M.D.

Centennial Women's Hospital
Nashville, Tennessee

2008

“Yolk Sac on Transvaginal Ultrasound as a Prognostic Indicator in the Treatment of Ectopic Pregnancy with Single-Dose Methotrexate”

Gary H. Lipscomb, M.D.

University of Tennessee
Memphis, Tennessee

2009

“Soluble Fms-Like Tyrosine-1 (sFlt-1) Production is Enhanced During Hypertension in Response to Tumor Necrosis Factor-alpha (TNF- α) and Agonistic Autoantibodies to the Angiotension II Type I Receptor (ATI-AA)”

Marc R. Parrish, D.O.

University of Mississippi Medical Center
Jackson, Mississippi

Central Prize Award

2010

“The Impact of Genotype on Nifedipine Pharmacokinetics When Used as a Tocolytic”

David M. Haas, M.D.

Indiana University School of Medicine
Indianapolis, Indiana

2011

“Reducing Postpartum Hemorrhage with Removal of Placenta at 10 vs 15 Minutes: A Randomized Clinical Trial”

Everett F. Magann, M.D.

University of Arkansas for Medical Sciences
Little Rock, Arkansas

2012

“Harnessing the Electronic Health Record for the Provision of Population-Based Preconception Care”

Heather L. Straub, M.D.

Northshore University HealthSystem
Evanston, Illinois

2013

"Cost Effectiveness and Clinical Utility of Repeated Syphilis Screening in the Third Trimester in a High-Risk Population”

Linda-Dalal J. Shiber, M.D.

MetroHealth/Case Western Reserve University
Cleveland, Ohio

2014

“A Study of Preterm Neonates: Delayed Cord Clamping vs. Delayed Cord Clamping plus Cord Stripping, a Prospective Randomized Trial. Is Cord Stripping Beneficial?”

Margaret S. Krueger, D.O.

Univ. South Alabama Children's and Women's Hospital
Mobile, Alabama

Central Prize Award

2015

“Randomized Clinical Trial of Medical Therapy vs. Radiofrequency Endometrial Ablation in the Initial Treatment of Heavy Menstrual Bleeding: Treatment Outcomes and Life Quality Assessment”

Sherif A. Shazly, M.B., B.Ch.

Mayo Clinic
Rochester, Minnesota

2016

“The Risk of Expectant Management of Low Risk Pregnancy at Term and Optimal Timing of Delivery: A National Population-Based Study”

Gustavo Vilchez, M.D.

University of Missouri - Kansas City
Kansas City, Missouri

2017

“Association Between Gestational Weight Gain Adequacy and Composite Maternal and Neonatal Morbidity”

Han-Yang Chen, Ph.D.

The University of Texas Health Science Center
Houston, Texas

2018

“A Comparison of Vaginal Versus Buccal Misoprostol for Term Cervical Ripening in Women for Labor Induction at Term (the IMPROVE Trial): A Triple Masked Randomized Controlled Trial”

David M. Haas, M.D.

Indiana University School of Medicine
Indianapolis, Indiana

2019

“The Relationship Between Glucose Testing in an Index Pregnancy and Outcomes in a Subsequent Pregnancy: Implications for Testing Guidelines”

Emmet Hirsch, M.D.

NorthShore University HealthSystem
Evanston, Illinois

Central Prize Award

2020

“Adverse Outcomes Associated with Pregnancy
Conception Methods Among Low-Risk Pregnancies”

Morgen S. Doty, D.O.

McGovern Medical School-UTHealth
Houston, Texas

2021

“Comparing Newborn Outcomes After Prenatal
Exposure to Individual Antidepressants”

Claire E. Marks, MS3

Indiana University School of Medicine
Indianapolis, Indiana

President's Certificate of Merit Award

2005

“Detection of Gestational Diabetes Mellitus by
Homeostatic Indices of Insulin Sensitivity:
A Preliminary Study”

Robert P. Kauffman, M.D.

Texas Tech University School Medicine
Amarillo, Texas

2006

“The Clinical Utility of Maternal Depression
Screening Before and After Delivery”

Trent E.J. Gordon, M.S.

Evanston Northwestern Healthcare
Evanston, Illinois

2007

“In Vitro Chemotaxis of Human Bone
Marrow-Derived Mesenchymal Stem Cells
Following Exposure to Soluble Factors from
Epithelial Ovarian Carcinoma Cell Lines”

Neelima Vegesna, M.D.

Southern Illinois University School of Medicine
Springfield, Illinois

2008

“In Vitro Vascular Reactivity in a Mouse Model of
Preeclampsia Induced by Over-Expression of sFlt-1”

Fangxian Lu, M.D.

University of Texas Medical Branch
Galveston, Texas

2009

“Mild Preeclampsia Near Term: Deliver or Deliberate?
The Prospective Randomized PreNaTe Trial”

Michelle Y. Owens, M.D.

University of Mississippi Medical Center
Jackson, Mississippi

President's Certificate of Merit Award

2010

“Cervical Ripening for Induction of Labor:
A Prospective Randomized Trial of Misoprostol versus
Oxytocin in Conjunction with Foley Balloon”

Erica R. Downey, M.D.

Aultman Hospital
Canton, Ohio

2011

“Knowledge Gap of Recommendations in ACOG
Practice Bulletins: A Survey of Members of Central
Association of Obstetricians and Gynecologists”

Suneet P. Chauhan, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

2012

“Peripartum Complications with Cesarean Delivery: A
Review of Maternal-Fetal Medicine Unit Publications”

Ibrahim A.I. Hammad, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

2013

"Obstetric Recommendations in ACOG Practice
Bulletins vs UpToDate: A Comparison”

Emily N. Myer, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

2014

“The Effects of Metformin on Postpartum Weight
Retention in Women with Gestational Diabetes:
A Randomized, Placebo-Controlled Trial”

Jerrie S. Refuerzo, M.D.

University of Texas Health Science Center
Houston, Texas

President's Certificate of Merit Award

2015

“Acute FeTal Behavioral Response to Prenatal
Yoga: A Single Blinded, Randomized
Controlled Trial (TRY Yoga Study)”

Shilpa Babbar, M.D.

University of Missouri Kansas City
Kansas City, Missouri

2016

“Assessment of Twin Fetal Growth:
Use of Singletons versus
Twin-Specific Nomograms”

Hector Mendez-Figueroa, M.D.

University of Texas Health Science Center
Houston, Texas

2017

“Preoperative Cesarean Section
Intravenous Acetaminophen
Treatment for Postoperative
Pain Control: A Randomized
Double-Blinded Placebo Control Trial”

Sarah K. Shelton, M.D.

University of Tennessee Medical Center
Knoxville, Tennessee

2018

“Intention to Treat: Obstetrical Management
at the Threshold of Viability”

Tiffany R. Tonismae, M.D.

Indiana University School of Medicine
Indianapolis, Indiana

2019

“Increases in Albumin-Adjusted Serum Calcium
Over Time Predict Ovarian Cancer”

Gary G. Schwartz, Ph.D., M.P.H., Ph.D.

UND School of Med. & Health Sciences
Grand Forks, North Dakota

President's Certificate of Merit Award

2020

“Enhanced Recovery After
Scheduled Cesarean Delivery”

Lisette D. Tanner, M.D., M.P.H.
McGovern Medical School-UTHealth
Houston, Texas

2021

“Long-Term Childhood Outcomes for Babies
Born at Term Who Were Exposed to
Antenatal Corticosteroids”

Samantha J. Osteen, M.D., M.S.
Indiana University School of Medicine
Indianapolis, Indiana

Community Hospital Award

2005

“Multilocus Interactions as Maternal TNF- α ,
IL-6 and IL-6R Genes Predict Spontaneous
Preterm Labor in European-American Women”

Stephen F. Fortunato, M.D.

Centennial Women's Hospital
Nashville, Tennessee

2006

“Amniotic Fluid Interleukin (IL)-1 and IL-8
Concentrations: Racial Disparity in
Spontaneous Preterm Birth”

Stephen J. Fortunato, M.D.

Centennial Women's Hospital
Nashville, Tennessee

2007

“Racial Disparity in Maternal-Fetal Genetic
Epistasis in Spontaneous Preterm Birth”

Stephen J. Fortunato, M.D.

Centennial Women's Hospital
Nashville, Tennessee

2008

“Distinct Pathophysiologic Pathways Induced
by In Vitro Infection and Cigarette Smoke
in Normal Human Fetal Membranes”

Stephen J. Fortunato, M.D.

Centennial Women's Hospital
Nashville, Tennessee

2009

“C-Reactive Protein and the
Outcome of Emergency Cerclage”

Sogol Jahedi, M.D.

Advocate Lutheran General Hospital
Park Ridge, Illinois

Community Hospital Award

2010

“Aberrant Fetal Growth and Mortality
(Early, Late, and Postneonatal):
An Analysis of Milwaukee Births, 1996-2007”

Suneet P. Chauhan, M.D.

University of Wisconsin School of Medicine
Milwaukee, Wisconsin

2011

“Group B Streptococcus Colonization
Leads to Early-Term Births”

Stephen J. Fortunato, M.D.

The Perinatal Research Center
Nashville, Tennessee

2012

“Development of an OB Dashboard: Measuring
What Matters in Perinatal Quality and Safety”

Gregory L. Goyert, M.D.

Henry Ford Health System
Detroit, Michigan

2013

"Human Lysophosphatidylcholine
Acyl-transferase 1 mRNA is Found in
Amniotic Fluid and Maternal Serum”

Robert A. Welch, M.D.

Providence Hospital & Medical Centers
Southfield, Michigan

2014

“Prospective Comparison of Efficacy, Outcomes,
and Cost of Laparoscopic, Vaginal,
and Robotic Approaches to Hysterectomy
in a Community Institution”

Dana M. Benden, M.D.

Gundersen Health System
La Crosse, Wisconsin

Community Hospital Award

2015

“A Randomized Control Trial of Foley Catheter Placement for Induction of Labor: Stylette vs. No Stylette”

Marie M. Forgie, D.O.

Aurora Sinai Medical Center
Milwaukee, Wisconsin

2016

“Severe Maternal Morbidity and Hospital Cost Among Hospitalized Deliveries in the United States”

Han-Yang Chen, Ph.D.

Aurora Health Care
Milwaukee, Wisconsin

2017

“Management of the Third Stage of Labor in Second Trimester Deliveries: How Long is Too Long?”

Jessica A. Behrens, D.O.

Aurora Sinai Medical Center
Milwaukee, Wisconsin

2018

“Newborn Birth Weight or Body Mass Index: Predictors of the Duration of Neonatal Brachial Plexus Palsy”

Leen Al-Hafez, M.D.

Houston Methodist Hospital
Houston, Texas

2019

“To Treat or Not to Treat: Effect of One Elevated Glucose Tolerance Test Value”

Leah A. Hong, M.D.

Henry Ford Health System
Detroit, Michigan

Community Hospital Award

2020

“Group B Streptococcus Rectovaginal Colonization
and Resistance Patterns in HIV Positive
Compared to HIV Negative Pregnant Patients”

Nicholas A. Callais, B.S.

LSU-Health Shreveport
Shreveport, Louisiana

2021

“Efficacy of a Pilot Program for Obstructive
Sleep Apnea Screening in Pregnancy”

Nicolina Smith, DO

Henry Ford Health System
Detroit, Michigan

Young Investigator Award

2005

“Pregnancy Loss After First Trimester
Viability in Patients with Sickle Cell Trait:
Time for A Reappraisal?”

Michelle Y. Taylor, M.D.

University of Mississippi Medical Center
Jackson, Mississippi

2006

“An Evaluation of Health Care Providers'
Sexual Violence Screening Practices”

Heather L. Littleton, Ph.D.

University of Texas Medical Branch
Galveston, Texas

2007

“Autologous Platelet Gel in Reduction of Pfannenstiel
Cesarean Incision Drainage in Obese Women:
A Randomized Controlled Trial”

Alexis G. Johnston, D.O.

Aultman Hospital
Canton, Ohio

2008

“Vascular Function in the Offspring Later in Life in a
Mouse Model of Maternal Obesity and Preeclampsia”

Egle Bytautiene, M.D.

University of Texas Medical Branch
Galveston, Texas

2009

“Extended Antibiotic Prophylaxis for Prevention of
Surgical Site Infections in Morbidly Obese Women
Undergoing Combined Hysterectomy and Medically
Indicated Panniculectomy: A Cohort Study”

Sherif A. El-Nashar, M.D.

Mayo Clinic
Rochester, Minnesota

Young Investigator Award

2010

“Phenazopyridine Does Not Improve
Catheter-Associated Discomfort Following
Gynecologic Surgery: Results of a
Randomized Controlled Trial”

Charles K. Anderson, M.D.

Loyola Univ. Medical Center
Maywood, Illinois

2011

“Racial Difference in Gestational Age Specific
Neonatal Morbidity: Further Evidence for
Different Gestational Lengths”

Ryan W. Loftin, M.D.

University of Cincinnati
Cincinnati, Ohio

2012

“Knowledge of Nutrition During Pregnancy:
A Survey of CAOG Members”

Stephanie T. Trexler, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

2013

"When is the Optimal Time to Deliver
Women with Stable Placenta Previa?"

Laura A. Hart, M.D.

UT Health - University of Texas Medical School
Houston, Texas

2014

“Differential Morbidity Among Preterm Small versus
Appropriate for Gestational Age: Perhaps Unverifiable”

Caroline C. Marrs, M.D.

University of Texas Health Science Center at Houston
Houston, Texas

Young Investigator Award

2015

“Body Mass Index and Magnesium Sulfate
Neuroprotection: A Secondary Analysis From a
Multicenter Randomized Control Trial”

Gustavo Vilchez, M.D.

Wayne State Univ./Detroit Med. Center
Detroit, Michigan

2016

“Diabetes During Pregnancy: Influence of
Body Mass Index on Composite Morbidity”

Amy E. O’Neil Dudley, M.D., MPH

McGovern Medical School- UTHHealth
Houston, Texas

2017

Among Diabetics Sonographic Estimated Fetal Weight
and Composite Neonatal Morbidity: Suspected
Appropriate versus Large for Gestational Age

Leen Al-hafez, M.D.

Houston Methodist Hospital
Houston, Texas

2018

“Hypertension Among Women of Reproductive Age:
Impact of 2017 American College of
Cardiology/American Heart Association High
Blood Pressure Guideline”

Han-Yang Chen, Ph.D.

University of Texas Health Science Center
Houston, Texas

2019

“The Influence of Insufficient Prenatal
Care on Severe Maternal Morbidity.”

Michael William DeGrandis, BA

University of Cincinnati Medical School
Cincinnati, Ohio

Young Investigator Award

2020

“Labor Induction with Prostaglandin E1 versus E2:
A Comparison of Outcomes”

Matthew J. Bicocca, M.D.

McGovern Medical School-UTHealth
Houston, Texas

2021

“Discontinuation of Oxytocin in the Second
Stage of Labor and its Association
with Postpartum Hemorrhage”

Caitlin A. MacGregor, M.D.

NorthShore University HealthSystem
Evanston, Illinois

**Distinguished Professor
Lectureship Honoring**

George W. Morley, M.D.

“Approaching Invasive Gyn Disease via
Minimally Invasive Technology”

Introduction by

Rudi Ansbacher, M.D.

Presented by

R. Kevin Reynolds, M.D.

University of Michigan Medical Center
Ann Arbor, Michigan
October 18, 2005

**GEORGE W. MORLEY, M.D.
(1923 – 2005)**

Dr. George Morley was one of America’s most distinguished gynecologic oncology surgeons and truly a memorable leader in the specialty. He spent his entire academic career at The University of Michigan, Ann Arbor where he was revered by students, house staff, colleagues and patients. Although Dr. Morley was widely published, it was in the operating room where he is fondly remembered for being a patient and effective teacher who inspired and motivated through talent and effervescent enthusiasm. Many of the principles he held most dear he collected in his beloved “Morleyisms,” a booklet of sayings he used to help with his mentoring and philosophy of living life to the fullest. Dr. Morley often said “I got to treat, and to train to treat – what more could anyone ask for.” a fitting epitaph for this great physician and humanitarian.

DR. GEORGE W. MORLEY MEMORIAL PAPER

2006

“Endometrial Cells Identified in Cervical
Cytology in Women \geq 40 Years of Age:
Criteria for Appropriate Endometrial Evaluation”

Heather N. Beal, M.D.

Southern Illinois University School of Medicine
Springfield, Illinois

2007

“Family History as a Risk Factor for
Pelvic Organ Prolapse”

Mary T. McLennan, M.D.

St. Louis University
St. Louis, Missouri

2008

“Laparoscopically-Assisted Uterine
Fibroid Cryoablation (UFC)”

Harriette L. Hampton, M.D.

University of Mississippi
Jackson, Mississippi

2009

“Activity of Dasatinib a Novel Small Molecule
Kinase Inhibitor of Both the SRC and ABL
Proteins in Human Endometrial Cancer Cells
Along With SRC Expression in a Large
Cohort of Surgically Staged Nonendometrioid
(Type II) Endometrial Cancers”

Boris J.N. Winterhoff, M.D.

Mayo Clinic
Rochester, Minnesota

2010

“Radical Parametrectomy for Cervical
Cancer Found on Pathological Examination of
Extrafascial Hysterectomy: A Cohort Study
& A Systemic Review of the Literature”

Sherif A. El-Nashar, M.D.

Mayo Clinic
Rochester, Minnesota

DR. GEORGE W. MORLEY MEMORIAL PAPER

2011

“The Impact of the Mismanagement of
Atypical Glandular Cell Pap Tests”

Jessica J. Shank, M.D.

University of Michigan

Ann Arbor, Michigan

2012

“Hysterectomy Trends Since 2003:
The Impact of Technology on Traditional Routes”

Katherine E. Kowalczyk, D.O.

Grand Rapids Medical Education Partners

Grand Rapids, Michigan

2013

"Utilization of an Ex Vivo Human Placental
Perfusion Model to Predict Potential Fetal
Exposure to Carboplatin During Pregnancy”

Judith A. Smith, Pharm.D.

UT MD Anderson Cancer Center

Houston, Texas

2014

“A Prospective Study on the Incidence of
Post-Operative Lymphedema in Women
with Endometrial Cancer”

Elizabeth E. Hopp, M.D.

Medical College of Wisconsin

Milwaukee, Wisconsin

2015

“Tumor Diameter as a Predictor of Lymphatic
Dissemination in Endometrioid Endometrial Cancer”

Danielle M. Greer, Ph.D.

Center for Urban Population Health

Aurora UW Medical Group

Milwaukee, Wisconsin

DR. GEORGE W. MORLEY MEMORIAL PAPER

2016

“Outcomes of Vaginal Hysterectomy With and Without
Perceived Contraindications to Vaginal Surgery”

Jennifer J. Schmitt, D.O.

Mayo Clinic
Rochester, Minnesota

2017

“Initial Impact of a Cervical Cancer Screening and
Tracking Program Within a Community Health
System's Electronic Health Record”

Alexa R. Lowry, B.S.

Univ. of Wisconsin School of Medicine & Public Health
La Crosse, Wisconsin

2018

“Chronic Diseases, Self-Reported Health Status
and Prescription Opioid Analgesic
Use Among Women of Reproductive Age”

Han-Yang Chen, Ph.D.

University of Texas Health Science Center
Houston, Texas

2019

“A System-Level Approach to Improving Cervical
Cancer Screening Rates & Surveillance:
Implementation of an Electronic Health Record
Tracking System in a Community Health System”

Courtney K. Pfeuti, B.A.

Univ. of Wisconsin School of Medicine & Public Health
Madison, Wisconsin

2020

“AHCC Supplementation to Support the Immune
System in the Elimination of Persistent Human
Papillomavirus Infections in Women “

Judith A. Smith, Pharm.D.

McGovern Medical School-UTHealth
Houston, Texas

**DR. GEORGE W. MORLEY
MEMORIAL PAPER**

2021

“Prevalence and Outcomes of Positive Cervical
Cancer Screening in Female Renal Transplant
Waitlist Candidates: A Single Center Experience”

Julia T. Berry, MS4

University of Toledo College of Medicine
Toledo, Ohio

**Distinguished Professor
Lectureship Honoring**

Jack A. Pritchard, M.D.

“Dr. Pritchard: The Man and His Legacy”

Introduction by

Norman F. Gant, Jr., M.D.

Presented by

Larry C. Gilstrap, III, M.D.

American Board of Obstetrics and Gynecology

Dallas, Texas

October 17, 2006

**JACK A. PRITCHARD, M.D.
(1921 – 2002)**

Dr. Jack Pritchard is considered by many to be the “father of modern obstetrics.” At age 33 Dr. Pritchard became Chair of Ob-Gyn at the University of Texas Southwestern and Chief of Ob-Gyn at Parkland Hospital in Dallas, where he dedicated his career to being a relentless champion of patient care as the classic “triple threat:” teacher, researcher and clinician. As a pioneer in evidence-based medicine, the most important member of his life-long research team was his wife, Signe. In 1969 Dr. Pritchard became the editor of the 14th Edition of *Williams Obstetrics*, crafting this century old classic to remain as relevant today as in the past. Jack Pritchard’s greatest legacy “lies in the countless thousands of ob-gyn’s, those trained and those to follow, and in the countless millions of women and infants, some yet unborn, who will be enriched by his priceless contributions to the art and science of ob-gyn.”

DR. JACK A. PRITCHARD MEMORIAL PAPER

2006

“Expectant Management of Preterm Premature
Rupture of Membranes and Non-Vertex
Presentations: What Are the Risks?”

David F. Lewis, Jr., M.D.

Louisiana State University Health Science Center
Shreveport, Louisiana

2007

“Comparison of Intracervical Foley Bulb
Methodologist for Cervical Ripening:
A Randomized Clinical Trial”

Jason M. Hoppe, D.O.

Aultman Hospital
Canton, Ohio

2008

“Overestimation of Fetal Weight
by Ultrasound: Does It Increase
Cesarean Delivery for Labor Arrest?”

Jerrie S. Refuerzo, M.D.

University Texas Health Science Center
Houston, Texas

2009

“Randomized Clinical Trial Evaluating the
Frequency of Membrane Sweeping with an
Unfavorable Cervix at 39 Weeks”

Everett F. Magann, M.D.

Navel Medical Center - Portsmouth
Portsmouth, Virginia

2010

“Study of Obstetric Foley Techniques
(The SOFT Trial): A Randomized
Controlled Trial ”

Megan J. Dejong, M.D.

Loyola Univ. Medical Center
Maywood, Illinois

DR. JACK A. PRITCHARD MEMORIAL PAPER

2011

“Cost-Effectiveness of Routine
Third Trimester Antibody Screening in
Rh Negative Pregnancies”

Jill E. Minger, M.D.

MetroHealth Medical Center
South Euclid, Ohio

2012

“Outcomes in Cephalic versus Non-cephalic
Fetuses in the Setting of Preterm Premature
Rupture of Membranes”

Jean R. Goodman, M.D.

Univ. Oklahoma Health Sciences Center
Oklahoma City, Oklahoma

2013

"Circulating Cell-Free Nucleic Acid (CCFNA)
Screening for Fetal Aneuploidy: Changing the
Landscape of Prenatal Screening and Diagnosis”

Lee P. Shulman, MD

Feinberg School Medicine/Northwestern University
Chicago, Illinois

2014

“Maternal and Cord Blood Levels
of Docosahexaenoic Acid (DHA)
After Commercially Available Supplementation”

Steffen A. Brown, M.D.

University of New Mexico School of Medicine
Albuquerque, New Mexico

2015

“UltraSound Examinations to Improve Detection
of Fetal Growth Restriction in Uncomplicated
Pregnancies: A Pilot, Multi-Center R
andomized Clinical Trial (USE RCT)”

Ibrahim A. Hammad, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

DR. JACK A. PRITCHARD MEMORIAL PAPER

2016

“Racial/Ethnic Disparity in Magnesium Sulfate
Adverse Effects: A Sub-Group Analysis of a
Multicenter Randomized Controlled Trial”

Gustavo Vilchez, M.D.

University of Missouri - Kansas City
Kansas City, Missouri

2017

“Risk of Neonatal and Infant Mortality in Twins and
Singletons by Gestational Age in the United States”

Han-Yang Chen, Ph.D.

The University of Texas Health Science Center
Houston, Texas

2018

“Persistence and Extent of Neonatal Brachial
Plexus Palsy: Association with Number of
Maneuvers and Duration of Shoulder Dystocia”

Morgen S. Doty, D.O.

University of Texas Health Science Center
Houston, Texas

2019

“Adverse Outcomes Among Low-Risk Pregnancies
at 39 to 41 Weeks: Stratified by Fetal Growth “

Hector Mendez-Figueroa, M.D.

Baylor College of Medicine
Houston, Texas

2020

“Marijuana Use in Pregnancy
and the Risk of Preterm Birth”

Rachel Gilbert, D.O.

LSU Health Sciences Center
Baton Rouge, Louisiana

**DR. JACK A. PRITCHARD
MEMORIAL PAPER**

2021

“Association Between Preterm Neonate
Endocan Levels and Maternal Obesity”

Emily A. Holthaus, M.D.

Loyola University Medical Center
Maywood, Illinois

**Distinguished Professor
Lectureship Honoring**

Kermit E. Krantz, M.D.

“Dr. Krantz: The MMK and So Much More”

Introduction by

Tom G. Sullivan, M.D.

Presented by

John W. Calkins, M.D.

University of Kansas Medical Center
Kansas City, Kansas
October 20, 2008

**KERMIT E. KRANTZ, M.D.
(1923 – 2007)**

Dr. Kermit Krantz was the world-renowned forefather of urogynecology and pelvic reconstructive surgery who is best known as the co-developer of the Marshall-Marchetti-Krantz (MMK) procedure for urinary stress incontinence. Trained as an anatomist, Dr. Krantz also invented the expandable women’s tampon still used today. An identical twin who was orphaned by age 13, Kermit Krantz spent 31 years as Chairman of Ob-Gyn at The University of Kansas Medical Center in Kansas City where he championed patient rights above all else. At the University Hospital he is credited with desegregating labor, delivery and the nursery. A brilliant diagnostician and devoted researcher who is fondly remembered for his irrepressible personality, Dr. Krantz was equally esteemed by the clinicians he trained and the countless patients he cared for.

DR. KERMIT E. KRANTZ MEMORIAL PAPER

2008

“Glycine Absorption in Operative Hysteroscopy:
The Impact of Anesthesia.”

Marie-Eve Bergeron, M.D.

Centre Hospitalier Universitaire de Quebec
Quebec, Canada

2009

“Bethesda 2001 Plus Reflex HPV DNA
Testing Versus Bethesda 1991:
Impact on Triage, Cost and Efficacy”

William J. Todia, M.D.

MetroHealth/Case Western Reserve University
Cleveland, Ohio

2010

“Resolution of Chronic Pelvic Pain After
Hysterectomy and Alternative Treatments:
Does Depression Make a Difference?”

Lee A. Learman, M.D., Ph.D.

Indiana University School of Medicine
Indianapolis, Indiana

2011

“Cervical Cancer Screening in the
United States 1993-2010: Characteristics of
Women Who are Never Screened”

Suneet P. Chauhan, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

2012

“Burnout Among the Alumni from
the University of Kansas
Obstetrics and Gynecology Residency Programs”

Kimberly A. Brey, M.D.

University of Kansas School of Medicine
Kansas City, Kansas

DR. KERMIT E. KRANTZ MEMORIAL PAPER

2013

“Cervical Cytology and Histology in Women
Following Solid Organ Transplant,
A Longitudinal Cohort”

Margaret E. Long, M.D.

Mayo Clinic
Rochester, Minnesota

2014

“Evaluation of Ethics Education in Obstetrics &
Gynecology Residency Programs:
A Survey of Ob/Gyn Residency Program Directors”

John J. Byrne, M.D., MPH

University of Chicago
Chicago, Illinois

2015

“Molecular Evaluation of Fetal and Newborn Skeletal
Dysplasia: Applying Next Generation Sequencing
(NGS) to Providing Accurate Diagnostic Information”

Lee P. Shulman, M.D.

Feinberg School of Medicine/ Northwestern University
Chicago, Illinois

2016

“Correlates of Long-Acting Reversible Contraception
versus Sterilization Use in Advanced Maternal Age”

Shelby N. Apodaca, M.D.

Texas Tech University - El Paso
El Paso, Texas

2017

“Randomized Clinical Trial: Diathermy versus
Scalpel in Abdominal Wall Incisions
During Repeat Cesarean Delivery”

Martin J. Caliando, M.D.

Women and Children's Hosp. of Buffalo
Buffalo, New York

DR. KERMIT E. KRANTZ MEMORIAL PAPER

2018

“How Long is Too Long? Intraoperative Time Intervals and Umbilical Artery pH Depression at Scheduled Cesarean”

Rebecca R. Rimsza, M.D.

Saint Louis University School of Medicine
St. Louis, Missouri

2019

“Increasing Selection of Preconception Expanded Carrier Screening and Its Impact on Preimplantation Genetic Diagnosis (PGT-M)”

Lee P. Shulman, M.D.

Feinberg School of Medicine
Chicago, Illinois

2020

“Integration of Evidence from Randomized Controlled Trials into Clinical Guidelines by the American College of Obstetricians and Gynecologists”

Rigoberto Gutierrez, MS3

Memorial Hermann Southwest Hospital
Houston, Texas

2021

“Implementation of a Standardized Surgical Site Infection Prevention Bundle to Decrease the Rate of Surgical Site Infections in Open Gynecologic Surgical Cases and Cesarean Sections”

Shruti Vaidyanathan, MS4

LSU Health Sciences Center
Shreveport, Louisiana

**Dr. Bryan D. Cowan
FAR (Fellows and Residents)
Research Network Award**

INAUGURATED 2012
Suneet P. Chauhan, M.D., P.I.

BRYAN D. COWAN, M.D.
(1949 – 2011)

Dr. Bryan Cowan was President of the Central Association of Obstetricians and Gynecologists at its 75th Annual Meeting in 2008. His distinguished career in reproductive endocrinology culminated as Chair of the Department of Obstetrics and Gynecology at the University of Mississippi Medical Center in Jackson. A lifelong dedication to mentoring and scholarship instilled a respect for research in all the residents and fellows he trained. Following Dr. Cowan's premature death, the CAOG and his wife, Dr. Harriette Hampton, have jointly established this research network to honor his legacy and to encourage future women's health care research.

Dr. Bryan D. Cowan
FAR (Fellows and Residents)
Research Network Award

2012

“Neonatal Brachial Plexus Palsy with Vaginal Birth
After Cesarean: A Case Control Study”

Ibrahim A.I. Hammad, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

2013

"Shoulder Dystocia is Strongly Associated
With a Large Fetal Abdominal-Head
Circumference Size Difference”

Theresa M. Conyac, M.D.

NorthShore University HealthSystem
Evanston, Illinois

2014

“Tocolysis in Patients with Advanced Preterm Labor:
A Randomized Clinical Trail”

Ann R. Tucker, M.S.

University Mississippi Medical Center
Jackson, Mississippi

2015

“Use of Scoring Systems to Predict
Prolonged Hospitalization and Severity
of Acute Pyelonephritis in Pregnancy”

Amy M. Valent, D.O.

University of Cincinnati
Cincinnati, Ohio

2016

“Histologic Chorioamnionitis with Funisitis
and Likelihood of Suspected Triple I
at Term: A Case-Control Study”

Morgen S. Doty, D.O.

Saint Peter's University Hospital
New Brunswick, New Jersey

**Dr. Bryan D. Cowan
FAR (Fellows and Residents)
Research Network Award**

**2017 and 2018
No Candidate Research Papers**

2019
“Cesarean Section Does Not Improve Survival
Outcomes Less Than 25 Weeks Gestational Age”

Tiffany R. Tonismae, M.D.
Indiana University School of Medicine
Indianapolis, Indiana

**2020
No Candidate Research Papers**

**2021
No Candidate Research Papers**

Central Poster Awards

2005

“Variation in Expression of VEGF and VEGF Receptors in Ovarian Cancer Cell Lines”

Lisa M. Little, M.D.

Southern Illinois University School of Medicine
Springfield, Illinois

“Inquiry Into Shoulder Pain Following Laparoscopy”

David J. Mitchell, M.D.

Aultman Health Foundation
Canton, Ohio

2006

“The Impact of Combined Antibiotic Prophylaxis in Twin Pregnancies Complicated by Preterm Premature Rupture of Membranes”

Amy Farrell, M.D.

St. Louis University School of Medicine
St. Louis, Missouri

“Findings in Patients With an HCG Below 2000 mIU/ml Undergoing D&C to Exclude Ectopic Pregnancy”

Gary H. Lipscomb, M.D.

University of Tennessee Health Science Center
Memphis, Tennessee

2007

“The Impact of Maternal Obesity on Satisfactory Detailed Anatomic Ultrasound Image Acquisition”

Fadi R. Khoury, M.D.

CASE-MetroHealth Medical Center
Cleveland, Ohio

“Thrombotic Thrombocytopenic Purpura (TTP) in the Pregnant or Puerperal Patient 1955-2006: Primary of Recurrent Disease Sometimes Associated with Preeclampsia/HELLP Syndrome”

James N. Martin, Jr., M.D.

University of Mississippi Medical Center
Jackson, Mississippi

Central Poster Awards

2008

“The Neonatologist in Alleged Perinatal Asphyxia:
The Obstetrician’s Best Friend”

Jonathan K. Muraskas, M.D.

Loyola University Medical Center
Maywood, Illinois

“Utilization of Delayed Umbilical Cord
Clamping Among SMFM Membership”

Jessica L. Nyholm, M.D.

University of Minnesota
Minneapolis, Minnesota

2009

Non-Gynecologic Disease Detected at the
Time of Gynecologic Surgery:
A Continuing Diagnostic Challenge”

Allan A. Adajar, M.D.

St. Francis Hospital
Evanston, Illinois

"Early Return of Bowel Function After
Gynecologic Surgery Using Chewing Gum”

James M. Clark, M.D.

Aultman Health Foundation
Canton, Ohio

"Vaginal Cleansing Before Cesarean Delivery to
Reduce Postoperative Infectious Morbidities: A
Randomized Controlled Trial”

David M. Haas, M.D.

Indiana University School of Medicine
Indianapolis, Indiana

"Fetal Gastroschisis:
Epidemiological Characteristics and
Maternal-Fetal Outcomes”

Kiran B. Tam Tam, M.D.

University of Mississippi Medical Center
Jackson, Mississippi

Central Poster Awards

2010

Outcomes Study: A Prospective/Observational Study of
2,331 Pubic Bone Stabilization Sling Procedures for
Stress Urinary Incontinence. Is This Procedure Equal to
other Anti-Incontinent Procedures?

Stephen H. Cruikshank, M.D.

West Va. Univ. School of Med. (Charleston Campus)
Charleston, West Virginia

Absence of the Fourth Ventricle in First-Trimester
Fetuses: The Intracranial Translucency (IT)
as a Potential Screening Tool for Fetal Neural
Tube Defects in the Late First Trimester

Norman A. Ginsberg, M.D.

Feinberg School of Medicine of Northwestern Univ.
Chicago, Illinois

The Effect of Antenatal Corticosteroids on
Maternal Serum Glucose Values in Women
with Gestational and Pre-gestational Diabetes

Allison E. Kreiner, M.D.

Akron General Medical Center
Akron, Ohio

Unaffected Women with BRCA 1/2 Mutations and
Their Use of Family History in Making
Decisions Concerning Prophylactic Surgery

Carly J. Stewart, B.A.

Feinberg School of Medicine of Northwestern Univ.
Chicago, Illinois

Central Poster Awards

2011

"Diagnostic Accuracy of Saline
Infusion Sonohysterography in Patients
with Endometrial Polyps"

Riva N. Branch, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

"Birth Attendant and Neonatal Mortality
in Newborns Delivered at 37 Weeks or Later:
United States, 2000-2004"

Han-Yang Chen, M.S.

Center for Urban Population Health & Univ. Wisconsin
Madison, School of Medicine & Public Health
Madison, Wisconsin

Cesarean Section and the Effect on Bladder Capacity"

Jessica Fischetti-Galvin, D.O.

Jersey Shore University Medical Center
Neptune, New Jersey

"Uterine Rupture and Perinatal
Morbidity and Mortality Associated with Oxytocin
Use in a Trial of Labor with a Prior Uterine Scar"

Elliot M. Levine, M.D.

Illinois Masonic Medical Center
Chicago, Illinois

Central Poster Awards

2012

“An Unusual and Rare Presentation of Problems in a Community Hospital Can Place a Patient at Significant Risk: A Report of a Ten Year Old Female with a Pelvic Mass and Pain with Subsequent Surgery, Discharge, and an Acute Abdomen Three Weeks Later”

Michael G. Flax, M.D.

University of New Mexico
Albuquerque, New Mexico

“Gestational Length:
How Long is too Long?”

Norman A. Ginsberg, M.D.

Northwestern Feinberg School of Medicine
Chicago, Illinois

“What Prevents Eligible Patients from Receiving Progesterone Therapy to Prevent Recurrent Preterm Birth”

Amanda Meyer, M.D.

Advocate Lutheran General Hospital
Park Ridge, Illinois

“Outcomes of Different Routes of Hysterectomy by Uterine Weight in Overweight and Obese Patients”

Danish S. Siddiqui, M.D.

Aurora Sinai Medical Center
Milwaukee Wisconsin

Central Poster Awards

2013

"The Impact of Diminished Ovarian Reserve
on IVF Delivery Rates"

Tamara A. Adducci, M.D.

Medical College of Wisconsin
Milwaukee, Wisconsin

"Decreasing the Abdominal Approach with Evolution
of Robotic Surgery Program for Treatment of
Endometrial Cancer Patients in a Community
Institution"

Dana M. Benden, M.D.

Gundersen Lutheran Medical Center
La Crosse, Wisconsin

"Retained Products of Conception in Patients with a
Negative Urine hCG: A Case Series Report"

Carlos M. Fernandez, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

"Neonatal Brachial Plexus Palsy in
Cesarean Section"

Gloria T. Too, M.D.

Eastern Virginia Medical School
Norfolk, Virginia

Central Poster Awards

2014

“Clinico-Pathological Findings of Hysterectomy Specimens in Women with Abnormal Uterine Bleeding: Are We Taking Full Advantage of Minimally Invasive Techniques?”

Morgan A. Morton, M.D.

University of Nebraska Medical Center
Omaha, Nebraska

“Variation in Management Strategies and Outcomes Between Sterilized and Non-Sterilized Patients with Abnormal Uterine Bleeding”

Steven J. Radtke, M.D.

Southern Illinois Univ. School of Medicine
Springfield, Illinois

“The Use of Prostaglandin E₁ in Peripartum Patients with Asthma”

Megan C. Rooney Thompson, M.D.

University of Tennessee Medical Center
Knoxville, Tennessee

“Cervical Length Screening: Are Cervical Portio Measurements Acceptable for Screening?”

Melissa L. Verchio, M.D.

Aultman Hospital
Canton, Ohio

Central Poster Awards

2015

“Management of a Live Cervical
Ectopic Pregnancy”

Carlos M. Fernandez, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

“Diagnosing Pulmonary Embolism in Pregnancy: Are
Biomarkers and Clinical Prediction Models Useful?”

Rachel Fournogerakis, M.D.

Advocate Lutheran General Hospital
Park Ridge, Illinois

“Risk Stratification and Prophylaxis
of Venous Thromboembolic Events
in Obstetrics and Gynecology”

Elliot M. Levine, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

“Incidence of Chorioamnionitis and
Risk of Neonatal Infection”

Angela D. Yates, M.D.

University of Tennessee Medical Center
Knoxville, Tennessee

Central Poster Awards

2016

“Development of a Novel Antibody-Based Assay for Simultaneous Identification of a Pathogen and Determination of its Antimicrobial Susceptibility”

Jonathan P. Faro, M.D./Ph.D.

The Woman's Hospital of Texas
Houston, Texas

“Decidualized Endometrioma of Pregnancy:
A Cause for Concern”

Carlos M. Fernandez, M.D.

Illinois Masonic Medical Center
Chicago, Illinois

“Decline in Frequency of Acute PID
Following Preventative Screening”

Elliot M. Levine, M.D.

Illinois Masonic Medical Center
Chicago, Illinois

“Obstetric Triage: A Model for
Analysis of an Acute Care Service”

Megan L. Smith, M.D.

Aultman Hospital
Canton, Ohio

Central Poster Awards

2017

“Clinical Variance of the NTSV Metric”

Melissa Dennis, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

“Radiofrequency Volumetric Thermal
Ablation of Uterine Leiomyomata:
Comparison with Other Methods”

Elliot M. Levine, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

“The Effects of Volume and Timing of Blood
Loss on Cefazolin Adipose Concentrations
Using a Validated Physiologic Model”

Avinash S. Patil, M.D.

Valley Perinatal Services
Phoenix, Arizona

“Maternal Complications Associated
with Periviable Delivery”

Robert M. Rossi, M.D.

University of Cincinnati College of Medicine
Cincinnati, Ohio

Central Poster Awards

2018

“Ectopic Pregnancy: Consideration of Vascularity
Index as a Novel Diagnostic Criterion”

Carlos M. Fernandez, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

“Obstetric Model of Induction of Labor: Does Time of
Labor Induction Affect Patient Satisfaction?”

Bryant L. Johnson, D.O.

Aultman Hospital
Canton, Ohio

“Cesarean Scar Pregnancy Management
Protocol Essential to Reducing Maternal
Morbidity and Mortality”

Dennis J. Lutz, M.D.

UND School of Medicine & Health Sciences
Minot, North Dakota

“Live Intraligamentous Pregnancy at 36 Weeks”

Francesca Popper, M.D.

Advocate Illinois Masonic Medical Center
Chicago, Illinois

Central Poster Awards

2019

“HPV Vaccination: Optimizing Rates in Our
Ambulatory Clinic at Aultman Hospital”

Brennan N. Anderson, D.O.

Aultman Hospital/NEOMED
Canton, Ohio

“Are There Specific Antepartum Factors and Labor
Complications That Predict Elevated
Immediate Postpartum Edinburgh
Postnatal Depression Scale Scores?”

Katherine V. Ayo, M.D.

Indiana University School of Medicine
Indianapolis, Indiana

“Migration of Angular Pregnancy to
Centric Position: A Case Report”

Katherine M. Tadros, D.O.

Advocate Illinois Masonic Hospital
Chicago, Illinois

“Contraception Planning in a Designated
Obstetrical Opioid Use Disorder Clinic”

Craig V. Towers, M.D.

University of Tennessee Medical Center
Knoxville, Tennessee

Central Poster Awards

2020

“A Novel Approach to Treating Cervical Ectopic
Pregnancy with IV Methotrexate”

Fatima Ali, D.O.

Hackensack Meridian Jersey Shore Univ. Med. Center
Neptune, New Jersey

Assessment of Gynecologic Needs for Women
Who Access Harm Reduction Services Through
Mobile Van Outreach in Chicago

Rebecca Commito, M.D.

University of Illinois at Chicago
Chicago, Illinois

US-PCG Consumer Involvement and Outreach Efforts

Nimisha Kumar, BS

Indiana University School of Medicine
Indianapolis, Indiana

Association Between Maternal Obesity Class,
Adherence to Labor Guidelines and Perinatal Outcomes

Ahmed S.Z. Moustafa, M.D.

Hurley Medical Center/Michigan State University
Grand Blanc, Michigan

Annual Meetings & Presiding Presidents

1929

St. Louis, Missouri
Washington Univ-Barnes
Palmer Findley, M.D. (Pro Tem)*

1930

Excelsior Springs, Missouri
The Elms Hotel
*Palmer Findley, M.D.**

1931

Chicago, Illinois
Shoreland Hotel
*Fred J. Taussig, M.D.**

1932

Memphis, Tennessee
Peabody Hotel
*Rudolph W. Holmes, M.D.**

1933

Milwaukee, Wisconsin
Hotel Schroeder
*Norman F. Miller, M.D.**
*Percy W. Toombs, M.D.**

1934

New Orleans, Louisiana
Roosevelt Hotel
*Everett D. Plass, M.D.**

1935

Omaha, Nebraska
Fontenelle Hotel
*Willard R Cooke, M.D.**

1936

Detroit, Michigan
Hotel Statler
*Buford G. Hamilton, M.D.**

1937

Dallas, Texas
Adolphus Hotel
*Jean P. Pratt, M.D.**

*Deceased

1938

Minneapolis, Minnesota

Radisson Hotel

*Robert D. Mussey, M.D.**

1939

Kansas City, Missouri

Muehlenbach Hotel

*Ralph A. Reis, M.D.**

1940

Indianapolis, Indiana

Lincoln Hotel

*Jennings C. Litzenberg, M.D.**

1941

New Orleans, Louisiana

Roosevelt Hotel

*Thomas B. Sellers, M.D.**

1942-1945

No Meetings, World War II

1946

Chicago, Illinois

Drake Hotel

*John H. Moore, M.D.**

1947

Louisville, Kentucky

Brown Hotel

*Earl C. Sage, M.D.**

1948

Denver, Colorado

Shirley Savoy Hotel

*William Mengert, M.D.**

1949

Oklahoma City, Oklahoma

Hall of Mirrors, Municipal Auditorium

*George Kamperman, M.D.**

1950

Milwaukee, Wisconsin

Hotel Schroeder

*Lawrence M. Randall, M.D.**

*Deceased

1951

Detroit, Michigan

Hotel Statler

*Russell J. Moe, M.D.**

1952

Memphis, Tennessee

Peabody Hotel

*John I. Brewer, M.D.**

1953

Houston, Texas

Shamrock Hotel

*W. O. Johnson, M.D.**

1954

St. Louis, Missouri

Jefferson Hotel

*Harold C. Mack, M.D.**

1955

Columbus, Missouri

Deshler-Hilton

*Frank L. McPhail, M.D.**

1956

New Orleans, Louisiana

Roosevelt Hotel

*Harold L. Gainey, M.D.**

1957

Omaha, Nebraska

Sheraton-Fontanelle

*Arthur B. Hunt, M.D.**

1958

Minneapolis, Minnesota

Leamington Hotel

*Herbert E. Schmitz, M.D.**

1959

Chicago, Illinois

Drake Hotel

*Axel N. Arneson, M.D.**

*Deceased

1960

Kansas City, Missouri
Muehlenbach Hotel
*Isadore Dyer, M.D.**

1961

Cleveland, Ohio
Statler-Hilton
*Edwin J. DeCosta, M.D.**

1962

Dallas, Texas
Sheraton-Dallas
*Richard D. Bryant, M.D.**

1963

Denver, Colorado
Denver Hilton
*Zeph J.R. Hollenbeck, M.D.**

1964

Milwaukee, Wisconsin
Schroeder Hotel
*Kenneth E. Cox, M.D.**

1965

Cincinnati, Ohio
Netherland Hotel
*Herman L. Gardner, M.D.**

1966

Biloxi, Mississippi
Broadwater Beach Hotel
*William C. Keettel, M.D.**

1967

Detroit, Michigan
Sheraton-Cadillac
*C. Paul Hodgkinson, M.D.**

1968

Oklahoma City, Oklahoma
Skirvin Hotel
*C. Gordon Johnson, M.D.**

*Deceased

1969

Memphis, Tennessee
Sheraton-Peabody
*Frederick J. Hofmeister, M.D.**

1970

Chicago, Illinois
Drake Hotel
*George J.L. Wulff, Jr., M.D.**

1971

White Sulphur Springs, West Virginia
The Greenbrier
*Thomas W. McElin, M.D.**

1972

St. Louis, Missouri
Stouffer's Riverfront Inn
*James S. Krieger, M.D.**

1973

Scottsdale, Arizona
Camelback Inn/Mountain Shadows
*David G. Decker, M.D.**

1974

New Orleans, Louisiana
Royal Sonesta
*Russell J. Paalman, M.D.**

1975

Colorado Springs, Colorado
The Broadmoor
*Brooks Ranney, M.D.**

1976

Houston, Texas
Shamrock Hilton
*Raymond H. Kaufman, M.D.**

1977

Biloxi, Mississippi
Broadwater Beach Hotel
*Clifford P. Goplerud, M.D.**

*Deceased

1978

Kansas City, Missouri
Crown Center
*William B. Goddard, M.D.**

1979

White Sulphur Springs, West Virginia
The Greenbrier
*John B. Nettles, M.D.**

1980

Minneapolis, Minnesota
Radisson South
*Tommy N. Evans, M.D.**

1981

Scottsdale, Arizona
Camelback Inn/Mountain Shadows
David G. Anderson, M.D.

1982

San Antonio, Texas
Hilton Palacio Del Rio
*Warren H. Pearse, M.D.**

1983

Colorado Springs, Colorado
The Broadmoor
*Sam P. Patterson, M.D.**

1984

Detroit, Michigan
Westin Renaissance Center
*Kenneth J. Vander Kolk, M.D.**

1985

New Orleans, Louisiana
Fairmont Hotel
George D. Malkasian, Jr., M.D.

1986

Milwaukee, Wisconsin
Hyatt Regency
*Joseph C. Scott, Jr., M.D.**

*Deceased

1987

Tarpon Springs, Florida

Innisbrook

Stacy R. Stephens, M.D.

1988

Salt Lake City, Utah

Marriott Hotel

Preston V. Dilts, Jr., M.D.

1989

Scottsdale, Arizona

Camelback Inn/Mountain Shadows

*James H. Maxwell, M.D.**

1990

Louisville, Kentucky

The Galt House

L. Russell Malinak, M.D.

1991

Colorado Springs, Colorado

The Broadmoor

*James P. Youngblood, M.D.**

1992

Chicago, Illinois

Westin Hotel

John J. Sciarra, M.D., PhD

1993

White Sulphur Springs, West Virginia

The Greenbrier

*Willam R. Anderson, M.D.**

1994

Memphis, Tennessee

Peabody Hotel

Bruce H. Drukker, M.D.

1995

Palm Desert, California

Marriott's Desert Springs

Melvin V. Gerbie, M.D.

*Deceased

1996

Houston, Texas
Lincoln Post Oak
James G. Blythe, M.D.

1997

Scottsdale, Arizona
The Scottsdale Princess
Karl C. Podratz, M.D., PhD

1998

Kansas City, Missouri
Westin Crown Center
Washington C. Hill, M.D.

1999

Maui, Hawaii
Ritz Carlton Kapalua
*John C. Morrison, M.D.**

2000

Chicago, Illinois
Fairmont Hotel
Robert J. Sokol, M.D.

2001

No Meeting – Cancelled After 9/11

2002

Las Vegas, Nevada
Bally's Hotel & Casino
Paul G. Tomich, M.D.

2003

La Jolla, California
Torrey Pines - Hilton
*Sherman Elias, M.D.**

2004

Washington, D.C.
Omni Shoreham Hotel
Abbey B. Berenson, M.D.

*Deceased

2005

Scottsdale, Arizona
Camelback Inn Resort
Stephen H. Cruikshank, M.D.

2006

Las Vegas, Nevada
The Venetian Resort
Jerry J. St. Pierre, M.D.

2007

Chicago, Illinois
The Drake Hotel
Mark I. Evans, M.D.

2008

New Orleans, Louisiana
The Ritz Carlton
*Bryan D. Cowan, M.D.**

2009

Maui, Hawaii
The Grand Wailea
Dennis J. Lutz, M.D.

2010

Las Vegas, Nevada
The Venetian Resort
Christine H. Comstock, M.D.

2011

Nassau, Bahamas
The Atlantis Resort
Gayle L. Olson, M.D.

2012

Chicago, Illinois
The Drake Hotel
John W. Calkins, M.D.

2013

Napa, California
The Meritage Resort
Stephen J. Fortunato, M.D.

*Deceased

2014

Albuquerque, New Mexico

The Tamaya Resort

*Kirk D. Ramin, M.D.**

2015

Charleston, South Carolina

Charleston Marriott

Barbara V. Parilla, M.D.

2016

Las Vegas, Nevada

The Venetian Resort

Roger P. Smith, M.D.

2017

Scottsdale, Arizona

Scottsdale Plaza Resort

David F. Lewis, M.D.

2018

Minneapolis, Minnesota

Radisson Blu Mall of America

Lee P. Shulman, M.D.

2019

Cancun, Mexico

Pyramid at The Grand Oasis

Vanessa M. Barnabei, M.D., Ph.D.

2020

Virtual Meeting Only

Cancelled by COVID-19 Pandemic

Suneet P. Chauhan, M.D., Hon. D.Sc.

2021

Napa, California

The Meritage Resort

J. Coffy Pieternelle, M.D.

*Deceased

Keynote Speaker

2005

“Aging is Everybody’s Business”

Suzanne R. Kunkel, Ph.D.

Oxford, Ohio

2006

“Ethnobotany: The Quest for New Cures”

Paul A. Cox, Ph.D.

Provo, Utah

2007

“Government and Politics in
Women’s Healthcare”

Ruth S. Hanft, Ph.D.

Washington, D.C.

2008

No Designated Keynote Speaker

2009

“The Future of Women's Health Care:
I Once Was A Doctor”

Norman F. Gant, Jr., M.D.

Dallas, Texas

2010

“Counseling Patients for
Cardiovascular Risk”

Barry A. Franklin, Ph.D.

William Beaumont Hospital Health Center

Royal Oak, Michigan

2011

“Obstetrical Trials that Changed Clinical Practice”

Catherine Y. Spong, M.D.

Bethesda, Maryland

2012

“Healthcare Disparities for Women Worldwide: Report
from a Year as Jefferson Fellow”

Douglas W. Laube, M.D.

University of Wisconsin Medical School

Madison, Wisconsin

Keynote Speaker

2013

“Putting the ‘M’ Back in
Maternal Fetal Medicine”

Larry C. Gilstrap, III, M.D.
American Board Ob-Gyn
Dallas, Texas

2014

“Future Changes in the Practice of
Obstetrics and Gynecology”

Willam F. Rayburn, M.D.
University of New Mexico
Albuquerque, New Mexico

2015

“Cancer Survivorship:
Navigating the Aftermath”

Sigrun Hallmeyer, M.D.
Oncology Specialists, SC
Park Ridge, Illinois

2016

“The Second Victim”

Patrice M. Weiss, M.D.
Virginia Tech Carilion School Medicine
Roanoke, Virginia

2017

“The New Labor Guidelines:
Better or Not?”

Thomas J. Garite M.D.
E.J.Quilligan Professor Emeritus
Universty of California, Irvine
Littleton, Colorado

2018

“50 Years of Progress in Ob-Gyn
Genetic Testing”

Joe Leigh Simpson, M.D.
Florida International Univ. College Med.
Miami, Florida

Keynote Speaker

2019

“Global Women’s Health Challenges”

John J. Sciarra, M.D., Ph.D.

Northwestern University

Chicago, Illinois

2020

No Designated Keynote Speaker

COVID-19 Virtual Meeting

2021

“Resistance to Change”

Mark I. Evans, M.D.

Comprehensive Genetics

New York, New York

CAOG VISIONARY AWARD

Inaugurated in 2007 to recognize visionary leadership and “game changing” contributions which have fundamentally altered both the structure and the stature of the Central Association of Obstetricians & Gynecologists. By its very definition this award is bestowed infrequently with great admiration for exceptional dedication and service.

RECIPIENTS

Karl C. Podratz, M.D., Ph.D.

Awarded 2007

“As President in 1997 his vision introduced the CAOG to a professional management model as institutional support waned and he also promoted the current election process for officers and trustees.”

Mark I. Evans, M.D.

Awarded 2009

“As President in 2007 his vision championed both academic and community excellence which translated into and promoted the vigorous clinically oriented portion of the scientific program enjoyed annually.”

Dennis J. Lutz, M.D.

Awarded 2015

“As CAOG Managing Director since 2005 and as President in 2009 his vision firmly established today's financial viability and operational templates while his prodigious corporate memory instilled an enduring legacy of tradition, academic rigor & collegiality.”

CAOG VISIONARY AWARD (cont)

Barbara V. Parilla, M.D.

Awarded 2018

“As President in 2015 and Vice President and Trustee before that, her vision and unwaivering leadership actively promoted mentoring and role modeling as essential to optimal training in the speciality of obstetrics, gynecology and women’s health care.”

“PTO Endowment Fund”

In 1994 the CAOG established the PTO Fund (Presidents-Trustees-Officers) and solicited voluntary contributions from all past presidents, past board members and past officers to supplement the operating funds. Since 1999 the serving officers and board members have also been annually asked to each contribute generously so the Fund continued to grow.

In 2005 the Board created a permanent “PTO Endowment Fund” with interest income providing stipends for the annual scientific awards. Donations are annually solicited to continue to grow that fund. All contributors are recognized in both the quarterly CAOG Newsletter and the Annual Program Book. Thanks again to these 2021 special supporters.

2021 PTO Fund Contributors

David G. Anderson, M.D.
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Joe E. Belew, M.D.
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John W. Calkins, M.D.
Robert J. Carpenter, M.D., JD
Allan G. Charles, M.D.
Christine H. Comstock, M.D.
Stephen H. Cruikshank, M.D., MBA, JD
Dwight Cruikshank, M.D.
Bruce H. Drukker, M.D.
Philip N. Eskew, Jr., M.D.
Michael G. Flax, M.D.
Stephen J. Fortunato, M.D.

2020 PTO Fund Contributors (cont.)

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William E. Graham, M.D.
Peter B. Greenspan, D.O.
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Thomas L. Gross, M.D.
Perry G. Henderson, M.D.
Michael P. Hopkins, M.D., Med
Richard T. Jennings, M.D.
David W. Johnson, M.D.
Larry H. Johnson, M.D.
Harry S. Jonas, M.D.
Randall T. Kelly, M.D.
Elton R. Kerr, M.D.
David F. Lewis, M.D.
Wayne A. Lippert, M.D.
Robert P. Lorenz, M.D.
Virginia R. Lupo, M.D.
Dennis J. Lutz, M.D.
Sherburne M. MacFarlan, M.D.
L. Russell Malinak, M.D.
Veronica T. Mallett, M.D.
William E. Martens, M.D.
Jeffrey N. Maurus, M.D., MPH
Tacoma A. McKnight, M.D.
Susan M. Mou, M.D.
John B. Nettles, M.D.

2020 PTO Fund Contributors (cont.)

Jacob F. Palomaki, M.D.
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Oney C. Raines, III, M.D.
John T. Repke, M.D.
M. Gary Robertson, M.D.
Jack C. Sanford, M.D.
Paul T. Schnatz, M.D.
Walter R. Schwartz, M.D.
John J. Sciarra, M.D., Ph.D.
Joseph C. Scott, Jr., M.D.
Bobby L. Shull, M.D.
Lee P. Shulman, M.D.
Roger P. Smith, M.D.
Robert J. Sokol, M.D.
Jerry J. St. Pierre, M.D.
Irene A. Stafford, M.D.
Charles M. Stedman, M.D.
Stacy R. Stephens, M.D.
Shaila Sundaresh, M.D.
Paul G. Tomich, M.D.
James W. Van Hook, M.D.
Andrew F. Wagner, M.D.
Robert A. Welch, M.D.
Gilbert R. Wessel, M.D.
J. Harold White, M.D.
Kinion E. Whittington, D.O.
John M. Witt, M.D.

2010 - 2021 Archive Contributors

The previous call for old CAOG member directories, program books and other memorabilia was a great success.

Thanks to these great CAOG supporters for their hoarding habits and generosity:

Joe E. Belew, M.D.

Joel R. DeKoning, M.D.

Michael G. Flax, M.D.

James A. Hall, M.D.

Dennis J. Lutz, M.D.

Jeffrey N. Maurus, M.D.

John B. Nettles, M.D.

Herbert F. Sandmire, M.D.

Roger P. Smith, M.D.

Gilbert R. Wessel, M.D.

W. Wayne Workman, M.D.

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pre-1970 archive donations?

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*CAOG Past President

CAOG FUTURE MEETINGS

2022

LOCATION TBD

Mid-October

Wednesday, Thursday, Friday & Saturday

2023

LOCATION TBD

Mid-October

Wednesday, Thursday, Friday & Saturday

CENTRAL ASSOCIATION of
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