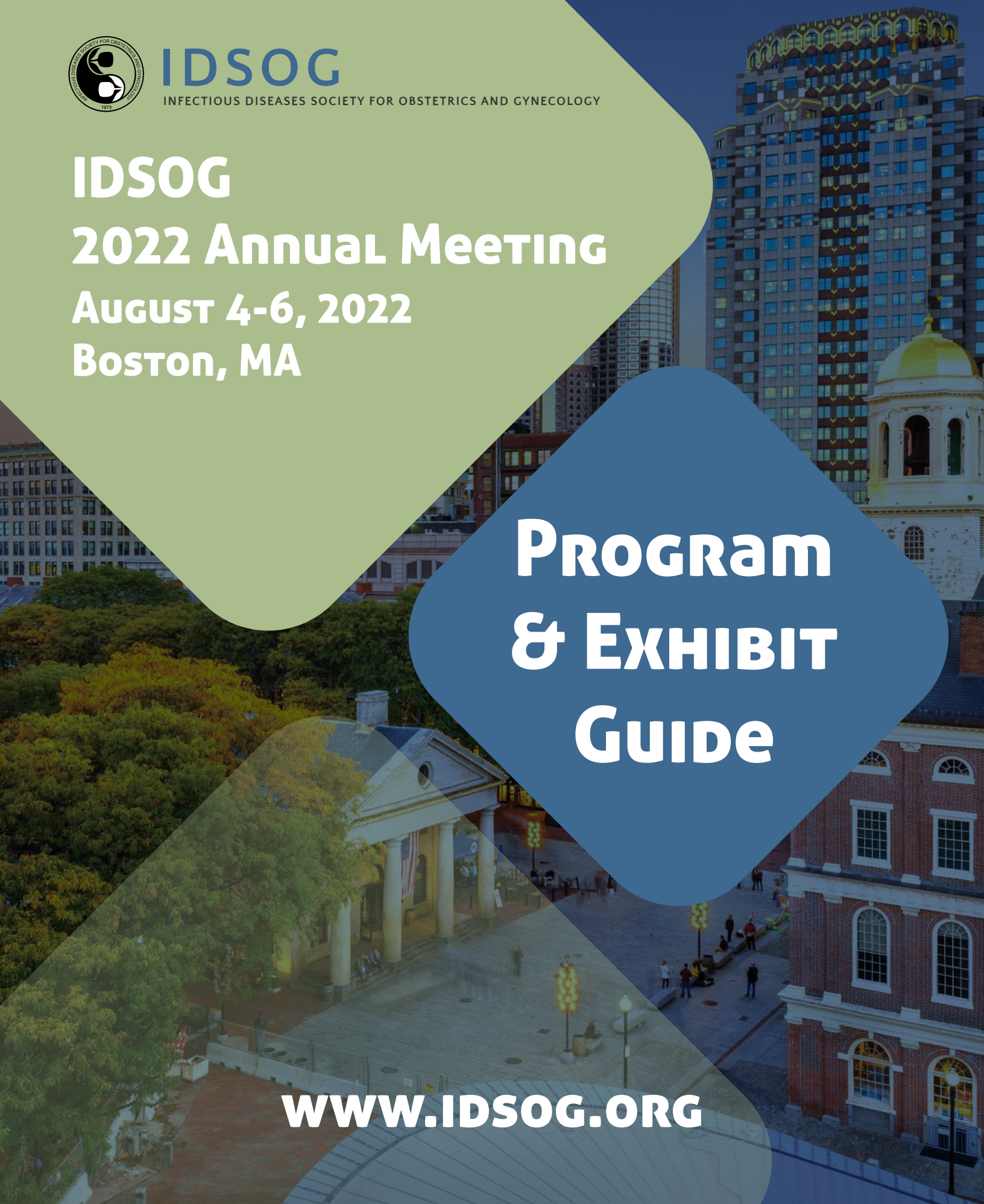
IDSOG

INFECTIOUS DISEASES SOCIETY FOR OBSTETRICS AND GYNECOLOGY

IDSOG 2022 Annual Meeting

August 4-6, 2022

Boston, MA



Program & Exhibit Guide

www.idsog.org

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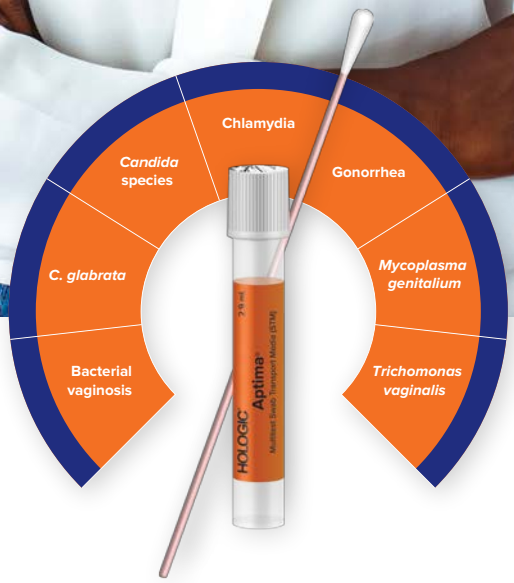
One multitest swab is bringing women's health full circle.



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With just one sample, the Aptima® Multitest Swab simplifies testing and provides more answers for sexual and vaginal health. The vaginal swab is the preferred collection method of the CDC and patients for chlamydia and gonorrhea.[1,2] It can also be used to detect up to 7 infections and disease states.[3-6]

Learn more ▸

References: 1. CDC. Recommendations for the Laboratory-Based Detection of Chlamydia trachomatis and Neisseria gonorrhoeae. *MMWR Recomm Rep*. 2014;63(2). https://www.cdc.gov/std/laboratory/2014labrec/2014-lab-rec.pdf **2.** CDC. 2015 Sexually Transmitted Diseases Treatment Guidelines. *MMWR Recomm Rep*. 2015;64(3). https://www.cdc.gov/std/tg2015/tg-2015-print.pdf **3.** Aptima Combo 2 Assay [package insert] #502446-IFU-PI_011 San Diego, CA; Hologic, Inc., 2020. **4.** Aptima Mycoplasma genitalium assay [package insert] #AW-17946_002, San Diego, CA; Hologic, Inc., 2019. **5.** Aptima CV/TV assay [package insert] #AW-18812, San Diego, CA; Hologic, Inc., 2020. **6.** Aptima BV assay [package insert] #AW-18811, San Diego, CA; Hologic, Inc., 2020.

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Infectious Diseases Society For Obstetrics and Gynecology

IDSOG_Org

WHY?

- Network with colleagues
- Increase IDSOG exposure within the United States and abroad
- Announce member accomplishments
- Stay up to date on events and discussions

Submit your social media handles to info@idsog.org to become an IDSOG social media ambassador!

WELCOME MESSAGE

On behalf of Dr. Caroline Mitchell, President of the Infectious Diseases Society for Obstetrics and Gynecology (IDSOG), and the entire IDSOG Board of Directors, we are excited to welcome you to the 2022 IDSOG Annual Meeting in Boston, MA, USA from August 4 – 6, 2022.

We are thrilled to be able to meet in person again and have organized a course for clinicians interested in the field of women's health. The IDSOG Annual Meeting is a scientific and educational gathering for clinicians and investigators who care for and study the epidemiology, pathophysiology, prevention, management, and impact of infectious diseases in women. The Annual Meeting provides participants with the tools they need to be advocates and providers in their community and features sections on social determinants of reproductive health and infectious diseases, vaccine hesitancy and mitigation, tuberculosis in pregnancy, and a great debate on screening/treatment of infectious diseases in women. We will be premiering the first ever exciting IDSOG "Stump the Professors", so get out those dark field scopes and medical school memory of Tzanck smears, silver staining and snuffles. And of course, our meeting will be providing ample time for renewing friendships, developing collaboration, networking, mentorship, and the always fun, Friday evening Awards Ceremony/Dinner complete with DJ and dancing!

Thank you for joining us in Boston, MA!

Dr. Patrick Ramsey, MD, MSPH
IDSOG Scientific Program Chair

SCIENTIFIC PROGRAM COMMITTEE

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FEATURED SPEAKERS

Kate Miele, MD, MA

Thursday, August 4, 2022 (09:10 a.m.)

High Yield Updates from the CDC

Friday, August 5, 2022 (08:20 a.m.)

Update on Tuberculosis Screening and Management in Pregnancy

Kate Miele, MD MA is a Medical Officer with the Prenatal Substance Exposure Surveillance and Research Team of the Division of Birth Defects and Infant Disorders at the Centers for Disease Control and Prevention (CDC). She began her work with CDC as the ABOG/CDC Larry Gilstrap MD Fellow; in this role she worked mainly on congenital syphilis prevention and also co-authored a Clinical Expert Series on "Tuberculosis in Pregnancy" for Obstetrics & Gynecology. She is an Adjunct Instructor with the Emory University's Department of Gynecology and Obstetrics.

She completed her Obstetrics and Gynecology Residency at the University of North Carolina after earning a Doctorate of Medicine from the Johns Hopkins School of Medicine, a Post-Baccalaureate Certificate from New York University, a Masters of Arts from The New School in International Affairs, and a Bachelor of Arts from the College of William and Mary with High Honors in East Asian Studies. She has seven years of professional nonprofit experience, including working in international reproductive health with EngenderHealth, global diplomacy with One To World, environmental advocacy with Green Corps, and grassroots community organizing in Kenya and India with GROOTS International.

Harold Wiesenfeld, MD

Thursday, August 4, 2022 (09:25 a.m.)

What's New in the 2021 CDC STD Guidelines

Harold C. Wiesenfeld, M.D.,C.M. completed his medical degree and residency in Obstetrics and Gynecology at McGill University in Montreal, Canada. After pursuing fellowship training in Reproductive Infectious Diseases under Dr. Richard Sweet, he joined the faculty at the University of Pittsburgh and is currently a Professor of Obstetrics, Gynecology and Reproductive Sciences and Vice Chair of Gynecology. Dr. Wiesenfeld is the Director of the Division of Reproductive Infectious Diseases and Immunology at the University of Pittsburgh, and also holds a secondary appointment in the Department of Medicine. In addition, he is the Medical Director of the Sexually Transmitted Diseases/ HIV Program at the Allegheny County Health Department in Pittsburgh.

Dr. Wiesenfeld's research centers on the study of infectious diseases in women and their impact on reproductive health. His research activities have focused on pelvic inflammatory disease (PID), exploring the epidemiology, microbiologic etiology, treatment and fertility impact of acute and subclinical PID. Dr. Wiesenfeld is investigating novel approaches to improve STD screening in women, including the routinization of screening in primary care settings throughout Western Pennsylvania. Dr. Wiesenfeld is proud to be celebrating his 30th year as a member of IDSOG.

Renee Boynton-Jarrett, MD, ScD

Friday, August 5, 2022 (09:30 a.m.)

Social Determinants of Health in Reproductive Infectious Diseases

Renée Boynton-Jarrett, a pediatrician and social epidemiologist, is an associate professor at Boston Medical Center and Boston University School of Medicine. She is the founding director of the Vital Village Networks. Vital Village uses a trauma-informed lens to improve community capacity to promote child wellbeing and advance equity through dedicated collaborative partnerships, research, data-sharing, and community leadership development in Boston and nationally through the NOW Forum and CRADLE Lab. Her scholarship has focused on early-life adversities as life course social determinants of health. She has a specific concentration on psychosocial stress and neuroendocrine and reproductive health outcomes, including obesity, puberty, and fertility. She is nationally recognized for work on the intersection of community violence, intimate partner violence, and child abuse and neglect and neighborhood characteristics that influence these patterns. She has received numerous awards for teaching, clinical care, and public health including the Massachusetts Public Health Association Paul Revere Award for outstanding impact on public health. She received her AB from Princeton University, her MD from Yale School of Medicine, and ScD in Social Epidemiology from Harvard School of Public Health, and completed residency in Pediatrics at Johns Hopkins Hospital.

FEATURED SPEAKERS

Kiran Mayl Perkins, CDC/DDID/NCEZID/DHQP

Friday, August 5, 2022 (11:25 a.m.)

Obstetric Considerations for Monkeypox Infection

CDR Kiran Perkins is an obstetrician-gynecologist and a medical officer of the U.S. Public Health Service serving as lead of the Outbreak Response Team in CDC's Division of Healthcare Quality Promotion since 2017. In this role, she coordinates local and national healthcare-associated infection outbreak response. During her time at CDC, she has led over 400 responses to outbreaks and infection control threats across all U.S. states and 9 countries. She has also led several national investigations, including the investigation of the largest U.S. outbreak of bacterial infections due to contaminated stem cell products. While at CDC she has worked on agency-wide emergency response efforts including the Ebola and Zika outbreaks and the COVID-19 pandemic.

CDR Perkins completed an undergraduate degree in Human Development at Cornell University, medical degree at the State University of New York at Buffalo School of Medicine and Biomedical Sciences, and MPH in Women's and Reproductive Health at Johns Hopkins University Bloomberg School of Public Health. Her residency training was completed at Magee Womens Hospital, University of Pittsburgh Medical Center. She completed CDC's Epidemic Intelligence Service (EIS) Applied Epidemiology fellowship in the Division of Reproductive Health, where she had the opportunity to work with the National Assisted Reproductive Technology (ART) Surveillance System to conduct epidemiologic analyses on risks and outcomes associated with ART. CDR Perkins continues to engage in obstetric and gynecologic clinical activities at Grady Memorial Hospital as adjunct faculty at Emory School of Medicine.

Kimberly Fortner, MD

Saturday, August 6, 2022 (09:05 a.m.)

Vaccine Hesitancy: Covid-19 and Beyond

Kim Fortner is Professor, Division Director of Maternal-Fetal Medicine, and Vice Chairman of Obstetrics Quality and Service in the Department of Obstetrics and Gynecology at the University of Tennessee Graduate School of Medicine. Her interest in maternal immunizations and infectious diseases in pregnancy developed during fellowship training as a result of the engaged mentorship she encountered at her program and also by attending and networking at the Annual Scientific Infectious Diseases Society of Obstetrics and Gynecology (IDSOG) meetings and continues to present. Through these mentorship opportunities, Dr. Fortner has been recognized nationally as an infectious diseases expert in maternal health, serving the NIH/NIAID examining the enrollment and safety assessments of pregnant women into clinical trials of therapeutics and vaccines. Her prior published work has evaluated Influenza and Tdap vaccines during pregnancy, exploration of the barriers on vaccine and antimicrobial research through work as an investigator in Vanderbilt's Vaccine Treatment Evaluation Units (VTEU). She currently serves on the Data Safety Committee for one of Pfizer's International candidate vaccine trials. During the pandemic, Dr. Fortner has been at the forefront of promoting COVID-19 vaccination during pregnancy in our state and serves at the national level, as a member of the Society for Maternal-Fetal Medicine's COVID Taskforce.

IDSOG TRAINEE TRAVEL SCHOLAR AWARDEES

The Infectious Disease Society for Obstetrics and Gynecology (IDSOG) awarded 16 individuals a grant for the purpose of trainee scholarships to sustain and expand the membership to include young clinicians and investigators (students, residents, fellows, and junior faculty). The 2022 Trainee Travel Scholar Awardees are:

- **Aaron Abai** — *Ragon Institute of MGH, MIT, and Harvard*
- **Andrea Atkinson** — *University of British Columbia*
- **Isabela Covelli, BS** — *University of Washington School of Medicine*
- **Amanda Craig, MD** — *Duke University*
- **Larissa De Souza** — *Case Western Reserve University School of Medicine*
- **Jacob Elnaggar, BS** — *Louisiana State University Health Sciences Center New Orleans*
- **Rebecca Fairchild** — *Duke University*
- **Yael Frank** — *School of Medicine, Tel Aviv University*
- **Candace Haghighi, MPH** — *Wake Forest School of Medicine*
- **Nicole Jimenez** — *University of Arizona*
- **Colleen Judge-Golden** — *Duke University Medical Center*
- **Julia Moyett** — *Duke University School of Medicine*
- **Barbara Neuhoff, MD** — *University of Texas Health Science Center at San Antonio*
- **Jessica Rizzuto** — *Vanderbilt University Medical Center*
- **Gabriella Rodriguez** — *University of Miami Miller School of Medicine*
- **Kristina Wilbekin Walker** — *University of Alabama at Birmingham*

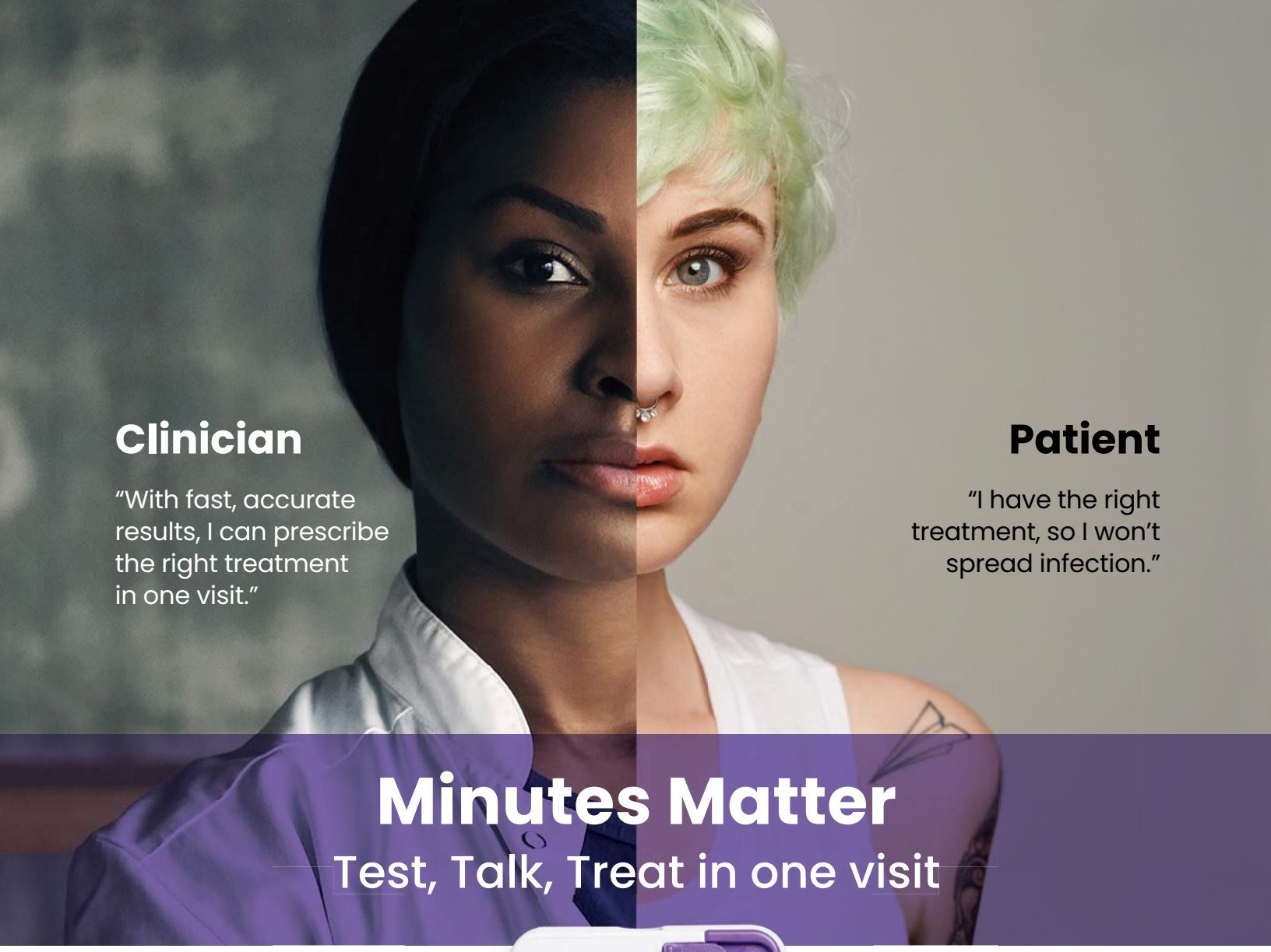
DISCLAIMER AND UNLABELED USAGE STATEMENT

The information presented is that of the contributing faculty and presenters and does not necessarily represent the views of the Infectious Diseases of Obstetrics and Gynecology or any named company or organization providing financial support. Specific therapies discussed may not be approved and/or specified for use as indicated by the faculty or presenters.

IDSOG RULES OF CONDUCT

Members and guests attending the Infectious Diseases of Obstetrics and Gynecology (IDSOG) Annual Meeting are expected to use their best judgment and exhibit professional conduct at all times. While the meeting environment may be casual, a respectful demeanor is always appropriate. As such, while participating in IDSOG activities, individuals must agree to:

- Conduct themselves and their activities in a professional manner;
- Properly register and display appropriate credentials;
- Abide by the Bylaws, policies and practices of the IDSOG;
- Not distribute brochures, flyers, handouts, etc., or post displays of any kind without prior approval of the Director of Meetings or designee(s);
- Not use the IDSOG name other than in the conduct of IDSOG business as determined by the Council;
- Not use any IDSOG membership lists or any part thereof except in the conduct of IDSOG business as determined by the Bylaws and/or the Council;
- Restrict the use of IDSOG information or materials (work products, work in progress, and databases), in any media or form, to the purpose defined by the Bylaws and/or the Council;
- Refrain from engaging in any activity that would violate the proprietary rights of their employers, IDSOG or any other person or organization;
- Not make illegal copies of copyrighted and/or licensed software or use unauthorized copies on IDSOG computers; and
- Not engage in any exchange of information or other behavior that violates the antitrust laws of the United States.



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"With fast, accurate results, I can prescribe the right treatment in one visit."

Patient

"I have the right treatment, so I won't spread infection."

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Test, Talk, Treat in one visit

In under 30 minutes:

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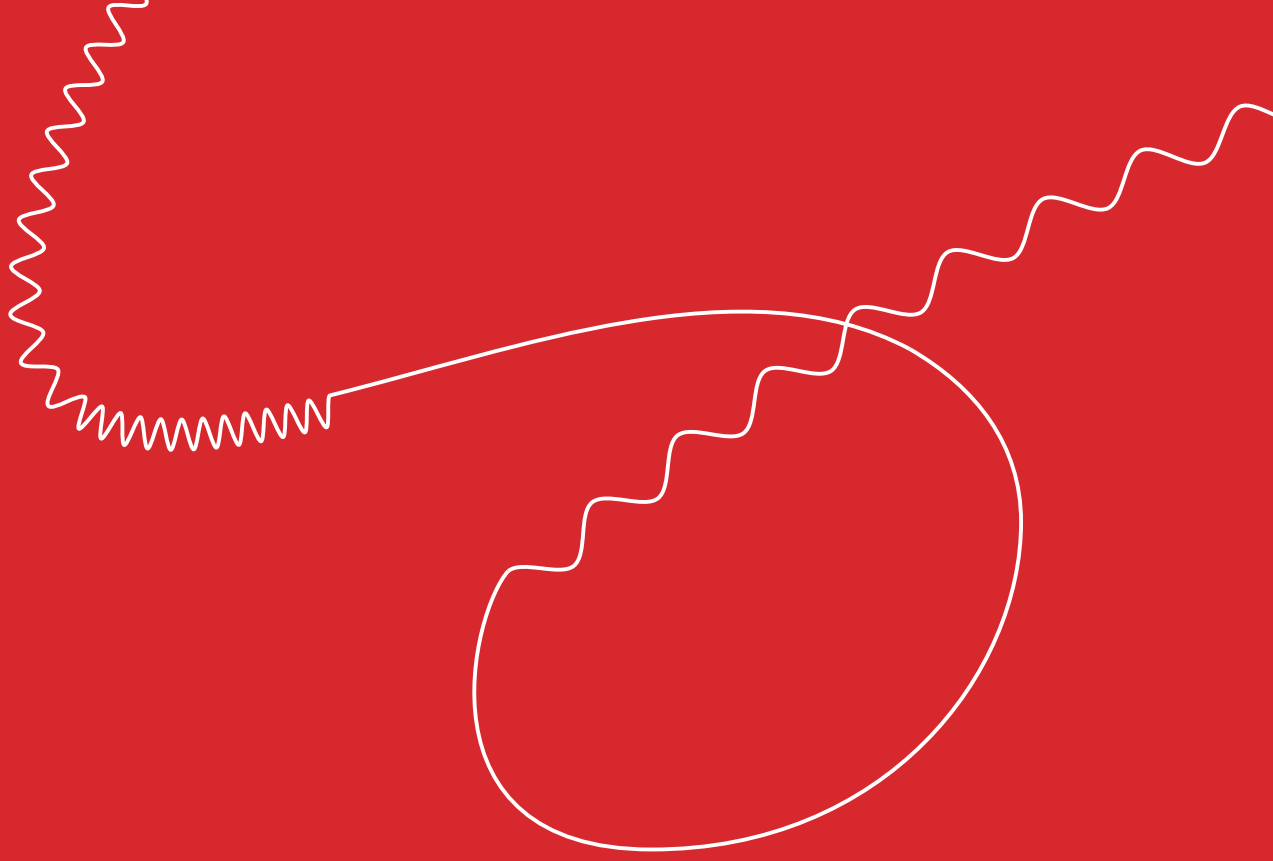

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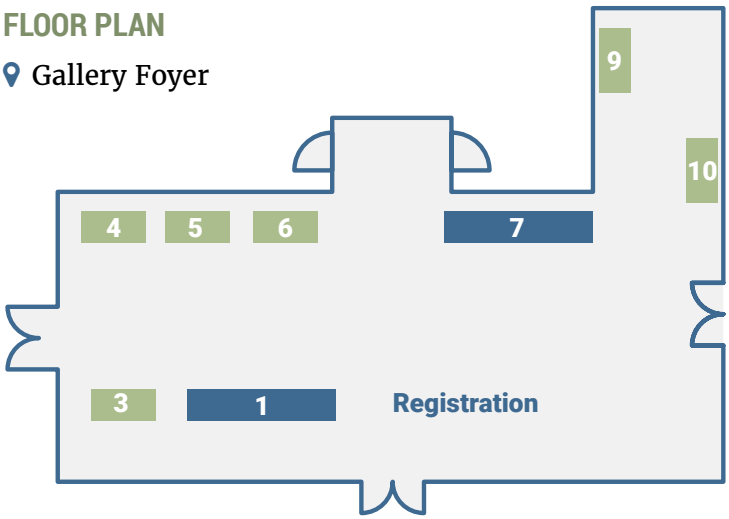
- **Booth 9:** Gilead Sciences, Inc.
- **Booth 1:** Hologic
- **Booth 3:** Lupin Pharmaceuticals
- **Booth 7:** Moderna
- **Booth 10:** Mycovia Pharmaceuticals, Inc.
- **Booth 5:** BREXAFEMME®
- **Booth 6:** Visby Medical, Inc.

FLOOR PLAN

Gallery Foyer

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INDUSTRY SPONSORED SYMPOSIA

Thursday, August 4, 2022
07:00 a.m. – 08:00 a.m.

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The Neglected Epidemic: A Panel Conversation about the Value Rapid POC PCR brings to Reproductive Health

Teresa M. Abraham, PhD
Vice President Scientific Affairs & External Partnerships, Visby Medical, Inc.

Speakers:

Tosin Jaiyeoba Goje, MD, MSCR, FACOG
Associate Professor of Ob-Gyn & Reproductive Biology, Cleveland Clinic Lerner College of Medicine, Case Western Reserve University | Reproductive Infectious Diseases | Vulvar and Vaginal Disorders Clinic |Ob/Gyn & Women's Health Institute

Christina Muzny, MD, MSPH, FACP, FIDSA
Associate Professor of Medicine, Obstetrics/Gynecology, & Epidemiology | Vice Chair, UAB Institutional Review Board | Medical Director, UAB Vaginitis Clinic Department of Medicine | Division of Infectious Diseases |Heersink School of Medicine | University of Alabama at Birmingham

Thursday, August 4, 2022
12:30 p.m. – 01:30 p.m.

moderna

mRNA Vaccines Against Infectious Diseases: Current Concepts and Future Prospects with a Review of the Moderna mRNA CMV Vaccine Program

A review of Moderna's Infectious Disease Core mRNA Science and Technology that enables a platform for Precision Medicine. This symposium will provide an overview of the research process including a description of how we approach antigen selection and design to drive protective immunity against a given pathogen, a review of Immunological assessments that we employ to assess vaccine approaches and selection of the best strategy, and how we assess the responses that we elicit. Finally, we will discuss the CMV vaccine program, including a review of the vaccine construct, Phase 1 and Phase 2 data, and the Phase 3 study design.

Speakers:

Allison August, M.D.
Vice President, Clinical Development, Infectious Diseases, Moderna

Darin Edwards, PhD
Infectious Diseases, Moderna

INDUSTRY SPONSORED SYMPOSIA

Friday, August 5, 2022
07:00 a.m. – 08:00 a.m.

Cepheid®
A better way.

Xpert® Xpress MVP: A new on-demand NAAT for improving women's health through fast and accurate diagnosis of vaginitis/vaginosis.

Vaginal discharge is a leading cause of clinic visits by women, with more than 10M per year in the United States. Limitations with traditional test methods contribute to poor diagnosis and inappropriate treatment, leading to persistent symptoms and repeat provider visits. High performing nucleic acid amplification tests (NAATs) that have only been offered on large, batch analyzers have limited practical use for clinicians due to a lag in reportable results, thus making same day treatment a challenge.
The Xpert Xpress MVP is a new on-demand NAAT developed by Cepheid, to aid in the diagnosis of vaginal infections in women with a clinical presentation of vaginitis/vaginosis.

In this presentation, we will:

- Describe the features of the Xpertâ Xpress MVP test
- Discuss data from the clinical studies of symptomatic women in diverse settings

Speakers:
Kimberle Chapin, MD, MSc D(ABMM), FCAP
Diane Kawa, PhD

Friday, August 5, 2022
12:30 p.m. – 01:30 p.m.

HOLOGIC®
The Science of Sure

Break the STI Cycle: Mycoplasma genitalium treatment options and clinical discussion of complex cases

Mycoplasma genitalium infections present unique challenges from a treatment perspective. Proper diagnosis is important to drive the right treatment decisions. Hear from clinical experts, Dr. Geisler and Dr. Van Der Pol, as they discuss complex cases of this STI and provide clinical recommendations for treatment options.

Damon Getman, PhD
Director, Scientific Affairs, Diagnostic Solutions Hologic, Inc.

Speakers:
William M. Geisler, MD, MPH
Professor of Medicine and Epidemiology
Assistant Dean, Physician Scientist Development
Director, Physician Scientist Development
Office Director, STD Program
Research Director, Diagnostic Mycoplasma Laboratory
Laboratory Director, Infectious Diseases Laboratory
University of Alabama at Birmingham, Division of Infectious Diseases
Barbara Van Der Pol, PhD, MPH
Professor of Medicine, Department of Infectious Diseases
Scientist, Center for Women's Reproductive Health, General Clinical Research Center
University of Alabama at Birmingham

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With VIVJOA™ (oteseconazole) 12-week course of therapy your patients can reduce the incidence of recurrent vulvovaginal candidiasis (RVVC) for almost a year[1]

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INDICATION

VIVJOA™ (oteseconazole) is indicated to reduce the incidence of recurrent vulvovaginal candidiasis (RVVC) in females with a history of RVVC who are NOT of reproductive potential.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

Females of Reproductive Potential
Pregnant and Lactating Women
Hypersensitivity to oteseconazole

Please see full Prescribing Information and Patient Information at VIVJOA.com/PI.

IMPORTANT SAFETY INFORMATION

INDICATION

VIVJOA™ (oteseconazole) is indicated to reduce the incidence of recurrent vulvovaginal candidiasis (RVVC) in females with a history of RVVC who are NOT of reproductive potential.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

Females of Reproductive Potential: VIVJOA is contraindicated in females of reproductive potential. Females who are NOT of reproductive potential are defined as: persons who are biological females who are postmenopausal or have another reason for permanent infertility (e.g., tubal ligation, hysterectomy, salpingo-oophorectomy).

Pregnant and Lactating Women: VIVJOA is contraindicated in pregnant and lactating women.

Hypersensitivity: VIVJOA is contraindicated in patients with known hypersensitivity to oteseconazole.

WARNINGS AND PRECAUTIONS

Embryo-Fetal Toxicity: Based on animal studies, VIVJOA may cause fetal harm. The drug exposure window of approximately 690 days (based on 5 times the half-life of oteseconazole) precludes adequate mitigation of the embryo-fetal toxicity risks. Advise patients that VIVJOA is contraindicated in females of reproductive potential, and in pregnant and lactating women because of potential risks to a fetus or breastfed infant.

ADVERSE REACTIONS

The most frequently reported adverse reactions among VIVJOA-treated patients in clinical studies included headache (7.4%) and nausea (3.6%).

DRUG INTERACTIONS

Effect of VIVJOA on Other Drugs: Oteseconazole is a Breast Cancer Resistance Protein (BCRP) inhibitor. Concomitant use of VIVJOA with BCRP substrates (e.g., rosuvastatin) may increase the exposure of BCRP substrates (e.g., rosuvastatin), which may increase the risk of adverse reactions associated with these drugs. Use the lowest possible starting dose of the BCRP substrate or consider reducing the dose of the substrate drug and monitor for adverse reactions.

USE IN SPECIFIC POPULATIONS

Pregnancy: VIVJOA is contraindicated in females of reproductive potential and in pregnant women. Based on animal studies, VIVJOA may cause fetal harm when administered to pregnant women. In addition, the drug exposure window of approximately 690 days (based on 5 times the half-life of oteseconazole) precludes adequate mitigation of the embryo-fetal toxicity risks.

Lactation: VIVJOA is contraindicated in lactating women and females of reproductive potential. There are no data on the presence of oteseconazole in human or animal milk or data on the effects of oteseconazole on milk production. There were no reported adverse effects in breastfed infants following maternal exposure to oteseconazole during lactation; however, given the limited duration of follow-up of the oteseconazole-exposed infants during the post-natal period, no conclusions can be drawn from these data.

Females of Reproductive Potential: VIVJOA is contraindicated in females of reproductive potential based on data from rat studies.

Pediatric Use: The safety and effectiveness of VIVJOA have not been established in pre-menarchal pediatric females.

Geriatric Use: Clinical studies of VIVJOA did not include sufficient numbers of patients 65 years of age and older to determine whether they respond differently from younger adult patients.

Renal Impairment: No dosage adjustment of VIVJOA is recommended in patients with mild to moderate renal impairment. VIVJOA is not recommended for use in patients with severe renal impairment or end-stage renal disease, as clinical studies did not include sufficient numbers of these patients.

Hepatic Impairment: No dosage adjustment of VIVJOA is recommended in patients with mild hepatic impairment. VIVJOA is not recommended for use in patients with moderate or severe hepatic impairment, as there is insufficient information in these patients.

Please see full Prescribing Information and Patient Information at VIVJOA.com.

To report SUSPECTED ADVERSE REACTIONS, contact Mycovia Pharmaceuticals, Inc. at 1-855-299-0637 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

REFERENCE: 1. VIVJOA (oteseconazole). Prescribing information. Mycovia Pharmaceuticals, Inc.; 4/2022.

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150 mg per capsule, for oral use

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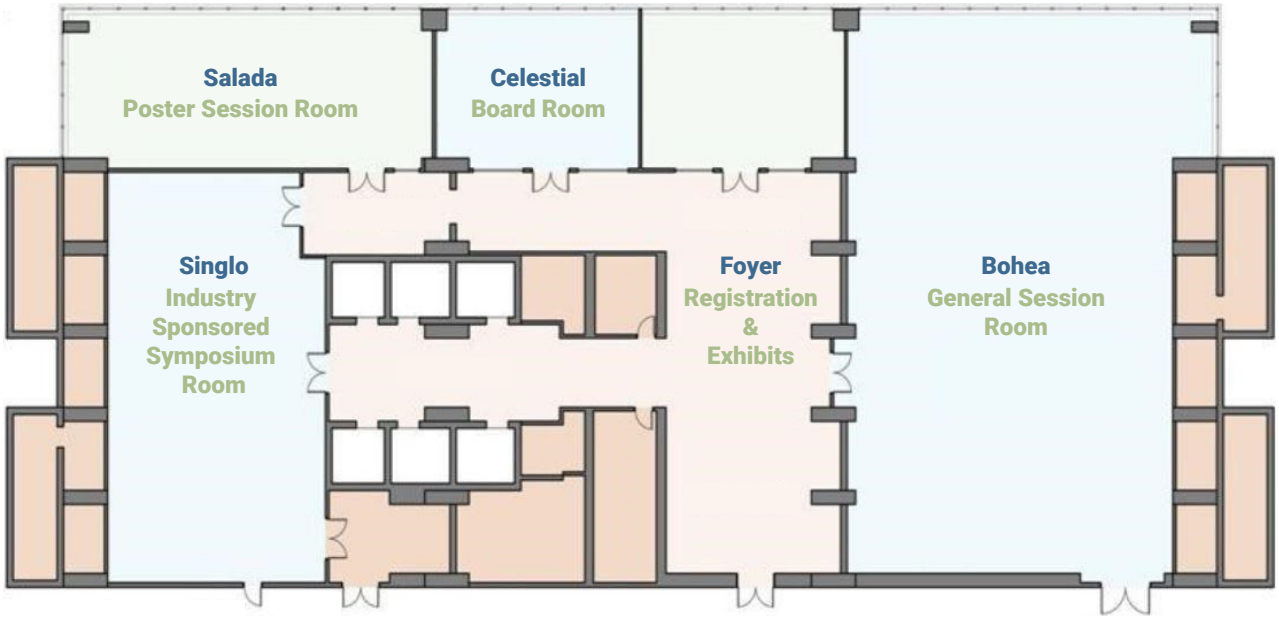


PROGRAM

THURSDAY
AUGUST 4, 2022

07:00 a.m. – 08:00 a.m.
Singlo

Breakfast Industry Sponsored Symposium by Visby Medical Inc.

08:15 a.m. – 08:25 a.m.
Bohea

Opening Remarks, Presidential & Program Chair Welcome

Speakers: Caroline Mitchell, MD (Massachusetts General Hospital) & Patrick Ramsey, MD, MSPH (UT Health San Antonio)

08:25 a.m. – 09:10 a.m.
Bohea

Oral Abstract Session 1

Moderators: Andrea Atkinson (University of British Columbia) & Erica Hardy, MD (Brown University)

08:25 a.m. – 08:40 a.m.
A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy of Once Monthly Oral Ibrexafungerp for Prevention of Recurrent Vulvovaginal Candidiasis (VVC) (#001)
Oluwatosin Goje (Cleveland Clinic Lerner College of Medicine)

08:40 a.m. – 08:55 a.m.
Maternal And Fetal Infection And Antibody Profiles Following SARS-Cov-2 Infection In Pregnancy: A Prospective Cohort Study (#002)
Darine El-Chaar (The Ottawa Hospital)

08:55 a.m. – 09:10 a.m.
Association between Proinflammatory Anorectal Microbiome in Women High-grade Dysplasia of the Lower Genital Tract (#003)
Victoria Huynh (Louisiana State University Health Sciences Center New Orleans)

09:10 a.m. – 10:05 a.m.
Bohea

General Session 1

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)

09:10 a.m. – 09:25 a.m.
High Yield Updates from the CDC
Kate Miele, MD, MA (Centers for Disease Control and Prevention, Atlanta, GA)

09:25 a.m. – 10:05 a.m.
Whats New in the 2021 CDC STD Guidelines
Harold Wiesenfeld, MD (Magee Women's Hospital/University of Pittsburgh, Pittsburgh, PA)

10:05 a.m. – 11:05 a.m.
Salada & Tea Gallery Foyer

Poster Session 1 & Break

Response to Antibiotic Treatment of Bacterial Vaginosis Predicts the Effectiveness of LACTIN-V (Lactobacillus crispatus CTV-05) in the Prevention of Recurrent Disease (#019)
Anke Hemmerling (University of California, San Francisco)

Maternal COVID-19 Vaccination and 6-month Infant Developmental Outcomes (#020)
Ryan Duggal (Duke University Medical Center)

Integrated Prenatal and Hepatitis C Virus Care Increases Linkage (#021)
Catherine Chappell (University of Pittsburgh)

Training Gynecologists in the Management of HIV Pre-Exposure Prophylaxis: a 2-year Experience (#022)
Andres Ramirez Zamudio (Icahn School of Medicine at Mount Sinai)

Developing Sentinel Surveillance for Chlamydia, Gonorrhea, and Trichomonas using Test Results from Routine Screening during Pregnancy (#023)
Gweneth Lazenby (MUSC)

Is Lactobacillus Phage Involved in The Pathogenesis of Bacterial Vaginosis? (#024)
Jacob Elnaggar (Louisiana State University Health Sciences Center)

Estimated Time to Relief from Vulvovaginal Symptoms with Ibrexafungerp: Patient Reported Data from the VANISH Studies (#025)
Nkechi Azie (SCYNEXIS, Inc.)

Effect of Indoor Residual Spraying on Malaria in Pregnancy and Pregnancy Outcomes: a Systematic Review (#026)
Tesia Kim (Beth Israel Deaconess Medical Center)

COVID-19 Vaccine Uptake, Vaccine Confidence and Medical Mistrust among Reproductive-Aged Women in Jamaica (#027)
Jodian Pinkney (Massachusetts General Hospital)

Canadian Antenatal COVID-19 Seroprevalence Study; Population Mapping of the COVID-19 Pandemic Utilizing Stored Antenatal Sera (#028)
Andrea Atkinson (University of British Columbia)

Pregnancy Outcomes by Pandemic Wave Among Pregnant Individuals with COVID-19 Infection (#029)
Amanda Craig (Duke University)

A Prospective Cohort Study on Pregnancy Outcomes in Women Immunized with Seasonal Quadrivalent Influenza Vaccine (QIV) During Pregnancy (#030)
Christopher Robinson (Charleston Maternal Fetal Medicine)

Disease Severity Across Pandemic Waves Among Pregnant Individuals With COVID-19 (#031)
Colleen Judge-Golden (Obstetrics & Gynecology, Duke University Medical Center)

Fluconazole Resistant Candida albicans Vaginal Infections at a Referral Center and Results with Boric Acid as a Treatment Regimen (#032)
Ryan Sobel, MD (Thomas Jefferson University)

Male Family Members' Perceptions of COVID-19 Vaccination of Pregnant and Breastfeeding People in Kenya (#033)
Rosemary Njogu (Jhpiego)

Oteseconazole for RVVC in Diabetes: Post-hoc Analysis of Safety and Clinical Response in Phase 3 Studies (#034)
Paul Nyirjesy (1Sidney Kimmel College Thomas Jefferson University)

Delta Variant Neutralizing Antibody Response Following Maternal COVID19 Vaccination (#035)
Amanda Craig (Duke University)

Comparing Group to Individual Prenatal Care for Pregnant People Living With HIV (#036)
Alejandra Duque (Baylor College of Medicine)

Reactogenicity, SARS-CoV-2 Infection, and Pregnancy Outcomes following COVID-19 Vaccination During Pregnancy in Canada (#037)
Elisabeth Mcclymont (University of British Columbia)

Patterns of Nucleic Acid Amplification Testing Among Women with Incident versus Prevalent Diagnoses of Vaginitis (#038)
Elizabeth C. Dabrowski (Aetion, Inc.)

Delivery and Neonatal Outcomes of Women Critically Ill with COVID-19 (#039)
Jessica Rizzuto (Vanderbilt University Medical Center)

COVID-19 and Indications for Delivery: A Prospective Cohort Study (#040)
Mary Fang (Baylor College of Medicine)

Understanding Factors Shaping Vaccination Decisions Among Pregnant or Lactating individuals, or Those Planning a Pregnancy in a Canadian Province (#041)
Marcia Bruce (University of Calgary)

A Pilot Study of Uterine Fibroids and Longitudinal Profiles of the Vaginal Microbiota Among a Cohort Presenting for Transvaginal Ultrasound (#042)
Sarah Robbins (University of Maryland School of Medicine)

11:05 a.m. – 11:45 a.m.

Bohea

Stump the Professors

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)
Professors: William Geisler, MD, MPH (The University of Alabama at Birmingham), Tosin Jaiyeoba Goje (Cleveland Clinic Lerner College of Medicine), Lisa Rahangdale, MD (University of North Carolina at Chapel Hill), Christopher Robinson (Charleston Maternal Fetal Medicine)

11:05 a.m. – 11:25 a.m.
STP Case 1
Barbara Neuhoff, MD (UT Health San Antonio)

11:25 a.m. – 11:45 a.m.
STP Case 2
Subhjit Sekhon (University of Missouri-Kansas City)

11:45 a.m. – 12:30 p.m.

Bohea

Oral Abstract Session 2

Moderators: Amanda Craig (Duke University) & Chelsea Elwood, MD (University of British Columbia)

11:45 a.m. – 12:00 p.m.
Maternal and Infant Cytomegalovirus Detection Among Women Living with HIV (#004)
Elisabeth Mcclymont (University of British Columbia)

12:00 p.m. – 12:15 p.m.
Comparison of Vaginal Microbiota and Inflammation Between People with Unexplained vs. Male Factor Infertility (#005)
Ofri Bar (Massachusetts General Hospital)

12:15 p.m. – 12:30 p.m.
Bacterial Vaginosis and Spontaneous Clearance of Urogenital Chlamydia trachomatis in the Longitudinal Study of Vaginal Flora (#006)
Sarah Brown (University of Maryland School of Medicine)

12:30 p.m. – 01:30 p.m.

Singlo

Lunch Industry Sponsored Symposium by Moderna

01:30 p.m. – 02:15 p.m.

Celestial

CDC Focus Group: Infection Prevention in Obstetric Settings

**pre-registration required*

04:00 p.m. – 05:00 p.m.

Travel Scholars Program

**invitation only*

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)

05:00 p.m. – 06:30 p.m.

Zone 1&2 PL

Welcome Reception

PROGRAM

FRIDAY
AUGUST 5, 2022

07:00 a.m. – 08:00 a.m.
Singlo

Breakfast Industry Sponsored Symposium by Cepheid

08:15 a.m. – 08:55 a.m.
Bohea

General Session 2

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)

08:15 a.m. – 08:20 a.m.
Welcome Back/Day 2 Opening Remarks
Patrick Ramsey, MD, MSPH (UT Health San Antonio)

08:20 a.m. – 08:55 a.m.
Update on Tuberculosis Screening and Management in Pregnancy
Kate Miele, MD, MA (Centers for Disease Control and Prevention, Atlanta, GA)

08:55 a.m. – 09:25 a.m.
Bohea

Oral Abstract Session 3

Moderators: Nicole Jimenez (University of Arizona) & Gweneth Lazenby (MUSC)

08:55 a.m. – 09:10 a.m.
Safety and Savings from Penicillin Allergy De-labelling in Pregnancy: Good Stewardship, Good Cents (#007)
Andrea Atkinson (University of British Columbia)

09:10 a.m. – 09:25 a.m.
Relationship Between the Maternal Vaginal Microbiome and the Infant Gut Microbiome by Mode of Delivery (#008)
Deborah Money (University of British Columbia)

09:25 a.m. – 10:25 a.m.
Bohea

General Session 3

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)

09:25 a.m. – 10:25 a.m.
Presidential Presentation: Social Determinants of Health in Reproductive Infectious Diseases
Renee Boynton-Jarrett, MD, ScD (Boston University School of Medicine/Boston Medical Center, Boston, MA)

10:25 a.m. – 11:25 a.m.
Salada & Tea Gallery Foyer

Poster Session 2 & Break

Genotypic and Phenotypic Differences Supporting the Recently Described Species Split between Lactobacillus Jensenii and Lactobacillus Mulieris (#043)
Fatima Aysha Hussain (Ragon Institute of MGH, MIT, and Harvard)

Glycogen-degrading Pullulanase A is Variably Present and Correlated with Lactic Acid in Vaginal Samples from Young African Women (#044)
Laura Sycuro (University of Calgary)

Long-term Observations of Oteseconazole Efficacy Against Recurrent Vulvovaginal Candidiasis (#045)
Jack D. Sobel (Wayne State University School of Medicine)

Neonatal Outcomes by Pandemic Wave among Pregnant Individuals with COVID19 Infection (#046)
Julia Moyett (Duke University School of Medicine)

Using Hierarchical Cluster Analysis to evaluate attitudes toward Menstrual Suppression among Kenyan Women using a Contraceptive Vaginal Ring (CVR) (#047)
Kristina Wilbekin Walker (University of Alabama at Birmingham)

Secreted Proteolytic Activity of Vaginal Prevotella Species Remodels Structural Components of Cervical and Uterine Tissues (#048)
Karen Lithgow (University of Calgary)

An Analysis of Changing Practice Advisory Guidelines on COVID-19 Vaccine Uptake in Pregnancy (#049)
Gabriella Rodriguez (University of Miami Miller School of Medicine)

Provider Attitudes and Practices on Counseling, Documentation, and Administration of Vaccines in Pregnancy (#050)
Gabriella Rodriguez (University of Miami Miller School of Medicine)

COVID-19 Vaccine Response Among Pregnant and Not Pregnant People with Inflammatory Bowel Disease (#051)
Candace Haghighi (Wake Forest School of Medicine)

FemMicro16S: Open Source Tools for Annotation and Meta-analysis of 16S Vaginal Microbiome Data (#052)
Laura Sycuro (University of Calgary)

Effectiveness of REGEN-COV Antibody Combination to Reduce Risk of Hospitalization for Pregnant Patients with COVID-19 (#053)
Frank Williams (Ochsner Health)

Factors Influencing COVID-19 Vaccination Decision-Making Among Pregnant and Breastfeeding Individuals (#054)
Larissa De Souza (Case Western Reserve University School of Medicine)

Analysis of the Female Genital Tract (FGT) Metabolome Identifies Metabolome Clusters and Pathways Associated with BV and Microbiota Composition in a South African Cohort (#055)
Aaron Abai (Ragon Institute of MGH, MIT, and Harvard)

An Analysis of OBGYN Provider Attitudes Regarding the Safety of COVID-19 Vaccination in Pregnancy and their Impact on Counseling (#056)
Valerie Vilarino (University of Miami)

Impact of Vaginal Microbiota and Inflammation on Pregnancy Rates after in Vitro Fertilization (#057)
Stelios Vagios (Tufts Medical Center)

Comparison of two Antiretroviral Therapy Regimens in Human Immunodeficiency Virus (HIV-) Infected Pregnant Women (#058)
Danielle Tate (UTHSC/UTROP)

Stillbirth during a pandemic: A Retrospective Cohort Study in a High-risk Population (#059)
Danielle Tate (UTHSC/UTROP)

Comparison of Severe COVID-19 in Pregnant and Nonpregnant Women Admitted to the Intensive Care Unit (#060)
Jessica Rizzuto (Vanderbilt University Medical Center)

Symptoms Associated with Severe Acute Respiratory Syndrome Coronavirus-2 Infection in Vaccinated Pregnant and Non-pregnant Individuals during the Omicron Surge (#061)
Yael Frank (School of Medicine, Tel-Aviv University)

HPV Inpatient Postpartum Vaccination: Evaluation of a Pilot Quality Improvement Project (#062)
Ellen Murphy (BWH/MGH)

Does Admission Anemia Increase Risk of Postpartum Morbidity Among Patients with Preterm Prelabor Rupture of Membranes? (#063)
Rebecca Fairchild (Duke University School of Medicine)

Comparison of Computer-assisted Self-interview (CASI) versus Clinician-interview (CI) for Self-reported Vulvovaginal Symptoms (#064)
Sarah Robbins (University of Maryland School of Medicine)

11:25 a.m. – 11:45 a.m.
Bohea

General Session 4

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)

11:25 a.m. – 11:45 a.m.
Obstetric Considerations for Monkeypox Infection
Kiran M. Perkins, MD, MPH (Centers for Disease Control and Prevention)

11:45 a.m. – 12:00 p.m.
Bohea

Oral Abstract Session 4

Moderator: Barbara Neuhoff, MD (UT Health San Antonio) & Jacob Elnaggar (Louisiana State University Health Sciences Center)

11:45 a.m. – 12:00 p.m.
Metabolic Contributions of Vaginal Lactobacilli Species to the Cervicovaginal Environment Utilizing Human 3D Cervical Epithelial Cell Models (#009)
Nicole Jimenez (University of Arizona)

12:00 p.m. – 12:15 p.m.
Outcomes and Associations of Severe COVID-19 in Pregnancy; Results from the CANCOVID-Preg Population Surveillance Study (#010)
Andrea Atkinson (University of British Columbia)

12:15 p.m. – 12:30 p.m.
Extended Interval Gentamicin Dosing in Obstetrics (#011)
Catherine Li (Women and Infants Hospital)

12:30 p.m. – 01:30 p.m.
Singlo

Lunch Industry Sponsored Symposium by Hologic

01:30 p.m. – 02:15 p.m.
Celestial

CDC Focus Group: Infection Prevention in Obstetric Settings

**pre-registration required*

07:00 p.m. – 10:00 p.m.
Silver Ballroom

Awards Ceremony/Dinner Dance

PROGRAM

SATURDAY
AUGUST 6, 2022

08:00 a.m. – 09:00 a.m.
Tea Gallery Foyer

Breakfast

08:30 a.m. – 09:00 a.m.
Bohea

IDSOG Business Meeting

Caroline Mitchell, MD (Massachusetts General Hospital)

09:00 a.m. – 09:45 a.m.
Bohea

General Session 5

Moderator: Patrick Ramsey, MD, MSPH (UT Health San Antonio)

09:00 a.m. – 09:05 a.m.
Welcome Back/Day 3 Opening Remarks
Patrick Ramsey, MD, MSPH (UT Health San Antonio)

09:05 a.m. – 09:45 a.m.
Plenary Presentation #3: Vaccine Hesitancy: Covid-19 and Beyond
Kimberly Fortner, MD (University of Tennessee Medical Center)

09:45 a.m. – 10:45 a.m.
Bohea

Oral Abstract Session 5

Moderators: Colleen Judge-Golden (Obstetrics & Gynecology, Duke University Medical Center) & Jennifer Thompson, MD (Vanderbilt University)

09:45 a.m. – 10:00 a.m.
Association of Pro-Inflammatory Fatty Acid Signatures with Adverse Pregnancy Outcomes in Pregnant Persons living with Human Immunodeficiency Virus (#012)
Stephanie Fisher (Northwestern University Feinberg School of Medicine)

10:00 a.m. – 10:15 a.m.
Quality and Accuracy of YouTube Videos About the COVID Vaccine in Pregnancy (#013)
Rebecca Fairchild (Duke University School of Medicine)

10:15 a.m. – 10:30 a.m.
Challenges in Male Partner Referral Among Trichomonas vaginalis-Infected Women (#014)
Christina Muzny (University of Alabama at Birmingham)

10:30 a.m. – 10:45 a.m.
Identification of Trichomonas Vaginalis 5-nitroimidazole Resistance Targets to Inform Future Drug Development (#015)
Keonte Graves (The University of Alabama at Birmingham)

10:45 a.m. – 11:00 a.m.
Salada & Tea Gallery Foyer

Break

11:00 a.m. – 11:45 a.m.
Bohea

Oral Abstract Session 6

Moderators: Lisa Noguchi, CNM, PhD (Jhpiego) & Jessica Rizzuto (Vanderbilt University Medical Center)

11:00 a.m. – 11:15 a.m.
Peripartum Bacteremia: Bacterial Epidemiology, Antibiotics, and Neonatal Outcomes (#016)
Sarah Mohn (University of British Columbia Faculty of Medicine)

11:15 a.m. – 11:30 a.m.
Condomless Vaginal Intercourse and Lubricant Use are Independently Associated with Antioxidants within the Vaginal Tract (#017)
Joanna-Lynn Borgogna (Montana State University)

11:30 a.m. – 11:45 a.m.
Short-term Breastfeeding and Breastmilk Supply Changes Associated with Presence of Systemic Symptoms Following COVID-19 Vaccination Among Lactating Individuals (#018)
Isabela Covelli (University of Washington School of Medicine)

11:45 a.m. – 12:00 p.m.
Bohea

Wrap Up/Adjourn Meeting

Patrick Ramsey, MD, MSPH (UT Health San Antonio)

ABSTRACTS ORAL PRESENTATIONS

#001 A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy of Once Monthly Oral Ibrexafungerp for Prevention of Recurrent Vulvovaginal Candidiasis (VVC)

Goje, O[1]; Azie, N[2]; King, T[2]; Angulo, D[2]

1 - Cleveland Clinic Lerner College of Medicine

2 - SCYNEXIS, Inc.

Abstract Body:

Background: Oral ibrexafungerp was recently approved for the treatment of acute vulvovaginal candidiasis (VVC). We report here the results from a Phase 3 study of ibrexafungerp given once a month for the prevention of recurrent VVC. Methods: Eligible patients (with recurrent VVC) who had culture-confirmed Candida spp. at baseline were randomized 1:1 to oral ibrexafungerp 300 mg BID for a single-day, or placebo. Ibrexafungerp and placebo treatments were repeated once every 4 weeks for a total of 6 single-day treatments. Efficacy was measured by the percentage of patients with no mycologically proven, presumed or suspected recurrence (all randomized ITT subjects) at Week 24, 4 weeks after the last dose. Subjects were further assessed for an additional 12 weeks to Week 36 for VVC recurrence. Efficacy was also assessed in the per-protocol population (patients who were culture positive at baseline and had no mycologically proven recurrence at Weeks 24 and 36). Results: Subjects were randomized to ibrexafungerp or placebo. The results for the ITT (primary analysis) and the per-protocol (key secondary) populations are listed in the Table. Common adverse events in the ibrexafungerp group were gastrointestinal intolerance and headache. Conclusions: This study demonstrated that once a month ibrexafungerp has potential efficacy as a once-monthly treatment in the prevention of recurrent VVC.

Disclosure:

Yes, this is sponsored by industry/sponsor: SCYNEXIS, Inc.

Clarification: Industry initiated, executed and funded study

Any of the authors act as a consultant, employee or shareholder of an industry for: SCYNEXIS, Inc.

Images:

	Ibrexafungerp	Placebo
ITT- no mycologically proven, presumed or suspected rVVC	n=130	n= 130
24 weeks	65%	53%
36 weeks	58%	46%
Per Protocol- no mycologically proven recurrence	n=94	n=88
24 weeks	82%	73%
36 weeks	73%	68%

#002 Maternal And Fetal Infection And Antibody Profiles Following SARS-Cov-2 Infection In Pregnancy: A Prospective Cohort Study

El-Chaar, D[1]; Murphy, M[2]; Dingwall-Harvey, A[2]; Dimanlig-Cruz, S[2]; Boyd, S[2]; Fakhraei, R[2]; Rennicks White , R[2]; Corsi, D[2]; Muldoon, K[2]; De Vrijer , B[3]; Mei-Dan, E[4]; Lawrence, S[5]; Brophy, J[5]; B. Fell , D[6]; Walker, M[2]; Langlois, M[6]

1 - The Ottawa Hospital

2 - Ottawa Hospital Research Institute

3 - London Health Sciences Centre

4 - University of Toronto

5 - Children's Hospital of Eastern Ontario

6 - University of Ottawa

Abstract Body:

Objective: To evaluate the mother-to-infant transmission potential of SARS-CoV-2 and patterns of antibody transfer following prenatal infection. Study Design: This was a prospective cohort study of pregnant individuals in Ontario, Canada with COVID-19 in pregnancy. Sample collection at delivery included maternal swab samples (nasopharyngeal/oropharyngeal, vaginal, anorectal), blood, breastmilk, newborn swab samples (nasopharyngeal, sub-amniotic), amniotic fluid and cord blood. Swab, amniotic fluid and breastmilk samples were analyzed for SARS-CoV-2 RNA by qPCR. Blood, breastmilk and amniotic fluid were assessed using IgG assays targeting the SARS-CoV-2 spike, nucelocapsid and receptor binding domain proteins. Results: The cohort included 212 individuals with history of SARS-CoV-2 infection during pregnancy between March 2020 and August 2021, and their 214 exposed newborns. The mean age of participants was 31.0 years old (SD±5.2), and the majority delivered at term (89.6%). Most

infections occurred during the 3rd trimester (77.4%), a median 10-weeks pre-delivery (IQR:15.3 weeks), were mild (84.0%) and symptomatic (95.3%). A total of 43.3% (61/141) participants had active SARS-CoV-2 infections at delivery, as did 14.2% (20/141) newborns. Anti-SARS-CoV-2 IgG was present in maternal serum (40/64), breastmilk (13/72), cord serum (147/169) and amniotic fluid (25/129). Conclusions: The rate of SARS-CoV-2 vertical transmission was higher (14.2%) than what has been reported previously in the literature. Transfer of maternal antibodies to breastmilk, cord blood and amniotic fluid was observed in a high proportion of newborns. Analyses are ongoing. Our findings will provide insight into the circumstances in which vertical transmission of SARS-CoV-2 occurs and its potential implications on maternal-fetal antibody transfer.

Disclosure: No

#003 Association between Proinflammatory Anorectal Microbiome in Women High-grade Dysplasia of the Lower Genital Tract

Huynh, V[1]; Elnaggar, J[1]; Hillman, T[2]; Gopalakrishnan, V[2]; Karpinets, T[2]; Colbert, L[2]; Ajami, N[2]; Milbourne, A[2]; Messick, C[2]; Klopp, A[2]; Futreal, A[2]; Schmeler, K[2]

1 - Louisiana State University Health Sciences Center New Orleans

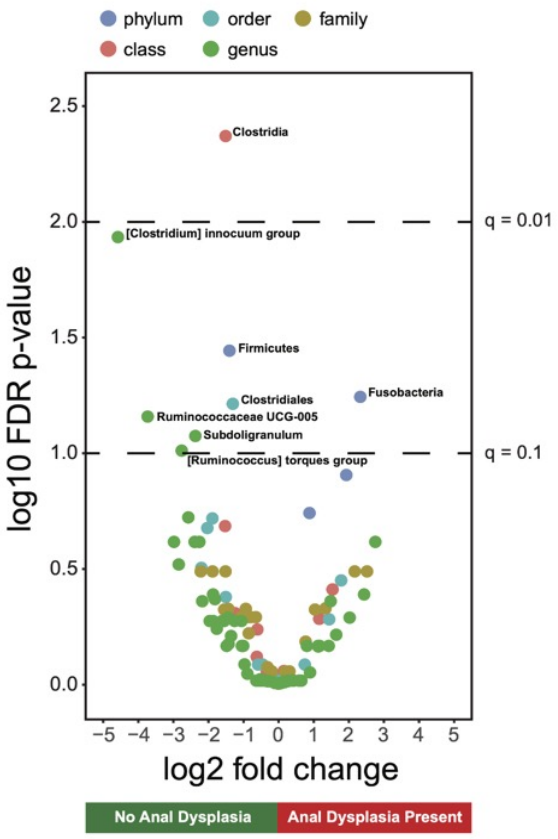
2 - MD Anderson

Abstract Body:

Objectives: Women with high-grade lower genital tract dysplasia have an elevated risk for the development of anal dysplasia. Therefore, we examined whether the anorectal microbial composition is associated with concurrent anal dysplasia in women with high-grade dysplasia of the lower genital tract. Study Design: A cross-sectional cohort study was performed among women over age 18 with lower genital tract dysplasia recruited from a public county hospital. Anal Pap smear and high resolution anoscopy was performed on all participants. Anorectal microbiome composition was determined through bacterial 16S rRNA gene V4 region sequencing. Results: The study included 45 patients, of which 6 (13%) had a diagnosis of anal dysplasia. In examining differential abundance of taxa between patients with and without anal dysplasia, lower abundance of phylum Firmicutes (fold change [FC], 0.38; 95% CI 0.19 – 0.76; P = 0.006) and higher abundance of the phylum Fusobacteria (FC, 5.0; 95% CI 1.30 – 19.31; P = 0.02) were observed in patients with anal dysplasia. Conclusions: Reduced anorectal Firmicutes abundance and increased Fusobacterium abundance is a novel biomarker of anal dysplasia among women with high-grade lower genital tract dysplasia. These changes have been associated with facilitating a proinflammatory microenvironment that is conducive for neoplasia progression. Associations between the anorectal microbiome and the risk of anal dysplasia among women with high-grade dysplasia of the lower genital tract indicates future prospective studies are needed to understand the mechanisms of how these microbial imbalances influence the immune system to affect the development of dysplasia.

Disclosure: No

Images:



#004 Maternal and Infant Cytomegalovirus Detection Among Women Living with HIV

McClymont, E[1]; Albert, A[2]; Côté, H[1]; Diallo, A[3]; Elwood, C[1]; Kakkar, F[4]; Money, D[1]; Sauvé, L[1]; Soudeyns, H[4]; Gantt, S[4]; Boucoiran, I[4]

1 - University of British Columbia

2 - Women's Health Research Institute

3 - Université du Québec à Montréal

4 - Université de Montréal

Abstract Body:

Objectives: To determine the association between CMV replication in blood collected longitudinally from pregnant women living with HIV (WLWH) and parameters of HIV infection and infant congenital CMV infection. Study Design: A multi-centre prospective cohort study of pregnant WLWH in Canada collected data and specimens at each trimester, delivery, and 4-16 weeks postpartum. Maternal CMV viral load (VL) was measured by qPCR. Congenital infection was determined through CMV qPCR of infant oral samples (0-3 days of life). Associations between CMV viremia, antiretroviral therapy (ART), baseline and nadir CD4 count, and HIV VL were explored using logistic regression models.

Results: Of 298 pregnant WLWH, 216 were CMV seropositive. At first pregnancy visit, their median CD4 count was 531 (IQR: 390-723) cells/mm3, and 114 (53%) had undetectable HIV VL. Of 932 blood specimens, 34 obtained from 28 (13%) women were CMV qPCR positive, and neither age nor HIV parameters (baseline/nadir CD4, VL, timing of ART initiation) were associated with CMV viremia. Maternal CMV detection was often discordant between blood and oral specimens. Among 181 infants sampled at 0-3 days, one (0.6%) was found to have congenital CMV infection (466,000 IU/ul) and the mother of this infant was viremic. Although no infant was breastfed, this rose to 11 (5.5%) at 4-16 weeks of age. Conclusions: Among pregnant CMV seropositive WLWH, 13% had detectable CMV viremia during pregnancy, compared to reported rates of ~0.5% CMV seropositivity in pregnant women without HIV. Nevertheless, the rate of cCMV at birth did not appear elevated.

Disclosure: No

#005 Comparison of Vaginal Microbiota and Inflammation Between People with Unexplained vs. Male Factor Infertility

Bar, O[1]; Vagios, S[2]; Elsherbini, J[3]; Xu, J[3]; Souter, I[1]; Chavarro, J[4]; Kwon, D[3]; Mitchell, C[1]

1 - Massachusetts General Hospital

2 - Tufts Medical Center

3 - Ragon Institute of MGH, MIT and Harvard

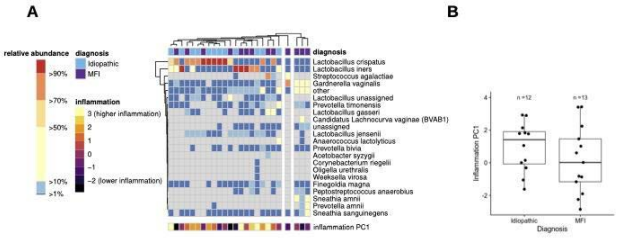
4 - T.H. Chan Harvard School of Public Health

Abstract Body:

Objective: Approximately 30% of people undergoing assisted reproductive care have unexplained infertility (UI). We aimed to compare the composition of the vaginal microbiota between people with UI vs identified male factor infertility (MFI). Study Design: Eligible participants were 50%) vs. 39% (5/13) in the MFI group (Figure 1a; p=0.2). PC1 accounted for 45% of variation, and was positively correlated with values of MIG, IP10, IFN-g, MIP3a, ITAC, IL1a, TNFa, IL6, IL8, IL1b. People with UI had greater overall inflammation than those with MFI (Figure 1b; p=0.29), though this did not reach statistical significance. Conclusions: People with UI were more likely to have L. crispatus dominant vaginal microbiota, but had higher inflammation than those with MFI, which could suggest an immunologic contribution to unexplained infertility.

Disclosure: No

Images:



#006 Bacterial Vaginosis and Spontaneous Clearance of Urogenital Chlamydia trachomatis in the Longitudinal Study of Vaginal Flora

Brown, S[1]; Tuddenham, S[2]; Shardell, M[1]; Klebanoff, M[3]; Ghanem, K[2]; Brotman, R[1]

1 - University of Maryland School of Medicine

2 - Johns Hopkins University School of Medicine

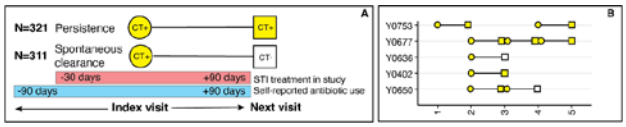
3 - Nationwide Children's Hospital

Abstract Body:

Objective: Spontaneous clearance of urogenital Chlamydia trachomatis can occur in the absence of treatment (16-44% of cases), though mechanisms are unknown. Vaginal microbiota may support clearance through effects on immune responses, and epithelial cell and chlamydia proliferation. We examined whether bacterial vaginosis (BV) was associated with chlamydia persistence versus spontaneous clearance. Study Design: The Longitudinal Study of Vaginal Flora followed 3,620 reproductive-age women every three months for one year (1999-2002). Chlamydia screening was eventually initiated following introduction of ligase chain reaction, and endocervical samples collected earlier in recruitment were tested after study completion. Chlamydia clearance/persistence were evaluated between consecutive visits without chlamydia-active antibiotics (N=432 participants/N=632 chlamydia case visits). Associations between Nugent score (0-3, no BV; 4-10, intermediate/BV), Amsel-BV, and chlamydia persistence versus clearance were modeled with alternating logistic regression. Among a subgroup experiencing clearance and persistence (N=68), we assessed participants as their own controls using conditional logistic regression. Results: 49% of chlamydia cases spontaneously cleared by the next visit (311/632). Compared to participants without BV, chlamydia cases with intermediate/BV scores had higher odds of chlamydia persistence versus clearance at the next visit controlling for age, contraception, condom use, and marital status (aOR=1.84, 95% CI:1.27-2.69). Adjusting for symptoms did not affect results. Findings were similar for Amsel-BV (aOR=1.32, 95% CI:0.94-1.84). Among participants contributing both persistent and clearance events, intermediate/BV scores were associated with 3-fold higher odds of chlamydia persistence (95% CI:1.11-9.99). Conclusion: BV is associated with a greater likelihood of untreated chlamydia persisting. Optimizing vaginal microbiota may promote chlamydia clearance.

Disclosure: No

Images:



Both panels: Yellow indicates a chlamydia-positive (CT+) sample, and white indicates a chlamydia-negative (CT-) sample. Spontaneous clearance and persistence are defined between consecutive visit pairs which include an index visit (circle) and the next visit (square). Each event includes a CT+ sample on the index visit followed by a CT+ (persistence) or CT- (spontaneous clearance) sample at the next visit. **A:** For each event, self-reported antibiotic use is evaluated in the blue interval, and STI treatment or referral for treatment by study clinicians is evaluated in the pink interval. Participants are excluded if they have CT-active antibiotic use, unspecified antibiotic use, or treatment in these intervals. **B:** Participants can contribute multiple events of spontaneous clearance and persistence. In the case where an infection persists over multiple consecutive visits (ex: Y0677), each visit pair is treated as a separate event. For each event, bacterial vaginosis (Nugent score and Amsel's criteria) is evaluated at the index visit.

#007 Safety and Savings from Penicillin Allergy De-labelling in Pregnancy: Good Stewardship, Good Cents

Atkinson, A[1]; Zhang, BY[1]; Mak, R[1]; Paquette, V[2]; Dionne, F[3]; Watt, M[4]; Erdle, S[2]; Van Schalkwyk , J[1]; Wong, T[2]; Poliquin, V[5]; Elwood, C[1]

1 - University of British Columbia

2 - Children's and Women's Health Centre of British Columbia

3 - Vancouver Coastal Health Research Institute

4 - Women's Health Research Institute, BC

5 - Child Health Research Institute of Manitoba

Abstract Body:

Objective: Studies have shown that 80-95% of pregnant patients who report a penicillin allergy can be safely de-labelled. A pencillin allergy has been associated with poor obstetric outcomes, low rates of appropriate antibiotic prescribing and additional healthcare system costs. In a cohort of patients in British Columbia, Canada, who underwent penicillin de-labelling in pregnancy we present safety data and calculations of the lifetime savings following de-labelling. Study design: Maternal and neonatal outcomes for 208 patients de-labelled using a de-labelling algorithm, skin testing and direct oral challenge in pregnancy compared with a control group of patients referred to clinic but not seen. Healthcare cost modelling was undertaken based on a lifelong penicillin allergy label, or de-labelling in pregnancy and included variables such as the number of appropriate prescriptions per episode of infection. Results:100% of de-labelled patients who required Group B Streptococcus prophylaxis safely received penicillin in labour versus 6.7% of the control group. 97.7% who required caesarean section prophylaxis safely received cefazolin compared to 90.6% of the control group. There was no statistically significant difference in maternal or neonatal outcomes between the groups. Based on our estimate of cost savings of $1947

per episode of postpartum infection after de-labelling, a total possible lifetime saving of $58 780 per patient was calculated. Conclusions: Penicillin allergy de-labelling in pregnancy has individual and healthcare system associated benefits as demonstrated by this cost analysis. Further education and advocacy for penicillin allergy de-labelling in pregnancy is required during this unique time for health optimisation with immediate and long-lasting benefit.

Disclosure: No

#008 Relationship Between the Maternal Vaginal Microbiome and the Infant Gut Microbiome by Mode of Delivery

Dos Santos, S[1]; Pakzad, Z[2]; Albert, A[3]; Elwood, C[2]; Hill, J[1]; Money, D[2]; Team, MMLP[2]

1 - University of Saskatchewan

2 - University of British Columbia

3 - Women's Health Research Institute

Abstract Body:

Objective: The LEGACY study was designed to determine if the maternal vaginal microbiome predicts infant gut microbiome composition and if this is affected by delivery mode. Study Design: Of the 628 pregnant women recruited, 248 delivered vaginally, 224 underwent elective caesarean delivery (C/S) and 156 emergency C/S. Maternal vaginal swabs were collected prior to delivery and infant stool at 10-days and 3-months postpartum. cpn60 universal barcode PCR amplicon libraries were sequenced on Illumina MiSeq, denoised with DADA2, and taxonomy assigned by comparison to a cpn60 database. Hierarchical clustering defined clusters within vaginal and stool microbiomes, while sequence read count data were analysed by principal components analysis and differential abundance algorithms. Results: Vaginal microbiomes were primarily dominated by one of several species of Lactobacillus, or various anaerobic species (16 clusters). Infant stool microbiomes were dominated by enteric species including Escherichia coli, Bifidobacterium spp. or Klebsiella spp. (25 clusters at 10 days; 14 clusters at 3 months). There were significant differences in 10-day (PERMANOVA, $P<0.01$) and 3-month ($P<0.05$) stool microbiome composition by delivery mode. Regardless of delivery mode, maternal vaginal microbiome clusters distributed across each infant stool cluster in proportion to their frequency in the overall maternal population. Instead, there was significant clustering of 10-day and 3-month infant stool microbiomes based on prophylactic antibiotic exposure at delivery. Conclusion: Maternal vaginal microbiome composition does not predict infant stool microbiome composition. Furthermore, differences in infant stool microbiomes may be misattributed to delivery mode, as intrapartum antibiotic exposure appears to be a major confounding variable.

Disclosure: No

#009 Metabolic Contributions of Vaginal Lactobacilli Species to the Cervicovaginal Environment Utilizing Human 3D Cervical Epithelial Cell Models

Jimenez, N[1]; Maarsingh, J[1]; Laniewski, P[1]; Herbst-Kralovetz, M[1]

1 - University of Arizona

Abstract Body:

Objective: To differentiate the metabolic potential of common, but lesser studied vaginal Lactobacillus species (L. mulieris, L. paragasseri, and L. iners) and identify metabolites that may contribute to cervicovaginal homeostasis and promote an environment resistant to sexually transmitted infections (STI). Study Design: Human three-dimensional(3D) cervical epithelial cell models colonized with lactobacilli coupled with electron microscopy, untargeted metabolomics and comparative genomics were utilized and compared to mock-infected controls. The significant differences were determined using hierarchical clustering, principal component, enrichment analyses, ANOVA, and t-tests. Results: Auto-aggregated clusters of L. mulieris and L. paragasseri colonized crevices in 3D models, whilst L. iners colonization induced signs of cellular stress. L. paragasseri carried the most putative metabolic genes, whereas L. mulieris had the least and altered the greatest number of metabolites (15/95). Metabolomic profiles of lactobacilli and controls were distinguishable, although L. iners and L. paragasseri had similar trends to their phylogenetic relationship. Metabolites (43.2%) were elevated amongst lactobacilli, particularly amino acids. L. iners uniquely elevated lipids, whereas L. mulieris uniquely elevated nucleotide and energy metabolites. All tested lactobacilli significantly elevated N-acetylated

amino acids and aromatic lactic acids. Conclusion: In vitro metabolic contributions of L. mulieris, L. paragasseri, and L. iners are similar to observations in clinical studies. Lipid signatures metabolically support the role of L. iners in health and dysbiosis. Tested vaginal lactobacilli exhibited novel amino acid derived metabolites previously related to antimicrobial inhibition and immunomodulation in the gut. These biochemicals could contribute to a STI resistant cervicovaginal environment and require further investigation.

Disclosure: No

#010 Outcomes and Associations of Severe COVID-19 in Pregnancy; Results from the CANCOVID-Preg Population Surveillance Study

Atkinson, A[1]; McClymont, E[1]; Albert, A[2]; Elwood, C[1]; Money, D[1]

1 - University of British Columbia

2 - Women's Health Research Institute, BC

Abstract Body:

Objectives: Initial reports on SARS-CoV-2 in pregnancy at the outset of the pandemic were reassuring. As numbers increased globally, pregnancy has been recognised as a risk factor for severe disease. Cohort level data to inform guidance on management of these cases has been limited. We present the findings for severe cases of SARS-CoV-2 in Canada spanning pre and post vaccination time points. Methods: The Canadian Surveillance of COVID-19 in Pregnancy is an observational, population surveillance program with reporting on pregnancies affected by SARS-CoV-2 from all Canadian provinces. SARS-CoV-2 affected pregnancies from March 2020 to October 2021 were analysed with a focus on severe cases and compared with national data of non-pregnant, SARS-CoV-2 positive females. Severe SARS-CoV-2 included intensive care unit(ICU) or critical care unit(CCU) admission. Results:2% (121 out of 6012) of SARS-CoV-2 affected, completed, pregnancies required ICU admission in Canada. Compared to age-matched controls there was a 5 times increased risk of admission to ICU/CCU (RR 5.5 95%CI 4.5-6.5). Median length of ICU admission was 4 days(IQR: 4-11). 8.3% of cases received invasive mechanical ventilation and there was a small number requiring extracorporeal membrane oxygenation or resulting in maternal death (<6).The main association for risk of ICU admission was increasing age at ~ 10% relative increase/year of age. There were no cases of severe SARS-CoV-2 in pregnancy of females who had completed two-dose vaccination against COVID-19. Conclusion: Higher incidence of severe cases of SARS-CoV-2 in pregnancy highlights pregnancy as a vulnerable time that requires special focus for vaccination and preventative measures to avoid infection.

Disclosure: No

#011 Extended Interval Gentamicin Dosing in Obstetrics

Li, C[1]; Hardy, E[2]; Moreno, K[2]

1 - Women and Infants Hospital

2 - Women & Infants Hospital

Abstract Body:

Gentamicin is often prescribed for the treatment of intraamniotic infection, but fewer data are available on this dosing strategy in obstetric patients. This is a retrospective study of obstetric patients who received extended interval gentamicin from December 2010 to August 2021 and had a serum gentamicin concentration obtained 6-14 hours after the first dose. Concentrations were plotted on the Hartford nomogram to assess gentamicin clearance. Delayed clearance was defined as dosing intervals exceeding 24 hours according to the nomogram. Among 108 patients who met inclusion criteria, the median age was 28 years (interquartile range [IQR] 23-31) and median gentamicin duration was 48 hours (IQR 46-56 hours). Only 45 (38%) patients had a baseline serum creatinine (SCr) within the preceding 6 months. Indications included chorioamnionitis, endometritis, post operative infection, and urinary tract infection. Fourteen patients demonstrated delayed gentamicin clearance. Baseline SCr was available for 6 (43%) patients and was 0.8 mg/dL or greater in 4 patients. Two patients had pre-eclampsia, 1 patient was a kidney transplant recipient, and 1 patient had septic shock. Two patients received gentamicin 7 mg/kg based on total body weight, despite exceeding 120% of ideal body weight. The majority of patients demonstrated adequate renal clearance of gentamicin and treatment duration was short, however delayed clearance was observed in 13% of our cohort. Baseline SCr should be assessed prior to gentamicin initiation. Patients with

elevated baseline SCr or additional risk factors such as preeclampsia or renal comorbidities may benefit from monitoring of SCr and gentamicin concentrations.

Disclosure: No

#012 Association of Pro-Inflammatory Fatty Acid Signatures with Adverse Pregnancy Outcomes in Pregnant Persons living with Human Immunodeficiency Virus

Fisher, S[1]; Jao, J[2]; Yee, LM[1]; Chadwick, EG[2]; Jacobson, DL[3]; `–, `[4]

1 - Northwestern University Feinberg School of Medicine

2 - Ann & Robert H. Lurie Children's Hospital

3 - Harvard T.H. Chan School of Public Health

4 - Pediatric HIV/AIDS Cohort Study

Abstract Body:

Objective: High omega-6 to omega-3 (n-6:n-3) polyunsaturated fatty acid (PUFA) ratios are harmful to human health, with a less than 6:1 ratio recommended for healthy adults. We assessed the association of PUFA signatures with adverse pregnancy outcomes (APOs) in pregnant persons living with HIV (PLHIV). Study Design: We included pregnant PLHIV enrolled from 2009-2011 in the Pediatric HIV/AIDS Cohort Study's Surveillance Monitoring for ART Toxicities (SMARTT) Nutrition Sub-study. We measured 3rd trimester plasma pro-inflammatory n-6 and anti-inflammatory n-3 PUFA concentrations as a percent of total fatty acid content via esterification and gas chromatography. PUFA ratios (n-6:n-3) were calculated to assess inflammatory signatures and compared between those with vs. without the following APOs using Wilcoxon rank sum test: preterm birth (PTB, <37 weeks' gestation), preeclampsia, and small-for-gestational age (SGA, <10th percentile). Results: Of 264 eligible pregnant PLHIV, 69% were Black, 69% received antiretroviral therapy (ART) prior to pregnancy, and 84% received protease inhibitor-based ART in pregnancy. In the 1st/2nd trimester, 12% had CD4 counts <200 cells/mm^3, and 56% had an HIV viral load ≥400 copies/mL. Rates of PTB, preeclampsia, and SGA were 17%, 5%, and 9%, respectively. Median n-6:n-3 ratio was higher with PTB (13.8 vs. 12.9; p=0.02) and preeclampsia (14.6 vs 13.0; p=0.04), relative to PLHIV without these APOs, but was lower with SGA vs. non-SGA (11.7 vs. 13.2; p=0.03). Conclusion: Though n-6:n-3 ratios were overall elevated in pregnant PLHIV within this cohort, higher ratios were associated with PTB and preeclampsia, whereas this pro-inflammatory ratio was inversely associated with SGA.

Disclosure: No

Images:

Table. Median (IQR) polyunsaturated fatty acid concentrations (reported as a percent of total fatty acid content) and omega-6:omega-3 ratios in pregnant persons living with HIV

PUFA concentration or ratio	Preterm Birth			Preeclampsia			Small-for-Gestational Age Neonate		
	No (n=219) Median (IQR)	Yes (n=45) Median (IQR)	p-value	No (n=250) Median (IQR)	Yes (n=13) Median (IQR)	p-value	No (n=241) Median (IQR)	Yes (n=23) Median (IQR)	p-value
n-6[1,3]	37.4% (33.5, 40.3)	38.1% (34.7, 41.0)	0.19	37.3% (33.8, 40.3)	38.1% (35.7, 40.7)	0.54	37.4% (34.1, 40.2)	38.1% (31.2, 42.1)	0.54
n-3[2,3]	2.8% (2.5,3.4)	2.8% (2.4, 3.1)	0.13	2.8% (2.4,3.4)	2.8% (2.1, 3.0)	0.13	2.8% (2.4,3.4)	3.1% (2.4, 3.8)	0.19
n-6:n-3[3]	12.9 (10.5, 15.2)	13.8 (12.2, 16.5)	0.02	13.0 (10.7, 15.3)	14.6 (12.9, 19.0)	0.04	13.2 (11.0, 15.4)	11.7 (8.8, 13.8)	0.03

PUFA: polyunsaturated fatty acid; IQR: interquartile range; n-6: omega-6; n-3: omega-3.
[1]n-6 fatty acids included: linoleic, gamma linolenic, eicosodienoic, dihomogammalinolenic, arachidonic, and alorenic acid (n=6).
[2]n-3 fatty acids included: alpha-linolenic, docosapentaenoic, eicosapentaenoic, and docosahexaenoic acid (n=4).
[3]Median PUFA concentrations and n-6:n-3 ratios among those with preterm birth, preeclampsia, and delivery of a small-for-gestational age neonate, compared to those that did not have each adverse pregnancy outcome, with difference in distributions assessed using Wilcoxon rank-sum test.

#013 Quality and Accuracy of YouTube Videos About the COVID Vaccine in Pregnancy

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1 - Duke University School of Medicine

2 - Department of Obstetrics and Gynecology, Duke University, Durham, NC

Abstract Body:

Objective: Healthcare decisions are influenced by online resources. Therefore, vaccine hesitancy among pregnant individuals may reflect low-quality information on social platforms. This study aims to assess quality and accuracy of YouTube videos discussing COVID vaccination in pregnancy. Methods: We searched YouTube videos using "COVID vaccine and pregnancy," "Coronavirus vaccine and pregnancy," "Pfizer vaccine and pregnancy," "Moderna vaccine and pregnancy," and "Johnson and Johnson vaccine and pregnancy." First 60 videos for each were selected, duplicates excluded. Video and viewer details were recorded. Video quality was scored using DISCERN instrument (maximum=75) and JAMA benchmark (maximum=4). Video accuracy was scored using an expert-generated list of critical content (maximum=6). We performed descriptive statistical analyses and compared videos by source via non-parametric tests. Results: 137 videos were reviewed. Sources included medical organizations(45), media(71), and other(21). Median[IQR] video duration and number of views was 4.38[2.47,7.62] minutes and 16,693[5,014,65,024] respectively. Videos exhibited low quality and accuracy scoring with median DISCERN 35[30,40], JAMA 2[2,3], and content 2[1,3]. Significant differences were seen between source types in comments,

likes, dislikes, duration, DISCERN, and content scores (Table 1). Compared to media sources, medical sources achieved higher DISCERN (p=.0037) and content (p=.009) scores. Number of views did not differ based on source. Conclusions: YouTube videos reviewing COVID vaccination in pregnancy are generally low quality with limited accuracy. Medical sources provide the most reliable and comprehensive information, yet these videos do not have more viewership. This presents an opportunity for improving informed decision making for pregnant individuals by developing higher quality online information.

Disclosure: No

Images:

Table. Characteristics of YouTube videos about the COVID-19 vaccine in pregnancy by video source.

	All Videos N=137 *Median (IQR)*	Medical Source N=45 *Median (IQR)*	Media Source N=71 *Median (IQR)*	Other Source N=21 *Median (IQR)*	p-value[4]
Number of Views	16,556 (5,014, 65,024)	16,988 (5,681, 41,319)	11,114 (3,828, 6,7478)	33,722 (1,159, 95,440)	.292
Number of Comments	72 (11, 414)	53.5 (8, 87)	82 (6, 566)	122 (22, 808)	.034
Likes	96 (21, 453)	113 (46.5, 247)	77 (18, 276)	783 (209, 4,600)	.042
Dislikes	43 (11, 239)	35 (15.5, 75)	54 (10, 682)	43 (11, 219)	.018
Duration (minutes)	4.38 (2.47, 7.62)	3.33 (1.95, 5.62)	3.66 (2.43, 5.50)	10.73 (7.70, 25.40)	<.001
Number of Subscribers	237,000 (2,900, 1410000)	19,500 (7,450, 110,000)	867,000 (174,000, 3,800,000)	472,000 (52,525, 1,330,000)	.182
Discern score[1]	35 (30, 40)	36 (32, 43)	34 (28.5, 37)	41 (33, 54)	.001
JAMA Benchmark Score[2]	2 (2, 3)	2 (2, 3)	2 (2, 3)	2 (2, 3)	.976
Content score[3]	2 (1, 3)	3 (1, 4)	1 (0, 3)	2 (0, 3)	.011

1. The DISCERN instrument assesses reliability and quality of health information and has a maximum score of 75. Higher scores indicate higher quality information.
2. The JAMA Benchmark score assesses source quality and reliability and has a maximum score of 4. Points are given for (1)authorship, (2)attribution, (3)disclosure, and (4)currency.
3. The content score assesses video comprehensiveness and is based on an expert-generated list of critical content areas. These include (1)risk of COVID in pregnancy, (2)vaccine interaction with fetus, (3)risk of adverse vaccine outcomes for mother, (4)efficacy of the vaccine in pregnancy, (5)risk of adverse fetal or obstetric outcomes, (6)timing. The maximum score is 6, with higher scores representing higher comprehensiveness.
4. P-value is determined by Kruskal-Wallis test and represents if there is a significant difference between any of the sources.

#014 Challenges in Male Partner Referral Among Trichomonas vaginalis-Infected Women

Muzny, C[1]; Van Gerwen, O[1]; Aaron, K[1]; Pearlman, R[1]; Kissinger, P[2]

1 - University of Alabama at Birmingham

2 - Tulane University

Abstract Body:

Background: As part of a feasibility study for a future male treatment trial, we are asking T. vaginalis-infected women to refer their male partner(s) for testing and treatment. We hypothesized that recruitment of male partner(s) and concordance of T. vaginalis within partnerships would be high (≥70%). Methods: T. vaginalis-infected women ages ≥18 at a health department clinic were invited. A questionnaire was completed including male partner(s) initials/ nicknames and questions on how women felt about the disclosure and referral process. Partner referral card(s) were provided with a QR code linking to a study cell phone number. SAS v9.4 was used. Results: Between 7/21/21-4/14/22, 54 T. vaginalis-infected women were approached; 10 (18.5%) enrolled. Reasons for declining included no longer with the partner (n=5), incarcerated/ hospitalized partner (n=3), and T. vaginalis-negative partners (n=1). Of the 10 women enrolled, (mean age 31.6±SD 7.1; 90% African American; 70% with 1 partner, 30% with 2 partners in the past 60 days, respectively), 70% felt comfortable disclosing their T. vaginalis diagnosis, 1 felt "nervous," and 1 felt "frustrated." One requested that providers "give tips" on the disclosure process while another wanted the diagnosis explained in-depth to help her explain it to her partner. Only 1 male partner has contacted the study and was T. vaginalis NAAT positive. Conclusion: Preliminary results suggest that, while the majority of women are comfortable disclosing their T. vaginalis diagnosis to their male partner(s), it is still difficult to recruit partners to clinic; public health interventions beyond partner referral may be necessary.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: Lupin Pharmaceuticals

#015 Identification of Trichomonas Vaginalis 5-nitroimidazole Resistance Targets to Inform Future Drug Development

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1 - The University of Alabama at Birmingham

2 - Centers for Disease Control and Prevention

Abstract Body:

Objectives: 5-nitroimidazoles (metronidazole [MTZ], tinidazole [TIN], and secnidazole [SEC]) are the only FDA-approved medications for T. vaginalis treatment. Resistance has been observed in 5-10% of cases, but may be rising. We aimed to delineate mechanisms of resistance in isolates of T. vaginalis using transcriptome profiling of MTZ-resistant and sensitive T. vaginalis isolates. Methods: T. vaginalis isolates (Four MTZ-

resistant [minimal lethal concentration (MLC) 50µg/ml] and four MTZ-sensitive [MLC 25µg/ml]) were grown in triplicate in Diamond's Trypticase-Yeast-Maltose medium. 5-nitroimidazole susceptibility testing confirmed MLCs of T. vaginalis isolates. Total RNA extraction was done using Trizol reagent. RNA sequencing (RNAseq) and bioinformatics analyses were performed to identify differentially expressed genes (DEGs) in MTZ-resistant vs. MTZ-sensitive isolates. Results: RNAseq identified multiple DEGs in MTZ-resistant vs. MTZ-sensitive isolates. DEGs from MTZ-resistant isolates included those involved in metabolic pathways relevant to 5-nitroimidazole resistance, such as energy/carbohydrate metabolism, detoxification, and oxygen scavenging. Other DEGs included those encoding transcription factors (MYB DNA-binding protein), ribosomal proteins, protein kinases, ankyrin-repeat proteins, surface proteins, and several uncharacterized conserved hypothetical proteins. Conclusion: In this study, we identified several DEGs in MTZ-resistant T. vaginalis isolates. Genes encoding proteins involved in protein synthesis were downregulated in MTZ-resistant isolates. In contrast, DEGs encoding surface proteins were upregulated. Differential expression of T. vaginalis surface proteins suggests that MTZ-resistant isolates have increased expression of certain virulence factors. Further studies with larger numbers of isolates representing a broader range of 5-nitroimidazole-susceptibility patterns are needed to identify genes that may represent new targets for future drug development.

Disclosure: No

#016 Peripartum Bacteremia: Bacterial Epidemiology, Antibiotics, and Neonatal Outcomes

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1 - University of British Columbia Faculty of Medicine

2 - University of British Columbia

3 - Women's Health Research Institute; Department of Obstetrics and Gynecology, University of British Columbia

Abstract Body:

Objective: Peripartum bacteremia remains an ongoing risk to obstetrical patients. To optimize infection protocols and improve morbidity and mortality outcomes associated with peripartum bacteremia, we described the microbial epidemiology, use of empiric antibiotics, and clinical outcomes of peripartum patients with confirmed bacteremia. Study Design: Retrospective chart review of 104 peripartum patients with positive blood cultures, and 111 respective neonatal charts, in a tertiary care centre between 2014-2018. Results: Among 27,867 deliveries, 104 were cases of bacteremia (0.37%). The most common source of infection was chorioamnionitis (61.5%). The most common pathogens were Streptococcus (31.4%), anaerobes (31.4%), and E. coli (19%). E. coli cultures were 60.9% resistant to ampicillin, 26.1% to first generation cephalosporins, 26.1% to third generation cephalosporins, and 4.3% to piperacillin/tazobactam. Of the Staphylococcus species cultured, 25% were methicillin resistant. Transfer to higher level of care was required for 13 (12.5%) obstetrical patients. Of the 111 fetuses, there were five (4.5%) cases of fetal demise, six (5.4%) neonatal deaths, and 22 (19.8%) requiring treatment in the neonatal intensive care unit. Only four (3.6%) neonates grew positive blood cultures, two of which matched their maternal blood pathogens. Conclusion: Peripartum bacteremia was associated with maternal morbidity, and neonatal morbidity and mortality. There was significant E. coli resistance to ampicillin and cephalosporins, which are first line therapies at our site. When compared to data from the previous four years, rates of E. coli resistance to ampicillin and cephalosporins have increased. This indicates an ongoing need for surveillance to optimize infection protocols.

Disclosure: No

Images:

Antibiotic	Resistance 2010-2014	Resistance 2014-2018
Ampicillin	50%	**61%**
1st generation cephalosporin	25%	26%
3rd generation cephalosporin	14%	**26%**

Table 1. Percentage of *E. coli* cultured from bacteremia cases resistant to antimicrobials in 2010-2014 cohort compared to 2014-2018 cohort

#017 Condomless Vaginal Intercourse and Lubricant Use are Independently Associated with Antioxidants within the Vaginal Tract

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1 - Montana State University

2 - University of Maryland School of Medicine

3 - California State University

4 - University of Maryland College Park, School of Public Health

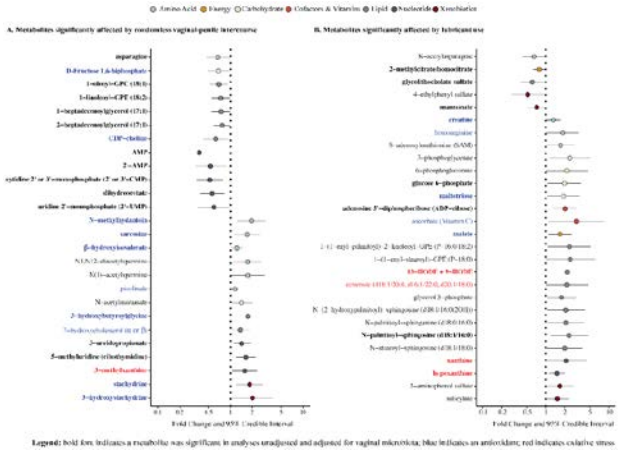
Abstract Body:

Objective: The vaginal metabolome provides broad-spectrum protection against urogenital infections through the action of key immunomodulatory metabolites such as lactic acid. It is unknown if vaginal intercourse and lubricant use affect the vaginal metabolome. Study design: We applied untargeted metabolomics combined with 16S rRNA sequencing to interrogate the relationship between condomless penile-vaginal intercourse, with and without lubricant use, upon the vaginal microenvironment. We utilized archived self-collected, mid-vaginal swabs from a 10-week observational cohort of reproductive age participants who recorded daily behavioral diaries. A nested case-control analysis (Bayesian mixed-effects regression of log2-transformed metabolites) assessed metabolomic differences in vaginal samples obtained the day before and after condomless intercourse with lubricants (22 cases) and without lubricants (22 controls). Cases were matched on race/ethnicity to controls. Results: Time-varying factors (e.g., menses) did not significantly affect the metabolome. In models unadjusted and adjusted for the vaginal microbiota and lubricant use, condomless penile-vaginal intercourse was significantly associated with increases (up to 4-fold) in oxidative-stress metabolites and host-produced antioxidants. In models controlling for condomless penile-vaginal intercourse and microbiota, lubricant use was significantly associated with increases (up to 8.3-fold) in host-produced antimicrobial sphingolipids, antioxidants, osmoprotectants, and salicylate, the latter a cooling agent common to lubricants. Metabolites involved in oxidative stress and salicylate were strongly correlated with several BV-associated bacteria. Conclusion: Lubricant use and condomless penile-vaginal intercourse may independently affect the protective mechanisms in the vaginal metabolome. Both may elicit oxidative-stress-related metabolites from host epithelial cells which in turn may enable BV-associated bacteria to evade host defenses and persist.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: LUCA Biologics

Images:



#018 Short-term Breastfeeding and Breastmilk Supply Changes Associated with Presence of Systemic Symptoms Following COVID-19 Vaccination Among Lactating Individuals

Covelli, I[1]; Haghighi, C[2]; Frank, Y[3]; Eckert, LO[4]; Englund, JA[5]; Kachikis, A[6]

1 - University of Washington School of Medicine

2 - Wake Forest University School of Medicine

3 - Tel Aviv University School of Medicine

4 - University of Washington, Department of Obstetrics and Gynecology and Department of Global Health

5 - Seattle Children's Research Institute, Department of Pediatrics

6 - University of Washington, Department of Obstetrics and Gynecology

Abstract Body:

OBJECTIVE: Limited data exists on the experiences of lactating individuals after COVID-19 vaccination. We investigated the association of breastfeeding behaviors and breastmilk supply with the presence of systemic symptoms following COVID-19 vaccination. STUDY DESIGN: Our study included lactating individuals at the time of any COVID-19 vaccine dose who participated in our online prospective cohort study on COVID-19 vaccines in pregnancy or lactation. Statistical analysis was performed using STATA. RESULTS: Among 19,476

participants, 11,015, 12,160, and 10,709 were lactating at the time of COVID-19 vaccine doses 1-3, respectively. Of these, 51.4%, 85.4%, and 68.4% reported any systemic symptoms after doses 1-3. Most participants did not interrupt breastfeeding with vaccination (97.9%, 98.1%, 99.7% for doses 1-3). The presence of any systemic symptoms compared to no systemic symptoms was associated with a higher number of individuals that interrupted breastfeeding (2.3% (p=0.09), 2.0% (p=0.001), 0.4% (p=0.01) for doses 1-3). Changes in breast milk supply after vaccination was noted among a higher number of lactating individuals with any systemic symptom compared to no systemic symptoms (all p<0.001), with the highest number of individuals (10.2%) noting either an increase or decrease in breast milk supply after systemic symptoms with dose 2 compared to 4.6% without systemic symptoms (p<0.001). CONCLUSION: COVID-19 vaccination does not appear significantly associated with breastfeeding behaviors among most lactating individuals. Systemic symptoms after vaccination may be associated with a temporary change in breast milk supply when compared to those without any systemic symptoms following vaccination.

Disclosure:
Any of the authors act as a consultant, employee or shareholder of an industry for: Dr. Englund is a consultant for Astra Zeneca, Sanofi Pasteur and Meissa Vaccines, Inc.

Images:

Table: Reported changes to breastfeeding behaviors or breastmilk supply by presence of systemic reactions in lactating individuals who received a COVID-19 vaccine (N=19476)

	Dose 1 N=11915					Dose 2 N=12160					Dose 3 N=10709				
	No Systemic Symptoms		Any Systemic Symptoms		p value†	No Systemic Symptoms		Any Systemic Symptoms		p value†	No Systemic Symptoms		Any Systemic Symptoms		p value†
	N	n (%)	N	n (%)		N	n (%)	N	n (%)		N	n (%)	N	n (%)	
Interrupted breastfeeding for vaccine	5330		5627			1760		10373			3375		7324		
No	5291	98.1	5496	97.7	0.21	1744	99.1	10182	98.0	<0.001	3372	99.9	7297	99.6	0.005
Yes, for a short time	93	1.7	121	2.2		13	0.7	284	2.6		1	0.03	23	0.3	
Yes, altogether	6	0.1	10	0.2		3	0.2	7	0.1		2	0.1	4	0.1	
Change in breast milk supply after vaccine	5318		5620			1757		10334			3368		7306		
No	5047	94.9	5108	90.9	<0.001	1676	95.4	9273	89.7	<0.001	3302	98	6919	94.7	<0.001
Yes, increase	84	1.6	138	2.5		25	1.4	231	2.2		12	0.4	75	1.0	
Yes, decrease	185	3.5	374	6.7		56	3.2	830	8.0		54	1.6	312	4.3	

† P-value represents chi-square/Fisher's exact tests. P-value compares group reporting no systemic symptoms to group reporting any systemic symptoms for each COVID-19 vaccine

ABSTRACTS POSTER PRESENTATIONS

#019 Response to Antibiotic Treatment of Bacterial Vaginosis Predicts the Effectiveness of LACTIN-V (Lactobacillus crispatus CTV-05) in the Prevention of Recurrent Disease

Hemmerling, A[1]; Wierzbicki, MR[2]; Casillas, G[1]; Cohen, CR[1]

1 - University of California, San Francisco

2 - The EMMES Corp

Abstract Body:

Objective: Live biotherapeutic products (LBPs) containing vaginal Lactobacillus are promising adjuvant treatments to prevent recurrent bacterial vaginosis (BV) but may depend on the success of initial antibiotic treatment. Study Design: A post hoc analysis of data collected during the phase 2b LACTIN-V randomized control trial (Lactobacillus crispatus CTV-05) explored the impact of clinical BV cure defined as Amsel criteria 0 of 3 (excluding pH, per 2019 FDA guidance) two days after completed treatment with vaginal metronidazole gel on the effectiveness of an 11-week LACTIN-V dosing regimen to prevent BV recurrence by 12 and 24 weeks. Results: At enrollment, 88% of participants had achieved clinical BV cure. The effect of LACTIN-V on BV recurrence compared to placebo differed by initial clinical BV cure status (p=0.02 by 12 weeks, and p=0.08 by 24 weeks). The LACTIN-V effect was only present after clinical BV cure. The LACTIN-V to placebo risk ratio of BV recurrence by 12 weeks was 0.56 (CI: 0.35, 0.77) among participants with initial clinical BV cure, but 1.34 (CI: 0.47, 2.23) among participants without clinical BV cure. Similar outcomes were seen by 24 weeks. Initial clinical BV cure also was associated with successful colonization levels of L. crispatus CTV-05. Additionally, among women receiving LACTIN-V, the number of previous lifetime episodes of BV did not impact the risk of BV recurrence. Conclusion: LACTIN-V appears to only decrease BV recurrence in women with clinical cure of BV following antibiotic treatment. Future trials of LBPs should consider limiting enrollment to these women.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: Osel, Inc.

Images:

ABSTRACT TITLE: Response to antibiotic treatment of bacterial vaginosis predicts the effectiveness of LACTIN-V (*Lactobacillus crispatus* CTV-05) in the prevention of recurrent disease

Table 1. BV Recurrence by 12 and 24 weeks by Treatment Group: ITT cohort of LACTIN-V phase 2b study, and Clinical BV Cure Subgroups at Enrollment

Subset	Study Arm	BV Recurrence			Recurrence Risk Ratio[a] (95% CI)
		Recurrence	No Recurrence	Unknown	
By Week 12 (1 week after end of product administration phase)					
ITT Population	LACTIN-V	46/152 (30.3%)	87/152 (57.2%)	19/152 (12.5%)	0.66 (0.44, 0.87)
	Placebo	34/76 (44.7%)	30/76 (39.5%)	12/76 (15.8%)	
Clinical BV Cure at Enrollment	LACTIN-V	34/134 (25.4%)	84/134 (62.7%)	16/134 (11.9%)	0.56 (0.35, 0.77)[b]
	Placebo	29/67 (43.3%)	26/67 (38.8%)	12/67 (17.9%)	
Clinical Failure at Enrollment	LACTIN-V	12/17 (70.6%)	3/17 (17.6%)	2/17 (11.8%)	1.34 (0.47, 2.23)[b]
	Placebo	5/9 (55.6%)	4/9 (44.4%)	0/9 (0.0%)	
By Week 24 (13 weeks after end of product administration phase)					
ITT Population	LACTIN-V	59/152 (38.8%)	63/152 (41.4%)	30/152 (19.7%)	0.73 (0.54, 0.92)
	Placebo	41/76 (53.9%)	21/76 (27.6%)	14/76 (18.4%)	
Clinical BV Cure at Enrollment	LACTIN-V	46/134 (34.3%)	61/134 (45.5%)	27/134 (20.1%)	0.67 (0.48, 0.87)[c]
	Placebo	35/67 (52.2%)	19/67 (28.4%)	13/67 (19.4%)	
Clinical Failure at Enrollment	LACTIN-V	13/17 (76.5%)	2/17 (11.8%)	2/17 (11.8%)	1.12 (0.57, 1.68)[c]
	Placebo	6/9 (66.7%)	2/9 (22.2%)	1/9 (11.1%)	

a: Risk ratio were calculated via log-binomial models with the use of logistic regression multiple imputation, under the assumption of a monotone missing data pattern. The ITT Population estimates were obtained from the main Phase 2b LACTIN-V study, and the Clinical Cure/Failure subset estimates were obtained from the model with covariates for treatment group, baseline clinical cure status, and their interaction.
b: Treatment-by-Clinical BV Cure interaction p-value = 0.02.
c: Treatment-by-Clinical BV Cure interaction p-value = 0.08.
ITT Population includes the single subject randomized to LACTIN-V who did not receive any study product. The subject is excluded from the Clinical BV Cure subsets as baseline Amsel data was not reported.

#020 Maternal COVID-19 Vaccination and 6-month Infant Developmental Outcomes

Duggal, R[1]; Craig, A[2]; Unnithan, S[3]; Truong, T[3]; Weaver, K[4]; Swamy, G[2]; Hughes, B[2]

1 - Duke University Medical Center

2 - Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Duke University Health System, Durham, NC

3 - Department of Biostatistics and Bioinformatics, Duke University School of Medicine, Durham, NC, USA.

4 - Department of Obstetrics and Gynecology, Duke University, Durham, North Carolina.

Abstract Body:

Objective: To assess the safety of maternal COVID-19 vaccination on infant developmental outcomes Study Design: Prospective cohort study of pregnant patients who did or did not receive COVID-19 vaccination in pregnancy. Baseline characteristics were obtained and subjects were contacted at 6 months post-delivery for completion of the Ages and Stages Questionnaire (ASQ-3), a validated tool to assess developmental outcomes. Summations of scores in five different domains was calculated, and scores above given cutoffs were characterized as "on schedule." Scores were compared

between vaccinated and unvaccinated using Fisher exact tests. Results: 40 patients were enrolled in this study and 35(88%) completed follow-up surveys (21 vaccinated, 14 unvaccinated). Patients in the vaccinated group were more likely to be older, non-White, have private insurance, and have a greater median gestational age at delivery (39.7 [IQR 38.3 – 40.3], vs 37.9 [IQR 37.4 – 39.4] ; p 0.05), fine motor (90.5% vs 92.9%; p>0.05), communication (95.2% vs 100%; p>0.05), problem solving (95.2% vs 92.9%; p>0.05), or personal social (100% vs 100%; p>0.05) domains between infants whose mothers had received the vaccine and those that did not, respectively. Conclusions: There are no significant associations between COVID-19 vaccination and 6 month infant developmental outcomes.

Disclosure: No

Images:

ASQ Summary statistics (6 months)

	Not vaccinated (N=14)	Vaccinated (N=21)	p value
Communication: on schedule?			1.0000[1]
Not on schedule	0 (0.0%)	1 (4.8%)	
On schedule	14 (100.0%)	20 (95.2%)	
Communication (6 months)			0.3481[2]
Mean (SD)	49.3 (8.5)	45.2 (11.6)	
Median	50.0	50.0	
Q1, Q3	40.0, 55.0	35.0, 55.0	
Range	(35.0-60.0)	(20.0-60.0)	
Gross Motor: on schedule?			0.4000[1]
Not on schedule	1 (7.1%)	0 (0.0%)	
On schedule	13 (92.9%)	21 (100.0%)	
Gross Motor (6 months)			0.6318[2]
Mean (SD)	42.9 (12.0)	45.0 (9.5)	
Median	42.5	50.0	
Q1, Q3	40.0, 50.0	35.0, 50.0	
Range	(20.0-60.0)	(25.0-60.0)	
Fine Motor: on schedule?			1.0000[1]
Not on schedule	1 (7.1%)	2 (9.5%)	
On schedule	13 (92.9%)	19 (90.5%)	
Fine Motor (6 months)			0.6079[2]
Mean (SD)	44.6 (11.7)	46.4 (12.3)	
Median	47.5	50.0	
Q1, Q3	35.0, 50.0	40.0, 55.0	
Range	(25.0-60.0)	(15.0-60.0)	
Problem Solving: on schedule?			1.0000[1]
Not on schedule	1 (7.1%)	1 (4.8%)	
On schedule	13 (92.9%)	20 (95.2%)	
Problem Solving (6 months)			0.0947[2]
Mean (SD)	45.7 (13.0)	51.9 (10.4)	
Median	47.5	55.0	
Q1, Q3	35.0, 55.0	50.0, 60.0	
Range	(15.0-60.0)	(20.0-60.0)	
Personal Social: on schedule?			.[1]
On schedule	14 (100.0%)	21 (100.0%)	
Personal Social (6 months)			1.0000[2]
Mean (SD)	46.4 (10.5)	46.4 (10.5)	
Median	47.5	45.0	
Q1, Q3	45.0, 50.0	40.0, 55.0	
Range	(30.0-60.0)	(30.0-60.0)	

[1]Fisher Exact [2]Wilcoxon

#021 Integrated Prenatal and Hepatitis C Virus Care Increases Linkage

Chappell, C[1]; Mayo, S[2]; Grosko, J[1]; Schaffer, E[3]; Krans, E[1]

1 - University of Pittsburgh

2 - Magee-Womens Research Institute

3 - University of Pittsburgh Medical Center

Abstract Body:

Objective: Universal hepatitis C virus (HCV) screening is recommended for pregnant patients; yet linkage to HCV care and postpartum HCV treatment is poor. Our objective was to describe the effect of an innovative healthcare delivery model for pregnant patients with active HCV infection on HCV treatment engagement. Study Design: We conducted a retrospective cohort study of all pregnant patients who attended prenatal care at our institution from July 1, 2020, to June 30, 2021. Our intervention was an innovative healthcare delivery model implemented in June 2020 composed of 1) an electronic medical record (EMR) Best Practice Alert (BPA) to remind providers of the need for HCV testing at the initial prenatal encounter and reflex testing for HCV RNA if IgG positive, and 2) a perinatal HCV clinic to provide antenatal HCV consultation as well as postpartum treatment. Outcomes evaluated included HCV testing, prevalence, consult attendance and treatment rates. Results: During the study period, 1,307 pregnant patients established care at our institution, of those 1,087 (83%) were screened for HCV, 57 were HCV antibody positive (4.4%), and 24 (1.84%) had an active HCV infection. Of the 24 with an active HCV infection, 15 (62.5%) attended our perinatal HCV clinic, yet only 3 (12.5%) received HCV treatment. Two received treatment through a study of antenatal HCV treatment and 1 received postpartum treatment. Conclusion: A combination of increased HCV screening with referral to a perinatal HCV clinic resulted in improved HCV care linkage. Interventions focused on improving postpartum treatment uptake are urgently needed.

Disclosure:

Yes, this is sponsored by industry/sponsor: Gilead Sciences

Clarification: Industry funding only - investigator initiated and executed study

#022 Training Gynecologists in the Management of HIV Pre-Exposure Prophylaxis: a 2-year Experience

Silvestri, F[1]; Alvarez, N[1]; Afzal, O[1]; Dolan, S[1]; Urbina, A[1]; Ramirez Zamudio, A[1]

1 - Icahn School of Medicine at Mount Sinai

Abstract Body:

We aimed to evaluate the efficacy of different modalities of PrEP training sessions for OB/GYN providers given the disproportionate under-utilization of PrEP among women. Three separate training sessions were held for providers in the OB/GYN department at an academic medical center in New York City: 1) in-person resident didactics, 2) virtual resident didactics, 3) virtual departmental grand rounds. The participants were surveyed after the training on PrEP awareness, knowledge, and management. Two-sample t-test was used to compare difference in proportions of binomial variables and difference in means of likert-scored answers. ANOVA test was used to test the difference in scores between the three training modalities. 63 participants attended three separate training events. Eight participants (13%) had prescribed PrEP in the past. Awareness of PrEP as an HIV prevention strategy was high before (95%) and after (98%) the training. After the training, there was an increase in understanding the epidemiology of HIV transmission (40% to 97%, p<0.00), familiarity with the PrEP clinical trials (18% to 97%, p<0.00), comfort in determining PrEP candidacy (mean score 2.3 to 4.1, p<0.00), and comfort prescribing PrEP (mean score 2.0 to 3.6, p<0.00). Comfort scores did not differ significantly between the different training modalities. Implementation of PrEP training courses for OB/GYN providers increased knowledge and comfort in identifying and managing patients who may benefit from PrEP services, irrespective of training modality. Increasing training amongst OG/BYN providers serving women at risk for HIV infection is an effective tool to narrow gaps in PrEP access.

Disclosure: No

Images:

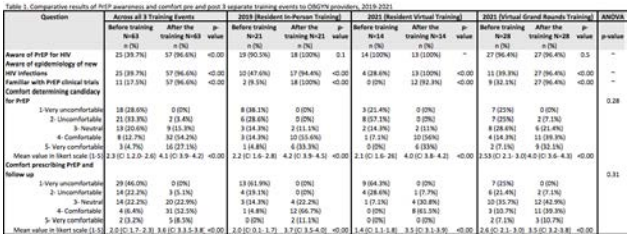


Table 1. Comparative results of PrEP awareness and comfort pre and post 3 separate training events to OBGYN providers, 2019-2021

Question	Across all 3 Training Events			2019 (Resident In-Person Training)			2021 (Resident Virtual Training)			2021 (Virtual Grand Rounds Training)			ANOVA
	Before training N=63 n (%)	After the training N=63 n (%)	p-value	Before training N=21 n (%)	After the training N=21 n (%)	p-value	Before training N=14 n (%)	After the training N=14 n (%)	p-value	Before training N=28 n (%)	After the training N=28 n (%)	p-value	p-value
Aware of PrEP for HIV	25 (39.7%)	57 (96.6%)	<0.00	19 (90.5%)	18 (100%)	0.1	14 (100%)	13 (100%)	~	27 (96.4%)	27 (96.4%)	0.5	~
Aware of epidemiology of new HIV infections	25 (39.7%)	57 (96.6%)	<0.00	10 (47.6%)	17 (94.4%)	<0.00	4 (28.6%)	13 (100%)	<0.00	11 (39.3%)	27 (96.4%)	<0.00	~
Familiar with PrEP clinical trials	11 (17.5%)	57 (96.6%)	<0.00	2 (9.5%)	18 (100%)	<0.00	0 (0%)	12 (92.3%)	<0.00	9 (32.1%)	27 (96.4%)	<0.00	~
Comfort determining candidacy for PrEP													0.28
1-Very uncomfortable	18 (28.6%)	0 (0%)		8 (38.1%)	0 (0%)		3 (21.4%)	0 (0%)		7 (25%)	0 (0%)		
2- Uncomfortable	21 (33.3%)	2 (3.4%)		6 (28.6%)	0 (0%)		8 (57.1%)	0 (0%)		7 (25%)	2 (7.1%)		
3- Neutral	19 (30.6%)	9 (15.3%)		3 (14.3%)	2 (11.1%)		2 (14.3%)	2 (11%)		8 (28.6%)	6 (21.4%)		
4- Comfortable	8 (12.7%)	32 (54.2%)		3 (14.3%)	10 (55.6%)		1 (7.1%)	10 (56%)		4 (14.3%)	11 (39.3%)		
5- Very comfortable	3 (4.7%)	16 (27.1%)		1 (4.8%)	6 (33.3%)		0 (0%)	6 (33%)		2 (7.1%)	9 (32.1%)		
Mean value in likert scale (1-5)	2.3 (IC 1.2.0- 2.6)	4.1 (IC 3.9- 4.2)	<0.00	2.2 (IC 1.6- 2.8)	4.2 (IC 3.9- 4.5)	<0.00	2.1 (IC 1.6- 26)	4.0 (IC 3.8- 4.2)	<0.00	2.53 (IC 2.1- 3.0)	4.0 (IC 3.6- 4.3)	<0.00	
Comfort prescribing PrEP and follow up													0.31
1-Very uncomfortable	29 (46.0%)	0 (0%)		13 (61.9%)	0 (0%)		9 (64.3%)	0 (0%)		7 (25%)	0 (0%)		
2- Uncomfortable	14 (22.2%)	3 (5.1%)		4 (19.1%)	0 (0%)		4 (28.6%)	1 (7.7%)		6 (21.4%)	2 (7.1%)		
3- Neutral	14 (22.2%)	20 (22.9%)		3 (14.3%)	4 (22.2%)		1 (7.1%)	4 (30.8%)		10 (35.7%)	12 (42.9%)		
4- Comfortable	4 (6.4%)	31 (52.5%)		1 (4.8%)	12 (66.7%)		0 (0%)	8 (61.5%)		3 (10.7%)	11 (39.3%)		
5- Very comfortable	2 (3.2%)	5 (8.5%)		0 (0%)	2 (11.1%)		0 (0%)	0 (0%)		2 (7.1%)	3 (10.7%)		
Mean value in likert scale (1-5)	2.0 (IC 1.7- 2.3)	3.6 (IC 3.3.5- 3.8	<0.00	2.0 (IC 0.1- 1.7)	3.7 (IC 3.5- 4.0)	<0.00	1.4 (IC 1.1- 1.8)	3.5 (IC 3.1- 3.9)	<0.00	2.6 (IC 2.1- 3.0)	3.5 (IC 3.2- 3.8)	<0.00	

#023 Developing Sentinel Surveillance for Chlamydia, Gonorrhea, and Trichomonas using Test Results from Routine Screening during Pregnancy

Lazenby, G[1]; Korte, J[1]; Pekar, E[1]; Peterman, T[2]; Cope, A[3]

1 - MUSC

2 - CDC

3 - DHHS

Abstract Body:

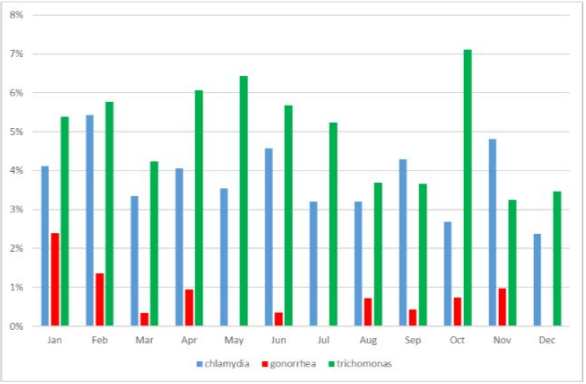
Objective. Our goal was to develop a sustainable electronic health record (EHR)-based approach to sexually transmitted infection (STI) surveillance in a sentinel population of pregnant persons. Study Design. We conducted a 1-year surveillance study of STIs in persons receiving at least 1 pregnancy related visit. Data were obtained using EHR analytic code. Subjects were categorized by whether they had a chlamydia test during pregnancy and by the STI test results, i.e. positive or negative. Bivariate analyses were performed to determine differences in persons screened and unscreened and persons who screened positive and negative for STIs. Predictors of a positive STI test were determined using logistic regression analyses. Results. We identified 4,553 persons who received pregnancy care from 1/1/21 to 12/31/2021. 76% (n, 3454) of persons had a chlamydia test during pregnancy. Those who identified as white or had private insurance were less likely to have a test. Among persons screened, Trichomonas was the most commonly detected STI (5%) followed by chlamydia (4%) and gonorrhea (0.7%). Predictors of positive STI tests were self-reported Black race [Trichomonas, aOR 5.3 (95% CI 3.2-8.9) and gonorrhea, aOR 5.3 (95% CI 3.2-8.9)] and age < 25 [chlamydia, aOR 3.7 (95% CI 2.5-5.6)]. Conclusions. The percentage of positive STI tests among pregnant persons during the surveillance period was consistent with our previous observations within this population. We have demonstrated that an EHR can be utilized to perform STI surveillance and believe our model

can be applied more broadly to improve the accuracy national STI surveillance data.

Disclosure: No

Images:

Figure 1. Percentage of positive tests by month for sexually transmitted infections during pregnancy care



#024 Is Lactobacillus Phage Involved in The Pathogenesis of Bacterial Vaginosis?

Elnaggar, J[1]; Taylor, C[2]; Toh, E[3]; Dong, A[4]; Lammons, J[2]; Aaron, K[5]; Lou, M[2]; Tamhane, A[5]; Lefkowitz, E[6]; Nelson, D[3]; Muzny, C[5]

1 - Louisiana State University Health Sciences Center

2 - Department of Microbiology, Immunology, and Parasitology, Louisiana State University Health Sciences Center; New Orleans, LA, USA

3 - Department of Microbiology, Indiana University School of Medicine; Indianapolis, IN, USA

4 - Hinsdale Central High School; Hinsdale, IL, USA

5 - Division of Infectious Diseases, University of Alabama at Birmingham; Birmingham, AL, USA

6 - Department of Microbiology, University of Alabama at Birmingham; Birmingham, AL, USA

Abstract Body:

Objective: Despite over 60 years of research, the etiology of bacterial vaginosis (BV), the most common cause of vaginal discharge, remains controversial. We investigated longitudinal changes in the vaginal microbiota prior to incident BV (iBV) using shotgun metagenomic sequencing (SMS) to elucidate the role of Lactobacillus phages.

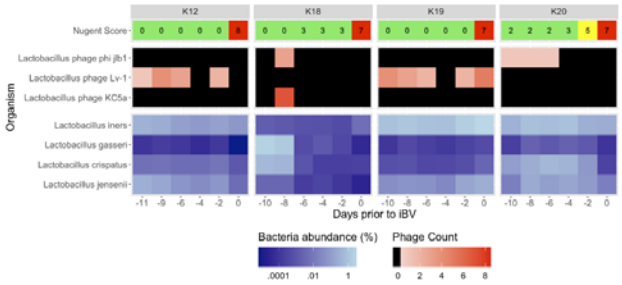
Study Design: African American women who have sex with women with normal baseline vaginal microbiota were enrolled and followed for 90 days using daily self-collected vaginal specimens to detect iBV (Nugent score 7-10 on at least 2 consecutive days). Vaginal specimens on the first day of iBV (Day 0) along with every other day for the 10 days prior (Day -2 to -10) were selected for SMS on an Illumina HiSeq 4000. Sequencing reads were processed using Kraken2 to determine taxonomic composition. Following assembly with the Megahit, contigs were analyzed using VIBRANT to investigate Lactobacillus phage origin and activity. Results: 6 vaginal specimens from 4 participants who developed iBV were sequenced (n=24). Normalized estimated reads originating from the Lactobacillus genus declined over time prior to iBV while reads originating from Gardnerella vaginalis, Prevotella bivia, and Atopobium vaginae increased sharply on the day of iBV. Prior to iBV, lytic Lactobacillus phages were found in 4/4 (100%) participants and correlated with a decrease in protective Lactobacillus spp. Conclusion: An interplay between Lactobacillus phages and protective Lactobacillus spp. may be occurring prior to iBV. Due to our small sample size, the role of Lactobacillus phages in BV pathogenesis should be further investigated.

Disclosure: No

Images:

Is Lactobacillus Phage Involved in The Pathogenesis of Bacterial Vaginosis?

Jacob H Elnaggar, Christopher M Taylor PhD, Evelyn Toh PhD, Amy Dong, John W Lammons, Kristal J Aaron, Meng Luo PhD, Ashutosh Tamhane MD, PhD, Elliot J Lefkowitz PhD, David E Nelson PhD, Christina A Muzny MD



Heatmap of *Lactobacillus* phages and *Lactobacillus spp.* Each participant is represented in her own vertical block. The Nugent score is displayed at the top and color coded as normal=0-3 (green), intermediate=4-6 (yellow), or BV=7-10 (red). Lytic *Lactobacillus* phages identified by VIBRANT are displayed below. Classification was performed with Krakren2 and the Viral RefSeq database. The phages were chosen by having at least 2 assembled contigs. Below the *Lactobacillus* phages displays the different *Lactobacillus* spp. for comparison: protective *L. gasseri, L. crispatus* and *L. jensenii*, and moderate/transitional *L. iners*. Bacterial reads were classified using the maxiKraken database. Lytic *Lactobacillus* phages were found in 4/4 (100%) participants and correlated with a decrease in protective *Lactobacillus* spp.

#025 Estimated Time to Relief from Vulvovaginal Symptoms with Ibrexafungerp: Patient Reported Data from the VANISH Studies

Azie, N[1]; King, T[1]; Sanchez, S[1]; Angulo, D[1]

1 - SCYNEXIS, Inc.

Abstract Body:

OBJECTIVE Relief from symptoms (itching, burning, irritation) of vulvovaginal candidiasis (VVC) is highly individualized, with a great degree of inter-patient response variability. Ibrexafungerp is a triterpenoid antifungal approved for treatment of VVC. To better understand time to patient response in VVC symptom relief after treatment with ibrexafungerp, a post-hoc analysis of pooled ibrexafungerp patient-response data from the VANISH studies was performed. This time to response data was based on diary records from ibrexafungerp-treated patients, from treatment initiation through Test of Cure (Day 10 +/- 3 days). STUDY DESIGN VANISH Phase 3 trials were identical studies that assessed efficacy of oral ibrexafungerp (300 mg BID/1 day) in post-menarchal female patients ≥12 years with VVC, with vulvovaginal signs and symptoms (VSS) scores ≥4 at baseline, and at least 2 signs or symptoms having a moderate severity score (VSS ≥2). Patients used a study-issued diary to rate their symptoms (burning, itching, and irritation) daily. The pooled efficacy population was assessed for median time to first reduction in any symptom from baseline, as well as median time to complete resolution of all symptoms, based on diary reports. RESULTS The analysis population included 376 patients who received ibrexafungerp. The time to initial symptom relief was as early as Day 1 (median 2 days; range 1-15). The time to complete resolution of all symptoms was median 6 days (range 1-25). CONCLUSIONS Treatment with oral ibrexafungerp provided rapid relief of VVC symptoms in this patient population. Ibrexafungerp provides a new option for patients with VVC.

Disclosure:

Yes, this is sponsored by industry/sponsor: SCYNEXIS, Inc.

Clarification: Industry initiated, executed and funded study

Any of the authors act as a consultant, employee or shareholder of an industry for: SCYNEXIS, Inc.

#026 Effect of Indoor Residual Spraying on Malaria in Pregnancy and Pregnancy Outcomes: a Systematic Review

Kim, T[1]; Pettiette Erlinger, A[2]; Joshi, A[1]; Hacker, M[1]; Wylie, B[1]

1 - Beth Israel Deaconess Medical Center

2 - Boston University

Abstract Body:

Objective: Malaria in pregnancy increases maternal and perinatal morbidity and mortality. Indoor residual spraying (IRS) is a core vector control strategy used to reduce transmission in endemic areas; however, its effect on pregnant people is not well known. We conducted a systematic literature review to determine what is known about the effects of IRS on parasitemia in pregnancy and on pregnancy outcomes. Study Design: PubMed, Embase, Cochrane Review, Global Health, and CINAHL were searched for all studies prior to January 2022 assessing IRS exposure during pregnancy. Abstracts and full texts were reviewed independently by two researchers with discrepancies adjudicated by a third. The quality of studies was assessed using the NHLBI Quality Assessment Tool for observational studies. Results: Of 1,334 studies that met search criteria, 14 met final inclusion criteria. Of these, 12 reported on the effect of IRS on parasitemia and 5 on birth outcomes. All studies assessing either peripheral or placental parasitemia showed a reduced risk of malaria when exposed to IRS in pregnancy. All five studies assessing pregnancy outcomes report decreased odds of low birthweight (effect size estimates ranging 0.08 to 0.70). Four studies report decreased risk for preterm birth (effect size estimates ranging 0.05 to 0.68). Heterogeneity of the studies precluded meta-analysis. Conclusion: In malaria endemic areas, published literature suggests IRS during pregnancy reduces incidence of parasitemia, low birthweight, and preterm birth. These short-term benefits should be considered alongside longer-term negative consequences of prenatal insecticide exposure to identify optimal malaria control strategies during pregnancy.

Disclosure: No

#027 COVID-19 Vaccine Uptake, Vaccine Confidence and Medical Mistrust among Reproductive-Aged Women in Jamaica

Pinkney, J[1]; Carroll, K[2]; Bryan, L[2]; Witter, G[2]; Ashour, D[1]; Shebl, F[1]; Hyle, E[1]; Ojikutu, B[1]; Bogart, L[3]

1 - Massachusetts General Hospital

2 - University of the West Indies

3 - RAND Corporation

Abstract Body:

Objective: To determine if there are differences in COVID-19 vaccine uptake, vaccine confidence and medical mistrust beliefs between pregnant and non-pregnant reproductive-aged women in Jamaica. Study Design: We conducted a cross-sectional, web-based survey of a convenience sample of reproductive-aged women (patients, providers, and staff) at a tertiary care hospital in Jamaica from February 1- 8, 2022 to assess COVID-19 vaccination status, vaccine confidence and medical mistrust beliefs (e.g., "I don't trust the COVID-19 vaccine"). We employed multivariable modified Poisson regression to estimate prevalence ratios (PR) and 95% confidence intervals (CI) for vaccination in pregnant versus non-pregnant women, adjusting for age, education and comorbidities. Results: Complete survey responses were available for 192 reproductive-aged women: 72 (38%) were pregnant and 120 (62%) were non-pregnant. Pregnant women were younger than non-pregnant women [mean(SD) = 30 (±5.6) vs 34 (±7.0), respectively]. Vaccine uptake among pregnant women was 35% compared with 75% among non-pregnant women (aPR=0.56, 95%CI=0.40 - 0.79; p=0.001). Pregnant women were more likely to agree with several mistrust statements, including "I don't trust the COVID-19 vaccine" (aPR=2.27, 95%CI=1.35 – 3.85; p=0.002). Pregnant women were also more likely to endorse vaccine safety concerns (e.g., "I am worried COVID-19 vaccines could be harmful") (aPR=1.39, 95%CI=1.06 – 1.84; p=0.019). Conclusion: Findings suggest that pregnant women in Jamaica may be less likely to get vaccinated compared with non-pregnant reproductive-aged women. Mistrust and safety concerns may be contributing to lower vaccine uptake in this population. Further studies are needed in this area to craft tailored solutions.

Disclosure: No

Images:

Table1: Population characteristics by pregnancy Status

Characteristic	Pregnant (N =72) N (%)	Non-Pregnant (N =120) N (%)	P value*
Age - year, mean (SD)	30 (5.6)	34 (7.0)	<0.0001
Race			0.049
White	0 (0)	3 (100)	
Black	71 (39.9)	107 (60.1)	
Other	1 (9.1)	10 (90.9)	
Health insurance coverage			0.102
Yes	49 (33.8)	96 (66.2)	
No	20 (47.6)	22 (52.4)	
Employment			0.424
Yes	58 (36.3)	102 (63.8)	
No	14 (43.8)	18 (56.3)	
Occupation			<0.0001
Healthcare	5 (8.9)	51 (91.1)	
Other	53 (52.0)	49 (48.0)	
Education			0.001
Less than college	31 (56.4)	24 (43.6)	
Some college or higher	40 (29.4)	96 (70.6)	
Comorbidities			
None	53 (43.8)	68 (56.2)	0.019
Diabetes	2 (50)	2 (50)	0.602
Hypertension	3 (37.5)	5 (62.5)	1.00
Obesity	5 (50)	5 (50)	0.402
Cancer	0 (0)	1 (100)	0.437
Autoimmune disease	1 (10)	9 (90)	0.065
Other	5 (13.2)	33 (86.8)	0.001
Prior COVID-19 infection	15 (25.0)	45 (75.0)	0.024

*P values were estimated using Chi-square or Fisher exacts tests for categorical variables, and Kruskal-Wallis test for continuous variables.

Table 2: Adjusted association between pregnancy, vaccination status, trust and safety *

End Point	Pregnant (N = 72) N (%)	Non-Pregnant (N = 120) N (%)	Adjusted Prevalence Ratio** (95% CI)*	P -Value
Vaccine uptake	24 (34.8)	88 (74.6)	0.56 (0.40 - 0.79)	0.001
I don't trust the COVID-19 vaccine	26 (60.5)	18 (19.4)	2.27 (1.35 - 3.85)	0.002
The government cannot be trusted to tell the truth about COVID-19	37 (80.4)	33 (40.7)	1.67 (1.23 - 2.26)	0.001
I am worried that COVID-19 vaccines could be harmful	42 (75.0)	44 (45.4)	1.39 (1.06 - 1.84)	0.019

*A separate robust Poisson regression model for each outcome
*Confidence interval: CI
**Prevalence Ratios were adjusted for age, education and comorbidities.

#028 Canadian Antenatal COVID-19 Seroprevalence Study; Population Mapping of the COVID-19 Pandemic Utilizing Stored Antenatal Sera

Atkinson, A[1]; McClymont, E[1]; Albert, A[2]; Jassem, A[3]; Krajden, M[3]; Mansour, S[3]; Sekirov, I[3]; Andrade, J[2]; Levett, P[3]; Money, D[1]

1 - University of British Columbia

2 - Women's Health Research Institute, BC

3 - British Columbia Centre for Disease Control

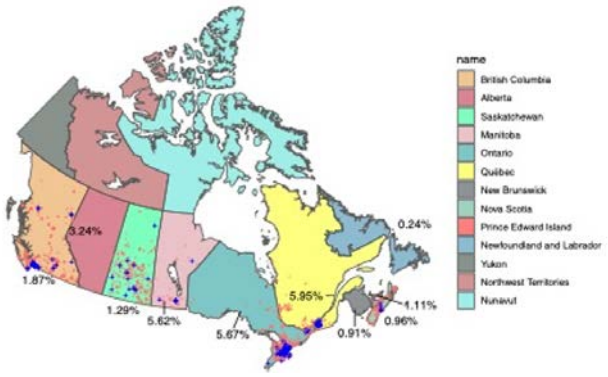
Abstract Body:

Objectives: Determining the distribution and rate of SARS-CoV-2 infection and vaccination mediated immunity remains challenging. The Canadian Antenatal Serological Survey assessed SARS-CoV-2 seroprevalence across Canada at various pandemic stages using residual antenatal sera as a representative sample of reproductive age females. Study design:This ongoing retrospective surveillance project assessed SARS-CoV-2 seropositivity in ten provinces over several time periods. Phase One spanned the initial waves of the pandemic, Phase Two assessed and compared vaccination and natural immunity/infection, and Phase Three provides up-to-

date seropositivity assessment amidst emerging variants. Postal code and age were recorded for comparison with PCR-positivity rates and regional distribution. Results: In Phase One (three time periods over 2020, prior to vaccination implementation) the seropositivity rate was 1.5-10 times higher than reported PCR-positive rates seropositivity was identified in three provinces prior to pandemic declaration. In Phase Two (November 15, 2021-December 3, 2021), seropositivity from 3369 samples in British Columbia demonstrated raw anti-nucleocapsid antibody seroprevalence of 3.5% and 88.1% for anti-spike antibodies. In Phase Three (100 samples/week, December 2021 – early March 2022), anti-nucleocapsid antibodies rose to a high of 50% in the fourth week of February 2022 while anti-spike antibodies exceeded 90%. Conclusion: Antenatal seroprevalence is useful to assess SARS-CoV-2 spread and immunity nationally. In Phase One, total seropositivity was below 6%, indicating widespread vulnerability to SARS-CoV-2 prior to vaccine introduction in Canada with underreporting by public health tracking of infections by ~4 fold. Phase Two and Three data helps track natural infection and vaccination uptake as new variants emerge.

Disclosure: No

Images:



#029 Pregnancy Outcomes by Pandemic Wave Among Pregnant Individuals with COVID-19 Infection

Craig, A[1]; Judge-Golden, C[1]; Moyett, J[1]; Ramey-Collier, K[1]; Hughes, BL[1]; Dotters-Katz, SK[1]

1 - Duke University

Abstract Body:

Objective: Pandemic waves from new COVID-19 variants have had varying impacts on disease severity among all populations. We evaluated pregnancy outcomes among individuals with COVID-19 infection in pregnancy by pandemic wave. Methods: Retrospective cohort of pregnant individuals with COVID-19 who delivered at single academic center. Primary outcome was delivery for COVID-19. Secondary outcomes included preterm birth (PTB), hypertensive disorders of pregnancy, cesarean delivery. Outcomes were compared by pandemic wave: wild type,WT(5/2020-9/2020), alpha(11/2020-3/2021), delta(8/2021-10/2021), omicron(12/2021-2/2022). Individuals diagnosed between waves were excluded. Results: Of 451 individuals who delivered during pandemic waves, 133(25.3%) classified as WT, 99(18.8%) alpha, 62(11.8%)delta, and 157(29.8%)omicron. Race/ethnicity, insurance status, gestational age at COVID-19 diagnosis, and symptomatic disease differed across waves, but there were no differences in preexisting conditions(cHTN/DM/obesity) (Table). Overall, 11(2.4%) were delivered for COVID-19, with significant variation across waves(p=0.01). No vaccinated individuals required delivery for COVID-19. PTB was common(18%), but did not vary by wave. Other outcomes also did not differ. When controlling for confounders with omicron as the referent group, individuals in delta wave were at 13-fold higher odds of delivery for COVID-19 and 2-fold higher odds of developing gestational hypertensive disorder, while those in alpha were at 2-fold higher odds of cesarean delivery(Table). All patients delivered for COVID-19 had symptomatic disease and none were vaccinated. Conclusion: COVID-19 infection in pregnancy is associated with adverse pregnancy outcomes, with higher risk of delivery for COVID-19 associated with non-omicron strains, specifically, delta variant. Importantly, vaccination was protective against delivery for COVID-19.

Disclosure: No

Images:

Table: Pregnancy outcomes for pregnant individuals with COVID-19 infection by wave

	ALL N=451(%)	WT N=133(%)	Alpha N=99(%)	Delta N=62(%)	Omicron N=157(%)	p
Maternal age at delivery (years) Median [IQR]	28.0 [23.0, 33.0]	28.5 [24.0, 33.0]	27.0 [23.0, 32.0]	28.0 [22.0, 32.0]	28.0 [24.0, 33.0]	0.48
Race/Ethnicity						<0.001
White	116 (25.7)	12 (9.0)	34(35.4)	18(29.0)	52(34.0)	
Black	156 (34.6)	30 (22.6)	37(38.5)	29(46.8)	60(39.2)	
Latinx	152 (33.7)	87 (65.4)	21(21.9)	12(19.4)	32(20.9)	
Other	20 (4.4)	4 (3.0)	4(4.2)	3(4.8)	9(5.9)	
Private Insurance	211 (46.8)	26(19.5)	42(42.4)	36(58.1)	107(68.2)	<0.001
Multiparous	286 (63.4)	87 (65.4)	62 (62.6)	35 (57.4)	102 (65.0)	0.71
Tobacco use	25 (5.5)	3 (2.3)	8 (8.1)	6 (9.7)	8 (5.1)	0.11
Prior cesarean section	89 (19.7)	26 (19.5)	21 (21.2)	11 (18.0)	31 (19.7)	0.97
BMI at COVID diagnosis	32.0 [27.6, 36.8]	32.0 [27.8, 36.9]	32.1 [27.0, 37.3]	31.6 [27.1, 35.3]	32.1 [28.1, 37.0]	0.92
Gestational age at COVID diagnosis (weeks) Median[IQR]	36.7 [30.4, 39.1]	34.4 [23.3, 38.7]	35.7 [25.4, 39.1]	36.3 [30.7, 38.9]	37.9 [35.4, 39.3]	<0.001
Symptomatic COVID	252 (55.9)	87 (65.4)	53 (53.5)	42 (67.7)	70 (44.6)	<0.001
Vaccinated	78 (17.3)	0 (0.0)	1 (1.0)	9 (17.6)	68 (46.6)	<0.001
Bivariate analysis of outcomes by wave						
Any gestational hypertensive disorder	118 (26.2)	36 (27.1)	29 (29.3)	23 (37.1)	30 (19.1)	0.04
Severe preeclampsia	43 (9.5)	13 (9.8)	13 (13.1)	7 (11.3)	10 (6.4)	0.32
Gestational age at delivery (weeks)	39.1 [37.4, 39.7]	39.0 [37.3, 39.7]	39.3 [37.4, 39.9]	38.8 [37.1, 39.6]	39.1 [37.3, 39.6]	0.63
Preterm delivery	85 (18.8)	24 (18.0)	18 (18.2)	13 (21.0)	30 (19.1)	0.96
Delivery for COVID	11 (2.4%)	4 (3.1)	1(1.0)	5 (8.2)	1 (0.6)	0.01
Adjusted odds ratio (aOR) of pregnancy outcomes with Omicron as referent group						
		WT aOR (95%CI)	Alpha aOR (95%CI)	Delta aOR (95%CI)		
Delivery for COVID[1]		5.8 (0.55, 60.17)	1.7 (0.10, 29.22)	12.8 (1.44, 114.4)		
Any hypertensive disorder[1]		1.7 (0.89, 3.11)	1.6 (0.84, 2.92)	2.3 (1.17, 4.40)		
Preterm Birth[1]		1.6 (0.81, 3.28)	1.0 (0.52, 2.08)	1.2 (0.55, 2.49)		
Cesarean Delivery[1]		1.3 (0.74, 2.49)	2.1 (1.16, 3.68)	1.7 (0.88, 3.24)		

[1] controls for race/ethnicity, insurance status (all patients delivered for COVID had symptomatic disease, none were vaccinated)

#030 A Prospective Cohort Study on Pregnancy Outcomes in Women Immunized with Seasonal Quadrivalent Influenza Vaccine (QIV) During Pregnancy

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1 - Charleston Maternal Fetal Medicine

2 - Seqirus Netherlands B.V.

3 - Syneos Health, Wilmington, NC

4 - UNC Gillings School of Global Public Health, Chapel Hill, NC, US

5 - Scialli Consulting LLC, Washington DC, US

6 - LSU Health Science Center, Shreveport, LA, US

7 - Seqirus Australia Pty Ltd, Parkville, VC

8 - Seqirus USA Inc., Cambridge, MA, US

9 - Seqirus USA Inc., Summit, NJ, US

Abstract Body:

Objectives: Influenza immunization rates in pregnancy remain below public health goals. This US based cohort study collected data on pregnancy outcomes and events of interest among women immunized with AFLURIA QUADRIVALENT® (QIV) during pregnancy, to compare to national data. Study Design: The QIV pregnancy registry was a prospective observational cohort study conducted over four consecutive influenza seasons. Pregnant women were enrolled any time after routine vaccination with QIV, but prior to pregnancy outcome. Most women were enrolled via active recruitment strategies from obstetrical clinics that used QIV in their seasonal influenza vaccination
campaigns during routine prenatal care; study data were provided after giving consent. Primary endpoints included preterm birth (PTB), low birthweight (LBW) and major congenital malformations (MCM). A teratologist/ geneticist reviewed all reported malformations and classified them using the Center for Disease Control Metropolitan Atlanta Congenital Defects Program's coding system and a Scientific Advisory Committee periodically reviewed data and recommended coding and classification of MCMs and other outcomes of interest. Results: The study enrolled 494 women who had received QIV as part of routine care during four influenza seasons (2017-2021). 483 women were evaluable and 1.4% were lost to follow-up. The study population was diverse and key risk groups for adverse pregnancy outcomes were represented. 98.8% of pregnancies resulted in live birth. The table demonstrates prevalence of PTB, LBW and MCM. Conclusion: With no safety concerns demonstrated in this contemporary pregnancy registry and consistency with published safety data, the study data reassure safe use of QIV in pregnant women.

Disclosure:

Yes, this is sponsored by industry/sponsor: Seqirus USA Inc., Cambridge, MA, US

Clarification: Industry initiated, executed and funded study

Any of the authors act as a consultant, employee or shareholder of an industry for: Seqirus USA Inc., Cambridge, MA, US

Images:

Outcome	Prevalence (%)	Upper Bound 95% CI (%)	US National Data (%)
Preterm Birth (PTB)	7.2	9.6	10.09[1]
Low Birth Weight (LBW)	5.4	7.4	8.24[1]
Major Congenital Malformations (MCM)	0.8	1.9	2.78[2]

[1]Osterman M, Hamilton B, Martin JA, Driscoll AK, et al. Births: Final data for 2020. Natl Vital Stat Rep. 2022 Feb;70(17):1-50.
[2]Correa A, Cragan J, Kucik J, et al. Metropolitan Atlanta Congenital Defects Program 40th anniversary edition surveillance report: Reporting birth defects surveillance data 1968- 2003. Birth Defects Res A. 2007;79:65-93.

#031 Disease Severity Across Pandemic Waves Among Pregnant Individuals With COVID-19

Judge-Golden, C[1]; Craig, A[1]; Moyett, J[2]; Ramey-Collier, K[2]; Hughes, B[1]; Dotters-Katz, S[1]

1 - Obstetrics & Gynecology, Duke University Medical Center

2 - Duke University School of Medicine

Abstract Body:

Objective: Data are lacking comparing morbidity and mortality of COVID-19 infection in pregnancy across virus variants. We evaluated disease severity and hospitalization among pregnant individuals across pandemic waves. Study Design: Retrospective analysis of electronic medical records for all individuals with COVID-19 diagnosed during pregnancy who delivered at a single center between 3/2020 and 2/25/2022. Primary outcome was disease severity at diagnosis; secondary outcome was hospitalization for COVID-19. Outcomes were compared across four pandemic waves defined by public data on local peak cases. Diagnoses between pre-specified waves were excluded. Results: 444 pregnant individuals were diagnosed with COVID-19 during four waves: wildtype 129(29.1%), alpha 99(22.3%), delta 60(13.4%) and omicron 156(35.1%). Black and Hispanic individuals comprised the majority of cases, with variation across waves (p<0.001). Disease severity included 199(44.8) asymptomatic, 209(47.1%) mild, 19(4.3%) moderate, 13(2.9%) severe, and 4(0.9%) critical, with greater incidence of moderate/severe disease in wildtype and delta waves (p<0.001). In adjusted models, alpha and omicron waves had reduced odds of symptomatic infection (p=0.009), and omicron had reduced odds of hospitalization compared to wildtype (p=0.003). Among those diagnosed during delta or omicron, 66(35%) were vaccinated. No vaccinated individuals required hospitalization for COVID-19 compared to 13.5% of unvaccinated individuals (p=0.001). Nine individuals(2.0%) were admitted to ICU due to severe COVID-19, 5(1.1%) were intubated, and 3(0.6%) were placed on ECMO. No maternal mortalities occurred in this cohort. Conclusion: Disease severity varied by COVID-19 wave, with reduced odds of symptomatic infection and hospitalization in alpha and omicron, and no hospitalizations among vaccinated pregnant individuals.

Disclosure: No

Images:

Table. COVID-19 disease severity among pregnant individuals by pandemic wave (n=444)

Bivariate Analyses of Disease Severity by Pandemic Wave					
	Wildtype (5/2020-9/2020) N=129 9.1%	Alpha (11/2020-3/2021) N=99 22.3%	Delta (8/2021-10/2021) N=60, 13.4%	Omicron (12/2021-2/2022) N=156 35.1%	p- value*
Symptomatic COVID-19	84 (65.1)	53 (53.5)	40 (66.7)	69 (44.2)	0.001
Disease severity					<0.001
asymptomatic	45 (34.9)	46 (46.5)	21 (35.0)	87 (55.8)	
mild	67 (51.9)	49 (49.5)	29 (48.3)	64 (41.0)	
moderate	7 (5.4)	0 (0.0)	8 (13.3)	4 (2.6)	
severe	9 (7.0)	3 (3.0)	1 (1.7)	0 (0.0)	
critical	1 (0.8)	1 (1.0)	1 (1.7)	1 (0.6)	
Hospitalization for COVID-19	16 (12.3)	6 (6.1)	12 (19.4)	5 (3.2)	<0.001
ICU admission for COVID-19	3 (2.3)	3 (3.0)	2 (3.3)	1 (0.6)	0.34
Intubated	1 (0.8)	2 (2.0)	1 (1.7)	1 (0.6)	0.61
ECMO	1 (0.8)	1 (1.0)	1 (1.7)	0 (0.0)	0.33
Vaccinated	-	-	9 (15.0)	67 (43.0)	<0.001
Adjusted Odds Ratio of Symptomatic COVID-19 and Hospitalization by Pandemic Wave					
	Wildtype	Alpha	Delta	Omicron	Overall p-value†
Symptomatic COVID-19	-	0.53 (0.29, 0.98)	0.95 (0.45, 2.01)	0.41 (0.23, 0.74)	0.009
Hospitalization for COVID-19	-	0.37 (0.12, 1.16)	1.76 (0.64, 4.79)	0.25 (0.08, 0.83)	0.003

*p-values are from chi-square or Fisher exact tests as appropriate. Vaccination status was only assessed among individuals who tested positive during delta or omicron waves.
† N=403 due to missing data. Adjusted for race/ethnicity (n=437), insurance status (n=444) and BMI (n=408).

#032 Fluconazole Resistant Candida albicans Vaginal Infections at a Referral Center and Results with Boric Acid as a Treatment Regimen

File, B[1]; Sobel, R[1]; Becker, M[1]; Nyirjesy, P[1]

1 - Thomas Jefferson University

Abstract Body:

Objectives: To establish the incidence of fluconazole-resistant Candida albicans vulvovaginal candidiasis (FRVVC) at a referral center and to evaluate the effectiveness of boric acid as a treatment regimen. Study Design: We conducted a retrospective review of all patients with Candida albicans vulvovaginal candidiasis diagnosed at a referral center between November 2019 and December 2021. Subjects with clinically defined fluconazole resistance were identified. Information about demographics, in vitro susceptibility testing, and treatment outcomes was obtained. Results: Of the 970 subjects with positive cultures for Candida albicans, 71 (7.3%) with FRVVC were identified. Relevant demographics included 45.1% African American, 43.7% less than 30 years of age, and 43.7% with BMI <25. Of the 71 subjects, 58 received a vaginal boric acid treatment regimen. 49 subjects had at least one follow-up visit. The mycological and clinical cure rates were 85.7% and 73.7%, respectively. Of the 10 subjects demonstrating clinical failure, 60% were considered mycological cures. After treatment completion, 20% of subjects had mycological

recurrence within one month, 17.7% within two-months and 14.3% of patients recurred within three-months. Of 31 subjects who had antifungal susceptibility testing, 16.1% were found to have MICs consistent with fluconazole susceptibility. Conclusions: FRVVC can be relatively common and usually improves with boric acid treatment.

Disclosure:
Any of the authors act as a consultant, employee or shareholder of an industry for: SCYNEXIS CORPORATION, MYCOVIA PHARMACEUTICAL, HOLOGIC INC

#033 Male Family Members' Perceptions of COVID-19 Vaccination of Pregnant and Breastfeeding People in Kenya

Njogu, R[1]; Odera, S[1]; Njagi, W[1]; Mutwiwa, S[1]; Munyao, P[1]; Morgan, C[1]; Karron, R[2]; Limaye, R[3]; Noguchi, L[1]

1 - Jhpiego

2 - Johns Hopkins Bloomberg School of Public Health

3 - International Vaccine Access Center

Abstract Body:
Objective: Evidence supports safe and ethical inclusion of pregnant and breastfeeding people (PBFP) in COVID-19 vaccination efforts. We explored potential influences on COVID-19 vaccine decision-making by Kenyan PBFP, including perceptions of male family members. Study Design: We conducted a qualitative study using in-depth interviews (IDIs) targeting potential influencers of vaccine decision-making for PBFP in Nairobi, Kakamega, and Garissa counties between August and September 2021. Ninety-four IDIs (31 PBFP, 20 health workers, 10 policy makers, 25 male family members of PBFP, and eight community gatekeepers) were conducted. Content from 25 male family member IDIs was analyzed thematically and coded for emerging themes using Atlas.ti. Results: Men expressed concerns about their own sexual health and objected to a vaccine that could affect libido. Men raised concerns about safety of the vaccine for mothers and infants, as well as potential impact on future fertility for vaccinated mothers. Some men felt pregnancy placed mothers at higher risk for complications from vaccination. The ability to access vaccines was also raised, especially in rural areas due to distance and cost, with some men likening vaccination to a luxury. However, others felt that PBFP should receive vaccination if recommended by health workers. Conclusion: Male family members expressed a range of concerns with potential to impact COVID-19 vaccination decision-making by PBFP, including a lack of confidence in vaccine safety. Factoring in men's social influence, and addressing their concerns early in vaccination campaigns, may be a useful strategy for increasing demand for COVID-19 vaccination among PBFP in Kenya.

Disclosure: No

#034 Oteseconazole for RVVC in Diabetes: Post-hoc Analysis of Safety and Clinical Response in Phase 3 Studies

Nyirjesy, P[1]; Sobel, JD[2]; Degenhardt, T[3]; Weclaw, C[3]; Person, K[3]; McGaurn, S[3]; Brand, S[3]

1 - Sidney Kimmel College Thomas Jefferson University

2 - Wayne State University School of Medicine

3 - Mycovia Pharmaceuticals, Inc.

Abstract Body:
Objective: WHO forecasts >629 million adults will have diabetes by 2045. Diabetics are more susceptible to yeast overgrowth due to weakened immune systems and immune alternations. Oteseconazole, a novel oral agent that selectively inhibits fungal CYP51, is highly active against Candida albicans, including fluconazole-resistant C. albicans and other Candida species that cause vulvovaginal candidiasis (VVC). Study Design: Two global, randomized, double-blind, phase 3 trials studied oteseconazole in recurrent VVC (RVVC). Eligible participants, presented with acute infection at screening, positive KOH test, and signs and symptoms score ≥3, were treated with 3 doses 150-mg fluconazole every 72 hours. If signs and symptoms resolved to 30. Five were insulin dependent. The predominant colonizing organism was C. albicans (n=7), followed by C. glabrata (n=2) and C. parapsilosis (n=1). All 10 participants remained free of acute VVC for the 48-week period and did not report any treatment-related AEs by investigators. Conclusion: With the projected increases in diabetes worldwide and VVC infection rates in women with diabetes, oteseconazole is a promising new therapy for diabetic women living with RVVC

Disclosure:
Yes, this is sponsored by industry/sponsor: Mycovia

Pharmaceuticals
Clarification: Industry initiated, executed and funded study
Any of the authors act as a consultant, employee or shareholder of an industry for: Mycovia Pharmaceuticals

#035 Delta Variant Neutralizing Antibody Response Following Maternal COVID19 Vaccination

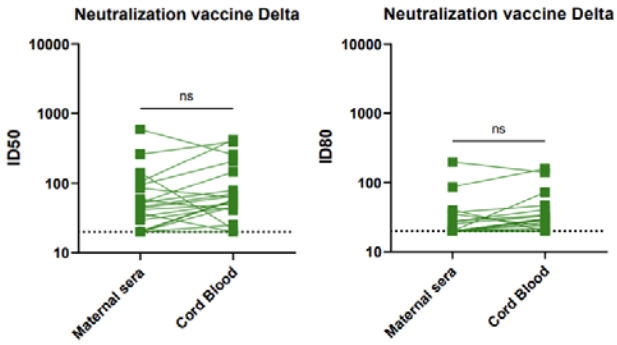
Craig, A[1]; Garrido Pavon, C[1]; Byrd, A[1]; Weaver, K[1]; Swamy, GK[1]; Fouda, G[1]; Hughes, BL[1]

1 - Duke University

Abstract Body:
Objective: To evaluate whether COVID19 vaccination during pregnancy confers immunological response to SARS-CoV-2 Delta variant. Study Design: Prospective cohort study of pregnant patients who had received any available COVID19 vaccine. Maternal and umbilical cord serum was collected at delivery. SARS-CoV-2 neutralization was measured with spike-pseudotyped viruses in HEK-293T-ACE2 cells as a function of reduction in Luc reporter activity using an env-deficient lentiviral system to produce viral particles pseudotyped with the B1.617.2 (Delta variant) spike. Neutralization titers represented the serum dilution at which relative luminescence units (RLU) were reduced by either 50%(ID50) or 80%(ID80) compared with virus control wells. RLU threshold for detection was 20. Results: Maternal and neonatal umbilical cord samples were collected from 20 individuals who received COVID19 vaccination during pregnancy. Most (n=16, 80%) received Pfizer, 2 Moderna, 2 Johnson&Johnson. One individual (5%) was vaccinated in first trimester, 11(55%) in second trimester, and 8(40%) in third trimester). Most individuals had detectable levels of neutralizing antibodies to SARS-CoV-2 Delta variant in maternal (n=15, 75%) and neonatal (n=17, 85%) serum. (Figure) No significant difference between maternal and neonatal serum titers. Conclusions: COVID19 vaccination during pregnancy yields an immunologic response in maternal serum that results in circulating neutralizing antibodies against SARS-CoV-2 Delta variant in maternal and neonatal serum at delivery.

Disclosure: No

Images:



#036 Comparing Group to Individual Prenatal Care for Pregnant People Living With HIV

Duque, A[1]; McKinney, J[1]; Shannon, K[1]; Peters, M[2]; Qian, Q[3]; Wu, H[4]; Levison, J[1]

1 - Baylor College of Medicine

2 - Harris Health System

3 - University of Texas Health School of Public Health

4 - University of Texas School of Public Health

Abstract Body:
Objective: Challenges to preventing perinatal HIV include engagement in care, adherence, and retention in care. The purpose of this work is to prospectively compare group to individual prenatal care for pregnant people living with HIV. Study Design: A non-randomized prospective cohort study was performed for pregnant people living with HIV who presented for prenatal care between 2018-2021. Group care participants participated in sessions that incorporated HIV topics into the existing CenteringPregnancy curriculum. Participants completed pre- and post-surveys assessing HIV knowledge, disclosure, adherence, stigma, stress, self-efficacy, depression, maternal attachment using validated scales. Continuous and categorial variables were compared using appropriate statistical tests based on normality and sample size. Multivariate linear regression and best subset regression were used for derived variables. Results: Baseline demographic and clinical variables were similar between group (N=33) and individual (N=27) cohorts. HIV treatment knowledge improved significantly in the group participants (+11.05 vs -0.53 points, p=0.003). Stress was slightly higher in group participants (+0.84 vs -0.27 points, p=0.007). There were no significant differences between cohorts for other measures. There was no difference in viral suppression at delivery (88% for both

cohorts) or retention in HIV care after delivery (65-69%). Conclusion: Group prenatal care improved HIV treatment knowledge but did not significantly impact the other psychosocial measures assessed. It is our experience that patient satisfaction is high with this group prenatal care model, so further efforts need to focus on how to affect the more complex determinants of health that could ultimately lead to better long-term outcomes.

Disclosure: No

Images:

Table 1: Change between pre- and post-survey responses for pregnant people living with HIV who engaged in group or individual prenatal care.

	Group Care (N=33)	Individual Care (N=27)	p value
Disclosure: How open or "out" are you about HIV?: Likert scale			0.9062
HIV Stigma (BERGER-40)	-1.3793 (11.7699)	-4.2400 (16.0319)	0.5206
HIV Knowledge (HIV KQ-18)	1.4516 (2.5928)	1.2593 (2.1230)	0.6245
HIV Treatment Knowledge (BALFOUR-21)	11.0544 (15.1171)	-0.5291 (13.8727)	0.0033
Medication Adherence (MORINSKY-8): Low, Medium, High			0.8962
Perceived Stress (COHEN-9)	0.8387 (4.8311)	-0.2667 (4.6077)	0.0068
Maternal Attachment (PRE/POSTNATAL BONDING-5)	0.6333 (2.7099)	1.3704 (5.3720)	0.5786
Depression (EPDS): Score >=10			0.0622
Maternal Self-efficacy (TETI-10)	37.1935 (3.6462)	36.4074 (4.7657)	0.5725
HIV viral load <20 at delivery	23/26	22/25	0.2745
Attended at least one HIV primary care visit in 12 months postpartum	20/29	17/26	1.0000
Attended at least two HIV primary care visit in 12 months postpartum	8/29	12/26	0.3036

*Note: n for each scale may differ based on intermittent item missingness.

#037 Reactogenicity, SARS-CoV-2 Infection, and Pregnancy Outcomes following COVID-19 Vaccination During Pregnancy in Canada

Mcclymont, E[1]; Atkinson, A[1]; Albert, A[2]; Andrade, J[2]; Barrett, J[3]; Bogler, T[4]; Boucoiran, I[5]; Castillo, E[6]; D'souza, R[3]; El-Chaâr, D[7]; Fadel, S[4]; Fell, D[7]; Kuret, V[6]; Ogilvie, G[1]; Poliquin, V[8]; Sadarangani, M[1]; Scott, H[9]; Snelgrove, J[4]; Tunde-Byass, M[10]; Money, D[1]

1 - University of British Columbia

2 - Women's Health Research Institute

3 - McMaster University

4 - University of Toronto

5 - Université de Montréal

6 - University of Calgary

7 - University of Ottawa

8 - University of Manitoba

9 - Dalhousie University

10 - North York General Hospital

Abstract Body:

Objectives: To describe reactogenicity, SARS-CoV-2 infection, and pregnancy outcomes following COVID-19 vaccination administered during all stages of pregnancy. Study Design: We conducted a national, prospective, survey-based, cohort study beginning in July 2021—individuals experiencing pregnancy or lactation during the COVID-19 pandemic, regardless of vaccine status, were recruited. Surveys were administered at baseline, following each vaccine dose, following pregnancy conclusion, and every two months to capture changes in pregnancy or vaccination status, SARS-CoV-2 infections, or significant health events. Main outcome measures included reactogenicity (local and systemic reactions as well as serious adverse events) within 1 week post-vaccination, incidence of SARS-CoV-2 infection, and pregnancy and infant outcomes.Results: Among 3050 participants who received ≥1 dose of a COVID-19 vaccine during pregnancy, reactogenicity rates were low overall: headache (19.4-32.9% depending on dose), nausea (4.9-11.6%), fever (2.1-17.4%), myalgia (33.1-49.4%). Reactogenicity was highest after the third dose. No hospitalizations for COVID-19 occurred among those vaccinated during pregnancy. Compared to 1810 participants not vaccinated during pregnancy, there were no statistically significant differences in adverse pregnancy or infant outcomes such as preterm birth (5.6% vs. 5.2% among vaccinated vs. unvaccinated, respectively), IUGR (3.6% vs. 3.9%), and NICU admission (10.5% vs. 9.9%). Conclusions: National Canadian survey data on COVID-19 vaccination during pregnancy do not indicate any concern regarding reactogenicity or adverse pregnancy and birth outcomes. Lack of COVID-19 hospitalizations among vaccinated participants suggests protection garnered from vaccination as the COVID-19 hospitalization rate is 7% among unvaccinated pregnant individuals in Canada's national surveillance.

Disclosure: No

#038 Patterns of Nucleic Acid Amplification Testing Among Women with Incident versus Prevalent Diagnoses of Vaginitis

Dabrowski, EC[1]; Yoon, LS[1]; Albright, DG[1]; Madsen, AM[1]; Troeger, KA[1]

1 - Aetion, Inc.

Abstract Body:

OBJECTIVE: To assess Nucleic Acid Amplification Test (NAAT) patterns among women with a diagnosis of vaginitis and compare the utilization of NAAT between incident and prevalent infections. STUDY DESIGN: A cohort of women ages 18-64 with a diagnosis of vaginitis between July 2018 and February 2020 was identified from the Optum® de-identified Clinformatics® Data Mart (V8.1 202203). All analyses were performed using the Aetion Evidence Platform®. Incident infections were defined as those with no evidence of a vaginitis diagnosis or NAAT 12-months prior to index; prevalent infections required evidence of a vaginitis diagnosis 12-months prior to index. Evidence of a NAAT order was defined by the presence of corresponding CPT® code(s) on the day of diagnosis. Frequency of NAAT combinations were compared between incident and prevalent infections. RESULTS: Of 171,858 women with a vaginitis diagnosis, 98,379 incident infections (II) and 73,479 prevalent infections (PI) were identified. CT-NG tests were ordered for 45.03% of II; 41.94% of PI. TV,CT-NG tests were ordered in 11.31% of II; 10.58% of PI. Orders for BV,CV,TV were observed in 9.26% of II; 9.31% of PI while BV,CV,TV,CT-NG orders occurred among 21.12% of II; 22.25% of PI. CONCLUSION: Over 40% of cases had a prior diagnosis of vaginitis within the previous 12 months suggesting the need for improved evaluation and treatment. Testing patterns between incident and prevalent infections appear similar. Comprehensive laboratory evaluation at initial presentation may improve accuracy of the incident diagnosis, impacting both clinical decision-making and delivery of care.

Disclosure:

Yes, this is sponsored by industry/sponsor: Aetion, Inc.
Clarification: Industry initiated, executed and funded study
Any of the authors act as a consultant, employee or shareholder of an industry for: Aetion, Inc.

Images:

	Women with NAAT on Day of Diagnosis: Incident Vaginitis Infection (II)	Women with NAAT on Day of Diagnosis: Prevalent Vaginitis Infection (PI)
Number of Patients	**98,379**	**73,479**
CT-NG only	44,299 (45.03%)	30,819 (41.94%)
TV only	599 (0.61%)	527 (0.72%)
TV, CT-NG	11,128 (11.31%)	7,771 (10.58%)
BV only	909 (0.92%)	764 (1.04%)
BV, CT-NG	200 (0.20%)	142 (0.19%)
BV, TV	416 (0.42%)	414 (0.56%)
BV, TV, CT-NG	494 (0.50%)	375 (0.51%)
CV only	1,367 (1.39%)	1,448 (1.97%)
CV, CT-NG	821 (0.83%)	654 (0.89%)
CV, TV	609 (0.62%)	500 (0.68%)
CV, TV, CT-NG	1,467 (1.49%)	1,236 (1.68%)
CV, BV	5,076 (5.16%)	4,478 (6.09%)
CV, BV, CT-NG	1,108 (1.13%)	922 (1.25%)
CV, BV, TV	9,109 (9.26%)	6,840 (9.31%)
CV, BV, TV, and CT-NG	20,777 (21.12%)	16,589 (22.58%)

Abbreviations: Bacterial vaginosis (BV) Candida Varieties (CV) Trichomonas vaginalis (TV) Chlamydia trachomatis (CT) Neisseria gonorrhoeae (NG)
CPT® (Current Procedural Terminology) Codes: 87511, 87801, 81513, 81514, 87799, 87512, 87481, 87798, 87661, 87491, 87591

#039 Delivery and Neonatal Outcomes of Women Critically Ill with COVID-19

Rizzuto, J[1]; Amarin, J[1]; Polic, A[1]; Howe, H[1]; Rahman, H[1]; Spieker, A[1]; Rice, T[1]; Halasa, N[1]; Patel, S[1]; Thompson, J[1]

1 - Vanderbilt University Medical Center

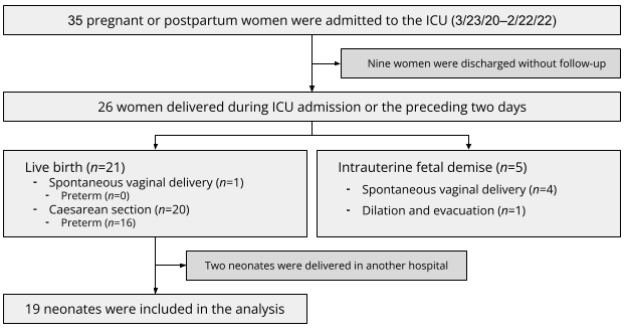
Abstract Body:

Objective: COVID-19 during pregnancy is associated with poor pregnancy outcomes, including preterm delivery and intrauterine fetal demise (IUFD); however, there is a paucity of data on the pregnancy and neonatal outcomes of critically ill pregnant women admitted to the intensive care unit (ICU). Study Design: We performed a retrospective cohort study of pregnant and postpartum women (within six weeks of delivery) admitted to the ICU for COVID-19 related-illness from 3/23/20 to 2/22/22 within an university hospital system. We described the delivery and neonatal outcomes of this cohort. Results: Thirty-five pregnant or postpartum women were admitted to the ICU during the study period. Two were diagnosed with COVID-19 in the first trimester, 15 in the second, and 18 in the third. Delivery outcomes are shown in Figure 1. The mean gestational age at delivery of 19 neonates born to women who delivered at our hospital

(Figure 1) was 32.9 weeks, their mean birth weight was 2.3 kg, and their mean Apgar scores at 1 and 5 minutes were 5.6 and 6.6, respectively. Overall, 15 (78.9%) were admitted to the neonatal ICU for a mean of 30.7 days. All 15 required nasal cannulation and bubble continuous positive airway pressure, and seven (46.7%) required mechanical ventilation. One neonate died on day nine of life. Conclusions: Pregnant women critically ill with COVID-19 are at high risk of preterm delivery, IUFD, and cesarean delivery. Additional research is needed to compare their outcomes to those of pregnant women with milder illness.

Disclosure:
Any of the authors act as a consultant, employee or shareholder of an industry for: Natasha Halasa, MD, MPH receives grant support from Sanofi and Quidel. Jennifer Thompson contributes to UptoDate

Images:



#040 COVID-19 and Indications for Delivery: A Prospective Cohort Study

Fang, M[1]; Ciuffetelli, I[2]; Mirtsching, A[3]; Cardenas, J[3]; Russell, B[3]; Wilson, D[4]; Chen, H[4]; Stafford, I[4]; Wiley, R[4]

1 - Baylor College of Medicine

2 - Emory School of Medicine

3 - McGovern Medical School at the University of Texas Health Science Center at Houston

4 - Department of Obstetrics, Gynecology, and Reproductive Sciences McGovern Medical School at the University of Texas Health Science Center at Houston

Abstract Body:

Objective: Studies have shown that COVID-19 affects intrapartum management, resulting in higher rates of cesarean delivery. However, it is unknown if COVID-19 infection increases rates of medically indicated deliveries. The primary objective was to determine if there are differences in medical indications for delivery in COVID-19 positive patients. Study design: This is a prospective cohort study of patients admitted for delivery at an urban obstetrical unit from April-November 2020 where patients were tested for COVID-19 following admission. Baseline demographics, labor and delivery information, and outcomes were recorded, and composite maternal and neonatal outcomes were compared between COVID-19 positive and negative patients using Fisher's exact tests and a Poisson regression analysis to adjust for confounders. Results: 545 deliveries were included, with 56 (10.33%) COVID-19 positive and 486 (89.67%) negative patients. There were no differences in rate of medical indications for delivery. There was a higher rate of cesarean delivery in the COVID-19 positive group (46.43% versus 31.28%, p=.034), although there was no difference in indications for cesarean delivery. Additionally, for COVID-19 positive patients, there were higher rates of preterm births (p=.014) but no increase in preterm labor. There was an increase in composite adverse neonatal outcomes (p= <0.05), but not composite adverse maternal outcomes. Conclusion: Despite an increase in cesarean delivery, there was no difference in medical indications for delivery in COVID-19 patients. Although there was an increase in composite adverse neonatal outcomes, this may be attributed to an increase in admission of exposed newborns to the neonatal intensive care unit.

Disclosure: No

Images:

Table 1: Labor and delivery characteristics in COVID+ and COVID- women

Characteristic	COVID-	COVID+	Total	p-value
Mode of delivery				**0.034**
Vaginal delivery	316 (65.02%)	28 (50.00%)	344 (63.47%)	
Operative vaginal delivery	17 (3.50%)	1 (1.79%)	18 (3.32%)	
Cesarean section	152 (31.28%)	26 (46.43%)	178 (32.84%)	
Unknown	1 (0.21%)	1 (1.79%)	2 (0.37%)	
Gestational age at delivery				**0.014**
Preterm (<37w)	71 (14.61%)	16 (28.57%)	87 (16.05%)	
Term (37-40w6d)	399 (82.10%)	37 (66.07%)	436 (80.44%)	
Postdates (≥41w)	16 (3.29%)	3 (5.36%)	19 (3.51%)	
Type of labor				
No labor	50 (10.29%)	9 (16.07%)	59 (10.89%)	
Spontaneous	98 (20.16%)	13 (23.21%)	111 (20.48%)	
Spontaneous (augmented)	147 (30.25%)	16 (28.57%)	163 (30.07%)	
Induced	187 (38.48%)	18 (32.14%)	205 (37.82%)	
D&E/D&C	4 (0.82%)	0 (0.00%)	4 (0.74%)	
Indication for cesarean				
Malpresentation	14 (10.53%)	2 (11.76%)	16 (10.67%)	
Elective/repeat	46 (34.59%)	7 (41.18%)	53 (35.33%)	
Failed labor (dystocia, arrest)	24 (18.05%)	2 (11.76%)	26 (17.33%)	
Fetal compromise (NRFHT, FGR)	34 (25.56%)	4 (23.53%)	38 (25.33%)	
Maternal complications	8 (6.02%)	1 (5.88%)	9 (6.00%)	
Abnormal placentation	1 (0.75%)	0 (0.00%)	1 (0.18%)	
Macrosomia (suspected)	4 (3.01%)	0 (0.00%)	4 (2.67%)	
Cord abnormalities (cord prolapse, vasa previa)	2 (1.50%)	1 (5.88%)	3 (2.00%)	
Medical indication for delivery (composite)				
No	236 (48.56%)	27 (48.21%)	263 (48.52%)	
Yes	247 (50.82%)	29 (51.79%)	276 (50.92%)	
Unknown	3 (0.62%)	0 (0.00%)	3 (0.55%)	
Medical indication for delivery				
Non-reassuring fetal status	25 (9.80%)	6 (18.75%)	31 (10.80%)	
Hypertension/Preeclampsia	42 (16.47%)	5 (15.63%)	47 (16.38%)	
Diabetes	35 (13.73%)	3 (9.38%)	38 (13.24%)	
Prolonged rupture of membranes	9 (3.53%)	0 (0.00%)	9 (3.14%)	
Intrauterine fetal demise	4 (1.57%)	1 (3.13%)	5 (1.74%)	
Fetal growth restriction	5 (1.96%)	0 (0.00%)	5 (1.74%)	
Oligohydramnios	5 (1.96%)	1 (3.13%)	6 (2.09%)	
Macrosomia	2 (0.78%)	0 (0%)	2 (0.70%)	
Post-dates (≥41 weeks)	5 (1.96%)	2 (6.25%)	7 (2.44%)	
Elective	66 (25.88%)	7 (21.88%)	73 (25.44%)	
Maternal complications of coronavirus-like illness	3 (1.18%)	1 (3.13%)	4 (1.39%)	
Other	54 (21.18%)	6 (18.75%)	60 (20.91%)	
Admitted for preterm labor				
No	453 (93.21%)	52 (92.86%)	505 (93.17%)	
Yes	32 (6.58%)	3 (5.36%)	35 (6.46%)	
Unknown	1 (0.21%)	1 (1.79%)	2 (0.37%)	

Bolded indicates statistical significance (p<0.05) using Fisher's exact test

#041 Understanding Factors Shaping Vaccination Decisions Among Pregnant or Lactating individuals, or Those Planning a Pregnancy in a Canadian Province

Castillo, E[1]; Santana, M[1]; Bruce, M[1]

1 - University of Calgary

Abstract Body:

Provider recommendation and safety concerns (vaccine confidence) predict influenza- vaccination in pregnancy (VIP) decisions in western, educated, industrialized, rich, and democratic societies. In addition to confidence (e.g. trust in vaccine safety and effectiveness), other factors can shape vaccination decisions (psychological antecedents of vaccination) including constraints (structural barriers to access vaccinations), complacency, calculation (e.g. engaging in extensive information searching about vaccinations), and aspects pertaining to collective responsibility (e.g., willingness to protect others -like the unborn baby- through vaccinations). Objectives: To understand the psychological antecedents driving COVID-19 vaccination decisions when planning, during and after pregnancy and/or while breastfeeding in a Canadian Province. Study Design: We conducted a provincial, prospective, survey-based, cohort study beginning in November 2021. Pregnant or lactating individuals, or those planning a pregnancy regardless of vaccine status were recruited. We used the 5C scale and the Vaccine Confidence Index, both validated vaccine confidence measurement tools. Results: Among 299 participants 58% reported receiving 2 doses of covid-19 vaccines. The majority of participants were between ages 25-34, 25% reported university level education, high income and urban residence. Sixty-percent of participants reported receiving another either Tdap or influenza vaccines while pregnant. Eighty-one percent of individuals reported having children, and of those 92% reported their children had received routine vaccinations. Confidence, calculation and collective responsibility predicted vaccination status. Conclusions: In addition to confidence, calculation and collective responsibility predicted COVID-19 vaccination status in a Canadian province.

Disclosure: No

#042 A Pilot Study of Uterine Fibroids and Longitudinal Profiles of the Vaginal Microbiota Among a Cohort Presenting for Transvaginal Ultrasound

Robbins, SJ, Brown, SE, Stennett, CA, Johnston, ED, Wnorowski, AM, He, X, Ravel, J, Tuddenham, SA, Mark, KS, Brotman, RM

Abstract Body:

Objective: A pro-inflammatory state due to reproductive tract infections has been associated with fibroids and may fuel fibroid development. Vaginal microbiota also modulate immune responses. We compared longitudinal profiles of the vaginal microbiota in individuals with and without fibroids.

Study Design: 83 reproductive-age participants presenting for transvaginal ultrasound (TVUS), including 21 with fibroids, were recruited to a study and self-collected daily mid-vaginal swabs approximately 1-2 weeks before TVUS (Range: 5-16 days, N=702 samples). Vaginal microbiota were assessed by 16S rRNA gene amplicon sequencing. Hierarchical clustering was used to

categorize longitudinal microbiota profiles. Sonography reports detailed fibroid characteristics. Analyses were conducted with exact or multinomial logistic regression. Results: Common TVUS indications included pelvic mass (34%) and pelvic pain (39%). Fibroid cases tended to be older and self-reported Black race (p<0.02). 29% of cases reported hormonal contraceptives versus 57% of controls (p=0.06). Cases had low-Lactobacillus (48%), L. iners-dominated (29%) and other Lactobacillus spp. (24%) longitudinal profiles. There were no significant associations between vaginal microbiota and fibroid presence, number, or type in models adjusted for race, contraception, and menstruation. While there was not strong evidence for associations between L. iners-dominated (OR=1.71; 95% CI: 0.11-25.90) and low-Lactobacillus (OR=3.03; 95% CI: 0.44-34.90) profiles with presence of more than 2 fibroids versus controls, point estimates suggest a trend may be present.
Conclusion: Prior work suggests associations between less optimal vaginal microbiota and fibroids. Our results indicated a trend but were not significant. Larger studies are needed to assess if the vaginal microenvironment contributes to fibroid development.

Disclosure: No

#043 Genotypic and Phenotypic Differences Supporting the Recently Described Species Split between Lactobacillus Jensenii and Lactobacillus Mulieris

Hayward, MR[1]; Pishchany, IH[2]; Hussain, FA[1]; Yuan, E[1]; Bergerat, A[3]; Young, K[2]; Marrazzo, J[4]; Rakoff-nahoum, S[2]; Kwon, D[1]; Mitchell, CM[3]

1 - Ragon Institute of MGH, MIT, and Harvard

2 - Boston Children's Hospital

3 - Massachusetts General Hospital

4 - University of Alabama at Birmingham

Abstract Body:
Objective: The newly-described bacterial species, Lactobacillus mulieris, is most closely related to Lactobacillus jensenii, and was thought to be the same species as recently as 2020. Here we aim to determine ecological and clinically-relevant phenotypes distinguishing the two species to highlight the importance of fine-scale bacterial diversity studies of the vaginal microbiome.
Study Design: Using comparative genomics, we determine the genotypic features distinguishing the two species. Next, we mine metagenomic datasets to determine the ecological dynamics of each species in cohorts of women across age, ethnicity, and pregnancy-status. Finally, we discover differential phenotypes exemplifying the species split using growth assays for nutrient utilization, and cell-culture-based assays to measure the immune response induced by each species. Results: The pair-wise average nucleotide identity (ANI) of geomes between the two species is 88.8%, while genomes within L. jensenii and L. mulieris species bounds share an ANI of 99.8% and 98.4% respectively. Significant gene clusters unique to each species include those associated with carbohydrate metabolism and putative prophages. Across three cohorts the species are nearly mutually exclusive in their presence in vaginal microbial communities. There are no significant associations between either species and other taxa. Only L. jensenii strains grow in trehalose, and L. jensenii exhibit greater stress-tolerance. L. mulieris strains induce greater IL-8 production by human endocervical epithelial cells than L. jensenii strains, suggesting L. mulieris may be less beneficial. Conclusion: Here we determine drivers of the species-defining diversity between L. jensenii and L. mulieris uncovering meaningful differences between the two species.

Disclosure:
Any of the authors act as a consultant, employee or shareholder of an industry for: Day Zero Diagnostics

#044 Glycogen-degrading Pullulanase A is Variably Present and Correlated with Lactic Acid in Vaginal Samples from Young African Women

Sycuro, L[1]; Lithgow, K[1]; Cochinamogulos, A[1]; Muirhead, K[1]; Konschuh, S[1]; Oluoch, L[2]; Mugo, N[2]; Roxby, A[3]

1 - University of Calgary

2 - Kenya Medical Research Institute

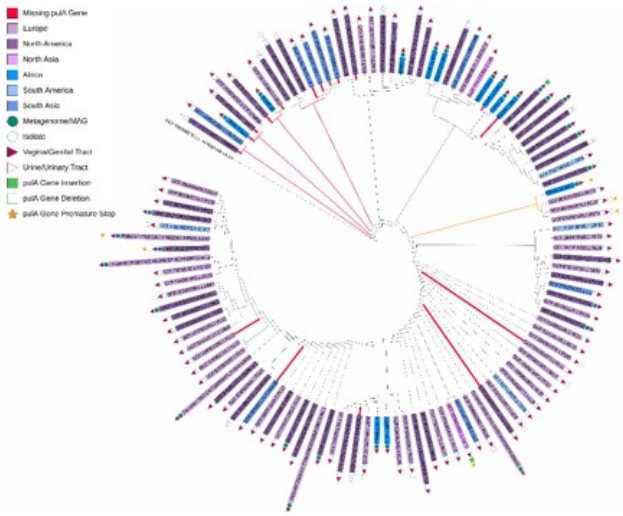
3 - University of Washington

Abstract Body:
Objective: A healthy vaginal microbiome is dominated by Lactobacillus species that produce lactic acid, lowering vaginal pH and limiting pathogen colonization. Lactobacillus dominance is established during puberty, but is lost by many women, especially those of Black race, during later reproductive years. Glycogen is a key host nutrient that supports vaginal lactobacilli and we asked whether L. crispatus strains dominating young African women are directly accessing glycogen via secreted

pullulanase. Study Design: We biochemically segregated glycogen and glycogen-derived maltodextrin, as well as glycogen-degrading enzyme activities in vaginal samples from African women with limited sexual experience (N=17). We coupled biochemical measurements with metagenomic profiling to determine how glycogen catabolism relates to L. crispatus dominance. We further profiled allelic variation in pullulanase A (pulA) genes in L. crispatus genomes from this cohort and others around the world. Results: The vaginal microbiota in most young African women (65%) was dominated by L. crispatus. Glycogen and pullulanase activity, but not maltodextrin and amylase activity were positively correlated with lactic acid. Pullulanase activity was 4-fold higher in L. crispatus-dominated samples, but 33% of dominant L. crispatus strains in our cohort lacked the pulA gene. pulA gene loss or inactivation was 3-fold more frequent in this cohort compared to other published cohorts. Conclusion: Our results indicate pullulanase activity may contribute to maximal lactic acid production by L. crispatus. However, a substantial proportion of young African women with dominant L. crispatus lacked a functional pulA gene, which could contribute to instability of this taxon after sexual debut.

Disclosure: No

Images:



Diverse *Lactobacillus crispatus pulA* mutations show wide geographic distribution, while gene loss is enriched in select clades. Phylogenetic tree of *cpn60* gene sequences obtained from 115 *L. crispatus* isolates and vaginal metagenomes that produced *L. crispatus* metagenome assembled genomes (MAGs). Strains/metagenomes lacking a *pulA* gene sequence are highlighted as thick red leaves. Clades with ≥50% of strains/metagenomes lacking a *pulA* gene sequence are indicated by thin red branches. Clades with ≥50% of strains/metagenomes containing a premature stop codon are indicated by thin yellow branches. Clades containing at least 5 sequences showing no mutations are indicated by thin purple branches. All other leaves (dotted lines) and branches (solid lines) are coloured grey.

#045 Long-term Observations of Oteseconazole Efficacy Against Recurrent Vulvovaginal Candidiasis

Sobel, JD[1]; Degenhardt, T[2]; Person, K[2]; Curelop, S[2]; Weclaw, C[2]; McGaurn, S[2]; Brand, S[2]

1 - Wayne State University School of Medicine

2 - Mycovia Pharmaceuticals, Inc.

Abstract Body:

Objective: Vulvovaginal candidiasis (VVC) occurs frequently worldwide and usually responds to topical and/or oral antifungals; however, some women develop debilitating recurrent vulvovaginal candidiasis (RVVC), defined as ≥3 episodes every year. RVVC can severely affect quality of life. Oteseconazole is a novel, oral, highly selective inhibitor of fungal CYP51, with potent activity against Candida albicans, including fluconazole-resistant C. albicans, and non-albicans Candida species. Oteseconazole was investigated in 2 identical, double-blind, randomized, pivotal phase 3 studies (VIOLET: NCT03562156, NCT03561701). Because of its pharmacokinetic profile and extended half-life, this long-term observational study was conducted to assess the extent of protection oteseconazole may provide beyond the original 48-week study duration. Study Design: Participants previously enrolled in the VIOLET studies and had not experienced an acute VVC episode during the 48 weeks qualified for enrollment into this extension study and were followed an additional 48 weeks (total of 96 weeks). Participants who received oteseconazole were contacted approximately every 6 weeks to monitor for VVC recurrence. Participants experiencing a suspected RVVC episode were advised to return to the investigational site for evaluation. Results: In the VIOLET studies, oteseconazole was shown to be highly efficacious in the treatment of vulvovaginal infections caused by Candida species. Of the 435 oteseconazole-treated participants in the VIOLET studies, 71 enrolled into this observational extension study. 85% (60/71) completed 96 weeks without a recurrent VVC episode. The average time without recurrence was 92 weeks. Conclusion: Oteseconazole may play an important role in providing long-term prevention of disease recurrence for women with RVVC.

Disclosure:

Yes, this is sponsored by industry/sponsor: Mycovia Pharmaceuticals, Inc.

Clarification: Industry initiated, executed and funded study

Any of the authors act as a consultant, employee or shareholder of an industry for: Mycovia Pharmaceuticals, Inc.

#046 Neonatal Outcomes by Pandemic Wave among Pregnant Individuals with COVID19 Infection

Moyett, J[1]; Craig, A[2]; Judge-Golden, C[2]; Ramey-Collier, K[1]; Hughes, B[2]; Dotters-Katz, S[2]

1 - Duke University School of Medicine

2 - Duke University Health System, Department of Obstetrics and Gynecology

Abstract Body:

Objective: The impact of COVID variants on neonatal outcomes is not well understood. The objective of this study is to compare neonatal outcomes by wave of the pandemic. Methods: Single center retrospective cohort of neonates born to individuals infected with COVID in pregnancy from 3/2020-2/2022. Primary outcome was a neonatal composite of NICU admission, intubation/ CPAP, NEC, IVH, sepsis, and death. Secondary outcomes included components of composite. Outcomes were compared between pandemic "waves," including wildtype (WT) (5/2020-9/2020), alpha (11/2020-3/2021), delta (8/2021-10/2021), and omicron (12/2021-2/2022). Results: Of 527 pregnant individuals, 133 (25.3%) were infected with WT, 99 (18.8%) with alpha, 62 (11.8%) with delta, and 157 (29.8%) with omicron. Maternal race and ethnicity, insurance status, and symptomatic COVID differed by wave. Gestational age at delivery, mode of delivery, and IAI did not differ. Neonatal composite was similar across waves (Table), as were secondary neonatal outcomes. No neonates were infected with COVID. When controlling for race and ethnicity, insurance status, symptomatic COVID, cesarean delivery, vaccination, and gestational age at delivery, neonates in alpha, delta, and omicron waves had lower odds of adverse outcomes and NICU admission compared to those born to individuals infected with COVID during WT wave. Conclusion: Odds of adverse neonatal outcome and NICU admission were lower among those born in the alpha, delta, and omicron waves compared to those born in WT wave.

Disclosure: No

Images:

Table: Neonatal outcomes by COVID19 infection wave

	WT N=133(%)	Alpha N=99(%)	Delta N=62(%)	Omicron N=157(%)	p
Neonatal composite	20 (15.0)	13 (13.1)	7 (11.3)	17 (10.8)	0.73
Admitted to NICU	17 (12.8)	9 (9.1)	7 (11.3)	15 (9.6)	0.77
Median NICU LOS, days, (IQR)	12.0 [3.0, 23.0]	12.0 [5.0, 61.0]	9.0 [4.5, 17.5]	9.0 [5.0, 24.0]	0.74
IVH grade 3 or 4	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	>0.99
Neonatal death	3 (2.3)	5 (5.1)	1 (1.6)	2 (1.3)	0.27
Neonatal NEC grade 2/3	0 (0.0)	1 (1.0)	0 (0.0)	0 (0.0)	0.31
Need for neonatal intubation / mechanical ventilation	1 (0.8)	1 (1.0)	2 (3.2)	0 (0.0)	0.15
Neonatal sepsis (confirmed)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0.49

Adjusted odds of neonatal composites with WT as comparison group

	Alpha* aOR (95%CI)	Delta* aOR (95%CI)	Omicron* aOR (95%CI)
Neonatal composite	0.28 (0.09, 0.90)	0.24 (0.07, 0.88)	0.24 (0.07, 0.79)
Admitted to NICU	0.17 (0.05, 0.54)	0.28 (0.09, 0.95)	0.25 (0.08. 0.83)

*controls for race, ethnicity, insurance status, intraamniotic infection, cesarean delivery, vaccination status, and gestational age at delivery.

#047 Using Hierarchical Cluster Analysis to evaluate attitudes toward Menstrual Suppression among Kenyan Women using a Contraceptive Vaginal Ring (CVR)

Wilbekin Walker , K[1]; Mugo, N[2]; Ngure, K[3]; Shrestha, S[1]; Marrazzo, J[1]

1 - University of Alabama at Birmingham

2 - University of Washington

3 - Jomo Kenyatta University of Agriculture and Technology

Abstract Body:

Objective: We aimed to understand women's attitudes towards menstrual suppression after using contraceptive vaginal rings (CVR) and define areas of education that could improve use of CVR and other vaginal rings in development. Menstrual suppression, defined as reduction or absence of menses, is a typical outcome of continuous CVR use. Study Design: We analyzed data derived from a subset of cohort study participants (N=45) in Thika, Kenya between 2016-2018. The primary study enrolled 121 women 18-40 years with bacterial vaginosis and randomized them to cyclic or continuous CVR use. A questionnaire eliciting attitudes towards menstrual suppression was administered at 6-month follow-up. Likert-scale responses were summed to create a menstrual suppression attitude summary score, hierarchical cluster analysis was conducted to identify similarities in response patterns among participants. Results: The menstrual suppression attitude summary score ranged from 8 to 42, with lower scores indicating negative attitudes. The summary score identified three

distinct clusters. When asked if menstrual suppression effects long-term health; 100% of Cluster 3 was worried compared to 80.8% of Cluster 2 and 46.2% of Cluster 1 (p = 0.03). The average summary score among Cluster 3 (Mean = 14.8, SD = 4.6) was lower (p < 0.001). and women were more worried about discomfort during sex (p=0.05) as well as their sexual partners feeling the ring (p=0.02). Conclusion: Women are more likely to have negative attitudes if they believe menstrual suppression hinders future reproductive health. Education on cycle control and fertility could mitigate negative attitudes and improve uptake of CVRs.

Disclosure: No

#048 Secreted Proteolytic Activity of Vaginal Prevotella Species Remodels Structural Components of Cervical and Uterine Tissues

Lithgow, K[1]; Bagheri, S[1]; Sycuro, L[1]

1 - University of Calgary

Abstract Body:

Objective: Elevated proteolysis is observed during bacterial vaginosis and has been linked to HIV acquisition and preterm labour. Proteolytic remodelling of structural components (collagens/elastin) within cervical/uterine tissues can impair cervical barrier function and promote pathogen invasion. During pregnancy, aberrant proteolysis can trigger premature cervical dilation and chorioamniotic membrane rupture. We sought to define the enzyme classes contributing to Prevotella species' secreted proteolytic activities targeting structural components of cervical/uterine tissues. Methods: Growth curves in protein-based minimal media assessed Prevotella protein utilization. Cell-free supernatants from Prevotella amnii, bivia, corporis and disiens were evaluated for proteolytic activity using fluorometric assays with fluorophore-conjugated collagens/elastin, modelling activities at the cervix and chorioamnion. Inhibitors confirmed protease types. Results: Vaginal Prevotella species utilized protein for growth in nutrient-poor conditions. Protease production was significantly elevated under these conditions, but was inhibited by carbohydrates. Secreted proteolytic activity targeting collagens (type I/IV) was observed in P. bivia, P. disiens and P. corporis, but not P. amnii. Previous studies have reported significant virulence activities in P. bivia and P. disiens. In the present study, these species exhibited proteolytic activity that was at least 9-fold higher than any other vaginal bacteria assayed and were the only species that degraded elastin. We identified host-targeting cysteine and metallo-proteases in all proteolytic Prevotella species, but P. bivia also produced elastin-degrading serine proteases. Conclusions: Proteolytic activity may confer a competitive growth advantage for Prevotella species in nutrient-poor conditions. Prevotella secreted proteases degrade structural components of cervical/uterine tissues, which may contribute to pathogen colonization and pregnancy complications.

Disclosure: No

#049 An Analysis of Changing Practice Advisory Guidelines on COVID-19 Vaccine Uptake in Pregnancy

Rodriguez, G[1]; Vilarino, V[1]; Agasse, E[1]; Galli, J[1]; Shafazand, S[1]; Potter, J[1]

1 - University of Miami

Abstract Body:

Pregnant individuals face increased risk of severe illness with SARS-CoV-2 compared to non-pregnant individuals. On July 30, 2021, the American College of Obstetricians and Gynecologists (ACOG) updated the COVID-19 Vaccination Considerations for Obstetric-Gynecologic Care Practice Advisory to recommend COVID-19 immunization for all pregnant persons. Prior to this date, there was no clear guidance regarding COVID-19 vaccination in pregnancy. This study aims to explore the potential impact of this Advisory on vaccine uptake and knowledge of current recommendations among pregnant individuals. An IRB-approved survey was conducted on the postpartum floor of an urban, public hospital in Miami, FL from July 2 through September 21, 2021. 359 participants were enrolled and divided into two [pre-(179) and post-Advisory (180)] cohorts. Participants' knowledge of current recommendations was evaluated and correlated with COVID-19 vaccination status. The rate of COVID-19 vaccine uptake increased from 33.85% to 66.15% following the Advisory change (p < 0.007). The proportion of individuals uncertain about current recommendations remained the same across both groups, at approximately 50% (p = 0.712). However, following the

updated Advisory, significantly more women responded correctly to a question assessing knowledge of vaccine recommendations (OR = 4.56, p < 0.001). Approximately half of participants remained unaware of updated COVID-19 vaccination recommendations, underscoring the need for innovative strategies to increase patient knowledge. A significant increase in both vaccination rates and knowledge of recommendations was observed following the guideline change, suggesting that this Advisory may be reaching patients, whether directly or indirectly, and influencing their decision to vaccinate.

Disclosure: No

#050 Provider Attitudes and Practices on Counseling, Documentation, and Administration of Vaccines in Pregnancy

Rodriguez, G[1]; Vilarino, V[1]; Agasse, E[1]; Shafazand, S[1]; Potter, J[1]

1 - University of Miami

Abstract Body:

Vaccination is an essential component of prenatal care and OB/GYN providers play a fundamental role in vaccine uptake. The purpose of this study is to understand providers' practices and perceived barriers regarding vaccination in pregnancy. An IRB-approved, anonymous survey was disseminated via email from July through October 2021 via local (Miami, FL) and national provider list-servs. Survey questions assessed provider demographics and vaccination in pregnancy attitudes and practices. 192 participants consented and 178 responded. The majority self-identified as female (82.0%), White (77.0%), and non-Hispanic (79.2%). Most respondents were Resident (47.8%) or Attending physicians (39.9%). Most practice within an urban area (79.9%). One third (34.1%) practice in the state of Florida. 100% agreed/strongly agreed that all pregnant individuals should receive vaccines. 78.3% always and 19.1% sometimes counsel pregnant patients on the benefit of vaccination. 58.6% always document counseling. Upon patient vaccination consent, 80.9% administer the vaccine immediately, 12.7% refer the patient to a different site, and 6.4% administer later. Insurance-related barriers to immunization are rarely (42.7%), never (33.8%), and sometimes (21.0%) experienced. Following patient vaccination decline, 86.6% determine reasons for refusal and 70.1% re-counsel at another visit. Patient rationale for vaccine decline is sometimes (51.6%) and always (32.5%) documented. All providers agree that pregnant individuals should be vaccinated and most feel that insurance is not a major barrier to vaccination. Availability and access to onsite vaccination during prenatal care, efforts to re-counsel, and determination of reasons for refusal may offer providers an opportunity to improve patient uptake for important, lifesaving vaccines.

Disclosure: No

#051 COVID-19 Vaccine Response Among Pregnant and Not Pregnant People with Inflammatory Bowel Disease

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Abstract Body:

Objective: There is little data on the impact of COVID-19 vaccines in pregnant individuals with pre-existing medical conditions. We investigated local and systemic adverse reactions in pregnant and non-pregnant persons with inflammatory bowel disease (IBD) and evaluated vaccine responses based on IBD subtype and/or vaccine dose. Study Design: Participants in our online prospective cohort study of adults who received a COVID-19 vaccine in pregnancy or lactation, and who self-reported an IBD diagnosis including ulcerative colitis (UC) or Crohn's Disease (CD), were invited to participate in a supplemental IRB-exempt survey via REDcap. Participants filled out validated SCCAI‡ and HBI‡ questionnaires to assess disease status for UC and CD, respectively. We performed statistical analyses using STATA. Results: Among the 319 participants with an IBD diagnosis, 33% (n=107) had UC, 30% (n=96) had CD, and 37% (n=117) had unspecified IBD. Of these, 46% (n=146), 43% (n=139), and 9% (n=28) were pregnant at doses 1-3, respectively. Most respondents reported ≥ 1 systemic reaction for dose 1-3 (50%, 81%, and 66%,

respectively), with dose 2 having the highest number of reported systemic reactions in each IBD subcategory. Only 4% (n=12) of participants reported a change in perceived disease status after receiving the COVID-19 vaccine. The mean SCCAI§ for UC participants was 1.4 (SD±1.8) and the mean HBI§ for CD participants was 2.1 (SD±2.4). Conclusion: COVID-19 vaccines in pregnant or non-pregnant persons with IBD are well-tolerated. Evaluation of COVID-19 vaccine responses in pregnancies with IBD is important for understanding vaccination impact on individuals with autoimmune conditions.

Disclosure:
Any of the authors act as a consultant, employee or shareholder of an industry for: AstraZeneca, Sanofi Pasteur, Meissa Vaccines, UCB Pharma, Cornerstones Health, Eli Lily and Company, Boehringer Ingelheim, Bristol Myers Squibb, Applied Molecular Transport Inc., Protagonist

Images:

Table: Disease Status & Vaccine Outcomes Among Pregnant and Not Pregnant Individuals with IBD (N=319*)

	N	Ulcerative Colitis	N	Crohn's Disease	N	IBD Unspecified	p value†
	107*	n (%) or mean (SD)	96*	n (%) or mean (SD)	117	n (%) or mean (SD)	
Disease status							
SCCAI‡,§	31	1.4 (1.8)					
HBI‡,§			29	2.1 (2.4)			
General outcomes							
Any local reaction							
Dose 1	107	99 (92.5)	96	88 (91.7)	117	109 (93.2)	0.9
Dose 2	105	98 (93.3)	96	85 (88.5)	111	105 (94.6)	0.2
Dose 3	83	68 (81.9)	77	60 (77.9)	79	69 (87.3)	0.3
Mean number of local symptoms							
Dose 1	107	1.1 (0.5)	96	1.1 (0.5)	117	1.1 (0.6)	0.4
Dose 2	105	1.1 (0.6)	96	1.1 (0.7)	111	1.2 (0.7)	0.3
Dose 3	83	0.9 (0.6)	77	0.9 (0.6)	79	1.1 (0.7)	0.04
Any systemic reaction							
Dose 1	107	47 (43.9)	96	47 (49.0)	117	65 (55.6)	0.2
Dose 2	105	88 (83.8)	96	76 (79.2)	111	89 (80.2)	0.7
Dose 3	83	54 (65.1)	77	47 (61.0)	79	57 (72.2)	0.3
Mean number of systemic reactions							
Dose 1	107	1.0 (1.4)	96	0.9 (1.2)	117	1.1 (1.3)	0.4
Dose 2	105	2.4 (1.8)	96	2.2 (1.7)	111	2.4 (1.8)	0.5
Dose 3	83	1.6 (1.7)	77	1.4 (1.7)	79	1.8 (1.7)	0.3
IBD-specific outcomes							
Did your IBD status change significantly since before the vaccine?	107		96		117		0.4
Yes		3 (2.8)		2 (2.1)		7 (6.0)	
No		95 (88.8)		90 (93.8)		101 (86.3)	
Not sure		9 (8.4)		4 (4.2)		9 (7.7)	
Experienced worsening of IBD symptoms after vaccination							
Dose 1	107	9 (8.4)	96	2 (2.1)	117	8 (6.8)	0.1
Dose 2	105	7 (6.7)	96	4 (4.2)	111	10 (9.0)	0.4
Required rescue therapy after vaccination							
Dose 1	107	5 (4.7)	96	2 (2.5)	117	0	0.03
Dose 2	105	5 (4.8)	96	4 (4.2)	111	0	0.04
Symptomatic medication usage							
Dose 1	107	7 (6.5)	96	7 (7.3)	117	11 (9.4)	0.7
Dose 2	105	8 (7.6)	96	5 (5.2)	111	11 (9.9)	0.5
Visit to urgent care/ED							
Dose 1	107	4 (3.7)	96	3 (3.1)	117	1 (0.8)	0.3
Dose 2	105	4 (3.8)	96	1 (1.0)	111	1 (0.9)	0.3
Opinions on COVID-19 vaccines in persons with IBD							
Do you feel like you had a flare because of the COVID-19 vaccine?	107		96		117		0.9
Yes		3 (2.8)		2 (2.1)		3 (2.6)	
No		94 (87.8)		88 (91.7)		104 (88.9)	
Not sure		10 (9.4)		6 (6.2)		10 (8.6)	
Should people with IBD receive a COVID-19 vaccine?	102		91		101		0.007
Yes		89 (95.7)		76 (93.8)		74 (88.1)	
No		1 (0.9)		0		0	
Not sure		4 (3.7)		2 (2.2)		14 (12.2)	

Footnotes:
*319 participants completed the survey, however, one participant reported both ulcerative colitis and Crohn's Disease and was therefore counted under both subtypes.
†P value represents chi-square/Fisher's exact tests for categorical variables or analysis of variance (ANOVA) for continuous variables. P value compares ulcerative colitis group to Crohn's Disease group to IBD unspecified group.
‡ IBD = Inflammatory Bowel Disease; SD = Standard deviation; SCCAI = Simple Clinical Colitis Activity Index; HBI = Harvey-Bradshaw Index; ED = Emergency Department.
§Clinical remission for Crohn's Disease is represented by an HBI score ≤ 4. Clinical remission for ulcerative colitis is represented by an SCCAI score < 2.5.

#052 FemMicro16S: Open Source Tools for Annotation and Meta-analysis of 16S Vaginal Microbiome Data

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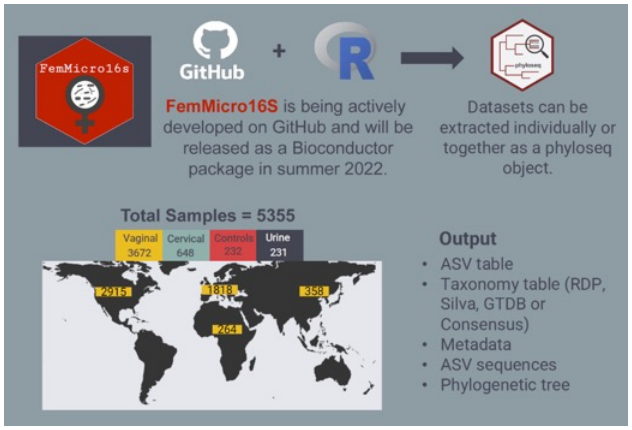
Abstract Body:
Objective: The vaginal microbiome (VM) impacts a woman's health throughout her lifetime, but the microorganisms inhabiting this important body site remain poorly understood. To improve the accuracy of VM studies, we created an open source 16S analysis pipeline that capitalizes on continuously curated reference databases. We also began a publically-available repository of 16S VM datasets from around the world to facilitate meta-analyses and validation studies. Study Design: FemMicro16S implements DADA2 to create amplicon sequence variants (ASVs), which are annotated using 100% matching to RDP, GTDB, SILVA and URE (a VM-specific database). ASVs are clustered at 98.6% identity using CD-HIT to produce species groups. We applied this toolset to over 20 publically-available 16S amplicon datasets, encompassing 5000+ genital tract samples collected from women across 4 continents. Results: Only 36% of unique ASVs had species identities, but similar to existing VM methods, 96% of reads were assigned to one of these species. FemMicro16S distinguished newly-differentiated species such as Fannyhessea vaginae and Fannyhessea massiliense (both formerly Atopobium vaginae). Several species of Prevotella commonly associated with other body sites (thus sometimes absent in VM-specific databases) were found to be highly prevalent in the vagina, including P. copri, P. colorans and P. bergensis. Conclusion: The FemMicro16S Bioconductor R package simplifies annotation of VM data by providing users a flexible analysis framework (i.e. choice of reference database, clustering threshold) and ready-to-use taxon tables from shared/published datasets. We hope this will become a foundational resource that expands through open engagement with the global women's health research community.

Disclosure: No

Images:



#053 Effectiveness of REGEN-COV Antibody Combination to Reduce Risk of Hospitalization for Pregnant Patients with COVID-19

Williams, F[1]; Morgan, J[1]; Martin, J[1]; Mussarat, N[1]; Elmayan, A[1]; Biggio, J[1]

1 - Ochsner Health

Abstract Body:

Objective: REGEN-COV is a combination of anti-spike monoclonal antibodies efficacious in protecting against hospitalization for those with mild-moderate COVID-19 during the alpha and delta predominant waves of the SARS-COV2 pandemic. We aim to determine the effectiveness of the infusion in pregnant patients to reduce hospitalization. Study Design: This is a retrospective cohort of unvaccinated pregnant patients receiving care in a single large regional healthcare system from 3/2020 to 12/2021. Patients with mild-moderate COVID-19 managed outpatient were included. Those hospitalized at time of diagnosis were excluded, including asymptomatic screens during labor admission. Characteristics and outcomes were collected from the medical record, and COVID-19 Risk of Complications Score was calculated. REGEN infusion was defined as the exposure. Primary outcome was defined as COVID-related hospitalization. Results: From 3/2020 to 12/2021, 1186 pregnant patients screened positive for COVID-19, including 141 vaccinated patients and 281 who were admitted at time of diagnosis, leaving 764 patients for analysis, including 88 (12%) who received REGEN infusion. No difference was observed in baseline characteristics, with similar mean Risk of Complications Score (1.5 vs 1.5) and similar proportion with elevated risk for hospitalization (8% vs 9%). No difference in subsequent hospitalization was observed for those receiving REGEN infusion (table). No deaths or adverse events related to antibody infusion requiring medical attention were reported. Conclusion: In a large single system evaluation of pregnant patients meeting criteria for outpatient management of COVID-19, infusion of REGEN did not reduce risk for hospitalization in pregnant patients with COVID-19.

Disclosure: No

Images:

Table. COVID-19 Outcomes by REGEN Monoclonal Antibody Infusion

	Non-exposed		REGEN					
	N	%	N	%	OR	95% CI	aOR*	95% CI
Hospitalization for COVID-19	8	1.2%	1	1.1%	0.96	0.02-7.31	0.86	0.01 - 7.11
Critical or Severe COVID-19	7	1.0%	1	1.1%	0.98	0.12 - 8.24	1.01	0.12 - 8.64
Intensive care admission	4	0.6%	0	0.0%	Unable to calculate			
Supplemental oxygen	6	0.9%	1	1.1%	1.18	0.14 - 10.21	1.21	0.14 - 10.71

aOR, adjusted odds ratio; OR, odds ratio; CI, confidence interval

**Adjusted for maternal age, pregravid body mass index, and third trimester diagnosis*

#054 Factors Influencing COVID-19 Vaccination Decision-Making Among Pregnant and Breastfeeding Individuals

De Souza, L[1]; Cantu-Weinstein, A[1]; Goje, O[2]

1 - Case Western Reserve University School of Medicine

2 - Cleveland Clinic Foundation

Abstract Body:

Objective: The purpose of this study was to determine what factors guide pregnant and breastfeeding individuals towards vaccination against COVID-19. Study Design: Patients receiving care at Women's' Health Obstetrics clinics completed an anonymous survey. Hypothesis testing included Pearson's chi-squared and Wilcoxon Rank sum tests, with P<0.05 considered significant. Results: Among the 134 respondents (78.4% white), significantly more white patients received the vaccine compared to non-white patients (85.1% vs. 14.9%, P=0.004). As shown on Table 1, reviewing medical studies on the safety of the COVID-19 vaccine in pregnancy/ breastfeeding was indicated as more helpful by those who received the vaccine, compared to those who did not (P<0.001 by Wilcoxon Rank test). More vaccinated patients found it important to talk to pregnant/ breastfeeding individuals, compared to unvaccinated patients (P<0.001 by Wilcoxon Rank test). Speaking with an OB/GYN significantly differed in importance between both cohorts (P<0.001 by Wilcoxon Rank test); however, significantly more vaccinated patients reported

that an OB/GYN discussed the vaccine with them as opposed to unvaccinated patients (P=0.002 by Wilcoxon Rank test). Conclusion: Reviewing medical studies on vaccine safety and conversations with other vaccinated patients were reported as helpful for vaccinated obstetric patients. Talking to an OB/GYN was also helpful, but significantly fewer unvaccinated patients reported that their OB/GYN had discussed vaccination with them. By initiating conversations, OB/GYNs can play a vital role in guiding pregnant and breastfeeding individuals towards vaccination.

Disclosure: No

Images:

Table 1. Factors Impacting COVID-19 Vaccination

		NOT Already taken (N=67)		Already taken the vaccine (N=67)		
Factor	Total (N=134)	N	Statistics	N	Statistics	p-value
Talking with my OB/GYN or another healthcare provider		67		67		<0.001 [b]
Not at all	19 (14.2)		18 (26.9)		1 (1.5)	
A little	9 (6.7)		9 (13.4)		0 (0.00)	
Somewhat	25 (18.7)		21 (31.3)		4 (6.0)	
Very	32 (23.9)		13 (19.4)		19 (28.4)	
Extremely	49 (36.6)		6 (9.0)		43 (64.2)	
Medical studies on the safety of the COVID-19 vaccine in pregnancy and/or breastfeeding		66		66		<0.001 [b]
Not at all	15 (11.4)		14 (21.2)		1 (1.5)	
A little	8 (6.1)		8 (12.1)		0 (0.00)	
Somewhat	22 (16.7)		13 (19.7)		9 (13.6)	
Very	34 (25.8)		17 (25.8)		17 (25.8)	
Extremely	53 (40.2)		14 (21.2)		39 (59.1)	
Talking with pregnant or breastfeeding women who took the COVID-19 vaccine		66		66		0.001 [b]
Not at all	29 (22.0)		20 (30.3)		9 (13.6)	
A little	22 (16.7)		15 (22.7)		7 (10.6)	
Somewhat	38 (28.8)		16 (24.2)		22 (33.3)	
Very	20 (15.2)		8 (12.1)		12 (18.2)	
Extremely	23 (17.4)		7 (10.6)		16 (24.2)	
Has your OB/GYN spoken with you about the COVID-19 vaccine?		66		66		0.002 [c]
Yes	101 (76.5)		43 (65.2)		58 (87.9)	
No	31 (23.5)		23 (34.8)		8 (12.1)	

Statistics presented as N (column %).
p-values: b=Wilcoxon Rank Sum test.
c=Pearson's chi square test

#055 Analysis of the Female Genital Tract (FGT) Metabolome Identifies Metabolome Clusters and Pathways Associated with BV and Microbiota Composition in a South African Cohort

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2 - Infectious Disease Division, Massachusetts General Hospital; Harvard Medical School; Ragon Institute of MGH, MIT, and Harvard

3 - HIV Pathogenesis Programme, Doris Duke Medical Institute

4 - Ragon Institute of MGH, MIT, and Harvard; Females Rising through Education, Support, and Health

5 - Ragon Institute of MGH, MIT, and Harvard; Infectious Disease Division, Massachusetts General Hospital; Females Rising through Education, Support, and Health

6 - Ragon Institute of MGH, MIT, and Harvard; HIV Pathogenesis Programme; Max Planck Institute for Infection Biology; Africa Health Research Institute

Abstract Body:

Objective: Characterize female genital tract (FGT) metabolome composition in a cross-sectional South African cohort. Study Design: Samples from 142 non-pregnant, HIV-uninfected, Black, South African women were analyzed. Untargeted metabolomics was performed on cervicovaginal lavage fluid via ultra-high-performance liquid chromatography/tandem mass spectrometry. Microbiota composition was profiled by 16S rRNA gene sequencing and samples were classified into "cervicotypes": CT1 (L. crispatus-dominant), CT2 (L. iners-dominant), CT3 (Gardnerella-dominant), and CT4 (dominated by anaerobic mixed taxa). Bacterial vaginosis (BV) status was determined in a subset of participants by Nugent scoring. Metabolic pathway annotations from Metabolon, Inc., were used. Data were analyzed in R. Results: 581 metabolites were detected among 142 samples. Unsupervised hierarchical clustering separated samples into three metabolome clusters ("MCs"; MC1-MC3). Visualization using principal component analysis supported the clustering. MCs significantly corresponded to BV status and CT category (Fisher's exact test, p = 0.0001 for each). MC1 contained >90% of non-BV samples, with 100% of CT1 and 81.6% of CT2 samples, while MC3 exclusively contained non-Lactobacillus dominant (CT3 and CT4) samples classified as BV or BV-intermediate. We examined drivers of clustering by analyzing which metabolic super-pathways were over-represented among metabolites whose concentrations significantly differed between MCs. Carbohydrate, peptide, and lipid super-pathway members were over-represented in MC1, while amino acids were under-represented. MC2 had under-representation of amino acid and lipid super-pathways. MC3 had over-representation of amino acids and lipids and under-representation of carbohydrates. Conclusion: The FGT metabolome clusters into three groups closely linked to BV and microbiota composition, reflecting unique associations with distinct metabolic pathways.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: DayZero Diagnostics

#056 An Analysis of OBGYN Provider Attitudes Regarding the Safety of COVID-19 Vaccination in Pregnancy and their Impact on Counseling

Vilarino, V[1]; Rodriguez, G[1]; Agasse, E[2]; Shafazand, S[1]; Potter, J[2]

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2 - University of Miami, Department of Obstetrics, Gynecology and Reproductive Sciences

Abstract Body:

Objective: The Center for Disease Control (CDC) and the American College of Obstetricians and Gynecologists (ACOG) recommend that pregnant individuals be vaccinated against SARS-CoV-2. Nonetheless, vaccination rates among gravidas remain below 20% nationally. The aim of this study is to assess provider attitudes regarding COVID-19 vaccination during pregnancy and how these impact counseling. Study Design: Providers who care for pregnant patients were asked to anonymously participate in an IRB-approved online survey disseminated through email from July through September 2021. Providers were identified through a national OBGYN residents list-serv and various OBGYN professional organizations' list-servs. The survey assessed providers' attitudes regarding COVID-19 vaccination and counseling in pregnancy. Data analysis was completed on SAS. Results: 192 providers consented to participate and 178 completed the survey. 98.2% of responding providers indicated that they discuss COVID-19 vaccination in pregnancy. When asked if patients frequently inquire about the safety of the COVID-19 vaccine, 82.7% strongly agreed/ agreed, 11.3% were neutral, and 6.0% strongly disagreed/ disagreed. Importantly, 92.7% of providers reported that they consider the COVID-19 vaccine to be safe in pregnancy and 99.4% counsel on it. Conclusion: The data demonstrates that the majority of OBGYN providers consider the COVID-19 vaccine to be safe in pregnancy and nearly all counsel on COVID-19 vaccination in pregnancy. Despite provider practices, the national COVID-19 vaccination in pregnancy data indicates a gap between providers' recommendations and patient uptake. This discrepancy highlights the need for novel and more robust methodologies to assist patients with making informed decisions regarding safety of vaccination in pregnancy.

Disclosure: No

#057 Impact of Vaginal Microbiota and Inflammation on Pregnancy Rates after in Vitro Fertilization

Vagios, S[1]; Bar, O[2]; Elsherbini, J[3]; Xu, J[3]; Souter, I[2]; Chavarro, J[4]; Kwon, D[3]; Mitchell, C[2]

1 - Tufts Medical Center

2 - Massachusetts General Hospital

3 - Ragon Institute of MGH, MIT and Harvard

4 - T.H. Chan Harvard School of Public Health

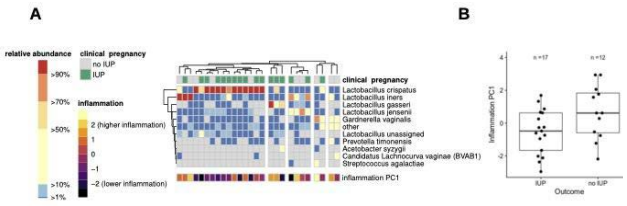
Abstract Body:

Introduction: In vitro fertilization (IVF) success rates per cycle in women under age 40 are ~30%. Many of the factors contributing to IVF success are unknown. We compared the composition of the vaginal microbiota at the time of embryo transfer and pregnancy success rates. Methods: People 50%) than those without IUP: 11/17(65%) vs. 3/12(25%), p=0.04 (Figure 1a). PC1 accounted for 45% of variation, and was positively correlated with values of MIG, IP10, IFN-g, MIP3a, ITAC, IL1a, TNFa, IL6, IL8, IL1b. People with an IUP had lower median overall inflammation (Figure 1b, p=0.05). Conclusions: Among people with either idiopathic or male factor infertility undergoing IVF, the presence of L. crispatus was associated with lower vaginal inflammation and higher likelihood of an IUP.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: Day Zero Diagnostics

Images:



#058 Comparison of two Antiretroviral Therapy Regimens in Human Immunodeficiency Virus (HIV-) Infected Pregnant Women

Tate, D[1]; Samson, F[2]; Wang, MD, J[3]; Santa Cruz, MD, M[1]; Gomez, MD, L[3]

1 - UTHSC/UTROP

2 - MEDNAX - Obstetrix Medical Group Houston - Kingwood

3 - INOVA

Abstract Body:

Objective: We sought to compare the HIV viral load (VL) near delivery in HIV-infected pregnant women receiving 2 nucleoside reverse transcriptase inhibitors (NRTI) plus 1 protease inhibitor (PI) (traditional combined antiretroviral therapy or cART) to those receiving 2 nucleoside reverse transcriptase inhibitors (NRTI) plus 1 integrase strand transfer inhibitor (INSTI) or 1 non-nNRTI (nNRTI) (alternative cART). Study Design: We conducted a prospective cohort study of pregnant HIV-infected women from 2010 through 2016 receiving care in our high-risk obstetric infectious disease clinic. Women were included if they had at least 2 HIV VL (before and after intervention) obtained during pregnancy. Our primary outcome was the rate of VL <1,000 copies/mL near delivery. Results: We collected data on 274 subjects (traditional cART=156, alternative cART=118). After adjusting for confounders, the rate of VL <1,000 copies/mL near delivery was comparable among women receiving the traditional treatment (121/156, 77.6%) to the alternative cART (101/118, 85.6%); P=0.2765, RR 1.474 (0.733-2.967). More women in the alternative cART group (66.9%) had undetectable VL near delivery compared to the traditional cART group (46.1%); P=0.0103, RR 2.002, 95% CI 1.178-3.403. There were 5 cases (1.8%) of MTCT: 1 in the traditional cART group and 4 in 1 in the alternative cART group. Conclusion: Our cohort of women receiving either traditional or alternative cART regimens achieved a similar rate of HIV VL <1,000 copies/mL near delivery. Alternative cART is a safe option in pregnant women and may be associated with lower viral loads at the time of delivery.

Disclosure: No

#059 Stillbirth during a Pandemic: A Retrospective Cohort Study in a High-risk Population

Tate, D[1]; Combs, A[2]; VanDillen, MD, M[2]; Lund, A[2]; Mussarat, MD, N[3]; Willingham, MD, L[4]

1 - UTHSC/UTROP

2 - UTHSC

3 - Ochsner Health

4 - The University of Tennessee at Chattanooga

Abstract Body:

Objective: To examine the rate of stillbirth in a high-risk population at a single institution during the initial twelve months of the COVID-19 pandemic. Study Design: Stillbirths, defined as fetal demise at 20 weeks gestation or greater, were identified during the study period and compared to total deliveries at the institution. Seventy-six stillbirths were identified, 26 in the prepandemic cohort and 50 in the pandemic cohort. Demographic and pregnancy information for each stillbirth dyad was extracted by chart review. Patient outcomes were compared between the prepandemic cohort and the pandemic cohort. Results: The rate of stillbirth in the pandemic cohort was 19.3 per 1000 versus the prepandemic cohort rate of 8.9 per 1000 ($p < 0.001$). The pandemic cohort established prenatal care at a later gestational age ($p = 0.049$), was less likely to have adequate prenatal care ($p=0.013$) and was less likely to have established care with a maternal-fetal medicine specialist ($p = 0.025$). Conclusion: Stillbirths increased significantly at a tertiary care center in a high-risk population during the initial twelve months of the COVID-19 pandemic. Our findings suggest a relationship between inadequate prenatal care and perinatal outcomes during the COVID-19 pandemic.

Disclosure: No

#060 Comparison of Severe COVID-19 in Pregnant and Nonpregnant Women Admitted to the Intensive Care Unit

Rizzuto, J[1]; Amarin, J[1]; Polic, A[1]; Howe, H[1]; Rahman, H[1]; Spieker, A[1]; Rice, T[1]; Halasa, N[1]; Thompson, J[1]; Patel, S[1]

1 - Vanderbilt University Medical Center

Abstract Body:

Objective: Pregnancy is a risk factor for severe coronavirus disease 2019 (COVID-19); however, limited data are available comparing severe COVID-19 between pregnant and nonpregnant women. Study Design: We performed a retrospective cohort study of all reproductive-age women (ages 14–49 years) admitted to the intensive care unit (ICU) with COVID-19–associated illness within an university hospital system from 3/23/20 to 2/22/22. We compared the demographics, clinical characteristics, and outcomes of nonpregnant women to pregnant and postpartum women (within six weeks of delivery). Results: In total, 159 reproductive-age women were admitted to the ICU with COVID-19–associated illness, 35 (22%) of whom were pregnant or postpartum. Pregnant women were younger, had a lower body mass index, and were more likely to be publicly insured (Table 1). Nonpregnant women were more likely to have an underlying medical condition, specifically an immunocompromising condition. The groups had similar proportions of complications, including mechanical ventilation, venous thromboembolism, and death. However, pregnant women were more likely to require extracorporeal membrane oxygenation (Table 1). The lengths of ICU and hospital stays were similar. The proportion of women who were vaccinated against COVID-19 was low in both groups (Table 1). Conclusions: Though pregnant women admitted to the ICU with COVID-19 were younger and had fewer comorbidities, nearly one-quarter of them required extracorporeal membrane oxygenation. Our study shows that COVID-19 is associated with severe illness in pregnant women and highlights the importance of prevention measures, such as vaccination.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: Natasha Halasa, MD, MPH receives grant support from Sanofi and Quidel. Jennifer Thompson MD. contributes to UptoDate

Images:

Table 1. Demographics, past medical history, and outcomes of women 14–49 years old admitted to the ICU in Nashville, Tennessee, stratified by pregnancy status (*N*=159).

Characteristic	Not pregnant, *n*=124	Pregnant, *n*=35	*p* value*
Demographics			
Age at admission (years)—mean (SD)	34.4 (11.6)	29.4 (5.6)	**<0.001**
Race and Hispanic origin—*n* (%)			0.15
Hispanic	12/121 (9.9)	8/33 (24.2)	
Non-Hispanic White	81/121 (66.9)	20/33 (60.6)	
Non-Hispanic Black	26/121 (21.5)	5/33 (15.2)	
Non-Hispanic Asian	2/121 (1.7)	0/33 (0.0)	
Insurance—*n* (%)			**0.041**
Public	49 (39.5)	19 (54.3)	
Private	53 (42.7)	15 (42.9)	
Both	1 (0.8)	1 (2.9)	
None	21 (16.9)	0 (0.0)	
Past medical history			
Body mass index—mean (SD)	37.3 (14.6)	33.2 (8.6)	**0.036**
Underlying medical condition—*n* (%)	118 (95.2)	26 (74.3)	**<0.001**
Hypertension	39 (31.5)	6 (17.1)	0.097
Type 1 diabetes	7 (5.6)	0 (0.0)	0.15
Type 2 diabetes	21 (16.9)	2 (5.7)	0.096
Obese	84 (67.7)	21 (60.0)	0.39
Respiratory disease	33 (26.6)	4 (11.4)	0.060
Cardiac disease	20 (16.1)	5 (14.3)	0.79
Chronic kidney disease	18 (14.5)	1 (2.9)	0.060
Neurologic disorder	6 (4.8)	2 (5.7)	0.83
Immunocompromised	27 (21.8)	1 (2.9)	**0.009**
Endocrine disorder	4 (3.2)	0 (0.0)	0.28
Thyroid disease	6 (4.8)	2 (5.7)	0.83
Gastrointestinal disorder	5 (4.0)	0 (0.0)	0.23
Rheumatologic disease	5 (4.0)	0 (0.0)	0.23
Hematologic disorder	2 (1.6)	2 (5.7)	0.17
History of cancer	9 (7.3)	1 (2.9)	0.34
History of thromboembolism	7 (5.6)	0 (0.0)	0.15
Substance use disorder	8 (6.5)	1 (2.9)	0.42
Developmental delay	10 (8.1)	0 (0.0)	0.083
Current smoker—*n* (%)	15/122 (12.3)	2/33 (6.1)	0.31
History of COVID-19 vaccination—*n* (%)	14 (11.3)	1 (2.9)	0.13
Outcomes			
COVID-19 severity—*n* (%)			0.15
Mild	21 (16.9)	1 (2.9)	
Moderate	1 (0.8)	1 (2.9)	
Severe	13 (10.5)	4 (11.4)	
Critical	89 (71.8)	29 (82.9)	
Supplemental oxygen use—*n* (%)	101 (81.5)	32 (91.4)	0.16
High-flow nasal cannulation—*n* (%)	90 (72.6)	28 (80.0)	0.38
Invasive mechanical ventilation—*n* (%)	55 (44.4)	18 (51.4)	0.46
Days on ventilator			
Mean (SD)	16.4 (36.1)	26.8 (31.5)	0.24
Median (IQR)	6.5 (3.0–15.8)	17 (6–33.8)	
ECMO—*n* (%)	4 (3.2)	8 (22.9)	**<0.001**
Pharmacologic treatment—*n* (%)	101 (81.5)	31 (88.6)	0.32
Venous thromboembolism—*n* (%)	24 (19.4)	9 (25.7)	0.41
Days in ICU			
Mean (SD)	10.0 (15.5)	16.5 (26.0)	0.15
Median (IQR)	5 (2–12)	6 (1.5–20)	
Days in hospital			
Mean (SD)	16.5 (22.3)	22.5 (28.5)	0.25
Median (IQR)	10 (5–20)	11 (5–27.5)	
Status at discharge—*n* (%)			**0.006**
Home without assistance	49/123 (39.8)	15 (42.9)	
Home with assistance	43/123 (35.0)	8 (22.9)	
Inpatient rehabilitation	8/123 (6.5)	9 (25.7)	
Deceased	23/123 (18.7)	3 (8.6)	

*p values were calculated using the two-sample *t*-test with unequal variances for continuous variables and Pearson's χ^2 test for categorical variables. **Abbreviations:** ICU, intensive care unit; COVID-19, coronavirus disease 2019; ECMO, extracorporeal membrane oxygenation.

#061 Symptoms Associated with Severe Acute Respiratory Syndrome Coronavirus-2 Infection in Vaccinated Pregnant and Non-pregnant Individuals during the Omicron Surge

Frank, Y[1]; Haghighi, C[2]; Covelli, I[3]; Eckert, LO[4]; Englund, JA[5]; Kachikis, A[6]

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2 - School of Medicine, Wake Forest University

3 - University of Washington, School of Medicine

4 - Department of Obstetrics and Gynecology and Department of Global Health, University of Washington

5 - Department of Pediatrics, Seattle Children's Research Institute, University of Washington

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Abstract Body:

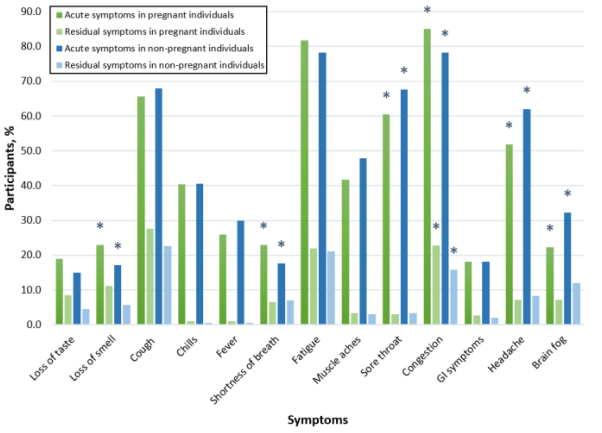
Objective: Given limited data on the symptoms and severity of the predominant SARS-CoV-2 variant in pregnant persons, this study aims to investigate symptoms associated with infection in vaccinated pregnant individuals during the Omicron variant surge. Study Design: A questionnaire on COVID-19 illness was sent to participants in our prospective cohort study on COVID-19 vaccines in pregnancy and lactation residing in North America who self-reported a positive COVID-19 test after December 30, 2021, when Omicron became the predominant variant. Individuals reported their pregnancy status, symptom type and duration, and clinical severity by completing REDCap surveys. Results: Of 2476 respondents who had previously received a COVID-19 vaccine, 298 (12.0%) were pregnant (37.3%, 35.2% and 27.5% in their 1st-3rd trimesters, respectively) at the time of SARS-CoV-2 infection. Most participants experienced mild illness without hospitalization (99.7% pregnant and 99.9% non-pregnant, p=0.3). Pregnant participants more frequently reported acute loss of smell, shortness of breath, and congestion while non-pregnant participants reported increased rates of sore throat, headache, and brain fog (all p<0.05). Residual congestion following acute COVID-19 was more prevalent among pregnant individuals (p<0.05). There was no significant difference in other residual symptoms. Conclusion: COVID-19 illness was overall well-tolerated among pregnant individuals vaccinated against COVID-19 during the Omicron surge with low reports of hospitalization and similar clinical severity to those who were non-pregnant. Certain acute symptoms and residual congestion were more frequent in pregnant individuals. Understanding the impact of SARS-CoV-2 variants on clinical outcomes in vaccinated pregnant persons will be important as the COVID-19 pandemic progresses.

Disclosure:

Any of the authors act as a consultant, employee or shareholder of an industry for: Dr. Englund is a consultant for Astra Zeneca, Sanofi Pasteur and Meissa Vaccines

Images:

Figure: Acute and residual symptoms associated with SARS-CoV-2 infection in pregnant and non-pregnant individuals vaccinated against COVID-19 during the Omicron variant surge



Footnote:
* $p<0.05$

For abstract: Frank Y, Haghighi C, Covelli I, Eckert LO, Englund JA, Kachikis A. *Symptoms Associated with Severe Acute Respiratory Syndrome Coronavirus-2 Infection in Vaccinated Pregnant and Non-pregnant Individuals during the Omicron Surge.*

#062 HPV Inpatient Postpartum Vaccination: Evaluation of a Pilot Quality Improvement Project

Murphy, E[1]; Alimena, S[2]; Pelletier, A[2]; Sczekan, N[2]; Smith, N[2]; Schantz-Dunn, J[2]; Diouf, K[2]; Feldman, S[2]

1 - BWH/MGH

2 - Brigham and Women's Hospital

Abstract Body:

Objective: The nine-valent human papilloma virus vaccine (9vHPV) is highly effective at preventing cervical cancer, yet U.S. vaccination rates remain low. The objective of this study was to evaluate integration of 9vHPV inpatient vaccination into routine postpartum care. Methods: A retrospective evaluation of a pilot QI project was conducted following an emailed protocol in February 2021 to independent obstetric providers (midwife, MFM, and resident groups) to offer 9vHPV to postpartum inpatients ≤age 26 from March 2021

to March 2022. Characteristics of patients vaccinated pre-pregnancy versus vaccine-eligible (none, unknown, or partially-vaccinated status) were compared using chi-square, ANOVA, and multivariate logistic regression. Similarly, analyses were performed comparing vaccine-eligible patients who did versus did not receive an inpatient 9vHPV. Results: Of 569 postpartum inpatients, 370 (65.0%) were already vaccinated, 119 (20.9%) were not vaccinated, and 80 (14.1%) had unknown status. Of vaccine-eligible patients, 46 (23.1%) received 9vHPV inpatient. In multivariate analysis, unmarried patients (OR 2.3, 95% CI 1.51-5.64, p<0.001) were more likely to be vaccinated pre-pregnancy, while Spanish-speaking (OR 0.13, 95% CI 0.08-0.23, p<0.001) and white patients (OR 0.2, 95% CI 0.13-0.38, p<0.001) were less likely. Among vaccine-eligible patients, inpatient vaccination recipients were primarily Hispanic, Spanish-speaking, and publicly-insured. In multivariate analysis of vaccine-eligible patients, Midwife practice was the only significant predictor of vaccination (OR 2.4, 95% CI 1.02-5.74, p=0.04, Table 1). Conclusion: White, Spanish-speaking, and married patients were disproportionally under-vaccinated in our baseline population, but approximately one quarter of vaccine-eligible patients received 9vHPV. Inpatient postpartum 9vHPV vaccination may help narrow disparities in vaccination.

Disclosure: No

Images:

Table 1: Multivariate analysis of patients that received inpatient postpartum 9vHPV

Received Inpatient 9vHPV (n=46)	Odds Ratio	P value	95% CI
Age	0.89	0.132	0.77-1.04
Race/ethnicity			
White	Ref.	Ref.	Ref.
Hispanic	2.07	0.251	0.60-7.21
Black	1.79	0.415	0.44-7.23
Asian	1.70	0.677	0.14- 20.75
Other	2.42	0.337	0.40-14.72
Language			
English	Ref.	Ref.	Ref.
Spanish	1.78	0.237	0.68-4.60
Other	4.00	0.123	0.69-23.29
Insurance			
Private	Ref.	Ref.	Ref.
Public	1.24	0.701	0.41-3.79
Providers			
Residents	Ref.	Ref.	Ref.
Maternal Fetal Medicine	1.12	0.925	0.10-12.12
Midwives	2.42	0.045	1.02-5.74

#063 Does Admission Anemia Increase Risk of Postpartum Morbidity Among Patients with Preterm Prelabor Rupture of Membranes?

Fairchild, R[1]; Al-Shibli, N[2]; Darling, A[2]; Grace, M[3]; West-Honart, A[2]; Dotters-Katz, S[2]

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2 - Department of Obstetrics and Gynecology, Duke University, Durham, NC

3 - Department of Obstetrics and Gynecology, Vanderbilt University, Nashville, TN

Abstract Body:

Objective: Maternal morbidity in the setting of preterm prelabor rupture of membranes (PPROM) is common. Identifying modifiable risk factors may reduce morbidity in patients with PPROM. Anemia is associated with maternal morbidity in other clinical scenarios. The objective of this study was to measure the association between admission anemia and postpartum (PP) maternal morbidity among patients with PPROM. Study Design: This retrospective cohort study included all patients with PPROM<34wks from single tertiary center from 2013-2019. Patients with intrauterine fetal demises or missing hemoglobin data were excluded. Anemia was defined as admission hemoglobin<10.5g/dL. Primary outcome was a composite of PP maternal morbidity (sepsis, ICU admission, acute renal insufficiency, uterine curettage, hysterectomy, DVT/PE, blood transfusion, aspiration pneumonia, death). Secondary outcomes included composite PP infection (wound infection, endometritis, UTI, aspiration pneumonia, or pelvic abscess). Bivariate statistics compared patients admitted with anemia to those with normal admission hemoglobin. Regression models controlled for confounding. Results: Of 391 included pregnancies, 87(22.0%) had anemia. Anemic patients were more likely to be Black, have Medicaid, and receive iron treatment iron(60.1% vs 16.5%)(all p<0.05). There were no other differences in demographic, antepartum, or obstetric characteristics. Other than transfusion, primary and secondary outcomes were not different(Table). After controlling for race/ethnicity, insurance status, iron treatment, intra-amniotic infection, and cesarean delivery, patients with anemia were not more likely to experience morbidity(aOR1.43,95%CI 0.59-3.46) or PP infection(aOR1.41,95%CI 0.45-4.14). Conclusion: Among patients admitted with PPROM, anemia does not appear to be associated with increased maternal postpartum morbidity or postpartum infection.

Disclosure: No

Images:

Table: Primary Outcomes

	Overall n=391(%)	0 N=304(%)	1 N=87(%)	p
Maternal morbidity[1]	36 (9.2)	26 (8.6)	10 (11.5)	0.40
Postpartum Infection[2]	20 (5.1)	14 (4.6)	6 (7.0)	0.38
Readmission	4 (1.0)	4 (1.3)	0 (0.0)	0.58
DVT/PULM emboli	1 (0.3)	1 (0.3)	0 (0.0)	>0.99
Blood transfusion	10 (2.6)	4 (1.3)	6 (7.0)	0.01
Need for D+C PP	10 (2.6)	6 (2.0)	4 (4.7)	0.24
Sepsis	2 (0.5)	2 (0.7)	0 (0.0)	>0.99
Renal Failure	2 (0.5)	2 (0.7)	0 (0.0)	>0.99
ICU admission	1 (0.3)	1 (0.3)	0 (0.0)	>0.99
Required hysterectomy PP	2 (0.5)	1 (0.3)	1 (0.3)	0.40
Pelvic abscess	2 (0.5)	2 (0.7)	0 (0.0)	0.71
Wound infection	4 (1.0)	4 (1.3)	0 (0.0)	0.58
PP UTI	4 (1.0)	3 (1.0)	1 (0.3)	>0.99
Endometritis	11 (2.8)	7 (2.3)	4 (4.6)	0.27

[1] Includes sepsis, intensive care unit admission, acute renal insufficiency, uterine curettage, hysterectomy deep vein thrombosis, pulmonary embolus, blood transfusion, aspiration pneumonia or maternal death
[2] Includes wound infection, endometritis, post-partum urinary tract infection, aspiration pneumonia, and pelvic abscess

#064 Comparison of Computer-assisted Self-interview (CASI) versus Clinician-interview (CI) for Self-reported Vulvovaginal Symptoms

Robbins, SJ, Brown, SE, Stennett, CA, Tuddenham, SA, Johnston, ED, He, X, Mark, KS, Brotman, RM

Abstract Body:
Objective: Patients may feel uncomfortable reporting vulvovaginal symptoms. Computer-assisted self-interview (CASI) often results in higher responsiveness than clinician-interview (CI). Sparse data exists on how survey modalities affect report of symptoms. We compared CASI versus CI for self-reported vulvovaginal symptoms.
Study Design: This is a secondary analysis of N=101 participants enrolled in a longitudinal study to assess the vaginal microenvironment. Primary analyses were restricted to the first clinical visit in which a participant reported a vulvovaginal symptom to CASI, clinician or both (N=43 participants). Participants were emailed a CASI daily which queried various vulvovaginal symptoms (itching, odor, discharge, dryness, irritation). The CI administered the same survey at three visits. Symptoms were assessed for concordance when reported on CASI and CI on the same date. Concordance was assessed for each symptom with kappa statistics.
Results: There were no demographic differences between those who did and did not report symptoms. Among those who reported symptoms (n=43), concordance between CI and CASI was 17-40% (κ=0.14-0.50). Itching and odor had the highest agreement. Because most participants did not report symptoms, concordance was high between CASI and CI when the full cohort was assessed (n=101, range: 95-99%, κ=0.31-0.74). The CASI from the day prior to the CI did not affect the results.
Conclusion: Concordance was moderate for report of vulvovaginal symptoms between CASI and CI. This data supports the use of either CI or CASI to ascertain vulvovaginal symptoms in clinical and research settings. Studies designed to test CASI reliability could explore these survey modalities further.

Disclosure: No

NOTES

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References: 1. Falk L, et al. Signs and symptoms of urethritis and cervicitis among women with or without Mycoplasma genitalium or Chlamydia trachomatis infection. Sex Transm Infect. 2005;81(1):73-78. **2.** Workowski, et al. Sexually Transmitted Infections Treatment Guidelines 2021. MMWR RecommRep 2021;70 3. Jensen et al., Mycoplasma genitalium: prevalence, clinical significance, and transmission, Sex Transm Infect. 2005;81:458–462.