LEARNING OBJECTIVES: Compare HIV-adapted prenatal care administered via group model (Centering) versus individual care model Identify differences in the population of women choosing group (Centering) versus individual prenatal care Recognize improvement in the odds of having an undetectable viral load at delivery in the group (Centering) care cohort.

6 Intrapartum antibiotic therapy with cefazolin rather than clindamycin or metronidazole is associated with lower postpartum infectious morbidity among women with chorioamnionitis delivering by cesarean

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OBJECTIVES: To investigate whether intrapartum surgical prophylaxis with cefazolin versus clindamycin or metronidazole decreases the risk of postpartum infectious morbidity among women delivering by cesarean receiving a base regimen of ampicillin or penicillin with gentamycin for chorioamnionitis.

METHODS: A secondary analysis of women who delivered by cesarean with a presumptive diagnosis of chorioamnionitis (intrapartum fever >100.4°F and receipt of intrapartum antibiotics) in the Maternal-Fetal Medicine Units Network (MFMU) Cesarean Registry. We compared surgical prophylaxis with cefazolin versus clindamycin or metronidazole. All women received a base regimen of penicillin or ampicillin with gentamycin. The primary outcome was a composite of postpartum maternal infectious morbidity: endometritis, wound infection, abscess, necrotizing fasciitis, maternal sepsis, and septic pelvic thrombophlebitis. Multivariable logistic regression was used, adjusting for age, parity, race, insurance, body mass index at delivery, pregestational diabetes, American Society of Anesthesiologists (ASA) classification, trial of labor prior to cesarean, and postpartum antibiotics.

RESULTS: Among 1,513 women with presumptive chorioamnionitis who delivered by cesarean, 28.3% (n=429) received cefazolin versus 71.7% (n=1,084) clindamycin or metronidazole. Most women (80.1%) received postpartum antibiotics, which was less likely with cefazolin versus clindamycin or metronidazole (63.1% vs. 86.9%; OR: 0.25; 95% CI: 0.19 to 0.33). The frequency of postpartum infectious morbidity was 9.8% (148/1,513), which was lower with cefazolin versus clindamycin or metronidazole (22.9% vs. 77.0%, OR: 0.73; 95% CI: 0.49 to 1.09). In multivariable analysis, women treated with cefazolin versus clindamycin or metronidazole had a nearly 70% lower odds of postpartum infectious morbidity (AOR: 0.31, 95% CI: 0.19 to 0.50), which held when the outcome was restricted to endometritis (AOR: 0.36; 95% CI: 0.22 to 0.61).

CONCLUSION: In this large multi-center cohort of women delivering by cesarean with chorioamnionitis receiving penicillin or ampicillin with gentamycin, postpartum infectious complications were decreased when surgical prophylaxis with cefazolin versus clindamycin or metronidazole was given.

LEARNING OBJECTIVES: Learners will consider implications of standard antibiotic prophylaxis for cesarean as opposed to alterative regimens in the setting of cesarean delivery with chorioamnionitis.

7 The vaginal microbiota, high-risk human papillomavirus infection, and cervical intraepithelial neoplasia: results from a population-based study

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OBJECTIVES: While there is epidemiologic evidence of an association between bacterial vaginosis and human papillomavirus (HPV) infection, the potential relationship between the vaginal microbiota, high-risk HPV, and cervical intraepithelial neoplasia (CIN) has been under studied. Our objective was to characterize the vaginal microbiota in a stratified random sample of women from a population-based study in Appalachia, which has the highest annual rate of cervical cancer mortality in the U.S.

METHODS: We analyzed cervico-vaginal samples from 358 women in the Community Access, Resources and Education (CARE): Project 3 study across 16 clinics in Ohio. Using Illumina MiSeq sequencing of 16S rRNA gene amplicons, we characterized the vaginal microbiota among women with a) CIN, b) high-risk HPV only, and c) a random sample of healthy controls. Linear discriminant analysis (LEfSe) was used to identify taxa that were significantly differentially abundant between CIN and high risk-HPV status compared to controls. We clustered vaginal microbiota into community types using PAM clustering based on theta-yc distances and used multinomial logistic regression models to test for associations between health status and vaginal microbiota community type and quartiles of relative abundance, respectively.

RESULTS: 94.4% of women were non-Hispanic White, and the mean age was 31.4 years (SD=12.7). Three main vaginal community types were identified: L. crispatus-dominant (17%), L. iners-dominant (37%), and a diverse community type (43%). Women with CIN or high-risk HPV were more likely to have a diverse vaginal microbiota community characterized by higher G. vaginalis relative abundance, compared to controls whose communities were more likely to be Lactobacillus spp. dominant ($p<0.03$). Both L. iners and L. gasseri were found at significantly greater relative abundances in controls than in women with CIN or high-risk HPV ($p= 0.027$ and 0.0014, respectively)).

CONCLUSION: Compared to healthy controls, the vaginal microbiota of women with CIN or high-risk HPV in Appalachia were characterized by a diverse community with increased relative abundance of G. vaginalis and reduced relative abundance of Lactobacillus spp. Further study and validation of these differences for prognostic use is warranted given they can be self-collected and are noninvasive.

LEARNING OBJECTIVES: Identify potential noninvasive vaginal microbiota risk markers of high-risk HPV and cervical intraepithelial neoplasia (CIN).

8 Patterns of treatment and tests of reinfection for trichomoniasis in pregnancy at a large safety-net hospital

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OBJECTIVES: To describe patterns of testing for trichomoniasis during pregnancy including modes of testing and presence of symptoms. To describe treatment and follow-up tests of reinfection (TOR) for trichomoniasis diagnosed in pregnancy.

METHODS: A retrospective cohort study was conducted of women who delivered at a single public hospital between July 1, 2016 and June 30, 2018. Eligible women had at least one triage or prenatal

visit. A diagnosis of trichomoniasis was defined as a positive nucleic acid amplification test (NAAT) and/or motile trichomonads on wet mount microscopy, urinalysis, or cervical cytology. Women with abnormal vaginal discharge at the time of testing were considered symptomatic. A chi-squared test of proportions was used to compare the percentage of cases that received treatment and that had a TOR by testing modality. The Mann Whitney U test was used to compare time to treatment and TOR by mode of diagnosis.

RESULTS: Among 3,349 women, 390 (11.6%) women were diagnosed with 541 unique cases of trichomoniasis (1 case: 289 women, 2 cases: 61, 3 cases: 32; 4 cases: 6, 5 cases: 2). Of the 541 cases, 177 women were diagnosed by wet mount microscopy, 360 by NAAT, 39 by cytology, and 14 by urinalysis. Nearly 10% of women had more than one mode of diagnosis. There were 1,779 women (53.1%) that had NAAT screening for trichomoniasis at some point during pregnancy. Among women with a positive NAAT, 103 (28.6%) had wet mount microscopy done on the same day. Of these 103 women, 75 (72.8%) tested negative on wet mount. Of the 541 cases, 123 (22.7%) had abnormal vaginal discharge at time of testing. A Time to treatment ranged from 0 to 210 days, with 62 women (12.2%) waiting more than four weeks for treatment. Days to treatment was shorter for those who had a positive wet mount compared to those who were diagnosed by other modalities (median wet mount= 0 days, median other= 8 days, $p < 0.0001$). Time to TOR ranged from 14 to 260 days. The proportion tested for reinfection and time to TOR did not differ significantly by mode of diagnosis (wet mount= 73.6%, all others= 71.1%, X2= 0.4, p= 0.54; median wet mount= 37 days, median other= 38.5 days, p= 0.71).

CONCLUSION: Our results highlight that delays in treatment are common when point of care testing is not performed. Given the low sensitivity of wet mount, higher sensitivity point-of-care testing approaches should be explored. The high percentage of asymptomatic cases underscores the need for more structured guidelines for trichomoniasis testing and treatment in pregnancy. This need is even greater in high-risk populations, given the association of trichomoniasis infection with preterm delivery and increased HIV acquisition risk.

LEARNING OBJECTIVES: Learners will be able to identify the different patterns of testing, tests of reinfection, and treatment for trichomoniasis in pregnancy.

9 A comparison of 2 g single-dose versus 7-day 500 mg twice daily metronidazole for the treatment trichomoniasis in women by selected clinical factors

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OBJECTIVES: Trichomonias is the most common non-viral sexually transmitted infection (STI) among women worldwide and is associated with serious reproductive morbidity, poor birth outcomes, and amplified HIV transmission. Single-dose (2 g) metronidazole (MTZ) is the first line of treatment recommended by the Centers for Disease Control and Prevention and the World Health Organization with multi-dose MTZ as an alternative. Two multi-centered randomized trials and a meta-analysis found that women receiving multi-dose MTZ were nearly half as likely to retest positive to T. vaginalis post-treatment compared to women receiving single-dose MTZ, indicating that multi-dose MTZ should be recommended over single-dose. The purpose of this study was to examine if this effect was similar by selected clinical factors to determine if treatment recommendations should be nuanced.

METHODS: This is a secondary analysis of a previously published randomized, parallel, multi-site, open-label trial of single-dose (2 g one-time) versus multi-dose (500 mg twice daily for 7 days) MTZ for the treatment of trichomoniasis. The primary outcome was T. vaginalis infection at test-of-cure (TOC) 4 weeks after completion of treatment measured by nucleic acid amplification test or culture. Analyses were stratified by reported T. vaginalis history, genital symptoms, and bacterial vaginosis (BV) at baseline.

RESULTS: Women who returned for their TOC visit (n=540) were included. At baseline, 53.1% had a history of trichomoniasis, 80.6% had genital symptoms, and 45.9% had BV. At TOC, 15.0% rested positive. Stratified rates of T. vaginalis at TOC are in Table 1. In women who received single dose MTZ, those who were symptomatic and had a history of trichomoniasis had the highest rate of infection at TOC (26.7%) whereas those with neither factor had the lowest rate (4.3%). Among women receiving multi-dose MTZ, TOC+ rates were similar by these factors (range 9.3%-13.0%). There was a high rate of concomitant BV.

CONCLUSION: Multi-dose metronidazole should be recommended over single dose for all women, but it is particularly imperative that women who are symptomatic and/or who have a history of trichomoniasis receive multi-dose.

LEARNING OBJECTIVES: Multi-dose MTZ should be recommended over single dose for all women, but it is particularly imperative that women who are symptomatic and/or who have a history of trichomoniasis receive multi-dose.

10 Immunoglobulin A, immunoglobulin G, and neutralizing antibodies to respiratory syncytial virus increase in human milk following immunization with an RSV F protein vaccine

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OBJECTIVES: Maternal immunization with respiratory syncytial virus (RSV) F nanoparticle vaccine during pregnancy increases serum RSV antibodies. Our objective was to determine the effect of maternal immunization on the levels of RSV F-specific antibody levels in human breast milk.

METHODS: Prepare is a randomized, observer-blind, placebo-controlled trial of RSV F vaccination during the third trimester of pregnancy. It was conducted in the Northern and Southern hemispheres. As a sub-study to the parent trial, we evaluated breast milk in vaccinees and placebo recipients from 3 study sites in Bangladesh, New Zealand, and the United States. Maternal breast milk samples were obtained following delivery, and at 14 days, 35 days, 60 days, 90 days, 120 days, and 180 days. Maternal serum samples were obtained at 14 days, 60 days, 90 days, 120 days, and 180 days. Milk and serum specimens from 145 subjects were assayed using an enzyme-linked immunosorbent assay (ELISA) for RSV F-specific IgA and IgG, and using an RSV/A-specific microneutralization assay.