RESULTS: 322 eligible participants (≥1 dose of vaccine, ≥2 serology results ≥2 months post-last dose) had a mean age: 34 years (±12.6). 18.9%, 12.7%, 8.7%, and 7.1% participants had a boosting event of ≥0.4 log units for HPV6, HPV18, HPV16, and HPV11, respectively. Log titre increases were median 0.75-0.98 and maximum 2.20-3.37, depending on HPV type. For HPV16 and 18, there was no significant relationship between the odds of a boosting event and intercourse since last visit, number of sexual partners since last visit, or HIV viral load suppression. There was a relationship between the number of new sexual partners (≥1 vs. 0) since last visit and the odds of immune boosting (for HPV16: p=0.02, OR=4.51, 95%CI=1.25-16.38; for HPV18: p=0.02, OR=2.64, 95% CI: 1.17-5.96).

CONCLUSION: Many participants experienced immune boosting events of ≥0.4 log titre (>50% increase in raw antibody titre). The association between an immune boosting event and having new sexual partners since the previous study visit supports natural boosting occurring as a result of sexual exposure to HPV, even in immunocompromised women.

LEARNING OBJECTIVES: describe natural boosting events in qHPV-vaccinated HIV-positive women.

19 Should women living with HIV be screened for pelvic floor disorder during a routine gynecological care visit?

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OBJECTIVES: This study assesses if women living with HIV experience symptoms related to pelvic floor disorders.

METHODS: From March to April 2019 women attending a dedicated HIV gynecological clinic were offered participation. Thirty patients were approached and 15 (50%) consented. Demographic information was collected. A questionnaire was administered to assess pelvic floor dysfunction, including lower urinary tract symptoms, bowel (evacuation and incontinence), pelvic organ prolapse symptoms, and sexual distress. Symptoms were assessed using 15 questions from two validated questionnaires, the Pelvic Floor Disability Index and Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire. Topic areas assessing function and distress were: lower urinary tract symptoms 5 (33.3%), bowel 5 (33.3%), sexual desire 2 (13.3%) and pelvic organ prolapse 3 (20%). Statistical analyses utilizing t-statistics, chi-squared and fisher's tests, were performed; a p-value less than 0.05 was considered statistically significant.

RESULTS: The mean (SD) age for the study population (n=15) was 45.5 ï‚± 10.5 years, 93% had at least one delivery, and 80% had more than one delivery. Most reporting pelvic floor dysfunction were either White Hispanic 38.5% or Black non-Hispanic 30.8%. There was no significant differences in mean age, marital status, education, income, pregnancy and vaginal deliveries when stratified by the distressed outcomes. Overall, 13 reported pelvic floor dysfunction: 12 (80%) reported pelvic organ prolapse, bowel distress was reported by 8 (57.1%), urinary distress was reported by 13 (86.7%), and 13 (86.7%) reported pelvic floor disorder symptoms. There was an association between urinary distress and pelvic floor prolapse distress symptoms (p=0.029). Significantly more women reported having distress with pelvic organ prolapse distress symptoms 80% (p=0.002) and lower urinary tract symptoms 86.7% (p=0.029). Neither pelvic organ prolapse, nor urinary distress was associated with bowel distress symptoms in this cohort.

CONCLUSION: Women living with HIV present with high rates of pelvic floor dysfunction and report symptoms related to pelvic organ prolapse and the lower urinary tract. Since gynecologic visits in women living with HIV usually have greater emphasis on infection and cancer surveillance, conditions associated with pelvic floor dysfunction may not be routinely addressed. Our findings support routine screening for pelvic floor dysfunction and appropriate referrals.

LEARNING OBJECTIVES: Learners will be able to identify risk factors for pelvic floor dysfunction, including the prevalence of incontinence, urgency, frequency, nocturia and voiding difficulty in women living HIV, which is often underreported

20 When normal isn't normal: heterogeneity in dominant lactobacillus species among women having a nugent score of 0-3

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OBJECTIVES: To describe differences in prevalence, concentration, and relative abundance of five vaginal Lactobacillus species across the spectrum of normal Nugent scores (0-3).

METHODS: This was a secondary analysis of 685 healthy, asymptomatic, non-pregnant, sexually active women, aged 18-45 years enrolled in five studies (one group B Streptococcus vaccine and four vaginal microbicide product trials) between 2003 and 2018. Vaginal swabs and a vaginal smear were obtained at enrollment prior to study product administration. Five species of Lactobacillus (crispatus, vaginalis, jensenii, gasseri, iners) were identified using quantitative PCR. Vaginal smears were evaluated by the Nugent criteria. Relative abundance was calculated by dividing the concentration of a single species by the total concentration of all five Lactobacillus species. Women with Nugent score 0-3 were used in this analysis (n=414). Chi-square for linear trend and Kruskal-Wallis tests were used to evaluate differences in prevalence, concentration (log10 copies/swab), and relative abundance of the five species of lactobacilli across the spectrum of Nugent scores.

RESULTS: Of 685 women, 414 (60.4%) had Nugent score 0-3. These women predominantly self-identified as non-Hispanic white (67.4%) or non-Hispanic black (23.7%), were single (68.4%), and using hormonal contraception (70.3%). Nearly half (48.6%) of the women had a score of 0. The prevalence, concentration, and relative abundance of L. crispatus decreased with increasing score (p=.03, <.001, <.001, respectively), while the concentration and relative abundance of L. iners increased with Nugent score (p<.001). The relative abundance of L. jensenii increased with Nugent score (p=.05) and while prevalence and concentration were highest at a score of 3, this increase was not statistically significant. L. gasseri and L. vaginalis were present in low concentrations and the mean relative abundance remained at <6% and <2%, respectively.

CONCLUSION: In this large subset of women with normal vaginal microbiota by Nugent score, L. crispatus was the predominant Lactobacillus species only among women with Nugent scores of 0-1, while L. iners was the most abundant species in women with scores of 2-3. While L. jensenii has been considered to confer vaginal health benefits, it was the most abundant species in only 18% of women across the Nugent "normal" range. L. vaginalis, L. jensenii and L. gasseri likely have a limited role in vaginal health.

LEARNING OBJECTIVES: Learners will be able to identify the predominant Lactobacillus species detected by quantitative PCR in women with normal vaginal microbiota.

21 A case of chorioamnionitis, maternal sepsis, and fetal demise associated with streptococcus pseudoporcinus

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OBJECTIVES: Streptococcus pseudoporcinus has biochemical characteristics similar to Streptococcus agalactiae and has recently been found to colonize the female genital tract. It has been reported in association with clinical infections but has not previously been shown to be a cause of serious perinatal morbidity or mortality. Here we present a case of severe maternal morbidity (sepsis) and fetal demise associated with Streptococcus pseudoporcinus.

METHODS: Case report.

RESULTS: Case: A 41-year-old gravida 2, para 1001 presented with abdominal pain and fetal demise at 34 weeks gestational age. She was found to be in labor, with tachycardia and leakage of purulent fluid from the cervical os. Her maximum temperature was 37.5 degrees Celsius, and labs were significant for a white blood cell count of 29,000 per mL and a serum lactate of 2.4 mmol/L. Intravenous ampicillin and gentamicin were initiated in Labor and Delivery for a diagnosis of chorioamnionitis. She had a spontaneous vaginal delivery. A beta hemolytic streptococcus was isolated from the patient'surine, placenta, endometrium, and two blood culture sets. Testing for Streptococcus Lancefield groups A, B, C, F and G was negative. Biochemical studies included a positive pyrrolidonyl aminopeptidase (PYR) test and a negative catalase reaction. The isolates were resistant to optochin. API identification revealed Streptococcus agalactiae (biotype number 3063214) with 99.8% confidence at 24 hours. Identification of all isolates by matrix assisted laser desorption ionization time-of-flight (MALDI, Bruker) yielded Streptococcus pseudoporcinus, using the research use only database with log scores for each specimen ranging from 1.86 to 2.07. A blood culture isolate sent to a reference laboratory for bacterial 16S rRNA sequencing confirmed the identification of Streptococcus pseudoporcinus, with 100% identity of the first 467 base pairs of the 16S sequence to Streptococcus pseudoporcinus LQ 940-04. The patient recovered well in the postpartum period and left the hospital on postpartum day 4.

CONCLUSION: S. pseudoporcinus can be difficult to distinguish from S. agalactiae. Although the exact clinical significance of S. pseudoporcinus remains to be seen, our case demonstrates that it is a potential cause of serious puerperal infection. If there are other reports of puerperal infections with this organism, its significance and prevalence in genital tract flora may warrant further investigation.

LEARNING OBJECTIVES: Explain the evidence from a case that demonstrates that S. pseudoporcinus is a potential cause of chorioamnionitis and severe perinatal morbidity and mortality.

22 Pregnancy among young women with perinatally acquired HIV: a unique single site experience

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OBJECTIVES: Describe the perinatal outcomes among a unique cohort of women with perinatally acquired HIV infection (PHIV), followed from childhood or adolescence through pregnancy.

METHODS: All PHIV who received primary care as children or adolescents, became pregnant, received at least one prenatal care visit, and delivered a live born child from 2004-2017 were included. Date of death and cause of maternal death were recorded. Infants were screened for HIV based upon the Centers for Disease Control HIV screening guidelines (USPHS 2018).

RESULTS: We identified 53 adolescents and young women who were born with perinatally acquired HIV infection and subsequently received prenatal care and delivered their first child at our institution. A total of 72 pregnancies resulted in a live birth; 37 with one, 13 with two, and three women with three. There were no multiple births. The mean maternal age at time of first delivery was 20.8 years old (range 15-28), 77.3% were Black (African-American or Haitian) and most initiated prenatal care in the first or second trimester. Over half of these young women (50.9%) had an AIDS diagnosis prior to their first prenatal visit; there were no new AIDS diagnoses during pregnancy. All began pregnancy on HAART. Hypertensive disorders affected 16.7%, and there were no cases of diabetes before or during pregnancy. Almost 30% had one or more psychiatric diagnoses, 32% had an STI diagnosis at first pregnancy. During the prenatal period, 12 of the 53 young women were hospitalized. Six (50%) had two or more admissions prior to delivery. Hyperemesis was the most common admitting diagnosis. At the first prenatal visit 42.5% had a viral load <1000 and only 17 (23.6%) had a CD4 count >500. Near delivery 54 (75%) had a viral load of <1000. All (100%) received antiretroviral therapy intrapartum. Cesarean (83.3%) was the most common mode of delivery, of which 15.3% were emergency. Mean gestational age was 36.9 weeks, with four <32 weeks. Five of the 53 mothers expired after the postpartum period (2.6-5.9 years later). Pediatric screening was completed for 61/72 children with a zero perinatal transmission rate.

CONCLUSION: This unique single site large cohort study demonstrates that although complex, these pregnancies are not associated with a high risk of obstetric complications. Despite the Cesarean rate was high, the perinatal transmission rate was zero without an increased risk of obstetric related maternal deaths.

LEARNING OBJECTIVES: Learners will be able to demonstrate knowledge of perinatal outcomes among young women with perinatally acquired HIV infection.

23 Natural history of asymptomatic bacterial vaginosis among Kenyan women at high risk for HIV infection

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OBJECTIVES: To describe the natural history of incident asymptomatic bacterial vaginosis (BV) by Nugent score and identify factors associated with either BV resolution (Nugent score ≤ 4) or development of symptomatic BV.

METHODS: We identified women who experienced an incident asymptomatic BV infection (no self-reported discharge or itching) enrolled in the Mombasa Cohort, an open prospective cohort of women engaged in transactional sex in Mombasa, Kenya. Using competing risk models, we calculated the cause-specific hazard of resolving asymptomatic BV or developing symptomatic BV over up to 12 months, compared to no change in BV; the final model included baseline age, HIV status, Nugent score, Amsel criteria, contraceptive use, and frequency of vaginal sex. Women were censored if they received BV treatment or became pregnant; women with yeast diagnoses at baseline were excluded from this analysis.