P361 PREVALENCE OF BACTERIAL VAGINOSIS AMONG WOMEN ATTENDING SEXUAL HEALTH CLINICS IN NEW YORK CITY, 2017–2018

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Background Bacterial vaginosis (BV) is a common condition among women and is associated with HIV/STI acquisition and adverse pregnancy outcomes. We describe the prevalence of BV diagnoses and repeat BV diagnoses among women attending New York City (NYC) public sexual health clinics (SHC) and examine demographic characteristics associated with BV.

Methods Using electronic medical record data for patients who were assigned female sex at birth (“women”), we identified BV diagnoses made during clinician visits at NYC SHC during January 2017–April 2018, and recurrent BV during a six-month follow-up period through October 2018. BV diagnosis was defined as a physician diagnosis of BV with a vaginal pH ≥ 4.5 , and positive whiff-amine test. We used chi-square tests to compare characteristics of women with and without a BV diagnosis.

Results Of 13,153 women with ≥ 1 visits to the SHC, 34% (4,449) were diagnosed with BV. There were significant differences in BV prevalence by race/ethnicity: 39.5% (95% CI: [38.7–40.3%]) of non-Hispanic black women versus 29.6% ([28.3–30.9%]) Hispanic, 21.2% ([19.1–23.3%]) non-Hispanic white, and 19.7% ([16.5–22.9%]) non-Hispanic Asian women. Women of HIV-negative/unknown HIV status had higher BV prevalence than HIV-positive women (33.9% vs 23.4%, $p=0.02$). Women reporting sex with both men and women had higher BV prevalence (42.0%, 95% CI: [37.5–46.5%]) than women reporting sex with men only (34.5%, [34.2–34.8%]) or women reporting sex with women only (28.1%, [22.2–34.0%]). Among women with BV, 4,404 (99%) received treatment and 1588 (36.1%) of those had another clinician visit within 6 months. Among returning women, 282 (17.8%) were given another BV diagnosis within 3 months, and 601 (37.8%) within 6 months.

Conclusion One-third of women attending NYC SHC were diagnosed with BV, and recurrent BV was common. Additional research is needed to identify effective therapies to reduce the high prevalence and recurrence rates of BV.

Disclosure No significant relationships.

P363 COMBINED ORAL AND TOPICAL ANTIBIOTIC THERAPY FOR MALE PARTNERS OF WOMEN WITH BACTERIAL VAGINOSIS: A PILOT STUDY

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Background More than 50% of women experience recurrence of bacterial vaginosis (BV) within 3–6 months following first-line antibiotics. Increasing evidence suggests that reinfection from an untreated sexual partner contributes to BV-recurrence. We conducted a pilot study of combined oral and topical antibiotic treatment of male partners of women being treated for BV.

Methods Women attending Melbourne Sexual Health Centre with symptomatic BV (≥ 3 Amsel's criteria and Nugent Score [NS]=4–10) were recruited with their regular male partner (RSP). Women received oral metronidazole 400 mg twice daily (BD; or 2% clindamycin cream *nocte*, if contraindicated), for 7-days. Males received oral metronidazole 400 mg BD and 2% clindamycin cream topically to penile skin BD, for 7-days. Couples self-collected genital samples (vaginal swab, penile swab and male urine) and completed questionnaires for 4-weeks post treatment. The proportion of women cured (NS ≤ 7) at 4-weeks post treatment was calculated. A subset of couples will be followed to 12-weeks post treatment and this data will also be available for presentation. Genital samples will be analysed to understand the impact of partner treatment on the genital microbiota, and the contribution of behaviours and host factors to BV-recurrence.

Results Data from 46 couples has been analysed. Thirty-eight women (83%) reported a past history of BV and 14 (30%) reported intra-uterine device (IUD) use. Most RSPs were uncircumcised ($n=38$, 83%). Treatment adherence was high, with 91% taking $\geq 70\%$ of prescribed doses. The proportion of women cured at 4-weeks was 93% ($n=43/46$, 95%CI: 82–99%). All cases of BV-recurrence ($n=3$) had a past history of BV and an uncircumcised RSP. Two cases had an IUD *in situ* and one reported condomless vaginal sex during treatment.

Conclusion Treating sexual partners of women with BV may be an effective strategy for improving BV-cure. Randomised controlled trials of partner treatment currently underway will help determine the effectiveness of this intervention.

Disclosure No significant relationships.

P364 GARDNERELLA VAGINALIS CLADE DISTRIBUTION IS ASSOCIATED WITH BEHAVIOURS AND NUGENT SCORE IN WOMEN WHO HAVE SEX WITH WOMEN

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Background *Gardnerella vaginalis* (GV) can be detected in women with BV and without BV. Identification of four genetically distinct GV-clades (defined using clade-specific genetic markers) led to the hypothesis that there may be both pathogenic and commensal GV-clades. We conducted a study investigating the distribution and behavioural associations of GV-clades in a cohort of women-who-have-sex-with-women (WSW).

Methods Women self-collected vaginal swabs and completed behavioural questionnaires 3-monthly for 24 months or until incident BV (Nugent Score [NS]=7–10). qPCR assays were used to detect GV and the four GV-clades. Multinomial logistic

regression assessed factors associated with number of GV-clades. Generalized estimating equations population-averaged models assessed factors associated with each GV-clade. Models accounted for repeated measures.

Results 369 specimens from 101 women were analysed. GV was detected in 181 specimens, and most GV-positive specimens had multiple clades present ($n=119/181$, 66%). Detection of multiple GV-clades was associated with smoking (adjusted relative risk ratio [RRR]:2.52; 95%CI:1.25,5.07), increased lifetime female sex partners (FSP; adjRRR:2.43; 95%CI:1.09,5.38), and a NS=4-6 (intermediate microbiota) or NS=7-10 (Nugent BV) relative to no clades. GV4 was the most prevalent clade ($n=136/369$; 37%; 95% CI: 32,42%), followed by GV1 ($n=116/369$; 31%; 95% CI: 27,36%) and GV2 ($n=76/369$; 21%; 95% CI: 17,25%). GV3 was uncommon ($n=17/369$; 5%; 95% CI:3,7%). GV1 was associated with a NS=7-10 (adjusted odds ratio[AOR]:3.87; 95% CI:1.75,8.56), smoking (AOR:2.74; 95%CI:1.28,5.87) and report of any sexual partners (AOR:3.41; 95%CI:1.18,9.86). GV2 was associated with NS=4-6 (AOR:3.28; 95% CI:1.00,10.77), sharing of sex-toys (AOR:2.30; 95% CI:1.05,5.04) and recent male sex partners (AOR:6.58; 95% CI:2.02,21.40). GV4 presence was associated with increased lifetime FSPs (AOR:3.17; 95%CI:1.25,5.07).

Conclusion GV1 and presence of multiple GV-clades was associated with Nugent BV in WSW, whereas GV2 was associated with intermediate microbiota. Individual GV-clades were associated with a range of differing sexual behaviours in adjusted analyses. These associations are of uncertain importance, but do provide support for exchange of GV-clades between sexual partners.

Disclosure No significant relationships.

P365 MICROBIAL RISK FACTORS FOR ACQUISITION OF SYMPTOMATIC BACTERIAL VAGINOSIS (BV)

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Background Vaginal dysbiosis is common among women of reproductive age but many women having vaginal dysbiosis do not develop symptomatic BV requiring treatment. Our objective was to identify microbiota using quantitative PCR (qPCR) which were associated with acquisition of symptomatic BV.

Methods In this secondary analysis of a vaccine trial, 440 healthy asymptomatic sexually active women aged 18-40 had vaginal swabs collected at baseline and returned at 1, 2 and 4 months. Eleven vaginal microbes at baseline were identified using qPCR (five species of *Lactobacillus* (*crispatus*, *vaginalis*, *jensenii*, *gasseri*, *iners*), three species of *Prevotella* (*bivia*, *timonensis*, *amni*), *Atopobium vaginae* (AVAG), *Gardnerella vaginalis* (GVAG) and *Megasphaera* phylotype I (MEGA). Time to first acquisition of symptomatic BV was based on self-report of antibiotic treatment for BV. Cox proportional hazards models were used to evaluate the association of microbiota with BV acquisition.

Results Thirty-five women developed symptomatic BV over 130.7 person-years (PY) of follow-up for an overall rate of 27/100PY. Women who acquired BV had a lower baseline prevalence of *L. crispatus* than those who did not (31.4% vs

57.8%; $P=0.012$), and a higher prevalence and log concentration of GVAG (97.1% vs 76.0%), AVAG (77.1% vs 43.7%), MEGA (65.7% vs 23.2%), *P. timonensis* (80.0% vs 61.7%), and *P. amni* (51.4% vs 20.5%), ($P\leq 0.001$). In multivariable analyses, women who had GVAG, AVAG, and MEGA at baseline had a significantly higher BV acquisition rate (74/100 PY, hazard ratio=21.2; 95% confidence interval: 2.8-158.8) compared to women who had none of these microorganisms (rate=4/100 PY). Women who had only one (BV rate=16/100 PY) or two (BV rate=14/100 PY) of the three microbes detected at baseline were not more likely to acquire BV ($P\geq 0.14$).

Conclusion Although many individual bacteria contribute to the dysbiotic communities associated with BV, the combination of GVAG, AVAG, and MEGA rather than presence of lactobacilli predicts symptomatic BV.

Disclosure No significant relationships.

P366 AN EVALUATION OF THE BD MAX™ VAGINAL PANEL COMPARED TO THE NUGENT SCORE FOR DIAGNOSIS OF BACTERIAL VAGINOSIS (BV)

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Background The Nugent criteria have been used as a comparator to Amsel criteria for diagnosis of BV. The BD MAX™ Vaginal Panel (MVP) received market authorization by the FDA as a molecular test to aid in the diagnosis of vaginitis/vaginosis. The assay detects *Lactobacillus crispatus*, *L. jensenii*, *Gardnerella vaginalis*, *Atopobium vaginae*, *Megasphaera*-1 and BVAB-2, utilizing a semi-quantitative algorithm. Our objective was to evaluate agreement between Nugent score (NS) and MVP and to identify factors contributing to the discordance between methods.

Methods 303 women aged 18-40 presenting with a complaint of vaginitis symptoms provided informed consent and were enrolled at 8 community practice sites affiliated with a single medical system. Clinicians evaluated study participants per local practice and 5 additional vaginal swabs were collected. Vaginal swabs were evaluated by the MVP, plus NS (≥ 6) for diagnosis of BV. Quantitative PCR (qPCR) was used to evaluate vaginal microbiota in the samples yielding discordant results.

Results Of the 290 evaluable samples, the level of agreement between NS and MVP was 88% with 36 discordant results. There were 6 Nugent 0-3 and 13 NS 4-6 that were BV positive by MVP. Of these 19, the median concentration of *L. iners* by qPCR was log concentration 7.3, *A. vaginae* was 6.7 and *G. vaginalis* was 7.5. Of the 17 positive for BV by NS (median NS 8) but negative by MVP, the median concentration of *G. vaginalis* was 7.5 but *A. vaginae* and *L. crispatus* had medians of 0 by qPCR.

Conclusion Nugent score and MVP had high levels of agreement for diagnosis of BV. Because *L. iners* is indistinguishable from *L. crispatus* and *L. jensenii* by Gram stain, high concentrations of this microorganism contribute to lower NS and substantially contributes to the NS-/MVP+ discordance. The primary source of discordance for NS+/MVP- samples is lack of *A. vaginae*.

Disclosure No significant relationships.