analysed by ANOVA test. The study was approved by the Hospital Ethical Committee.

**Results** Among all the women enrolled, 25 were considered healthy, 18 received a diagnosis of BV and 22 were positive for CT. PCA revealed that the vaginal microbiome of healthy and BV-subjects were clearly distinct and that CT-positive women were more similar to healthy women rather than to BV-positives, both for microbial composition and for metabolic profile. The mean GV DNA load was significantly different between the groups (p=0.03): healthy and CT positive women showed similar and lower mean loads compared to BV group. At a metabolic level, significantly higher concentrations of formate, ethanolamine and methylamine were found in BV-patients, while tryptophan and lactate were more present in healthy and CT-positive women.

**Conclusion** Specific microbial and metabolic signatures characterise different clinical conditions of the vaginal tract. In this context, CT-positive women are definitely more similar to healthy than BV-subjects.

## P1.14 EVALUATION OF THE APTIMA ASSAYS FOR THE DETECTION OF BACTERIAL SEXUALLY TRANSMITTED INFECTIONS IN A SELECTED POPULATION OF WOMEN

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**Introduction:** *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG) and *Mycoplasma genitalium* (MG) represent the most common agents of bacterial sexually transmitted infections (STIs), worldwide. In women, uro-genital infections caused by these microorganisms are often asymptomatic and, left untreated, can lead to several sequelae. Nucleic acid amplification techniques (NAATs) have become the reference methods for the diagnosis, thanks to the suitability for different specimens and the outstanding sensitivity and specificity. The aim of this study was to assess the performance of Aptima Assays for CT, NG and MG detection in a group of selected women, by a head-to-head comparison with other NAATs. Moreover, an evaluation about the suitability for the Aptima assays with one of the most used swab collection device (E-Swab; Copan) was carried out.

**Methods** Routinely, all the women attending the STI Outpatients Clinic of Sant'Orsola-Malpighi Hospital of Bologna (Italy) complaining of genital STI-related symptoms or reporting unsafe intercourse, are managed as follows. After a clinical visit, a sample of first-void urines and a vaginal swab collected in E-swab, are obtained for CT, NG and MG detection. A duplex real-time PCR (Versant CT/GC DNA 1.0 assay; Siemens) is used for CT and NG detection, while, MG presence is investigated by a home-made PCR, starting from the remaining eluate of Versant PCR plate. From January 2016, a total of 100 patients were selected and their samples were also tested with Aptima assays. Previously frozen samples were thawed and transferred to the suitable collection devices for Aptima assays: in particular, 2 ml of urines and 100 µl of vaginal E-swab were used. All the specimens were processed by Aptima Combo2® for CT and NG detection and by the Aptima® *Mycoplasma genitalium* assay for MG infection diagnosis. These assays were run on Panther system (Hologic). A comparison between the different molecular methods, stratified by type of sample and microorganism, was conducted.

**Results** In the group of 100 women selected, 25 patients were positive for CT, 4 for NG and 6 for MG. One case of CT-NG and two cases of CT-MG co-infections were found. Interestingly, more than 50% of CT-positive women were completely asymptomatic. By the routine tests, all positive cases were simultaneously found both on the urine sample and on the vaginal swab, except for 3 CT, 1 NG and 1 MG infections, detected only on the vaginal swab. A complete concordance with Aptima assays, both for the type of sample and microorganism was found, with only one discordant result (a CT case detected by Versant on urines and vaginal swab, found by Aptima only on urines). Any interference due to the different liquid components of E-Swab was excluded.

**Conclusion** Given the outstanding performance, Aptima assays can represent an excellent choice for CT, NG and MG molecular detection. Moreover, it is noteworthy that Aptima assays allow testing of specimens collected by E-Swab, enabling the possibility to use the same sample for both NG molecular detection and culture.

## P1.15 *TRICHOMONAS VAGINALIS* IN HUMAN IMMUNODEFICIENCY VIRUS-INFECTED PREGNANT WOMEN: PREVALENCE, DETECTION, AND APPLICATION OF PCR CYCLE-THRESHOLD VALUES

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**Introduction:** *Trichomonas vaginalis* (TV) is a sexually transmitted infection (STI) associated with increased transmission of human immunodeficiency virus (HIV) and significant adverse birth outcomes. Although culture is often used in the diagnosis of TV, molecular diagnosis is rapid, accurate, and data-rich.

**Methods** Women were recruited from two clinics in South Africa as part of a study assessing point-of-care polymerase chain reaction (PCR) diagnosis and treatment of three STIs. HIV-infected pregnant women were screened for TV using the Xpert TV (Cepheid, Sunnyvale, CA). Each woman who tested TV PCR-positive provided an additional sample for culture (InPouch TV, Biomed, San Jose, CA). We compared TV detection between PCR and culture, and used non-parametric statistics to compare cycle threshold (Ct) values among culture results and treatment outcomes.

**Results** By December 31st, 2016, 200 women were enrolled and 52 (26%) tested TV PCR-positive. Baseline cultures were obtained from 41 (79%) of the TV PCR-positive women, and 22 (54%) were culture-positive. The median baseline Ct of the TV PCR-positive/culture-positive group was 24.0 (IQR: 5.1) vs. 38.0 (IQR: 3.8) among those TV PCR-positive/culture-negative (p<0.05). Forty-two women returned for a 3 week test-of-cure (ToC), and 10 (24%) were still TV PCR-positive. Of the women who remained TV PCR-positive at