

P07.15 REABILITY AND VALIDITY ON BACTERIAL VAGINOSIS (BV) SCREENING AMONG SEXUAL WORKERS – BATURRADEN, BANYUMAS DISTRICT, CENTRAL JAVA, INDONESIA 2014

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Introduction Prevalence of Bacterial Vaginosis (BV) in various countries around the world is quite high and the highest prevalence is found in female sex workers (FSW). Resulting interference of BV epithelial vaginal infection, disturbs balance of normal flora of the vagina and changes acidity (pH), which could be a base for increased risk to HIV infection. Early BV detection among FSW is recommended for early treatment to prevent other serious infections. Screening was conducted to detect BV, calculate the prevalence and evaluate the medical staff of STD's Program.

Methods A cross-sectional study was implemented in December 2014. Subjects were sex workers in Banyumas District, Central Java. Amsel criteria were used for diagnostic test and Hay/Ison criteria as a gold standard.

Results There 99 women out of 200 sex worker in Baturraden were screened. Results of screening of BV as per Amsel criteria are 37 people (38%) and gold standard are 43 people (43%) positive for BV. The loss of acidity was found in most of them (78%) as an indicator with the highest level of agreement (97%). The fishy smell indicator using whiff test on were the lowest level of agreement (74%). Reability of the examination between doctors is optimum (89%). Realibility of clue cell indicators using microscopic examination between analyst on the health centre with hospital is still limited (56%). The validity of Amsel criteria compared with Hay/Ison criteria were optimum (Sn = 89%, Sp = 72%, PPV = 81%, NPV = 84%).

Conclusion Prevalence of BV among subjects were 43%. Amsel criteria can be used for screening method because it has good sensitivity and specificity to determine BV. The agreement between Health Centre Analyst and Hospital need to be improved (<80%). We recommend Banyumas Health Department to conduct workshop and training for laboratory staff for microscopic examination.

Disclosure of interest statement This study is my field project as a FETP Trainee that are funded by FETP UGM. No funding were received for this study.

P07.16 THE IMPORTANCE OF ATOPOBIUM VAGINAE IN BACTERIAL VAGINOSIS-ASSOCIATED BIOFILM

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Introduction In case of bacterial vaginosis (BV), lactobacilli are outnumbered by anaerobic bacteria. These bacteria have been described to form a polymicrobial biofilm ("clue cells") attached

to the vaginal epithelium, possibly explaining the decreased sensitivity to antibiotic treatment and the frequent chronicity of BV. A better understanding of this biofilm may contribute to more precise delineation, and consequently to better diagnosis and treatment of BV. We used Fluorescence *In Situ* Hybridization (FISH) to study the presence of *Atopobium vaginae* (Av) and *Gardnerella vaginalis* (Gv) biofilm, in relation to the status of the vaginal microbiome (according to Nugent score).

Methods Duplicates of 461 vaginal slides of 120 participants, participating in a contraceptive vaginal ring trial in Rwanda, were evaluated according to Nugent score after Gram staining and by FISH with species-specific probes for Av and Gv.

Results In the majority of samples (59.6%) with Nugent score 7–10 (BV diagnosis), a Gv+Av biofilm was visualised by FISH. In these BV samples, 7% had no Gv and Av present, in 9% Gv and/or Av was present but only planktonic, 18.6% had Gv biofilm but no Av present and 5.8% Gv biofilm with Av planktonic only. When Av and/or Gv were planktonic in the vagina and not part of a biofilm, the Nugent score was low, defining a healthy vaginal microbiome. However the probability of having a disturbed vaginal microbiome (Nugent 7–10) was increased ($p < 0.001$) when a biofilm was visualised with FISH. Moreover, the probability for having a Nugent score of 7–10 was increasing when *A. vaginae* was part of the biofilm ($p < 0.001$).

Conclusion Our study focusing on Gv and Av, shows that these are two major players in a polymicrobial condition. It confirms the importance of Gv-biofilm in BV and strongly indicates that Av plays an important role in BV-associated biofilm.

Disclosure of interest statement This work was supported by European and Developing Countries Clinical Trials Partnerships (EDCTP), by Combined Highly Active Anti-Retroviral Microbicides (CHAARM) and by Dormeur Investment Service. No pharmaceutical grants were received in the development of this study.

P07.17 CHANGES OF BIOMARKERS IN A MSM HIV INFECTION INDICATE THE REQUIREMENTS OF BOTH ANTIGEN AND ANTIBODY TESTS FOR EARLY DIAGNOSIS

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Background Early diagnosis of human immunodeficiency virus (HIV) infections has significant impact in HIV controls. This case report aimed to examine changes of biomarkers in an acute HIV infection in a man who had sex with men (MSM), and to suggest laboratory tests for early detection of HIV infections.

Methods The patient presented himself to a specialised hospital. Information on sexual activities, symptoms and signs were collected during the consultation. Repeated measurements of HIV viral-load, p24 antigen-antibody complex, and lymphocyte subsets were undertaken. Tests for HIV genotypes and drug resistance were also conducted.

Results The patient, a MSM, sought medical care 8 days after the onset of low fever and sore throat. The last unprotected MSM sex activity occurred 20 days prior to the onset of the symptoms. Physical examination revealed periodontitis and torso rash. The p24 antigen was positive on the 1st visit and titers declined to undetectable 10 days after the 1st visit. HIV antibody was absent until 10 days after the 1st visit, and confirmatory test (Western Blot) was negative until 20 days after the 1st visit.

CD4/CD8 ratios decreased over the course of clinical observation. HIV viral load was at the highest on the 1st visit and declined afterwards. The HIV virus had a genotype of CRF 01_AE.

Conclusion In clinical practice, a combination of HIV antigen-antibody tests is required for early detection of HIV infections.

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P07.18 EASE AND COMFORT OF A NOVEL HERSWAB™ VAGINAL SELF-SAMPLING DEVICE FOR THE DETECTION OF SEXUALLY TRANSMITTED INFECTIONS

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Introduction Eve Medical Inc. (Toronto, Canada) has developed a novel HerSwab™ device for self-collection of vaginal samples for STI screening. The objective of this study was to survey opinions on ease and comfort from women using the HerSwab™.

Methods A total of 189 women with infection prevalence of 10.6% for *C. trachomatis* and 2.6% for *N. gonorrhoeae* by Aptima Combo 2 assay testing signed consent for a physician-collected sample with a vaginal swab and a self-obtained vaginal sample using the HerSwab™ device. The order of collection was randomised. A research coordinator demonstrated steps for proper self-sampling following instructions in the HerSwab™ package. Following self-collection, each participant completed a 5-point Likert Scale questionnaire indicating ease (5 steps) and comfort (3 steps) of self-collection. Additional questions included: whether the instructions were easy to follow; whether there was anything that participants would change about the device; whether participants preferred physician or self-collection and why; and whether participants would consider self-sampling at home.

Results The majority of women experienced high levels of ease and comfort. Instructions were easy to follow for 97.1% (169/175); 80.9% (140/173) preferred self-collection over physician-collection; and 79.7% (137/172) would consider self-collection at home. Reasons for preferring self-collection included convenience, privacy, confidentiality, an opportunity for self-education of own body, greater access for people with disabilities, comfort, and a reduction of physical and psychological stress. Suggestions to improve ease and comfort included making the brush bristles softer and including arrows on the handle of the device to better indicate the direction of turning.

Conclusion Vaginal self-sampling with the HerSwab™ device demonstrated high levels of ease and comfort. The majority of women found the instructions easy to follow, preferred self-sampling over physician sampling and would consider self-collection at home. Organisers of STI screening programs should benefit from this personal feedback on vaginal self-collection.

Disclosure of interest statement Dr. Chernesky has received research funding from Eve Medical Inc.

P07.19 ADDED VALUE OF A NOVEL DUAL TREPONEMAL/NONTREPONEMAL RAPID DIAGNOSTIC TEST FOR SYPHILIS AMONG PREGNANT WOMEN

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Introduction In resource-limited settings, syphilis rapid diagnostic tests (RDTs) aide in the prevention of congenital syphilis. However, most syphilis RDTs detect only treponemal antibodies which persist after treatment. Consequently, treatment may be provided unnecessarily to pregnant women with past infection. We estimated the potential reduction of over-treatment by comparing a new RDT detecting both treponemal and non-treponemal antibodies, with a treponemal RDT (T-RDT).

Methods A prospective descriptive study among pregnant women in antenatal care was conducted in Déou, Burkina Faso. The women were included if they were eligible for routine syphilis screening and provided informed consent. *DPP Screen and Confirm assay* (Chembio) and T-RDT (SD Bioline) were performed on whole blood specimens by a trained laboratory technician. Plasma was tested in an international reference laboratory by *T. Pallidum* Particle Agglutination (TPPA) and quantitative Rapid Plasma Reagin, (RPR). Presumptive active syphilis was defined as both TPPA and RPR were reactive.

Results A total of 242 pregnant women were included: 91 (37.6%) had a presumptive active syphilis and one-in-five (19.8%) had high RPR titres $\geq 1:8$. The DPP did not reduce the number of incorrectly treated cases (over-treatment) compared to the T-RDT (0.0% vs. 2.5%; $p = 0.218$). In addition, the DPP led to a higher proportion of under-treatment compared to the T-RDT (18.2% vs. 0.8%; $p < 0.001$). Therefore, 48.4% of women requiring treatment (including 16% with high RPR titres) would not have been treated using DPP against 2.2% using T-RDT.

Conclusion This study was the first evaluation of DPP in pregnant women. DPP showed no added value in reducing the proportion of women unnecessarily treated. Conversely, it underestimated women needing treatment. Our study population may not have been representative as the surprising high seroprevalence may suggest presence of other treponemal infections in the area. Accordingly, additional studies are required to evaluate the potential benefits of DPP.

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P07.20 FIELD EVALUATION OF A DUAL RAPID DIAGNOSTIC TEST FOR HIV INFECTION AND SYPHILIS IN PORT-AU-PRINCE, HAITI

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Introduction Congenital syphilis is responsible for over 500,000 adverse pregnancy outcomes globally every year, including