

immunocompromised and likely to present with co-morbidities like tuberculosis and have short-term mortality. Delay in diagnosis is significant to both disease prognosis at patient level as well as transmission at community level. An early diagnosis provides opportunities of reducing or halting further transmission. Present study was designed to determine proportion of late presenters and those with advanced HIV disease based on CD4 count and correlate same with socio-demographic characteristics of newly diagnosed HIV patients in Southern India.

Methods This observational study was done by extracting data from medical records of all HIV patients who attended ART centre of tertiary care hospital, using a pre tested data extraction sheet. Diagnosis of HIV infection with CD4 count.

Results 475 HIV patients with mean age of 40.9 ± 10.8 years were studied. Median CD4 count at initial presentation was 265 cells/mL. Main mode of transmission was heterosexual. Commonest opportunistic infection was tuberculosis. Total of 312 patients (65.9%) were late presenters and 218 patients (45.99%) had advanced HIV disease. Males, patients of higher age groups and unemployed patients tend to be late presenters. Majority of study population presented at stage I (66%). However, a significant number of patients present with stage IV disease (21.4%).

Conclusion Significant proportion of HIV patients were late presenters and had advanced disease at initial presentation. There was a significant association between gender, age group and occupation with late presentation as well as advanced disease. Health education and awareness generation about importance of early presentation is crucial to decrease mortality in HIV population.

P2.07 ANAL HIGH-RISK HUMAN PAPILLOMAVIRUS INFECTIONS AMONG MEN WHO HAVE SEX WITH MEN LIVING IN THE CENTRAL AFRICAN REPUBLIC

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10.1136/sextrans-2017-053264.184

Introduction High-risk Human Papillomavirus (HR-HPV) infection is the causal agent of anal cancer in men who have sex with men (MSM). Herein, the prevalence of HR-HPV was evaluated by molecular biology in MSM living in Bangui, the capital of the Central African Republic (CAR).

Methods Forty-two MSM attending the Centre National de Référence des Infections Sexuellement Transmissibles et de la Thérapie Antirétrovirale (CNRISTAR) were prospectively enrolled and tested for HPV. Genomic DNA was extracted using the DNeasy Blood and Tissue kit (Qiagen, CA, USA). Human beta-globin DNA was detected by PCR. Anyplex II HPV28 (H28) HPV Genotyping Test (Seegene, Seoul, South Korea) was used for HPV genotype distribution in human beta-globin DNA positive samples.

Results Among the 42 anal specimens, 29 (69% [95% CI: 55.0%–83.0%]) were positive for HPV DNA. Multiple genotype infections were frequent in 86.2% (25/29; 95% CI: 73.6%–98.7%) of positive anal samples and 88% of them were infected by an average of 2.5 HR-HPV (range, 1 to 8 genotypes per anal specimen). 13.8% of anal samples were infected with a single type of HPV and all of them were high-risk types. HPV 31 was found in 65% of single HPV infection. HR-HPV type 35 was the most prevalent genotype

(27.5%), followed by HPV 42 and HPV 53 (24.1%), HPV 58 and 59 (20.7%) and HPV 31 and 61 (17.2%). Interestingly, HR-HPV type 16 and 18 were poorly represented in 13.8% (4/29) and 10.3% (3/29), respectively. Only one sample was simultaneously infected by HPV 16 and HPV 18. Low-risk (LR) HPV 6 and HPV 11 were observed in 2 and 3 anal samples, respectively.

Discussion HR-HPV 35, LR-HPV 42 and LR-HPV 53 were the most prevalent genotypes in anal samples. These findings suggest unusual and unique distribution of HPV genotypes in the MSM population of Bangui, and implies that the currently available 9-valent HPV vaccine would be poorly effective in this at-risk population.

P2.08 MICROBIOLOGICAL FACTORS THAT CONTRIBUTE TO THE DEVELOPMENT OF BACTERIAL VAGINOSIS: A LONGITUDINAL STUDY

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10.1136/sextrans-2017-053264.185

Introduction The aetiology and pathogenesis of bacterial vaginosis (BV) are unclear which has impacted greatly on efforts to improve the efficacy of current treatment approaches. We examined the microbial composition of the vaginal microbiota and factors associated with the development of BV, in women-who-have-sex-with-women (WSW) who were participating in a two year cohort study, in order to gain insights into the microbial changes that occur around the development of BV.

Methods 298 women self-collected high vaginal swabs and completed questionnaires detailing behavioural practices and symptoms three monthly for 24 months or until incident BV, whichever occurred first. BV was diagnosed by the Nugent method and women could only enrol in the cohort if they were BV negative on 3 weekly vaginal samples at screening. Fifty-one cases of incident BV occurred over 24 months (BV incidence rate, 9.75/100 woman-years). Vaginal swabs were stored at - 80°C. Available longitudinal vaginal specimens from the 51 cases who developed BV and 51 age-matched controls who did not, were included in this study to examine the vaginal microbial composition by 16S rRNA gene sequencing; 47 case participants and 50 control participants met the requirements for specimen submission and sequencing quality (353 swabs). Microbial factors associated with the development of BV were determined by multivariable analysis, adjusting for sexual behaviours. Microbial diversity and stability were assessed by the Shannon diversity index and Bray-Curtis dissimilarity scores between consecutive paired longitudinal samples.

Results For each 1% increase in *Gardnerella vaginalis* abundance there was a 2% increased risk of developing BV (Adjusted Hazard Ratio [AHR]=1.02, 95% CI 1.01–1.03, p0.001). Detection of BVAB TM7 (uncharacterised bacterium of candidate division TM7) was associated with a 6 fold increase in risk of developing BV (AHR=6.06, 95% CI: 1.99, 18.43, p=0.002). In contrast for each 1% increase in *Lactobacillus crispatus* abundance there was a 1% reduction in the

risk of developing BV (AHR=0.99 95% CI 0.098–1.00, $p=0.038$). The vaginal microbiome of women who developed BV was characterised by high microbial diversity and less stability compared to controls ($p=0.04$).

Conclusion In a cohort that was designed carefully to study incident BV, lower abundance of *L. crispatus*, increased abundance of *G. vaginalis*, and detection of BVAB TM7 were significantly associated with development of BV, after adjusting for bacterial species and sexual behaviour. Increased vaginal microbial diversity, decreased stability and exposure to new sexual partners were also associated with the development of BV in WSW. Incident BV may result from sexual exchange of key BV-associated bacteria such as *G. vaginalis* which could destabilise the microbial ecology through displacement of beneficial bacteria such as *L. crispatus*.

P2.09 KNOWLEDGE OF MICROBICIDE AMONG COMMERCIAL SEX WORKERS IN NAIROBI KENYA

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10.1136/sextrans-2017-053264.186

Introduction To determine the current knowledge of Microbicide and its future usage among Commercial Sex Workers who are exposed to unproductive sex. Also to assess how Microbicide could affect their sexual behaviours.

Methods Self administered Questionnaires among 55 respondents were used in a cross sectional way to investigate how they will take Microbicide as a preventive measure. This survey was conducted in the month of August-September 2015.

Results 58.5% of the respondents have never heard of Microbicide while 41.5% of the respondents have heard of Microbicide. The respondents in both cases were sexually active. The acceptance of Microbicide among the respondents was 80.2% if administered by a medical personnel advise while 19.8% of the respondents were ready to use immediately without an advice of a medical personnel advise. 2.1% of the respondents were not sure whether to use Microbicide or not since they didn't know the side effects of the Product and its reliability on prolonged usage and they preferred condom use ALWAYS.

Conclusion To meet Commercial Sex Workers (CSW) needs, more information and knowledge should be made available to them through awareness creation campaigns, web pages of Commercial sex workers etc. Also easy to use methods of Microbicide should also be put in place which is to be conducted by a medical expert to avoid misuse of the Product. However, for most of the respondents, Microbicide is most acceptable method of Prevention and they could use more frequently than condom usage.

P2.10 WHAT IS THE ROLE OF PAIRED RPR TESTING IN THE DIAGNOSIS OF SYPHILIS REINFECTION AND THE FOLLOW UP OF SYPHILIS?

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10.1136/sextrans-2017-053264.187

Introduction Syphilis reinfections are playing an increasing role in syphilis transmission in a number of populations. The

assessment of reinfection and response to treatment depends on accurately measuring intraindividual changes in non-treponemal tests (delta-NTTs). In a 0 to 6 month delta-RPR determined by routine RPR testing (RT), samples would be tested 6 months apart with differences in reagent batches, environmental temperatures and observers all leading to measurement errors. We hypothesised that conducting paired RPR (PT) would enable a more accurate determination of delta-RPR than RT.

Methods 120 patients with a new diagnosis of syphilis were followed up at 0,3,6,9,12,18 and 24 months with RPRs performed via RT at each study visit and at any suspected reinfection. RPR PT was performed at 0 and 6 months and at any suspected reinfection.

Results The quantitative agreement +/-1 dilution among PT and RT was 97.4%. There was no difference in the proportion with an incomplete serological response at 6 months: 21 (19.4%) and 19 (17.6%) according to PT and RT, respectively ($p=0.726$). There was no statistically significant difference between 0 to 6 month delta-RPR as determined by PT and RT in predicting seroresponse at 12 months (86.1% and 91.6% agreement with 12 month classification, respectively, $p=0.262$). PT did not reduce the numbers of those classified with asymptomatic reinfections.

Conclusion In our setting routine PT is unlikely to be worth the considerable effort and cost it entails. Further research is required to assess its utility in specific circumstances.

P2.11 ASSOCIATION BETWEEN GENITAL HERPES SIMPLEX VIRUS TYPE-2 SHEDDING AND PRESENCE OF BACTERIAL VAGINOSIS-ASSOCIATED BACTERIA

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10.1136/sextrans-2017-053264.188

Introduction Herpes simplex virus type 2 (HSV-2) infection increases the risk of bacterial vaginosis (BV). We hypothesised that the biologic mechanism of this association is that genital HSV-2 shedding increases inflammation, resulting in increased presence and quantity of BV-associated bacteria (BVAB).

Methods HSV-2 seropositive women with a clinical history of BV in the past 12 months collected daily genital swabs for HSV detection and vaginal swabs for Nugent score and analysis of the microbiome for 28 days. BV was defined as Nugent score ≥ 7 . Quantitative PCR (qPCR) with species specific primers for *Lactobacillus crispatus*, *L. iners*, *L. jensenii*, *Gardnerella vaginalis*, *Megasphaera* and BVAB-2 were performed. HSV was detected using real-time qPCR. The presence of each bacterial species was compared on days with and without HSV shedding using Poisson regression.

Results Forty-eight women (median age 40; 48% white) with a median of 2 genital HSV-2 recurrences in the prior year (range 0–12) were enrolled for a total of 1277 days of observation. Genital HSV shedding was detected on 134 (10%) days. Of 960 days with Nugent score available, BV was present on 351 (37%) days. The risk of BV was not significantly different in the presence of HSV shedding (RR=0.84, 95% CI=0.66–1.07). Several bacterial species appeared to be detected more frequently on days with HSV shedding as