

patients still get transient side-effects especially at the beginning of taking this regimen due to efavirenz as such, regular monitoring and thorough counselling of all patients on the side effects of tenofovir-based regimen and transient nature of side effects is needed. A large scale study to be done to obtain data on long-term side-effects of tenofovir-based regimen most possibly renal impairment due to tenofovir or efavirenz-induced gynecomastia.

**P17.26 VIRAL LOADS AMONG HIV-INFECTED PERSONS DIAGNOSED WITH PRIMARY AND SECONDARY SYPHILIS IN FOUR US CITIES: NEW YORK CITY, PHILADELPHIA, PA, WASHINGTON, DC, AND PHOENIX, AZ**

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The findings and conclusions in this report are those of the authors and do not necessarily represent views of the Centres for Disease Control and Prevention.

**Background** Incident syphilis among HIV-infected persons indicates ongoing behavioural risk for HIV transmission. Detectable viral loads among co-infected cases may amplify this risk.

**Methods** Primary and secondary (P&S) cases reported during 2009–2010 from four US sites were cross-matched to local HIV surveillance registries to identify syphilis case-persons infected with HIV prior to or shortly after the syphilis diagnosis. We examined HIV viral load and CD4 results collected within 6 months before or after syphilis diagnosis for the co-infected cases identified. Independent correlates of detectable viral loads ( $\geq 200$  copies/mL) were determined.

**Results** We identified 1675 cases of incident primary or secondary syphilis among persons with HIV. Median age was 37 years, 99.5% were male, 41.1% were African American, 24.5% Hispanic, and 79.9% of the HIV diagnoses were made at least one year prior to syphilis diagnosis. Among those co-infected, there were no viral load results reported for 188 (11.2%); of the 1487 (88.8%) with reported viral load results, 809 (54.4%) had a detectable viral load (median 25,101 copies/mL, range 206–3,590,000 copies/mL). Detectable viral loads were independently correlated with syphilis diagnosed at younger age, at an STD clinic, and closer in time to HIV diagnosis.

**Conclusion** More than half of syphilis case-persons identified with HIV had a detectable viral load collected within 6 months of the syphilis diagnosis. This suggests virologic as well as active behavioural risk for transmitting HIV.

**P17.27 DECENTRALISING HIV VIRAL LOAD TESTING TO A REGIONAL LABORATORY IN AGADIR, SOUTHERN MOROCCO**

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Despite the increase of HIV patient throughput in Morocco, follow up testing (HIV Viral load VL) is still centralised in the National referral laboratory (NRL) as the activity required trained staff and specialised infrastructure.

Patients were often lost due to great distances between testing centre and home as well as delays in returning results.

To follow the dynamic of decentralising HIV treatment and care in Morocco, the NRLH launched a process of strengthening regional laboratory capacities.

In this framework, we assessed factors associated with lab capacities to offer HIV viral load testing, and followed their performance after implementation.

On site visits were performed to the laboratory of the regional laboratory of the Hassan II hospital of Agadir in southern Morocco; this region that accounts the greatest number of HIV positive cases. Using Laboratory assessment tool, the laboratory capacities were evaluated, and gaps related to the facility layout, human resources, training, equipment and reagent were fixed thank to the Global Fund for HIV support.

A follow up the lab performance was set for a period of two months, by retesting all the samples ( $n = 194$ ) at the NRL. Data were analysed using MedCalc software to calculate the Spearman's coefficient of rank correlation ( $\rho$ ).

VL results were ranged from 150 to 221 242 copies/mL.

A perfect match of VL results between the measurements at the NRL and at the Agadir regional lab was observed. The observed Spearman correlation index was of 0.98.  $P < 0, 0001$  (95% CI: 0,973 to 0,990).

In the light of these results, HIV VL testing was moved to the periphery and closer to the site of therapeutic management structures. Patients could get their results conveniently and quickly. This experience is worth to reproduce in other regions of the kingdom where HIV prevalence is steadily increasing.

**P17.28 ASSESSMENT OF HIV-1 PRIMARY DRUG RESISTANCE MUTATIONS IN ANTIRETROVIRAL THERAPY-NAÏVE CASES IN MOROCCO**

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Antiretroviral drug resistance is a major challenge for management and control of HIV-1 infection worldwide and particularly in resource limited countries.

Although combined antiretroviral drug therapy has greatly improved the life-span and the life quality of the patients, HIV-1 drug resistance poses a major obstacle for treatment outcome.

This study aims to determine the prevalence of primary resistance in a group of newly diagnosed patients naïve to treatment, in the region of Souss Massa Draa in southern Morocco.

A total of 47 antiretroviral treatment (ART) naïve patients were included. Virological status was determined by Real time PCR (Abbott, USA).

Primary drug resistance mutations were identified according to the Stanford HIV database and the algorithm of the National Agency for AIDS Research (ANRS). The clinical staging of patients was made upon the International Classification of the Centres for Disease Control (CDC).

Nineteen 19% of recruits were diagnosed in stage A, 11% in stage B, and the large proportion of patients in stage C 38%, while 32% of which the stadium has not been determined.

VLs Rates among patients ranged from 5000 to 10 million copies/ml, with a large majority of patients (42.55%) whom VL was estimated from 10 000 and 100 000 copies/ml. Most prevalent HIV-1 subtypes were subtype B (74%); and CRF02\_G (26%). Drug resistance exploration showed that 17% of the studied group carry at least one resistant mutation that confers resistance to non-nucleoside reverse transcriptase inhibitors (NNRTIs), and 13% have at least one NRTI resistance mutation, while no major resistance mutation was detected for protease inhibitors (IPs). Detected mutations were as follows: M41L, K70E, M184V, L210W and T215C/D/S, responsible for nucleoside RT inhibitor (NRTI) resistance; K103N/S M230L and V106I, responsible for non-nucleoside RT inhibitor (NNRTI) resistance; M46L and L90M, responsible for protease inhibitor (PI) resistance.

The primary resistance rate observed in the study group was estimated at 8.5% (4/47). This rate describes the primary resistance level in this region as a moderate level (between 5 and 15%), requiring continuous monitoring of resistance in patients immediately after diagnosis of infection and prior to initiation of treatment antiretroviral.

**Disclosure of interest statement** Nothing to declare.

#### P17.29 UGT1A1\*6 POLYMORPHISMS ARE PREDICTIVE OF HIGH PLASMA CONCENTRATIONS OF DOLUTEGRAVIR IN JAPANESE INDIVIDUALS

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**Background** Dolutegravir (DTG), an HIV integrase inhibitor, is metabolised mainly by glucuronidation via UDP-glucuronosyl-transferase 1A1 (UGT1A1). Several UGT1A1 polymorphisms have been correlated with UGT1A1 expression level or enzymatic activity. We compared the effect of two polymorphic alleles in this gene, UGT1A1\*6 and UGT1A1\*28, on plasma DTG concentrations in Japanese HIV-1-infected patients.

**Methods** The plasma trough DTG concentration was measured in 69 HIV-1 patients taking DTG at Osaka National Hospital, and UGT1A1 genetic screening (\*6 and \*28) was performed. UGT1A1 was genotyped using the sequence method. Plasma was sampled immediately before taking DTG, and plasma DTG concentrations were determined using a liquid chromatography-mass spectrometry.

**Results** In the 69 patients who received DTG, the frequencies of UGT1A1\*6 and UGT1A1\*28 were 23% and 13%, respectively. The plasma trough concentrations of DTG in patients homozygous for UGT1A1\*6 (n = 7, median: 1.4 µg/mL) were significantly higher than those in the patients carrying the normal allele (n = 32, median: 0.89 µg/mL; p = 0.011). The plasma trough concentrations of DTG in patients homozygous for UGT1A1\*28 (n = 3, median: 1.2 µg/mL), compound heterozygous for UGT1A1\*6 and UGT1A1\*28 (n = 2, 0.98 and 1.2 µg/mL, respectively), and heterozygous for UGT1A1\*6 and UGT1A1\*28 (n = 15 and 10, median: 1.1 and 1.0 µg/mL, respectively) were not significantly different from those in the patients homozygous for the normal allele.

**Conclusion** The plasma trough concentration of DTG was significantly higher in patients who were homozygous for UGT1A1\*6

than in those with the normal allele. This finding suggests that the presence of UGT1A1\*6 influences the plasma DTG concentration.

**Disclosure of interest statement** Authors do not have any commercial or other association that might pose a conflict of interest.

#### P17.30 A FEASIBILITY STUDY ASSESSING FERTILITY IN HIV-SERODISCORDANT COUPLES ATTEMPTING PREGNANCY IN KISUMU, KENYA

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**Background** HIV-serodiscordant couples desiring children face the difficult choice between risking transmission through condomless intercourse to become pregnant and the social stigmatisation of being childless. In sub-Saharan Africa, 14.3 million women are HIV-infected and many exercise their reproductive right to achieve pregnancy; however, though often overlooked, fertility problems due to tubal damage, menstrual cycle irregularities, and diminished ovarian reserve may affect these women.

**Methods** A study of female positive/male negative (♀+/♂-) HIV-serodiscordant couples using timed vaginal insemination (TVI) as a safer method of conception was conducted in Kenya. A fertility evaluation was offered to couples unable to achieve pregnancy after six cycles of TVI. Men completed a semen analysis and women a hystero-salpingo-contrast-sonography (HyCoSy) to investigate the uterus, ovaries, and fallopian tubes.

**Results** Fifteen of 23 ♀+/♂- HIV-serodiscordant couples were eligible for fertility evaluations; 14 consented; and seven completed male and female fertility assessments. The mean age of the men and women who completed fertility evaluations was 33.7 (std. dev. = 4.58), and 30 (std. dev. = 5.41) years, respectively. Fertility evaluations determined that three women had bilateral fallopian tube occlusion with one male partner having decreased sperm motility; and four women had unilateral/bilateral fallopian tube patency. Seven couples declined or were unable to complete a full couple evaluation. Of the 14 women evaluated, six (46%) had an HIV RNA viral load (≥400 copies/mL); six (46%) had an undetectable HIV RNA viral load; and two declined serum assessment.

**Conclusion** Amongst HIV-serodiscordant couples attempting to achieve pregnancy, underlying male and/or female factor infertility and inadequate viral suppression may be present. As safer conception interventions are integrated into HIV care programs, a fertility evaluation should be offered, if feasible and available, to HIV-affected individuals/couples planning a pregnancy, to optimise their conception efforts, decrease HIV transmission, and assess their potential to conceive without assistance.

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