

(PWID; range: 9.5–70.0%; 95% CI: 24.1–40.1%), and 2.5% among populations at intermediate risk (range: 0.0–8.3%; 95% CI: 1.4–3.9%). Among PWID, HCV incidence at 6 months was assessed at 66.7 per 100 person-years in one study. Geographic and temporal variations in HCV prevalence among PWID and prisoners appear to be present. While prevalence among PWID appeared to decline over few years from 36.0% to 27.6% in Kabul, from 12.5% to 9.5% in Jalalabad, and from 24.1% to 18.8% in Mazar-i-Sharif, it increased from 49.1% to 70% in Herat. Among prisoners, HCV prevalence appeared to increase from 1.7% to 4.6% in Kabul and declined from 4.1% to 1.4% in Herat. Risk factors among PWID included a range of injecting behaviours and socio-demographic characteristics.

Conclusions HCV prevalence among the general population in Afghanistan is comparable to developing and developed countries globally. There is an immediate need for increasing access to harm reduction programs among specific populations at risk, specifically PWID and prisoners.

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P10.16 FACTORS ASSOCIATED WITH ACCEPTANCE OF GENITAL HERPES TESTING FOR BLACK PATIENTS PRESENTING FOR CARE AT AN STD CLINIC

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Background 15.5% of the population in the United States is infected with herpes simplex virus-type 2 (HSV-2). HSV-2 rates are disproportionately high in black Americans, with seroprevalence approaching 50% in some communities. Knowledge of infection status is an important prevention tool. We evaluated barriers to acceptance of serological testing for HSV-2 in black patients presenting to an STD clinic.

Methods This ongoing study evaluates factors associated with HSV-2 serological test acceptance in patients living in the Southeastern US. Participants did not report a history of genital herpes and data analyses were restricted to black patients (93.5% of the study population). Sera were tested with HerpeSelect® assays. χ^2 tests determined differences between groups based on testing. Univariate (UV) and multivariable (MV) analyses were performed to determine odds ratios (OR) for factors associated with test acceptance.

Results Of 112 participants, only 85 (75.9%) accepted HSV-2 testing. Although only one participant felt their test results would be positive, seroprevalence for HSV-2 was 31.7%. Test acceptance was more common in persons presenting for symptom evaluation (53.1%) than as contacts (17.2%) or for screening (29.7%). In UV analyses, participants who reported depression (OR 2.8; 95% CI 1.1, 8.3), previous HIV testing (OR 3.0; 95% CI 1.1, 7.9) and STI history (OR 5.8; 95% CI 1.5, 24.4) were more likely to accept testing. Only previous HIV

testing (AOR 7.4; 95% CI 1.2, 66.4) remained significant in MV analysis.

Conclusions While many participants accepted testing, the rate was lower than in previous studies with little perception of risk. Culturally tailored interventions are needed to enhance assessment of HSV risk and test acceptance.

Disclosure of interest statement No disclosures.

P10.17 INHIBITION OF HERPES SIMPLEX VIRUS 1 (HSV-1) REPLICATION BY INOSITOL-REQUIRING ENZYME 1 (IRE1) PATHWAY

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Introduction Endoplasmic reticulum (ER) plays important roles in viral replication. Massive viral proteins entering the ER can trigger ER stress. The ER stress is marked by the activation of a series of signalling pathways, called the unfolded protein response (UPR), which consists of three distinct, yet related, signal pathways, PERK, IRE1 and ATF6. The PRKR-like ER kinase (PERK) signalling branch has been the focus of investigation on its roles during HSV gene expression. In contrast, there have been little studies on roles of the IRE1 branch of the UPR on HSV replication.

Methods Western blot, RT-PCR, RNA interference and in cell western method were used in the study.

Results We showed that HSV-1 replication was inhibited by the phosphorylation of the IRE1 (p-IRE1) pathway. We also detected the mRNA expression of spliced X box-binding protein 1 (XBP1_s), which was activated by p-IRE1. IRE1 mRNA was up-regulated by viral infection, but XBP1_s was not affected, which indicated that viral replication is not associated with spliced XBP1 signal pathway. It is known that cJUN NH2-terminal kinases JNK [JNKs; also known as stress-activated protein kinases (SAPKs)] is another downstream component of IRE1 and JNK is known to be activated by infected cell polypeptide 0 (ICP0), the immediate early protein of HSV-1. Our results revealed that the JNK activation was attenuated following the IRE1 inactivation. Inhibition of ire1 function by RNA interference (siRNA) could block the viral replication and JNK activation, suggesting that IRE1 pathway is required for facilitating viral gene expression and the inhibition of IRE1 activation blocks viral replication.

Conclusion The identification of roles of the IRE1 branch of ER stress in HSV-1 replication will provide new insight to the HSV-1 pathogenesis and may lead to new therapeutic targets.

Disclosure of interest statement No conflict of interest in the development of this study.

P10.18 ACYCLOVIR 1 GM TWICE A DAY FOR 3 DAYS FOR THE TREATMENT OF RECURRENT GENITAL HERPES

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Background Recurrent genital herpes is conventionally treated with acyclovir 200 mg 5 times a day orally which is inconvenient to take. We studied the effectiveness and safety of acyclovir 1 gm twice daily orally for 3 days in treatment of genital herpes.

Methods Patients presenting with recurrent genital herpes were included in the study. After a complete clinical and laboratory evaluation, the patients were treated with acyclovir 1 gm twice daily orally for 3 days and followed up on days 3, 5 and 7 to determine the response to treatment and adverse effects.

Results There were 23 patients (21 males and 2 females, between 18–55 years of age), of which 22 complete the study. Nine (41%) of them had complete healing of the ulcer on day 3, whereas 17 (77%) and 20 (91%) had it by day 5 and 7 respectively. Mean percentage healing of ulcer was 77.95 ± 26.03 , 90.00 ± 16.20 and 95 ± 7.07 on day 3, 5, and 7 respectively. Visual analogue score (VAS) showed complete improvement in VAS in 9 (41%) patients on day 3, 21 (95.5%) on day 5 and 22 (100%) on day 7. The mean time of complete improvement in VAS was 4.27 ± 1.16 days. Mean of percentage improvement in VAS was 80.45 ± 25.30 on day 3 and 100 ± 0.00 on day 7. Mean healing time of the lesions was 4.67 ± 1.87 days (range 3–10 days). There were no significant adverse effects of the therapy.

Conclusions The study demonstrated that oral acyclovir 1 gm twice daily is effective and safe for the treatment of recurrent genital herpes. There was rapid healing of lesions, which reduces morbidity, psychological distress and risk of transmission of infections to sexual partner. Further studies are however needed to confirm our results.

P10.19 CAN HSV-2 SEROPOSITIVITY BE USED AS A BIOLOGICAL MARKER OF SEXUAL BEHAVIOUR? FINDINGS FROM A SEROPREVALENCE SURVEY IN ENGLAND

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Introduction Reliable measures of sexual behaviour aid understanding of differences in sexually transmitted infections between groups or over time, but are often difficult or infeasible to collect. Antibody to herpes simplex virus type 2 (HSV-2) has been proposed as a marker of sexual behaviour. We investigated the seroepidemiology of HSV-2 in England to explore the use of HSV-2 as such a marker.

Methods Anonymised sera from 16–44 year-old participants in the Health Survey for England (HSE) in 2010 and 2012, a series of nationally-representative household surveys, were tested for anti-HSV-2 antibodies using the HerpeSelect2 IgG ELISA. Factors associated with seropositivity were investigated using logistic regression

Results HSV-2 seropositivity increased with age up to 15% (95% CI: 11%–19%) in women and 9% (6%–14%) in men aged 40–44 years. Seropositivity was higher in those with more sexual partners over the lifetime in women (1.4% in those with 0 vs. 14% in those with ≥ 10 lifetime sexual partners, $p = 0.018$) but not in men (5% vs. 7%, $p = 0.683$). There was no difference by number of partners in the last year or by recent condom use. Women of black or black British ethnicity had around 3-times higher odds of being seropositive than those of white ethnicity (24% vs. 10%, odds ratio [OR]: 2.96, 95% CI: 1.16–7.54; $p = 0.023$). No difference by ethnicity was noted among men.

Conclusion Our findings suggest antibodies to HSV-2 may be a useful marker for number of lifetime sexual partners in women but not in men. There was less evidence to support the use of HSV-2 as a marker for recent sexual risk behaviour. These data

can be used to power future analyses using HSV-2 as a marker of sexual behaviour in women. Although detailed analyses by ethnicity were limited by sample size, the differential risk of seropositivity by ethnicity is of interest and warrants further investigation.

Disclosure of interest statement The study was funded by the Health Protection Agency (now part of Public Health England). No pharmaceutical or diagnostic company grants were received in the development of this study.

P10.20 DIGITAL DROPLET PCR (DDPCR) QUANTIFICATION OF HUMAN T-LYMPHOTROPIC VIRUS TYPE-1 CLADE C IN PERIPHERAL BLOOD AND LUNG INFILTRATES OF INDIGENOUS AUSTRALIAN BRONCHIECTASIS PATIENTS

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Background Human T-cell Lymphotropic Virus type-1 (HTLV-1) infects an estimated 20 million people worldwide causing a fatal T-cell leukaemia and inflammatory conditions, such as HTLV-1-associated myelopathy, resulting from a dysregulated inflammatory response to the virus. HTLV-1 is highly endemic to remote indigenous communities in Central Australia where infection contributes to racial disparities in morbidity and mortality. HTLV-1 related complications are associated with elevated numbers of T-cells in which the HTLV-1 provirus integrates (HTLV-1 proviral load, PVL). Digital-droplet PCR (ddPCR) is capable of absolute quantification of PVL, offering low variability between assays with few cell numbers. We measured HTLV-1 PVLs from buffy coat cells (BCCs) of infected individuals, and bronchoalveolar lavage (BALs) infiltrates from a bronchiectasis patient to determine the range of HTLV-1 copies/cell relative to illness.

Methods All samples were from Alice Springs Hospital HTLV-1 cohort (8 BCCs, 1 BAL) and obtained following ethics approval and patient consent in first language. Genomic DNA was extracted from BCCs for ddPCR PVL quantification. HTLV-1 gag/tax primers and FAM/MGB probes were optimised using temperature gradient amplification. Samples were tested in duplicate relative to an internal reference gene standard, RPP30, or negative threshold controls that used VIC/MGB probe. QuantaSoft software was used for data analysis.

Results Of the 8 samples from BCCs, the PVL fell between $320 - 8,040$ proviral copies per 10^6 cells. The BAL sample PVL was 1,110 DNA copies per 10^6 cells. The sensitivity (or limit of detection) of our ddPCR assay is 2 copies of proviral DNA per 10^4 cells.

Conclusion The ddPCR assay demonstrates extremely high sensitivity, low assay-variability and the capability to reliably quantify HTLV-1 PVL. This technique offers logistic advantages in studying relationships between PVL in HTLV-1 patient's BCCs and BAL.

Disclosure of interest statement No Conflicts of interest.

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