

had oral sex with new clients. During the same period, 72% respondents had 1–12 regular clients and 71.5% of them never used condom while 7% respondents had 1–5 non-paying partners. During the last 1 month, five hijras had paid women to have vaginal sex. Nineteen hijras paid another man to have sex with them. Only 27.1% were not aware of any symptom of sexually transmitted infections. Majority of the hijras (81.5%) were familiar with HIV/AIDS. However knowledge about its mode of transmission was faulty.

**Conclusion** Due to low level of accurate knowledge regarding STI/HIV and pernicious risk behaviours, hijras may become a potent source of HIV transmission, if necessary remedial measures are not taken.

## Clinical sciences oral session 1—Syphilis: enhanced approaches for detection & characterisation

### 03-S1.01 BRITISH OCULAR SYPHILIS STUDY (BOSS): NATIONAL SURVEILLANCE STUDY OF INTRAOCULAR INFLAMMATION SECONDARY TO INFECTIOUS SYPHILIS

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**Background** Syphilis poses a significant public health problem. There has been a 1032% increase in the incidence of syphilis between 1999 and 2008 in the UK. There are currently no epidemiological studies looking at the incidence of ocular syphilis in the light of the outbreak. Ocular syphilis is a rare, but treatable if recognised early. The purpose of this study is to ascertain the incidence of intraocular syphilis in the UK and to characterise the clinical presentation patterns of ocular syphilis.

**Methods** A prospective study was conducted in the UK and Republic of Ireland, where cases of ocular syphilis were reported through the national reporting system (British Ocular Surveillance Unit) over an 18-month period from May 2009. Case definition was any adult patient who presented with intraocular inflammation and early infectious syphilis as evidenced by positive syphilis serology with (1) high titre RPR of >1:8 or (2) signs of secondary syphilis.

**Results** 35 new cases of ocular syphilis were reported (annual incidence 0.46 per million) with a mean age of 51.5 years (range 22–75 years). 86% were males; 88% were caucasians and 12% were Afro-Caribbean. The mean duration of symptoms was 1.0 month prior to presentation (range 2 days to 4 months). 46% of patients had bilateral involvement and the mean presenting logMAR visual acuity was 0.48 (20/60 Snellen; range –0.1–1.86). 54% had visual acuities of 20/40 Snellen or better at initial consultation. Presenting acuity was not influenced by duration of visual symptoms. Intraocular pressure on presentation was elevated in only one patient (27 mm Hg). Although 68.4% had an anterior uveitis (AU), isolated AU was rare (1 case). 63% had vitritis; 61% had a form of posterior uveitis, (60% retinitis, 56% vasculitis, 50% macular oedema, 28% choroiditis). 32% of cases had optic nerve involvement. Of males whose sexual orientation was ascertained 85% were MSM. Of patients whose HIV status was known, 71% were HIV positive.

**Conclusions** This study is the largest prospective series of ocular syphilis in the post-penicillin era providing up to date Western European incidence, demographic and clinical data. Syphilitic uveitis affects mainly adult males of all ages; majority were MSM or HIV positive. The uveitis is normotensive, posterior uveitis is common, and AU rarely presents in isolation. Clinician and public health awareness of ocular syphilis remains important.

### 03-S1.02 DECIPHERING THE CODE OF *TREPONEMA PALLIDUM* IN THE UK: IMPLICATIONS FOR TREATMENT AND PREVENTION

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**Background** The efficacy and convenience of single-dose oral azithromycin meant it became the preferred treatment for syphilis in many countries and a suitable alternative to penicillin in many more. However, two point mutations (A2058G and A2059G) in the 23srRNA gene of *Treponema pallidum* (*T pallidum*) have separately been shown to confer high-level macrolide resistance. Furthermore, molecular analyses of *T pallidum* with an enhanced sub-typing method have revealed the existence of a number of strain types, which both persist over generations and may be associated with distinct clinical phenotypes.

**Methods** Following informed consent, whole EDTA blood and ulcer exudate absorbed onto filter paper Snostrips were collected from patients with any stage of syphilis in a London genito-urinary medicine clinic between 2006 and 2008. *T pallidum* DNA was extracted and strain types and macrolide resistance-associated mutations sought by: (1) PCR amplification of the 23srRNA gene and restriction fragment length polymorphism (RFLP) analysis following Mbo-II and Bsa-I digestion; (2) determination of the number of 60-base repeats within the ARP gene by PCR and agarose gel electrophoresis; (3) PCR amplification of the TPR gene family and RFLP analysis following Mse-I digestion; (4) sequence analysis of a section of the tp548 gene.

**Results** Forty-two of the 44 (95.5%) patients diagnosed with syphilis were male, of which 63.6% were MSM and 28/44 (63.6%) were HIV-1 infected. *T pallidum* DNA was present in sufficient quantity and quality for analysis in 18/44 (40.9%). 23srRNA gene analysis revealed 6/18 (33.3%) wild-type sequences, 11/18 (61.1%) A2058G mutants and 1 (5.6%) A2059G mutant. Full strain-typing was possible in 5 clinical samples (four were 14d/g and one was 14d/f), and partial typing in a further 7 (see Abstract 03-S1.02 table 1).

Abstract 03-S1.02 Table 1

Sample	Number of ARP gene repeats	TPR gene Mse-1 RFLP analysis	Tp548 gene sequence analysis	Final enhanced strain type
1	—	—	G	—
2	14	d	G	14d/g
3	14	d	G	14d/g
4	14	d	G	14d/g
5	—	—	G	—
6	—	—	F	—
7	14	d	F	14d/f
8	14	—	F	—
9	—	—	G	—
10	14	d	G	14d/g
11	14	—	F	—
12	—	—	F	—
Positive control (Nichols)	14	—	A	14a/a

**Conclusions** The high frequency of *T pallidum* macrolide resistance mutations described in the UK for the first time has clear implications for national treatment strategies. The majority of patients with syphilis were men, of which most were MSM and over half were HIV-1 positive. It is thought that transmission of *T pallidum* within sexual networks has played a part in the resurgence of syphilis in the UK over the last decade and the predominance of the 14d/g subtype may reflect this. Alternative explanations are that this strain type is more virulent or has become endemic, as in the