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Background Lymphogranuloma venereum (LGV) infection is now endemic among men who have sex with men (MSM) in the UK. Control of the outbreak has relied on LGV typing and treating of symptomatic patients since previous UK data indicated only 6% of cases were asymptomatic. However, emerging evidence suggests there may be a significant reservoir of asymptomatic infection.

Methods Twelve UK Genitourinary Medicine clinics that routinely screen all MSMs for *Chlamydia trachomatis* (CT) at the pharynx, urethra and rectum participated in a case-finding study. All CT-positive specimens in MSMs during the study period (24/09/12–07/12/12) were referred for LGV typing and clinical data collected. Descriptive and logistic regression analyses were done.

Results 71 (9%) LGV and 742 (91%) non-LGV CT serovars were confirmed. Clinical data were available for 49 (69%) LGV and 545 (73%) non-LGV cases. LGV detection was higher in Brighton (10%), London (10%) and Manchester (11%) than in Glasgow (4%).

11/49 (22%) LGV infections detected were asymptomatic at first presentation; 91% (n = 10) of these were rectal. 3/11 (27%) LGV infections were 'pre-symptomatic' (asymptomatic at first attendance but symptomatic after the second attendance for treatment). Compared to non-LGV cases, LGV cases were older (median age 39 vs 32 years), more likely to have rectal infection (87% vs 60%; urethral 4% vs 28%; pharyngeal 4% vs 23%) and to be symptomatic (78% vs 44%). In univariate analysis, older age (OR = 16.9, p < 0.01; 35–44 vs 18–24 years), rectal infection (OR = 5.98, p < 0.0001) and symptomatic infection (OR = 4.20, p < 0.0001) were significantly associated with being an LGV case.

Discussion Asymptomatic rectal LGV is considerably more common than previously reported in the UK. This could reflect changing screening practises for MSM, or evolving LGV epidemiology. LGV typing in asymptomatic rectal CT may be warranted to reduce ongoing transmission. The effectiveness of current CT treatment regimens in asymptomatic LGV needs assessment

P3.139 **EARLY INCUBATING GONORRHOEA AND CHLAMYDIA INFECTIONS IN MSM WITH AN INDICATION FOR HIV POST EXPOSURE PROPHYLAXIS (PEP)**

doi:10.1136/sextrans-2013-051184.0598

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Introduction A PEP indication is an ideal opportunity for safe sex promotion and STI screening. Since 2010 the STI outpatient clinic in Amsterdam, the Netherlands, offers PEP to HIV negative men who have sex with men (MSM) who had unprotected receptive anal intercourse within the last 72 hours. If STI screening is performed at the moment of PEP request, early incubating chlamydia and gonorrhoea infections acquired during the unsafe sex act, are possibly missed. We aimed to determine if chlamydia and gonorrhoea screening should be repeated in MSM 2 weeks after a PEP indication.

Methods We included all MSM visiting the STI clinic with a PEP request in the period from April 2010 until December 2012. STI testing was offered to all MSM during the PEP evaluation visit. Men were screened for urethral, anal and pharyngeal infections based on their practised sex techniques. If PEP was indicated a visit was planned 2 weeks later to repeat gonorrhoea, and chlamydia screening.

Results 447 consultations MSM requested PEP and in 325 (72.7%) PEP was indicated. In 50/325 (15%) cases at least one STI was diagnosed at the moment of PEP indication. 172 (52.9%) cases returned after 2 weeks of whom in 9 (5.2%) cases at least one previously undiagnosed infection was found (3 rectal chlamydia, 3 rectal gonorrhoea, 2 rectal chlamydia/gonorrhoea double infections, and 1 pharyngeal chlamydia).

Conclusion Repeated chlamydia and gonorrhoea screening 2 weeks after a PEP indication in MSM revealed 5.2% additional, possibly early incubating, infections. Yet, 47.1% of MSM did not show up for the second screenings visit. Therefore STI screening should be offered at the PEP indication visit and preferably repeated after 2 weeks to exclude early incubating chlamydia and gonorrhoea infections.

P3.140 **LYMPHOGRANULOMA VENEREUM AMONG MEN WHO HAVE SEX WITH MEN IN THE NETHERLANDS: AN UPDATE ON THE CURRENT SITUATION**

doi:10.1136/sextrans-2013-051184.0599

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Background Since 2003, an epidemic of Lymphogranuloma venereum (LGV) among men who have sex with men (MSM) in Europe has been on-going. This study determined how the epidemic of LGV in MSM visiting STI clinics in the Netherlands has evolved since 2006.

Methods Data on MSM from the national STI surveillance system for 2006–2011 were analysed. LGV testing and positivity rates were calculated and multivariable logistic regression analysis was applied to study risk factors for LGV. In addition, data on the number of cases and positivity rate for the first six months of 2012 were analysed.

Results Between 2006 and 2011, 75% of cases of anorectal chlamydia in MSM were tested for LGV, but this varied between regions from 7% to 97%. In this period, 414 LGV cases were diagnosed, with a mean positivity rate of 8.7%. Positivity rate decreased from 14% in 2007 to 6% in 2011. However, results from the first half year of 2012 showed that positivity rate increased sharply to 14.7% (n = 106 new cases). In multivariable analyses on all cases, risk factors for LGV were HIV positivity (OR = 4.1; 95% CI: 3.2–5.3), STI symptoms (OR = 4.1; 95% CI: 3.1–5.4), > 50 sex partners in the past 6 months (OR = 3.7; 95% CI: 1.1–12.4), older age (40–44: OR = 2.1; 95% CI: 1.5–2.8), no condom use with last partner (OR = 2.2; 95% CI: 1.2–3.9) and exclusively having sex with men (OR = 2.2; 95% CI: 1.1–4.2). No significant changes over time were found in risk behaviour.

Conclusions Since 2006, the annual incidence for LGV fluctuated but was consistently higher than before 2003 and is increasing sharply in the first half of 2012. Regional differences in LGV testing rates limit nationwide LGV surveillance, leading to an underestimation of the real LGV incidence. Characteristics of MSM affected by LGV did not change over time, so prevention strategies and timely and adequate diagnostic towards this specific high-risk group should be intensified.

P3.141 **CORE WITHIN A CORE? ANALYSIS OF LGV PATIENTS WITH A KNOWN REPEAT INFECTION**

doi:10.1136/sextrans-2013-051184.0600

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Background Lymphogranuloma venereum (LGV) is a re-emergent STI that particularly affects HIV-positive men who have sex with men. During enhanced surveillance in the United Kingdom a number of individuals presented with LGV re-infection. Determining

reasons for their increased risk is of importance in designing effective interventions. We sought to identify characteristics that might explain re-infection among these men.

Methods Between 2004–2010 the LGV Enhanced Surveillance system collected individual-level cross-sectional data on confirmed LGV episodes. We compared the baseline characteristics of men with repeat LGV episodes to men with a single reported episode and we report univariate logistic regression or Fisher's exact test where appropriate.

Results In the dataset 1215 individuals had a single reported infection and 62 had a known repeat infection. The mean age was 38 which did not differ between groups. Men with re-infection had higher prevalence of HIV than those with one episode (97% versus 79%, $P < 0.001$), concurrent hepatitis C (PCR) (19% versus 9%, OR 2.19, 95% CI 1.05, 4.59) and gonorrhoea infection (29% versus 16%, OR 2.16, 95% CI 1.21, 3.84). Repeaters were also more likely to be seen in a clinic in London (81% versus 68%, OR 2.00, 95% CI 1.05, 3.80) and they reported higher levels of unprotected sex including insertive and receptive unprotected sex. However, a high proportion of non-repeaters also reported unprotected sex and the difference was not statistically significant.

Conclusions LGV repeaters display characteristics traditionally attributed to core groups, but behavioural characteristics alone did not explain LGV re-infection among these patients. LGV repeaters have a high prevalence of STI co-infections which is of clinical and epidemiological relevance, and may suggest their position in the sexual network is contributing to the heightened risk for STI acquisition. Further research is needed to ascertain this.

P3.142 EPIDEMIOLOGY OF STI IN MEN HAVING SEX WITH MEN IN ITALY, 1991–2010

doi:10.1136/sextrans-2013-051184.0601

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Background In recent years, sexually transmitted infections (STI) have been increasing among men who have sex with men (MSM) in several industrialised countries. The objective of this study was to assess socio-demographic, behavioural and clinical characteristics of MSM with STI, in Italy.

Methods Data were obtained from the Italian Sentinel STI Surveillance System based on a network of 12 specialised clinical centres located in large cities (1991–2010). All MSM are offered HIV testing and serostatus is recorded.

Results Between 1991 and 2010, 85,073 STI cases were reported; 13,081 (15.6%) were diagnosed among MSM. The annual number of STI cases remained stable over time, whereas the proportion of MSM with STI increased from 11.2% in 1991 to 17.5% in 2010. The most frequent diagnoses among MSM were: genital warts (33.3%), primary and secondary syphilis (19.5%), and gonococcal urethritis (15.4%). The annual number of cases of primary and secondary syphilis remained stable until 2000 (about 24 cases/year) and then increased ten-fold in 2005 (No. 325) compared to 2000, with a slight decrease after 2005. Overall, among the 10,350 (82.9%) MSM with STI who underwent HIV testing, the HIV prevalence was 21.1%, showing a decrease during the study period from 28.1% in 1991 to 21.3% in 2010. Among the 2,288 HIV-positive MSM, 35.7% were new HIV diagnoses.

Conclusion The proportion of MSM with STI increased between 1991 and 2010. In 2010, compared to heterosexuals, HIV prevalence among MSM was eight times higher and the proportion of primary and secondary syphilis was six times higher.

These results stress the need for prevention campaigns targeted at reducing the spread of STI among MSM, and the need for an active proposal of HIV testing (including the opt-out approach) among STI patients.

P3.143 THE EPIDEMIOLOGY OF SEXUALLY TRANSMITTED INFECTIONS AMONG MEN WHO HAVE SEX WITH MEN IN MAINLAND CHINA: A META-ANALYSIS AND DATA SYNTHESIS

doi:10.1136/sextrans-2013-051184.0602

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Background HIV and syphilis prevalence has increased substantially among men who have sex with men (MSM) in China. This study aims to assess the magnitude in other sexually transmitted infections (STIs) among this population.

Methods Chinese and English peer-reviewed articles were searched from five electronic databases (PubMed, Embase, Wanfang Data, VIP Chinese Journal Database and China National Knowledge Infrastructure) up to Dec 2012. Pooled prevalence estimate for each STI from available studies were calculated. Odds ratios for STIs prevalence among MSM were compared with the adults in the general population and male sex workers (MSW).

Results Eighty-eight articles (11 in English and 77 in Chinese) with a total of 35203 MSM were included in this review. The national prevalence level of STIs between 2003 and 2011 were: 6.32% (3.54–11.02%) for chlamydia, 1.86% (1.27–2.73%) for gonorrhoea, 8.92% (7.75–10.24%) for HBV, 1.25% (1.00–1.55%) for HCV, 66.25% (57.38–74.10%) for any HPV genotype, 10.64% (6.24–17.57%) for HSV-2, and 13.45% (11.78–15.23%) for syphilis. MSM have consistently higher risk of STIs than the general Chinese population (chlamydia: OR = 1.43, 1.31–1.56; gonorrhoea: OR = 2.42, 1.63–3.59; HBV: OR = 1.97, 1.57–2.48; HCV: OR = 48.40, 6.38–367.09; syphilis: OR = 28.38, 28.38–31.14). However, as a subgroup of MSM, MSWs were 1.43 (1.31–1.56), 2.42 (1.63–3.59) and 2.26 (1.37–3.72) more likely to be infected with chlamydia, gonorrhoea and HCV than the broader MSM population.

Conclusion Prevalence levels of STIs among MSM in China are greater than levels in the general population and MSWs have greater prevalence of STIs compared with the broader MSM population.

P3.144 STD CLINICS SERVE AN ECONOMICALLY DISADVANTAGED SUBSET OF THE WIDER POPULATION OF MEN WHO HAVE SEX WITH MEN (MSM) WITH BACTERIAL SEXUALLY TRANSMITTED INFECTIONS (STI)

doi:10.1136/sextrans-2013-051184.0603

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Background U.S. STD clinics are closing. MSM are a priority population for STD treatment. We evaluated differences between MSM diagnosed with STI in an STD clinic and MSM diagnosed in other venues.

Methods We randomly sampled and interviewed MSM reported with gonorrhoea, chlamydial infection, or early syphilis in King County, Washington, 2007–2012. We weighted for interview non-response based on race, ethnicity, STI diagnosis, STD clinic diagnosis (vs. elsewhere), and year.

Results A total of 2,865 (38%) of 7,568 MSM cases were randomly selected, of whom 2107 (73.5%) were interviewed; 1275 (61%) interviewed men were STD clinic patients. STD clinic patients were less likely to have stable housing (91% vs. 95%, $p = 0.003$) or a college degree (34% vs. 44%, $p < 0.0001$), and more likely to be unemployed (28% vs. 23%, $p = 0.01$). Both groups were similar in terms of age, race, ethnicity, and HIV status. STD clinic patients were more likely to be diagnosed with gonorrhoea (57% vs. 47%, $p < 0.001$), to report a prior diagnosis of bacterial STI (68% vs. 55%, $p < 0.0001$), and to have sought care because of symptoms (45% vs.