P031 HEPATITIS A SUSCEPTIBILITY IN MEN WHO HAVE SEX WITH MEN (MSM)

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Hepatitis A is an important sexually transmitted enteric infection in MSM and an effective vaccination is available. It has been estimated that 70% of MSM need to be immune to hepatitis A in order to provide adequate herd immunity. In the UK, hepatitis A transmission in MSM is associated with high risk behaviours such as anonymous sex, multiple sexual partners, sex-on-premises venues and dating apps. European Centre of Disease Prevention and Control (ECDC) and the British Association for Sexual Health and HIV (BASHH) recommend opportunistic vaccination for all MSM.

We aimed to estimate the proportion of MSM who were susceptible to hepatitis A over a 10-year period (from 2010–2019) and to determine if there are any demographic factors associated with susceptibility which may provide useful information for future vaccination programmes.

6884 MSM attended for the first time during the study period. 1401/6884 (20%) were tested for hepatitis A IgG at this first attendance. Testing rates increased significantly between 2010–2019 (OR=67.79;95%CI=39–118, $p \leq 0.0001$). 626/1401 (45%, 95% CI=42–47) were susceptible to hepatitis A (conferred by a negative IgG). Susceptibility rates did not change significantly during the study period (OR=0.98;95% CI=0.33–2.89, $p=0.98$). MSM aged 35 years and under had significantly higher susceptibility vs MSM over 35 years (OR 3.42;95%CI=2.71 to 4.31, $p \leq 0.0001$). UK-born MSM had significantly higher susceptibility vs non-UK born MSM (OR=1.5,95%CI=1.21–1.86, $p=0.0002$). There was no difference in the presence of a sexually transmitted infection (chlamydia, gonorrhoea, syphilis, HIV) at their first attendance between susceptible and immune MSM (OR=1.2,95% CI=0.95–1.62, $p=0.1099$).

Susceptibility of Hepatitis A in MSM is much lower than necessary to control future outbreaks. It is important that effective targeting of MSM, particularly young MSM occur at all levels of healthcare, rather than waiting until opportunistic presentation at a sexual health clinic.

P032 VAGINAL MICROBIOTA CHARACTERISTICS AND GENITAL INFECTIONS AMONG PREGNANT WOMEN IN PEMBA ISLAND, TANZANIA

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Background Genital infections burden and frequency of detrimental, non-Lactobacillus dominated vaginal microbiota (VMB) are high in sub-Saharan Africa. In countries such as Tanzania these challenges overlap with, and possibly contribute to, maternal complications.

Objectives This study reported on prevalence of common, and often curable, Chlamydia trachomatis (CT), Neisseria gonorrhoea (NG), Trichomonas vaginalis (TV), Mycoplasma genitalium (MG), human papillomavirus (HPV) infections, and on VMB composition among pregnant and post-delivery women in Pemba Island, Tanzania.

Methods Vaginal swabs were collected at two timepoints during pregnancy and once after delivery by Pemba Bio-bank. Molecular assays were used to detect HPV, CT, NG, TV, and MG in samples from 438 individual women. IS-pro kit was used to characterize the VMB in a subset of women ($n=90$) based on 16S-23S rDNA interspacer region length. VMB were defined based on dominant species. Shannon diversity index, for number (richness) and relative abundance of species, was calculated and Mann-Whitney test used for analysis.

Results In samples from 20.5% of the women, at least one pathogen was detected. Infection with HPV was the most prevalent (10.3%), followed by TV (7.1%), CT (4.6%), MG (2.1%), and NG (0%). The most common VMB were Lactobacillus-dominant during pregnancy (77% at first, and 81% at second timepoint), and non-Lactobacillus-dominant (73.9%) postdelivery. The Shannon diversity was lower during pregnancy than postdelivery ($p=0.03$). A decrease in VMB richness ($p=0.02$) was observed during pregnancy. Klebsiella species and Streptococcus anginosus were the most common microorganisms with pathogenic potential (pathobionts) at all timepoints. A high abundance of pathobionts was seen in women with non-Lactobacillus-dominant VMB. At second timepoint during pregnancy, 67% of the women carrying a genital pathogen had Lactobacillus iners-dominant VMB.

Conclusion This study contributes knowledge on VMB composition and its changes during pregnancy and post-delivery, as well as simultaneous presence of pathobionts and genital pathogens.

P033 THE SENSITIVITY AND CLINICAL FEATURES OF PHARYNGEAL GONORRHOEA CULTURES IN MEN WHO HAVE SEX WITH MEN

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Background Gonorrhoea remains a global health threat, due to increasing infection rates and antimicrobial resistance (AMR). Pharyngeal gonorrhoea in MSM drives ongoing transmission and AMR: taking pharyngeal gonorrhoea culture samples before antibiotic treatment is essential for monitoring AMR and is recommended by international guidelines. We aimed to review how frequently pharyngeal culture samples (modified Thayer Martin©) are taken in MSM with a positive gonorrhoea NAAT (BD Probetec©), the sensitivity of gonorrhoea culture compared to NAAT and any associated demographic and clinical features associated with positive gonorrhoea cultures.

Methods We reviewed the electronic case notes of MSM presenting between January–December 2019 with a positive pharyngeal gonorrhoea NAAT. We collected data on demographics, gonorrhoea culture sampling and positivity, the presence of

throat symptoms and simultaneous pharyngeal chlamydia and urethral and rectal gonorrhoea. We excluded repeat testers within 3 months of treatment including test of cure samples from the analysis.

Results A total of 6613 MSM attended for pharyngeal testing and 383/6613 (5.8%) had a confirmed positive pharyngeal gonorrhoea NAAT. Pharyngeal gonorrhoea culture samples were taken in 270/383 (70%) and 73/270 (27%) were culture positive with available antimicrobial sensitivities. Only 7/73 (10%) had a fully sensitive organism. 28 (7%, 95% CI=5.11–10.36) reported throat symptoms at presentation. Overall, the presence of pharyngeal symptoms was not associated with positive gonorrhoea cultures (OR=1.9, CI=0.78–4.62, $p=0.2$), pharyngeal chlamydia (OR=1.6, CI=0.19–13.32, $p=0.7$), HIV status (OR=1.1, CI=0.47–2.57, $p=0.8$), or age [$p=0.3$].

Conclusions Pharyngeal gonorrhoea is usually asymptomatic and culture sensitivity is poor. Increasing effort is required to increase pharyngeal gonorrhoea culture testing and sensitivity, including ensuring clinical staff are using optimal sampling techniques and reliable transport of gonorrhoea culture samples to testing laboratories to maintain gonorrhoea AMR surveillance.

P034 PRIMARY SYPHILIS PRESENTATION CHARACTERISTICS AND SEROLOGICAL RESPONSE, IS THERE STILL MORE TO LEARN?

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Background Rates of infectious syphilis has significantly increased in men who have sex with men (MSM). Recent data has shown that primary syphilis does not always present with painless genital lesions. Our aim was to describe the clinical characteristics, serological response and management of primary syphilis in HIV-positive and negative MSM.

Methods We reviewed the microbiological and demographic data of MSM presenting with primary syphilis between January 2016 – March 2020 in our clinic-based population in Brighton, UK.

Results There were 111 cases of primary syphilis in MSM, the median age was 46 years (IQR=37–53 years) and 40 (36%) were living with HIV. 56/111 (50%) of MSM presented with painful lesions and 14% with extra-genital lesions. Extra-genital lesions were significantly more likely to be painful than genital lesions (OR 4.72; 95%, CI1.25–17.83, $p=0.02$). Overall, serology had a sensitivity of 80% (57/71) compared with *Treponema pallidum* PCR. Serology was more sensitive in MSM with no previous syphilis (OR= 3.38, 95%CI1.002–11.43, $p<0.05$). There were no differences in the characteristics, serological response or management between HIV positive and negative MSM.

Conclusion Fifty percent of MSM with primary syphilis presented with painful lesions; extra-genital lesions are more likely to be painful than genital lesions and serology is sensitive in 80% of MSM, and there were no differences between HIV positive and negative MSM. Understanding the characteristics of primary syphilis will underpin public health campaigns.

P035 THE SENSITIVITY AND ASSOCIATED FEATURES OF CULTURE POSITIVE RECTAL GONORRHOEA IN MEN WHO HAVE SEX WITH MEN

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Background Rectal *Neisseria gonorrhoea* is an important sexually transmitted infection in men who have sex with men (MSM). The past decade has seen and increasing rates of rectal gonorrhoea and antimicrobial resistant (AMR) gonorrhoea associated with recreational drug use, geo-spatial mobile phone dating apps and HIV risk reduction strategies including undetectable = untransmissible (U=U) and HIV pre-exposure prophylaxis (PrEP). Our aims were to review the microbiological findings and clinical characteristics of MSM with rectal gonorrhoea.

Methods A cross sectional study between January 2018–December 2019 to characterise the clinical and laboratory features of MSM with rectal gonorrhoea from our large clinic population of MSM attending the sexual health clinic in Brighton, UK.

Results There were 12,186 MSM attendances during the study period, of which 379/12186 (3.1%, CI=2.8–3.4) had a positive rectal gonorrhoea NAAT. The median age was 34 (IQR= 27–34), 103/379 (27%) were HIV positive and 72/379 (19%) also had rectal Chlamydia. HIV positive MSM with rectal gonorrhoea were significantly older than HIV negative MSM ($p=0.001$). 73/379 (19%, 95%CI= 15.6 to 23.5) presented with ano-rectal symptoms. Gonorrhoea culture was performed in 291/379 (77%) overall and was positive in 190/291(65%); MSM with symptomatic gonorrhoea were more likely to be culture positive than asymptomatic MSM (OR= 8.04, CI 3.34–19.35, $p>0.0001$). There were no differences in age or HIV status between MSM with symptomatic versus asymptomatic mono or dual (Chlamydia) infections.

Conclusion Most MSM with rectal gonorrhoea are asymptomatic and asymptomatic MSM are significantly less likely to have gonorrhoea cultures taken and have a positive culture than symptomatic MSM. Measures are needed to ensure that all MSM (including asymptomatic) with rectal gonorrhoea have cultures taken prior to treatment to maintain adequate surveillance of AMR to prevent the urgent threat of multidrug resistance to gonorrhoea in MSM.

P036 ESTIMATING THE PREVALENCE OF ZOLIFLODACIN RESISTANCE MUTATIONS AMONG A GLOBAL DATABASE OF NEISSERIA GONORRHOEA WHOLE GENOME SEQUENCES

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Background Zoliflodacin is a novel antibiotic currently being evaluated in the treatment of uncomplicated *N. gonorrhoeae* infections. Three amino acid alterations have been associated