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Letter to the Editor

Pilot study of pharyngeal *Chlamydia trachomatis* in HIV-positive and HIV-negative men who have sex with men

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Abstract. Unlike pharyngeal *Neisseria gonorrhoeae,* less is known about pharyngeal *Chlamydia trachomatis* in men who have sex with men (MSM). We reviewed cases of pharyngeal chlamydia in MSM from January to December 2019. The overall prevalence of pharyngeal chlamydia was 75/6613 (1.13%; 95% confidence interval (CI) = 0.9–1.14). The median number of sexual partners was three, four (5%) reported throat symptoms and 20 (26%) were HIV positive. Multi-site and concomitant infection was common: rectal chlamydia [39 (52%)], urethral chlamydia [12 (16%)], early syphilis [2 (3%)] and gonorrhoea [14 (19%)]. HIV-positive MSM with pharyngeal chlamydia were older ($P = 0.02$) and more likely to have had previous syphilis (odds ratio = 4.9; 95% CI = 1.6–14.7; $P = 0.005$). Further research is needed to explore the characteristics of pharyngeal chlamydia and benefits of increased screening for asymptomatic pharyngeal chlamydia in MSM.

Keywords: men who have sex with men (MSM), *Chlamydia trachomatis*, HIV/AIDS, oral sex, pharyngeal chlamydia, screening, concomitant infection, UK.

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Pharyngeal *Chlamydia trachomatis* was first described in men who have sex with men (MSM) in 1977 by Goldmeier and Darougar.[1] Simultaneous testing for both *Neisseria gonorrhoeae* and chlamydia using dual nucleic acid amplification tests (NAAT) has increased pharyngeal chlamydia testing in MSM. There has been increasing interest in pharyngeal gonorrhoea due to emerging gonorrhoea antimicrobial resistance but less is understood about the characteristics of pharyngeal chlamydia in MSM.[2] The prevalence of pharyngeal chlamydia in MSM has been estimated to be 1.7% in clinic-based populations and associations have been described with age, HIV status and transmission, number of sexual partners and receptive penile-oral sex.[3–5] There is little data comparing pharyngeal chlamydia in HIV-positive and HIV-negative MSM.

We explored the prevalence and associated features of pharyngeal chlamydia among both HIV-positive and HIV-negative MSM in a large urban population of MSM. Brighton in the UK has a large population of MSM and is served by a single clinic for testing and treatment of sexually transmissible infections (STIs). Both asymptomatic and symptomatic MSM are routinely screened at the pharynx for gonorrhoea and chlamydia using a dual NAAT test (BD Probetec; BD Diagnostics). We collected data on HIV status, pharyngeal symptoms, number of sexual partners in the previous 3 months, use of HIV pre-exposure prophylaxis (PrEP) in HIV-negative MSM and concomitant STIs. We also noted previous history of syphilis and current smoking status. Statistical analysis was performed using bivariate odds ratio (OR) and Mann–Whitney *U*-tests and 95% confidence intervals (CI).

In 2019, 6613 MSM attended for pharyngeal STI testing and 75 (1.13%; 95% CI = 0.9–1.14) tested NAAT positive for pharyngeal chlamydia. The median age was 35 years (interquartile range = 28–43), the median number of sexual partners in the preceding 3 months was three, four (5%) reported throat symptoms (sore throat), 22 (29%) were current smokers, 20 (26%) were HIV positive, and 24 (44%) of the HIV-negative MSM were using PrEP. MSM with pharyngeal chlamydia often had multi-site infection, rectal chlamydia [39 (52%)] and urethral chlamydia [12 (16%)], and concomitant infection, early syphilis [2 (3%)] and gonorrhoea at any site [14 (19%)]. Twenty two (29%) had previously treated syphilis. HIV-positive MSM with pharyngeal chlamydia were significantly more likely to have had previous syphilis (OR = 4.9; 95% CI = 1.6–14.7; $P = 0.005$) and were significantly older ($P = 0.02$) than HIV-negative MSM (Table 1).

Our study has shown that the prevalence of pharyngeal chlamydia is 1.13% in MSM and only 5% reported pharyngeal symptoms, similar to other studies.[3–5] The asymptomatic nature of pharyngeal chlamydia in MSM could lead to increased transmission unless adequate screening is

Table 1. Pharyngeal *Chlamydia trachomatis* in HIV-positive and HIV-negative men who have sex with men

		Mann–Whitney *U*-test or crude odds ratio	95% confidence interval	*P*-value
Median age (years)				
HIV+	41	356.5		0.021
HIV−	34			
Median number of sexual partners				
HIV+	4	105.5		0.289
HIV−	2			
Pharyngeal symptoms				
HIV+	1 (5%)	0.9	0.1–9.3	0.912
HIV−	3 (5%)	1		
Current tobacco smoker				
HIV+	7 (35%)	1.4	0.5–4.3	0.517
HIV−	15 (27%)	1		
Previous syphilis				
HIV+	11 (55%)	4.9	1.6–14.7	0.005
HIV−	11 (20%)	1		
Syphilis co-infection				
HIV+	1 (5%)	0.35	0.02–5.9	0.468
HIV−	1 (2%)	1		
Gonorrhoea (all sites) co-infection				
HIV+	4 (20%)	1.1	0.3–4.1	0.858
HIV−	10 (18%)	1		
Rectal chlamydia co-infection				
HIV+	9 (45%)	0.7	0.4–1.9	0.466
HIV−	30 (55%)	1		
Urine chlamydia co-infection				
HIV+	3 (15%)	0.3	0.1–1.4	0.887
HIV−	9 (16%)	1		

available. Similar to previous studies, we saw high rates of multi-site chlamydia infection in MSM with pharyngeal chlamydia[3–5] We found that there were no differences in concomitant STIs diagnosed between HIV-positive and HIV-negative MSM suggesting that these men are part of similar sexual networks. It is not surprising that HIV-positive MSM were significantly older and were more likely to have previous syphilis because HIV-positive MSM are routinely screened for STIs as part of HIV monitoring, irrespective of age. There are several limitations to our study: this was a single centre study, which relied on retrospective electronic data collection, and this data may not be representative of other populations of MSM.

The prevalence of pharyngeal chlamydia in HIV-positive and HIV-negative MSM was low and not associated with pharyngeal symptoms. HIV-positive MSM with pharyngeal chlamydia were older and more likely to have had previous syphilis. Further research is needed to explore the characteristics of pharyngeal chlamydia and the benefits of increased screening for asymptomatic pharyngeal chlamydia in MSM.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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DR designed the study, KS and DR collected the data. All authors contributed to the analysis and final manuscript.

References

1 Goldmeier D, Darougar S. Isolation of *Chlamydia Trachomatis* from throat and rectum of homosexual men. *Br J Vener Dis* 1977; 53: 184–5.
2 Lewis DA. Will targeting oropharyngeal gonorrhoea delay the further emergence of drug-resistant *Neisseria gonorrhoeae* strains? *Sex Transm Infect* 2015; 91: 234–7. doi:10.1136/sextrans-2014-051731
3 Chan PA, Robinette A, Montgomery M, Almonte A, Cu-Uvin S, Lonks JR, Chaplin KC, Kojic EM, Hardy EJ. Extragenital infections caused by *Chlamydia trachomatis* and *Neisseria gonorrhoeae*: a review of the literature. *Infect Dis Obstet Gynaecol* 2016; 2016: 5758387.
4 Dudareva-Vizule S, Haar K, Sailer A, Wisplinghoff H, Wisplinghoff F, Marcus U. Prevalence of pharyngeal and rectal *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections among men who have sex with men in Germany. *Sex Transm Infect* 2014; 90: 46–51. doi:10.1136/sextrans-2012-050929
5 Templeton DJ, Jin F, Imrie J, Prestage GP, Donovan B, Cunningham PH, Kaldor JM, Kippax S, Grulich AE. Prevalence, incidence and risk factors for pharyngeal chlamydia in the community based Health in Men (HIM) cohort of homosexual men in Sydney, Australia. *Sex Transm Infect* 2008; 84: 361–3. doi:10.1136/sti.2008.032037

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