

002.5 INFLAMMATORY CYTOKINES IN RECTAL GONORRHEA/CHLAMYDIA INFECTION AND TREATMENT: TOWARDS STI CONTROL AS HIV PREVENTION FOR MSM

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10.1136/sextrans-2019-sti.114

Background Rectal gonorrhoea (GC) and chlamydia (CT) infection are associated with mucosal inflammation and HIV transmission. To determine the impact of GC/CT infection and treatment on rectal tissue inflammation, we assessed levels of inflammatory cytokines in MSM with and without rectal GC/CT in Lima, Peru.

Methods We screened 605 behaviorally high-risk MSM for rectal GC/CT using Hologic TMA between July-December, 2017. We identified 101 GC/CT(+) cases among 469 HIV-uninfected candidates (101/469; 21.5%). Prior to antibiotic treatment, we randomly selected 50 GC/CT(+) cases and matched 52 GC/CT(-) controls according to age and number of receptive anal intercourse partners during the prior 30 day period. Participants underwent anoscopy and sponge collection of rectal secretions for inflammatory cytokine quantification (IL-1b, IL-6, IL-8, and TNF-a) via Luminex multiplex assays. HIV and rectal GC/CT testing, and mucosal cytokine assessments were repeated at 3- and 6-month Follow-up Visits. Pre- and post-treatment cytokine levels in cases were compared against levels in uninfected controls using Wilcoxon Rank-Sum tests for non-parametric data.

Results At baseline, MSM with GC/CT had elevated levels of all inflammatory cytokines in rectal mucosa compared with uninfected controls (all p-values <0.001). During Follow-up evaluation, 6 HIV seroconversions and 14 new or recurrent GC/CT cases were diagnosed at 3 months, with 2 new HIV cases and 12 GC/CT infections at 6 months. Antibiotic treatment led to resolution of mucosal inflammation with no residual cytokine differences between case and control groups noted at 3- or 6-month Follow-up evaluations after censoring subjects with HIV and/or GC/CT infection diagnosed at that visit (all p-values >0.05).

Conclusion Rectal tissue inflammation and cytokine recruitment is associated with GC/CT infection and resolves following antibiotic treatment. Our data provides 'proof of concept' for use of rectal STI screening as part of an integrated bi-behavioral HIV prevention program for MSM.

Disclosure No significant relationships.

002.6 EXTRAGENITAL MYCOPLASMA GENITALIUM INFECTIONS AMONGST MEN WHO HAVE SEX WITH MEN

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10.1136/sextrans-2019-sti.115

Background There are limited data on the prevalence of *Mycoplasma genitalium* (MG) coinfection with rectal chlamydia and rectal gonorrhoea infections in men who have sex with men (MSM). There are also few studies examining the prevalence of pharyngeal MG in MSM. Using a highly sensitive transcription mediated amplification assay, this study aimed to determine the proportion of rectal chlamydial and gonococcal infections in MSM that are co-infected with rectal MG, and the proportion of MSM with MG detected in the pharynx.

Methods This study was conducted at Melbourne Sexual Health Centre in Victoria, Australia. Consecutive routinely collected rectal swabs from MSM, that previously tested positive for chlamydia (N=212) or gonorrhoea (N=212) using Aptima Combo 2 (Hologic, San Diego), were tested for MG co-infection using the Aptima *Mycoplasma genitalium* Assay (Hologic, San Diego). Consecutive pharyngeal samples (N=500) from MSM were also tested for MG using Aptima *Mycoplasma genitalium* Assay. Samples were linked to demographic and epidemiological data, as well as symptoms and clinical diagnosis, and irreversibly de-identified prior to MG testing.

Results Rectal-MG was co-detected in 27/212 chlamydial (13%, 95%CI 9–18) and in 29/212 gonorrhoea (14%, 95%CI 9–19) samples, with no difference in the proportion positive for MG between the two groups (p=0.774). MSM with rectal-gonorrhoea and MG co-infection were more likely to be HIV positive than those infected with gonorrhoea alone (OR 2.96, 95%CI 1.21–7.26, p=0.023). Pharyngeal-MG was detected in 8/464 consecutive samples (2%, 95%CI 1–3%).

Conclusion We found high and identical rates of MG coinfection (13–14%) in MSM with chlamydial or gonorrhoeal rectal infection. Macrolide resistance in MG exceeds 80% in MSM at our service. Rectal gonorrhoea and chlamydia treatment involves use of azithromycin. These data highlight the prevalence of unidentified MG which is inadvertently exposed azithromycin. Using highly sensitive diagnostic methods, pharyngeal-MG was only detected in 2% of MSM in this study.

Disclosure No significant relationships.