Results At baseline, MSM with GC/CT had elevated levels of 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- 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.

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 bio-behavioral HIV prevention program for MSM.

Disclosure No significant relationships.

Background Rectal gonorrhoea (GC) and chlamydia (CT) infections 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- and 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 bio-behavioral HIV prevention program for MSM.

Disclosure No significant relationships.