High prevalence of Chlamydia trachomatis and Neisseria gonorrhoeae infections among HIV-1 negative men who have sex with men in coastal Kenya

Sanders, E.J.; Thiong’o, A.N.; Okuku, H.S.; Mwambi, J.; Priddy, F.; Shafi, J.; de Vries, H.J.C.; McClelland, R.S.; Graham, S.M.

*Published in:* Sexually Transmitted Infections

*DOI:* 10.1136/sti.2010.043224

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
High prevalence of Chlamydia trachomatis and Neisseria gonorrhoeae infections among HIV-1 negative men who have sex with men in coastal Kenya


Sex Transm Infect 2010 86: 440-441 originally published online July 23, 2010
doi: 10.1136/sti.2010.043224

Updated information and services can be found at:
http://sti.bmj.com/content/86/6/440.full.html

References

This article cites 6 articles, 2 of which can be accessed free at:
http://sti.bmj.com/content/86/6/440.full.html#ref-list-1

Article cited in:
http://sti.bmj.com/content/86/6/440.full.html#related-urls

Email alerting service

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://journals.bmj.com/cgi/ep
High prevalence of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections among HIV-1 negative men who have sex with men in coastal Kenya

Eduard J Sanders, Alexander N Thiong’o, Haile Selassie Okuku, John Mwambi, Frances Priddy, Juma Shafi, Henry de Vries, R Scott McClelland, Susan M Graham

ABSTRACT

Objectives To assess the burden of *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) in high-risk HIV-1 negative men who have sex with men (MSM) in Africa.

Methods Before the start of a pre-exposure prophylaxis trial, HIV-1 negative volunteers were screened for sexually transmitted infection (STI) including CT and NG, using a highly sensitive and specific nucleic acid amplification test. Samples positive for CT by Aptima testing, were evaluated for the presence of lymphogranuloma venereum (LSV) serovars using an in-house PCR assay. All men were asked to submit a urine specimen, and all had a rectal swab collected by a clinician. Men were asked if they had dysuria, urethral or rectal discharge, or rectal pain.

Results 43 HIV-1 negative MSM were screened, of whom 13 reported sex with men only; the majority (27/43) reported sex work. One volunteer had dysuria and another, rectal pain. Eleven MSM (26%, 95% CI 14% to 41%) had infections with either or both pathogens. Homosexual men had a higher prevalence of any infection than bisexual men (46% vs 17%, p=0.04), and all cases of rectal infections, including one with CT, two with NG and two with CT/NG co-infection. All patients with CT were negative for LSV. One patient with a rectal NG infection reported rectal pain.

Conclusions A remarkably high burden of STI infection was found among HIV-1 negative MSM. Most (12/13) infections, including three of four rectal NG infections, were subclinical. These findings suggest that high-risk MSM will benefit from effective STI screening in Kenya.

INTRODUCTION

Men who have sex with men (MSM) in Africa are at high risk for HIV-1 infection. Results from HIV-1 testing among MSM in Coastal Kenya showed a 21% seroprevalence, and HIV-1 incidence among MSM sex workers has been estimated at 9.9 per 100 person-years (95% CI 7.2 to 13.6). Unprotected receptive anal intercourse is common and greatly increases HIV risk in this group, but far less is known about the risk of other sexually transmitted infections (STIs) in this population.

METHODS

Before the initiation of a small trial of pre-exposure prophylaxis, we screened HIV-1 negative volunteers for STIs, including *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG), using a highly sensitive and specific nucleic acid amplification test (GenProbe Aptima Combo 2 assay, San Diego, USA). Men were recruited from a previously described at-risk cohort, in which volunteers received monthly or quarterly risk reduction counselling and HIV testing. All were asked if they had dysuria, urethral or rectal discharge, or rectal pain. Each sample was tested for CT and NG, using a highly sensitive and specific nucleic acid amplification test. Samples positive for CT by Aptima testing, were evaluated for the presence of lymphogranuloma venereum (LSV) serovars using an in-house PCR assay. Routinely, volunteers who reported rectal anal intercourse (RAI) were offered proctoscopy. Syndromic STI treatment was given to symptomatic volunteers. Data were tabulated by sexual partner preference (ie, sex with men only or with both men and women), and differences tested by the χ² test.

RESULTS

Forty-three MSM were screened: 13 of whom reported sex with men only (MSM-only), and 30 of whom had sex with both men and women (MSMW). The median age was 27 years (IQR 22–52). MSM-only reported more transactional sex than MSMW (85% vs 53%, p=0.05). All rectal NG infection reported rectal pain. Six men reported an infection of the urethra (five CT, one NG); and five men an infection of the rectum (one CT, two with NG, and two with CT/NG co-infection). One patient with a rectal NG infection refused proctoscopy, including two men with rectal CT/NG co-infection and one man with rectal CT. All 11 cases were traced and received appropriate STI treatment.

DISCUSSION

We documented a high burden of anogenital CT and NG infections in a small sample of HIV-1 negative
MSM. The absence of urethral or rectal discharge and low acceptance of proctoscopy presents challenges for clinical diagnosis of proctitis in Africa. That almost half of MSM-only in this study had proctitis despite regular HIV testing and counselling is a great concern.

Potential study limitations include pre-exposure prophylaxis trial selection, small sample size, and the possibility that these men may represent a sexual network in which CT and NG were circulating at the time of this study. These results suggest that Kenyan high-risk MSM, particularly those involved in sex work and practising unprotected RAI, would benefit from regular screening for both rectal and urethral infections with a sample collection method they find acceptable. Nucleic acid amplification test screening high-risk MSM in Kenya.

**Table 1** Prevalence of *Chlamydia* and gonorrhoea in HIV-1 negative MSM, by sexual orientation of MSM, Coastal Kenya

<table>
<thead>
<tr>
<th>Sexual orientation*</th>
<th><em>Chlamydia trachomatis</em></th>
<th><em>Neisseria gonorrhoeae</em></th>
<th>Patients with <em>Chlamydia trachomatis</em> or <em>Neisseria gonorrhoeae</em> infections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urethra N (%)</td>
<td>Rectum N (%)</td>
<td>Urethra N (%)</td>
</tr>
<tr>
<td>All MSM (n=43)</td>
<td>5 (12)</td>
<td>3 (7)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>MSM-only (n=13)</td>
<td>—</td>
<td>3 (23)</td>
<td>1 (8)</td>
</tr>
<tr>
<td>MSMW (n=30)</td>
<td>5 (17)</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*Reported over the past 3 months.

MSM, men who have sex with men; MSM-only, men who have sex with men only; MSMW, men who have sex with both men and women.

**Key messages**

- Little is known about the burden of anogenital sexually transmitted infection (STI) in men who have sex with men (MSM) in Africa.
- Highly sensitive and specific nucleic acid amplification tests will detect asymptomatic STI and should be considered for screening high-risk MSM in Kenya.

**Funding** International AIDS Vaccine Initiative.

**Competing interests** None.

**Patient consent** Obtained.

**Ethics approval** This study was conducted with the approval of the National Ethical Review Committee of the Kenya Medical Research Institute.

**Contributors** EJS was primary investigator of this study, conceived the paper, and wrote the first draft. ANT, JM and FP contributed to study design. EJS and HSO analysed the data. RSM and SG helped write and edit the paper. HDV and JS conducted the laboratory assays. All authors contributed to the final version of the paper.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**REFERENCES**