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Bacterial vaginosis

Elusive aetiology of bacterial vaginosis. Do lesbians have a clue?

Jeanne M Marrazzo

See linked article, p 470

In bacterial vaginosis (BV), hydrogen peroxide+ lactobacilli (LB), which define normal vaginal microbiology, are replaced by anaerobic/facultative bacteria.¹ BV is the most common cause of vaginitis and associated with preterm delivery, pelvic inflammatory disease and HIV acquisition.^{2–3} Its cause is unknown. Treatment with metronidazole, clindamycin or tinidazole improves symptoms and restores normal flora and associated mucosal defences,^{4–5} but BV frequently persists (11–29%) and recurs (72% by 7 months).^{6–8} Unprotected sex may contribute.^{7–9} In fact, the debate about sexual transmission of a potentially causative agent for BV has been given new urgency by the report of newly defined *Clostridiales* bacteria detected, along with other novel BV-associated bacteria (such as *Atopobium vaginae*), which appear to be highly specific for BV—that is, they appear to be present rarely in women without BV.^{10–11} Newer data also support a role for BV in promoting HIV acquisition in women.¹² The prevalence of BV in lesbians has been reported to be high (25–52%) in several studies and most female sex partners are concordant for BV, supporting a role for sexual transmission of vaginal fluid as a possible precipitant event in the disruption of normal vaginal flora that may result in BV.^{13–17} However, the available data are limited in part by diversity and possible lack of reproducibility in the populations studied, and by the absence of well-characterised comparison groups of women enrolled in the same settings.

In this issue of *Sexually Transmitted Infections*, Evans and colleagues provide interesting and relevant data that address BV prevalence among self-identified lesbians relative to a control group of heterosexual women.¹⁸ The data are timely and provide potentially important

insights into the puzzling finding of higher BV prevalence among women who report sex with women. The investigators sought to determine BV prevalence and associated risks among lesbians and heterosexual women outside of traditional sexual health clinics in the UK, and to assess BV concordance within female couples. Lesbian subjects were recruited through venues and events whereas heterosexual women were recruited from a community-based clinic. Importantly, the groups did not differ significantly in report of receptive oral sex, which has been proposed as a risk for BV among lesbians (although, as of yet, with no clear underlying biologically plausible hypothesis). BV prevalence in lesbians (26%) was significantly higher than that in heterosexual women (14%). In multivariate analysis, lesbians' risk of BV was still doubled, with significant exposure risks, including cigarette use; interestingly, report of bubble bath use conferred an inverse association with BV. Among 33 lesbian couples (66 women; unfortunately the duration of partnership required to qualify as a couple is not provided), BV concordance was observed significantly more frequently than expected, as noted in prior studies. Among the study's strengths are the use of Gram stain to characterise vaginal flora, with consistently good quality self-obtained vaginal swabs, and the clinic-based recruitment of heterosexual women for comparison (for whom rates of recruitment were similar to those of the lesbian group).

Although the study contributes to the dialogue on this interesting topic, some limitations deserve mention. Most important is the issue—faced by many studies of sexual minority populations—of reliance on self-referral of volunteer subjects targeted through high-yield events or advertisements, as the authors acknowledge. Traditionally, this has been viewed

as a weakness in such studies. However, it is important to keep in mind that disclosure of same-sex behaviour is still problematic for many potential subjects, and recruitment rates can be especially low among racial minorities in research studies because of a combined stigma related to race and sexual minority status;¹⁹ thus, alternative approaches to recruitment are often critical. Because BV is strongly associated with race,²⁰ these considerations should be accounted for in interpreting in all such studies; in the study under discussion, lesbians were more likely to be Caucasian.¹⁸

Welcome evolution in the composition of data collection instruments for population-based studies may play an important role in breaking down these barriers, and will hopefully contribute to better characterisation of women at risk for BV. Some key studies using population-based samples have finally begun to collect data that allow characterisation of women subjects by report of same-sex behaviour. Recently, BV prevalence measured by Nugent criteria was reported for women in the National Health and Nutrition Survey (NHANES),²¹ which uses a complex, stratified, multistage probability sample design with unequal probabilities of selection to obtain a nationally representative sample of the US civilian non-institutionalised population.¹⁷ Of women in the 2001–2004 NHANES who reported sex with another woman, BV prevalence was 45.2% (95% confidence interval (CI) 35.5 to 57.4) compared to overall prevalence of 29.2% (95% CI 27.2 to 31.3) ($p = 0.003$). Thus, the finding of high BV prevalence in the “imperfectly” recruited samples reported in studies prior to NHANES may not be that off the mark.

Finally, as the authors also note, sexual orientation is a multifaceted entity; binary labels such as “lesbian” or “straight” belie the complexity of a lifetime's worth of sexual choices. Notably, as most other studies have reported, 75% of “lesbian” subjects in this study reported prior sex with a male partner (median lifetime number of male partners: two). With BV, the challenges are numerous: we need better tools to describe the sexual behavioural patterns that probably put women at risk for this infection, and we need better ways to characterise the exceedingly complex vaginal microbiology that “simple” BV represents.

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Global health

Direct transmission: introducing a new feature in STI

Helen Ward, Nicola Low

See linked interview, p 436

Peter Piot talks about STI, HIV and UNAIDS

Peter Piot has been a key player in the field of HIV, first as a researcher and now as Executive Director of UNAIDS since it was founded in 1995. In this issue, we hear directly from Peter about his work in an exclusive interview (see page 436). Marc Vandenbruaene interviewed Peter at the ISSTD/IUSTI conference in Seattle earlier this year, discussing the themes of leadership and global health related to STI and HIV. Many of our readers will be concerned at the relative lack of priority given to STI control internationally, compared with HIV, for example. The interview provides the opportunity to hear Peter's views on this, as he discusses the content of his plenary talk in Seattle, STIs and HIV: learning from each other for a long term response. Anticipating this year's World AIDS Day theme of leadership, he will comment on

the weak response of some national and international leaders to the challenge of AIDS itself, and the role of UNAIDS and others in tackling this problem. We also ask him whether “ten by ten”—the new target of the G8 for ten million people on ART by 2010—is achievable.

We will be returning to some of the issues raised in this interview in December, when we have a special themed issue on Global Sexual Health, which will coincide with World AIDS Day 2007. There will be contributions about the scaling up antiretroviral therapy in resource poor settings, the challenges of HIV prevention in India, the role of women's use of vaginal products and practices to reproductive tract and sexually transmitted infections, including HIV, and the new WHO strategy for the control of STI.

We think that interviews with leading figures in the field of STI and HIV can be an

excellent way of exploring issues and obtaining a more personal view of the history and practice of our field of work. Marc Vandenbruaene also recently interviewed King Holmes for The Lancet Infectious Diseases,² coinciding with King's 70th birthday, which was honoured with a symposium in his hometown, Seattle. We hope to have more interviews in future issues of STI, so we would be interested in any suggestions for interviewees and topics. As always, we look forward to your response to this new format.

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