transmitted infection clinics [1]. While it is common knowledge that women can be infected with *Chlamydia* in the lower gastrointestinal (GI) tract, there have been few detailed studies, particularly with large sample sizes, to demonstrate the scope of the problem. This study demonstrates very nicely that rectal infection is indeed common in women and is not necessarily associated solely with anal intercourse. Similar data have been presented by Jones and colleagues [2]. They isolated chlamydial from the pharynx of 3.2% and rectum of 5.2% of women attending a sexually transmitted disease clinic. Interestingly, they reported a 5.8% incidence of rectal positive cultures in women with no history of anal intercourse. Furthermore, they observed that 11% of women with genital infection and 17% of women with pharyngeal infection also had positive rectal cultures and that there was no correlation between women with positive rectal cultures and admitted anal intercourse.

While the explanations given by Gratrix et al for the high rate of rectal positivity are certainly reasonable, we would like to suggest an alternative explanation. As we have described in a recent review, chlamydial in virtually every natural animal host, including sheep, cattle, pigs, goats, and birds, reside naturally in the GI tract and are transmitted via the fecal–oral route [3]. Moreover, they can persist in the GI tract for long periods of time in the absence of apparent inflammation and pathology [4, 5]. We and others have demonstrated that mice infected orally with the mouse chlamydia, *C. muridarum*, become infected in the lower intestinal tract and are unable to clear the infection [6, 7]. Interestingly, no inflammatory response is observed at the infection site. In contrast, mice infected in the genital tract resolve their infections in 3–4 weeks. It is well known that mechanisms exist in the GI tract, particularly those associated with specific microbiota, that are able to downregulate the immune response.

We have also reported that when mice are infected both genitally and orally with *C. muridarum*, treatment with azithromycin cures the genital infection but is unable to resolve the GI infection in all animals, even though equivalent levels of azithromycin can be measured in cervical and GI tissue [8]. There are also numerous reports showing a higher rate of treatment failure in azithromycin treatment of rectal infections in comparison to genital infections [9].

Thus, we propose that women become infected orally with chlamydial through various sexual activities and that the organisms establish a persistent infection in the lower GI tract. It is then very possible that contamination of the genital tract occurs, resulting in reinfection. If azithromycin is not as effective in eliminating GI infection as studies suggest, then women may remain infected in the GI tract even after clearance of the genital infection. The data presented in the Gratrix et al study clearly support a high level of GI infection that is likely acquired by means other than anal intercourse.

**Note**

**Potential conflict of interest.** Both authors: No reported conflicts.

Both authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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