INFECTIOUS DISEASE

New *Trichs*: screening and therapy

Trichomonas vaginalis is estimated to be the most common nonviral sexually transmitted infection (STI) worldwide, but the actual prevalence is not known as no national screening and surveillance programmes are available. However, screening and subsequent treatment of *T. vaginalis* is important, particularly in patients with HIV, as this protozoan parasite might be associated with increased transmission of the HIV virus. Two papers now published in the journal *Clinical Infectious Diseases* add insight into these important aspects of the management of *T. vaginalis* infection, which might ultimately enable better disease control.

In the first paper, Muzny *et al.* report a comparison of the most common *T. vaginalis* screening assay, wet mount microscopy of vaginal fluid, with highly sensitive nucleic acid amplification testing (NAAT) in women presenting to a sexual health clinic in the USA. Of the 3,821 women who underwent NAAT testing, 27.0% were positive for *T. vaginalis* infection compared with 19.6% of the 3,765 women who also underwent wet mount microscopy ($P < 0.001$). Of the 317 discordant results, most were attributable to false negatives by wet mount microscopy ($n = 301$), rather than false positives. Importantly, women with false negative microscopy findings were generally less likely to have urological symptoms, elevated vaginal pH and leukorrhea, suggesting that such patients should be evaluated using NAAT.

The results also confirm the added value of NAAT in detecting *T. vaginalis* infection, particularly in men, in whom wet mount microscopy has been shown previously to be unreliable and is not routinely performed; although Muzny *et al.* could not compare the screening techniques in men for this reason, they detected *T. vaginalis* infection in 9.8% of 2,514 men assessed by NAAT. Of note, NAAT for *T. vaginalis* can be performed using the same instrumentation widely used for Chlamydia and gonorrhea testing, which might reduce costs associated with screening programmes.

The second paper reports a reanalysis of randomized controlled trial (RCT) data, the primary analysis of which established that treatment of *T. vaginalis* with a multidose regimen of metronidazole (500 mg twice daily for 7 days) was more efficacious than the standard-of-care single 2 g dose in women with HIV. This reanalysis was performed to replicate and expand on a prior study, which indicated that concomitant antiretroviral therapy (ART) might reduce metronidazole treatment efficacy. “The key differences between the studies were threefold: firstly, the previous study involved HIV-positive women in Kenya (mostly sex workers) and ours evaluated HIV-positive women in three southern cities in the USA; secondly, the Kenyan women only received the 2 g dose; and thirdly, the Kenyan population was receiving nevirapine only, whereas our population was receiving a wider spectrum of ART,” explains Patricia Kissinger, who led the RCT.

Similarly to the Kenyan study, a higher rate of metronidazole treatment failure was observed among the 146 women receiving ART in the RCT than in the 80 patients not undergoing ART (16.4% versus 6.3%; $P = 0.03$). “While the consistency of these findings is a criteria for causality, it is possible that ART does not underlie the effect, and instead is a confounder for some other factor,” says Kissinger.

Importantly, the paper by Kissinger and co-workers described the novel finding that the significant effect of ART on metronidazole treatment failure was only observed with the standard-of-care dose ($P = 0.05$), but not the multidose regimen ($P = 0.39$). Furthermore, the effect on metronidazole efficacy seemed to be independent of the specific ART agent used. “As a result of our RCT, the Centers for Disease Control and Prevention have recommended that a multidose treatment regimen for *T. vaginalis* can be considered in HIV-infected women,” states Kissinger. On the basis of these new findings, the multidose regimen might be particularly preferable in women with HIV who are receiving ART.

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Original articles Muzny, C. A. *et al.* Added benefit of nucleic acid amplification testing for the diagnosis of *Trichomonas vaginalis* among men and women attending a sexually transmitted disease clinic. *Clin. Infect. Dis.* doi:10.1093/cid/ciu446 | Adamski, A. *et al.* The influence of ART on the treatment of *Trichomonas vaginalis* among HIV-infected women. *Clin. Infect. Dis.* doi:10.1093/cid/ciu401