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Improved Diagnosis of *Trichomonas vaginalis* Infection by PCR Using Vaginal Swabs and Urine Specimens Compared to Diagnosis by Wet Mount Microscopy, Culture, and Fluorescent Staining

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ABSTRACT

Four vaginal cotton swab specimens were obtained from each of 804 women visiting the outpatient sexually transmitted disease clinic of the Erasmus University Medical Center Rotterdam, Rotterdam, The Netherlands, for validation of various forms of *Trichomonas vaginalis* diagnostic procedures. One swab specimen was immediately examined by wet mount microscopy, a second swab was placed in Kupferberg's Trichosel medium for cultivation, and two swabs were placed in phosphate-buffered saline (PBS), pH 7.2. The resulting PBS suspension was used for direct staining with acridine orange and fluorescence microscopy, inoculation of modified Diamond's culture medium, and a PCR specific for *T. vaginalis*. A total of 70 samples positive in

one or more of the tests were identified: 31 (3.8%) infections were detected by wet mount microscopy, and 36 (4.4%) were identified by acridine orange staining, as opposed to 40 (4.9%) and 46 (5.7%) positives in modified Diamond's and Trichosel media, respectively. PCR was positive for 61 (7.5%) samples. Secondly, from each of 200 women were obtained a urine sample and a vaginal cotton swab specimen, and 200 urine samples were obtained from men. For the women, 15 (7.4%) of the samples showed a positive result for either the wet mount ($n = 1$), Trichosel culture ($n = 6$), PCR on the vaginal swab sample ($n = 10$), or PCR on the urine specimen ($n = 11$). Four men (2%) were diagnosed with a *T. vaginalis* infection. Thus, PCR appears to be the method of choice for the detection of genital infections with *T. vaginalis*.

FOOTNOTES

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