

SHORT REPORT

Late recurrence of resistant *Trichomonas vaginalis* vaginitis: relapse or re-infection?

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Distinguishing between re-infection and relapse of trichomonas infections is often a difficult task in the clinical setting. The chronicity of trichomonas infections and the ongoing sexual activity are two confounding factors. We present a patient with recurrent resistant vaginal trichomoniasis shortly following a sexual contact with an untreated partner after a complete response to treatment with tinidazole for nine months. We hypothesise that re-infection occurred from the asymptomatic partner who was an untreated chronic carrier of resistant trichomonas in the urogenital tract.

Trichomonas vaginalis (TV) is a pathogenic protozoan found in the genitourinary tract that causes vaginitis in women. It is estimated that five million people are infected with TV in the United States.¹ Metronidazole resistant trichomonas vaginitis is an emerging problem; however, data on the incidence in the United States are not available.² A good indicator of clinically significant metronidazole resistance is a minimum inhibitory concentration (MIC) of >50 µg/ml under aerobic conditions.³ Recurrent trichomonas vaginitis may be due to re-infection from an untreated old or new partner, or relapse. Relapse most commonly is the consequence of inadequate therapy, usually non-adherence and only rarely is the result of metronidazole resistance.⁴ Often it is difficult to distinguish between re-infection and relapse. Symptomatic relapse of trichomonas vaginitis following a long period of cure from metronidazole resistant trichomonas vaginitis is uncommon. We present an unusual case of recurrent trichomonas vaginitis due to a metronidazole resistant strain probably following re-exposure to an untreated, asymptomatic partner with prolonged infection caused by a metronidazole resistant strain.

CASE REPORT

A 30 year old white woman presented to the vaginitis clinic at the University Health Center-Detroit Medical Center in October 1999, with complaints of a malodorous vaginal discharge, vaginal "rawness," and burning for 4 months. The patient was first diagnosed with vaginal trichomoniasis in June 1999 by her primary care physician and had received five courses of metronidazole 500 mg orally twice daily, the longest duration of therapy was for 10 days. Her husband was treated with 3 day and 7 day courses of metronidazole. She admitted to having another sexual partner who had not received treatment with metronidazole. Her last course of metronidazole was 1 month before her presentation. There was no history of other sexually transmitted diseases. Her husband was experiencing dysuria at the time she presented to our clinic. There was no information about the other sexual partner. She was taking oral contraceptives, and did not use condoms consistently with either partner. She used vinegar and water for vaginal cleansing.

On examination, there was vulvar erythema, oedema, and excoriation. On speculum examination, the vaginal wall was

erythematous, oedematous, and with abnormal secretions. The pH of the vaginal fluid was 5-6, and the amine test was positive. On wet preparation, there were numerous polymorphonuclear cells and motile trichomonads. There were no clue cells, yeast blastophores, or hyphae. She had abnormal vaginal flora. She was culture positive for *T vaginalis*, and the MIC to metronidazole was >100 µg/ml (the MIC of the control strain was 5 µg/ml). She was treated with tinidazole for 2 weeks, with 2 g daily orally and 1 g per vagina daily. Her husband was not treated with metronidazole since they had parted and they were not in contact.

She was evaluated at 1 week following therapy. There was improvement of symptoms, the vaginal pH was 4.3, the amine test was negative, and there were no trichomonads seen on wet preparation. There was increase in the number of lactobacilli seen on Gram stain.

She was re-evaluated at 5 weeks at which time she was symptom free; examination of the external genitalia and speculum examination were normal. Vaginal pH was 4.3, and there were no trichomonads seen. Cultures for trichomonas were negative.

She remained entirely symptom free until July 2000, when she presented to her primary care provider with vaginal discharge. Motile trichomonads were detected in the wet preparation from vaginal fluid, so she was treated with metronidazole 1 g orally for 7 days. She presented to our clinic in August 2000 with continued symptoms of malodorous vaginal discharge and vaginal pruritis despite treatment with metronidazole. She had no further contact with her husband. She had not been sexually active until June 2000, when she had one contact with her original extramarital partner who had never been treated. On examination, there was severe vulvar inflammation, vestibulitis, purulent vaginal discharge with a pH of 6.0, and inflammation of the ectocervix. Wet preparation revealed numerous polymorphonuclear cells, numerous motile trichomonads, and mixed vaginal flora. Culture for trichomonas was positive, and the MIC to metronidazole was >100 µg/ml. She responded well to a 2 week course of tinidazole at 3 g orally daily. The patient remained symptom free after 8 weeks, with normal findings on examination. Repeat cultures were not obtained.

DISCUSSION

Resolution of symptoms, negative microscopy and vaginal cultures, the long symptom free period (9 months) following treatment with tinidazole demonstrate clinical and microbiological cure. Tinidazole, like metronidazole, is a 5-nitroimidazole with activity against protozoa.⁵ In vitro studies indicate that tinidazole minimum lethal concentration levels are lower than those of metronidazole,⁵ but clinically at equivalent dosing it has been shown to have efficacy against trichomonas that is equal to metronidazole.⁶ In comparative studies, tinidazole in both single dose and multiple dose regimens has been shown to be equivalent to metronidazole.⁵

The recurrence of symptoms, and the clinical and microbiological evidence of acute trichomonas vaginitis after one sexual contact with the untreated partner suggest the likelihood of

re-infection rather than relapse from the previous infection. High level metronidazole in vitro resistance is extremely rare (1 in 2000–3000 cases of vaginal trichomoniasis).⁷ This supports the small chance of relapse after tinidazole therapy.

Men who are chronic carriers of TV in their urethras may be the link to the chain of continuous transmission. Krieger *et al* show that spontaneous resolution and prolonged asymptomatic carriage can occur in men with trichomoniasis.⁸ In another study, Krieger also showed that 11% of 447 men attending an STD clinic had *T vaginalis* in the urethra, but only 54% were symptomatic.⁹ Clinical diagnosis of TV urethritis is a challenge because the majority of patients are asymptomatic, and demonstration of TV by microscopy in male genital or urine samples is difficult. Failing to treat the second sex partner of our patient is likely to have increased the chances of subsequent transmission and re-infection. Whether male chronic carriers of TV are more likely to have metronidazole resistant strains is not known, and is an area for further investigation.

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CHESTER CHRONICLES.....

Take a chance

○scar Wilde said the only chances in life you regret are the ones you didn't take. I don't know if I'd go that far, but like the best of the Irish I enjoy the odd flutter.

It was your average quiet MSSVD evening at the Royal Society of Medicine in London. The young Irish doctor, Dr Concepta Merry, had just presented a paper outlining the complexities of anti-HIV therapy compliance among the Dublin drug addicts. Now, I had done some locums in Dublin in the early 1990s. (I have always found that doing a locum back in the old green sod is a perfect antidote to the misplaced nostalgia that can develop in Irish exiles.) So when she was explaining the difficulties, I could empathise fully. When the time came for questions, I just couldn't resist sharing my experience of compliance in this group, with the assembled mass. I made the comment that in my Dublin experience, there were two patterns of compliance among the druggies. One pattern was where they did not take their drugs *at all* and the other pattern was where they didn't take them *at all, at all!*

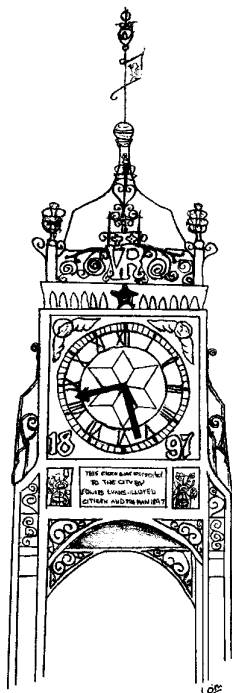
I then sat down wondering why on earth I constantly try and torpedo my career with comments made purely out of mischief. However, after the initial few seconds of bewilderment, the audience responded to the humour and the atmosphere lightened. This levity even continued through the next talk which was an excellent discourse on the acquisition by UK people of sexually transmitted infections while on holiday abroad.

Again at question time, the legendary Dr Robbie Morton drew himself up to his full height and, commenting on the sexual intermixing of different nationalities abroad, loudly proclaimed that in his experience, "the Dane in Spain was mainly on the Dane." This comment now brought the house down and the mischief continued to make it one of the better evenings to be remembered at the RSM.

Oh yes, there are times when you wish you had stayed quiet and not made a fool of yourself. By and large, they are far outweighed by the humour and joy produced by well constructed comic delivery.

It is a sad fact though that the higher you ascend in the medical hierarchy, the less place there is for humour and those who appreciate it. I heard a marvellous statement once by a wry physician, wistfully comparing himself to a colleague who had attained hierarchical greatness. He said "as through his gravity he has ascended, so through my levity, I have descended"!

Come on lads, let's keep in the humour—it's a great antidote.



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