UPDATE

Update of trichomoniasis

J R Schwebke

Trichomoniasis remains an extremely common infection despite the fact that rates of other treatable sexually transmitted diseases are declining. Newer diagnostic techniques such as polymerase chain reaction (PCR) are documenting higher rates of infection in heterosexual men than have been previously found with culture.

Although data on the association of vaginal trichomoniasis with preterm birth are controversial, the association of trichomoniasis with HIV acquisition seems clear. Despite being a readily diagnosed and treated STD, trichomoniasis is not a reportable infection and control of the infection has received relatively little emphasis from public health STD control programmes. More recently, however, appreciation of high rates of disease and of associations of trichomoniasis in women with adverse outcomes of pregnancy and increased risk for HIV infection suggest a need for increased control efforts.

The World Health Organization (WHO) has estimated that this infection accounts for almost half of all curable sexually transmitted infections worldwide. The annual incidence of *Trichomonas vaginalis* infections in the United States has been estimated at five million cases. Epidemiologically, *T vaginalis* infections are commonly associated with other STDs and may be a particularly sensitive marker of high risk sexual behaviour. Trichomoniasis is frequently seen concomitantly with other STDs, particularly gonorrhoea. The majority of women with trichomoniasis also have bacterial vaginosis (BV). Unlike other STDs which have higher prevalence among adolescents and young adults, rates of trichomoniasis are more evenly distributed among sexually active women of all age groups.

*Trichomonas vaginalis*, a flagellated parasite, is the causative agent of this infection. Although there are two additional species of *Trichomonas* that infect humans (*T tenax* and *T hominis*), *T vaginalis* is the only one that infects the urogenital tract. Symptoms of trichomoniasis in women include vaginal discharge, irritation, and pruritus; however, about half of all women infected with *T vaginalis* are asymptomatic. Signs of infection in women include vaginal discharge, odour, and oedema or erythema. In males, the prevalence and spectrum of disease is far less well characterised; the infection appears usually to be asymptomatic. However, it has been suggested as an increasingly important cause of non-gonococcal urethritis (NGU). A recent study, using polymerase chain reaction (PCR) for diagnosis, found *T vaginalis* in 17% of men attending an STD clinic in Birmingham, Alabama (Schwebke et al, unpublished data).

Diagnosis of trichomoniasis in the female is usually accomplished via direct microscopic examination of the vaginal fluid; however, even with skilled diagnosticians the sensitivity of this test is only 60% overall and may be less in asymptomatic women. Culture media are commercially available and are currently the gold standard for diagnosis. Polymerase chain reaction (PCR) techniques are under development but have thus far shown variable results, especially in women. Diagnosis in general is much more difficult for males with the best culture results yielded by combining urethral swabs and urine sediment. A recent comparison study of culture versus PCR in men showed significantly greater sensitivity for the latter (Schwebke et al, unpublished data).

In most cases, trichomoniasis is easily treated with a single dose of metronidazole and because it is an STD sexual partners should be routinely treated. However, because of the mainly asymptomatic nature of the infection in males it is doubtful that partner referral is frequently successful. Resistant cases appear to occur sporadically. The prevalence of resistant strains is unknown but it may be increasing in prevalence. The resistance is relative and can usually be overcome with increased doses of metronidazole. Tinidazole appears to be an attractive alternative to metronidazole. It has a longer half life than metronidazole and has been effective in some cases of trichomoniasis that were resistant to metronidazole.

Long considered a “minor” STD with few associated complications, infection with *T vaginalis* has recently been implicated as a cause of preterm delivery in several studies. In a large multicentre study, after adjusting for demographic, behavioural, and microbiological variables, trichomonas was significantly associated with low birth weight, premature rupture of membranes, and preterm delivery (RR = 1.4). Similarly, Minkoff et al also documented a significant correlation between trichomoniasis and premature rupture of membranes. In the Minkoff study, the incidence of this complication at term was 27.5% in women with trichomonas versus 12.8% in those without (p <0.03). In another study of pregnant adolescents, *T vaginalis* was independently associated with prematurity and low birth weight. A more recent randomised treatment study has, however, lent controversy to this area. Klebanoff et al reported the results of a study designed to prevent preterm labour among women with trichomoniasis. Women with asymptomatic trichomonas infection were randomised to placebo versus
REFERENCES


