

Prevalence of Trichomoniasis in Women Attending a Sexually Transmitted Disease Clinic in Mumbai

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Abstract

Introduction: Trichomoniasis, caused by the protozoan parasite, *Trichomonas vaginalis*, is a common but curable sexually transmitted disease (STD) affecting millions around the world. It can cause a variety of symptoms in women, namely, vaginal discharge, blood spotting, itching, redness and pain during sexual intercourse or urination. Trichomoniasis carries with it complications such as cervicitis, pelvic inflammatory diseases and tubal infertility, transmission to the baby, predisposition to human immunodeficiency virus and other viral infections.

Objective: The present study was undertaken to find out the prevalence of *T. vaginalis* infection in women attending an STD clinic in Mumbai with complaints of abnormal vaginal discharge.

Materials and Methods: High vaginal swabs were collected using a sterile lubricated speculum. The swabs were dipped in saline suspension and transported to the laboratory within 30 min. The centrifuged deposit was observed under phase contrast microscope (×40) for evidence of the parasite.

Results: *T. vaginalis* was detected in 44.6% (74/166) of the patients. Of those who tested positive for trichomoniasis 64.5% belonged to the 21-30 age groups. The prevalence was 14.3% among the pregnant women. Burning micturition was the most common complaint noted (68.2%) followed by erythema (38.6%) and vulval pruritus (38.6%).

Conclusion: Health education, routine screening, treatment of symptomatic and periodic presumptive treatment of asymptomatic women as well as her partner/s are necessary for effective control of the infection and other STDs at large.

Key words: Commercial sex workers, Sexually transmitted diseases, *Trichomonas vaginalis*, Trichomoniasis

INTRODUCTION

Trichomoniasis is a common but curable, non-viral^{1,2} sexually transmitted disease (STD) affecting millions around the world.^{3,4} The etiological agent is the protozoan parasite, *Trichomonas vaginalis*. It affects both men and women, but men usually have an asymptomatic infection and do not seek medical help. They can, however, be a source of infection to others. The vaginal epithelium, skene glands, bartholin glands and urethra are involved in women.⁵ It can cause a variety of symptoms, namely, vaginal discharge, blood spotting, itching, redness and pain

during intercourse or urination. Although it can lead to serious health consequences in pregnancy trichomoniasis is an under-recognized disease.⁶

Recent studies have shown that trichomoniasis is a strong predisposing factor for acquiring human immunodeficiency virus (HIV)³ due to the recruitment of target CD4 cells and macrophages to the site of infection and their binding^{7,8} along with the wear and tear caused to the vaginal mucosa.⁹ Early detection becomes even more necessary in this context especially in the sex workers due to multiple sex partners. Hence, the study was carried out with the aim to detect the parasite in women attending an STD clinic.

MATERIALS AND METHODS

The 1-year prospective study was conducted at one of the STD clinics of Municipal Corporation of Greater Mumbai. Of the 994 patients who attended the clinic

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during the study period, 166 patients with complaints of abnormal vaginal discharge were included. All patients were in the reproductive age group. The samples were collected after obtaining consent from the patients. The vagina was exposed using a sterile lubricated speculum under a powerful overhead lamp. The specimen was collected from posterior fornix of the vagina using sterile swabs. The physical characters of the discharge such as color, consistency, type and amount were noted.

The swab was dipped in saline suspension and transported within 30 min to the laboratory. The saline suspension was centrifuged at 3000 rpm for 6-7 min. A drop of the centrifuged sediment was taken on a clean glass slide and coverslip placed on it. This was observed under phase contrast microscope ($\times 40$) for evidence of the parasite. *T. vaginalis* was identified morphologically by its size, shape and characteristic jerking and twisting movements, trashing of flagella and the rippling of the undulating membrane. Culture was not attempted.

RESULTS

The frequency of abnormal vaginal discharge was 16.8% (166/994). Of those who tested positive for trichomoniasis, 64.5% belonged to the 21-30 age groups (Table 1).

T. vaginalis was detected in 45.8% (76/166) of the patients. There was no significant difference in the incidence of trichomoniasis in the commercial sex workers and others. The prevalence was 14.3% among the pregnant women (Table 2).

The discharge was profuse, mostly yellowish, mucoid, and thin in consistency in more than 75% of the cases (Table 3).

Burning micturition was the most common complaint noted (68.2%) followed by erythema (38.6%) and vulval pruritus (38.6%) (Chart 1).

DISCUSSION

The clinic is situated in one of the red-light areas of Mumbai and harbors floating population. The study group primarily comprised women of lower social strata in the reproductive age group including commercial sex workers (42.8%).

The prevalence of *T. vaginalis* in the study was 45.8%. There was only a slight preponderance in the incidence of trichomoniasis in the commercial sex workers (47.9%) as compared to others (44.2%) including pregnant women. The high incidence is probably because the

Table 1: Socio-clinical status and age-wise distribution of the patients

Status	Cases studied (%)
Non-pregnant women (not commercial sex workers)	81 (48.8)
Commercial sex workers	71 (42.8)
Pregnant women	14 (8.4)
Total cases	166

Age groups (year)	Number of cases (%)
15-20	30 (18.1)
21-25	40 (24.1)
26-30	69 (41.6)
31-35	12 (7.2)
36-40	9 (5.4)
41-45	6 (3.6)

Table 2: Prevalence of infection in various groups

Status of the patients	Number infected	% Incidence
Commercial sex workers (n=71)	34	47.9
Non-pregnant women (not commercial sex workers) (n=81)	40	49.4
Pregnant women (n=14)	2	14.3

Table 3: Gross appearances of the specimen

Appearance	Number (%)
Profuse discharge	33 (75)
Yellow color	26 (59.1)
Greenish yellow	7 (15.9)
Thin consistency	38 (86.3)
Mucoid	43 (97.7)

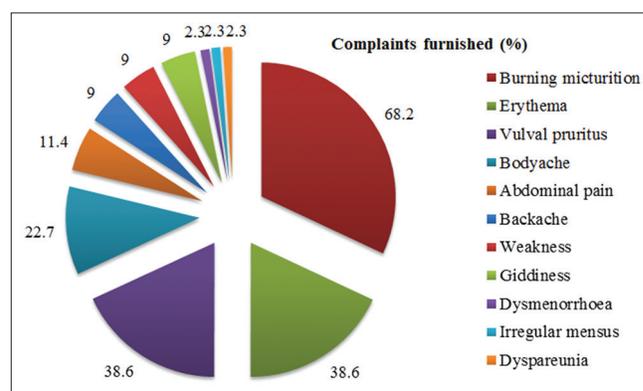


Chart 1: Complaints furnished by the patients

study included only women with complaints of abnormal vaginal discharge. In studies conducted in various parts of the world, such high prevalence has been reported mostly in those involving high-risk female sex workers (FSWs) or brothel-based, 21.9% in Nigeria,¹⁰ 51% in Papua New Guinea,¹¹ 62% in Papua New Guinea,¹² and 28% in Mongolia.¹³ However, this observation is at variance with a lower prevalence rate reported in FSWS in some

studies 9.0% in China,¹⁴ 7.6% in Argentina,¹⁵ and 7.2% in Sri Lanka.¹⁶

Trichomoniasis carries with its many complications including cervicitis, pelvic inflammatory diseases and tubal infertility,¹⁷ predisposition to HIV and other viruses such as herpes, human papillomaviruses as well as the risk of transmission to the baby from the infected birth canal, premature rupture of membranes, premature labor, low birth weight and post-abortion infections.^{18,19} Varying incidences have been reported in pregnant women ranging from 5.0 to 5.5%²⁰ and 10.9%.²¹ In this study, the prevalence rate was 14.3% though a good representation cannot be made as the study was not carried out exclusively in pregnant women. As the infection can persist for long periods in the female urogenital tract¹ timely intervention is crucial.

Routine screening with a simple and rapid test like microscopic examination of wet-mount preparation of the vaginal discharge with sensitivity 60-80%^{3,9,22} can be employed as a point-of-care diagnostic test. Many studies have reported that culture methods have better sensitivity²¹⁻²⁴ and molecular techniques^{2,25} are superior for detection. However, as these facilities are not available in most hospitals direct wet microscopic examination of vaginal swab specimens remains the test-of-choice and may be followed till a cheap, more sensitive point-of-care diagnostic test becomes available.⁴

CONCLUSION

Screening, health education to the high-risk groups regarding safe-sex practices, hygiene, timely treatment of symptomatic and periodic presumptive treatment of asymptomatic women and her partner/s will bring down the incidence as has been possible in some of the industrialized cities such as London²⁶ and Melbourne.²⁷

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