



“TRICHOMONIASIS: MOST COMMON SEXUALLY TRANSMITTED INFECTION (STI) WORLDWIDE”

Obstetrics & Gynaecology

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ABSTRACT

BACKGROUND: Trichomoniasis is the most common cause of sexually transmitted infection worldwide. Clinical presentation vary from person to person. The management of trichomoniasis is largely syndromic and empirical, it is usually based on naked eye examination of vaginal discharge and that is unsatisfactory because the diagnostic accuracy is lost without microscopic examination. The modern management of trichomoniasis demands a specific diagnosis which is a combination of naked eye examination plus laboratory workup.

METHOD: The study was carried out on 183 females with complaint of vaginal discharge in the outpatient Department of Obstetrics and Gynecology. Specimens were collected in OPD of Jhalawar Medical College in associated Zanana Hospital. The laboratory work was conducted in the Department of Microbiology in Jhalawar Medical College, Jhalawar.

RESULT: The prevalence of microbial positivity in our study was 79.9%. Trichomoniasis was diagnosed in 14 (7.7%) cases. Maximum patients presented with complaint of copious amount of thin; foul smelling; yellow discharge.

CONCLUSION: The study concludes that it is important to know the various presentations, confirm the diagnosis by proper microbiological tests, and provide appropriate treatment to patients to prevent resistance and recurrence of Trichomoniasis.

KEYWORDS

Vaginal discharge; Trichomoniasis; Purulent; Parasite; Wet mount; Itching.

INTRODUCTION:

Vaginal discharge is the commonest complaint among women in the reproductive age group. Infective vaginal discharge can be broadly categorized into vaginitis or mucopurulent cervicitis. Vaginitis is predominantly caused by bacterial vaginosis, vaginal candidiasis, vaginal trichomoniasis, etc. Trichomoniasis is a sexually transmitted disease caused by the parasite protozoan, *Trichomonas vaginalis*¹. It is the most common Sexually Transmitted Infection (STI) worldwide².

Trichomonas vaginalis was originally considered a commensal organism until the 1950s when the understanding of its role as a sexually transmitted infection (STI) began to evolve. Infection with *T. vaginalis* could have an important role in the transmission and acquisition of Human Immunodeficiency Virus (HIV). *T. vaginalis* is site-specific for the genitourinary tract and has been isolated from virtually all genitourinary structures. Asymptomatic disease is common in both men and women, thus screening for the disease is important.

T. vaginalis is associated with vaginitis, cervicitis, urethritis, PID and adverse birth outcomes³. In a large cohort study, *T. vaginalis* was found to be associated with a 40 % increase in preterm low birth weight and a 30% increase in low birth weight and preterm birth as separate outcomes after adjustment for a variety of possible explanatory factors⁴. Trichomoniasis may be exacerbated in the late luteal phase, during or immediately following the menstrual period⁵.

Symptomatic women with trichomoniasis have a greatly increased volume of vaginal discharge; it may be malodorous, green or yellow in color, and frothy in appearance⁶. Most common symptoms associated are burning sensation in the vagina, dyspareunia, dysuria, and pruritis⁷. Some may exhibit hemorrhagic spots (petechiae) on the genital mucosa, referred to as Colpitis macularis (strawberry cervix)⁸.

Diagnosis:

Trichomoniasis diagnosed by wet mount by microscopic visualization of the motile parasite, has a sensitivity of up to 65%, and samples should be visualized within 10 minutes of collection to improve the likelihood of observing motility. The culture of *T. vaginalis* has high specificity (almost 100%) but a lower sensitivity (as low as 75%) for diagnosis. Rapid transport to the laboratory is ideal to ensure the viability of the organism. Trichomonad culture is still considered the gold standard diagnostic procedure for trichomoniasis⁹. Although the organism may be detected on Papanicolaou screening tests, this is not considered diagnostic because of the test's low sensitivity for *T. vaginalis*⁸.

Immunoassay dipstick testing is also available for *T. vaginalis* as a rapid antigen test with results available in 10 minutes. Sensitivity (82-95%) and specificity (97-100%) are both high¹. NAATs are the most

sensitive tests currently available for use with vaginal swabs. Sensitivity and specificity are both 95% to 100%⁸.

Non-culture tests for trichomonas include OSOM Trichomonas Rapid Test (Genzyme), Affirm VOIII (Becton Dickinson), and XenoStripTv (Xenotype diagnostic). These tests have the sensitivity that approaches that of culture¹⁰.

The management of trichomoniasis is largely syndromic and empirical, it is usually based on naked eye examination of vaginal discharge, and that is unsatisfactory because the diagnostic accuracy is lost without microscopic examination¹¹. The modern management of vaginal discharge demands a specific diagnosis which is a combination of naked eye examination plus laboratory workup.

MATERIAL AND METHOD:

The study was carried out on 183 females with complaint of vaginal discharge in the outpatient Department of Obstetrics and Gynecology from NOV 2018-OCT 2019. Specimens were collected in OPD of Jhalawar Medical College in associated Zanana Hospital. The laboratory work was conducted in the Department of Microbiology in Jhalawar Medical College, Jhalawar. Statistical analysis of data was done by help of SPSS 20.0 Software (trial version).

Inclusion Criteria:

- All married females of reproductive age group with vaginal discharge.

Exclusion Criteria :

- Cases of recent delivery and abortion.
- Pregnant women with leaking per vagina.
- Patient with bleeding per vagina.

In each general and local examination was done. For local examination, women were kept in dorsal position with the knees flexed, per speculum examination was done with a good source of light, any abnormality in the vagina and cervix was noted. The amount, color, consistency, and odor of vaginal discharge were noted, with all aseptic precautions vaginal discharge collected from posterior fornix with two cotton swab stick and one cotton swab stick was kept in a sterile test tube and another cotton swab stick was kept in a sterile test tube immersed in normal saline.

Wet mount smear: smear prepared on a glass slide and one drop of normal saline dropped on it by a dropper and even solution was made. It was covered by a glass coverslip and seen under a microscope. *Trichomonas vaginalis* was identified by its pearshaped, anterior flagella and typically jerky rotatory motion.



Trichomonas vaginalis in wet mount

Differential Diagnosis Of Trichomoniasis:

Any purulent vaginitis can be confused with trichomonas vaginitis. The most common purulent vaginitis is desquamative inflammatory vaginitis and inflammation associated with an atrophic vaginal epithelium, an intravaginal foreign body, or any erosive vaginal skin disease.

Treatment Of Trichomoniasis:

Centers for Disease Control and Prevention (CDC), Sexually Transmitted Diseases Treatment Guidelines 2015¹² for treatment of vaginal discharge:-

Metronidazole 2 g orally in a single dose

OR

Tinidazole 2 g orally in a single dose

RESULTS:

The prevalence of microbial positivity in our study was 79.9%. Trichomoniasis was found in 14 (7.7%) cases. Mixed infection (Bacterial vaginosis + Trichomoniasis) was found in 4 (2.2%) cases. Trichomoniasis was seen in 4 (28.6%) cases in the age group of 20-24 years and in 8 (57.1%) cases in the age group of 25-29 years i.e. 85.7% cases of trichomoniasis were found in the age group of 20-29 years. In 14 cases of trichomoniasis, 10 (71.4%) cases had copious discharge, 4 (28.6%) cases had moderate discharge, 0 (0.0%) case had scanty discharge. 2 (14.3%) cases had white discharge, 12 (85.7%) cases had yellow discharge. 1 (7.1%) cases had mucoid discharge, 0 (0.0%) case had thick discharge, 13 (92.9%) cases had thin discharge. 11 (78.6%) cases had foul smelling discharge, 3 (21.4%) cases had odorless discharge. 3 (21.4%) cases didn't have any complaint of pain abdomen, 11 (78.6%) cases had complaint of pain abdomen. 2 (14.3%) cases didn't have any complaint of backache, 12 (85.7%) cases had complaint of backache. 3 (21.4%) cases didn't have history of pruritis, 30 (78.6%) cases had history of pruritis. 4 (28.6%) cases didn't have any urinary complaints, 10 (71.4%) cases had urinary complaints. None of the case was diabetic. 13 (92.9%) cases didn't have recent history of use of antibiotics, 1 (7.1%) case had recent history of use of antibiotics. None was using OCPs or IUCD. 12 (85.7%) cases were non-pregnant, 2 (14.3%) cases were pregnant.

DISCUSSION:

Trichomoniasis was found in 14 (7.7%) of cases in our study group. Gopal V et al (2018) found trichomoniasis among 8.5 % population of their study group¹³. Yusuf MA et al (2011) found TV in 10.8% of females of their study group¹⁴. Landers DV et al (2004) found 12% prevalence of trichomoniasis in their study group¹⁵. On the other side, Nsagha DS et al (2015) found trichomoniasis only in 1.2% of the population as a cause of vulvovaginitis¹⁶. Dai Q et al (2010) found trichomoniasis in 2.5 % of cases as the cause of vaginitis¹⁷.

Mixed infection (bacterial vaginosis+ trichomoniasis) was found in 4 (2.2%) cases in our study. Sivaranjini R et al (2013) found the incidence of mixed infection (bacterial vaginosis+ trichomoniasis) 2.5% in their study¹⁸. Madhivanan P et al (2008) found BV was related to concurrent infection with *Trichomonas vaginalis* in 4.07% of cases in their study group¹⁹, while L Govender et al (1996) found mixed infection of BV and trichomoniasis in 14% cases in their study²⁰.

In our study maximum cases of trichomoniasis was seen in the age group of 20-29 years. Yusuf MA et al (2011) found in their study that

trichomoniasis was detected at the highest rate in the age group of 15-25 years¹⁴.

In this study, we found maximum cases of trichomoniasis had copious amount of discharge i.e. 71.4%, Kiran CK et al (2018) found 68% of cases with trichomoniasis had copious discharge²¹. Landers DV et al (2004) found out that among women with abnormal discharge, 10% of the women were diagnosed as having trichomoniasis¹⁵.

In this study 2 (14.3%) cases had white discharge, 12 (85.7%) cases had yellow discharge. While Kiran CK (2017) et al found among females with trichomoniasis 12% had white curdy discharge, 76% females had greenish discharge²¹. Meena V et al (2015) found, 14.2% cases of trichomoniasis had yellowish discharge²².

We found that among females having trichomoniasis 1 (7.1%) case had mucoid discharge, 0 (0.0%) case had thick discharge, 13 (92.9%) cases had thin discharge. While Kiran CK et al (2017) found, among cases with trichomoniasis 32% had thick discharge and 68% had thin discharge²¹.

In our study among cases of trichomoniasis 11 (78.6%) cases had foul smelling discharge, 3 (21.4%) cases had odorless discharge. Kiran CK et al (2017) found malodor was present in 64% cases of trichomoniasis²¹. Meena V et al (2015) found fishy odor in 4.2% of cases with Trichomoniasis²². Landers DV et al (2004) found that among women with odor as a complaint, the clinical diagnosis of trichomoniasis was made in 12% of cases¹⁵.

In this study 78.6% cases of trichomoniasis had a complaint of pain abdomen. Kiran CK et al (2017) found pain abdomen was present in 12% cases of trichomoniasis²¹. Sivaranjini R et al (2013) found the most common associated symptom in females with vaginal discharge was lower abdominal pain seen in 72.8% of women¹⁸.

In this study, pruritis was present in 78.6% cases with trichomoniasis, and 61.9% cases with candidiasis. Kiran CK et al (2017) found pruritis was present in 80% cases with trichomoniasis²¹. Meena V et al (2015) found itching in 100% cases with trichomoniasis²².

In this study, urinary complaints were present in 71.4% cases of trichomoniasis. Kiran CK et al (2017) found dysuria was present in 12% cases with trichomoniasis²¹. Meena V et al (2015) found dysuria in 100% cases with trichomoniasis²². Landers DV et al (2004) found that women who had dysuria, 13% had trichomoniasis¹⁵.

In this study, we found that a recent history of antibiotics use was given by 7.1% cases with trichomoniasis. Mulu W et al (2015) found in their study that none of the case with trichomoniasis had a recent history of use of antibiotics²³.

CONCLUSION:

It is important to know the various presentations of trichomoniasis, confirm the diagnosis by proper microbiological tests, and provide appropriate treatment to patients to prevent resistance and recurrence.

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