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Prevalance of Trichomonas Infection in Cervical Smear in HIV Infected Women

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Abstract

Background: Trichomonas vaginalis infection is a common sexually transmitted protozoal infection in HIV women among all reproductive age group and is associated with several adverse health outcomes such as, preterm delivery, delivery of a low–birth weight infant, and facilitation of sexual transmission of human immunodeficiency virus. *Patients and Methods*: Total of 100 women from 20-40 years who participated in the study from 28 th December 2015 to July2016.Collection of vaginal swab specimens were done after taking consent from each patient. The vaginal fluids extracted from these swabs were evaluated for the presence of Trichomonas vaginalis & perinuclear halo (presumptive diagnosis of Trichomonas) by staining with Papanicolaou method. *Results*: Over all, 10 women (10%) of the total of 100 women were positive for Trichomonas infection & 12 women (12%) were positive with demonstration of perinuclear halo (12%) Total 22% had shown the infection with Trichomonas. *Conclusions*: With Positive history of HIV & supported by positive HIV test & clinical examination, women with abnormal vaginal discharges, burning sensation and genital itches should be checked for Trichomoniasis using high sensitive and specific tests: papanicolaou stain for the detection of trichomonas & perinuclear halo.

Keywords: Trichomonas; Discharge; HIV; Vulva; Vagina; Urethra; Papanicolaou.

Introduction

Trichomoniasis is the most common curable sexually transmitted disease. The trichomonas is passed from an infected person to an uninfected person during sexual intercourse. In women, the most commonly infected part of the body is the lower genital tract (vulva, vagina, or urethra), and in men, the most commonly infected body part is the inside of the penis (urethra). During sexual act the parasite is usually transmitted from a penis to a vagina or from a vagina to a penis, but it can also be passed from a vagina to another vagina in lesbian. It is unusual for the parasite to infect other parts of the body, like the mouth, hands, or anus. It is not clear why some people with the infection get symptoms while others do not, but it probably depends on factors of the overall health & the person's age. Infected person without symptoms can still pass the infection on to others. Trichomonas cause symptoms; they are itching of the inner thighs, vaginal discharge (thin, greenish-yellow, frothy or foamy) Vaginal itching or swelling of the labia, vaginal odor (foul or strong smell) [3]. There is wide spectrum of symptoms among the infected women. Women infected with Trichomoniasis can make it feel unpleasant to have sex, and post coital bleeding. Without proper treatment, the infection can persist for months or even years.Trichomoniasis can increase the risk of getting or spreading other sexually transmitted infections, like HIV. In women, trichomoniasis infection as risk determinants of subsequent cervical neoplasia [5] (Viikki M, Pukkala E, Nieminen P, Hakama M. Gynaecological infections as risk determinants of subsequent cervical neoplasia. ActaOncol 2000; 39: 71-75).

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Material and Methods

The study was carried out during 28 of December 2015 to July 2016 at R.D. Gardi Medical College, Ujjain in the department of pathology. One hundred patients

suffering from HIV with positive laboratory test first by (Tridot) & second by Elisa method were recruited for study attending Gynae OPD and presenting with vaginal discharge subjected for routine cervical smear examination. Out of 100 women 11 were pregnant. The pregnancy test on all urine samples were performed by dipstick method. In all patients blood VDRL test were performed by card method (Carbogen from Tulip diagnostic)

Inclusion Criteria

Married women in the 20-40 reproductive age group years suffering from HIV were included in the present study.

Sampling Procedure

Sample of mucus & cells was obtained from cervix & endocervix using a disposable cotton wool tipped applicator sticks The sample was evenly applied to the grease free glass slide & Fixed in ether alcohol for 30 minutes.

Staining: Conventional Papanicolaoumethod

Exclusion Criteria

Married women in the reproductive age 20-40 with positive history of HIV who were not willing to participate in the study.

Women during menstruation were not included in the study

All the Laboratory variable were taken into account, they were

- Adherence to laboratory protocol using the same
- Supplies
- Sequences of procedural steps
- Timing intervals
- Equipment
- Ensures accuracy & precision of microscopic analysis of Cervical smear

Examination of the Smear Preparation

The stained smears were examined under the light microscope at low and high power objectives for the presence of Trichomonas and perinuclear halo (presumaptive diagnosis of Trichomonas infection)

The slide was placed on the microscope stage and the whole area was scanned on low power (10 X objective). 10-12 representative fields were scanned in each specimen. The interior of the slide were examined carefully. All other cellular components were examined. Final Examination of the slide was done under high power (40 x objectives)

Identification of Trichomonas Vaginalis

The following criteria were taken into account

- Round to lemon pear shaped organism & end flagella.
- Presence of eosinophilic granules in the cytoplasm
- Pale, eccentrically placed nucleus
- Clusters of neutrophils in back ground
- Presence of many lymphocytes

Identification of Perinuclear Halo: was done on the basis of presence of mature squamous cells with slightly enlarged dark nuclei & small perinuclear halos (tric change) (presumapative diagnosis of trichomonas infection)

A total of 100 patients were included in the present study for final analysis. Most of the patients were between the age group of 19-25 (50%).

Age Distribution of the Study Group & Findings

Age group	No of patients	Positive for Trichomonas	Positive for perinuclear halo
19-25	50	05	04
26-31	30	04	06
32-40	20	01	02

Results

Out of the one hundred patients under study the following results were noted.

Presence of Perinuclear halos: 12 patients (12%)

Presence of Trichomonas: 10 patients (10%)

7 out of 100 positive HIV test were in addition Postive VDRL Test. (Carbogen, card method)(Tulip diagnostic)

Discussion

The best way for assessing the efficacy of any laboratory method should be characterized by high rate of sensitivity, specificity and accuracy, so

obtaining high rate of trichomonaisis in the present study by using papanicolaou staining & presence of perinuclear halo are good guidelines for the confirmation of trichomonaisis among women. High rate of trichomoniais in age group of 19-31 may be attributed to an excess sexual activity or to hormonal changes; low rate of trichomonas infection in age group of 32-40 is attributed to low sexual activity. Statistical significant relationships between trichomonas frequency among women from urban & rural area were not taken into account.Papanicolaou is the best staining method in detection of Trichomonas in cervical smear examination. On Papaniclou stained smear examination Trichmonas was detected by its characteristic morphology & end flagella.The presence of perinuclear halo in the epithelial cells was used as a presumptive diagnosis for T. vaginalis.

Conclusion

Trichomonas infection in fertile age group in not so common in females but it is substantially high in women having HIV & other sexually transmitted diseases. The present study shows the significance of routine cervical smear examination to detect Trichomonas infection & treatment at an early stage. The present study indicates the need of PAP smear examination & appropriate treatment in order to reduce HIV sheeding [2] Screening sexually active HIV-infected women for trichomoniasis is recommended because (1) treatment has been shown to reduce HIV shedding, and (2) potential complications related to upper genital tract infections in untreated women can be prevented.

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