

PREVALENCE OF *T. vaginalis* IN PREGNANT WOMEN ATTENDING ANTENATAL CLINICS IN KADUNA, NIGERIA

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ABSTRACT

The prevalence of trichomoniasis amongst 350 pregnant women attending Antenatal Clinics in four selected hospitals within Kaduna metropolis was determined using direct wet mount examination. Out of the 350 pregnant women screened for trichomoniasis, 62 (17.7%) were positive. Higher incidences were recorded in the pH range of 4.1-6.5 (90.3%). The colour appearance showed that *T. vaginalis* was more associated with greenish-yellow vaginal discharge and a percentage occurrence of 45.2%. There was a higher occurrence of *T. vaginalis* in the age group of 26-30 years (32.3%). Pregnant women should seek medical advice to avoid miscarriages and stillbirths.

KEYWORDS: Prevalence, *T. vaginalis*, pregnant women.

INTRODUCTION

Trichomoniasis is an infection caused by the Protozoan (*Trichomonas vaginalis*). It is acquired through sexual intercourse from infected partners. There could be other modes of transmission such as through use of contaminated fomites especially during labour, from borrowed clothing, towels, splashes from water closets, Jacuzzi or hot baths (Levine, 1991).

Pregnant women infected with *T. vaginalis* are 30% more likely to deliver preterm or a low birth weight infant than uninfected women. (Klebanoff, 2001). Internationally trichomoniasis affects approximately 183 million women world-wide (NIH, 2001).

The parasite is mainly found in the vagina, bladder and ureter in females. Symptomatically, the vaginal discharges are extremely irritating, almost unbearable such that there is a constant flow and the symptoms may continue from a few days to many months. The infection may be so intense at the mouth of the vagina such that sexual intercourse becomes unbearable (Hart, 1993; Heine and McGregor, 1993).

In view of the public health implications of transmitting the infection among sexually active adults (including pregnant women), this work was carried out to identify the organism, *T. vaginalis* in vaginal specimens of pregnant women, check the extent of infection in them and suggest ways of treatment and control.

MATERIALS AND METHODS

Specimen collection

Three hundred and fifty (350) vaginal specimens were collected from pregnant women using the stratified random selection. The hospitals are Army Reference Hospital, A.B.U Teaching Hospital, Yusufu Dantsoho Hospital, Tudun wada and St. Gerald's Hospital, Kakuri, Kaduna. The women were between the ages of eighteen (18) to forty-seven (47) years. Specimens were collected from each patient using vaginal swab sticks with the aid of a sterile vaginal speculum. The specimens were immediately examined microscopically.

Preliminary tests

The colour was determined by visual inspection and the pH by the use of a pH paper.

Identification of yeasts

Dried films of the specimens were prepared and stained with lactophenol blue. The characteristic appearance of ovoid cells with large vacuoles was observed.

Direct wet preparation

One (1.0) ml of physiological saline was added each to the tubes containing the vaginal swab specimens. These were gently shaken to obtain an even suspension of the vaginal secretion. A drop of the suspension was placed in the centre of a clean, grease-free slide and covered with a clean cover slip. The preparation was observed using the high power (x40) objective of the microscope. Positive slides were characterized by the jerky movement of the trichomonads.

Gram-staining technique for the identification of bacteria.

Heat-fixed smear preparations were made from the vaginal specimens and were gram-stained according to Standard methods (Ferris *et al*, 1995).

Identification of polymorphonuclear leucocytes and red blood cells.

Dried films of the specimens were made and observed under the x100 objective lens with a drop of oil immersion.

Statistical analysis.

A chi-square (χ^2) test was used to determine the significance of age with the

incidence of *T. vaginalis* in pregnant women.

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DISCUSSION

There was a correlation of the colour of the vaginal discharge to the occurrence of the organism in the women studied. The vaginal specimens with greenish-yellow colour had the highest percentage occurrence of *T. vaginalis*. This agrees with the documentation of Graves and Gardner (1993).

The optimum pH for the proliferation of *T. vaginalis* was found to be in the range of 4.1-6.5. This finding agrees with those of Ross and Middlekoop (1983). Of the 62 positive specimens, 56 (90.3%) were identified with pH values between 4.1 and 6.5. Where mixed infections with bacteria (*Lactobacillus*) and yeast (*Candida albicans*) were observed, the number of specimens with *T. vaginalis* decreased.

There was a moderate occurrence of polymorphonuclear leucocytes (10-20), red blood cells and epithelial cells in some of the specimens. This agrees with the work of James *et al.* 1992.

It has been demonstrated that the presence of leucocytes, *Lactobacillus* and amine odour are additional clues for cause of bacterial vaginosis (Ferris *et al.* 1995). In addition, bacterial vaginosis is associated with maternal infectious morbidity during labor and in the postpartum period. Very little is known of the pathophysiologic mechanisms by which bacterial vaginosis may cause preterm labor and/or premature rupture of the membranes.

Immunological diagnosis may however take over the direct wet mount technique in the near future. Though expensive but negative results with direct wet mount may be detected by enzyme immunoassay (Lossick and Kent, 1991).

CONCLUSION

T. vaginalis infection is usually associated with greenish-yellow vaginal discharge though it may be found in creamy and brownish specimens. The occurrence in the latter is however lower.

Pregnant women must seek medical advice and be treated immediately to avoid risk to the foetus.

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