

Detection of Trichomoniasis in Vaginal and Urine Specimens from Women in Karbala city

Dhamia'a Maki Hamza Al-Haidari
Master in science-Parasitology
College of Medicine, University of Karbala

Abstract:

Vaginal swabs and urine samples were obtained from 115 females attending the private clinics in Karbala and examined by the wet mount preparation and culture method while the urine samples examined by urinalysis method. *Trichomonas vaginalis* was identified in 11 females (9.5%) with vaginal discharge. Pregnant women showed the highest rate 6 (15%). The next highest rate 3 (14.2%) in the post menopausal women and identified the motile stage of this parasite in the urine of just 2 (1.7%) of females especially in the pregnant women.

Introduction:

Trichomonas vaginalis a protozoan parasite which can be transmitted sexually is known to be responsible for an estimated 180 million new infection per year making it the most prevalent non-viral sexually transmitted pathogen worldwide [1]. Transmission to neonates during passage through an infected birth canal is also possible [2]. Although infection with *T. vaginalis* is frequently asymptomatic and self limited, it can however cause urethritis in men and vaginitis in women. Vaginal discharge, vulvovaginal soreness, dysuria, dyspareunia, and/or irritation are usually experienced by symptomatic women with trichomoniasis [3]. prevalence rate in the United states suggest that approximately 6 million women and men are infected annually [4]. There is many studies about Trichomoniasis were carried out among women in Iraqi cities for example in Baghdad [5], Basra [6], Erbil [7] and Mosul [8]. Provinces where incidences of 19.5%, 11.3%, 10%, 9.6%, respectively were recorded.

Materials and Methods:

Vaginal swabs and urine samples were obtained from 150 females; two vaginal swabs are collected from each patient one of them examined by wet mount preparation by using of cotton swabs were placed in to a test tube containing 0.25 ml of saline and examined for motile Trichomonads while the other swab using for culture in Trichomonas medium (Oxoid Ltd). While the urine samples centrifuged at 1163g for 5 minutes. The supernatant decanted and the sediment resuspended in the drop of supernatant remaining in the centrifuge tube. The resuspended sediment examined under the microscope at x400 power.

Urine was examined within 30 minutes of collection. All the women in this study attending the private clinics during 16 months period (January 2008-April 2009) were full information including age, gravidity parity, complaint, marital status, vaginal discharge and the history of abortion.

Results:

The overall incidence of *T.vaginalis* among women was found to be 9.5% (Table 1). Pregnant women showed the highest incidence 6 (15%). women near or post-menopausal showed the next highest incidence of 3 (14.2%). While the lower infection rate was evident during menstrual years. The examination of urine samples identified just 2(1.7%) cases of *T.vaginalis* and this rate are in the pregnant women.

Table 1: distribution of 115 females with urethral discharge in relation to menstrual history

*Means different letters	Menstrual history	No. examined	No. Positive	% Positive	with are
	Pregnant	40	6	15.0 A*	
	Women with history of abortion	17	1	5.8 B*	
	Non-pregnant	33	1	3.0 B*	
	Post-menopausal	21	3	14.2 B*	
	Pre-puberty	4	0	0.0 A*	
	Total	115	11	9.5	

significantly different.

*P≤ 0.01

Table 2: Distribution of 115 females with vaginal discharge by age

Age	No. examined	No. Positive	% positive
11-20	11	1	9.0 B*
21-30	42	5	11.9 A*
31-40	41	2	4.8 C*
Over 40	21	3	14.2 A*
Total	115	11	9.5

*Means with different letters are significantly different.

*P≤ 0.01

Table 3: Distribution of 115 females with vaginal discharge by marital status

Marital status	No. examined	No. Positive	% positive
Married	96	9	9.4 B
Single	11	1	9.0 B
Widow	8	1	12.5 A
Total	115	11	9.5

*Means with different letters are significantly different.

*P≤ 0.01

Table 4: Distribution of *T.vaginalis* in Urine analysis of 115 females in relation to menstrual history

Menstrual history	No. examined	No. Positive	% Positive
Pregnant	40	2	5.0 A*
Women with history of abortion	17	0	0 B*
Non-pregnant	33	0	0 B*
postmenopausal	21	0	0 B*
Pre-puberty	4	0	0 B*
Total	115	2	1.7

*Means with different letters are significantly different.

*P≤ 0.01

Discussion:

A low rate of infection with Trichomonads, only 9.5% was detected in this study population and these rates are lower than those reported in Iraqi cities and various parts of the world . Examination of apparently health women was not possible because they refused to have vaginal swabs done due to the absence of

the vaginal discharge complaint. Higher incidence has been reported in the United Kingdom, the United States and Poland [9]. This variation may be explained by differences in hygiene and sanitation and sexual relations before marriage. However, *T. vaginalis* should be included in STD screenings, not only because it is associated with *Gonorrhoea* and *Chlamydia trachomatis* infection [10,11], but also because screening for *T. vaginalis* is considered an achievable strategy to reduce the incidence of human immunodeficiency virus [12]. The requirements of diagnostic techniques for large-scale screenings with respect to sensitivity, specificity and duration of test results are very high. Although enzyme immunoassays and PCR based detection of *T. vaginalis* meet some of these requirements, performance of these tests is restricted to specialized laboratories because of the high costs involved. The wet preparation and culture methods will remain the first line diagnostic tool [11,13]. The reliability of clinical symptoms is low, because most of infected patients did not show typical signs of infection [17,18,19]. In the present study, culture was the most sensitive diagnostic test for Trichomoniasis. In no case was the vaginal wet mount preparation positive and the culture was negative.

The pregnant women showed a higher infection rate (15%) this may be attributed to the hypertrophy and hyperplasia of the vaginal epithelium, as well as to the increase of glycogen deposits in such cells, produced by high estrogen levels [15] and the infection with *T. vaginalis* at mid-gestation were statistically significantly more likely to have a low birth weight infant [16]. The presence of the relatively large number of positive cases among married women are clearly the responsibility of their husbands. In rare cases, the infection may be acquired through innocent means, such as toilet facilities, medical instruments or exchange of underclothing [17]. Other factors such as the susceptibility of the host, his physiological condition, the virulence and size of the inoculum, as well as social habits and hygiene conditions, might have an effect on the pathogenesis of the *T. vaginalis*. This study gives a better understanding about the incidence of urogenital trichomoniasis. Clean instruments, attention to the associated problems of the genital and urinary tracts, collateral treatment of sexual partners, standard of living and education are important in controlling the disease among Iraqi women.

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تشخيص طفيلي المشعرات المهبليّة في عينات بولية ومسحات مهبلية من النساء في مدينة كربلاء

ضمياء مكي حمزة الحيدري
ماجستير علوم/ طفيليات
كلية الطب / جامعة كربلاء

الخلاصة:-

تم أخذ مسحات مهبلية وعينات إدرار من 115 سيدة يراجعن العيادات والمراكز الصحية في محافظة كربلاء وتم فحص عينات رطبة منها وزرعها أما الإدرار تم فحصه بطريقة Urinalysis. لقد تبين وجود المشعرات المهبليّة في 11 (9,5%) مريضة تعاني من إفرازات مهبلية. لقد لوحظ أن أكثر الإصابات بين النساء الحوامل 6 (15%) تليها الإصابة بين النساء اللاتي قاربن أو تجاوزن سن اليأس 3 (14,2%). كما تم تشخيص الطور المتحرك للطفيلي في عينات إدرار 2 (1,7%) فقط من النساء وهن من النساء الحوامل .