

Local antigen in serodiagnosis of trichomoniasis vaginalis

Nadham K. Mahdi, MSc, PhD,
Zainab H. Gany, BVMS, MSc,
Maysoon S. Flafil, DOG, CABOG.

Trichomonas vaginalis (*T. vaginalis*) is a very common parasite of the urogenital tract. Urogenital trichomoniasis is recognized as one of the sexually transmitted diseases, it causes cystitis and vaginitis in female and prostatitis and urethritis in male.¹

In the search for an accurate and rapid diagnostic test, numerous immunological procedures have been studied including, gel diffusion, indirect hemagglutination (IHA), direct immunofluorescence, enzyme-linked immunoabsorbent assay (ELISA). However, the sensitivity, specificity and cost of these tests are still undefined. There were many types of *T. vaginalis* strains such as NYH272, IR 78, ATCC30001 and JH3IA.² In this study a local strain was used to prepare an antigen to perform the IHA test as a serodiagnostic method for *T. vaginalis* infection.

Serum samples were collected from 16 infected women with *T. vaginalis* that have been diagnosed by wet preparation of vaginal discharge and by culture method. Further 10 serum were collected from women with vaginal discharge but not infected with *T. vaginalis* and also 10 serum samples from apparently healthy women. The antigen was collected from cultures of parasites in a selective media (Difco No. 0911.02) and incubated at 37°C, and then subcultured at 48 or 72 hours interval. The antigen preparation was previously described by Gany.³ An antigen at concentration of 10⁸ organisms/ml was used in performing IHA test.³

Antibody titers of 3 groups of women were shown in Table 1. Antibody titers were higher 1:320 in *T. vaginalis* infected women. On the other hand, 3 out of 10 patients with vaginal discharge but uninfected showed high antibody titer reaching a peak of 1:80, while only 2 out of 10 apparently healthy women were found to have an elevated antibody titers (1:20 and 1:40). The sensitivity and specificity of the IHA test were calculated as 100% and 25%.

In this study, preparation of *T. vaginalis* antigen from a local strain and application of IHA test was carried out for the first time in Iraq. It proved to be sensitive, easily performed and inexpensive with available facilities in comparing with other serological tests especially ELISA and indirect fluorescent antibody test. On the other hand, *T. vaginalis* has a stimulation effect for the induction and maintenance of acquired immune response. However, the seropositive cases of uninfected

Table 1 - Distribution of antibody titers to *T. vaginalis* in 3 groups.

Groups	Patient n	n of sera with the following IHA titer							
		1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280
Vaginal discharge and infected by <i>T. vaginalis</i>	16	16	14	12	6	2	1	-	-
Vaginal discharge and uninfected by <i>T. vaginalis</i>	10	3	3	2	1	-	-	-	-
Healthy women	10	2	2	1	-	-	-	-	-

T. vaginalis- *Trichomonas vaginalis*, IHA - indirect hemagglutination

women and suffer from vaginal discharge and the apparently healthy women can be a correlation between the presence of antibody and the degree of vaginal discharge. It should be stated that the duration of the circulating antibody is unknown.⁴ Nevertheless, it is likely that antibody in some women persisted for weeks after infection had resolved, either spontaneously or by specific treatment.⁴ In contrast, other opinion suggested that antibody disappear after drug treatment and cured of *T. vaginalis* infection.⁵ So, the immunological test can provide a better understanding of the epidemiology of *T. vaginalis*.

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From the Departments of Microbiology (Mahdi), and Obstetrics and Gynecology (Flafil), College of Medicine, and the Department of Pharmacology (Gany), Toxicology and Allied Sciences, College of Pharmacy, University of Basrah, Basrah, Iraq. Address correspondence and reprint requests to Dr. Nadham K. Mahdi, Department of Microbiology, College of Medicine, University of Basrah, Basrah, Iraq. Tel +964 (40) 219375. Fax. +964 (40) 219375. E-mail: nadhammahdi@yahoo.com

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