FEMS SYMPOSIUM

June 10-13, 1998

RECENT ADVANCES IN THE DIAGNOSIS OF SEXUALLY TRANSMITTED DISEASES (STDs)

PROGRAM AND ABSTRACTS

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ORGANIZED BY
Federation of European Microbiological Societies (FEMS)
and
Turkish Microbiological Society

Publication of the Turkish Microbiological Society No: 34

Rapid diagnosis of *Chlamydia trachomatis* infections by enzyme linked fluorescent assay

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Chlamydia trachomatis is an important aethiological agent responsible for a significant portion of sexually transmitted diseases in men and women all over the world. Diagnosis of infection is based on symptomatic presentation or history of contact with an infected person.

Cell culture techniques, still considered as the " gold standard " by which all other methods are assessed. These techniques are costly and time consuming, require at least 48 hours to obtain the results and necessitate Giemsa, iodine or fluorescent antibody staining for confirmation.

Antigen detection techniques currently in use, as Direct immunofluorescence microscopy (DIF), Enzyme immunoassay (EIA) and Nucleic acid assays (PCR, LCR) are easier to perform and have the considerable advantage that viable organisms are not required on which cell culture techniques are dependent.

The VIDAS Chlamydia (VCHL) assay (bioMe'rieux), that we used in our study, is an automated enzyme-linked fluorescent immunoassay for qualitative detection of chlamydial antigens in endocervical, urethral or male urine specimens. The Test value (TV) thresholds and interpretation of results were according the manufacturer:

TV < 60 (-), TV ≥ 60 to 80 (+/-), TV ≥ 80 (+).

From a total of 307 specimens (table 1.), from symptomatic patients, 63 (20,5 %), 233 (75,9 %), and 11 (3,6 %) were (+), (-) and (+/-), respectively.

Table 1.

VCHL	Urethral (U)	Endocervical (EC)	Conjuctival	TOTAL
+ / %	23/15,8	32/31,4	8/13,3	63/20,5
- / %	117/80,7	64/62,7	52/86,7	233/75,9
+/- / %	5/3,4	6/5,9	-	11/3,6
TOTAL	145/100	102/100	60/100	307/100

A comparative study of : 20 (-)[a], 11 (+/-)[b], 10 low positive (TV< 200)[c] and 10 high positive (TV>500)[d] specimens, by VCHL with DIF (bioMe'rieux) used as a gold standard, was made.

The all negative and positive VCHL had same results by DIF.

From the 11 VCHL (+/-), with repeated VCHL 3 were (+), but 4 (+) with DIF, what is not statistical significant, p>0,05 (χ^2 = 0,210, DF=3, p=0,976).

Three urine from VCHL high positive men were (+) with VCHL too, but 3 urine, from VCHL low positive, were VCHL negative, which indicates that urine samples from VCHL low positive men could be false negative.

Five samples with less than 10 elementary bodies by DIF (DIF negative results), were negative with VCHL, as well.

These results showed high specificity and sensitivity of VCHL, compared with DIF. The technique is easy to perform and the results are obtained in less than 2 hours after sample delivering.

Although manufacturer did not mark it, we used VCHL in diagnosis of Chlamydial conjuctivitis and the results were the same as with DIF, but further studies are needed.

a = 10 U and 10 EC, b = 5 U and 6 EC
c = 5 U and 5 EC, d = 5 U and 5 EC