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RAPID DETECTION OF CHLAMYDIA IN THE GENITAL TRACT OF EWES AND WOMEN

BY

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SUMMARY

Vaginal swabs from ewes and women were examined for the presence of Chlamydia by clearview Chlamydia test. The results indicated the applicability of this test for the rapid diagnosis of chlamydiosis in sheep (enzootic abortion in ewes) as well as its use in human for the detection of Chlamydia carrier.

INTRODUCTION

The family Chlamydiacea includes obligate intracellular microorganisms, to which belongs two Chilamydia species; C. psittaci and C. trachomatis. Moreover, a third species, C. pneumonae has been proposed for those C. psittaci isolates from human referred to as TWAR strain (Quinn et al., 1994). Chlamydiae do not show a strict host specificity and are responsible for a variety of disease syndromes in animals and man (Pierce et al., 1964; Page, 1966 and Buxton, 1986). In sheep, C. psittaci causes abortion, still-birth and weakly developed lambs in pregnant ewes (Storz, 1971 and Johnson et al., 1983). The organism is transmitted to pregnant women and causes abortion (Giroud et al., 1956 and Buxton, 1986). The laboratory diagnosis of Chlamydial infection depends on microscopic examination of stained smears from the cotyledons or chorion for evidence of elementary bodies in case of abortion or in smears made from vaginal swabs or from the surface of the aborted feotuses for the detection of Chlamydial elementary bodies by chemical stains (Dagnall and Wilsmore, 1990), immunofluorescence (Perez-Martinez and Storz, 1985), enzyme linked immunosorbent assay (Elisa) and immunoperoxidase (Wuinn et al., 1994). Morphologically, all the abortion isolates appear as round or oval compact deeply stained inclusions and by cultivation of the organism in 6-7 day old developing embryonated hen's eggs via the yolk sac route and the tissue cultures of BHK-12, Vero 1929 and McCoys cells (Johnson et al., 1983 and Woodland et al., 1987. Improvements in the tissue culture systems have resulted in this use to quantify infectivity, to study the metabolism of the parasite and the infected host cell and to analyze host-parasite interactions at the cellular level to isoalte organisms from clinical materials and to obtain purified preparation of elementary or reticular bodies. All these techniques have been used to isolate and cultivate Chlamydiae and these methods are still the most reliable and widely used of propagation of C. psittaci strains (Storz, 1971). Not only because of its greater convenience and sensitivity but also because it allows detailed observation of

Chlamydial growth. This work was carried out as a trial for rapid detection of Chlamydia psittaci in the genital tract of apparently healthy ewes and women by using the commercially developed clearview Chlamydia test produced essentially for rapid detection of Chlamydia trachomatis in human beings.

MATERIAL AND METHODS

Vaginal swabs:

Endocervical swabs were collected by obstetricians from hospitalized women. Swabs from ewes were taken from ewes intended to be Slaughtered at Muniebb Abbatoir, Giza, according to the instruction manual of the test Kits, where excess mucus from the endocervix was first removed by a separate swab, and another sterile swab was introduced into the endocervix for 10-30 seconds, then transferred to the laboratory in sterile tubes without transport medium, stored at 4°C and examined within 5 days.

Clearview Chlamydia test:

The test was developed by Unipath. Bed mainly for the detection of C. trachomati human. According to the instruction manual Chlamydial antigen was extracted from the s by heating in 0.6 ml extraction buffer contai 0.1% sodium azide solution at 80°C in water for 10-12 minutes. The swabs were allowe coole for 5 minutes at room temperature. drops of the extraction buffer were applied to sample window of the test unit and the test read after 15 minutes. Postitive result is indic by the presence of blue line in the result vind which remains clear in negative samples. Posi control window swabs clear blue line v positive control chlamydia antigen.

RESULTS AND BISCUSSION

In the present study, the clearview test applied for the detection of Chlamydial antige vaginal swabs taken from 77 ewes and 24 wom The results are presented in Table (1) and Fi

Table (1): Results of clearview Chlamydia test for rapid detection of Chlamydial antigen in endocervical swabs from ewes and women.

Species	Total examined samples	Positive	Negative	%
Human	23	7	16	30.43
Sheep	77	24	53	31.16

(1&2). The antigen was detectable in 23 and 7 cases of the swabs taken from ewes and women, respectively. The test is based on genus specific monoclonal antibody against Chlamydial lipopolysccharide antigen linked to latex beads that when mixed with the antigen in the mixture migrates from the sample window to the result window along a strip and forms blue line in the result window. Accordingly, positive cases are indicated by clear blue line in the result window of the kit, which is compared with the positive control, whereas negative cases show a clear view in the result window. The clearview test is mainly produced for the detection of C. trachomatis in human. It is an ELISA test which was applied by Saintagne et al., (1992) for the detection of Chlamydial antigen in enzootic sheep abortion, arthritis and pneumonia in lambs as well as conjunctivitis in goats. Commercially available other ELISA tests have been developed and widely used in man and animals for the detection of Chlamydial antigen using either polycional or monoclonal antibodies (Chernesky et la., 1986; Ryan et al., 1986 and Weigler et al., 1988). However, the culture of Chlamydia is generally considered to be a standard against which other tests are evaluated. Comparing the clearview test with the culture. Davidson and Wilsmore (1991) proved that the clearview test was highly sensitive (96.3%) and specific (91.1%). The sameauthors stated that the culture itself is not 100% sensitive and can only detect viable organisms, whereas the clearview test has the advantage of detecting Chlamydial antigen in denaturated material.

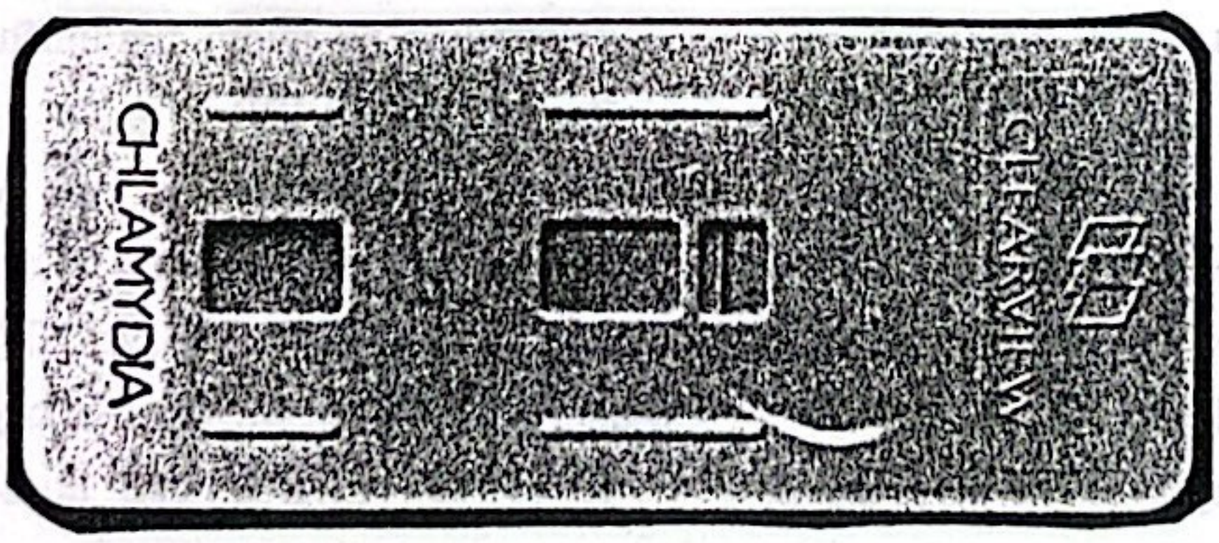

Fig. (1): Clearview Chlamydia test showed negative reaction.

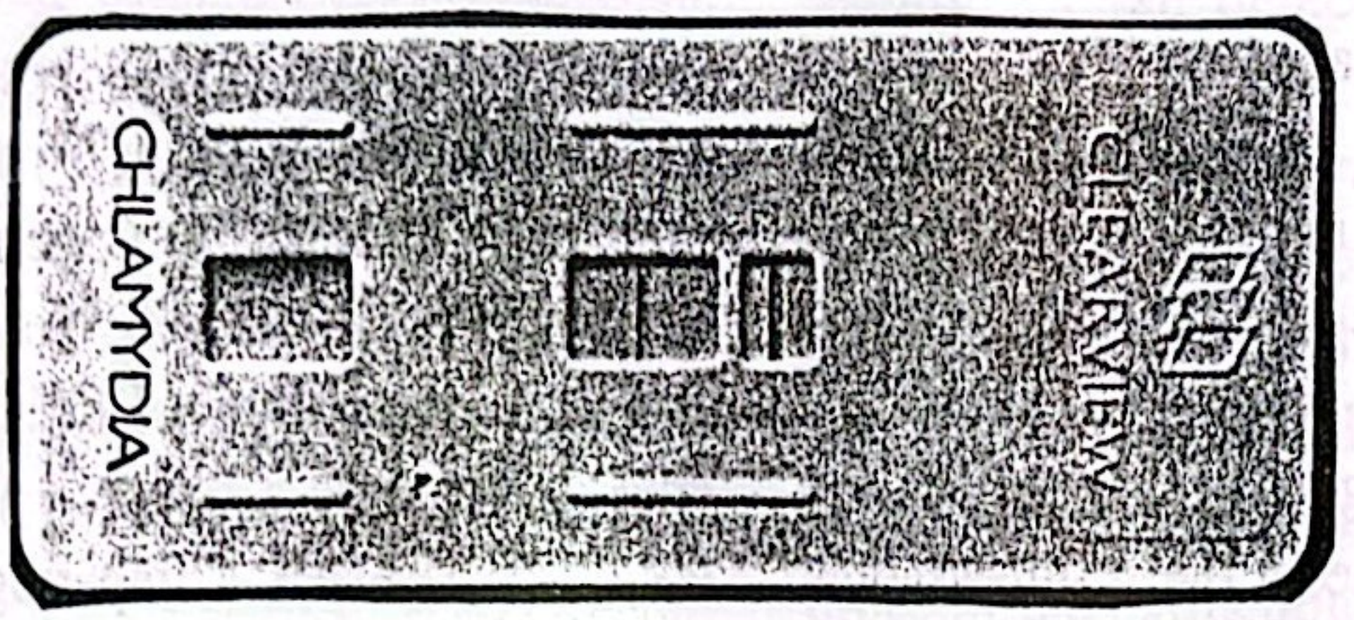

Fig. (2): Clearview Chlamydia test revealed positive reaction.

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