INTRODUCTION AND AIM OF WORK

INTRODUCTION

Chlamydia is an obligatory intracellular parasite, replicates in the cytoplasm producing intracytoplasmic inclusion bodies (Krieg and Holt, 1985).

The genus chlamydia contains two species, C. trachomatis and C. psittaci, which resemble each other in their morphology, and replication cycle. They differ in their host range and organ specificity. C. trachomatis infects the eye and urogenital tract of human, whereas C. psittaci affects birds and animals causing pneumonitis, polyarthiritis, and infection of the gut and placenta (Topley and Wilson, 1984).

Chlamydia trachomatis is the commonest cause of blindness in the world. It also causes ophthalmia neonatorum and respiratory infection in neonates. It is one of important genital pathogen of men and women. Genital infections (in both sexes) may be followed by serious complications such as epididymitis, salpingitis, pelvic inflammatory diseases and perihepatitis. An association between cervical chlamydial infection and cervical hyperplasia has been suggested (Oriel and Ridgway, 1982).

In women, the commonest site of chlamydial infection in the cervix. Genital infection due to C. trachomatis in women is often asymptomatic (Richmond et al., 1980). So, diagnosis of chlamydia is very important to the doctor to avoid misdiagnosis (Potts et al., 1986).

Giemsa is the standard reference stain. Chlamydial infections can be seen in bright field microscope as vacuoles filled with small bluish to purple particles adjacent to the cell nucleus. (Ripa and Mardhm, 1977)

Iodine staining will detect inclusions of C. Chlamydia which contain glycogen and will be stained as intense brown particles. Genital specimens are not suitable for iodine staining because of the glycogen content of these cells (Ripa, 1982).

Potts et al., (1986) considered that direct antigen detection in smears prepared from site of chlamydial infections, by direct immuno-fluorescence technique has advantages over both serological techniques and direct staining with a higher degree of specificity. Furthermore, immuno-fluorescence technique gives a more rapid result and avoids the drawbacks of storage, transport, and contamination which are associated with the culture based service.

Gordon and Quan (1965) found that the McCoy cells irridiated by γ irradiation were much more susceptible to infection by chlamydia. Rota and Nichols (1973) demonstrated an enhanced infection of McCoy cells culture with chlamydia by treating the cells with chemical agents as polycations. A simple way for rendering McCoy cells non replicatory was proposed by Ripa and Mardh (1977), they used cycloheximide just before inoculation of the sample. The cycloheximide treatment technique is superior than irradiation technique (Ripa, 1982).

Aim Of Work :

The aims of this work are :-

1- Detection of C. trachomatis from female cervical swabs by three different Laboratory techniques (Giemsa stain, direct immuno-fluorescence technique and tissue culture).

2- Comparison between the results of the used laboratory tests.

3- Comparison between different factors that related to the females as regards to the positive chlamydial results.