

# Frequency of Chlamydia Trachomatis in Pregnant Women

Pages with reference to book, From 73 To 74

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## Abstract

Frequency of chlamydia trachomatis infection was investigated in eighty-five pregnant women by direct immunofluorescence (IF) and iodine staining methods. The overall frequency of true positive by both methods was 8.2%. Direct immunofluorescence method alone detected chlamydia infection in 16.5% women with 50% sensitivity and 93% specificity and by iodine method in 14.1% women with 58.3% sensitivity and 90.4% specificity. This shows that as compared to IF iodine method is more sensitive and less expensive and easier to perform. The frequency of chlamydia trachomatis infection in our study population appears to be age dependent with younger patients being more likely to be infected than the older patients (JPMA:73, 1994).

## Introduction

Chlamydia are obligate intracellular microorganisms closely related to bacteria, that cause a variety of infections in human beings and animals<sup>1</sup>. Ch. trachomatis is currently recognized as one of the leading causes of sexually transmitted diseases, i.e., cervicitis and pelvic inflammatory disease (PID) in women<sup>2</sup> and urethritis<sup>3</sup>, epididymitis and proctitis<sup>4</sup> in men. Infections caused by this organism may lead to permanent reproductive damage due to PID or salpingitis<sup>5,6</sup>. Infants born to women with cervical chlamydia infections have a high incidence of neonatal chlamydia infections, such as inclusion conjunctivitis and pneumonitis<sup>7</sup>; this also occurs in adults by contact with infected genital tract discharges<sup>8</sup>. The organism may also infect rectum<sup>9</sup>. Many individuals remain asymptomatic, allowing the organism to go undetected and untreated<sup>10</sup>. Early diagnosis of Ch. trachomatis infection can lead to timely treatment of the disease, thereby reducing the possibility of complications and risk of further transmission. The object of this study was to determine the carriage rate of chlamydia among the pregnant women and the reliability of direct immunofluorescence method as compared to iodine method.

## Patients and Methods

Eighty-five pregnant women attending antenatal care clinic of Jinnah Postgraduate Medical Centre were screened for chlamydia trachomatis infection. Endocervical swabs were collected from each registered patient and smears prepared immediately on glass slides were air dried, flooded with 0.5 ml methanol and allowed to evaporate and transported to laboratory for processing by pathfinder direct antigen detecting system and examined under a fluorescent microscope by using total magnification of 00-500 and 10000. Positive samples exhibited extra cellular bodies which were visible at 400-500 magnification in the form of small pin points of light and confirmed at 1000 (oil) magnification. These elementary bodies appeared round and smooth edged with evenly fluorescing apple green colour. Urogenital specimens exhibiting five or more elementary bodies per field were considered as positive. Another set of endocervical swabs which were for iodine staining were emulsified in 0.5 ml iodine and wet mount were prepared and observed under the microscope for the presence of chlamydial bodies.

The formula for iodine staining was potassium iodine 2G, iodine I G and 20 ml of distilled water.

## Results

Endocervical swabs were obtained from eighty five pregnant women and examined for chlamydia by the direct immunofluorescence (IF) method and wet mount iodine method. The frequency of true positive patients was 8.23% (7 cases). The direct immunofluorescence test detected chlamydia trachomatis elementary bodies in 14 (16.47%) patients alone and demonstrated 50% sensitivity and 92.9% specificity of the method; whereas by iodine method 14.11% patients were found positive with 58.3% sensitivity and 90.4% specificity. The frequency of Ch. trachomatis infection in our study was found to be age dependent, younger patients more likely to be infected than older patients; 71.43% were 25 years or below and 28.57% above 25 years, but no statistically significant difference was found between the age groups.

## Discussion

Chlamydia trachomatis infection is a common sexually transmitted disease. It affects about 3-5% of women seen routinely in private practice<sup>11,12</sup> 9% seen in family planning clinics<sup>13</sup>. Infection may be asymptomatic and produce no pathognomonic signs<sup>10</sup>, therefore all sexually active women should be screened for this infection<sup>13</sup>. In our study the frequency of chlamydial infection in pregnant women of low socioeconomic was 16.5% by direct immunofluorescence method (IF) and 14% by iodine method with 50% and 58.3% sensitivity respectively. Since isolation of chlamydia trachomatis in culture is expensive whereas direct immunofluorescent and iodine methods are rapid and inexpensive tests as compared to culture method<sup>14</sup>. We have utilized and compared the fluorescence endocervical swabs and found as compared to IF method, iodine method is more sensitive (58.3%) and cheaper and comparatively much easier to do whereas IF method requires expensive reagents and immunofluorescent microscope. In conclusion it can be said that chlamydial infection is prevalent in our local pregnant population. In view of these findings, mass screening of women is advisable in all sexually active women, especially pregnant women and appropriate treatment should be administered to chlamydia positive women. To establish the prevalent rate of chlamydia infection in our population an extensive study with larger number of patients is required.

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