ABSTRACT

*Chlamydia trachomatis* was known as a causative agent of trachoma. However, genital infections due to *C. trachomatis* are the most common sexually transmitted diseases (STD) in many countries. The study objective was to evaluate the prevalence of *C. trachomatis* infection in women with diagnosed infertility.

This study was carried out at the central public health laboratory and the Kamal AL-Samarai Hospital during, June, 2009-March, 2010. Female patients (n=100), aged 20–38. Direct testing and PCR method used to detect *C. trachomatis* infection in samples (Roche, Molecular Systems, N.J., and USA). Specific IgM, IgA and IgG anti-chlamydial antibodies in the serum were determined by immunoenzymatic assay (medac, Hamburg, Germany).

In female patients, *C. trachomatis* infection was detected in: 30% of all patients, Specific anti - Chlamydia trachomatis. Antibodies IgM were detected in: 86.66%, IgG 53.33 % and antibodies IgA in 33.33%.

The percent of *C. trachomatis* infection is high in infertile women, so *C. trachomatis* very important etiological factor of female infertility. Infertile women should be routinely tested for *Chlamydia trachomatis*.

Key words: Specific anti-chlamydial antibodies, Female infertility.

*To whom correspondence should be addressed (E-mail: dawood.wahbi@yahoo.com)
الكلامية ترايكوميتس في النساء العراقيات المصابات بالعقد

داود سلمان داوود
كلية التقنيات الصحية والطبية، هيئة التعليم التقني

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الخلاصة
من المعروف أن الكلامية ترايكوميتس هي السبب الرئيسي لمرض التراخوما من ناحية أخرى تعتبر الإصابات التناسلية بالكلامية ترايكوميتس واحدة من الأسباب الرئيسية للأمراض الجنسية الإنتقالية في كثير من البلدان. الهدف من هذه الدراسة هو إجراء تقييم لوجود الكلامية ترايكوميتس لدى النساء المشخصات بالعقد. هذه الدراسة أجريت في مختبر الصحة المركزي ومستشفى كمال السامرائي للنوبة من حزيران 2009 ولغاية آذار 2010. العينة شملت 100 مريضة تتراوح أعمارهن 20-38 عام. أستعمل الفحص المباشر وطريقة Roche, Molecular System (N.J.,USA) للكشف عن وجود الكلامية ترايكوميتس في الدمالم (PCR) الامجام المضادة نوع A, G, M، الأتجام المناعي الانتزيتي (Medac, Hamburg, Germany).

تم الكشف عن وجود الإصابة بالكلامية ترايكوميتس في 30% من المرضى وذلك عن طريق وجود المضاد IgA الخاص بالكلامية ترايكوميتس في مصولهن. وكانت نسبة 53,33 IgG %، 86,66 IgM %، 33,33 IgA %.

وقد أن نسبة الكلامية ترايكوميتس عالية لدى النساء العقميات واعتماداً على هذا من الممكن اعتبارها واحد من العوامل المهمة في إحداث العقم لدى النساء. لذلك نوصي بإجراء فحص روتيني للكلامية ترايكوميتس للنساء العقيمات.
INTRODUCTION

*Chlamydia trachomatis*, an obligate intracellular bacterium, is one of the most common agents of sexually transmitted diseases in both industrialized and developing countries (1-5). The etiology of gestational and prenatal disturbances is diverse (6-9). The majority of these disturbances are related to bacterial infections of the urogenital tract (10-12). *C. trachomatis* infection has been associated with premature delivery threat, ectopic pregnancy and recurrent abortion (13-16). Untreated causes of infected women with *C. trachomatis* infection in pregnant women can provoke conjunctivitis or pneumonia in the product at birth (17). The sequelae of *C. trachomatis* infection in the women include pelvic inflammatory disease (18-19) and infertility (20). The diagnosis of *C. trachomatis* infection is difficult since 70%-90% of the endocervical chlamydial infections in women are asymptomatic and may persist for months to years (21-22).

The role of *C. trachomatis* infection in salpingitis and in tubal infertility was confirmed in studies on animal model (23). In study conducted by Paavonen *et al.* 1985 (24). *C. trachomatis* infection was detected more frequently in endometrial biopsy specimens in women with histo-pathologically diagnosed endometriosis comparing to women in control group. Moller *et al*.1979 (25) isolated *C. trachomatis* from the Fallopian tubes in women with salpingitis, which in direct way confirms the impact of chlamydial infection on tubal infertility. The study objective was to evaluate the prevalence of urogenital *C. trachomatis* infection in women with diagnosed infertility.

MATERIALS AND METHODS

One hundred women Age (23.5-32 years) from the central public health laboratory and the Kamal AL-Samarai Hospital, with diagnosed infertility and infected for the 1st time were enrolled in this study. All the women had diagnostic laparoscopy performed, preceding the laboratory procedures. Serum samples were obtained. For direct testing, polymerase chain reaction method was used to detect *C. trachomatis* infection in cervical samples (PCR, USA). Specific IgA, IgM and IgG anti-chlamydial antibodies in the serum were determined by immunoenzymatic assay (p-ELISA, medac, Hamburg, Germany). All diagnostic procedures were performed following the manufacturer instructions.

RESULTS AND DISCUSSION

Specific anti-chlamydial antibodies IgM were detected in: 26/30 women (86.66%), in class IgG in: 16/30 (53.33%) and specific anti-chlamydial antibodies IgA 12/30 (33.33%) of patients. Study results are shown in the Table(1).

<table>
<thead>
<tr>
<th>Specific anti-chlamydial antibodies IgM</th>
<th>26/30 (86.66%)</th>
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<tr>
<td>Specific anti-chlamydial antibodies IgG</td>
<td>16/30 (53.33%)</td>
</tr>
<tr>
<td>Specific anti-chlamydial antibodies IgA</td>
<td>12/30 (33.33%)</td>
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</table>

The present study showed positive results to IgM, IgG and IgA in 26.66%, while 13.33% had positive results to IgM, IgG. Only 3.33% of the patients were positive for IgA antibodies and none for IgM, IgG antibodies. Figure(1).
Genancy et al. (12) found IgM seropositivity to C. trachomatis in 13.64% of the cases and 5.47% of the controls by ELISA technique. Rastogi et al. (26) in a study in antenatal cases in India found a high seropositivity and a low seropositivity to IgM antibodies in 29.4%. However, the current study has shown positive results to IgM in 86.66% and positive in IgM and IgG 13.33% of cases. Only 3.33% of the patients were positive IgA and non for IgM or IgG antibodies. The IgM antibodies suggest an acute infection (27) Depending on my knowledge there is on such study has been done in Iraq. This highlights the importance of performing this test in all Iraqi infertile women and in antenatal cases to treat the infected and prevent any maternal or neonatal antenatal or postnatal complications. The difference in seropositivity rates between the cases and the controls is due to increased susceptibility of antenatal cases to C. trachomatis infection during sexual activity and increased proliferation of the organism in those with antepartum infection, due to the lowered immunity in pregnancy.

CONCLUSIONS:
The present results indicate that Chlamydia trachomatis infection is very important etiological factor of female infertility. Detection of specific anti-chlamydial antibodies is a valuable, noninvasive diagnostic procedure, which should be offered to infertile couples routinely.

REFERENCE


