CHLAMYDIA TRACHOMATIS ANTIGEN DETECTION FROM CERVIX BY ELISA IN WOMEN WITH RECURRENT ABORTIONS

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SUMMARY

Sixty women with previous history of recurrent abortions and thirty age matched women without previous abortions were tested for the cervical Chlamydial antigen by ELISA in Kasturba Medical College and Hospital, Manipal. C. trachomatis antigen could be detected in 13 (21.66) and 5 (16.66) women in the study and control group. Maximum number (23) of the women in study group were in the age group 25-29 years. Normal delivery occurred in 25 (41.66) in the study group and 29 (96.66) in the control group. In conclusion the current infection of the cervix may not be the cause for recurrent abortions.

INTRODUCTION

Chlamydia trachomatis is one of the most prevalent genital pathogen found in pregnant women (Schachter, 1975). The possible influence of C. trachomatis infection on pregnancy outcome is less clear and has been recently reviewed (McGreor & French, 1991). An association between cervical chlamydial infection and preterm labour, premature rupture of membranes or low birth weight have been observed in many investigations, though still controversial (Heggie et al, 1981 and Sweet et al, 1987). An increased prevalence of immunoglobulin G antibodies to C. trachomatis and spontaneous abortions have been reported earlier (Quinn et al,

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1987, Witkin & Ledger 1992, and Rao et al, 1994).

This study was undertaken to detect the possible link between active cervical chlamydia trachomatis infection and its relationship to recurrent abortions.

MATERIALS AND METHODS

The study was undertaken in the department of Obstetrics and Gynaecology and in the Department of Microbiology, Kasturba Medical College, Manipal. A total of 90 women were included in the study of which 60 gave history of previous abortions and 30 age matched controls without such history. A detailed history including age, number of abortions, educational status, socioeconomic background, occupation, history of pelvic inflammotory diseases and clinical examination was undertaken by an obstetrician

Endocervical swabs supplied with the kit were used for collection and transport. Chlamydia antigen in the endocervix was detected by Elisa technique using kits (supplied by Pharmacia Diagnostics, Sweden). Along with this, other investigations like antibodies against TORCH complex and antibodies against Treponema pallidum were also included.

Sixty patients in the study group were followed up for two years and when they conceived they were followed up until delivery.

RESULTS

C. trachomatis antigen could be detected in 13 (21.66%) and 5 (16.66%) women in the study and control group. Of the sixty women in the study group, 20% had antibodies against cytomegalovirus, 8% against toxoplasma, 4% each against Rubella and Herpes. Normal delivery occurred in 8 of the 13 women with cervical chlamydia infection. Out of 60 women in the study group the maximum number of patients (23) were in the age group 25-29, and in them Chlamydial antigen was detected

Table I
PRESENCE OF CERVICAL CHLAMYDIA TRACHOMATIS ANTIGEN IN STUDY AND CONTROL GROUP

Age group in years	Study group (60)			Control group (30)		
	Number of cases	Ch.positive	%	Number of cases	Ch. positive	%
19	-	-	-	1	-	-
20 - 24	18	2	3.33	5	1	3.33
25 - 29	23	8	13.33	13	3	10.00
30	17	3	5.00	11	1	3.33

Table II
FOLLOW UP OF 60 PATIENTS IN THE STUDY GROUP

Pregnancy outcome	Study Group Number	%	Control Group Number	%
Repeat abortion	12	20.00	-	-
Normal delivery	25	41.66	29	96.66
Premature rupture of membranes	5	8.33	-	-
Preterm delivery	7	11.66	-	-
Small for gestational age	10	16.66	1	3.33
Ectopic pregnancy	1	1.66	-	-

in 8 (13.33). Normal delivery occurred in 25 (41.66%) in the study group and 29 (96.66%) of the control group as shown in Table I. Repeat abortion occurred in 12, premature delivery in 7 and small for gestational age in 10 of the women in the study group. In the control group only one woman had a baby which was small for gestational age (Table II).

DISCUSSION

Prevalence of Chlamydial infection of the cervix in pregnancy ranges from 2-37%. In our study, the study group had a higher incidence of 21.66% active infection of cervix compared to control group 16.66%. Colonization with C.trachomatis has been shown to be higher in women with previous history of adverse pregnancy outcome as compared to women with normal pregnancy as reported by Martin et al (1982) and Sweet et al (1987).

Witkin et al (1992) has shown the absence of active infection in patients with spontaneous abortion as shown by negative cervical culture. Our report correlates well with Witkin & Ledger (1992). Though we could detect high percentage of antichlamydial antibodies in women with recurrent abortion in our earlier study Rao et al (1994), active infection of the cervix in this group was not significant when compared to control group. The cause for early pregnancy loss may be due to damaged endothelium as a result of chronic silent infection rather than active cervical infection of C.trachomatis. Martin et al (1982) found correlation between chronic Chlamydia

infection and adverse pregnancy outcome. We found five patients with active cervical infection had adverse pregnancy outcome and none in the control group.

From this observations it is clear that chronic silent Chlamydia infection may be the cause for recurrent abortions rather than active cervical infection. However it is worthwhile testing for antigen when laboratory facility is available. It may be worthwhile treating such women for successful future pregnancy.

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