

THE ASSOCIATION BETWEEN CHLAMYDIA TRACHOMATIS IN LATE PREGNANCY AND THE DEVELOPMENT OF PREMATURE RUPTURE OF MEMBRANES (PROM)

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INTRODUCTION

Premature rupture of membranes is considered a significant determinant of perinatal morbidity and mortality with increased maternal and neonatal risks. Genital infections constitute the main risk factor standing behind the occurrence of PROM. Literature review revealed a well-established controversy between studies assessing the association between pregnancy related Chlamydia Trachomatis infection and adverse pregnancy outcomes for both mother and baby. Some studies showed that chlamydial infection during pregnancy is associated with increased risk for adverse outcomes such as miscarriage, stillbirth, preterm delivery, and premature rupture of the membranes, although other clinical trials have failed to prove that.

AIM OF THE WORK

To detect the incidence rate of chlamydia trachomatis in Egyptian women diagnosed with premature rupture of the membranes at full term.

SUBJECTS AND METHODS

The study was a case control study conducted on 30 full-term pregnant females and consisted of two groups; Study group that included twenty, full-term pregnant women within the age group (from 25 to 40 years) who were admitted to the emergency room at the Shatby Maternity Hospital with recent premature rupture of membranes since less than twelve hours and Control group that included ten normal full-term pregnant women within the age group (from 25 to 40 years) who were admitted to the emergency room at the Shatby Maternity Hospital for delivery with intact membranes. All women who participated in the study were informed about the nature and objectives of the work, and a written consent was obtained from each one of them. Methods used for detection of chlamydia trachomatis included cervical swab for chlamydia trachomatis antigen detection and serum samples to detect *chlamydia trachomatis* Immunoglobulin M (IgM) and Immunoglobulin G (IgG) using ELISA technique. The women were followed up till delivery to assess the following parameters mode of delivery, condition of the fetus at delivery, and occurrence of puerperal infection.

RESULTS

In the present study, the detection of chlamydia trachomatis antigen in pregnant women diagnosed with PROM was 45% as compared to the control group was 20% which was statistically insignificant. 30% of the control group and 20% of the study group showed positive results for chlamydia trachomatis IgM, while Sero-positivity for IgG was noted in 20% of the control group and 40% of the study group. There was no statistically significant association between PROM and Chlamydia trachomatis in all methods used for chlamydia trachomatis detection. There was no significant relation between chlamydia trachomatis and mode of delivery. There was no significant relation between chlamydia trachomatis and poor condition of the fetus at delivery. Although the occurrence of puerperal infection in the form of endometritis or pelvic abscess was noted to be of higher incidence in the study group as compared to the control group (20% as compared to 10%), the fact the chlamydia trachomatis increases the risk of puerperal infection couldn't be proved statistically.

Table 1: Comparison between the two studied groups according to Chlamydia trachomatis detection tests

Chlamydia trachomatis detection tests	Control (n = 10)		Study (n = 20)		χ^2	FE _p
	No.	%	No.	%		
Antigen						
Negative	8	80.0	11	55.0	1.794	0.246
Positive	2	20.0	9	45.0		
IGM						
Negative	7	70.0	16	80.0	0.373	0.657
Positive	3	30.0	4	20.0		
IGG						
Negative	8	80.0	12	60.0	1.200	0.419
Positive	2	20.0	8	40.0		

χ^2 : Chi square test FE: Fisher Exact
p: p value for comparing between the studied groups

Table 2: Comparison between the two studied groups according to the results of follow-up

Follow-up	Control (n = 10)		Study (n = 20)		χ^2	FE _p
	No.	%	No.	%		
Mode of delivery						
NVD	6	60.0	9	45.0	0.600	0.439
C.S	4	40.0	11	55.0		
Condition of the fetus at delivery based on 5 min Apgar score						
Normal	7	70.0	13	65.0	0.327	MC _p 1.000
Moderately depressed	2	20.0	5	25.0		
Severely depressed	1	10.0	2	10.0		
Puerperal infection						
Yes	1	10.0	4	20.0	0.480	0.640
No	9	90.0	16	80.0		

χ^2 : Chi square test MC: Monte Carlo FE: Fisher Exact
p: p value for comparing between the studied groups

CONCLUSION

Statistically, this trial demonstrated no significant association between PROM and Chlamydia trachomatis infection during pregnancy. Further clinical research is required to assess the association between chlamydia infection and adverse pregnancy outcomes and the benefits of screening and treatment.