



Chlamydia trachomatis screening among preterm births in Brazil: An experience from a University Hospital

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BACKGROUND

Premature birth (PPT) is a major determinant of neonatal morbimortality with adverse consequences for health. The causes are multifactorial, with intrauterine infection probably explains most of these outcomes. There is evidence that sexually transmitted infections (STI) can impact the development of preterm labor, as well as other complications of pregnancy, such as miscarriage, stillbirth, and preeclampsia. Epidemiologic data suggests a link between Chlamydia trachomatis (CT) infection and adverse pregnancy outcomes. It is believed that infection with CT) is involved in PPT and premature rupture of membranes.

OBJECTIVES

Our goal was to study the prevalence of CT in pregnant women and associated factors related to cases of PPT attended in an University Hospital in Vitoria, Brazil.

METHODS

A cross-sectional study performed among parturient who have preterm birth in a University Hospital from June 2012 to August 2013. Participants answered a questionnaire including demographic, behavioral, and clinical data.

A 20 ml urine sample was collected, from the first amount of urine flow, with the recommendations of no prior genital cleansing and a minimum period of two hours without urinating prior to sample collection. Samples were analyzed by PCR using the BD ProbeTecTM CT / GC Amplified DNA Assay Collection Kit for Endocervical Specimens (Franklin Lakes, NJ, USA) for qualitative in vitro detection of CT, as per the manufacturer's instructions at the Molecular Biology Laboratory of the Federal University of Pelotas, Rio Grande do Sul, Brazil.

This project was submitted to and approved by the Research Ethics Committee of the University Hospital of the Federal University of Espírito Santo. All selected women were invited to take part voluntarily in the study and those who accepted signed a written consent form. Those who were diagnosed as being infected received treatment in accordance with the Brazilian Ministry of Health guidelines.

RESULTS

The prevalence of PPT in the hospital during the period of the study was 26%. A total of 378 cases of PPT were registered, among them 323 women participated and were tested for CT, forty-five (13.9%) had a positive result. 31.6% was up to 24 years old and women infected by CT were younger than the others (p=0.022). A total of 76.2% were married/living together, and CT was more frequent among the single ones (p=0.018); 16.7% of women had their first sexual activity under 14 years old. The causes of prematurity were maternal-fetal in 40.9%, rupture of the membranes in 29.7% and premature labor in 29.4%.

In multivariate analysis, being married was a protective factor for infection [OR = 12.48 (95% CI: 0.24-0.97)]. None of the other characteristics were associated with CT infection.

Table 1: Demographic and behavior characteristics reported by parturient women delivering preterm babies in Vitoria, 2013 by Chlamydia trachomatis (n=323)

Variable	Total N (%)	CT+ N (%)	CT- N (%)	p value
Age (years)				0.032
Up to 24	146 (45.2)	27 (60.0)	119 (42.8)	
More than 24	177 (54.8)	18 (40.0)	159 (57.2)	
Education (years)				0.665
<=8	146 (45.2)	19 (42.2)	127 (45.7)	
>8	177 (54.8)	26 (57.8)	151 (54.3)	
Marital status				0.018
Married/living together	246 (76.2)	28 (62.2)	218 (78.4)	
Single	77 (23.8)	17 (37.8)	60 (21.6)	
First sex intercourse				0.846
<= 13 years	54 (16.7)	08 (17.8)	46 (16.5)	
14-17 years	186 (57.6)	27 (60.0)	159 (57.2)	
>=18 years	83 (25.7)	10 (22.2)	73 (26.3)	
Number of partners (life)				0.413
Only one	106 (32.8)	17 (37.8)	89 (32.0)	
2-5	168 (52.0)	24 (53.3)	144 (51.8)	
6-10	49 (15.2)	04 (8.9)	45 (16.2)	
Tobacco in pregnancy				0.633
Yes	43 (13.3)	07 (15.6)	36 (12.9)	
No	280 (86.7)	38 (84.4)	242 (87.1)	
Alcohol abuse in pregnancy				0.622
Yes	29 (9.0)	04 (8.9)	25 (9.0)	
No	294 (91.0)	41 (91.1)	253 (91.0)	
Illicit drug abuse				0.417
Yes	10 (3.1)	02 (4.4)	08 (2.9)	
No	313 (96.9)	43 (95.6)	270 (97.1)	
Antenatal care*				0.404
Yes	250 (77.4)	37 (82.2)	213 (76.6)	
No	73 (22.6)	08 (17.8)	65 (23.4)	

CONCLUSIONS

This study shows a high prevalence of preterm birth and CT infection among parturient who have preterm birth. This high prevalence increases the need for defining screening strategies and assistance during the prenatal period.

These data indicate the need to strengthen services for caring pregnant women at risk of preterm birth. Available evidence suggests that when interventions in health services are effectively implemented, it can improve the quality of care and, consequently, the sexual and reproductive health [24]. Health programs should be aware of the need of controlling preterm birth risk factors in populations at higher risk and vulnerability.

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