

O. Peuchant^{1,2,3}, C. Le Roy^{1,2}, C. Desvaux⁴, A. Paris⁴, J. Asselineau⁵, C. Maldonado⁵, G. Chêne⁵, J. Horovitz⁴, D. Dallay⁴, B. de Barbeyrac^{1,2,3*}, C. Bébéar^{1,2,3*}

¹Univ de Bordeaux, USC Mycoplasma and Chlamydial Infections in Humans, Bordeaux, France. ²INRA, USC Mycoplasma and Chlamydial Infections in Humans, Bordeaux, France. ³Laboratoire de Bactériologie, Centre Hospitalier Universitaire de Bordeaux, Bordeaux, France. ⁴Service de Gynécologie Obstétrique, Centre Hospitalier Universitaire de Bordeaux, Bordeaux, France. ⁵CHU de Bordeaux, Unité de soutien méthodologique à la recherche clinique et épidémiologique, Bordeaux.

*B. de Barbeyrac and C. Bébéar co-last-authors.

INTRODUCTION

- Sexually transmitted infections (STI) have increased in recent years. Current epidemiological studies about *Chlamydia trachomatis* infections show a prevalence ranging from 1.5% in the general population to 15% in the Centers with a STI screening^(1,2). *Mycoplasma genitalium* is a sexually transmitted agent responsible for urethritis in men and cervicitis, endometritis and salpingitis in women.
- In France, screening for STI is recommended in at risk populations to the exclusion of pregnant women, for whom screening is performed only if the patient is symptomatic.
- No recent French data about the prevalence of *C. trachomatis*, *N. gonorrhoeae* and *M. genitalium* infection in pregnant women are available.

OBJECTIVES

- **Main objective:** to evaluate the prevalence of *C. trachomatis*, *N. gonorrhoeae* and *M. genitalium* infections in pregnant women.
 - **Secondary objective:** to determine the sociodemographic, clinical and behavioral risk factors associated with these STI.
- For this, we have realized a prospective study on pregnant women followed at the University Hospital of Bordeaux from January to June 2011.

METHODOLOGY

Inclusion criteria

- Patients ≥ 18 years-old
- Vaginal swabs collected during pregnancy follow-up:
 - for *S. agalactiae* between 34 and 38 weeks of amenorrhea according French recommendations.
 - or diagnosis or monitoring premature rupture of membranes or preterm delivery.
 - or symptoms of urogenital infection or diagnosis of urogenital infection in the partner
- Patients informed of the study and who have given their oral consent

Exclusion criteria

- Antibiotics (macrolides, β-lactams) in the last 3 weeks
- < 18 years-old
- Refusal

Data collection

- * Sociodemographic data
- * Clinical data
- * Self-administered questionnaire on sexual practices

Diagnostic method: real-time PCR (TaqMan probe)

- *C. trachomatis* and *N. gonorrhoeae*: cobas 4800 CT/NG (Roche), (Figure 1)
- *M. genitalium*: in-house PCR⁽³⁾

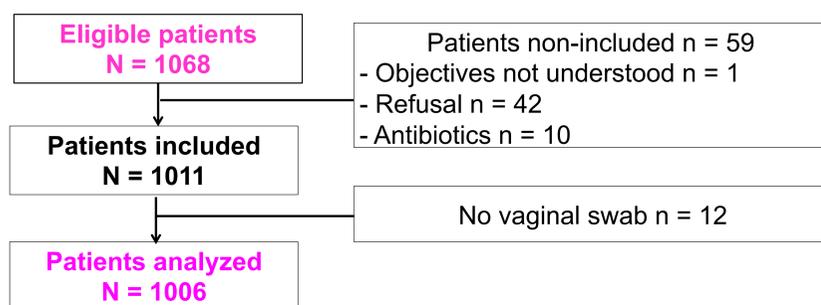


Figure 1: The cobas 4800, Roche

Treatment according to French guidelines if PCR positive

RESULTS

Inclusions (January to June 2011)



Bacteriological results

Age (years-old)	Number of specimens tested	Prevalence of infection		
		<i>C. trachomatis</i>	<i>M. genitalium</i>	<i>N. gonorrhoeae</i>
18 - 44	1006	2.5% (25/1006)	0.8% (8/1006)	0%
18 - 24	166	7.9% (13/166)	2.4% (4/166)	0%
25 - 29	317	1.3% (4/317)	0.6% (2/317)	0%
≥ 30	523	1.5% (8/523)	0.4% (2/523)	0%

Risk factors analysis

❖ *C. trachomatis* infection

- age < 25 years-old (OD = 6.7, p < 0.001)
- single (OD = 4.3, p = 0.005)
- number of sexual partners > 5 (OD = 6.5, p < 0.001)

❖ *M. genitalium* infection

- younger age (OD = 9, p = 0.01)
- history of abortion (OD = 8.6, p = 0.01)
- having first sexual intercourse after 20 years-old (OD = 7.1, p = 0.03)

Median age : 30 years-old (18-44)

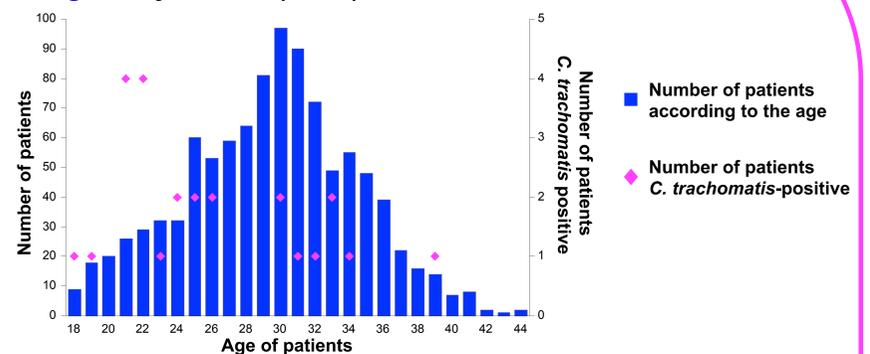


Figure 2: Number of patients included and *C. trachomatis*-positive according to the age

Reason for consultation

- 88% : screening for *S. agalactiae*
- 5.9% : urogenital symptoms
- 6.1% : premature rupture of membranes or preterm delivery

Clinical data of the 33 infected patients

- 82% asymptomatic
- 3 patients with urogenital symptoms
 - 1 *C. trachomatis* (+) and 2 *M. genitalium* (+)
- 2 patients with preterm delivery *C. trachomatis* (+)
- 1 patient with premature rupture of membranes *M. genitalium* (+)

CONCLUSIONS

- Our study shows a high prevalence (7.9%) of *C. trachomatis* infection among French pregnant women aged 18-24 years-old, closed to those described in STI centers while it is only 3.6% in the general population for the same age range.
 - These results highlighted that pregnant women aged 18-24 years-old, mainly asymptomatic, represent a population at risk of *C. trachomatis* infection.
- ❖ A systematic test screening for *C. trachomatis* infection for pregnant women aged under 25 years-old could be recommended.