



Global views

Screening of *Chlamydia trachomatis* genital infection in a young Parisian population

Asymptomatic *Chlamydia trachomatis* infections may represent an important reservoir for the agent and treating patients who have symptoms along with their partners may not be effective in reducing the prevalence of *C trachomatis* infection.¹

The aim of this study was to estimate the incidence of *C trachomatis* genital infection in a young population attending an anonymous and free HIV test centre and to find epidemiological factors associated with *C trachomatis* genital infection in that population.

Demographic data

A total of 993 subjects (age less than 30 years old) were sequentially included in this study, which was carried out in the anonymous and free HIV testing centre Alfred Fournier Institute, Paris, France (WHO collaborative centre on STD), from July 1995 to October 1995. The reason for consultation was anonymous HIV test. All subjects underwent a first urine sample and a blood sample. General characteristics and selected behavioural characteristics of the participants are shown in table 1. All patients were asymptomatic as they did not present any STD related symptom.

Methods

First void urine samples (10-15 ml) obtained from subjects were aliquoted and kept frozen at -20°C before being tested by polymerase

chain reaction (PCR) using Cobas Amplicor *C trachomatis* test (Roche Diagnostics).

The statistical analysis consisted in an univariate analysis followed by a logistic regression in order to determine independent factors associated with PCR positivity.

Results

The *C trachomatis* PCR test was found positive in 11 out of 480 men which means an incidence of 2.3% (95% CI: 1.0-3.6) and 20 out of 513 female which means an incidence of 3.9% (95% CI: 2.3-5.5) (p=0.14).

The univariate analysis showed that three factors were associated with *C trachomatis* infection in that population: (1) the country of residence, as the incidence of *C trachomatis* infection was 10% in male patients living outside France compared with 2.1% in male patients living in France (OR = 5.2; 1.1-23.2). Figures for female patients were respectively 13.8% and 3.8% (OR = 4.0, 1.1-14.3); (2) patients with more than four sexual partners during the previous year had 12 times more risk of being infected with *C trachomatis* (OR = 11.8, CI = 2.0-74.1); the irregular use of condoms was associated with a higher rate of 4.3% in males (OR = 7.9; 1.1-58.7) and 6.4% in females (OR = 28; 0.7-12.3).

The incidence in the different age strata showed a significant higher incidence in the 20-24 years group when compared with

Table 2 Adjusted odds ratio, confidence interval, and p value of socioindividuals and behavioural variables associated with *C trachomatis* infection in the logistic regression model

Variables	Adjusted OR	CI	p Value
Country of residence			
France	1		
Other	3.5	1.4-8.8	0.007
Number of sexual partners in the previous year			
0	1		
1	1.1		NS
2-4	1.2		NS
≥5	6.5	1.3-18.7	0.01
Use of condom*			
Always	1		
Sometimes or never	3.9	1.3-12.5	0.02

*Only in patients without a regular and sole sexual partner.

other age groups. Condom breaking and history of previous STD were not associated with a higher rate of *C trachomatis* infection in our study. Finally, only four patients in the population studied were HIV positive, one female and three males. None of these was PCR *C trachomatis* positive.

Results of the stepwise logistic regression are given in table 2.

Discussion

Our study showed a 2.3% seroprevalence rate in the male population which is lower than the 6.6% incidence observed among high risk male youths in the United States.^{2,3} Among women, we have shown a 3.9% incidence which is slightly lower than that observed in Finland in women attending a family clinic who exhibited a 5.6% incidence using the same methodology.⁴ In contrast, our figures are similar to the results of a pan-European study involving 24 centres in 14 countries which showed a 3.9% incidence of genital chlamydial infections in women aged 16-32 years who had attended for contraceptive advice in family planning clinics.⁵

Younger females have been identified as having an increased risk of *C trachomatis* infection in some studies.⁶ We did observe a difference of prevalence according to age groups, owing to a higher incidence in the 20-24 years age group but the youngest (15-19) did not exhibit the highest rate which could be related to a safer sexual behaviour (a higher proportion of women had more than five different sexual partners during the last year in the oldest age group).

Behavioural history and country of residence seem to be important to be included in selective screening criteria for *C trachomatis* infection in young women.

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Table 1 Description of the study population according to sex

	Male	Female	p Value
Sample size	480	513	
Age			
Mean (SE)	23.9 (3.2)	23.0 (3.3)	
Median	24	23	
Origin			
France	74.9%	74.5%	
Overseas French territories	5.6%	4.5%	
Africa	9.4%	9.5%	
Other	10.1%	11.5%	
Country of residence			
France	91.0%	93.3%	
Overseas French territories	1.5%	1.0%	
Other	7.3%	5.7%	
Marital status			
Single	94.6%	91.6%	
Married	1.0%	1.8%	
Cohabitation	4.4%	6.7%	
No of sexual partners* in the past year			
1	16.1%	21.7%	<10 ⁻⁵
2-4	62.7%	70.4%	
≥5	21.2%	7.9%	
Homo/bisexual relationship	17.6%	5.5%	<10 ⁻⁶
Use of condom*			
Always	44.1%	34.0%	0.004
Sometimes	49.6%	54.0%	
Never	6.3%	12.0%	
Condom breaking*			
Never	49.0	54.1%	NS
Rare	44.9%	40.6%	
Frequent	6.1%	5.3%	
Regular partner	27.7%	35.4%	0.01

*Only in patients without a regular and sole sexual partner.

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