Global views

Chlamydia trachomatis infection in an urban setting

Demographic data

We undertook a study to find out the *Chlamydia trachomatis* infection rate among the subjects attending three different clinical set ups in Mumbai (Bombay), India, for treatment of complications associated with reproductive health. These clinical set ups were: (a) a private gynaecology clinic; (b) an outpatient gynaecology facility in a public hospital; and (c) an infertility clinic of the institute.

Among the 123 subjects enrolled in the study, 108 were women belonging to the age group 18–42 years (mean age 27.82 years) and 15 were men of infertile couples, whose spouses were tested positive for *C trachomatis*. These males were asymptomatic and in the age group 25–38 years (mean age 31.3 years). The subjects were grouped into the following five groups on the basis of their clinical presentation:

Group I (n=16): women with history of obstetric complications such as ectopic pregnancy, stillbirth, spontaneous/repeated abortion, or preterm delivery.

Group II (n=25): women with either vaginitis or cervicitis or both who were considered to have lower genital tract infections.

Group III (n=7): asymptomatic women with a history of primary infertility of more than 2 years' duration.

Group IV (n=60): women with complaints of abdominal pain, back pain, or irregular periods.

Group V (n=15): males of infected spouse.

These subjects were screened for *C trachomatis* infection for the first time with consent.

Methods

Samples like cervical swab specimens, seminal plasma, and first void morning urine sediments (only from males) were used for detection of *Chlamydia* antigen using the kit Chlamydiazyme (Abbott, USA).

Results

C trachomatis infection rate is different in different groups of the study population and is presented in table 1.

Comment

Scanty information is available on incidence and prevalence of laboratory confirmed *C trachomatis* of the genital tract in India. There is also a wide variation in the reported infection rate. In the present observation the infection rate varies between 14.3–20% among the women with reproductive health complications (groups I, II, and III). Some studies have shown higher rate of infection varying from 23.3–33%,[1–3] while others have revealed low rate of infection from 0.3–3.2%.[4 5] Among the group IV cases the infection rate is 1.7%, whereas the reported infection among the healthy control varied from 0.2% to 6.7 %.[1 3] Relatively little information is available on infection among the male population. Only 1.1% of the male subjects had chlamydia infection whose sexual partners had symptoms of vaginal discharge,[5] but a high infection rate (33.3%) observed here among the male partners (group V) whose spouses were infected revealed the need for partner screening. All this scattered information emphasises the need of a detailed study in a larger population in the region to highlight the true prevalence of this disease and to decide the plan of action.

Table 1 Chlamydia trachomatis infection in different groups of cases

Groups	*I*	*II*	*III*	*IV*	*V*
Cases	16	25	7	60	15
Chlamydia positive (%)	3 (18.8)	5 (20)	1 (14.3)	1 (1.7)	5 (33.3)

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Contributors: JM-P designed the study, carried out the experiment, analysed the result, and wrote the manuscript; PKM and JSG collected samples from selected cases; UMD helped in the smooth running of the project.

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Evolution of *Neisseria gonorrhoeae* drug susceptibility in Buenos Aires, Argentina, 1985–99

Demographic data

Buenos Aires (Argentina) is an international port city of three million people surrounded by greater Buenos Aires, with a core population of 10 million people.

The STD service of the Hospital Nacional de Cllínicas, University of Buenos Aires (HNC) deals with 80% patients from the city and 20% from the suburban areas. A total of 33 316 symptomatic patients (27 458 men and 5858 women) were studied from 1985–99.[1] Patients attended under the standard regulations of HNC primary care protocol, and so no additional written informed consent was required.

Methods

Neisseria gonorrhoeae (NG) was investigated by direct Gram stain microscopy and by culture in Columbia agar supplemented with 5% blood and 1.5% protease peptone No 3 and in Thayer-Martin modified agar.[2]

NG was identified by positive oxidase and catalase tests, followed by carbohydrate biochemical tests after 72 hours' incubation at 37°C without hypercapnia atmosphere.

β-Lactamase was studied using nitrocefin. The minimal inhibitory concentration (MIC) was measured by agar dilution technique, and NCCLS guidelines were apply for isolate categorisation.[3]

Results

General gonorrhoea rates declined from a mean of 14.8% (1985–91) to 4.4% in 1992. Between 1992 and 1999 (mean 4.9%) the rate became stable.

The incidence of NG (1998–9) in men who have sex with men (MSM) was 15.7% compared with 5.9% in heterosexual men (odds ratio 294 (221<OR<3.92) p=000, Yates's correction).

Between 1985 and 1999, 83 extragenital gonococci were isolated (rectum 70 and throat 13). None of the throat isolates was PPNG and only 3% were CMRNG. Strains isolated from the rectum were 14% PPNG and 46% CMRG, which is highly significant.

General NG sensitivity evolution (table 1), is presented in three periods: 1985–6, 1988, and 1995–9.

At present we have not detected resistance to an extended spectrum of cephalosporins (1995–9). Only one strain showing decreased susceptibility to ciprofloxacin and ofloxacin was found (MIC = 0.5 μg/ml) in 1996. From 1985 to 1999 more than 50% of isolates were resistant to penicillin with changes in PPNG (decreasing) and CMRNG (increasing).

Comment

Gonorrhoea decreased drastically between 1991 and 1992 in heterosexual, MSM, and also in women, in Buenos Aires. A great deal of information directed at AIDS prevention has been developed. Unfortunately, there is no clear demonstration of a significant improvement in safe sexual behaviour, so the decrease in the incidence of gonorrhoea must be explained by other factors, most probably access to very efficient treatment.[4]

It is necessary to develop a geographical targeted intervention in order to identify the residual clusters and to reduce incidence in MSM. Also the sensitivity of the rectal isolates of NG shows a very peculiar profile.[5]

We have increased the drug sensitivity surveillance in order to detect any potential appearance of NG with decreased susceptibility to the fluoroquinolones, and/or to the extended spectrum cephalosporin resistance, absent in this region till now.

Table 1 Susceptibility to antimicrobial agents in isolates of N gonorrhoeae

	MIC (μg/ml)			Number and % of strains	
Agents (years) (n)	Range	50%	90%	Intermediate	Resistant
Penicillin					
1985–6 (507)	0.008–>128	0.125	16	315 (62.2)	72 (14.2)
1988 (72)	0.032–>128	0.5	>128	38 (52.8)	32 (44.4)
1995–5 (81)	0.001–128	0.125	4	51 (63)	8 (10)
Cefuroxime					
1985 (507)	0.008–2	0.06	0.125	1 (0.2)	
1988 (72)	0.016–0.5	0.125	0.5		
1995–6 (81)	0.001–0.5	0.032	0.125		
Ceftriaxone					
1995–6 (81)	0.001–0.008	0.001	0.001		
Ciprofloxacin					
1985–6 (507)	0.002–0.06	0.004	0.016		
1995–6 (81)	0.001–0.5	0.008	0.032	1 (1.2)	
Ofloxacin					
1988 (72)	0.008–0.063	0.008	0.016		
1995–6 (81)	0.002–0.5	0.016	0.032	1 (1.2)	
Tetracycline					
1985–6 (507)	0.063–8	2	4	219 (43.2)	263 (51.8)
1995–6 (81)	0.063–8	2	4	28 (37.4)	44 (58.6)
Minocyclin					
1995–5 (81)	0.032–8	0.5	2		
Erythromycin					
1985–6 (507)	0.032–2	0.25	0.5	23 (4.5)	
1995–6 (81)	0.063–8	0.5	4	24 (29.6)	1 (1.2)
Azithromycin					
1995–6 (81)	0.016–2	0.032	0.125		
Spectinomycin					
1985–6 (507)	2–32	16	16		
1988 (72)	2–16	16	16		
1995–6 (81)	2–16	8	16		

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