

## PATTERN OF SEXUALLY TRANSMITTED DISEASES IN CHANDIGARH

**Bhushan Kumar, Vinod K Sharma, Sarla Malhotra and Vijay Bakaya**

A retrospective data analysis of sexually transmitted diseases was carried out to study the pattern of these diseases prevalent in the region. One thousand five hundred and seventy one patients were seen from January 1977 to October 1985. Males constituted 95.5% of this group and females the remaining 4.5%. Commonest age group affected was 20-29 years in both sexes. Condyloma acuminata was the commonest STD (21.4%), followed by gonorrhoea (16.9%), chancroid (12.2%), genital herpes (11.4%), syphilis (10.4%), non-specific ulcers (7.1%), donovanosis (6.3%), mixed infections (5.3%) and NSU (4.1%). Secondary syphilis was the most common (48.6%) presentation of syphilis, and in women it constituted 75.8% of all the cases of syphilis. In more than a quarter of patients, psycho-sexual problems were the reason for attendance.

**Key words : Sexually transmitted diseases; Pattern.**

Sexually transmitted diseases (STDs) have been known to exist since times immemorial. Presently they form one of the major health problems throughout the world. Their pattern and incidence is influenced to a great extent by moral outlook, sexual practices, presence of efficient machinery for early diagnosis, availability of treatment facilities, mass awareness of preventive measures, socio-economic status and no less important the geographical (tropical, non-tropical) factors.<sup>1</sup>

The STD prevalence data in India is ponderantly regional and institution based for want of a comprehensive epidemiological survey.<sup>2</sup> Prostitution in India is not legalised so the extent of problems in this high risk population is anyone's guess. Contact tracing in clinic patients is dependent on patient co-operation and hence unreliable and unattainable. There are many regional studies available from India the pattern of STDs in which has varied widely.<sup>1,3-10</sup>

### Materials and Methods

Records of STD clinic patients from January 1977 to October 1985, were analysed. Diagnosis was based on history, clinical examination and relevant laboratory investigations. VDRL test was carried out in all the patients. The dark ground illumination (DGI) test was carried out for all genital ulcers, repeated for 3 days if initially negative. Further investigations were based on clinical suspicion. Smear for Gram staining was carried out in chancroid to look for Gram negative bacilli in school of fish arrangement, tissue smear for donovanosis and Tzanck smear if genital herpes was suspected. Urethral smear for Gram stain and culture for *Neisseria gonorrhoeae* were carried out in patients with urethritis. If both were negative, early morning smear and prostatic massage were done. Prostatic fluid was Gram stained and sent for *N. gonorrhoeae* culture. Non-specific urethritis (NSU) was diagnosed when there were clumps or more than 10 pus cells per high power field ( $\times 400$ ) and culture for *N. gonorrhoeae*, KOH mount for candida and wet mount for *Trichomonas vaginalis* were negative. Culture for *Haemophilus ducreyi*, *Chlamydia trachomatis* and *Ureaplasma urealyticum* were not carried out.

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From the Departments of Dermatology and Obstetrics and Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh-160 012, India.  
Address correspondence to : Dr. Bhushan Kumar.

## Results

A total of 1571 patients seen during this period included 1089 (69.3%) patients with STD and 482 (30.7%) with no STD. In non-STD group, majority (85.1%) of the patients had psychosexual complaints, 63 (13.1%) patients had skin disease affecting genitalia, and 9 (1.8%) were healthy contacts (Table I).

## Age and sex

Two thirds of patients belonged to 20-29 years age group in both sexes and teenagers constituted 7.2% of all patients. Males constituted 95.5% of this study population and females 4.5%, with a male : female ratio of 21 : 1. However, in teenagers male : female ratio was 12 : 1.

Table I. Incidence of various STDs and sex distribution.

Disease	Number (%) of patients		Total
	Males	Females	
<b>I. STD group</b>			
(a) Ulcerative lesions			
Syphilis	84( 8.2)	29(44.6)	113(10.4)
Chancroid	131(12.7)	2( 3.1)	133(12.2)
Genital herpes	119(11.6)	5( 7.8)	124(11.4)
Non-specific ulcers	73( 7.1)	4( 6.1)	77( 7.1)
Donovanosis	65( 6.3)	4( 6.1)	69( 6.3)
LGV	5( 0.4)	2( 3.1)	7( 0.6)
Mixed infections	57( 5.5)	— —	57( 5.3)
(b) Urethritis			
Gonorrhoea	184(17.9)	— —	184(16.9)
NSU	45( 4.3)	— —	45( 4.1)
(c) Viral (Non-ulcerative)			
Condyloma acuminata	219(21.3)	15(23.1)	234(21.4)
Molluscum contagiosum	10( 0.9)	1( 1.4)	11( 1.0)
(d) Others			
Scabies	1(0.09)	— —	1(0.08)
Pediculosis pubis	4( 0.4)	— —	4( 0.3)
Candidiasis	27( 2.6)	3( 4.4)	30( 2.7)
Total	1024(100)	65(100)	1089(100)
<b>II. Non-STD group</b>			
(a) Skin diseases (Pearly penile papules, LP, FDE etc.)	58(12.2)	5(83.3)	63(13.1)
(b) Healthy contacts	8( 1.6)	1(16.6)	9( 1.8)
(c) Psychosexual*	410(86.1)	— —	410(85.1)
Total	476(100)	6(100)	482(100)
Grand total	1500(95.5)	71( 4.5)	1571(100)

\* Included vague complaints pertaining to genitalia, premature ejaculation, venereo-neurosis, nocturnal emission and impotence etc.

### Condylomata acuminata

Condylomata acuminata was the commonest infection in men (21.3%) and second common (23.1%) in women. Sites affected in males were inner prepuce, glans, penile shaft and scrotum in descending order. Intra-meatal lesions were found in 10% males and perianal warts in 41 (5.7%) cases in addition to genital lesions. In two thirds of women, the pubic region was involved in addition to labia majora and fourchette. Two cases of condylomata acuminata were pregnant. Classical, broad-surfaced, cauliflower lesions were seen in majority of the patients. Giant condyloma (Buschke-Lowenstein tumour) of prepuce was diagnosed in 3 men.

### Gonorrhoea

Gonorrhoea with 184 (16.9%) patients was the second common STD. All the patients were men with urethritis except one homosexual with rectal gonorrhoea. Two (1.1%) patients in addition had epididymo-orchitis.

### Chancroid

Chancroid with 133 (12.2%) patients was third common STD. It was the most frequent (22.9%) cause of genital ulcers. All the patients except two were men. The most common sites affected were inner prepuce, prepuce orifice, in and around the fraenum. Lymphadenopathy found in three fourths of cases, was suppurative in one third and bilateral in about the same number.

### Genital herpes

Genital herpes was seen in 124 (11.4%) patients and it ranked second (21.4%) amongst the genital ulcerations. Five patients were females. Sites commonly affected in males were inner prepuce, glans and prepuce orifice in that order. Lymphadenitis was found in 42% of these cases.

### Syphilis

Syphilis with an incidence of 10.4% was the fifth common STD and was third among the

causes of genital ulcerations. Eighty four (74.3%) patients were males and 29 (25.7%) females. It was commonest 44.6% STD in females. Secondary syphilis was commoner (48.6%) than primary syphilis (38.1%). In addition, 10.6% had latent syphilis, two cases benign tertiary syphilis and one case cardiovascular syphilis (Table II).

### Non-specific ulcers

Seventy seven (7.1%) patients formed this group and only four were females. The ulcers were 1-1.5 cm in size and had uncharacteristic morphology and no inguinal lymphadenopathy. The laboratory investigations were non-contributory and they improved with local cleaning in 7-10 days.

### Donovanosis

Donovanosis constituted 69 (6.3%) cases. Only four cases were females with lesions on fourchette in 3 and on labia majora in one. Among males, glans, prepuce and penile shaft were the common sites involved.

### Multiple STDs

All the 57 (5.3%) cases were males and had an ulcerative lesion. Genital herpes and chancroid were associated in 11 cases, chancroid and gonococcal urethritis in 8 cases, primary

Table II. Incidence of the types of syphilis according to sex.

Type of syphilis	Number (%) of patients		Total
	Males	Females	
Congenital	0(0.0)	0(0.0)	0(0.0)
Primary	41(48.0)	2(6.9)	43(38.1)
Secondary	33(39.3)	22(75.8)	55(48.6)
Early-latent	8(9.5)	4(13.8)	12(10.6)
Late-latent	0(0.0)	0(0.0)	0(0.0)
Benign tertiary	1(1.1)	1(3.5)	2(1.8)
Cardio-vascular	1(1.1)	0(0.0)	1(0.9)
Neuro-syphilis	0(0.0)	0(0.0)	0(0.0)
<b>Total</b>	<b>84(100)</b>	<b>29(100)</b>	<b>113(100)</b>

syphilis and gonococcal urethritis in 7 cases, genital herpes and molluscum contagiosum in 5 cases, condyloma acuminata and gonococcal urethritis in 4 cases, and two patients had chancroid with donovanosis. No women was found to have multiple STDs.

#### Non-specific urethritis (NSU)

Non-specific urethritis was diagnosed in 45 (4.1%) patients.

#### Lymphogranuloma venereum (LGV)

Only 7 (0.6%) cases of LGV were seen, 5 males with genital syndrome and buboes and 2 females with esthiomene.

#### Other STDs

These included molluscum contagiosum, scabies, pediculosis pubis and candidiasis. They constituted 35 (3.1%) patients. No cases of scabies, pediculosis pubis and trichomoniasis in females was seen in this study.

#### Comments

Syphilis is the commonest STD in India followed by chancroid, gonorrhoea, LGV, donovanosis and NSU.<sup>8</sup> In the present study, however, condylomata acuminata (21.4%) was the commonest STD followed by gonorrhoea (16.9%), chancroid (12.2%), genital herpes (11.4%) and syphilis (10.4%), non-specific ulcers (7.1%) and donovanosis (6.3%). This increased prevalence of condylomata acuminata and genital herpes may be due to relative affluence and easy availability of general practitioners in this region who treat all STDs with antibiotics and the diseases like condylomata acuminata and genital herpes, unresponsive to antibiotics, plod to institute like ours.

Condylomata acuminata accounted for 5.3% of all cases of STD at Institute of Venereology, Madras between 1971-1977.<sup>8</sup> Condylomata acuminata is usually clubbed with other STDs in rest of the reports.<sup>3,7,9,10</sup> Urethral condylomas seen in 0.5-5% men with penile

warts,<sup>11</sup> and nearly 80% are in distal 3 cm of urethra.<sup>12</sup> They may play an important role in transmission of human papilloma virus (HPV) infections.<sup>13</sup> Chuang et al<sup>14</sup> and Powell<sup>15</sup> reported that urethral and anal warts occur more frequently in men compared to women. Urethral warts were not seen in females in the present study. Condylomata acuminata occurred with equal frequency in anal region in both sexes. It may be due to lower incidence of homosexuality in males in India compared to Western countries. Giant condylomas (Buschke-Lowenstein tumour) seen in 3 males is an exceedingly rare entity and only 100 odd cases have been reported.<sup>16</sup>

No women was diagnosed to be suffering from gonorrhoea in the present study. It may be due to small number of women attending the clinic, lack of contact tracing and asymptomatic nature of the disease.<sup>7</sup> Kaur et al<sup>17</sup> found no case of gonorrhoea after screening 811 females including 262 general gynaecology OPD patients, 192 infertility clinic patients and 357 patients attending for intrauterine contraceptive device (IUCD) at the same institute. Malhotra et al<sup>18</sup> suspected gonorrhoea in two patients in a study of 130 antenatal and 93 patients attending for medical termination of pregnancy in a study at the same centre. However, women accounted for 6.3 to 26.7% of cases of gonorrhoea in other reports from India.<sup>1,3,6,9</sup> It may be due to genuine low prevalence of gonorrhoea in females in this region or more likely that most of the patients acquire infection from professionals who do not attend our hospital and STD clinic.

The incidence of chancroid varied between 0.5-38.9% in different reports.<sup>5,8,10</sup> It was relatively less frequent (12.2%) in present series. Male preponderance seen in this study is well known.<sup>1,2,6-10</sup> It is likely that prostitutes transmit infection to a large number of men, as Lahiri et al<sup>19</sup> isolated *Haemophilus ducreyi* in 34% asymptomatic prostitutes.

Genital herpes accounted for 5.2% and 11% of all STD patients in Madras<sup>3</sup> and Pondicherry<sup>10</sup> respectively. However, in most of the reports from India, genital herpes does not find place among first five STDs.<sup>1,3,7,8,10</sup> However, there is a trend of increasing incidence of genital herpes world over.<sup>20</sup>

Syphilis accounted for only 10.4% of all cases. It is at variance from most other Indian studies.<sup>1,3-10</sup> Kapur<sup>8</sup> comparing data from different institutes in India found latent syphilis to be commonest presentation in civilian population followed by primary and latent syphilis. No case of congenital and neurosyphilis was seen during our study period.

The incidence of donovanosis has varied from 3.5-7.7% in different reports<sup>21,22</sup> with highest incidence of 7.7% from Pondicherry. Our patients included a boy of 8 years with perianal lesion.<sup>23</sup> The prevalence of donovanosis in present study is contrary to claims of Handa et al<sup>24</sup> who suggested that donovanosis is rare in this part of the country.

The 4.1% incidence of non-specific urethritis, the commonest reported STD in western countries,<sup>25</sup> was comparable with 5.6% incidence of NSU at Delhi.<sup>26</sup> Lymphogranuloma venereum constituted 6% of all STD cases in Madras, 2.5% in Zambia and 2% of all STDs in Nigeria.<sup>27</sup> It accounted for 0.6% of all cases compared to 11.2% seen at Pondicherry.<sup>10</sup>

The non-STD group of 482 patients included 410 patients with psychosexual complaints, 58 with dermatoses affecting genitalia and 8 healthy contacts. However, Jeyasingh et al<sup>1</sup> from Madurai (India), and Felman<sup>29</sup> from USA found that the number of patients in this group exceeded those with STD.

Comparing our data on women to the 14-year study from Lady Harding Medical College, New Delhi<sup>28</sup> following differences were conspicuous. Among our 71 women, syphilis was the

most common presentation and condyloma acuminata, genital herpes, donovanosis, non-specific ulcers, genital candidiasis, chancroid, LGV and molluscum contagiosum in that order. In their series, syphilis headed the list followed by candidial vulvo-vaginitis, trichomoniasis, chancroid, condyloma acuminata and genital herpes. The hospital in Delhi from which this series has been published is unique in its own way that it caters for women only who formed 80.9% of all cases reported. The remaining 19.1% were the consorts of above patients. Trichomoniasis and candidial vulvo-vaginitis were seen rarely by us because all these patients attend gynaecology outdoor.

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