PATTERN OF SEXUALLY TRANSMITTED DISEASES IN THE ARMED FORCES

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ABSTRACT

Pattern of sexually transmitted diseases (STDs) in 1027 male patients admitted during 1990 to 1996 were analysed. Majority of cases (86%) were in age group of 20 to 40 years. Out of total 1027 STD cases 334 (32%) were having chancroid, 237 (23%) syphilis, 122 (11.9%) lymphogranuloma venereum, 130 (12.6%) gonorrhoea, 34 (3.3%) Herpes genitalis and 170 (16.5%) other STDs. 167 STD cases (16.3%) were found to have HIV infection. A rising trend in prevalence of HIV infection in STD patients from 2.8% (1990) to 27.8 (1996) was noticed contrary to declining trend of STDs from 213 cases in 1990 to 79 cases in 1996. The prevalence of HIV infection was 30.3% in LGV, 19.3% in chancroid, 13.5% in syphilis, 17.6% in herpes genitalis, 6.7% in gonorrhoea and 11.2% in other STD cases. Out of total 167 STD cases having HIV infection 65 (40%) cases were of chancroid, 37 (22.2%) of LGV, 32 (19.2%) of syphilis, 8 (4.8%) of gonorrhoea, and 6 (3.6%) of herpes genitalis while 17 (10.2%) cases were having other STDs.

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KEY WORDS: Chancroid; Gonorrhoea; Herpes genitalis; HIV infection; LGV; Sexually transmitted diseases (STDs); Syphilis.

Introduction

The pattern of sexually transmitted diseases in different part of the world including India has shown a change in last few decades. The change in ecological balance brings about new diseases like Human Immunodeficiency virus (HIV) infection. Of late there has been dramatic increase in HIV infection cases in India. The modes of transmission of HIV infection in majority of cases are limited and can be attributed to sexual contact, parenteral transmission through receipt of infected blood and blood products, percutaneous occupational exposure, I.V. drug users and lastly perinatal transmission from an infected mother. Sexual transmission accounts for nearly 90% of cases of HIV infection throughout the world [1]. One Indian study has attributed sexual route of transmission in 85% cases of HIV infection [2]. High prevalence of HIV infection among commercial sex workers in India is the main cause of this transmission [3]. A genital or anorectal ulcer may increase the risk of HIV transmission by about 30 fold [4]. The present study has been done to find out pattern of various STDs and their association with HIV infection among Armed Forces personnel in India.

Material and Methods

The study was conducted at Department of Dermatology and Venereology of Military Hospital, Kirkee and Command Hospital (SC) Pune. The material of this study comprised of well maintained record of all cases of sexually transmitted diseases admitted

at above centres from July 1990 to Dec 1996. A detailed history covering all relevant points was recorded in all cases. Each patient underwent a thorough general physical, systemic, dermatological and venereological examination. All relevant investigation i.e. VDRL, DGI TP, gram staining etc, were done to confirm STDs. Competitive ELISA test was done in all cases for HIV infection. Those found positive were subjected to western blot test for confirming HIV infection. The results were compiled and data analysed.

Results

A total of 1027 cases were diagnosed to have different STDs from 1990 to 1996. All our cases were in age group of 18 years to 48 years age. Majority of cases of STD with HIV infection were in age group of 20-30 years (58%) and 31 to 40 years (28%). Out of 1027 cases 167 (16.26%) were found to have HIV infection. The year wise distribution (Table 1) shows an increasing trend of HIV infection among STD cases which was just 2.8% in 1990 and rose to 27.8% in 1996 contrary to decreasing trend of STD from 213 cases in 1990 to 79 cases in 1996. On statistical analysis the Linear trend in population show significantly high rising trend ($P < 0.01$) of percentage of HIV +ve persons among STD patients. The prevalence of HIV infection among different types of STDs (Table 2) shows an overall incidence of 16.3%. Out of total 1027 cases of STDs 334 (32.5%) were of chancroid, 237 (23%) of syphilis, 130 (12.6%) of gonorrhoea, 122 (11.9%) of LGV, 34 (3.3%) of herpes genitalis and 170 (16.5%) miscellaneous which included balanoposthitis, nonspecific urethritis, condylomata acuminata and others. Prevalence of HIV infection among different STD cases varies significantly (Table 2). The HIV positivity was seen in 32 (13.5%) cases of syphilis, 65 (19.5%) of chancroid, 37 (30.3%) of LGV, 8 (6.7%) gonorrhoea, 6 (17.6%) of herpes genitalis and 19 (11.2%) cases of other STDs. On analysing all 167 HIV positive STDs cases 65 (40%) cases had chancroid, 37 (22.2%) LGV, 32 (19.2%) syphilis, 8 (4.8%) gonorrhoea, 6

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(3.6%) herpes genitalis while 17 (10.2%) cases had other STDs. The history of extramarital sexual exposure was present in all cases of which 90% gave history of exposure with commercial sex workers and 10% with amateur. Out of total 167 HIV positive STDs cases 119 (71%) gave history of contact with multiple partners while 48 (29%) had single partner.

TABLE 1

Year wise incidence of STD and HIV infection cases

Year	No. of STD cases	No. of HIV infection cases	Percentage
1990	213	6	2.8
1991	228	16	7.0
1992	174	23	13.2
1993	114	43	37.7
1994	99	24	24.2
1995	120	33	27.5
1996	79	22	27.8
Total	1027	167	16.3

Chi square for linear trend : 74.44, $p < 0.001$

TABLE 2

Incidence of HIV infection in different types of STDs

Type of STD	No. of cases (%)	No. of HIV positive cases	Percentage
Chancroid	334 (32.5)	65	19.5
LGV	122 (11.9)	37	30.3
Syphilis	237 (23)	32	13.5
Gonorrhoea	130 (12.6)	08	06.7
Herpes Genitalis	34 (03.3)	06	17.6
Other STDs	170 (16.5)	19	11.2
Total	1027 (100)	167	16.3

Chi square : 34.59, df : 5, $p < 0.001$

Discussion

Sexually transmitted diseases have remained a major health problem in India. This has now increased further with emergence of HIV infection. The influence of these diseases are of far reaching consequences to many aspects of human life. In Armed

Forces where majority of manpower is in 20 to 40 years of age it leads to considerable loss of manhours due to admission for treatment and follow up at various STD treatment centres.

Heterosexual exposure remains the most common route of transmission of HIV infection throughout the world. Genital trauma and exposure to blood during intercourse may be factors possibly facilitating transmission. Several studies have also established the role of genital ulcer diseases facilitating the transmission of HIV infection [5,6]. The higher prevalence of HIV positivity in chancroid, syphilis and herpes genitalis has also been described [7,8]. Gonorrhoea and chlamydia have also been identified as risk factor for HIV-I infection among female prostitute [9]. The increased risk of transmission is because of break in mucosal integrity which facilitates entry of HIV [10]. It is also postulated that chlamydial and gonococcal infections leading to cervicitis provide an increased number of target cell or other cervical change in female which may enhance likelihood of HIV-I infection [11]. There are reports of increasing HIV positivity in STD clinics at Mumbai and Pune as well as among commercial sex workers [3]. 17 cases of HIV positive STDs were also from Armed Forces. Out of this 88.2% were having genital ulcer disease [12].

In our study we found increasing trend of HIV positivity among STD cases. It was just 2.8% in 1990 which rose to 27.8% in 1996 and this is inspite of decrease in STD cases from 213 in 1990 to 79 in 1996. Our findings correlate with findings of high prevalence of HIV infection in STD clinic at Mumbai and Pune [3].

The main reason for such prevalence of HIV infection is directly related with high prevalence of HIV infection and STD among commercial sex workers from whom the infection was transmitted in 90% of cases. The higher prevalence of HIV infection (81.4%) was seen in patients with genital ulcer disease as com-

TABLE 3

Pattern of STD in Armed Forces

Place of study and authors	Period	Syphilis No. (%)	Chancroid No. (%)	LGV No. (%)	GONO No. (%)	HG No. (%)	Others No. (%)	Total No. (%)
Armed Forces Hosp. Kapoor (13)	1971-77	6769 (21.8)	12074 (38.9)	3598 (11.5)	4027 (13.2)	-	4994 (14.6)	30962 (100)
BH Delhi Chattopadhyay (14)	1981-84	66 (14.8)	162 (36.3)	69 (15.5)	62 (13.9)	15 (3.4)	72 (16.9)	441 (100)
BH Delhi Arora et al (15)	1985-90	104 (12.8)	345 (42.5)	106 (13.1)	85 (10.5)	37 (4.6)	134 (16.6)	811 (100)
Present study	1990-96	237 (23)	334 (32.5)	122 (11.9)	130 (12.6)	34 (3.3)	170 (16.5)	1027 (100)

pared to nonulcerative STDs (18.6%) and almost similar trend was also seen in other studies [12].

In past, few studies have been done in Armed Forces on trends of sexually transmitted diseases from 1971 to 1990 [13-15]. However in the present era of HIV infection it became imperative to see the pattern of STDs. Table-3 shows comparative analysis of pattern of STDs in different studies. An increase incidence of syphilis is noticed in our study as compared to the study done by Chattopadhyay et al (1981-89) and by Arora et al (1985-90). The pattern of other STDs have by and large remained same. There is now sufficient evidence from different prospective studies including present one that both genital ulcerative disease as well as nonulcerative sexually transmitted disease enhance the sexual transmission of HIV infection. STDs are therefore taken as major risk factor in sexual transmission of HIV. It is therefore imperative to control STDs and treat them at the earliest in order to reduce the risk of HIV transmission. More aggressive approach is required to impart health education to public and commercial sex workers regarding preventive measures and this will go a long way to reduce the incidence of HIV infection and STDs.

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