HIV infection and sexually transmitted diseases in a referral STD centre in south India

Introduction, materials, and methods

The relation between sexually transmitted diseases (STDs) and risk of HIV infection has been a subject of increasing interest. Hence, the present study was designed to estimate the incidence of different STDs and frequency of HIV seropositivity among various STDs. It was conducted in the STD clinic of the department of dermatology and STD, JIPMER, Pondicherry, south India, between January 1993 and December 1997. The patients were from neighbouring Tamil Nadu state and Pondicherry itself. The study group consisted of all new consecutive STD cases having high risk behaviour and/or having present or past history of STDs, irrespective of their age and sex. The diagnosis of various STDs among them was formed on the basis of appropriate laboratory tests. These patients were counselled for HIV testing and prior consent was obtained. HIV tests were performed on serum samples in the microbiology department of this institute by utilising two different enzyme linked immunosorbent assays (ELISAs). Samples that were reactive on both occasions were taken as positive.

Results

Out of the 1110 patients, 168 were seropositive for HIV, giving a prevalence rate of 15.14%. Annual breakdown revealed an upward trend from 8.6% in 1993 to 23.52% in 1997. The mean age of the group was 29.8 years, with a male to female ratio of 3.63:1. The incidence of various STDs and the number of HIV positive cases in respective study group are shown in table 1. When the STDs were broadly classified into ulcerative and non-ulcerative groups, the prevalence of HIV was much higher in the group with ulcerative STDs (17.1%) than those with non-ulcerative STDs (9.5%). Genital herpes was the commonest STD followed by syphilis, condyloma acuminata, and others; 9.4% of the patients had concurrent infection with more than one STD.

Discussion

In India, 90% of the reported cases of HIV infection are aged between 15 and 40 and belong to the socioeconomically disadvantaged groups.[1] Recent trends have shown an increase in the prevalence of HIV in the general population too. By 1994, the HIV seroprevalence in STD clinic patients in Bombay[2] had risen to 32% and to 23% in Pune.[3] In Vellore in south India,[4] the HIV seroprevalence rose from 0.26% in 1986 to 3.94% in 1992, and 2.64% in 1993. In our study, it was 15.14% and had been showing a rising trend. In addition, a strong association between genital herpes and HIV seropositivity was found. This is in contrast with the previous studies from India, which found an association for HIV acquisition with chancroid and syphilis.[5] Biological considerations and epidemiological data suggest that STDs may favour HIV transmission. STDs, especially ulcerative ones, may facilitate heterosexual transmission of HIV infection.[6] Our study revealed that those with ulcerative diseases were at higher risk than those with non-ulcerative STDs. In view of this, prevention and control of genital ulcerative STDs may play an important role in efforts to control HIV infection in India.

Table 1 Frequency of HIV positivity among sexually transmitted diseases (STDs)

STD	*Total*	*With HIV*	*Percentage*
Ulcerative STDs:			
Genital herpes	311	64	20.5
Syphilis	285	42	14.7
Granuloma inguinale	53	8	15.1
Lymphogranuloma venereum	43	6	13.9
Chancroid	50	7	14
Non-ulcerative STDs:			
Condyloma acuminata	218	24	11.01
Genital scabies	87	3	3.4
Gonorrhoea	68	10	14.7
Trichomoniasis	45	2	4.4
Non-gonococcal urethritis	6	0	0
Balanoposthitis	43	2	4.6
Pediculosis pubis	4	0	0
Molluscum contagiosum	7	0	0

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