DETECTION OF HIV INFECTION IN MEN SUFFERING FROM SEXUALLY TRANSMITTED DISEASES IN NORTH EAST REGION

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ABSTRACT

In a prospective study, 715 men in the age group 18-45 years with various sexually transmitted diseases (STD) from Jan 1993 to June 1996 were examined for presence of human immunodeficiency virus (HIV) infection. Majority (86%) were young adults in the age group of 21-35 years. Five hundred and fifty eight (78.04%) men were married and 157 (21.9%) were single. Majority men (87.3%) gave history of heterosexual exposures with female commercial sex workers. None had used condom during sexual intercourse. Out of 715, majority (30.9%) cases had chancroid. Blood samples were tested for HIV 1-2 antibodies during treatment and surveillance period by Enzyme Linked Immunosorbent Assay (ELISA) technique. Nine cases of STDs were positive for HIV 1-2 antibodies by ELISA test and 8 (1.1%) were confirmed by Western blot assay. All HIV seropositive men got infection from female commercial sex workers which were detected during their surveillance period. This study highlights the importance of screening of STD patients for HIV infection during treatment as well as surveillance period.

MJAFI 1998; 54 : 93-95

KEYWORDS : Human immunodeficiency virus infection; Sexually transmitted disease; Surveillance.

Introduction

There are only 3 well defined routes through which HIV can spread [1]. The most common of these is sexual activity. HIV can spread both through homosexual and heterosexual intercourse when a partner is already infected. Although the probability of transmission of HIV infection through this route is only 1 in 100 to 1 in 1000 [2], heterosexual contact has emerged as the single largest cause for the spread of HIV in South East Asia [3]. STD clinics are an important access point for people at high risk of contacting both HIV and other STDs, not only for diagnosis and treatment but also for education.

In the light of above, the present study was undertaken to know the presence of HIV infection among male STD patients attending a STD treatment centre.

Material and Methods

From Jan 1993 to Jun 1996, 715 males attending a STD treatment centre have been examined. A detailed history regarding sexual habits, drug addiction, blood transfusion, and any illness in the past including STD and jaundice were recorded. After treatment all STD cases placed under surveillance for one year in order to rule out HIV infection. During treatment and surveillance, periodic blood samples were collected in sterile vials and serum was separated after clotting and analysed by ELISA for HIV 1-2 antibody. When a sample was found to be repeatedly positive by ELISA, it was sent to a reference centre for confirmation by the

Western blot assay. When a sample was found to be both ELISA and Western blot assay positive, the patient was diagnosed as suffering from HIV infection.

Results

Out of 715 males, majority (86%) were young adults ranging from 21-35 years (Table 1). One hundred and fifty seven (21.9%) men were single and 558 (78.04%) cases were married. Detailed history revealed that 624 (87.3%) were heterosexually promiscuous and had sexual contact with female commercial sex workers (CSWs). One patient with homosexual behaviour was recorded. Sixty one (85%) had contacted infection from amateurs and 29 (4.05%) had marital contact. None had given history of receiving blood transfusion or intravenous drug abuse. None have used condoms during sexual activity and denied taking alcohol during coital act. Out of 715 cases suffering from various types of STDs (Table 2) majority (30.9%) had chancroid. Eightyfive (11.8%) patients were suffering from non specific urethritis (NSU).

TABLE 1
Age incidence in STD patients

Age group in years	No of cases	Percentage
Less than 20	37	5.1
21-25	192	26.8
26-30	246	34.4
31-35	178	24.8
36-40	49	6.8
41-50	13	1.8
Total	715	

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TABLE 2
Type of STDs in males and their HIV serological status

Type of STD	No. of cases	%	No. of HIV cases	%
Syphilis	55	7.6	—	—
Chancroid	221	30.9	5	0.6
LGV	76	10.6	2	0.2
Gonorrhoea	30	4.1	—	—
NSU	85	11.8	1	0.1
Genital warts	52	7.2	—	—
Genital herpes	21	2.9	—	—
Balanoposthitis	50	6.9	—	—
Others	125	17.4	—	0.1
Total	715		8	1.1

Out of 715 patients examined, 9 cases found to be positive for HIV 1-2 antibodies by ELISA test and 8 (1.1%) were confirmed by Western blot assay. Out of 8 HIV seropositive males 5 (62.5%) had chancroid, 2 (25%) LGV and 1 (12.5%) had NSU. Seven patients were suffering from HIV infection (asymptomatic) and one case had persistent generalized lymphadenopathy (PGL).

Discussion

Several studies [4,5] documented that infections such as *Haemophilus ducreyi*, *Treponema pallidum*, *Herpes simplex* virus and other pathogens causing genital ulcer disease (GUD) or anal ulcers facilitate acquisition and transmission of HIV through sexual contact. Increased transmission is probably facilitated by disruption of mucous membranes of genitalia and anal skin and exchange of body fluids during sexual intercourse. HIV has been isolated from genital ulcers of infected persons with STDs [6]. Thus higher rates of untreated GUD may contribute to the higher rate of sexual transmission of HIV in certain areas of the developing world [7,8]. Factors that may increase female to male transmission of HIV is the lack of circumcision which may provide an adequate environment for survival of HIV [7]. In our study none of our men was circumcised.

The role of female CSWs in sexual transmission of HIV has been observed by various workers [9]. The CSWs serve as an important reservoir of HIV for sexually promiscuous men [2]. In our study all 8 men (100%) have contacted HIV infection from female CSWs from NE region of India. Heterosexual promiscuity accounts for 75.8 per cent of the total AIDS cases in India [10].

Rawal et al [11] have screened 850 patients at Ahmedabad with STDs and HIV infection was found to be present in 1.87 per cent cases. At Chengalpattu hospital, in a study on the trends of STD, Krishnamurthy and Ramachandran [12] have observed that the HIV sero-positive detection rate was 2.06 among STD

patients.

Many authors have studied HIV sero-prevalence among patients attending STD clinics in India. At Tirupati, the prevalence of HIV infection was 0.58 per cent out of 1550 heterosexually promiscuous male screened [13]. At Ahmedabad out of 971 cases of STD screened, HIV seropositivity was found in 0.31 per cent of the patients [14]. At Gorakhpur, 63 patients of STDs were screened for HIV and 4 (6.3%) were found to be HIV positive [15]. Raut et al [16] had tested serum sample from 1325 STD patients and Western blot test for HIV antibody was found to be positive in 0.15 per cent cases.

In NE states of India particularly in Manipur [19], 54 per cent of intravenous drug users (IDU) tested have been found to be infected with HIV. However in our study none of the patient infected with HIV gave history of IDU.

WHO [2] has recommended greater use of condoms and early treatment of STDs, that would slow the acquisition of HIV in both CSWs and their clients. In our study none of our men used condom mainly because they complained that its use reduces the pleasure of sexual intercourse. Interruption in the sex act due to the use of condom was a source of displeasure for them. Sharma and Chaubey [20] have also reported that 88.2 per cent STD patients did not use condom as barrier precaution.

Since sexual transmission accounts for 80-90 per cent HIV infection in India [5] the focus must be made on prevention programme on promoting safer sexual behaviour through education of population groups at risk through use of mass media, inter personal methods and promotion of extensive use of condoms [2].

In view of the association between HIV and STD and the role played by STD particularly GUD in acquisition and transmission of HIV, there is an urgent need to strengthen STD services in our country [3,19]. Early diagnosis and treatment of STD should be given a high priority as primary preventive measures against HIV infection [2]. Once these STDs are diagnosed and treated in shortest possible time with best medicines there is less risk of HIV transmission [1,2,19].

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