

PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS IN HIV SEROPOSITIVE INDIVIDUALS IN A RURAL TERTIARY CARE CENTRE IN SOUTH INDIA

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ABSTRACT

BACKGROUND

As per UNAIDS data, India ranks third in the HIV epidemic in the world, with 2.1 million people living with HIV with 88000 new infections and 0.2% adult HIV prevalence (15-49 yrs. age group).¹ Sexually transmitted infections are biological factors for both acquisition and transmission of HIV infection.² STI are markers for high risk behaviour for HIV infections. There is compelling evidence that management of STIs has brought down the transmission of HIV.

The aim of the study is to study the prevalence and epidemiological aspects of STI in HIV positive patients attending STD OPD in Govt. Vellore Medical College, Vellore.

MATERIALS AND METHODS

Retrospective observational study of pts. who are registered at STD clinic, Government Vellore Medical College between January 2016 and Dec 2017.

Inclusion Criteria- All newly diagnosed HIV pts. Attending our OPD were included and new STIs were included.

Exclusion Criteria- Previously diagnosed HIV/STI were excluded.

RESULTS

138 pts were identified to be HIV seropositive with coexistent STI. 66% rural and 34% were of urban origin. Predominant age grp 20 to 40 yrs. 4 males and 20 females had mixed STD and HIV. Vaginal discharge and Pelvic Inflammatory Disease seem to be predominant STI in female pts.

CONCLUSION

There is a high prevalence of STIs among HIV positive patients which is a very important factor for HIV transmission in society. Genital herpes and vaginal discharge were found to be the most common STIs among HIV positive individuals.

KEYWORDS

STIs, HIV, Vaginal Discharge, Sexual Contact, Herpes, Transmission.

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BACKGROUND

Sexually transmitted infections are believed to have existed since ancient times. Their transmission is related to human nature and frailties. They can have serious effects on the body on the mind and can result in serious reproductive morbidity and mortality Extensive efforts have been devoted to research and intervention of HIV/AIDS, as compared with very little attention been paid to other STIs.

More research has to be directed towards STIs to get a better insight in the control of HIV transmission because STIs facilitate easier transmission of HIV.

Wasserheit³ has called this relationship "Epidemiological Synergy", a phrase that emphasizes STI's chance HIV-1 transmission Classical STIs, both ulcerative and non-ulcerative could facilitate HIV transmission by increasing either the infectiousness of index case, the susceptibility of the partner (or) both.

Indian Scenario

Anti HIV - Antibodies were first detected among sex workers at Madras Medical College, Chennai, South India. National AIDS control organization in 1999 gave the clinical case definition for AIDS. India ranks third in the HIV epidemic in the world with an estimated 0.2% HIV prevalence among adults (aged 15-49) with 2.1 million people living with HIV¹ In India, between 2010 and 2017 HIV epidemic was brought under good control. New HIV infections declined by 27% and AIDS-related deaths reduced by 56%. But in 2017, there was a sudden spurt of new cases. The number of new cases increased to 88,000 from 80,000 and deaths related to HIV/AIDS increased.¹ As mentioned earlier sexual transmission accounted for more than 80% of new HIV

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infections in 2017/2018.⁴ North eastern states like Manipur, Mizoram and Nagaland have the majority of new HIV cases. The so called high risk population groups like commercial sex workers, men having sex with men's, transgenders, truck drivers who initially showed high HIV prevalence, have experienced a recent decline.⁵ Unprotected sex among key populations and their clients, partners and spouses is the important factor that drives the HIV epidemic.

Aims and Objectives

- To study the prevalence of sexually transmitted infections in HIV positive patients attending the OPD of Govt. Vellore Medical College, Vellore.
- To study the age of onset of sexual activity among contacts in rural and urban area.
- To study the rural and urban distribution of STI cases.
- To study the occupation and income of the patients and their relationship to the occurrence of STIs in HIV positive individuals.

MATERIALS AND METHODS

Study Design: Retrospective observational study

Sample- The study population comprised of HIV seropositive patients with coexistent STI. They were registered during the period from January 2016 to December 2017, in the STD department of Govt. Vellore Medical College and Hospital, Vellore- 11. During the study period 55 males and 83 females' patients with HIV seropositivity and coexistent STIs were registered and studied.

Methods- The registered patients with HIV seropositivity and coexistent STIs were identified. Their domiciliary status, education, age at first sexual contact was studied. Complete genital and physical examination which were undertaken were analysed. Their STIs were clinically analysed and supported by lab diagnosis.

Serological tests for syphilis including blood VDRL and TPHA performed were analysed.

In case of genital ulcers, grams stain for *H. ducreyi* and Tzanck test for giant multinucleated epithelial cells were done.

In case of genital discharges, the following test were done-

- Wet film for trichomonas vaginalis
- 10% KOH preparation for candida albicans
- Grams stain to identify *Neisseria gonorrhoea*, candida albicans and clue cells in urethral and cervical smears. They were offered standard treatment according to syndromic management.

RESULTS

138 patients were identified to be HIV seropositive with coexistent STDs during the study period of January 2016 to December 2017.

66% patients belonged to rural area and 34% belonged to urban area. Majority of them were from Tamilnadu (136) and two cases from other states were found to be recorded.

The predominant age group was found to be 20 to 40 yrs. (124) although cases less than twenty yrs. and more than 50 yrs. have also been recorded. Unfortunately, 20-40 yrs is also the age group that is economically productive in any society.

Among the 138 pts 32 were found to be totally illiterate and 88 have only primary level of education. Visual media rather than print media will be more effective in reaching this population for creating awareness.

Regarding occupational status, most of the patients (71 cases) were agricultural or semiskilled/unskilled laborers who are more migrant and may have unsafe sexual practices. House wives form the next major group (46 cases). The so called high risk group like salesman, drivers, CSWs together totally only 9 cases of the total study population.

Regarding marital status, 108 were married, 10 were unmarried, 5 were separated, 15 were widow/widower. Regarding sexual exposure, 20 male patients had premarital/extramarital or both sexual contacts. Among females 14 patients had extramarital contact. Rest were having only marital contact.

Regarding the age at first sexual exposure, 3 males and 4 females are less than twenty yrs. when they had their first sexual contact.

Of the total study population in males 35 had at least one coexistent STD along with HIV. Among the 35 cases 4 had mixed STDs. 103 females had at least one coexistent STDs among which 20 had mixed infections.

32 cases of ulcerative STDs (all were Herpes genitalis) were recorded. Most of them presented with painful superficial ulcers. Only few patients presented with vesicular lesions. Recurrent herpes genitalis was found to be very common among this group.

5 cases of early latent syphilis were recorded. None of them observed the primary chancre or signs of secondary syphilis.

Vaginal discharge and pelvic inflammatory disease were the majority of cases. A total of 61 cases belonged to this category.

10 cases of genital warts were identified.



Image 1. Genital Wart



Image 2. Herpes Genitalis



Image 3. Herpes Genitalis

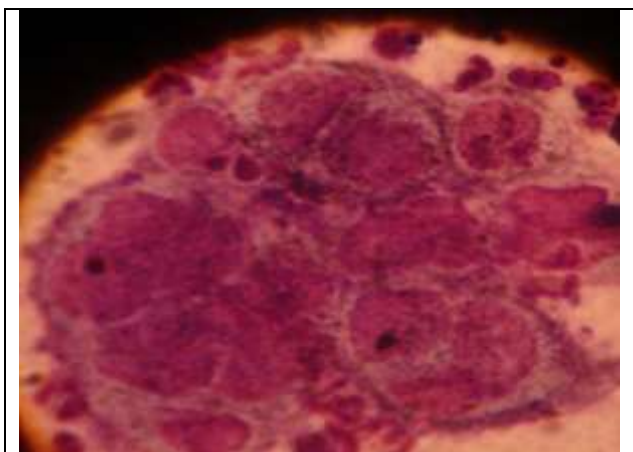


Image 4. Multinucleated Giant Cell in Herpes Genitalis

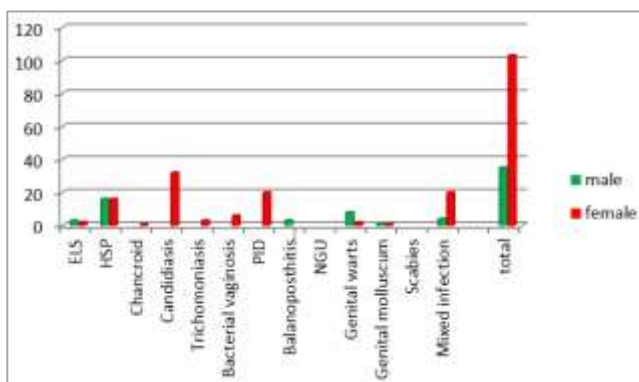


Figure 1. Sexually Transmitted Infection among HIV Affected Persons

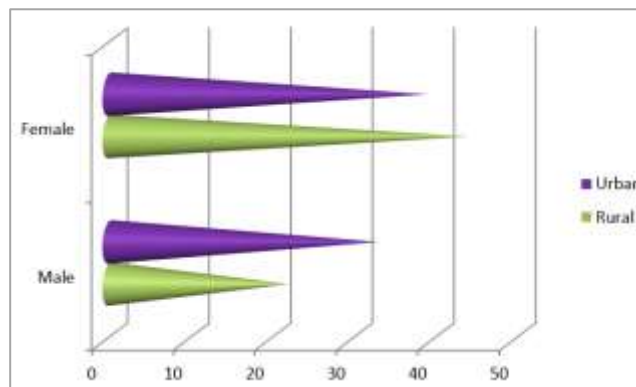


Figure 2. Participants from Rural and Urban Area

DISCUSSION

The study of prevalence of STDs in HIV positive individuals underlines the importance of infectivity and susceptibility cofactors in HIV transmission and acquisition and also stresses the importance of early diagnosis and management of STDs to control the transmission and acquisition of HIV. Sexual transmission was the most important independent risk factor for HIV infection. Individuals engaging in sexual practices with promiscuity, early age of first sexual exposure and infrequent use of condoms were all associated with high risk of transmission of HIV.^{6,7}

The identified early latent syphilis (5 cases) was treated with inj. Benzathine penicillin 2.4 million units, 1.2 million units in each buttock, after a test dose. Contact tracing was done and they were screened for STIs.

Vaginal discharge cases were treated with green kit comprising of tab. fluconazole 150 mg stat and Secnidazole 2 gm. single dose. Among vaginal discharge cases vulvovaginal candidiasis were the majority amounting to 32 cases. Most of the cases responded to treatment, while some had frequent recurrences. Recurrent cases were treated with green kit and topical clotrimazole cream. Importance of genital hygiene and protected sex was emphasized.

3 cases of trichomoniasis were detected using wet mount technique and treated with green kit. They responded well to treatment.

6 cases of bacterial vaginosis were detected using gram stain and saline mount and treated with green kit with complete resolution.

PID cases presenting with lower abdominal pain were treated with yellow kit comprising of cefixime, doxycycline and metronidazole.

10 cases Genital warts were detected of which 8 were male and two female cases. One female case showed significant morphological variation with giant condyloma acuminata. All cases were treated with podophyllin application with zinc cream^{8,9} over the surrounding skin twice a week for a period of six weeks and all of them responded very well to the management.

Herpes progenitalis was found to be the most common ulcerative STI in our study¹⁰ with 16 cases of male and 16 cases of female.

All cases of herpes progenitalis were treated with Red kit containing Tab acyclovir 400 mg TID for 7 days. No

significant morphological variations have been noted when compared with herpes proenitalis of the immunocompetent individuals. No modification in treatment schedule was required. All cases responded very well to the syndromic management of Genital ulcer – Herpetic. Chronic recurrences were observed in 10 cases.

3 cases of balanoposthitis of candidal origin detected by KOH mount were found in the study. They were treated with single dose of Tab. Fluconazole 150 mg and Topical clotrimazole cream.

CONCLUSION

There is a high prevalence of STDs among HIV positive patients which is a very important factor for HIV transmission in society. Genital herpes and vaginal discharge were found to be the most common STDs among HIV positive individuals. All the cases responded to treatment and the morphological presentation were very similar to non-HIV individuals. Our study highlights the importance of reinforcing surveillance, early diagnosis and combined strategies to control and manage STDs and HIV. STD clinics in India are important places for conducting HIV surveillance and risk reduction education.

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