Retrospective Study of Prevalence of STI among HIV Patients attending STI Clinic for a Period of 2 Years

M. Selvakumar[1], K. Punithavathi[1], K. Amuthavalli[2], Heber Anandan[3]

ABSTRACT

Introduction: HIV (Human Immunodeficiency virus), the STI (Sexually Transmitted Infection) of the century, is a viral infection caused by lentivirus, which causes progressive failure of immune system, if left untreated and end up clinically in Acquired Immuno deficiency Syndrome (AIDS). This study was undertaken with this aim to estimate the prevalence of HIV among the individuals attending STI clinics in a Tertiary care centre in South Tamilnadu and to compare the prevalence of RPR positivity among the general population and HIV patients.

Material and Methods: Retrospective study on HIV patients attending ART centre was obtained from both ART Centre and STD Department, and was analysed.

Result: Of the 1344 HIV patients, 55.6% were males and 44.7% were females. The most common STI among female is Trichomoniasis followed by pelvic inflammatory diseases and for males the most common STI is herpetic ulcer followed by Condyloma acuminata and Syphilis.

Conclusion: There is a statistically significant increased association of STI for HIV positive individuals than non PLHA patients.

Keywords: HIV patients, Trichomoniasis, Pelvic inflammatory diseases, Herpetic ulcers, Syphilis.

INTRODUCTION

"He who knows syphilis, knows medicine" said William Osler, this quote can be reframed as "He who knows HIV, knows medicine" to the current scenario. Syphilis was prevalent during 18th and 19th century. In the late 20th century HIV took up the place of Syphilis and is still on the lead. In the year 2012, 6 million adult population were newly infected with syphilis, whereas in the same year HIV was detected in 34 million adults, which represents a tremendous change in trend of STI from syphilis to HIV in the present decade. HIV is considered as current pandemic-a disease outbreak which is present over a large area and is actively spreading and no curative treatment of HIV is available so far. Syphilis although a devastating sexually transmitted disease, a cure is obtained through injection Benzathine penicillin. Human Immunodeficiency virus causes a spectrum of conditions from the stage of asymptomatic lymphadenopathy to the end stage being immunological failure and the development of Acquired Immunodeficiency Syndrome. The Human immunodeficiency virus (HIV) is a lentivirus (a subgroup of retrovirus) that causes HIV infection and over time Acquired immunodeficiency syndrome (AIDS). Infection with HIV occurs by the transfer of blood, semen, vaginal fluid, pre-ejaculate, or breast milk. Within these body fluids, HIV is present as both free virus particles and virus within infected immune cells Most HIV cases are sexually transmitted. HIV patients with high risk behaviour or with high risk behavioured partner are more susceptible to other STIs also. Concurrent STIs boosts HIV shedding in the genital tract and amplifies its infectiousness. Thus, Screening should be done more frequently if risk behaviours are present. Preventing and treatment STIs in HIV patients is critical for controlling the transmission of HIV.[1] The explosive occurrence of STIs in HIV has led to the intuition of HIV being a facilitator of other STIs. this has encouraged the emergence of studies of association of HIV and other STI. Thus, this retrospective analysis is undertaken with an aim, to find the incidence and prevalence of STIs in HIV patients. All the STIs acts as cofactor and facilitator of HIV transmission, this phenomenon is called epidemiological synergy.[2] STIs occur quite often in HIV patients, but most of the infection in these individuals tends to be asymptomatic, as against the easily recognised clinical syndrome it produces in immunocompetent host. For this reason, HIV infected patients should be assessed for STI related risk behaviours at every visit and screened for common STIs at every visit. HIV acquired sexually is an indicator of concurrent STIs because of high risk behaviours in the individual. HIV infection causes rapid depletion of immune cells in the semen. This renders HIV positive men more vulnerable to STIs, which further increases the risk of onward HIV transmission. For an HIV, negative person genital ulcer provides a portal of entry to HIV and for HIV infected person it provides portal of exit to HIV and entry to other STIs. High risk behaviours such as injecting drug, unprotected paid sex and unprotected sex between men are especially evident among HIV individuals.[3] This highlights the need to focus prevention, treatment and care strategies effectively on population groups at risk of HIV infection.

Study aimed to estimate the prevalence of HIV among the individuals attending STI clinics in a Tertiary care centre in South Tamilnadu and to compare the prevalence of RPR positivity among the general population and HIV patients.

MATERIAL AND METHODS

This retrospective study was conducted in Department of DVL, Tirunelveli medical College. Data of all HIV patients during the period of 2 years were collected. Data about STIs among HIV patients attending the STD Department during the year January 2014-December 2015 were collected from the register

[1]Associate Professor, [2]Junior Resident, Department of DVL, Tirunelveli Medical College, [3]Senior Clinical Scientist, Department of Clinical Research, Dr.Agarwal's Healthcare Limited, Tamilnadu, India

Corresponding author: Heber Anandan, No.10, South By-pass Road, Vannarpettai, Tirunelveli – 627003, Tamilnadu, India

How to cite this article: M. Selvakumar, K. Punithavathi, K. Amuthavalli, Heber Anandan. Retrospective study of prevalence of STI among HIV patients attending STI clinic for a period of 2 rears. International Journal of Contemporary Medical Research 2017;4(1):49-51.

maintained at STD OPD, Tirunelveli Medical College. HIV patients from ART centre attending STD clinic will be included in the study. Similarly, data about STIs among non PLHA patients attending the STD OPD during the same years were also collected. The occurrence of STIs like Trichomoniasis, Bacterial vaginosis, Non-herpetic and Herpetic ulcer, Wart, Molluscum contagiosum, Scabies, and Bubo were noted in both PLHA and NON PLHA patients.

RESULTS

Total number of patients who attended STI clinics during the period of 2 years is 3864. Among them HIV was seropositive in 1344, as demonstrated in Table 1.

As in Table 1, among the 1344 HIV patients those who attended the STD OPD at Tirunelveli medical college during the period Jan 2014-Dec 2015, 742 were males and 602 were females. Of the 2520, NON PLHA cases who attended the STD OPD at Tirunelveli Medical college hospital during the period Jan 2014-Dec 2015, 1552 were males and 968 were females.

In this study, it was found that the most common symptom among female HIV patients is cervical vaginal discharge followed by painful ulcers and lower abdominal pain. Most common symptom among male HIV patients is painful ulcers followed by Papular lesions and itching over the genitals and entire body, and the least common symptom is urethral discharge. The most common diagnosis among female HIV patients is Trichomoniasis (25%), Bacterial vaginosis (6.3%) followed by herpetic ulcers, Pelvic inflammatory diseases (5.48%) and syphilis. The most common diagnosis among male HIV patients is herpetic ulcer followed by Condyloma acuminata, Molluscum contagiosum and Syphilis. No cases seen with Bubo. In this study it was found that the most common symptom among the non PLHA patients is in the same order as in HIV patients, that is cervical vaginal discharge followed by painful ulcers and lower abdominal pain in females and in males, the most common symptom is painful ulcers, papular lesions and itching over the genitals and entire body. The most common diagnosis among non PLHA patients is similar to that of PLHA patients. That is herpetic ulcer followed by Condyloma acuminata, Molluscum contagiosum and Syphilis. None of the cases were diagnosed with bubo or gonorrhoea in our study in both the groups. The odds of having Cervical vaginal discharge among PLHA is 204 (out of 602). The odds of having Cervical vaginal discharge among Non PLHA is 248 (out of 968). The odds ratio is 1.48 for PLHA than Non PLHA and this is significant as it is more than '1'. It does not fall within the confidence interval (0.18-0.6) (table-2). Hence this shows 1.5 times increased occurrence of cervical vaginal discharge among PLHA. The odds of having herpetic ulcer among PLHA are 51 (out of 1344). The odds of having herpetic ulcer among Non PLHA are 40 (out of 2520). The odds ratio is 2.4 for PLHA than Non PLHA and this is also significant as it is more than '1'. It does not fall within the confidence interval (0.46-1.28). Hence this shows 2.4 times increased occurrence of Herpetic ulcer among PLHA. Similarly, the odds ratio is significant for all the other STIs. This shows the increased occurrence of other STIs among HIV infected patients, which is discussed in table 3. In this study, the occurrence of Syphilis in PLHA patients is 0.89% and that in non PLHA patients is 0.51%.

Description	Male	Female	Total
Total no of patients attended sti opd	2294	1570	3864
Hiv seropositive	742	602	1344
Prevalence	32.34	38.34	34.78

Table-1: Prevalence of HIV seropositivity in patients attending std OPD

STIs	Odds ratio	Confidence interval
Cervical vaginal discharge	1.48	0.18-0.6
Non-herpetic ulcer	0.49	-1.8-0.38
Herpetic ulcer	2.4	0.46-1.28
Lower abdominal pain	0.89	-0.54-0.32
Wart	0.69	-0.93-0.19
Molluscum contagiosum	2.25	-0.37-1.99
Urethral discharge	0.62	-2.72-1.78
Scabies	0.12	-1.76-0.82
RPR positivity	1.73	-0.24-1.32

Table-2: Odds ratio and confidence interval for STI among HIV patients

STIs	PLHA	Non-PLHA
Cervical vaginal discharge	33.8%	25.6%
Non-herpetic ulcer	0.29%	0.59%
Herpetic ulcer	3.79%	1.58%
Lower abdominal pain	5.48%	6.09%
Wart	1.19%	1.70%
Molluscum contagiosum	0.44%	0.19%
Urethral discharge	0.07%	0.11%
Scabies	0.22%	0.35%
RPR positivity	0.89%	0.51%
Bubo	0%	0%

Table-3: Prevalence of STI among plha and non-PLHA

DISCUSSION

Of the 3864 patients 1344 were HIV positive during the study period of 2 years. It was positive in 742 males and 602 females. This male predominance is similar to the other studies by Mendiratta vibhu et al, Chopra et al and Baruah et al and is explained by the fact that majority of infections in female are asymptomatic and also the social factors not allowing women to attend STI clinics easily.[4-6]

The prevalence of HIV among the population attending STI clinic in this study is 35%. This is because, our centre is a referral STD centre and majority of the population attending STI clinic are high risk behavioured and all the newly diagnosed HIV positive individuals attend STI clinics to rule out STI co-infection**.** Prevalence of HIV was 15% in a study conducted by Thappa et al in a referral STD centre in Pondicherry, south India between the year 1993 – 1997. This is in concordance with our study.[7]

In this study, it was found that the most common symptom among female HIV patients is cervical vaginal discharge followed by painful ulcers and lower abdominal pain.

Most common symptom among male HIV patients is painful ulcers followed by Papular lesions and itching over the genitals and entire body, and the least common symptom is urethral discharge.

The most common diagnosis among female HIV patients is

Trichomoniasis, Bacterial vaginosis followed by herpetic ulcers, Pelvic inflammatory diseases and syphilis.

Genital tract infection Trichomoniasis, caused by Trichomonas vaginalis is the most common curable, non viral STI worldwide. T. Vaginalis is a highly prevalent STI among HIV-1 infected female patients and there is a high frequency of asymptomatic and subclinical infection. This finding is in concordant with our study.[8] In this study, it was found that among the female HIV patients 44.7% presented with complaints of cervico vaginal discharge, among them, 25% is attributable to Trichomoniasis followed by Bacterial vaginosis (6.3%) and Genital Candidiasis (2.5%). This prevalence is higher in HIV infected females than non- PLHA females where the prevalence of Trichomoniasis is 19%, Bacterial vaginosis 4.5%, Candidiasis 1.1%. According to this study, the second common STI among female HIV patients is Pelvic inflammatory diseases. The prevalence of lower abdominal pain among the HIV infected women is 5.48% whereas the prevalence is little higher in non PLHA women (6.09%) in our study. The most common diagnosis among male HIV patients is herpetic ulcer followed by Condyloma acuminata, Molluscum contagiosum and Syphilis. None of the cases seen with Bubo. Among the STI cases in HIV positive men, herpes genitalis was the commonest followed by condyloma acuminata and non-herpetic genital ulcer. In a similar study done in North east India by Sabyasachi Banerjee and Saswati Halder, herpes genitalis was the commonest STI followed by condyloma lata followed by non herpetic ulcers. the prevalence of Herpes simplex virus infection in their study is 18% - 27%. In our study, Herpes genitalis occurred with the prevalence of 3.79% in HIV patients and 1.58% in non PLHA patients.[9] Human papilloma viruses are a large group of viruses that are capable of infecting squamous epithelia. The presentation of HPV in HIV –positive patient ranges from condyloma acuminata (genital warts) to carcinoma. Various studies have shown an increased incidence of anogenital warts in HIV seropositive individuals. Kiviat et al demonstrated that HIV seropositive men are 3.1 times more likely to be positive for HPV DNA by PCR than seronegative men and the former often have infection with multiple subtypes of HPV compared with the latter (44% vs 23%). In our study, the second most common STI among HIV positive men is Condyloma acuminata with the prevalence of 1.19% and 1.70% among non PLHA men. In our study, genital warts were slightly more in non PLHA group than in the PLHA group. Molluscum contagiosum began to receive more attention with the advent of AIDS patients. Despite recalcitrant MC in HIV patients, all are not sexually transmitted. The prevalence of MC among HIV patients is 0.44% which is little higher than in non PLHA patients (0.19%) in our study.

In this study it was found that the most common symptom among the non PLHA patients is in the same order as in HIV patients, that is cervical vaginal discharge followed by painful ulcers and lower abdominal pain in females and in males, the most common symptom is painful ulcers, papular lesions and itching over the genitals and entire body.

The most common diagnosis among non PLHA patients is similar to that of PLHA patients. That is herpetic ulcer followed by Condyloma acuminata, Molluscum contagiosum and Syphilis. None of the cases were diagnosed with bubo or gonorrhoea in our study in both the groups.

Syphilis has attracted renewed attention since the emergence of HIV infection. The change in sexual behaviour of HIV-infected persons, such as seeking sex partners who are infected with HIV (sero sorting) are also rising, further contributing to the epidemic. The occurrence of Syphilis in PLHA patients is 0.89% and that in non PLHA patients is 0.51%. This prevalence is very much less when compared to other STIs but higher than that in non PLHA patients.[10]

CONCLUSION

Sexually transmitted diseases are common in HIV-infected patients than the normal population. The implication of the finding is that all such patients should be regularly screened and subsequently treated for prevalent and incident STIs. There should be emphasis on avoidance of high-risk sexual behaviour that leads to increased STI acquisition. Due to the high prevalence of Trichomoniasis and pelvic inflammatory diseases among women and Herpetic ulcers, condyloma acuminate among men, HIV-positive patients undergoing care in this population should have regular screening for the infection, to prevent further spread of these STIs and HIV, as the presence of concurrent STI increased the spread of both HIV and Sexually transmitted diseases.

REFERENCES

1. Wasserheit JN. Epidemiological synergy: Interrelationship between human immuno deficiency virus infection and other sexually transmitted disesases. Sex Transm Dis. 1992;19:61–77.
2. Røttingen, john-arne et al. A systematic review of the epidemiologic interactions between classic sexually transmitted diseases and hiv: how much really is known. Sexually transmitted diseases. 2001;28:579-597.
3. Clottey C, Dallabetta G et al. Sexually transmitted diseases and human immunodeficiency virus. Epidemiologic synergy. Infectious Disease Clinics of North America. 1993;7:753-770.
4. Vibhu M, Ravindra K et al. Profile of Sexually transmitted Infections in HIV positive patients – a Retrospective study. Indian J Sex Transm Dis. 2004;25:18.
5. Chopra A, Dhaliwal RS and Chopra D. Pattern and changing trends of STDs at Patiala. Ind J Sex Transm Dis. 1999;20:22-25.
6. Baruah MC, Gaeeg BR, Garg VK et al. Clinical Profile of 'Persons seropositive for AIDS. Ind J Sex Transm Dis. 1998;9:65-67.
7. Thapa DM, Singh S, Singh A. HIV infection and sexually transmitted diseases in a referral STD Centre in South India. Sex Trans Inf. 1999;75:191–3.
8. Ray K, Bala M, Gupta SM, Khunger N, Puri P, Muralidhar S, et al. Changing trends in sexually transmitted infections at a regional STD center in North India. Indian J M Res. 2006;124:559–68.
9. Banerjee S, Halder S et al. Trend Of Sexually Transmitted Infections In Hiv Seropositive And Seronegative Males: A Comparative Study At A Tertiary Care Hospital Of North East India. Indian J Dermatol. 2011;56:239–241.
10. Buchacz, Kate et al. Syphilis increases HIV viral load and decreases CD4 cell counts in HIV-infected patients with new syphilis infections. Official journal of the International AIDS society. 2004;18.

Source of Support: Nil; **Conflict of Interest:** None

Submitted: 11-12-2016; **Published online**: 24-01-2017