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Original Research Article

Sexually transmitted infections among HIV positive patients: a five year retrospective study

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ABSTRACT

Background: Sexually transmitted infections (STIs) are the most well established risk factors for the spread of HIV infection. STIs act as cofactors and facilitators for HIV transmission. The effects of HIV infection on immunity can increase susceptibility to other STIs. The aims and objectives of the study were to determine the prevalence of co-infection of sexually transmitted infections among people living with HIV and AIDS.
Methods: A retrospective chart review of the data collected from the clinical records of all HIV patients who had attended the STI clinic of Chengalpattu Medical College, Chengalpattu, Tamil Nadu during the five years period, from January 2013 to December 2017, was carried out. Demographic data, clinical manifestations, co-infection of STIs among HIV patients, laboratory investigations and treatment were collected. The data collected were computed and analyzed statistically.
Results: During the study period of 5 years from 2013 to 2017 the total number of patients attended the STI clinic were 10825, among that males were 4534 (41.88%) and females were 6291 (58.12%). STIs/RTIs were seen in 2560 (23.65%) cases among the total number of patients attended. HIV was found to be positive in 294 cases, in that 168 (57.15%) were males and 126 (42.85%) were females. In male HIV patients, 51 (30.36%) had co-infection with other STIs/RTIs. In female HIV patients, 57 (45.24%) had co-infection with other STIs/RTIs. Viral STIs was the common co-infection seen in males and vaginal cervical discharge was common in females.
Conclusions: STI/RTI co-infection, both symptomatic and asymptomatic are common among PLHIV. Hence they should be regularly counselled regarding the significance of periodic screening for STI/RTIs avoidance of high risk sexual behaviour.

Keywords: Sexually transmitted infections, HIV, Cofactor, Asymptomatic

INTRODUCTION

Sexually transmitted infections (STIs) are one of the most common infectious diseases of public health importance. World health organization (WHO) has estimated that more than one million STIs are acquired every day. Each year there is an estimated 357 million people becoming ill with one of the four curable STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis. The prevalene of viral STIs is similarly high with an estimated 417 million people infected with herpes simplex virus type 2 (HSV2) and approximately 291 million women harbouring the human papilloma virus (HPV).[1]

Globally there are 36.7 million people living with HIV/AIDS at the end of 2016, according to UNAIDS.[2] In India the total number of people living with HIV is estimated as 21.17 lakhs (17.11 lakhs–26.49 lakhs) with a

prevalence of 0.26% (0.22%-0.32%) in 2015.[3] Currently, India has the third largest number of people living with HIV (PLHIV), because of its huge population, even though it has a low HIV prevalence.

STIs and other nonsexually transmitted reproductive tract infections (RTIs) are the most well established risk factors for the spread of HIV infection. STIs act as cofactors and facilitators for HIV transmission (epidemiological synergy).[4-7] Genital ulcer diseases (GUD) and other STIs increases the susceptibility to HIV by breaching protective mucosal barriers and recruiting susceptible immune cells (e.g., CD4+ T-helper cells, macrophages) to the site of infection.[8] In both men and women STIs boost HIV shedding in the genital tract, which amplifies HIV infectiousness. STIs can also cause genital bleeding, further increasing the risk for exposure to HIV during sexual activity. Viral STIs have a bidirectional pathogenic relationship with HIV; HIV can accelerate disease progression of other viral infections and vice versa.[9]

The effects of HIV infection on immunity can increase susceptibility to other STI as individuals who are immunocompromised are less able to mount a protective response against sexually transmitted pathogens. Sexually transmitted co-infections pose considerable health threats to people living with HIV/AIDS. Clinical presentation, course, complications, and response to standard treatment of STIs are altered by concurrent HIV infection. Atypical manifestations of STIs in the form of lues maligna, persistent and recurrent genital herpes, herpes vegetans, giant molluscum contagiosum, etc. are common in patients with HIV co-infection.[10,11]

World Health Organization (WHO) guidelines recommend that STI assessment and treatment be an integral part of a comprehensive HIV strategy to improve the health of HIV patients, their partners, and families, as well as to reduce spread of HIV. Newly diagnosed HIV patients should be asked about STI symptoms and receive laboratory screening. Patients diagnosed as having an STI, as well as their sex partners, should receive appropriate treatment.[12]

Aims and objectives

- To determine the prevalence of co-infection of sexually transmitted infections among people living with HIV and AIDS.

METHODS

A retrospective chart review of the data collected from the clinical records of all HIV patients who had attended the STI clinic of Chengalpattu Medical College Hospital, Chengalpattu, Tamil Nadu, during the five years period, from January 2013 to December 2017 was carried out. Demographic data, STIs, co-infection of STIs among HIV patients, laboratory investigations and treatment were collected. The diagnosis of STIs was based on the clinical findings and available lab tests like Gram stain, Tzanck smear, wet mount, KOH examination, Darkfield examination and serology. STIs were categorized in different syndromes as depicted by the National AIDS Control Organization (NACO) in the syndromic management of STIs. All patients with STIs /RTIs, diagnosed based on the clinical or serological evidence, all HIV positive patients and patients with co-infection of STIs and HIV during the five years study period are included in the study. Patients with no evidence, either clinical or serological, of STIs and HIV and patients who had attended the STI clinic for non-venereal genital dermatoses are excluded from the study. The data collected were computed and analyzed statistically. This study was approved by our institutional ethical committee.

RESULTS

During the study period of 5 years from 2013 to 2017 the total number of patients attended the STI clinic were 10825, among that males were 4534 (41.88%) and females were 6291 (58.12%). STIs/RTIs were seen in 2560 (23.65%) (Table 1) cases among the total number of patients attended. HIV was found to be positive in 294 cases, in that 168 (57.15%) were males and 126 (42.85%) were females. The remaining patients had visited the STI clinic for normal skin variants like pearly penile papules and other non-venereal genital dermatoses, sexual dysfunction, venereophobia and for screening.

In males STIs/RTIs were seen in 931 (36.4%) patients, among that balanoposthitis was the commonest seen in 679 (26.52%) followed by genital wart in 78 (3.05%) patients. Genital herpes was seen in 66 (2.56%), genital scabies in 34 (1.33%), RPR reactive syphilis in 24 (0.94%), non-herpetic genital ulcerative disease in 20 (0.78%), urethral discharge in 18(0.70%) and molluscum contagiosum in 12 (0.47%) patients (Table 1).

Among the 168 HIV positive male patients, 51 (30.36%) had co-infection with other STIs/RTIs. Viral STIs, genital wart and genital herpes were commonly seen among HIV positive male patients. Other STIs/RTIs seen were balanoposthitis, molluscum contagiosum, genital scabies, urethral discharge and primary chancre. Multiple STIs/RTIs were seen in 3 patients. Asymptomatic latent syphilis was seen in 9 patients (Table 2).

In females STIs/RTIs were seen in 1629 (63.6%) patients, among that vaginal cervical discharge (VCD) was the commonest seen in 1492(59.28%). Vulvovaginal candidiasis was the commonest infection among VCD seen in 971 cases followed by bacterial vaginosis in 404, trichomonas vaginalis in 105 and mucopurulent cervicitis in 12 cases. Genital herpes was seen in 62 (2.42%), genital wart in 46 (1.80), genital scabies in 12 (0.47%), RPR reactive syphilis in 9 (0.35%), molluscum contagiosum in 7 (0.27%) and non-herpetic genital ulcerative disease in 1 (0.04%), patients (Table 1).

Table 1: Total number of STIs / RTIs during the five year period.

STIs/ RTIs	Ulcerative (%)		Non-ulcerative (%)							Total
	Herpetic	Non-herpetic	Genital wart	Urethral discharge	Vaginal cervical discharge	Balanoposthitis	Molluscum contagiosum	Genital scabies	RPR reactive	
Male	66 (2.56)	20 (0.78)	78 (3.05)	18 (0.70)	0	679 ((26.52)	12 (0.47)	34 (1.33)	24 (0.94)	931 (36.4)
Female	62 (2.42)	1 (0.04)	46 (1.80)	0	1492 (58.28)	0	7 (0.27)	12 (0.47)	9 (0.35)	1629 (63.6)
Total	128 (5.0)	21 (0.82)	124 (4.84)	18 (0.70)	1492 (58.28)	679 (26.52)	19 (0.74)	46 (1.80)	33 (1.29)	2560 (100)

Table 2: STIs / RTIs profile during the five year period among males.

STI/RTI	Total	With HIV positive	Percentage (%)
Ulcerative			
Herpetic	66	14	21.2
Non-herpetic	20	1	5.0
Non-ulcerative			
Genital wart	78	15	19.2
Urethral discharge	18	1	5.6
Balanoposthitis	679	8	1.18
Molluscum contagiosum	12	3	25.0
Genital scabies	34	3	8.8
RPR reactive asymptomatic syphilis	24	9	37.5

Table 3: STIs / RTIs profile during the five year period among females.

STI / RTI	Total	With HIV positive	Percentage (%)
Ulcerative			
Herpetic	62	9	14.5
Non-herpetic	1	0	0.0
Non-ulcerative			
Genital wart	46	3	6.5
Vaginal cervical discharge	1492	44	2.9
Molluscum contagiosum	7	1	14.3
Genital scabies	12	1	8.3
RPR reactive asymptomatic syphilis	9	3	33.3

Among the 126 positive female patients, 57 (45.24%) had co-infection with other STIs/RTIs. VCD was commonly seen followed by viral STIs among HIV positive female patients. Other STIs/RTIs seen were molluscum contagiosum and genital scabies. Multiple STIs/RTIs were seen in 4 patients Asymptomatic latent syphilis was seen in 3 patients (Table 3).

DISCUSSION

In our study, of the total 294 HIV positive cases, 57.15% were male and 42.85% females. This male preponderance is comparable with the recent study conducted by Marfatia et al and the National AIDS control organization annual report 2016-2017.[13,14]

Our findings revealed that 36.73% (108) of the HIV-positive individuals in our study had co-infection with other STIs/RTIs. Viral STIs constitutes the majority of infections in both HIV negative and HIV positive patients, excluding the non-sexually transmitted RTIs, balanoposthitis in males and endogenous vaginal discharge in females. Genital herpes is the most common infection followed by genital wart. Asymptomatic STIs constitutes a significant proportion among HIV positive patients.

Co-infection of STIs/RTIs with HIV were seen in 30.36% of male patients. Viral STIs, genital herpes was the most common STI followed by genital wart. Among bacterial STIs asymptomatic latent syphilis comprise a major part. Symptomatic bacterial STIs, non-herpetic genital ulcerative disease and urethral discharge occurred in a few patients. The predominant occurrence of viral STIs among HIV patients is similar to other studies done by Vibhu et al and Thappa et al.[11,15]

In female HIV positive patients 45.23% had STIs/RTIs co-infection. Vaginal cervical discharge was seen in more number of patients, among that vulvovaginal candidiasis was the common condition followed by trichomoniasis, bacterial vaginosis and mucopurulent cervicitis. Genital

herpes was the common viral STI followed by genital wart. About one-third of the asymptomatic latent syphilis patients were found to be HIV positive. Our results were comparable with the previous studies conducted in females by Chopra et al and Sharma et al.[16,17]

In the present study pattern of STIs/RTIs occurring in PLHIV is identical to that of non PLHIV. The prevalence of more number of viral STIs than bacterial STIs may be due to the recurrent nature of viral infections.

CONCLUSION

STI/RTI co-infection, both symptomatic and asymptomatic are common among PLHIV. Viral STIs and non-sexually transmitted RTIs are more prevalent than acute bacterial STIs, among both HIV negative and HIV positive people. PLHIV should be counselled regularly regarding the periodic screening for STI/RTI co-infection and laboratory test for asymptomatic infection, as persons with HIV infection who subsequently develop an acute STI/RTI have an increased probability of transmitting HIV. The significance of avoiding high risk sexual behaviour and condom usage should also be reemphasized.

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