

Original Research Article

Prevalence of HIV in syphilis in a tertiary care centre

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ABSTRACT

Background: Aim of this study was to determine the prevalence of HIV in syphilis in patients attending the STD clinic in a tertiary care center.

Methods: Study was conducted in all new patients attending the STD clinic during the study period of 6 months from June 2012 to November 2012. Clinically suspected cases of syphilis were diagnosed serologically and all the patients were tested for HIV after proper counselling and consent.

Results: In a total of 200 new patients attended the STD clinic 47 (23.5%) were diagnosed as syphilis. Majority of the cases (43) were latent syphilis in our study. A total of 77 (38.5%) cases were reactive to HIV. Among the 47 (23.5%) syphilis cases 24 (51%) were reactive to HIV. In the age group of 21-30 years most of the syphilis male (5/6) patients showed HIV reactivity.

Conclusions: Seroprevalence of syphilis among other STI was found to be significant. Rising trend in latent syphilis was noted may be due to antenatal checkup, purpose of foreign job and strict blood screening protocols. The prevalence of HIV in syphilis individual was 51% and it was high in the age group of 31-50 when compared to other age group. In the age group of 21-30 most of the males, diagnosed as syphilis were serologically positive for HIV. Hence these sexually active groups were to be targeted for their safe sexual practice to prevent the transmission of HIV.

Keywords: Syphilis, HIV, Seroprevalence

INTRODUCTION

Recent outbreaks of syphilis show the increase transmission of HIV in syphilis patients with high risk behavior. In India syphilis is one of the most prevalent STD in large cities than in small towns and rural areas.^{1,2} Syphilis facilitates the transmission of HIV. In the HIV era, there is increased incidence of active syphilis in patients infected by HIV.³ Syphilitic ulcers disrupt the epithelium and mucosa thus aiding the passage of HIV. Syphilis infection particularly generalized stage of

secondary syphilis increase immune activation of the host cells and affect the secretion of cytokines TNF alpha and it also upregulate transcription factors such as nuclear factor kappa b to alter cell cycle and thus enhance the HIV replication. Genital ulcer disease may increase HIV viral load and depress CD4 cell count.⁴ Hence our study is to determine the prevalence of HIV in syphilis patients in STD clinic attendees in a tertiary care centre.

METHODS

Study design: An observational study was selected.

Study place

Study place was STD department of Madurai Medical College, Tamilnadu.

Study period

Study period was 6 months from June 2012 to November 2012

Selection criteria of the patients

Inclusion criteria

All new patients attending the STD department of Madurai Medical College, Tamilnadu during the study period of 6 months from June 2012 to November 2012.

Exclusion criteria

Patients either fully or partially treated for syphilis and already diagnosed cases of syphilis and HIV were excluded.

Procedure

An observational study conducted in STD department of Madurai Medical College, Tamilnadu during the study period of 6 months from June 2012 to November 2012 in which all the new patients attending the clinic were analysed. Syphilis was categorized by clinical stage of disease or by reactivity of non treponemal test VDRL and reactive cases confirmed with TPHA to rule out false positive cases and all the patients were tested for HIV by ELISA method after proper counseling and consent.

Ethical approval: Ethical approval was obtained for the study.

Statistical analysis

Data analysis was done by SPSS 16 and Sigma Stat 3.5 version (Jandel scientific software, California).

RESULTS

Our observational study showed a predominantly male population of 65.5% and female population of 32.5%. Remaining population constituted by children. The peak age distribution of patients was in 31-50 years was 56.5%. Of 200 patients, 47 (23.5%) cases were diagnosed as syphilis (Table 1). A total of 77 cases (38.5%) showed HIV reactivity altogether (Table 1). Peak age group distributions of syphilis were in 31-50 years (Table 2). Three cases were primary syphilis, a single case was diagnosed as secondary syphilis and remaining 43 cases were latent syphilis (Table 3). Prevalence of HIV was high in the age group of 31-40 years (Table 4). Among the 47 syphilis cases 24 (51%) were reactive to HIV (Table 5). In our study homosexual behavior was present

in only 6% of the patients and 3% showed positivity to HIV (Table 6). In 153 non syphilitic cases 53 (34.6%) showed reactivity to HIV and 100 cases (65.3%) were negative for HIV.

Table 1: Distribution of syphilis and HIV positive cases.

Syphilis cases=47	Non syphilitic cases=153
HIV reactive=77	HIV nonreactive=123

Table 2: Age group distribution of syphilis patients.

Age	Seropositive for syphilis	
	M	F
21-30	6	3
31-40	12	3
41-50	12	2
51-60	5	1
61-70	2	1

Table 3: Distribution of stages of syphilis.

Stages of syphilis	Number of cases
Primary	3
Secondary	1
Latent	43

Table 4: Age group distribution of HIV reactivity.

Age	HIV reactive	
	M	F
21-30	10	6
31-40	19	9
41-50	13	8
51-60	6	2
61-70	3	1

Table 5: Syphilis and HIV co-infection.

Age	Seropositive for syphilis		HIV reactive	
	M	F	M	F
21-30	6	3	5	1
31-40	12	3	5	2
41-50	12	2	5	2
51-60	5	1	3	-
61-70	2	1	1	-

Table 6: Sexual behavior in syphilitic individuals and their HIV status (n=47).

	Homosexual behaviour (n=12)		Heterosexual behaviour (n=35)	
	HIV reactive	HIV nonreactive	HIV reactive	HIV nonreactive
	6	6	18	17

DISCUSSION

Our study showed predominantly male population of 65.6% and female population of 32.5%. Saikia et al showed a prevalence of 33.9% female patients concurrence with our study.⁵ Nair et al showed a prevalence of 61% male patients similar to our study.¹ Seroprevalence of syphilis was 23.5% which was similar in a study conducted by Gawande et al where the prevalence of syphilis was 21.9% seen in the long distance truck drivers.⁶ Similarly high seroprevalence was observed in STD clinic attendees by several authors range from 2 percent to 29 percent.⁷⁻⁹ Extreme variation in prevalence exist between the various region of same country and different categories of population in the study.¹⁰⁻¹³ Considering the stages of syphilis our study showed rise in latent syphilis (43 cases) when compared to three cases of primary and one case of secondary syphilis similar to the study conducted by Nishal et al and Nair et al.^{14,1} Whereas rising trend of secondary syphilis has been reported in hospital based studies from India in past by Ray et al.⁷ The prevalence of syphilis was higher in the age group of 31-50 years whereas in a study in population of Rwanda the prevalence of syphilis infection was high in the g group of 25-49 years than in age group less than 25 similar to our study.¹⁵ Men had higher prevalence when compared to female. Seroprevalence of HIV in patients infected with syphilis altogether was 51% in our study which is similar to the study conducted by Puravoor et al.¹⁶ Seroprevalence of HIV was high in the age group of 31-40 (36.3%) as like syphilis. HIV was positive in 50% of MSM cases infected with syphilis similar to various studies observation.^{17,18} Prevalence of syphilis in HIV positive MSM was 35% whereas in a study by Garg et al the prevalence of STD among HIV positive Indian MSM and demonstrated very low infection of syphilis 5%.¹⁹ In the age group of 20-31 years most of the male syphilis patients showed HIV reactivity indicating the high risk group to prevent transmission of HIV.

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