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Original Research Article

An epidemiological study of association of different dermatological and venereological manifestations with HIV

Jayanta Kumar Barua, Romana Ghosh, Deep Anurag*

Department of Dermatology, School of Tropical Medicine, Kolkata, West Bengal, India

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***Correspondence:**
Dr. Deep Anurag,
E-mail: deepanurag1987@gmail.com

ABSTRACT

Background: Dermatological problems occur in more than 90% of patients with human immunodeficiency virus infection. In recent years, epidemiological studies have shown that persons with ulcerative and non-ulcerative Sexually Transmitted Infections are more susceptible to HIV but minimal data exist that describe the epidemiology of HIV positivity in different dermatological manifestation. The objective of the study was to study the epidemiology of different dermatological and venereological disease associated with HIV.
Methods: A retrospective study was performed in patients attending in Dermatology & Venereology OPD of a tertiary care hospital and referred for HIV ELISA testing with suspicious manifestation that can be associated with HIV infection from the period to June 2015 to May 2016 using a structured questionnaire. These patients were included on the basis of clinical symptoms, signs, morphology of the lesion and then HIV testing done by rapid ELISA test.
Results: Out of 3234 patients with suspicious dermatological and venereological manifestation 56 patients were diagnosed as seropositive. Out of these 56 patients 30 (53.57%) had dermatological manifestation while 26 (46.43%) had venereological features.
Conclusions: Persistent and recurrent nature of viral infections is responsible for their increasing trend in the current scenario. Though HIV and STIs are perfect examples of epidemiologic synergy as they are core transmitters of each other, different dermatological manifestations can also give the idea to diagnose HIV infections. HIV being higher in married individuals further underlines the importance of contact tracing, counseling, and prompt management of the partners..

Keywords: Dermatological manifestation, Venereological manifestation, HIV

INTRODUCTION

Skin is the mirror of internal disease. Dermatological problems occur in more than 90% of patients with human immunodeficiency virus infection.[1] Distinctive skin lesions may occur at various stages of HIV infection. Recognition of extensive herpes zoster, seborrhoeic dermatitis, and oral candidiasis as indicators of HIV infection is important for early diagnosis of HIV and prevention of further opportunistic infections. Patients with HIV disease often present with cutaneous conditions with prolonged or severe clinical course, this may act as key to suspect underlying HIV infection. Sexually transmitted infections (STIs) are syndromes that are epidemiologically heterogeneous but all of which are almost always or at least often transmitted sexually.[2] STIs act as cofactors for HIV transmission. India has the third largest number of people living with HIV in the world -

2.1 million at the end of 2013.[3] So, in order to reduce the burden as well as transmission of HIV, suspicious dermatological and venereological symptoms should be tested. This study aims to identify and describe the epidemiology of different dermatological and venereological manifestations in an HIV-positive population.

METHODS

For this study, case records of patients attending Dermatology and Venereology OPD of School of Tropical Medicine, Kolkata, from June 2015 to May 2016, were analyzed. Those patients who were suspected for seropositivity were sent for HIV ELISA testing. Those patients who came with seropositivity were analyzed according to their age, sex, religion, occupation, education, mode of presentation, history of any high risk behavior and the time of exposure to high risk partners. This was conducted using a structured questionnaire. STIs were diagnosed on the basis of clinical symptoms, signs, morphology of the lesion, and HIV and Venereal disease research laboratory (VDRL) testing was done in all cases.

For age distribution Patients were divided into 4 group (i) Group A: 0-15yrs (ii) Group B: 16-30yrs (iii) Group C: 31-50yrs and (iv) Group D: >50 yrs.

For occupation they were divided into 6 groups (i) Housewives (ii) Student (iii) Businessman (iv) Service/ Employee (v) Sex worker (vi) Others: Hawker, wage earner etc. Education level is again divided into 4 categories (i)Illiterate (ii) 8th pass or less (iii) >8class to Graduation (iv) >graduation.

Inclusion criteria

Inclusion criteria were patient who gave consent; patient presenting with suspicious dermatological lesion or venereological manifestation.

Exclusion criteria

Exclusion criteria were patient not giving consent; patients already diagnosed as seropositive; patients with other immunosuppressive conditions; patients under chemotherapy.

Results were derived by simple statistical means of percentage and proportions.

RESULTS

Total suspected seropositive patients attending OPD in the mentioned period was 3234. Out of which after HIV testing 56 becomes +ve. So the prevalence rate of HIV in different STI on that period was 1.731

$$\frac{\text{Total number of HIV+ve patients on that period (56)}}{\text{Total number of Patients attending STI clinic on that period (3234)}} \times 100$$

= 1.731

Out of 56 HIV +ve patients attending STI clinic 39 occurred in males, 16 occurred in females, one is transgender (Figure 1).

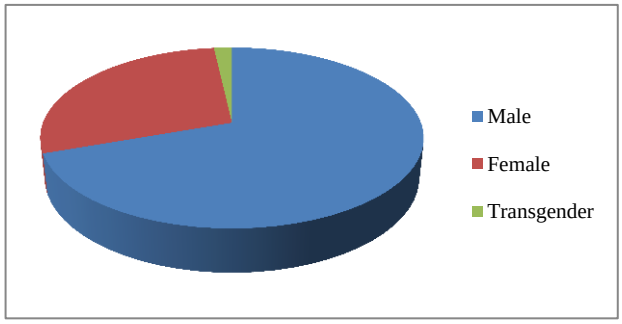

Figure 1: Sex distribution.

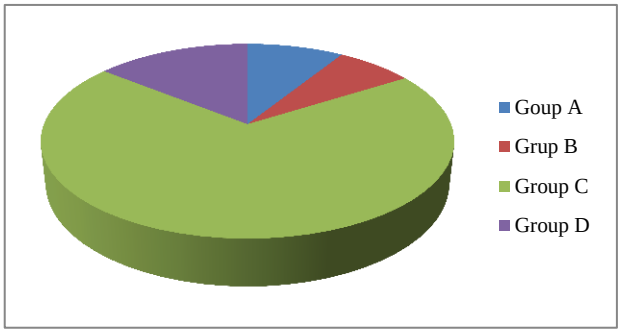

Figure 2: Age distribution.

Among these 56 patients mostly 39 (69.6%) belonged to Group C (31-50 yr) age group, 8 (14.28%) belonged to Group D (>50 yr), 5 (8.92%) belonged to Group A (0-15yr) and 4 (7.14%) in Group B (16-30 yr) (Figure 2).

Of 56 HIV +ve patients 20 were service holder, 12 were housewives, 7 were businessman, 6 student, 5 were sex worker and 4 in other occupation (i.e. wage earner, hawker etc.), 2 was unemployed (Figure 3).

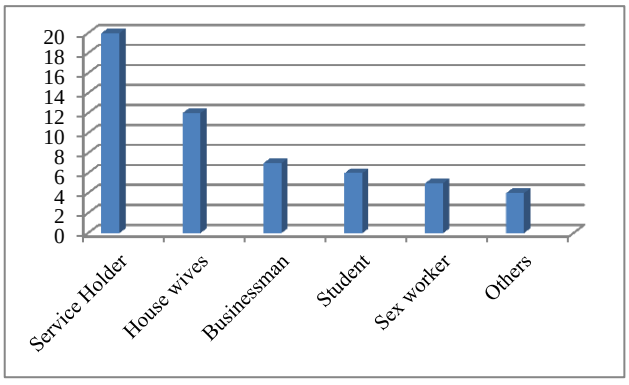

Figure 3: Occupation distribution.

Considering education level out of 56 HIV +ve patients 28 (50%) were literate up to or below class VII, 24 (43.33%) were literate from above class VII to graduation, 2 (3.33%) was illiterate and 2 (3.33%) was post graduate (Figure 4).

Out of 56 HIV +ve patients 11 were Muslims and the rest are Hindus, 35 were Married and rest are Single, 41 patients gave positive h/o of high risk behavior but 14 persons did not gave such history and out of these 14 patients spouse of 13 patients are HIV +ve, 2 patients also came with +ve VDRL test.

Table 1: Dermatological and venereological manifestations in HIV +ve patients.

Dermatological manifestation	
Type of dermatological disorder	No. of affected patients
Infective disorder (viral)	
a) Molluscum contagiosum	8
Genital	5 (1giant)
Extragenital	3
b) Disseminated herpes zoster	2
c) Disseminated verruca vulgaris	1
Parasitic	
a) Norwegian scabies (fungal)	1
b) Candidiasis	4
Oral thrush	3
Genital	1
Extensive dermatophyte infection non responsive to treatment	3
Non Infective disorder	
• Recurrent episode of seborrheic dermatitis (SD)	5
• Generalized pruritic papular eruption (PPE) non responsive to treatment	5
• Exfoliative dermatitis	1
Total	30
Venereological manifestation	
Type of STIs	No. of affected patients
1. Genital ulcer disease (GUD)	7
• Non Herpetic	4
• Herpetic	3
2. Genital wart	10
3. Vaginal discharge	5
4. Urethral discharge	3
5. Balanoposthitis	1

Distribution of these 56 HIV +ve patients in respect of various types of dermatological and venereological manifestations are depicted in Table 1 and Figure 5.

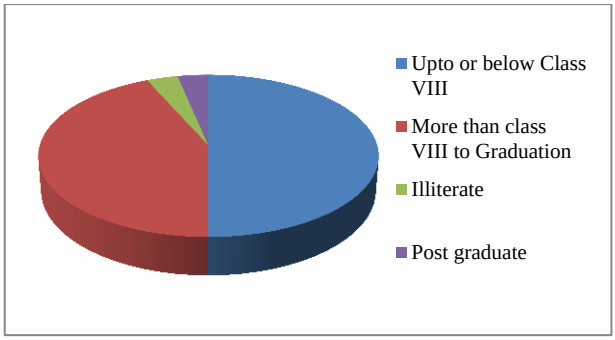

Figure 4: Education level.

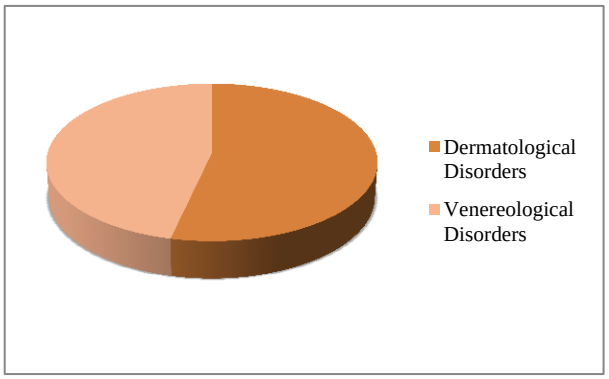

Figure 5: Distribution of HIV +ve patients.

DISCUSSION

Immune dysfunction of HIV can lead to various cutaneous manifestations as well as various venereological manifestations. Day by day it has been becoming a major public health problem for both developing and developed countries. So, the emergence of HIV infection has increased the importance early diagnosis. As skin is the mirror of internal disease a proper understanding of the patterns of various dermatological as well as venereological disorders prevailing in different geographic regions of a country is necessary for proper planning and implementation control strategies.

Between the months of June 2015 and May 2016, we received 3234 patients in Dermatology and Venereology OPD of School of Tropical Medicine, Kolkata, who are suspected to have an associated HIV infection. After ELISA testing 56 patients came with positive result of concomitant infection. So the prevalence rate 1.731% whereas Rita Vora et al reported prevalence rate as 2.48%.[4]

In these 56 patients the male female ratio of approximately 2.44:1, clearly showing a male preponderance. But in study of Halder et al it is 1.38:1.[1]

In our study 69.64% of HIV +ve patients were male whereas in study of Hutton-Rose et al among 270 HIV

diagnosed cases examined the prevalence of STIs was 51.1% in men.[5]

In this study the age group commonly affected with HIV positivity is 31-50 yrs. Vora et al also reported the maximum prevalence of STI in 25-44 yr age group.[4] This is the sexually active group and at a high risk of being behaviorally more vulnerable to HIV acquisition, as they generally have higher number of sexual partners and more concurrent partnerships and change partners more often than older age groups.[6] This is also the predominant age group observed to be having STI in other Indian studies.[6–10]

In the present study 62.5% were married as compared with 77.2% in Rita Vora et al, 46.3% in Saikia et al study, 50% in Jain et al study, and 47% in Kumarasamy et al study.[4,8,9,11]

Our study showed HIV is prevalent both in service person as well as Housewives, but there was hardly any occupational prevalence study to compare with. It is also evident from this study that low education level is also important risk factors in HIV positivity and high risk behavior.

In this study we got prevalence of HIV is more common in dermatological disorder rather than venerological disorders. The commonest dermatological manifestation we got is molluscum contagiousum with 14.28% while in study of Halder et al the most common presentation is Pruritic papular eruption (28%).[1] Sivayathorn et al found in Bangkok in 1995 that pruritic papular eruption (PPE) had a prevalence of 32.7%, SD 21%, and psoriasis 6.5% among HIV seropositives with skin lesion.[12] In our study we got prevalence of SD and PPE both is 8.93%. Apart from MC the other infective cause like candidiasis and extensive dermatophyte infection also had the prevalence of 7.14% and 5.36%.

In venereological diseases highest prevalence is with Genital wart 17.86% and 12.5% with GUD where as in Hutton-Rose et al study there was a total occurrence of 744 STIs with non-gonococcal urethritis (19.4%), gonorrhoea (17.2%), candidiasis (13.4%), trichomonas (12.4%), genital ulcer (10.4%) and syphilis (7.3%) the most common in HIV infected patients.[5]

CONCLUSION

Due to the documented synergy between HIV and STIs, we got various studies depicting prevalence of HIV in STIs and the associated epidemiology. But by far there is paucity of studies where we get the prevalence of HIV in different dermatological manifestations. This study tries to signify that dermatological manifestation is also an important clue to diagnose HIV as venereological manifestation which ultimately helps in rapid diagnosis and treatment. Consequently it could serve as a cost-effective in HIV prevention strategy. Control and treatment of HIV still remains an important public health priorit and should include a combination of prevention efforts such as extensive health education, condom promotion, male circumcision, and HIV testing in all patient-provider encounters..

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Ethical approval: The study was approved by the institutional ethics committee

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