

Prevalance of Various Skin and Mucocutaneous Diseases in Hiv Seropositive Patients Attending Teritiary Care Hospital, Nellore City, A.P

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Abstract: Human immunodeficiency virus (HIV) is a blood-borne virus. The HIV infection is associated with several dermatological conditions which may be the first pointer towards the existence of HIV. These may present with unusual and atypical manifestations in the course of the HIV infection. The cutaneous manifestations can serve as a dependable marker of the HIV disease. Due to immunosuppression, the HIV seropositive persons have multiple and widespread cutaneous and mucocutaneous lesions, whereas in immunocompetent patients, the lesions are localized and are mostly of the single type. To observe the nature and frequency of mucocutaneous manifestations in patients of HIV, with or without antiretroviral therapy. To study the skin and mucocutaneous manifestations serum samples are received from various clinically suspected cases. Age and sex distribution of the seropositive patients are considered. This prospective study was conducted over a period of six months from January 2014 to June 2014 with following aims and objectives. During this period consecutive non repetitive 150 serum samples received from clinically suspected patients were tested for the presence of various skin and mucocutaneous manifestations among hiv positive patients by HIV tridot method. Among these, HIV test by Tridot was positive in 45(30%) samples. Among HIV positive samples 54.28% were from males and 45.71% from females. Our study findings are contrary to the belief. Therefore it is recommended that larger sample based studies may be taken up in which may throw better light on the seroprevalence and clinical presentations of prevalence of skin and mucocutaneous diseases in HIV positive patients.

Keywords: HIV, Mucocutaneous, Seroprevalance, Immunocompetant.

1. INTRODUCTION

Ever since its recognition in 1981, each year, around 2.7 million people become infected with HIV and 2 million die of AIDS in the world (1). As per the NACO guidelines, the number of people who live with HIV/AIDS in India are 2.31 million (2). The HIV infection is associated with several dermatological conditions which may be the first pointer towards the existence of HIV (3). A wide range of infectious and noninfectious skin lesions develop during the course of the disease and their frequency patterns and the associated factors have been shown to vary from region to region (4)

The cutaneous manifestations can serve as a dependable marker of the HIV disease. The present study was undertaken to determine the seroprevalence of HIV and the spectrum of the skin and the mucocutaneous lesions in HIV positive patients. Cutaneous manifestations are very common in human immunodeficiency virus (HIV)-infected individuals and are associated with significant morbidity (5, 6). Greater than 90% of patients develop at least one skin or mucous membrane

manifestation during the course of their infection (6). Viral, fungal and bacterial infections as well as inflammatory dermatoses have all been reported with increased frequency in association with HIV infection. Several studies have reported a correlation between skin disease and underlying immune status (7), thus making diagnosis of certain skin conditions a valuable clinical tool in staging and predicting progression of disease (8). In communities with a high prevalence of HIV infection, there may be lay recognition of the clinical manifestations of HIV, including recognition that certain skin diseases are likely to indicate underlying HIV infection, which may then lead to further stigmatization (9).

Knowledge of the skin and mucosal signs of HIV/AIDS is important, as mucocutaneous lesions are usually the first manifestation of HIV, ensures early diagnosis and prompt treatment, and reveals complications as HIV causes atypical and severe presentations of these conditions (10,11).

These cutaneous disorders are seen in all stages of infection and range from opportunistic infections and inflammatory dermatoses to cutaneous malignancies. They may also be due to the drug treatment given to the patient. The dermatological manifestations are usually severe, have atypical presentations, and are sometimes difficult to treat. They result in significant morbidity and maybe cosmetically disfiguring resulting in a great deal of psychological stress and poor quality of life for the patient. Knowledge and awareness regarding the spectrum of cutaneous features is important for the clinicians as it is helpful in timely diagnosis and prompt treatment. It can also be helpful in monitoring the immune status of the patient. Special clinics for HIV are present in our country but proper referrals to dermatologists are lacking. The aim of our study was to observe the pattern and frequency of mucocutaneous manifestations in HIV patients in our setup and to see any correlation with the CD4 cell counts.

SIGNS AND SYMPTOMS: The patient with HIV may present with signs and symptoms of any of the stages of HIV infection. No physical findings are specific to HIV infection; the physical findings are those of the presenting infection or illness. Manifestations include the following:

Acute seroconversion manifests as a flulike illness, consisting of fever, malaise, and a generalized rash. The asymptomatic phase is generally benign. Generalized lymphadenopathy is common and may be a presenting symptom. AIDS manifests as recurrent, severe, and occasionally life-threatening infections or opportunistic malignancies. HIV infection can cause some sequelae, including AIDS-associated dementia/encephalopathy and HIV wasting syndrome (chronic diarrhea and weight loss with no identifiable cause)

CONCLUSION: It can be concluded that the skin and the mucocutaneous manifestations are useful clinical predictors of the HIV infection. These may present with unusual and atypical manifestations in the course of the HIV infection. So, a high level of suspicion for the HIV infection has to be kept in mind by the doctors during the investigations. An early detection of HIV optimizes the chemoprophylaxis for many opportunistic mucocutaneous infections.

2. MATERIAL AND METHODS

This prospective study was conducted over a period of six months. During this period consecutive non repetitive 150 serum samples received from suspected cases were tested for the presence of HIV by HIV TRIDOT KIT manufactured by J. Mitra & Co., Ltd. .

PRINCIPLE: HIV antigens are immobilized on a porous immunofiltration membrane. Sample and reagent pass through the membrane and are absorbed into the underlying absorbent. As the patient sample passes through the membrane, HIV antibodies if present, bind to the immobilized antigens. Conjugate binds to the F_c portion of the HIV antibodies to give distinct pinkish purple DOT(s) against a white background.

PROCEDURE: Add three drops of Buffer solution to the centre of the device and add a drop of patients sample using a dropper provided. Add 5 drops of Buffer solution. Add 2 drops of liquid conjugate directly from the conjugate vial. Add 5 drops of buffer solution and read results. It is important to allow each solution to soak in the test device before adding the test solution.

INTERPRETATION: If only one DOT (control dot) appears the specimen is non reactive for antibodies either to HIV-1 or HIV-2. interpret the sample non reactive. if two DOTS one for control and other for HIV-1 appear the specimen is reactive for antibodies to HIV-1. if two DOTS one for control and other for HIV-2 appear the specimen is reactive for antibodies to HIV-2. if all the three DOTS, one each for control, HIV-1 and HIV-2 appear the specimen is reactive for antibodies to HIV-1 and HIV-2. If no DOT appears after the test is complete, either with clear background or with

complete pinkish/purple background the test indicates ERROR. This indicates a procedural error or deterioration of specimen/reagents or particulate matter in the specimen. The specimen should be tested on a new device.

3. RESULTS

During the study period extending from January 2014 to June 2014, 150 serum samples received from various clinical Departments at Narayana Superspeciality Hospital, Nellore, A.P. The work was done at Department of Microbiology, Narayana Medical College, Nellore, A.P.

The test was carried out by HIV tridot method. Total no. of samples received was 150. The samples are screened for Type-1 and Type-2 HIV along with seroprevalance of skin and mucocutaneous diseases in HIV positive patients. Among 150 samples processed 45(26.6%) samples showed positive for Type-1 HIV and No positivity for Type -2 HIV.(Table-1)

Maximum no.of samples were collected from males were 63 samples.out of it 19 samples showed HIV Type-1 positivity with the percentage of (54.28%). 42 samples were collected from females, out of it 16 samples were positive for HIV Type-1 with the percentage of (45.71%).(Table-2)

Based on age wise distribution, highest number of samples are collected from the age group (21-30) was 75 samples. Among them 28 samples showed HIV positivity.1 sample with positivity was observed among the age group (0-10). 28 samples were collected from age group (31-40). Among them 8 samples showed positiviy(Ttable-3)

Based on educational status, maximum no. of samples were collected from illiterates (75). 32 samples showed positive with the percentage of (42.6%).Up to 5th standard 17 samples were received, with no positivity. up to 12th standard and above graduation showed (26.6%), (17.8%) positivity respectively.(Table-4)

Based on geographical distribution, maximum no.of samples collected from rural 86 samples (44.1%).Minimum no.of samples collected from urban 54 samples(12.9%) (Table-5)

Prevalence of skin disease entities in total HIV positive cases(45), Mucocutaneous candidiasis showed highest prevalence (22.2%) among 8 HIV positive cases. viral diseases like Herpes zoster(17.7%), Molluscum contagiosum(8.8%), Herpes simplex(8.8%), Genitalwarts(4.4%), Mumps(2.2%), showed total prevalence of (41.9.7%).Bacterial diseases like Cutaneous tuberculosis(2.2%), Borderline leprosy(2.2%), Donovanosis(4.4%), Folliculitis(8.8%), Staphylococcal infection(4.4%), Secondary syphilis (2.2%), showed total prevalence of (24.2%). Fungal infections like Dermatophytes(6.6%), Mucocutaneous candidiasis (22.2%) showed total prevalence of (28.8%). Pruritus showed (4.4%) total prevalence. (Table-6)

4. DISCUSSION

Skin diseases act as indicators of HIV and AIDS. The clinical diagnoses of skin diseases have been found to correlate with histopathological findings even in HIV patients (12). Hence, good clinical acumen is essential to make correct diagnoses of skin problems in these patients.

The present studies are crucial in health care planning, prevention and treatment strategies for generating reliable information. This prospective study was conducted over a period of 6 months from January 2014 to June 2014.during this period a total of 150 serum samples collected from various clinical Departments at Narayana Superspeciality Hospital, Nellore, A.P. The work was done at Department of Microbiology, Narayana Medical College, Nellore, A.P.

The prevalence of HIV was 30%.among150 samples .The prevelance of skin and mucocutaneous disease was carried out in HIV positive cases.

The most common skin disese in this study were mucocutaneous candidiasis(22.2%), Herpes zooster(17.7%), Molluscumcontagiosum(8.8%), Herpessimplex(8.8%), Folliculitis(8.8%), Dermatitis(6.6%), Mumps(4.4%), Pruritus (4.4%), Genital warts(4.4%), Donovanosis(4.4%), Staphyloccal infection(4.4%), Cutaneous tuberculosis(2.2%), Borderline leprosy(2.2%), Secondary syphilis(2.2%)

Sivayathorn et al (13). in Bangkok found that Oral candidiasis(34.3%), Pruritic papular eruption (PPE) (32.7%), Seborrhoeic dermatitis (21%), Herpes zoster (16.1%), Oral hairy leukoplakia (14.9%), Herpes simplex (10.9%), onychomycosis(9.3%), Cutaneous ringworm (7.7%), Psoriasis(6.5%), and Folliculitis (5.6%) were the most prevalent skin conditions among HIV seropositives. (13)

Viral infections were also observed. Herpeszoster (17.7%) involving Multiple dermatomes. Multi dermatomal herpes zoster has been seen in a previous study by Shobana *et al* (14). with a frequency of (6%)(14). molluscum contagiosum and herpes simplex occurred as (8.8%).

The most common infections were fungal (28.8%), Oral candidiasis (22.2%) being the most frequent. A study conducted by Rosemary *et al*(15). showed similar results. Other studies have revealed a higher incidence of oral candidiasis, up to 40.63%.

Bacterial skin infections occurred in those in stages 2 and 3. They have been reported to be common in HIV patients but correlation with clinical stages is not known though Nnoruka *et al*(16). report them to occur in those with CD4 counts between 200 and 500 cells/mm³ (27). in our study bacterial infection observed as (24.2%)

Pruritic papular eruption (PPE) was the most common dermatosis in stages 1 and 2 and next to oral candidiasis in stages 3 and 4. The majority of the affected patients, however, were in stages 3 and 4. Nnoruka *et al.* (16) found it to occur in those with lower immune status with CD4 count that was less than 200 cells/mm³. Mawenzi *et al.* and Goldstein *et al*(17). Observed a significant relationship between pruritic papular eruption and low CD4 counts (17). In our study pruritis observed as (4.4%).

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APPENDIX - A

LIST OF TABLES

TABLE 1. Hiv seropositivity of study group

S.no	Types	Total cases	Positive	Percentage
1	Cases screened for type 1	150	45	26.6%
2	Cases screened for type2	150	Nil	Nil

TABLE 2. Sex wise distribution

S.no	Sex	Total	Positive	Percentage
1	Males	63	19	54.28
2	Females	42	16	45.71
	Total	150	45	30%

TABLE 3. Age wise distribution

Age	Total	Positive
0-10	1	1
11-20	20	3
21-30	75	28
31-40	28	8
41-50	20	3
51-60	6	2
Total	150	45

TABLE 4. Educational status

S.no	Education	Total cases	Positive	Percentage
1	Illiterates	75	32	42.6%
2	Upto 5 th standard	17	Nil	Nil
3	Upto 12 th standard	30	8	26.6%
4	Graduation and above	28	5	17.8%
	Total	150	45	30%

TABLE 5. Geographical distribution

S.no	Distribution	Total cases	Positive	Percentage
1	Rural	86	38	44.1%
2	Urban	54	7	12.9%
	Total	150	45	30%

TABLE 6. Prevalence of each skin disease entities in 45 HIV Seropositive cases

Name of the skin diseases	Disease entitis in HIV positive cases	Percentage
Viral		
Herpes zoster	8	17.7%
Molluscum contagiosum	4	8.8%
Herpes simplex	4	8.8%
Mumps	1	2.2%
Genital warts	2	4.4%
Bacterial		
Cutaneous tuberculosis	1	2.2%
Borderline leprosy	1	2.2%
Donovanosis	2	4.4%
Secondary syphilis	1	2.2%
Folliculitis	4	8.8%
Staphylococcus infection	2	4.4%
Fungal		
Tinea corporis	2	4.4%
Tinea faciae	1	2.2%
Mucocutaneous candidiasis	10	22.2%
Pruritus	2	4.4%
Total	45	