

Mucocutaneous Manifestations In Hiv Patients In A Tertiary Care Centre

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Abstract :

Background- Skin is commonly affected organ in patients with HIV infection. A wide range of infectious and noninfectious skin lesions develop during the course of the disease. Spectrum and frequency of occurrence of mucocutaneous manifestations may vary in different regions. Present study undertaken to determine the regional epidemiological profile.

Aim- To study the various mucocutaneous manifestations in HIV/AIDS individuals.

Objectives- To identify the common mucocutaneous manifestation coexisting with HIV, so that appropriate screening and diagnostic testing can be done. To study clinical frequency and review the common mucocutaneous manifestations in HIV patients.

Materials and Methods: This Prospective observational study included one hundred HIV seropositive patients attended to the outpatient DVL departments were included.

Results: 100 HIV seropositive individuals were included, out of which 60 were females and 40 males. Most of patients were illiterate. Majority of the patients 90% were from a rural background. 62% patients were married, 27% were widow/widowers 07% patients were unmarried, and 4% were separated/divorced. Pruritic papular eruptions 31%. mucocutaneous candidiasis 15%. pyogenic bacterial infections 15%, dermatophytic 11% seborrheic dermatitis 10%. Herpes genitalis disease 07%.

Conclusion- In this study mucocutaneous candidiasis and pruritic papular eruptions were commonly seen. They serve as markers of HIV infection in resource poor settings and in high risk groups. Skin manifestations are important clinical markers of HIV infection and may sometimes be the first clue.

Keywords : Acquired immune deficiency syndrome, CD4 count, human immunodeficiency virus, mucocutaneous manifestation of AIDS.

I. Introduction

Acquired immunodeficiency syndrome (AIDS) is an unprecedented public health emergency, having already caused enormous ill health and mortality worldwide^[1] Skin is commonly involved in HIV infection and nearly 90% of patients with HIV infection have dermatological manifestations at some stage during the course of their disease^[2] A wide range of infectious and non infectious 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^[3] These manifestations not only act as markers but also reflect the underlying immune status^[4]

Mucocutaneous diseases are among the first-recognized clinical manifestations of AIDS. In developed countries, CD4 lymphocyte count, detection of viral load and viral culture are being used for the assessment of HIV disease. Lack of these facilities in developing countries necessitates dependence on clinical markers. Given the relative ease of examination of skin, and because most skin diseases are amenable to diagnosis by inspection and biopsy, evaluation of skin remains an important tool in the diagnosis of HIV infection.^[5] The importance of Sexually Transmitted Diseases (STDs) in the transmission and hence the importance of their diagnosis and management is well known in HIV disease. This study was conducted to determine the pattern of mucocutaneous manifestations in HIV-positive patients that attended to a tertiary care hospital.

II. Materials And Methods

This is prospective observational study included 100 HIV-infected patients attended Dermatology Venerology Leprosy Outpatient Department over a period of 2 years.

1. Inclusion criteria:

Known HIV positive individuals attended DVL OPD with skin diseases.

2. Exclusion criteria:

HIV negative individuals. HIV positive individuals without skin disease

3. Method:

History taken and physical examination were done in all cases. Wherever necessary relevant investigations were done to confirm the diagnosis in patients

III. Observations And Results

100 HIV seropositive individuals were included in the study, out of which 60 were females and 40 were males. Majority of the cases were in the age group 31-40 years 46% followed by 21-30 years and 41-50 yrs each group 21%, more than 50 years were 08% and less than 20 years were 04%. Majority 36% patients were illiterate. 26% patients who were educated upto primary school, 24% patients were educated upto secondary school. 09 %patients had completed graduation and 05% patient were undergraduates. Majority of patients were manual labourer 40% followed by housewives 24%, skilled 18%, drivers 10%, businessmen 05% and unemployed 03%. 62% patients were married, 27% were widow/widowers followed by 07% patients were unmarried, and 4% were separated/divorced from their partners. Majority of the patients 90% were from a rural background and 10% patients were from urban area.

Out of 100 HIV patients, 76% infectious disorders were further sub divided based on their etiology into viral, fungal, bacterial and parasitic disease. Fungal infections were seen 31% patients, followed by viral infections 23% patients, bacterial infections were seen 18% patients, parasitic infestation were seen 04% patients. Out of 31% fungal infectious found in this study, 15% patients were Mucocutaneous candidiasis, followed by dermatophytic infection were seen in 11% patients, 05% patients had Pityriasis versicolor. 23% viral infections studied, Herpes genitalis disease 07% patients was most common, followed by Molluscum contagiosum were seen in 04% patients, Verruca vulgaris, Genital wart, Herpes labialis were seen 03% patients each, Herpes zoster were seen in 2% patients and the least common was chicken pox 01% patient. 18% bacterial infections in the study group. Out of 18% which 15% cases were pyogenic bacterial infections, followed by 2% cases cutaneous tuberculosis, 1% case of Hansens disease. There were 04% cases of scabies in the study group. In 53% non-infectious diseases present in the study group, the most common was pruritic papular eruptions 31% patients followed by 10% cases seborrheic dermatitis, 5% cases adverse cutaneous drug reaction were seen, Psoriasis, urticaria and xerosis were seen in 2% patients each and lichen planus in one patient.

Table 1: Demographic parameters of HIV infected patients

	No of cases (%)
Female	60%
Males	40%
Male:female	1:1.5
Age groups	
less than 20 years	04%.
21-30 years	21%
31-40 years	46%
41-50 yrs	21%.
More than 50 years	08%
Educational status of patients	
Illiterate.	36%
Primary school	26%
Secondary school	24%
Completed degree	09%
intermediate	05%
According to occupation	
Manual labourer	40%
Housewives	24%.
Skilled	18%
Drivers	10%.
Businessmen	05%
Unemployed	03%.
According to marital status	
Married	62%
Widow/widowers	27%
Unmarried	07%
Separated/divorced	04%
Place distribution	
Rural background	90%
Urban area	10%

Route of transmission of HIV infection

Hetero-sexual route	93%
Homosexual route	3%,
Vertical transmission	3%
Intravenous drug abuse.	1%

Table 2: Common mucocutaneous features of HIV/AIDS

Pruritic papular eruptions	31%
Mucocutaneous candidiasis	15%
Folliculitis	10%
Seborrheic dermatitis	10%
Dermatophytic infection	11%
Herpes genitalis	07%
Pityriasis Versicolor	05%
Adverse cutaneous drug reaction	05%
Scabies	04%
Molluscum contagiosum	04%
Verruca vulgaris	03%
Genital wart	03%
Herpes labialis	03%
Herpes zoster	03%
Ecthyma	02%
Cellulitis	02%.
Cutaneous tuberculosis	02%
Psoriasis	02%
Urticaria	02%
Xerosis	02%
Hansens disease	01%
Impetigo	01%
Lichen planus	01%



Fig 01 : Extensive tinea infection



Fig 02 : Tinea manuum



Fig 03: Ecthyma



Fig 04 : BT Hansens with IRIS



Fig 05: Molluscum contagiosum



Fig06: Condyloma acuminata



Fig 07 : Giant molluscum contagiosum



Fig 08: Perianal wart



Fig9: Herpes zoster with secondary bacterial infection



Fig 10: Oral candidiasis

IV. Discussion

The highest incidence of HIV positive patients was in the age group of 21-40 years. 67% of the patients in the study group were in the age group 21-40 years which is similar to the study done by Jing et al.^[11] was 66.3%. The study done by Zancanaro et al.^[07] had 52.45% and Sen et al.^[10] had 73.7% of the patients in age group of 21-40 years. This shows that majority of the patients affected by HIV belong to the most sexually active group of the population.

The average age of patients in the study group was 36.06 years. This was comparable to 36.35 years in the study done by Lt. Col. Biju Vasudevan et al.^[12]

The male:female ratio in the present study was 1 : 1.5, which was close to the study done by Shashi chopra et al.^[13] with ratio 1:1.05 and nearly close to the Jindal et al.^[04] in which was 0.9:1. The greater incidence of HIV infection in females is increasing gradually due to the changing life style. This study shows that the epidemic is increasing steadily among women and among the rural young housewives with a low level of education.

36% of the patients in the present study group were illiterates in comparison to 52.6% in the study done by Jindal et al.^[04] 38 % in this study have received beyond secondary education, in comparison to 29.0% in the study done by Jindal et al.^[04] This indicates that formal education is not sufficient but knowledge of STDs and HIV infection is essential for the control of HIV. Since HIV is not a curable disease, it is very important to prevent its spread by educating the people and increasing awareness regarding various aspects of diseases especially about modes of transmission and means to prevent transmission.

The incidence of HIV infection in the unskilled workers in the present study (40%) was similar to that of Jindal et al.^[04] (39%). Housewives make up for 24% of the patients in the present study which was lower in comparison to 47.4% in the study done by Jindal et al.^[04] Drivers are at higher risk of developing HIV infection, but in the present study 10% patients were drivers which was higher compared to 5.3% in the Jindal et al. study. By considering the incidence of occupation in Jindal et al and present study it can be concluded that people from all walks of life are susceptible to HIV infection; it is not exclusive to one group of population. In the present study 62.0% of the patients were married, which was similar to 63.15% in the study done by Jindal et al. and higher when compared to Jing et al. study.^[11] The incidence of unmarried patients was 7% in the present study when compared to 51.0% in Jing et al. and 18.4% in Jindal et al. This decreased incidence was probably due to awareness of HIV among younger generation in the present study. 31% of the patients in our study group were either widow/widower or separated from their spouses in comparison to 18.4% in the study done by Jindal et al. and 2.8% in the study done by Jing et al. This discrepancy in the route of transmission is mainly because females are usually infected through heterosexual contact with their husbands and females also indulge in extramarital sexual relationship like men. Early marriages are common among rural population resulting in separated and widowed population who constitute major part of the patients in the study. The results of the present study (90%) and Jindal et al. 71% study reveal that HIV infection was spreading rapidly among rural areas of India. The factors responsible for this are probably illiteracy, lack of awareness about the disease and delay in diagnosis because of inadequate laboratory facilities in rural areas when compared to urban areas. Heterosexual mode was the most common route. In 93% patients, heterosexual route was the possible route of infection, which was higher compared to 85.6% in the study by Jing et al. and 86.8% in the Jindal et al. study. Although blood transfusion is one of the known mode of transmission of HIV infection, these cases were not found in Jindal et al, Jing et al. studies and the present study.

Dermatological manifestations

In this study, infections were common dermatological manifestation. This is similar to the study done by Vasudevan et al.^[12] Thompson et al.^[08] observed a similar order of frequency of mucocutaneous disorders; non infectious disorders accounting for 41% and in present study 41.40% seen. In this study, mucocutaneous candidiasis was the most common infectious manifestation, PPE was the most common non infectious manifestation and Herpes genitalis was the most common STI observed.

Bacterial infections

Pyoderma was the most common bacterial infection seen in this study 15%, similar to the study done by vasudev et al. 14%. This is in contrast to the study by sivayathom A. had 5.6% and kumaraswamy et al.^[06] had 2.9 %. Staphylococci were found to be the commonest species while rest were mixed infections. Furuncles was the most common pyoderma seen. Two cases of scrofuloderma and 1 case of Borderline tuberculoid Hansens with IRIS were seen. The number of cases with bacterial infections are decreasing mainly due to early use of antibiotic treatment.

Fungal infections

Fungal infections were the commonly observed infections. 31 patients (31%) with fungal infections observed in this study. 15% patients had candidal infections which included oral candidiasis, candidal balanoposthitis, vaginal candidiasis and candidal intertrigo. Oral candidiasis was seen. 15% cases of candidiasis in this study was close to the study conducted by vasudevan et al. had 12%. In a study conducted by Shobhana A, et al.^[14] candidiasis was seen in 36%. Dermatophyte infections involving almost all areas were seen. The prevalence of dermatophyte infections in this study is 11% which was close to the study by sobhana A et al.^[14] 13% and vasudevan et al study 26% which is higher than present study.

Viral infections

Herpes genitalis is the most common viral and genital manifestation. Prevalence of Herpes genitalis in this study was 7% which is close to study conducted by Shobhana A, et al had 8% and higher when compared to vasudevan et al. 4.7%. Control of herpes in both the HIV-infected and uninfected partner might reduce the risk of transmission and acquisition of HIV. Molluscum contagiosum is second common viral manifestation in present study. The prevalence of Molluscum contagiosum in present study was 4% which was similar to the study conducted by Shobhana A, et al 4% and study by Goh et al.^[16] 3%, and less compared to the study by kumarasamy et al. which was 14%. Human papilloma virus infection is seen in 6 % patients which is less compared to the Vasudevan, et al.^[12] 16%. Genital warts were seen in 3% patients in the present study with STI which was close to the study conducted by Shobhana A, et al.^[14] is 5%. Anogenital warts were in 2 cases with

MSM history. 3% patients had herpes labialis in the present study which was higher when compared to the study by Vasudevan et al. 0.8%. and 1% in Chawhan, et al.^[17]

Parasitic infestations

Prevalence of scabies was 4%. Results of the present study were similar to study done by Shobhana A et al. which was found to be 5% and Singh, et al. in which it was found to be 4%. One case of crusted scabies was also seen.

Non infectious manifestations

There were 53 non infectious skin manifestations. Pruritic papular dermatoses was the most common non infectious manifestation. The other manifestations were seborrhoeic dermatitis, xerosis/ Ichthyosis, psoriasis, lichen planus, urticaria and others.

Pruritic papular dermatosis

31 cases of pruritic papular dermatosis. This includes PPE, eosinophilic folliculitis, prurigo simplex cases. Pruritic papular eruption was the most common non infectious manifestation seen in this study. Its prevalence varies between 8% and 45% according to the geographic area.^[109] The results of present study were close to the study conducted by Singh et al 27%. The prevalence was higher than to the prevalence of 11.54% seen in study by Vasudevan et al. and Shobhana A et al. had 4% as most patients in the present were agricultural labourers. PPE constitutes around 65.8% of different pruritic papular dermatoses. Pruritic papular dermatoses markedly increase the morbidity and the stigma associated with HIV. Lesions over exposed areas of body like face and limbs might affect their employment opportunities and even their social life.

Seborrhoeic dermatitis

Seborrhoeic dermatitis was present in 10% patients results similar to the study done by Vasudevan et al 9.83% but low when compared to the study done by Fernandes and Bhat et al. 16%. The role of environmental factors that makes Indian patients less prone to seborrhoeic dermatitis or any difference in the type of organism found in India needs to be analysed by further studies.

Adverse drug reactions;

5 cases of drug reactions. Present study results were similar to the study by Kore, et al.^[15] which was 6%. In a study done by Fernandes and Bhat, they found it to be 14%. Its incidence ranged between 2% and 17% in various other studies.^[14] Maculopapular rash was seen in most of the patient. ART drugs and cotrimoxazole were the common drugs implicated with rash in our study. Patients need to be educated about these serious adverse effects and to stop taking drugs if they develop any of the serious manifestations while on ART and report immediately to the hospital for further management.

Xerosis

Xerosis was seen in 2% patients. This is low when compared to 16.67% observed in a study by Vasudevan et al. present study had high incidence when compared to 0.2% observed in a study by Shobhana A, et al. Ichthyosis / xerosis may be the result of long standing illness, malnutrition, poor selfcare or immunological deficits.

Other non infectious cutaneous manifestations

There were 2 cases of psoriasis. Skin involvement was similar to normal patients in 1 case and extensive in 1 case. Present study results were similar when compared to the study by Sharma et al, Zancanaro et al. and Shobana Guha where it was 3.3%, 2.6% and 3% respectively. One case of lichen planus was seen. The serology for Hepatitis C virus was negative in the present study. This is similar to a study done by Seyed Naser Emadi et al in which HIV positive patient with LP was seronegative for HCV.

Specific markers of AIDS like bacillary angiomatosis and Kaposi's sarcoma were not at all present in this study. This is similar to many other Indian studies in which they were absent / rare in the Indian setting.

V. Conclusion

In this study mucocutaneous candidiasis and pruritic papular eruptions were more commonly associated with HIV. They could serve as markers of HIV infection in resource poor settings and in high risk groups. They also occurred more frequently in those with advanced HIV / AIDS. They can be taken as markers of disease progression. Herpes genitalis was the most frequent STI found in HIV patients with majority of them representing reactivation of previously acquired infection. They may also need suppressive therapy. There is a need to know the atypical manifestations of various dermatoses in HIV Patients, which pose a diagnostic dilemma to the treating dermatologist for proper diagnosis and treatment. Skin manifestations are important clinical markers of HIV infection and may sometimes be the first clue. Cutaneous manifestations can be considered as a good clinical indicator to predict and assess the CD4 count in under developed countries where facilities for CD4 cell counts are not available.

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