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Original Research Article

A PROSPECTIVE AND CLINICAL STUDY OF CUTANEOUS MANIFESTATIONS IN HIV POSITIVE PATIENTS

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Abstract

Background and Aim: Several cutaneous conditions may be seen in human immuno deficiency virus infection during the course of HIV infection atypical and unusual manifestations can be seen. The varied spectrum of cutaneous manifestations in HIV patients where studied with this objective in mind.

Materials and Methods: All HIV positive patients attending the MGMC & RI Hospital between December 2011 to June 2013 were included in the study.

The patients were included in the study through the following channels.

Results: A total of 31 patients (56.4%) had non infectious dermatoses, among which 6(10.9%) had Pruritic papular eruptions, 7(12.7%) had seborrheic dermatitis, 6(10.9%) patients had xerosis., 3(5.45%) had psoriasis exacerbation, 5(9.09%) had oral pigmentation, 3(5.45%) had diffuse hyperpigmentation, 1(1.8%) patients had diffuse alopecia

Conclusion: In our study we come across high prevalence (91%) of skin and mucocutaneous diseases in HIV patients. Various patterns of skin manifestations were observed in our study, including seborrheic dermatitis, tinea corporis and pruritic popular eruption. Treatment of these skin manifestation would be incomplete without adequate treatment of HIV itself.

Keywords: HIV ,Cutaneous infection, Dermatitis

Introduction

HIV infection affects almost every organ system in the body. Skin is more commonly and usually the first one to be involved. The cutaneous manifestations in HIV patients may be diagnostically challenging as they may present with atypical presentations and also various cutaneous conditions. Hence it is important to know the various cutaneous manifestations of HIV infection as the recognition of these can help in its early detection and management. HIV is a spherical enveloped virus, about 90-120nm in size. The nucleocapsid has an outer icosahedral shell and an inner cone shaped core, enclosing the ribonucleoproteins. The genome is diploid, composed of two identical single stranded, positive sense RNA copies.

In association with viral RNA is the reverse transcriptase enzyme, which is a characteristic feature of retrovirus. When the virus infects a cell the viral RNA is transcribed by the enzyme, first into single stranded DNA and then to double stranded DNA (provirus) which is integrated into the host cell chromosome. The provirus can remain latent for long periods

HIV is a highly mutable virus. Several antigenic variations and also difference in cell tropism, nucleotide sequences, cytopathology and growth characteristics may be seen.

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Dermatological diseases are among the first recognized clinical manifestations of AIDS. They are seen at every stage of HIV infection and are often its presenting features.[1]According to theliterature[2-5] around 80% - 95% of patients can have cutaneous manifestations which can occur at any time during the course of infection. Often the skin may be the first or the only organ involved.[6,7,8]Cutaneous manifestations of HIV can be considered as good clinical indicators to predict and assess the underlying immune status in resource poor countries.[1] Some skin problems are less consequential than other manifestations of HIV infection but many are very distressing to patients[9] and some potentially very serious or fatal[10-13] Common cutaneous conditions which we encounter are viral, bacterial, fungal and non infectious dermatoses such as seborrheic dermatitis, herpes zoster, pruritic papular eruptions and xerosis. Some of the diseases such as oral hairy leukoplakia, Kaposi sarcoma occur exclusively in HIV patients. When the CD4 count reaches 100/mm^3 or less, the incidence of skin diseases become twice. As majority of the patients present with cutaneous lesions at some point of the disease, it is important for dermatologists to have an idea of these diseases and this will point to an underlying HIV infection and help in early detection and commencement of treatment. Recognizing HIV associated skin disease may lead to early HIV diagnosis and appropriate management, thereby reducing the morbidity, mortality and transmission of the disease[14] Many clinical studies on the cutaneous manifestations and the atypical presentations of HIV infection have been carried out all over the world.[15-19] Sashi Chopra et al observed the skin and mucocutaneous manifestations among HIV positive patients over a period of three years. They observed that oral candidiasis was the most common infectious disease (32.22%), followed by Herpes Zoster (13.33%), and genital herpes (6.66%). Seborrhoeic dermatitis (8.88%), followed by pruritic papular eruptions (7.77%) were the commonest non infectious manifestations.[20]

Materials and Methods

This observational study was undertaken at the Department of Skin and STD, MGMC Hospital, Pondicherry. All HIV positive patients attending the MGMC&RI Hospital between December 2011 to June 2013 were included in the study. The institutional medical ethics committee approved this study.

The patients were included in the study through the following channels.

1. All the outpatient department of MGMC and RI
2. All the in patients
3. Patients diagnosed outside who subsequently attended MGMC&RI Hospital

They were informed about purpose of the study, reason for why they are being included in the study, the need for taking photographs (an informed consent was obtained. Then detailed history, general and dermatological examinations were done. Side lab investigations were done, if necessary, after obtaining informed consent. Investigations like VDRL test, KOH mount, gram staining, Tzanck smear, Wood's lamp examination were done as and when needed.

The data obtained were entered in a proforma already prepared and results were analysed using percentage analysis

The results of the study were tabulated, and compared with other studies in the literature.

Data collection and statistical analysis:

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All the collected data were recruited using a predesigned proforma which is attached in the appendix. Data was entered in the Microsoft excel sheet. Statistical analysis was done using percentage analysis.

Results

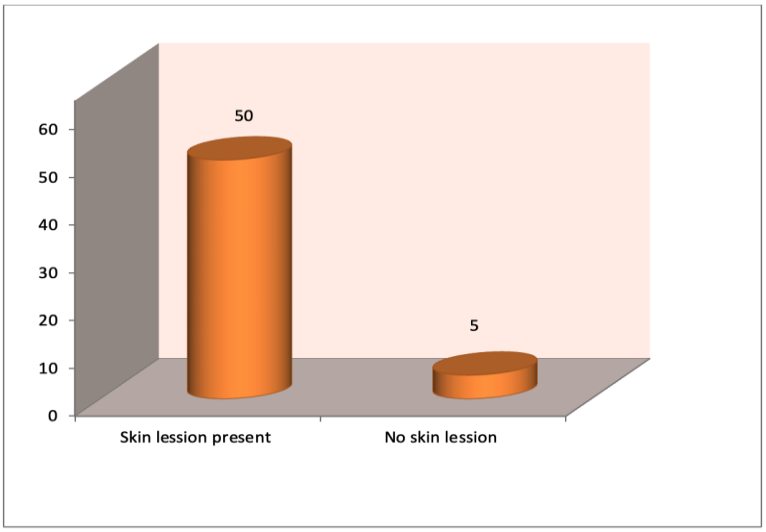

Figure 1 Distribution of patients based on presence of cutaneous lesions

Total number of HIV patients: 55

Skin manifestations present: 50

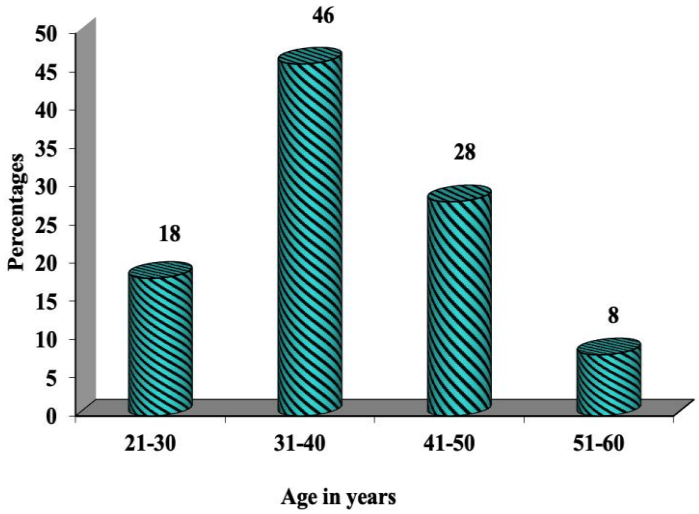

Figure 2: Distribution of patients with cutaneous manifestations based on age

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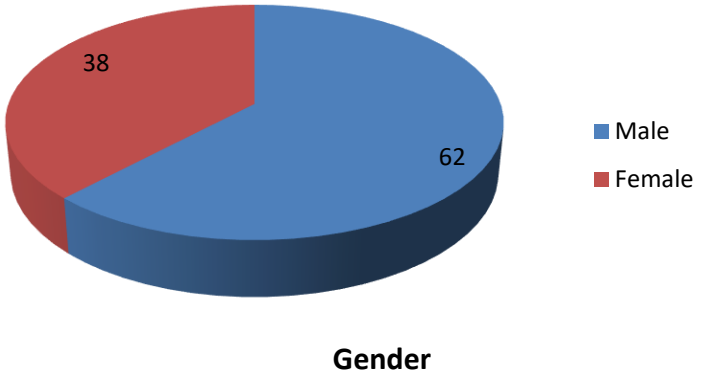

Figure 3: Distribution of patients with cutaneous manifestations based on gender

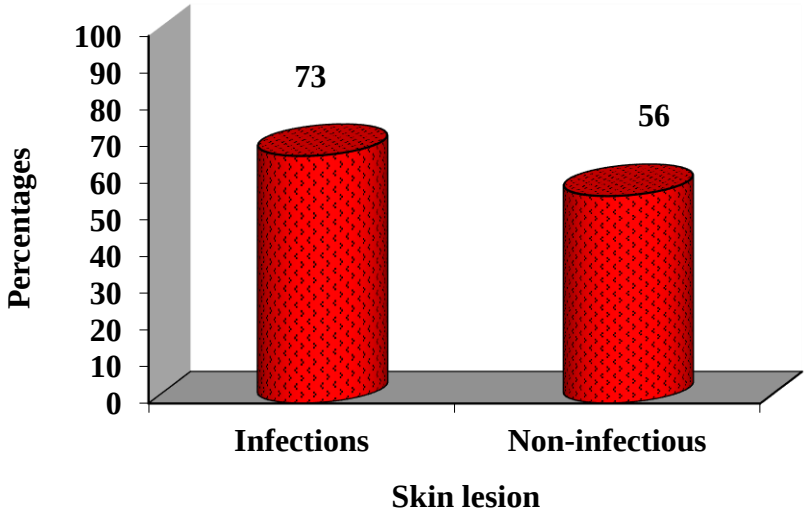

Figure 4: Distribution of patients based on type of skin lesion

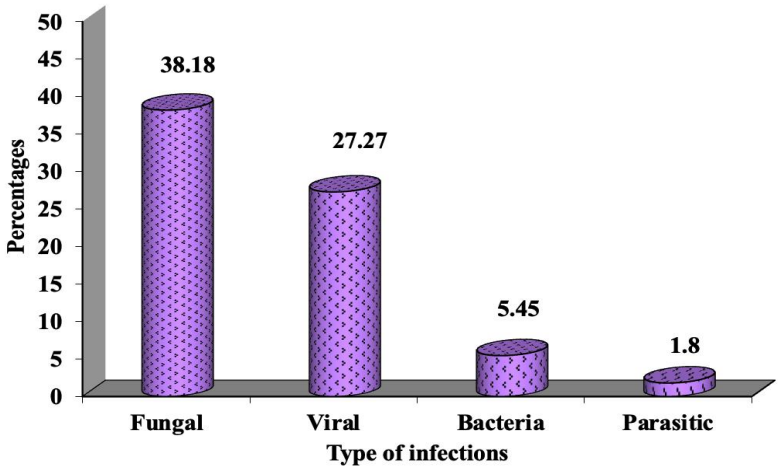

Figure 5: Distribution of patients based on type of infections disorders

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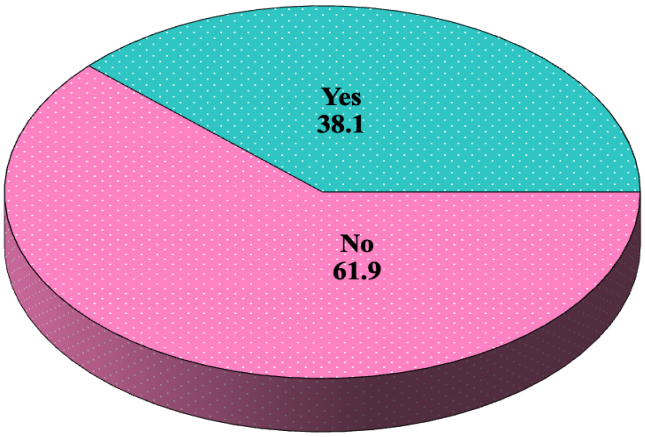

Figure 6: Distribution of patients based on presence of fungal infections

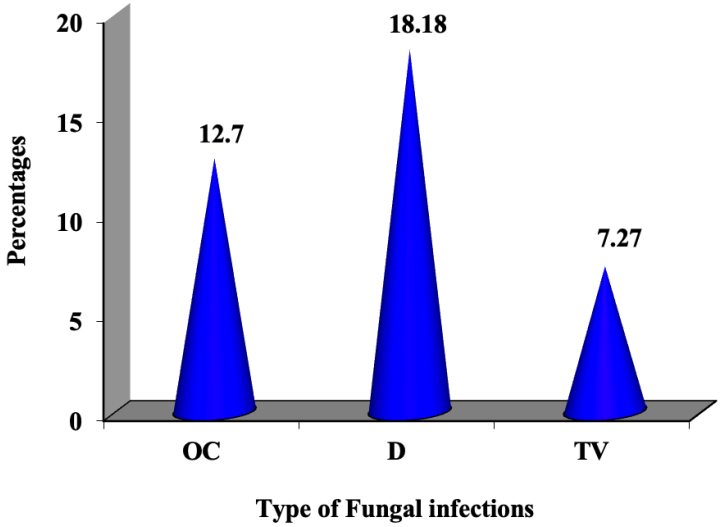

Figure 7: Distribution of patients based on type of fungal infections

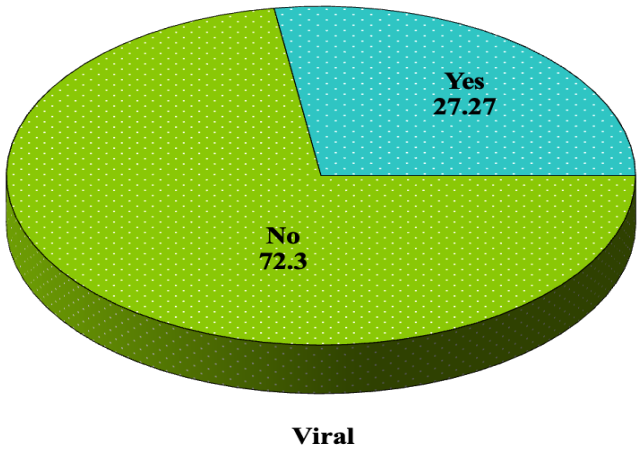

Figure 8: Distribution of patients based on presence of viral infections

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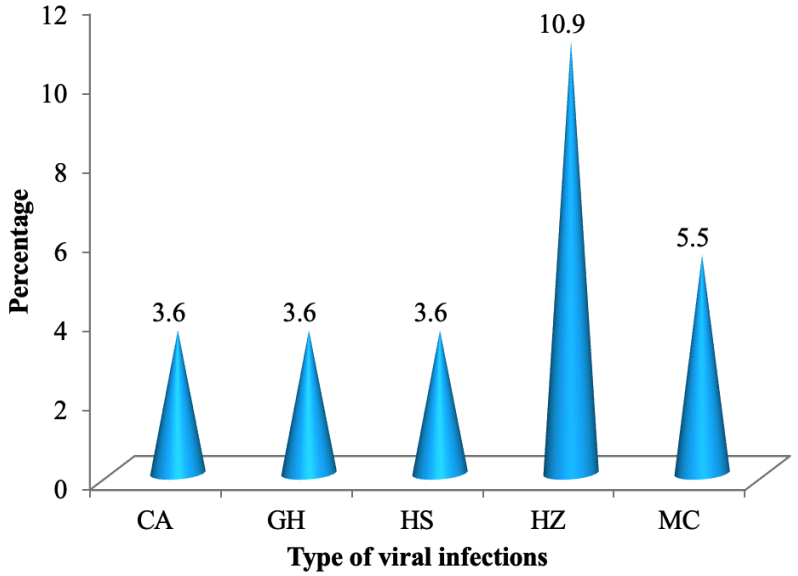

Figure 9: Distribution of patients based on type of viral infections

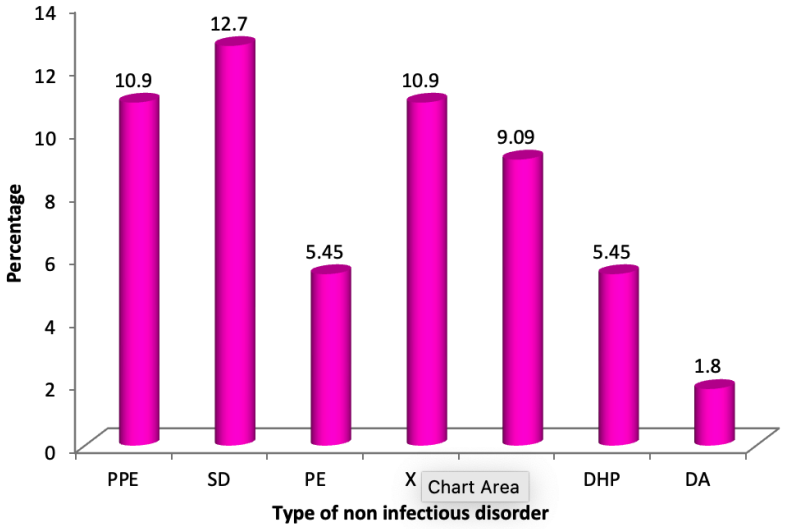

Figure 10: Distribution of patients based on different type of non infectious disorders

Discussion

In our study 10.9% of patients had pruritic papular eruptions involving the face, trunk and arms, whereas other studies show the prevalenceto be between 10 and 45% depending on the geographic area.[21,22]

Oral pigmentation of the tongue was observed in 5 patients. Recent onset of streaky blackish pigmentation alongthe lateral borders of the tongue should arisea highsuspicion of underlying HIV infection.

In the present study dryness of skin and diffuse alopecia were seen in 10.9% and 1.8% of patients. These changes could be attributed to the poor nutritional status of the patients.[23] Seborrheic dermatitis is an early marker of HIV infection. It is common in HIV infection, the severity varying with the stage of immunodeficiency. [127]In our study we found that 8(14.5%)

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patients had seborrheic dermatitis. However studies shows that prevalence of seborrheic dermatitis varies between 30 to 83%. [24]

Psoriasis reportedly becomes more severe with progression of HIV disease.[25]Pre existing psoriasis can worsen and become severe with widespread guttate lesions, plaques or pustules or become erythrodermic in HIV infected patients[26]. In our study we found that 4 (7.3%) patients had exacerbation of psoriasisfollowing HIV infection. Other studies show thatprevalence of psoriasisin HIV ranges from 1 to 6 %. [27]

The conditions like Kaposi sarcoma, bacillary angiomatosis, and adverse cutaneous drug reactions were not seen in our study. The absence of these diseases shows a significant difference in the pattern of dermatological diseases from those seen in the western countries.

Although it seems certain that persons with HIV infection have an increased incidence of mucocutaneous diseases, it is unclear whether the observed increase is associated directly with HIV infection or with the progressive immunodeficiency in these individuals. [27]But the changes in the immunological statusof the patients could not be measured as we could not do the CD4 cell count.

While dealing with cases like extensive psoriasis, tinea corporis, seborrhoeic dermatitis, multidermatomal and recurrent herpes zoster, the dermatovenereologist should be extra vigilant about HIV infection in these cases.

Pretest counselling, HIV testing, Antibody testing , post test counselling should be regularly carried out.

Regular follow up of these patients should be encouraged as various recurrent skin disorders can give a clue about progressive immunodeficiencies. Also, regular patient care and follow up can ensure that prompt treatment is given.

Conclusion

In various studies very high prevalence of skin manifestations in HIV positive patients have been noted. In our study 90% of HIV infected patients had cutaneous lesions. Various patterns of skin manifestations were observed in our study, including seborrheic dermatitis, tinea corporis and pruritic papular eruption.

A strong suspicion of HIV should be considered in patients who present to us with atypical and unusual cutaneous manifestations. Even common skin conditions in a person with high risk behaviour should arouse a suspicion of HIV infection. With preexisting HIV infection treatment of various conditions become more difficult as disease can have atypical or extensive presentation. Therefore, knowledge of the pattern and prevalence of cutaneous manifestations of HIV is of great importance for early detection and management of HIV infection and also appropriate management of opportunistic infections and other associated diseases

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