

# Mucocutaneous Manifestations in HIV Patients

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**Abstract:** *The HIV pandemic has wreaked enormous financial, political and health related havoc. 2.1 million Indians account for people living with HIV. Mucocutaneous manifestations occur in almost all individuals with HIV infection. Their incidence increases with decreasing immunity which can be indicated by falling CD4 counts. Getting familiar with mucocutaneous manifestations in HIV affected individuals enables early diagnosis and initiation of prompt treatment. Hence present study was taken up to know the prevalence of mucocutaneous manifestations in HIV affected individuals to correlate them with CD4 counts.*

**Keywords:** Mucocutaneous manifestations, HIV Patients, CD4 Count

## 1. Introduction

Dermatological involvement in AIDS has been appreciated since the disease was first recognized and before the causative virus was identified. Approximately 90% of HIV infected patients develop cutaneous disease which may provide first suspicion of HIV infection and point to systemic complications [1]. This study was undertaken to study the mucocutaneous manifestations in HIV infected individuals and their correlation to CD4 counts. Occurrence of mucocutaneous manifestations in HIV infected individuals emphasizes the importance of skin as a dynamic immunological organ [2]. Mucocutaneous manifestations have been depicted to be valuable clinical indicators of HIV infection and act as diagnostic factors in the monitoring of immune status of the patients. The aim of this study was to determine the prevalence of mucocutaneous manifestations in HIV patients and in correlation with CD4 count; as only few studies were carried out earlier in relation to CD4 count in Indian population.

## 2. Materials and Methods

The prospective study dealt with 100 HIV seropositive patients with mucocutaneous manifestations selected from those attending department of Dermatology and ART centre, Government General Hospital, Anantapuramu, for a period of one year from October 2014 to September 2015. Informed consent was taken from patients. Patients were examined for mucocutaneous manifestations under bright natural light. Samples were taken as and when necessary for diagnostic tests in the side lab and relevant blood investigations were performed. The most recent CD4 cell counts of patients were obtained from their medical records.

## 3. Results

The total number of patients examined during the course of this study was 100. In many instances multiple dermatological manifestations were encountered in same patient with an average of 1.9 conditions per patient. These include infectious, non-infectious, hair and nail changes, but more often diseases from more than one category co-existed. Among the 100 patients studied, 63 were males and 37 were females, age ranging between 4 to 65 years. Unskilled labourers comprised majority of the patients (41%) followed

by housewives (26%). A total of 65 patients were from rural areas. Majority of patients (52%) belong to upper lower class (according to modified updated B. G Prasad's classification of 2005) [3].

In 100 patients a total of 192 lesions were seen thus averaging 1.9 lesions per patient. Maximum lesions (119) were seen in patients with CD4 counts below 200 (Table 1).

**Table 1:** Mucocutaneous disorders related to CD4 counts

CD4 Count	No. of Disorders
<200	119
201-500	63
>500	16
<b>Total</b>	<b>192</b>

Among the study group the CD4 count ranged between 16 and 736 with a mean count of 273. Majority of the patients had CD4 count of < 200 cells/mm<sup>3</sup> accounting to 49% (Table 2).

**Table 2:** Distribution of cases according to CD4 counts

CD4 Count	Frequency	Percentage
<200	49	49
200-500	37	37
>500	14	14
<b>Total</b>	<b>100</b>	<b>100</b>

**Table 3:** Overview of dermatological manifestations in comparison With CD4 count

Dermatological manifestations	Mean CD4 count	Standard deviation	Range
Viral infection (n = 31)	224.0	133.7	16 -565
Bacterial infection (n = 22)	332.3	241.9	16 -735
Fungal infection (n = 45)	191.1	138.1	16 -594
Oral Candidiasis (n = 26)	170.2	123.9	16 -463
Parasitic infestation (n = 11)	212.1	94.4	98 -369
Seborrhoeic dermatitis (n = 10)	228.8	150.2	69 -423
Papulosquamous diseases (n = 19)	318.6	237.6	69 -736



Figure 1: A case of Herpes Zoster



Figure 2: Extensive Tinea infection

#### 4. Discussion

In this study male patients were 63 and females 37 comprising to ratio of 1.7:1. The male preponderance in this study is explained by the fact that greater numbers of male patients attend our OPD and by greater involvement of them in high risk activities predisposing to HIV infection. 47% of total patients in this study belong to the age group of 31-40 years. This is similar to other worldwide studies with predominant involvement of middle age group which is the sexually active group.

Generalized lymphadenopathy was present in 24% of patients in present study. It has been documented that up to 50% of HIV positive patients had generalized lymphadenopathy in early stage of the disease [4].

Significant weight loss and pallor was seen in 52% and 33% respectively. It may be due to HIV per se, drug toxicity, systemic opportunistic infections or nutritional factors.

Skin disorders are common manifestations of HIV disease; and may be seen in 80% to 95% of HIV infected individuals [5]-[8].

In the current study 64 out of 100 (64%) patients were having multiple cutaneous manifestations and average manifestation is 1.9 conditions per patient. Tzang et al [9] reported an average of 2.2 conditions per patient in his study. Singh et al [10] reported an average of 2.35 conditions per patient. In present study average manifestations were more in advanced immunosuppression.

The commonest infections seen in the study group were fungal infections in 45 patients (45%). Candidiasis was the most common among fungal infections seen in 26 (57.7%)

patients and most of the patients had CD4 count below 200(71%). Incidence of candidiasis ranges from 13% to 66% and depends on disease stage of study population [11]-[13]. Dermatophytosis was seen in 10% of patients. Munoz et al [14] reported an incidence of 10% in his study with 1161 patients which matches our study. The prevalence of dermatophytosis was slightly increased as compared to general population incidence of 8.1% as reported by Wair et al [15] from Trivendrum.

Viral infections were seen in 31% patients from this study. The commonest were Herpes zoster (9%) and Herpes genitalis (8%). Condyloma accuminata was seen in 5% of patients where as Molluscum contagiosum was seen only in 3% of patients. Mean CD4 count in patients with viral infections was 224.0.

Bacterial infections were prevalent in 22% patients in present study, Staphylococcus being the most common organism isolated and folliculitis was the commonest presentation accounting for 9% of patients. Mean CD4 count was 332.

In our study 11% patients presented with scabies. The incidence of scabies in various other studies was ranging from 1 to 6% [13], [16], [17]. Mean CD4 count was 203.

Seborrheic dermatitis was present in 10% of patients. Many itchy dermatoses were seen, commonest among them being pruritic papular eruption (12%). Adverse drug eruptions were seen in 7% of study group. Partial hair loss (scalp) was the common hair change observed followed by straightening of hair and diffuse hair loss in scalp. Nail pigmentation was very common (10%). This was also seen in patients who had never received Zidovudine. The commonest pattern was proximal bluish discolouration.

No case of Oral hair leukoplakia was encountered in the study period. No case of Kaposi sarcoma was noted which correlated with other studies and is a known fact that neoplasms are relatively rarely recorded in Asia in HIV patients.

#### 5. Conclusion

Thus the present study reinforces the fact that skin is the most common organ affected in HIV infected persons and mucocutaneous manifestations are one of the most important clinical markers and may be the first clue of HIV infection.

In resource crunched country like India where only a limited number of patients reach the means to get a CD4 count done, the study of skin diseases as a 'window' to the level of immunosuppression, gains marked importance. Correlating CD4 counts to skin lesions serve as a guide to start and monitor antiretroviral therapy and to observe the prognosis of the diseases.

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