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 that 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. 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. 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. These manifestations not only act as markers but also reflect the underlying immune status.

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. 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 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

<table>
<thead>
<tr>
<th>No of cases (%)</th>
<th></th>
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<tbody>
<tr>
<td>Female</td>
<td>60%</td>
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<tr>
<td>Males</td>
<td>40%</td>
</tr>
<tr>
<td>Male:female</td>
<td>1:1.5</td>
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<tr>
<td><strong>Age groups</strong></td>
<td></td>
</tr>
<tr>
<td>less than 20</td>
<td>04%</td>
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<tr>
<td>21-30 years</td>
<td>21%</td>
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<tr>
<td>31-40 years</td>
<td>46%</td>
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<tr>
<td>41-50 yrs</td>
<td>21%</td>
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<tr>
<td>More than 50</td>
<td>08%</td>
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<tr>
<td><strong>Educational status of patients</strong></td>
<td></td>
</tr>
<tr>
<td>Illiterate.</td>
<td>36%</td>
</tr>
<tr>
<td>Primary school</td>
<td>26%</td>
</tr>
<tr>
<td>Secondary school</td>
<td>24%</td>
</tr>
<tr>
<td>Completed degree</td>
<td>09%</td>
</tr>
<tr>
<td>intermediate</td>
<td>05%</td>
</tr>
<tr>
<td><strong>According to occupation</strong></td>
<td></td>
</tr>
<tr>
<td>Manual labourer</td>
<td>40%</td>
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<tr>
<td>Housewives</td>
<td>24%</td>
</tr>
<tr>
<td>Skilled</td>
<td>18%</td>
</tr>
<tr>
<td>Drivers</td>
<td>10%</td>
</tr>
<tr>
<td>Businessmen</td>
<td>05%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>03%</td>
</tr>
<tr>
<td><strong>According to marital status</strong></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>62%</td>
</tr>
<tr>
<td>Widow/widowers</td>
<td>27%</td>
</tr>
<tr>
<td>Unmarried</td>
<td>07%</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>04%</td>
</tr>
<tr>
<td><strong>Place distribution</strong></td>
<td></td>
</tr>
<tr>
<td>Rural background</td>
<td>90%</td>
</tr>
<tr>
<td>Urban area</td>
<td>10%</td>
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</tbody>
</table>
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
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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]. 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.[10] 38 % in this study have received beyond secondary education, in comparison to 29.0% in the study done by Jindal et al.[10] 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.[10] (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.[10] 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.[8] 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 vasudevan et al.[12] 14%. This is in contrast to the study by sivayathom A. had 5.6% and kumaraswamy et al. [6] 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 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% 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.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. is 5%. Anogenital warts were in 2 cases with
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.
References


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