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Research Article

**STUDY TO DETERMINE MUCOCUTANEOUS MANIFESTATIONS
AND ITS FREQUENCY AMONG HIV POSITIVE PATIENTS**¹Dr Hafiz Umer Farooq, ²Dr Noorish Zia, ³Dr Zanab Zahoor Ahmad¹ Associate Professor of Community Medicine Sheikh Zayed Medical College Rahim Yar Khan,² King Edward Medical University, Lahore, Pakistan. noorishzia1992@gmail.com.³ Final year MBBS, Sheikh Zayed Medical College and Hospital, Rahim Yar Khan,**Article Received:** August 2019**Accepted:** September 2019**Published:** October 2019**Abstract:**

In HIV-infected patients; mucocutaneous symptoms are usually observed. These range from various opportunistic infections to inflammatory dermatoses, neoplasms and reactions to drugs.

Objective: *To observe the nature and frequency of mucocutaneous manifestations with or without antiretroviral therapy in HIV patients and their association with CD4 cell count.*

Study Design: *A descriptive cross-sectional study.*

Place and Duration: *In the Dermatology department of Sheikh Zayed Medical College and Hospital, Rahim Yar Khan for Six months duration from January 2019 to June 2019.*

Methods: *The patients were admitted to the HIV clinic and inpatient department of Services Lahore Hospital. Detailed medical history and clinical examination were done in patients who met the inclusion and exclusion criteria. Investigations were performed when necessary. The treatment profile was also observed. Data were recorded on pro forma and analysed on SPSS 18.0.*

Results: *Sixty-two patients were included in the study. There were 49 (79%) males and 13 (21%) females. The age range was 4 to 58 years. Cutaneous symptoms were observed in 51 (82%) patients. The most common cutaneous findings were fungal infections, followed by viral infections (29.03%), xerosis (22.58%) and bacterial infections (12.9%) in 33.87% of the patients. Less common symptoms were photosensitivity, scabies and hyperpigmentation. The number of CD4 cells was less than 455×10^9 in 22 patients and less than 455×10^9 in 40 patients. Cutaneous manifestations were found in 19 (86.36%) patients with high numbers and in 33 (82.5%) patients with low numbers.*

Conclusion: *Cutaneous symptoms are common in patients with HIV infection.*

Keywords: *cutaneous symptoms, HIV, CD4 count.*

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INTRODUCTION:

HIV infection is a challenge for everyone. It is a devastating human crisis affecting many countries. In 2009, 33.3 million people worldwide were HIV positive [1-3]. Sixteen thousand new HIV cases are reported every day. Asian countries are now experiencing the fastest growing outbreaks, and Pakistan is one of them [4-5]. HIV infection is no longer rare in our country and its incidence increases alarmingly. According to statistics, 96,000 people in our country suffer from HIV / AIDS. 80-95% of HIV-infected patients have some form of dermatological problem [6]. The normal number of CD4 cells in adults is between 500 and 1500 cells per mm. It has been found that changing the patient's immune status with a low CD4 number is associated with a higher incidence of cutaneous symptoms, but this relationship is negotiable [7]. These cutaneous diseases are observed at all stages of infection and range from opportunistic infections and inflammatory dermatoses to malignant cutaneous tumors [8-9]. They may also depend on the pharmacological treatment administered to the patient. Dermatological findings are usually severe, with atypical presentations and sometimes difficult to treat. They produce significant morbidity and possibly cosmetic deformity, resulting in too much psychological stress and poor quality of life for the patient. It is useful for timely diagnosis and timely treatment because information and awareness about the range of cutaneous characteristics is important for doctors. It may also be useful for controlling the patient's immune status. There are special clinics for HIV in our country, but there are not enough references to dermatologists [10]. The aim of our study was to observe the order and frequency of mucocutaneous manifestations in patients with HIV in our configuration and to see any correlation with CD4 cell numbers.

MATERIALS AND METHODS:

This descriptive cross-sectional study was performed from January 2019 to June 2019 at the dermatology department of Sheikh Zayed Medical College and Hospital, Rahim Yar Khan. Cases were included in the HIV clinic and inpatient departments of the hospital. Patients with HIV seropositivity by ELISA were included in the study. Patients with another comorbid disease such as chronic liver disease, chronic kidney disease, diabetes mellitus and collagen vascular disease were excluded.

Informed consent was obtained. All patients who met the inclusion and exclusion criteria underwent a detailed history and detailed clinical examination. Patients were investigated about use of I / V drugs and multiple sexual contacts. Investigations into different dermatoses such as fungal scraping and Tzanck smears were also carried out as needed. The CD4 cell count of the patient was recorded. Treatment profile was noted. The data was entered into a comprehensive promo and analysed on SPSS 18.0. Frequencies of various cutaneous symptoms recorded. P <0.05 was considered statistically significant.

RESULTS:

Sixty-two patients were included in the study. Forty-nine (79%) men and thirteen (20.97%) women were present. The male to female ratio was 4: 1. The age range was between 4 and 58 years. The mean age was 35.73 years (SD \pm 10.14). Most patients were from the age group 31 to 40 years.

Eighteen men (37%) had a history of I / V drug addiction, fifteen (31%) had multiple sexual contact, and nine (18%) patients had a history of I / V drug and sexual contact. None of the women explained such a story. Fifty-one (82%) patients had one or more cutaneous findings (Table 1).

Table 1 Frequency of skin manifestations according to gender (n=62)

	Cutaneous manifestations		
	One	> One	Nil
Male	14	26	9
Female	6	3	4
Total	20	29	13

Fungal infections were more common (33.9%). The most common fungal infection was oral candidiasis (14.5%) and onychomycosis (12.9%). Viral infections were observed in 29.0%. The most common viral infection was herpes zoster (11.3%) followed by viral warts (8.1%). Bacterial infections were most

commonly found in 12.9% of cases with folliculitis. Generalized xerosis was observed in 22.6% of the patients. Less common symptoms were photosensitivity, scabies and hyperpigmentation (table 2).

Table 2 Frequency of mucocutaneous manifestations in HIV positive patients.

<i>Cutaneous features</i>	<i>N (%)</i>
<i>Fungal infections</i>	
Oral candidiasis	9 (14.5)
Onychomycosis	8 (12.9)
Tinea corporis	1 (1.6)
Tinea faciei	1 (1.6)
<i>Viral infections</i>	
Herpes zoster	7 (11.3)
Warts	5 (8.1)
Herpes simplex	2 (3.2)
<i>Bacterial infections</i>	
Furunculosis	5 (8.1)
Syphilis	2 (3.2)
Stye	2 (3.2)
Acute paronychia	1 (1.6)
Ecthyma	1 (1.6)
<i>Infestations</i>	
Scabies	4 (6.5)
<i>Inflammatory and other dermatoses</i>	
Xerosis	14 (22.6)
Photosensitivity	5 (8.1)
Hyperpigmentation	4 (6.5)
Prurigo	2 (3.2)
Lichen planus	1 (1.6)
Seborrheic dermatitis	1 (1.6)
Angular cheilitis	1 (1.6)

A total of 14 (22.6%) patients received antiretroviral therapy, while 48 (77.4%) patients did not receive any antiretroviral medication. The incidence of cutaneous manifestations was 85.7% in patients receiving antiretroviral therapy and 81.3% in patients not using antiretroviral drugs ($p > 0.05$). The CD 4 count of the patient was also recorded. Twenty-two patients (35.5%) had a number greater than $455 \times 10^9 / l$, while forty patients (64.5%) had a number less than $455 \times 10^9 / l$. One or more cutaneous symptoms were present in 19 (86.5%) patients with high CD4 count and 33 (82.5%) patients with low CD4 count ($p > 0.05$).

DISCUSSION:

Dermatologic findings are common in patients with HIV. They may occur at any time during the course of the disease. In the first stage of infection, a generalized morbilliform rash may occur, but the disease is then characterized by many infectious, inflammatory and neoplastic dermatoses [11].

Epidemiological data obtained from our study showed that males were predominantly affected by male to female ratio by 4: 1. This can be compared with different studies showing that men are mostly affected by this life-threatening disease. The most common age group in our study was 31 to 40 years; this was the same as the previous study in India showing the 30-39 age group [12]. HIV is transmitted through sexual contact with an infected person, contact or transfusion with infected blood, from mother to child and through contaminated needles and syringes. The most common

form of transmission in our study was drug addiction I / V (37%), followed by 27% (31%), unlike other studies reporting homosexual contact with 35% and 24% heterosexual contact. This is probably due to patients' reluctance to disclose sufficient information due to social and cultural differences in our region [13]. Cutaneous findings were present in 82% of our patients. This was similar to the findings in 86% of Jeffery et al and 82.5% of Pitche et al analysis. In our study, infectious and non-infectious symptoms were recorded. The most common infections were fungi (33.9%), and oral candidiasis (14.5%) was the most common. A study by Rosemary et al. Showed similar results. Other studies have shown a higher incidence of oral candidiasis up to 40.63%. Viral infections were also observed. Herpes zoster (11.3%) with multiple dermatomes. Multidermatome herpes zoster was seen in a previous study by Shobana et al. Furunculosis was observed in 8.1% of the patients [14]. They responded poorly to antibacterial treatment and repeated. Studies have revealed frequencies ranging from 3.3% to 25%. We recorded scabies (6.4%) close to the frequency of Shobana and colleagues (5%). Contrary to what was reported in another section of the literature, no scabies were found. For various non-infectious causes, pruritus-associated xerosis was the most common finding in 22.6% of patients. In various studies ranging from 20% to 50% in HIV-positive patients, xerosis is a common finding. This may be due to depletion of peptidergic innervation, which affects the feeding of nutrients from the upper dermis, and the depletion of substance P from the sweat glands that affect secretory

activity. Initiation of antiretroviral drug therapy in HIV patients has resulted in many adverse cutaneous reactions [15]. No pharmacological reaction was observed in this patient. Cutaneous findings were compared in patients not receiving antiretroviral therapy, but no significant difference was observed ($p > 0.05$).

When the patients with high and low CD4 cell numbers were compared, no correlation was found between CD4 cell count and cutaneous disease incidence ($p > 0.05$). However, others have reported an inverse relationship between CD 4 number and the incidence and severity of cutaneous diseases. Therefore, this correlation is controversial.

CONCLUSION:

Cutaneous diseases are quite common in HIV patients; however, the pattern of cutaneous diseases varies from region to region. All patients with HIV should be examined in detail for cutaneous characteristics. Our study did not show any correlation between CD 4 cell count and cutaneous findings. Patients with HIV infection may have several dermatoses with a normal CD4 count.

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