Original Article

Frequency of Mucocutaneous Manifestions in HIV Infected Patients

Mucocutaneous Manifestions in HIV

Shehryar Riaz, Abdur Rahim Khan, Fahad Faizullah, Zuhaib Alam and Abdul Manan

ABSTRACT

Objective: To determine the frequency of mucocutaneous manifestations in patients presenting with HIV infection.
Study Design: Descriptive cross-sectional study
Place and Duration of Study: This study was conducted at the Dermatology Department, Family Care Center HIV, and Medicine & Allied Unit of Hayatabad Medical Complex Hospital, Peshawar from 12/1/2019 to 12/7/2019.
Materials and Methods: All the mentioned information including age, gender, duration of disease, socioeconomic status, occupation, education level and marital status were recorded in pre designed proforma.The data was analyzed in SPSS version 21.
Results: In this study, mean age was 32 years with SD ± 3.51. 62% patients were male while 38% patients were female. About 80% patients of HIV infection had mucocutaneous manifestations, which was statistically significant while 20 % patients did not have mucocutaneous manifestations of HIV/AIDS infection.
Conclusion: This study concluded that the prevalence of mucocutaneous manifestations in patients with HIV infection is substantially high, therefore all HIV patients should be evaluated by a dermatologist.
Key Words: AIDS, HIV infection, mucocutaneous manifestation.

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INTRODUCTION

Mucocutaneous manifestations are common in HIV-infected patients.[1] Human immunodeficiency virus (HIV), which is a retrovirus, is the causative factor for Acquired immune deficiency syndrome (AIDS).[2] The prevalence of HIV/AIDS is more than 40 million people while the incidence of AIDS-related deaths is 3.1 million each year worldwide[3,4] The overall prevalence of HIV among 15–49-year-olds in Pakistan is 0.8%.[5]

Approximately 90% of patients with HIV infection eventually develop some cutaneous disease which may give the initial clue towards HIV infection and might indicate systemic complications.[6] Since the mucocutaneous manifestations of HIV are in most cases the first clue towards HIV infection, the familiarity with the cutaneous and mucosal findings becomes paramount in ensuring early diagnosis, immediate treatment and preventing complications, as HIV usually results in severe and atypical presentations of skin diseases.[7] Dermatological features correlating with the underlying immune status can serve as clinical markers of HIV infection.[8]

Furthermore, there is an interrelationship between the growing number and severity of mucocutaneous lesions and decreasing immunity as reflected by CD4+ count.[9] The doctor may be alerted by different neoplastic, infectious and non-infectious conditions appearing in the skin. [10]

In one foreign study done in Dermatology department, Venereology and Leprosy, KS Hegde Medical Academy, Mangalore, India, showed cutaneous manifestations seen in 231 patients where most common mucocutaneous infections were candidiasis (21%), Staphylococcal skin infections (20%) and dermatophytosis (14%). Common non-infectious skin diseases were papular pruritic eruption (20%) and xerosis/ichthyosis (20%).[11]

A local study done in Dermatology Unit 1, Jinnah Hospital Lahore showed cutaneous manifestations in 51 (82%) HIV-patients, most common dermatoses were fungal infections present in 33.87% patients, followed by viral infections (29.03%), and xerosis (22.58%). Less common skin conditions were photosensitivity, scabies and hyperpigmentation.[12]

Since no such study has been conducted in our community for last five years so this study will provide up-to-date data about the prevalence of mucocutaneous manifestations in HIV infected patients. Moreover, early recognition of these manifestations will help

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clinicians in early diagnosis and proper management of mucocutaneous infections in HIV infected patients.

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted in the Dermatology Department, Family Care Center HIV, and Medicine & Allied Unit of Hayatabad Medical Complex Hospital, Peshawar. The duration of the study was six months from 12/1/2019 to 12/7/2019. All the patients aged 18-60 years of either gender presenting with positive serology for HIV with second generation of ELISA within 6 months of duration were included by consecutive non-probability sampling technique. All patients using immunosuppressive drugs, organ transplant patients on immunosuppressive therapy, patients with diabetes mellitus, patients with primary immunodeficiencies, and patients with malignancy were excluded from the study. The sample size was 116, which was calculated using WHO formula taking 82% prevalence of mucocutaneous manifestations in HIV /AIDS infection[12], 95% confidence interval and 7% margin of error.

This study was conducted after the approval from hospital ethical committee. All patients meeting the inclusion criteria were inducted for the study through OPD of dermatology department. The aim and benefits of study were communicated to the patient or his/her caregiver and were assured that his/her privacy was maintained and written informed consent was taken.

Complete history, medical examination and Second Generation ELISA test for HIV were performed for the confirmation of HIV infection in patients. Skin scrapings were taken from the patients and the samples were sent to hospital pathology laboratory for the diagnosis of mucocutaneous infections. The pathological tests were performed by an expert pathologist having at least five years of experience. Mucocutaneous manifestation was considered positive for the presence of anyone of the features like viral infections, bacterial infections, fungal infections, xerosis, pigmentation, pruritis, lichen planus, crusted scabies and seborrheic dermatitis. All the above mentioned information including age, gender, duration of disease, socioeconomic status, occupation, education level and marital status were recorded in pre designed proforma.

The data was analyzed in SPSS version 21. Mean +/- SD was calculated for continuous variables like age and duration of disease. Frequency and percentages were calculated for categorical variables like gender, socioeconomic status, occupation, education level, marital status and mucocutaneous manifestations. Mucocutaneous manifestations were stratified with age, gender, duration of disease socioeconomic status, occupation, education level and marital status to see effect modification. Post-stratification chi square was applied and p-value $\leq$ 0.05 was considered as statistically significant. The results were produced in the form of tables or charts.

RESULTS

Majority of the patients were 31 to 40 years old (38%). Mean age was 32 years with SD ± 3.51 (table 1)

Majority of the enrolled patients were male 72(62%) (table 2).

Socioeconomic status was divided in 3 categories. Only 14(12%) patients were rich. (Table 3)

Among enrolled patients, unemployed patients (69.8%) were more than employed. (table 4).

Almost half of the enrolled patients, 51(44%) were illiterate. (table 5).

Most of the enrolled patients were unmarried (65%). (table 6)

Most patients who had cutaneous manifestations of HIV/AIDS lied within age range 31-40 years (35/93). However, p value was 0.9826 which was statistically insignificant. (Table 1)

Most patients with cutaneous manifestations of HIV/AIDS were male (58/93). However p value was 0.8946 which was statistically insignificant. (table 2).

Most patients with cutaneous manifestations of HIV/AIDS were from Middle class socioeconomic status (42/93). The p-value was statistically not significant (0.9826) (table 3).

Most of our patients with cutaneous manifestations of HIV/AIDS were unemployed (65/93). However, p value was 0.9755 which was statistically insignificant. (table 4).

Most of our patients with cutaneous manifestations of HIV/AIDS were illiterate (41/93). However, p-value was 0.9755, which was not statistically significant. (table 5).

Most of our patients with cutaneous manifestations of HIV/AIDS were unmarried (60/93) with p value of 0.9497, which was statistically insignificant. (table 6)

The Overall prevalence of mucocutaneous manifestations in HIV/AIDS was 80% (93/116). P value was 0.00000000008 which was statistically significant. (table 7).

The most common mucocutaneous infections were fungal infections (23%) followed by xerosis (15%) while the least common was lichen planus (Table 8)

Table No.1: Stratification of mucocutaneous manifestations w.r.t. Age distribution (n=116)

Mucocu-taneous manifest-tations	18-30 years	31-40 years	41-50 years	51-60 years	Total
Yes	21	35	21	16	93
No	6	9	4	4	23
Total	27	44	25	20	116

p-value 0.9826

Table No.2: Stratification of mucocutaneous manifestations w.r.t. gender distribution. (n=116)

mucocutaneous manifestations	Male	Female	Total
Yes	58	35	93
No	14	9	23
Total	72	44	116

p-value 0.8946

Table No. 3: Stratification of mucocutaneous manifestations w.r.t. socioeconomic status.(n=116)

mucocutaneous manifestations	Poor	Middle class	Rich	Total
Yes	40	42	11	93
No	10	10	3	23
Total	50	52	14	116

p-value 0.9826

Table No.4: Stratification of mucocutaneous manifestations w.r.t. occupation. (n=116)

mucocutaneous manifestations	Unemployed	Employed	Total
Yes	65	28	93
No	16	7	23
Total	81	35	116

p-value 0.9755

Table No.5: Stratification of mucocutaneous manifestations w.r.t. education level (n=116)

Mucocu-taneous manifest-tations	Illiterate	Primary to graduation	Above graduation	Total
Yes	41	35	17	93
No	10	9	4	23
Total	51	44	21	116

p-value 0.9898

Table No.6: Stratification of mucocutaneous manifestations w.r.t. marital status. (n=116)

mucocutaneous manifestations	Un Married	Married	Total
Yes	60	33	93
No	15	8	23
Total	75	41	116

p-value 0.9497

Table No.7: Frequency of mucocutaneous manifestations (n=116)

Mucocutaneous Manifestations	Frequency	Percentage
Yes	93	80%
No	23	20%
Total	116	100%

p-value **0.00000000008**

Table No.8: Types of Mucocutaneous Manifestations (n=116)

Mucocutaneous Manifestations	Frequency	Percentage
Viral infections	14	13%
Bacterial infections	12	10%
Fungal infections	26	22.4%
Xerosis	17	15%
Pruritus	7	6%
Pigmentation	6	5%
Crusted scabies	6	5%
Seborrheic dermatitis	3	2.6%
Lichen Planus	2	1.7%

DISCUSSION

The age distribution and mean age of 32 years with SD ± 3.51 within our study correlates with another study conducted by Ashraf S et al in which patients age ranged between 18 and 60 with a mean of 34 ± 8.2 years.[13] Majority of patients in our study lied in between 31 to 40 years of age range because people in this age range are those who are mostly sexually active, and out-door workers, who are at greater risk of exposure to HIV infection.

In this study, 62% of enrolled patients were males while 38% of patients were females (table 2) which corresponds with a study done by Siddiqui MH et al.[14] The reason for similar results was likely because more male patients were enrolled for the study and more representation of males registered at HIV center.

HIV was most commonly found in unmarried people (65%) as compared to married (35%) (table 6) which correlates with another study done by Maan et al.[15]

In this study the mucocutaneous manifestations were found in 80% of the patients with HIV infection which was statistically significant. (table 7). Similar findings were observed in other studies carried out in the region by Azfar et al[12] and Ashraf et al[13] in which the mucocutaneous manifestations were seen in 51 (82%) and 143 (84.1%) patients respectively.The reasons for similar prevalence of mucocutaneous manifestations could be because of similar study design, similar geography, same demographics, same race, identical sampling method, and presence of HIV center within hospital in all of the above studies. The bulk of mucocutaneous manifestations comprised of skin infections in ours as well as the referred studies, which are already prevalent in the region as well.

In a study conducted by Salami et al[16], Infectious skin diseases constituted 65.2% of the dermatoses (50% fungi, 12% viral, and 3.2% bacterial). Similar trend was observed in our study, in which 54% of infectious dermatoses were present (table 7). A Nigerian study by Nnoruka found infectious dermatoses as the commonest

skin condition.[17] In some developed countries, infections are still found as one of the most common dermatoses in HIV patients.[18] The reason is simply due to gradual depletion of cell mediated immunity in HIV infected/AIDS patients, which is vital against all pathogens.

The commonest infections observed in this study were fungal infections, present in 26 patients (22.4%) (table 8). Dermatophytosis were most commonly seen in 13 patients (11.2%) followed by candidiasis, seen in 10(8.6%) patients. A study carried out by an author, showed comparable results with prevalence of dermatophyte infection in HIV patients to be slightly higher than oral candidiasis (20% vs 12.5%).

Viral infections were seen in 14 patients (13%) in this study (table 8). Among viral infections, herpes zoster was more prevalent, seen in 6 patients (5.17%) involving multiple dermatomes. Previously, Shobana et al[19] showed similar prevalence (6%) of multi-dermatomal herpes zoster their study.

Bacterial infections were seen in 12 patients (10%). Among bacterial infections, furunculosis was most prevalent in this study, present in 6% of the patients. A study conducted by Basida et al[20] also showed furunculosis to be the most prevalent bacterial infection.

Among various non-infectious dermatoses in our study, xerosis was the most frequent skin condition, observed in 15% patients (Table 8). In a study conducted by Mirnezami et al[21] the prevalence of Xerosis was 54.8%. The reason for lower prevalence of Xerosis in our study could be due to difference in climate conditions as our study was conducted mainly during the spring and summer months resulting in more humid conditions.

The prevalence of pruritus in HIV infected patients in literature was 20% whereas in our study it was reported in only 6% cases (table 8). The reason of this discrepancy could be because pruritus was associated with other conditions like xerosis, seborrheic dermatitis and dermatophyte infection in our study.

In our study crusted scabies was found in 5% of patients. (table 8). Crusted scabies has been reported in case reports/case series in patients with HIV/AIDS.[22] The increased prevalence of crusted scabies in our study can be explained by increased disease burden of scabies in general population as well.

CONCLUSION

We conclude that skin diseases are very common in patients of HIV. Therefore, all patients of HIV should be assessed thoroughly for HIV-associated skin manifestations. Moreover, clinical knowledge of these manifestations will ensure early diagnosis, prompt treatment and monitoring of underlying immune status of HIV-infected patients.

Author's Contribution:

Concept & Design of Study:	Shehryar Riaz
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