



Hospital based study of skin manifestations in HIV infected persons from Eastern India

Rudrajit Paul¹, Jayati Mondal², Atul K Saha³

1. Assistant Professor and consultant, HIV clinic, 2. Resident, 3. Professor and HOD
Dept. of Medicine, Medical College Kolkata, 88, College Street, Kolkata 700 073. West Bengal, India.

ARTICLE HISTORY

Received: 22.11.2013

Accepted: 29.12.2013

Available online: 10.02.2014

Keywords:

HIV, dermatologic diseases, pruritus, hyperpigmentation, HAART

*Corresponding author:

Email : docr89@gmail.com
Tel.: +91-9433824341

ABSTRACT

HIV infection is associated with many skin manifestations. These may result from the infection itself, drugs, bacterial colonisation or as immune reconstitution syndrome. Studies concerning skin manifestations in HIV infection are very rare from India. This was a cross sectional hospital based study done in a referral clinic of Eastern India. Patients attending this clinic were screened for any cutaneous disorder and suitably tested. We had a total of 490 patients over one year, out of which 184 (37.6%) were found to have cutaneous diseases. Non-specific pruritus was the commonest manifestation, followed by oral candidiasis (n=21) and generalised hyperpigmentation (n=18). Altogether 64 cases (34.8%) were of infective aetiology with commonest conditions being scabies (n=15) and genital ulcers (n=9). Skin conditions were fairly common in our study.

INTRODUCTION

Dermatological diseases are one of the commonest comorbidities in HIV infection [1]. These may result from HIV infection itself or the various opportunistic pathogens that flare up in an immunocompromised person. Also, the drugs used to treat the disease may cause skin manifestations. Often, skin lesions are the earliest indicator of underlying HIV infection [2]. The lesions vary with the level of immunodeficiency in the patient; but in general, infective or malignant causes are the most frequent aetiologies encountered [2].

There are very few studies on dermatological aspect of HIV infection from India [3]. However, the small number of studies has shown that the skin manifestations here vary considerably from the western society [3]. For example, Kaposi's sarcoma is very rare in India. Thus, local Indian data are needed so that the priorities of the national programs can be ascertained. Treatment of HIV infected persons includes proper care of associated comorbidities like skin diseases.

We therefore undertook this study to find the prevalence of various skin conditions in a sample HIV positive population of Eastern India.

METHODOLOGY

This observational study was done in a tertiary care medical

college of Eastern India. This college has a referral centre for HIV positive persons, which caters to five districts of the state, covering a population of around 20 million. Patients are referred from various rural hospitals and many also come on their own.

This was a cross sectional study done between 17 august 2012 and 15 august 2013 on patients attending this outpatient department. Patients were asked about any skin lesions or symptoms and then they were carefully examined in a well illuminated examination room after proper exposure. Any patient not willing to be examined was excluded. Everyone was examined in presence of attendant. All the skin lesions present were documented in the study proforma. Dermatological referral was done in all cases for confirmation. Biopsies from the skin lesions and/or microbiological studies were done as needed. Proper follow up was done to note the evolution of the lesion(s). In some cases, blood tests were done, for example ACTH stimulation test to rule out hypoadrenalism in hyperpigmented patients.

The study was approved by the ethical committee of the institution. Patients were fully explained about the study. All photos were taken only after voluntary consent. The data was arranged in Microsoft Excel worksheet for analysis. The data are presented as numbers and/or percentages. P-value<0.05 is considered significant.

RESULTS

We had a total of 490 patients in our study with male female ratio of 300:190. Of them, 184 (37.6%) had one or more skin conditions. Among the patients with dermatological diseases, the gender ratio was M: F=133:51. Thus, skin diseases were more common in male section ($p=0.0088$ by two tailed Chi square test).

The main dermatological conditions are shown in table 1 below. It is seen that the commonest skin condition was pruritus (28.3% of total cases). This excludes conditions like scabies or Taenia, which are grouped separately. The next commonest manifestation was generalised hyperpigmentation ($n=18$; 9.8%; figure 1). Scabies ($n=15$), hair loss ($n=12$) and drug rash ($n=11$) were also found in a large number of cases. Nevirapine was the commonest cause of drug rash ($n=6$); other drugs included cotrimoxazole and rifampicin (figure 2). Associated oral candidiasis was found in 21 patients. Out of these, 19 (90.5%) had another skin lesion.

Figure 3 shows the different infective skin lesions in our patients. Altogether, infective lesions were found in 64(34.8%) cases. The commonest skin infection was scabies ($n=15$; figure 4)

Table 1: Table showing the major skin conditions in our study population [$n=184$]

Condition	Number [percentage]
Pruritus	52 [28.3]
Hair loss	12 [6.5]
Drug rash	11 [6]
Oral candidiasis	21 [11.4]
Scabies	15 [8.2]
Folliculitis	9 [4.9]
Generalised hyperpigmentation	18 [9.8]
Genital ulcer	9 [4.9]
Nail pigmentation	8 [4.3]
Taenia of skin	6 [3.3]
Seborrhic dermatitis	6[3.3]



Fig 1: Picture of a patient showing hyperpigmentation



Fig 2: Scaly drug rash secondary to rifampicin intake

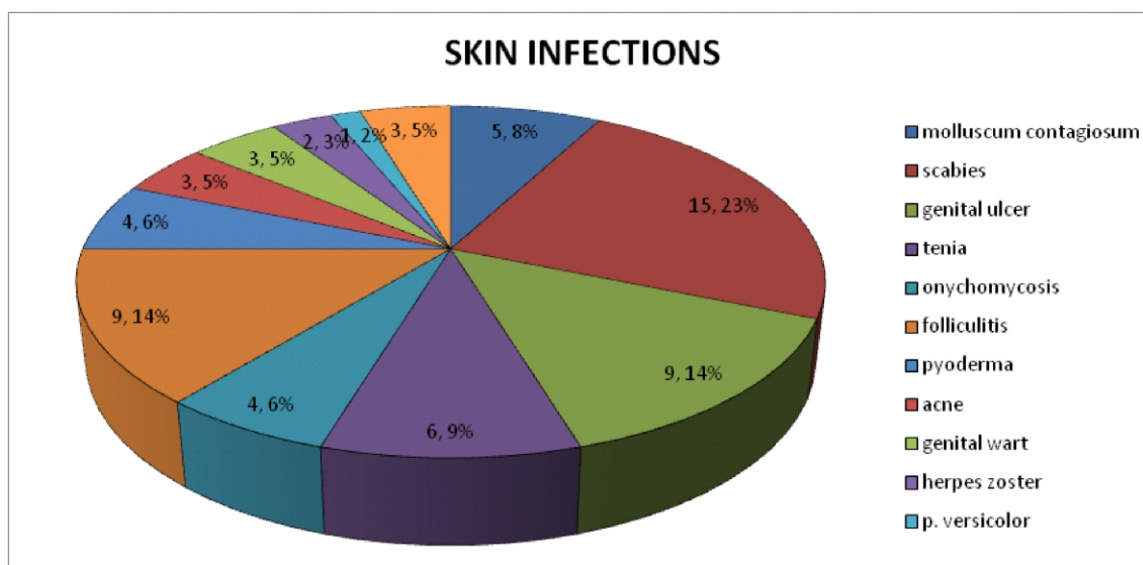


Fig 3: Figure showing the different infective skin conditions in our study



Fig 3: Extensive scaly scabies lesions in forearm of a boy



Fig 4: Molluscum umbilicated papules on the face

Table 2: Comparing the findings of various studies

Place, year	Commonest manifestation	Second commonest	Other significant findings
South India, 2000	OC (45%)	HZ (11.2%)	oral hairy leukoplakia (2.3%), scabies 0.5%
Mangalore, 1995 [4]	Xerosis (50%)	OC (40%)	Dermatophytosis in many cases
Central India, 2009 [5]	Seborrhic dermatitis (74%)	Xerosis (52%)	Generalised hyperpigmentation in 47% and photo dermatitis in 17%
Brazil, 2006 [6]	Folliculitis	Prurigonodularis	Increased photosensitivity in HAART recipients
Thailand, 2012 [7]	Non infectious disease (61%)	Infectious disease	Eczema in a large number. All drug rashes due to Efavirenz
Iran, 2012 [8]	Dermatitis (22%)	Seborrhic dermatitis (14%)	Cd4 count correlated with manifestations
Present study	Non-specific pruritus (10.6%)	OC (4.3%); Hyperpigmentation (3.7%)	Hair loss (n=12); nail pigmentation

followed by genital ulcers and genital warts (n=9 each). There were five cases of molluscum contagiosum (figure 5). Multidermatomal herpes zoster was found in six cases and tubercular skin sinus in three.

DISCUSSION

In our pilot study, we found that one in three HIV positive persons had some skin manifestation. Infective causes were quite common. In a study from South India, they have found oral candidiasis and herpes zoster to be the commonest mucocutaneous lesions [3]. But this varies in our study. Table 2 shows the findings of various studies:

Thus, it is seen that the studies vary considerably in their observations. Even in India, the observations are widely different [3-5]. This makes it clear that the cutaneous manifestations of HIV infected persons are still not fully known. Perhaps, the place of living and level of care determine the diversities in cutaneous manifestations. In a study from northern part of Bengal, they have found fungal infections in a large number of cases [9]. However, in their study, most of the patients were in advanced stage, where fungal infections are common. In our study all stages of HIV infection were included. We found 31 cases of fungal infection (6.3%) consisting of 21 cases of OC and six cases of teniasis (table 1). In the same Bengal study, the authors have found 40 cases of idiopathic pruritus [9]. In our study, there were 52 cases.

Pruritus is a very common manifestation of HIV infection [10]. While infections and drug effects are often implicated in causing itching, immune reconstitution following HAART use is also a cause in many cases. Also, complications of HIV like lymphoma or renal failure may cause generalised pruritus [10]. Hence a detailed work up is necessary and often, the cases are stamped as idiopathic.

Hyperpigmentation has been variably reported in some studies concerning HIV infection [11]. The exact cause is still not known. It has been ascribed to high viral load, underlying Addison's disease and drug effects [12]. In our study, all patients presenting with hyperpigmentation were subjected to ACTH stimulation test and found to be normal. Melanocyte hyperplasia, basal layer pigmentation and incontinentiapigmenti are found in skin biopsy of these cases [12]. Since our study was conducted in a referral clinic, we may have missed a few cases which are treated by practitioners outside. A community based survey would be better in finding the exact prevalence of different conditions.

Our study is limited by the small number of patients and lack of biochemical data to find correlation if any. Also skin biopsy could not be done in all cases due to logistic reasons.

CONCLUSION

Skin diseases are very important co morbidity in HIV infected persons. Proper evaluation and treatment is needed early in the course of the disease. More multi centre studies are needed to find the prevailing skin conditions in HIV infection in different parts of the country.

REFERENCES

1. Cedeno-Laurent F, Gómez-Flores M, Mendez N, Ancer-Rodríguez J, Bryant JL, Gaspari AA, et al. New insights into HIV-1-primary skin disorders. *J Int AIDS Soc.* 2011;14:5
2. Smith KJ, Skelton HG, Yeager J, Ledskey R, McCarthy W, Baxter D, et al. Cutaneous findings in HIV-1-positive

- patients: a 42-month prospective study. Military Medical Consortium for the Advancement of Retroviral Research (MMCARR). *J Am Acad Dermatol.* 1994;31(5 Pt 1):746-54
3. Kumarasamy N, Solomon S, Madhivanan P, Ravikumar B, Thyagarajan SP, Yesudian P. Dermatologic manifestations among human immunodeficiency virus patients in south India. *Int J Dermatol.* 2000;39(3):192-5
4. Bhandary PG, Kamath NK, Pai GS, Rao G. Cutaneous manifestations of HIV infection. *Indian J Dermatol Venereol Leprol* 1997;63:35-7
5. Singh H, Singh P, Tiwari P, Dey V, Dulhani N, Singh A. Dermatological manifestations in hiv-infected patients at a tertiary care hospital in a tribal (bastar) region of chhattisgarh, india. *Indian J Dermatol.* 2009; 54: 33841
6. Zancanaro PC, McGirt LY, Mamelak AJ, Nguyen RH, Martins CR. Cutaneous manifestations of HIV in the era of highly active antiretroviral therapy: an institutional urban clinic experience. *J Am Acad Dermatol.* 2006;54:581-8
7. Punyaratabandhu P, Prasithsirikul W, Jirachanakul P. Skin manifestation of Thai HIV infected patients in HAART era. *J Med Assoc Thai.* 2012;95:497-504
8. Foroughi M, Koochak HE, Roosta N, Paydary K, Khatami A, Shahriari S et al. Prevalence of dermatologic manifestations among people living with HIV/AIDS in Imam Khomeini Hospital in Tehran, Iran. *Journal of AIDS and HIV Research* 2012; 4: 56-9
9. Sen S, Halder S, Mandal S, Pal PP, Halder A, Bhaumik P. Clinico-epidemiological profile of cutaneous manifestations among human immunodeficiency virus positive patients in the sub-Himalayan region. *Indian J Dermatol Venereol Leprol* 2009;75:403-5
10. Singh F, Rudikoff D. HIV-associated pruritus: etiology and management. *Am J Clin Dermatol.* 2003;4:177-88
11. Jing W, Ismail R. Mucocutaneous manifestations of HIV infection: a retrospective analysis of 145 cases in a Chinese population in Malaysia. *International Journal of Dermatology* 1999; 38:457-63
12. Grover C, Kubba S, Bansal S, Nanda S, Reddy BSN. Pigmentation: A Potential Cutaneous Marker for AIDS? *The Journal of Dermatology* 2004;31: 756-60.