# The Prevalence of Mucocutaneous Disorders among HIV-positive Patients Attending an Out-patient Clinic in Kingston, Jamaica

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***ABSTRACT***

***Objectives:*** *Skin disorders are thought to occur frequently in persons with HIV/AIDS. To our knowledge, there are no studies in the literature reporting on the spectrum and prevalence of skin disorders in HIV-positive patients in the Caribbean. This study focused on the prevalence and spectrum of skin disorders seen in a population of HIV-positive patients in Jamaica.*

***Methods:*** *A 5-year retrospective study was conducted by reviewing the records of patients attending a HIV out-patient clinic at the University Hospital of the West Indies in Kingston, Jamaica.*

***Results:*** *Two hundred and eighty-six (286) patients were included in the study. Skin and mucous membrane disorders were documented in 74% of the patients in this series. Inflammatory disorders comprised the largest category of skin disorders followed by fungal infections. The most frequently diagnosed dermatological disorders were papular prurigo, oral candidiasis, dermatophyte infections, herpes simplex infections and seborrhoeic dermatitis. Kaposi's sarcoma was rare. This pattern is similar to those reported from the African continent and other tropical countries.*

***Conclusions:*** *Dermatological disorders contribute significantly to the morbidity of HIV-positive patients and patterns of skin disorders are similar to those seen in other tropical settings.*

# Prevalencia de Trastornos Mucocutáneos entre los Pacientes VIH Positivos que Asisten a la Consulta Externa en Kingston, Jamaica

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***RESUMEN***

***Objetivos:*** *Se piensa que trastornos cutáneos ocurren con frecuencia en personas con VIH/SIDA. Hasta donde sabemos, no hay en la literatura estudios que reporten sobre el espectro y prevalencia de los trastornos cutáneos en enfermos VIH positivos en el Caribe. Este estudio centra su atención en la prevalencia y espectro de trastornos de la piel observados en una población de pacientes VIH positivos en Jamaica.*

***Métodos:*** *Se llevó a cabo un estudio retrospectivo a fin de revisar las historias clínicas de pacientes que asisten a una consulta externa para enfermos de VIH en el Hospital Universitario de West Indies en Kingston, Jamaica.*

***Resultados:*** *Doscientos ochenta y seis (286) pacientes fueron incluidos en el estudio.*
*En el 74% de los pacientes en esta serie, se documentaron trastornos de la membrana mucosa y la piel. Los trastornos inflamatorios abarcaron la categoría mayor de los desórdenes de la piel, seguidos de las infecciones fúngicas. Los trastornos dermatológicos diagnosticados con mayor frecuencia fueron el prurigo papular, la candidiásis oral, las infecciones por dermatofitos, infecciones por herpes simplex y la dermatitis seborreica. El sarcoma de Kaposi rara vez se presentó. Este patrón es similar a los reportados desde el Continente Africano y otros países tropicales.*

***Conclusiones:*** *Los desórdenes dermatológicos contribuyen significativamente a la morbilidad de los pacientes VIH positivos, y los patrones de los trastornos de la piel son similares a los observados en otros escenarios tropicales.*

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## INTRODUCTION

Dermatological (mucocutaneous) disorders have long been recognized as frequent complications of HIV disease (1) and in some instances have served to alert medical practitioners to the underlying diagnosis. Some authors have stated that 80–95% of HIV-infected patients will have a mucocutaneous disorder during the course of their illness (2–6). Kaposi's sarcoma was recognized as a cutaneous marker of HIV infection in the early 1980s (7) and since that time, as many as 56 different dermatological disorders have been associated with HIV disease (8), though few of these are specifically associated with it. Nowadays, however, the onset of certain mucocutaneous disorders is considered diagnostic of late stage HIV disease requiring commencement of antiretroviral therapy in persons not previously on these drugs. The disorders include chronic disseminated herpes simplex, oral hairy leukoplakia and Kaposi's sarcoma. Dermatological conditions are also thought to increase in frequency and severity as HIV disease progresses (6). The appearance or advancement of mucocutaneous disorders usually represents a major source of concern for patients who are anxious about having external and visible signs of illness. There are several published reports of the prevalence of mucocutaneous disorders in HIV seropositive patients (2–6) but we are not aware of any published data of this kind from Jamaica or other parts of the English-speaking Caribbean.

## METHODS

Approval for the study was granted by the Ethics Committee, Faculty of Medical Sciences, University of the West Indies. The study population comprised patients attending the Centre for HIV/AIDS Research, Education and Services (CHARES) Out-patient Clinic at the University of the West Indies in Kingston, Jamaica. This is a specialist HIV clinic conducted by an Infectious Diseases consultant, Internists and Dermatologists at the University Hospital of the West Indies.

The study sample consisted of all the patients who enrolled in the clinic during the period January 1, 1999 to December 31, 2003 inclusive. These patients' medical records were reviewed and subjected to a data collection exercise. Data recorded included gender, age and all mucocutaneous disorders diagnosed. We also recorded date of HIV diagnosis, stated risk factors for HIV, CD4 counts, use of anti-retroviral medications (ARVs), the presence of AIDS-defining illnesses and the patient outcome at the time of data collection. All data were recorded and then analyzed using an electronic database that was specifically designed for use in this study.

## RESULTS

The medical records of all the 482 patients enrolled in the clinic were reviewed, and of these, a total of 268 were selected as being eligible for inclusion in the study, having enrolled in the clinic between January 1, 1999 and December 31, 2003. The age range of the patients studied was 16 to 71 years with a mean age of 34.1 years and a median age of 32 years. The majority of patients were in the 20–29 and 30–39-year age groups (Table 1). Fifty-eight per cent of the patients studied were female and forty-two per cent were male (Table 1). Most of the patients (81%) had no recorded risk factor, but of those recorded, sexual transmission was the most frequently cited risk factor, accounting for 19% of the patients (Table 1). Of the patients in the sample, 97 (36.2%) had been placed on anti-retroviral drugs (Table 1).

Table 1: Age, gender, risk factors and use of ARVs in the study population

| | Number | Percentage |
|---|---|---|
| **Gender** | | |
| Female | 156 | 58 |
| Male | 112 | 42 |
| **Age Group (years)** | | |
| < 20 | 11 | 4 |
| 20–29 | 93 | 35 |
| 30–39 | 92 | 34 |
| 40–49 | 44 | 16 |
| > 50 | 26 | 10 |
| Unknown | 2 | 1 |
| **Risk Factor** | | |
| Blood transfusion | 1 | 0.3 |
| Sexual | 50 | 18.7 |
| Not recorded | 217 | 81 |
| **HAART** | | |
| Yes | 97 | 36 |
| No | 171 | 64 |

The number of skin disorders recorded ranged from no skin disorders being documented in some patients to as many as ten skin disorders recorded in one patient (Fig.1). Of the

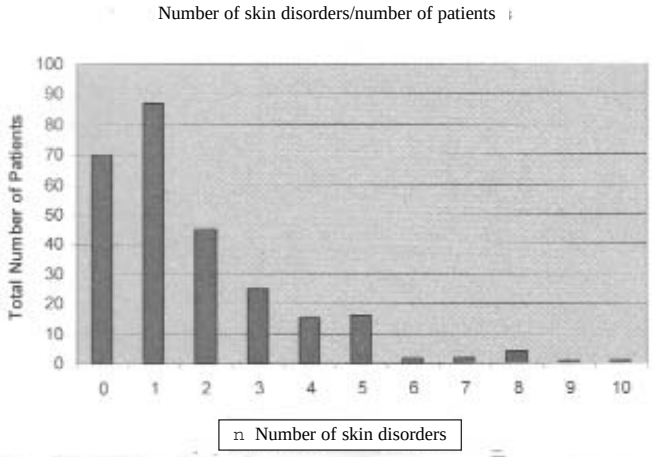


Fig. 1: Frequency distribution of skin disorders among the study population.

patients studied, 74% were found to have one or more disorders. Eighty-seven (33%) had one disorder and 45 (17%) were found to have two disorders. Twenty-six per cent (26%) of the patient population studied had no mucocutaneous disorders at all. The mean and median number of mucocutaneous disorders per patient in the study were 1.75 and 1 respectively.

A total of 44 different mucocutaneous disorders were seen. These mucocutaneous disorders were categorized into groups, namely, inflammatory disorders, fungal/yeast infections, viral infections, bacterial infections, infestations and a miscellaneous group (Fig. 2). The inflammatory disorders

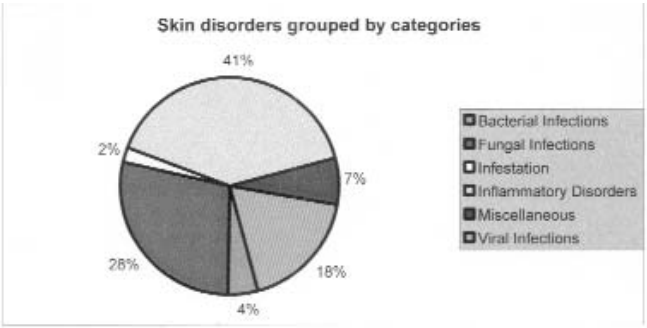


Fig. 2: Categories of mucocutaneous disorders observed in patients studied.

accounted for the largest percentage of the disorders seen (41%). This group of disorders consisted of papular pruritic eruption of HIV, eczema/dermatitis, eosinophilic folliculitis, acne vulgaris, psoriasis, drug eruptions, papular urticaria and glossitis. This was followed by fungal infections (28%), viral infections (18%), a miscellaneous category (7%), bacterial infections (4%) and infestations (2%).

The most frequently diagnosed dermatological disorder was papular pruritic eruption of HIV (PPE) which was seen in 85 (31.7%) of the patients with skin disorders and oral candidiasis was the second most frequent diagnosis with 77 patients (28.7%) having this disorder. Other mucocutaneous disorders that were seen frequently were dermatophyte infection, herpes genitalis, dermatitis, eosinophilic folliculitis, seborrhoeic eczema and acne vulgaris (Table 2).

Table 2: Prevalence of mucocutaneous disorders in 286 HIV-infected patients.

| Skin disorder | Frequency | Percentage |
|---|---|---|
| Papular prurigo | 85 | 32 |
| Oral candidiasis | 77 | 29 |
| Dermatophyte infection | 29 | 11 |
| Herpes genitalis | 28 | 10 |
| Dermatitis | 22 | 8 |
| Eosinophilic folliculitis | 21 | 8 |
| Seborrhoeic eczema | 21 | 8 |
| Acne vulgaris | 20 | 7 |
| Non-mucosal candidiasis | 18 | 7 |
| Genital warts | 17 | 6 |
| Herpes simplex | 11 | 4 |
| Impetigo | 11 | 4 |
| Scabies | 10 | 4 |
| Herpes zoster | 9 | 3 |
| Papular urticaria | 8 | 3 |
| Xerosis | 7 | 3 |
| Oral hairy leukoplakia | 7 | 3 |
| Pityriasis versicolor | 6 | 3 |
| Molluscum contagiosum | 6 | 2 |
| Cellulitis | 4 | 1% |
| Drug eruption | 4 | 1% |
| Glossitis | 4 | 1% |
| Hair straight | 3 | 1% |
| Paronychia | 3 | 1% |
| Verruca vulgaris | 3 | 1% |
| Abscess | 2 | 1% |
| Acanthosis nigricans | 2 | 1% |
| Erythrasma | 2 | 1% |
| Hyperpigmentation | 2 | 1% |
| Ichthyosis | 2 | 1% |
| Kaposi's sarcoma | 2 | 1% |
| Oral ulcer (unspecified) | 2 | 1% |
| Vulvo-vaginal candidiasis | 2 | 1% |
| Furunculosis | 1 | <1% |
| Hirsutism | 1 | <1% |
| Hypertrichosis | 1 | <1% |
| Keloids | 1 | <1% |
| Lichen simplex chronicus | 1 | < 1% |
| Nodular prurigo | 1 | < 1% |
| Pearly penile papules | 1 | < 1% |
| Perianal fistula | 1 | < 1% |
| Psoriasis | 1 | < 1% |
| Syphilis | 1 | < 1% |
| Varicella | 1 | < 1% |

## DISCUSSION

Mucocutaneous disorders were found in 74% of patients and this is considered significant. By way of comparison, Uthayakumar *et al* (6) in 1997 reported a prevalence rate of 91% among patients attending a HIV clinic in Brighton, England, while Spira *et al* reported a prevalence rate of 65.3% in a cross-sectional survey of patients attending a hospital clinic in France (1).

Our most frequently reported mucocutaneous disorder was PPE (32%). These findings are similar to those of Goldstein *et al* in Miami, Florida (9). This group reported PPE as their most prevalent disorder seen in 11.4% of their study population and correlated this high prevalence to the large mosquito population in southern Florida. Jamaica also has a large mosquito and sand fly population. The prevalence of PPE in Africans with HIV varies from 11% to 46%, depending on the geographic area (10). In contrast, Uthayakumar *et al* (UK, 1997) and Munoz-Perez *et al* (Spain 1998) (11) found seborrhoeic dermatitis to be their most frequently diagnosed skin disorder in temperate settings. Spira (France 1998) found xerosis, closely followed by seborrhoeic dermatitis to be their most common skin manifestations.

Papular pruritic eruption is typically a diagnosis of exclusion and is an eruption of intensely itchy papules that are initially erythematous, become hyperpigmented and

usually resolve leaving significant post-inflammatory hyperpigmentation (12). It is of unknown origin. However, it has been postulated that it is an altered and exaggerated immune response to arthropod antigens in a subset of susceptible HIV patients (10). Clinically, PPE is not always clearly distinguishable from HIV- eosinophilic folliculitis (EF) which was reported in 21 (8%) or papular urticaria which was reported in 8 (3%) of our study population. Some investigators theorized that PPE and EF are part of the same spectrum or that EF is a subset of PPE. However, there are clinical and histopathological differences. Eosinophilic folliculitis predominantly involves the forehead, cheeks, neck, upper arms and trunk, characteristically above the nipple line whereas PPE typically occurs on the extremities, face and trunk (13). On histological examination, EF typically shows follicular spongiosis and folliculocentric inflammatory infiltrate rich in eosinophils whereas in PPE there is a dermal mixed perivascular and perifollicular inflammatory infiltrate of lymphocytes and eosinophils (12–13).

Fungal/yeast infections were the second most commonly occurring mucocutaneous disorder. This was followed by herpetic infection and dermatitis (including seborrhoeic eczema). These findings are similar to those reported by Uthayakumar *et al* (6) with the exception being the relatively low prevalence of Kaposi's sarcoma in our series. This latter disorder was seen in only one patient and it appears to have a much lower prevalence in this HIV-infected population. Changes in hair texture are a common feature of HIV infection. Typically, the scalp hairs become straight, soft and sparse. This change was documented in only three of the patients in our study.

The use of anti-retrovirals was relatively low in this study population compared with other studies. Spira *et al* reported an 88.2% use of ARVs in their study population of which 46% were on triple therapy (1). This lower use of ARVs among patients in the present study may be explained by the relatively high cost and unavailability of ARVs during the period under review.

There was a significant under-reporting of the risk factors related to HIV infection. This may have resulted from a failure of clinicians to elicit this information or unwillingness on the part of patients to volunteer. This may at least, in part, be a reflection of the prevailing attitudes and stigma attached to HIV infection. This study was conducted retrospectively, and as a result, we were unable to define or assess disease severity.

## CONCLUSION

The data point to a significant prevalence of dermatological conditions among HIV-positive patients in Jamaica, with inflammatory disorders being the most common category. The pattern of mucocutaneous disorders seen is similar to that reported in other tropical countries.

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## REFERENCES

1. Spira R, Mignard MS, Doutre M, Morlat P, Dabis F. Prevalence of cutaneous disorders in a Population of HIV-infected patients . Southwestern France, 1996 Group d' SIDA en Aquitaine. Arch Dermatol 1998; **134:** 1208–12.
2. Tschachler E, Bergstresser PR, Stingl G. HIV-related skin diseases. Lancet 1996; **348:** 659–63.
3. Coldiron BM, Bergstresser PR. Prevalence and clinical spectrum of skin diseases in patients infected with HIV. Arch Dematol 1989; **125:** 357–61.
4. Pitche P, Tchangai-Walla K, Napo-Koura G, Mijiyawa M, Agbere A, Tatagan A. Prevalence of skin disease in the AIDS patients in the Lome-Tokoin University Hospital (Togo). Sante 1995; **5:** 349–52.
5. Coopman SA, Johnson RA, Platt R, Stern RS. Cutaneous disease and drug reactions in HIV infection. New Engl J Med 1993; **328:** 1670–4.
6. Uthayakumar S, Nandwani R, Drinkwater T, Nayagan AT, Darley CR. The prevalence of skin disease in HIV infection and its relationship to the degree of immunosuppression. Br J Dermatol 1997; **137:** 595–8.
7. Friedman-Kien A. Disseminated Kaposi's sarcoma in young homosexual men. J Am Acad Dermatol 1981; **5:** 468–71.
8. McCrossin I, Wong D. HIV-related skin disease. Med J Aust 1993; **158:** 179–85.
9. Goldstein B, Berman B, Sukenik E, Frankel SJ. Correlation of skin disorders with CD4 lymphocyte counts in patients with HIV/AIDS. J Am Acad Dermatol 1997; **36 (2Pt1):** 262–4.
10. Resneck JS Jr, Van Beek M, Furmanski L, Oyugi J, LeBoit PE, Katabira E et al. Etiology of pruritic papular eruption with HIV infection in Uganda. JAMA 2004; **292(21):** 2614–21.
11. Munoz-Perez MA, Rodriguez-Pichardo A, Camacho F, Colmenero MA. Dermatological findings correlated with CD4 lymphocyte counts in a prospective 3-year study of 1161 patients with human immunodeficiency virus disease predominantly acquired through intravenous drug abuse. Br J Dermatol 1998; **139:** 33–9.
12. Hevia O, Jiminez-Dacosta F, Ceballos PI, Gould EW, Penneys NS. Pruritic papular eruption of the acquired immunodeficiency syndrome: a clinicopathological study. J Am Acad Dermatol 1991; **24:** 231–5.
13. Eisman S. Pruritic papular eruption in HIV. Dermatol Clin 2006; **24:** 449–57.