

Skin Diseases in HIV Positive Patients Attending the Skin and STD OPD at a Tertiary Care Hospital

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Received on: 29.12.2017

Accepted on: 03.02.2018

Abstract

Introduction: Cutaneous findings in HIV disease are frequent and include viral, bacterial, fungal, and noninfectious dermatoses. Common cutaneous conditions like seborrheic dermatitis, often have an increased prevalence or severity in these individuals. Susceptibility to otherwise rare infections, which are manifested in part or in whole as dermatologic findings, is significantly enhanced with HIV disease. *Methodology:* This study was undertaken at the Department of Skin and STD. HIV positive patients attending Skin and STD Department and also patients referred from other departments of Hospital were screened for skin diseases by taking detailed history, clinical examination and relevant laboratory investigations. *Results:* Infectious dermatoses were seen in 48 patients (80%) in our study. Majority (32 patients, 53.4%) had viral infections followed by bacterial (9 cases, 15.0%), mixed infections (3 cases, 5.0%), fungal and parasitic infections (2 cases each, 3.3%). *Conclusion:* The most common dermatome involved in herpes zoster was thoracic (16.7%) followed by lumbar (11.7%), ophthalmic (8.3%) and others. Two patients (3.3%) presented with disseminated zoster.

Keywords: Dermatoses; HIV; Herpes Zoster.

Introduction

Recognized as an emerging disease only in early 1980's acquired immunodeficiency syndrome (AIDS) has affected millions of population within a span of two and a half decades. Since, 1981 it has grown to be the second leading cause of disease burden worldwide and the leading cause of death in Africa.

By the end of 1998 human immunodeficiency virus (HIV) infection was spreading at the rate of one new case in every 5 seconds, 90% of them in developing countries.

In 2003, World Health Organisation (WHO) estimated that there were more than 40 million people living with HIV/AIDS, 5.3 million new infections and 3 million deaths. The cumulative deaths since the epidemic began was estimated at 21.8 million with 95% of cases occurring in Sub-Saharan Africa.

In India it is estimated that 5.3 million have been affected including 0.8 million of them within age of 15 years. HIV infection has now become a

global pandemic with cases reported from every country [1].

The RNA retrovirus infects CD4+ cells, most notably T helper cells, and leads to a profound alteration of immune system function that predisposes patients to numerous opportunistic infections, malignancies, and neurologic disease. Patients progress to acquired immunodeficiency syndrome (AIDS) when CD4+ cell counts fall below 200/mm³ or certain clinical diseases manifest. Despite the dramatic impact of highly active antiretroviral therapy (HAART) on the morbidity and mortality associated with HIV infection, patients continue to ultimately have a dismal prognosis.

Cutaneous findings in HIV disease are frequent and include viral, bacterial, fungal, and noninfectious dermatoses. Common cutaneous conditions like seborrheic dermatitis, often have an increased prevalence or severity in these individuals. Susceptibility to otherwise rare infections, which are manifested in part or in whole as dermatologic findings, is significantly enhanced with HIV disease. Several skin diseases are nearly

exclusive to HIV infected individuals such as oral hairy leukoplakia, bacillary angiomatosis, and Kaposi's sarcoma. The incidence of skin diseases becomes twice or more as CD4+ levels reach 100/ mm³ or less. Some skin diseases may show atypical presentations.

The spectrum of skin diseases in HIV infected individuals continues to change with the advent of HAART.

Recognizing HIV associated skin disease may lead to early HIV diagnosis and appropriate management, thereby reducing the morbidity, mortality and transmission of the disease [2].

Methodology

This study was undertaken at the Department of Skin and STD. HIV positive patients attending Skin and STD Department and also patients referred from other departments of Hospital were screened for skin diseases by taking detailed history, clinical examination and relevant laboratory investigations. HIV positive patients having skin diseases were included in the study. Except viral all other sexually transmitted diseases and lesions present over the mucous membranes were excluded from this study.

Investigations

Tzanck smear, KOH preparation, woods lamp examination, histopathological examination, slit skin smear for acid fast bacilli, pus culture and sensitivity tests were done

Blood: Hemoglobin%, total leucocyte count, differential counts, erythrocyte sedimentation rate, random blood sugar, urea, creatinine, bilirubin and standard tests for syphilis.

Urine: Albumin, sugar and microscopy.

Results

Table 1: Infectious Dermatoses

Infectious dermatoses	No of cases	Percentage
Viral	32	53.4
Bacterial	9	15
Fungal	2	3.3
Parasitic	2	3.3
Mixed	3	5
Total	48	80

Infectious dermatoses were seen in 48 patients (80%) in our study. Majority (32 patients, 53.4%) had viral infections followed by bacterial (9 cases, 15.0%), mixed infections (3 cases, 5.0%), fungal and parasitic infections (2 cases each, 3.3%) (Table 1).

Table 2: Viral infections

Viral infections	No of cases	Percentage
Herpes zoster	27	45
Herpes labialis	3	5
Molluscum contagiosum	1	1.7
Condylomata acuminata	1	1.7
Total	32	53.4

Viral infections were seen in 32 patients (53.4%) in this study. Twenty-seven patients (45%) presented with herpes zoster, 3 (5%) with herpes labialis, 1 patient (1.7%) had molluscum contagiosum and 1 (1.7%) had condylomata acuminata. (Table 2).

Table 3: Distribution of herpes zoster

Dermatome (s)	No of cases	Percentage
Thoracic	10	16.7
Lumbar	7	11.7
Ophthalmic	5	8.3
Cervical & thoracic	2	3.3
Disseminated	2	3.3
Ophthalmic & maxillary	1	1.7

A total of 27 patients (45%) presented with herpes zoster. The most common dermatome involved was thoracic (10 cases, 16.7%) followed by lumbar (7 cases, 11.7%), ophthalmic (5 cases, 8.3%), cervical and thoracic (2 cases, 3.3%) and ophthalmic and maxillary (1 case, 1.7%). Two patients (3.3%) presented with disseminated herpes zoster. (Table 3).

Bacterial infections

Nine patients (15.0%) in our study had different forms of bacterial infections like recurrent folliculitis, furuncles, abscesses and impetigo. Culture showed staph. aureus growth in five patients (55.6%) and pseudomonas in one patient.

Fungal infections

Extensive T. corporis, T. cruris and T. faciei were seen in four patients (6.7%) in our study.

Scabies

Scabies without any atypical features was seen in only two patients (3.3%) included in the study.

Table 4: Mixed infections

Mixed infections	No of cases	Percentage
Folliculitis + T. Corporis	1	1.7
Condylomataacuminata + T.faciei	1	1.7
Condylomataacuminata + folliculitis + Hansen's disease	1	1.7
Ophthalmic & maxillary	3	5

Out of 48 patients with infectious dermatoses, 3 patients (5.0%) had mixed infections. 1 patient (1.7%) had folliculitis with extensive T. Corporis, 1 patient (1.7%) had borderline tuberculoid leprosy, condylomataacuminata and folliculitis, and one had mixed infections with condylomataacuminata and T.faciei (Table 4).

Discussion

Diseases of the skin and mucous membranes were among the first recognized clinical manifestations of AIDS. More than 90% of patients develop skin or mucous membrane conditions at sometime during their disease and in many skin is the first organ affected [3].

HIV itself produces cutaneous findings shortly after exposure. In addition, gradual deterioration of the immune system renders HIV infected patients susceptible to numerous cutaneous viral diseases including herpes viruses, human papilloma virus and molluscumcontagiosum. Viral AIDS defining opportunistic infections of skin include localized or disseminated HSV and VZV [2].

In our study 27 patients (45%) had herpes zoster. Buchbinder et al reported an incidence of 26.7% for herpes zoster in their study [3]. In a study by Das et al an overall incidence of 11.8% was found [4].

The commonest dermatome involved in our study was thoracic (16.7%) followed by lumbar (11.7%), ophthalmic (8.3%), cervical and thoracic (3.3%) and ophthalmic and maxillary (1.7%).

In the study Das et al. [4], commonest dermatome affected was thoracic (67.8%) followed by cervical (14.5%), cranial (9.7%) and lumbosacral (8.0%).

Two patients (3.3%) in our study presented with disseminated zoster. Das et al reported an incidence of 16.1% for disseminated zoster.

In the present study, lesions in about 37% patients were bullous, confluent and necrotic type. This observation correlates with other studies [4]. Herpes simplex virus infections were seen in three (5%) patients in the present study. Masar reported the prevalence of HSV infections as ranging from 20% - 40% [5].

Only one patient (1.7%) in our study presented with extensive lesions of molluscumcontagiosum over face and neck. Kar et al. also found a single case of molluscumcontagiosum (3.6%) in their study [6]. However Katzman et al. observed the prevalence of molluscumcontagiosum to be 20% in their study [7].

Condylomataacuminata have been demonstrated in 20% of HIV infected homosexual men.⁸ But only three patients (5%) in our study were found to have condylomataacuminata.

Bacterial skin infections are observed more often in HIV-1 infected patients [9] and their frequency increases with progression of immunodeficiency. Staph.aureus is the most common bacterial pathogen in HIV-1 infected patients [10].

Nine patients (15.0%) in our study had different forms of bacterial infections like folliculitis, furuncles, abscesses and impetigo. Only one patient in our study had BT Hansen's disease. Similar prevalence of bacterial infections (14.3%) was observed by Kar et al in their study [6]. Culture showed staph. aureus growth in 5 patients (55.6%) with recurrent bacterial infections, and 1 patient (11.1%) in our study had pseudomonas infection of the skin.

Superficial dermatophyte infections of the skin may be chronic and widespread in HIV-1 infected patients [9]. Kar et al. found T.Corporis in 14.26% patients in their study [6]. Extensive T.corporis, T.cruis and T. faciei were seen in four patients (6.7%) in our study.

Scabies is the most common ectoparasite infection in HIV infected individuals. In one of the studies it was reported in 20% of the patients. However in our study only two patients (3.3%) were having scabies without any atypical features.

Pruritic papular eruption is a common cutaneous manifestation of HIV, the prevalence varying between 10 and 45% depending on geographic area. Seven (11.7%) out of sixty patients included in our study had pruritic papular eruptions involving the face, upper trunk and upper arms.

Conclusion

- The most common infections were viral (53.4%) followed by bacterial (15.0%), mixed (5.0%), fungal (3.3%) and parasitic (3.3%) infections.
- Herpes zoster was the commonest viral infection seen in our study (45.0%) followed by herpes labialis (5.0%), condylomataacuminata (5.0%) and molluscumcontagiosum (1.7%).
- Bullous and necrotic lesions were seen in 37.0% patients with herpes zoster.
- Only one patient (1.7%) presented with extensive lesions of molluscumcontagiosum involving the face and neck.
- Bacterial infections were seen in 15.0% patients in the form of recurrent folliculitis, furunculosis, ecthyma and abscesses. Staph.aureus was isolated on culture in five patients (55.6% with recurrent bacterial skin infections and pseudomonas was isolated in one patient (11.1%).

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