

# Mucocutaneous manifestations as the first presentations of HIV infection

Kamran Balighi, MD <sup>1</sup>  
Tahereh Soori, MD, MPH <sup>2</sup>  
Negar Fouladi, MD <sup>1</sup>

1. Department of Dermatology, Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran
2. Department of Infectious Diseases, Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran

Corresponding Author:  
Tahereh Soori, MD, MPH  
Department of Infectious Diseases,  
Razi Hospital, Tehran University of  
Medical Sciences, Tehran, Iran  
Email: tara\_soori@yahoo.com

Conflict of interest: none to declare

Received: 14 March 2013  
Accepted: 10 September 2013

**Background:** Mucocutaneous manifestations may occur in every stage of human immunodeficiency virus (HIV) infection. Some of them may be the first presentations. In this study, we evaluated the prevalence of dermatologic manifestations as the first presentations of HIV / AIDS in 25 Iranian patients.

**Method:** In a cross sectional study, we evaluated 25 new cases of HIV infection whose HIV infections were diagnosed during work up for their recent dermatological problems. The type of mucocutaneous manifestations and general information such as age, sex, risk factors, dermatologic problem duration and educational level was recorded in a questionnaire.

**Result:** Warts (anogenital and generalized warts) were the most common cutaneous manifestation in new HIV infected patients (36%) followed by psoriasis and cutaneous abscess.

**Conclusion:** Some mucocutaneous diseases such as anogenital or generalized warts, psoriasis, and cutaneous abscess may present as the first manifestation of HIV infection.

**Keywords:** AIDS, genital wart, HIV, mucocutaneous lesion, psoriasis

Iran J Dermatol 2013; 16: 105-108

## INTRODUCTION

Dermatological manifestations may occur in each stage of human immunodeficiency virus (HIV) infection <sup>1</sup>. The prevalence of mucocutaneous problems in HIV infected patients have been estimated approximately 90% <sup>2-3</sup>. Some of them may be the first signs of HIV infection and may help physicians in early diagnosis of HIV infection <sup>4-5</sup>. Although the association of some skin diseases such as Kaposi sarcoma with HIV infection has been documented <sup>6</sup>, some other cutaneous lesions such as warts, eczema, psoriasis, herpes infection, and non healing ulcers or cutaneous abscesses may be associated with HIV infection <sup>5,7-13</sup>.

Based on the increasing prevalence of HIV infected patients and due to the importance of early diagnosis of HIV infection for controlling transmission and more effective treatment in these patients, all physicians and especially dermatologists should

know HIV related mucocutaneous manifestations as well as dermatologic signs that may arouse suspicion to HIV infection.

Although multiple studies have evaluated the prevalence of dermatologic manifestations <sup>1,7-8,10-12,14</sup>, only few case reports have been found on dermatological diseases as the first manifestation in a new case of HIV infected patient <sup>15-17</sup>. So, in this study, we evaluated the prevalence of dermatologic manifestations as the first presentation of HIV / AIDS in 25 Iranian patients.

## PATIENTS AND METHODS

In a cross sectional study, we evaluated HIV infected patients who were referred to Razi Hospital with a mucocutaneous manifestation in 2011. We selected 25 HIV infected patients whose HIV infections was diagnosed during follow-up for their recent dermatological problems. Therefore,

patients with previously diagnosed HIV infection were excluded. General information such as age, sex, risk factors, dermatologic problem and educational level was recorded in a questionnaire. Patients with 2 HIV ELISA tests were confirmed with western blot. All data was analyzed by SPSS software.

## RESULTS

Twenty-five HIV infected patients were evaluated in this study. Their general information is summarized in table 1. The mean age of the patients was  $33 \pm 5.43$  years (ranging from 22-48 years) and their median age was 31 years. The mean duration of mucocutaneous manifestation was 7 months (range: 3 days-24 months). Six patients were positive for hepatitis C virus antibodies.

Mucocutaneous manifestations as the first

**Table1.** General information of 25 HIV infected patients

| General information    | frequency | percent |
|------------------------|-----------|---------|
| Gender                 |           |         |
| Male                   | 22        | 88%     |
| Female                 | 3         | 12%     |
| Education              |           |         |
| High school and less   | 21        | 84%     |
| University education   | 4         | 16%     |
| Risk factors           |           |         |
| Intravenous drug using | 14        | 56%     |
| Heterosexual           | 11        | 44%     |
| Homosexual             | 4         | 16%     |
| Tattoo                 | 1         | 4%      |

**Table2.** Mucocutaneous manifestations as the first presentation in our HIV infected patients.

| Mucocutaneous manifestations                                    | Frequency | percent |
|---|-----------|---------|
| Bacillary angiomatosis  | 1         | 4%      |
| erythrodermia   | 1         | 4%      |
| Anogenital warts  | 7         | 28%     |
| Lichen planus   | 1         | 4%      |
| Total alopecia  | 1         | 4%      |
| Pediculosis + thrush  | 1         | 4%      |
| Nail dermatophytosis + seborrheic dermatitis + oral candidiasis | 1         | 4%      |
| Kaposi sarcoma  | 1         | 4%      |
| Zoster ophthalmicus   | 1         | 4%      |
| Cutaneous abscess   | 2         | 8%      |
| Generalized warts   | 2         | 8%      |
| psoriasis   | 3         | 12%     |
| pruritic papular eruption                                       | 1         | 4%      |
| Severe infected eczema  | 1         | 4%      |
| Genital aphthosis   | 1         | 4%      |

presentation in our HIV infected patients are shown in table 2. As this table shows, warts (anogenital and generalized warts) were the most common cutaneous manifestation in HIV infected patients (36%) followed by psoriasis and cutaneous abscess.

## DISCUSSION

The results of our study showed that warts (anogenital and generalized warts) were the most common cutaneous manifestation in new HIV infected patients (36%) followed by psoriasis and cutaneous abscess. The most common risk factor for transmission of HIV was intravenous drug use (56%).

Several studies have evaluated the prevalence of dermatologic manifestations in HIV infected patients<sup>17-23</sup>. According to these studies, some cutaneous manifestations such as seborrheic dermatitis, psoriasis, Kaposi sarcoma, herpes zoster, herpes simplex, candidiasis, pruritic papular eruptions, and human papillomavirus infection have been introduced as cutaneous markers of HIV infection.

In a Chinese study<sup>24</sup> on 348 HIV infected patients, heterosexual transmission was the most common mode of HIV infection (72.99%) and only 16.38% were infected through intravenous drug use whereas in our study, the most prevalent mode of transmission was intravenous drug use. In the Chinese study, 3.73% of the patients were college educated<sup>24</sup> whereas 16% of the patients had university education in our study.

In a study by Chopra<sup>16</sup>, 604 patients with any kind of mucocutaneous disease were screened for HIV infection. Ninety patients (14.90%) were HIV infected. Among them, 48.89% were males and 81.12% were married. The most common mode of transmission was the heterosexual route (86.6%). The most common infectious diseases were oral candidiasis (32.22%), herpes zoster (13.3%), genital warts (7.77%) and genital herpes (6.66%). In addition, the most common non infectious manifestations were seborrheic dermatitis (8.88%) and pruritic papular eruptions (7.77%). In the present study, the most common route of transmission was intravenous drug use and most of the patients were male (88%). Unlike the results reported by Chopra, genital wart was the most common manifestation in our patients.

In a study designed by Uthayakumar, the most prevalent cutaneous manifestations in HIV infected patients were seborrheic eczema followed by tinea and xerosis<sup>13</sup>. In another study on 796 HIV infected patients<sup>1</sup>, candidiasis (25.8%), eczema (19.2%), nodular prurigo (13.8%), dermatophytic infection (10.6%), and herpes zoster (9.4%) were the most common mucocutaneous manifestations in HIV infected patients. Kaposi sarcoma was reported in 0.3%, psoriasis in 0.5%, and condyloma acuminata in 3.1% in a study conducted by Haung<sup>1</sup> whereas warts were the most common dermatologic manifestation at the time of HIV diagnosis in our study.

In some investigations, seborrheic dermatitis has been introduced as an early clinical marker in HIV infection<sup>1,25</sup>. Although the sample size of our study was small, we can consider warts (generalized or anogenital), psoriasis, and cutaneous abscess as clinical manifestations that may arouse suspicious to HIV infection.

Some studies have reported that the frequency of psoriasis in HIV infected patients is higher than the general population. Rarely, psoriasis may be the first sign of HIV infection. Denovo appearance of psoriasis or sudden worsening of pre-existing psoriasis in a patient with high risk sexual behaviors may be an indication for HIV testing<sup>17,20-23</sup>.

In summary, we evaluated the prevalence of dermatologic manifestations as the first presentation of HIV/AIDS in 25 Iranian patients and found that warts (anogenital and generalized warts) were the most common cutaneous manifestation in HIV infected patients (36%) followed by psoriasis and cutaneous abscess. However, the small sample size and lack of some information such as the CD4 count in the patients are some limitations in our study. Further studies with larger sample sizes are required to achieve accurate results. In conclusion, some mucocutaneous diseases such as anogenital or generalized warts, psoriasis, and cutaneous abscesses may present as the first manifestation of HIV infection.

## REFERENCES

- Huang X, Li HY, Chen DX, et al. Clinical analysis of skin lesions in 796 Chinese HIV-positive patients. *Acta Derm Venereol* 2011;91:552-6.
- Kumarasamy N, Solomon S, Madhivanan P, et al. Dermatologic manifestations among human immunodeficiency virus patients in south India. *Int J Dermatol* 2001;39:192-5.
- Tzung TY, Yang CY, Chao SC, Lee J. Cutaneous manifestations of human immunodeficiency virus infection in Taiwan. *Kaohsiung J Med Sci* 2004;20:216-24.
- Nnoruka EN, Chukwuka JC, Anisuiba B. Correlation of mucocutaneous manifestations of HIV/AIDS infection with CD4 counts and disease progression. *Int J Dermatol* 2007;46 (s2):14-8.
- Tschachler E, Bergstresser PR, Stingl G. HIV-related skin diseases. *Lancet* 1996;348:659-63.
- Porras B, Costner M, Friedman-Kien AE, Cockerell CJ. Update on cutaneous manifestations of HIV infection. *Med Clin North Am* 1998;82:1033-80.
- Amerson EH, Maurer TA. Dermatologic manifestations of HIV in Africa. *Top HIV Med* 2010;18:16-22.
- Azfar NA, Khan AR, Zia MA, et al. Frequency of mucocutaneous manifestations in HIV positive Pakistani patients. *J Paki Assoc Dermatol* 2011;21:149-53.
- Coldiron BM, Bergstresser PR. Prevalence and clinical spectrum of skin disease in patients infected with human immunodeficiency virus. *Arch Dermatol* 1989;125:357-61.
- Levy TH, Jacobson DF. Dermatologic Manifestations as Indicators of Immune Status in HIV/AIDS. *J Gen Intern Med* 2012;27:124.
- Punyaratabandhu P, Prasithsirikul W, Jirachanakul P. Skin manifestation of Thai HIV infected patients in HAART era. *J Med Assoc Thai* 2012;95:497-504.
- Sud N, Shanker V, Sharma A, et al. Mucocutaneous manifestations in 150 HIV-infected Indian patients and their relationship with CD4 lymphocyte counts. *Int J STD AIDS* 2009;20:771-4.
- Uthayakumar S, Nandwani R, Drinkwater T, et al. The prevalence of skin disease in HIV infection and its relationship to the degree of immunosuppression. *Br J Dermatol* 2006;137:595-8.
- Foroughi M, Koochak HE, Roosta N, et al. Prevalence of dermatologic manifestations among people living with HIV/AIDS in Imam Khomeini Hospital in Tehran, Iran. *J AIDS & HIV Res* 2012;4:56-9.
- Jindal N, Aggarwal A, Kaur S. HIV seroprevalence and HIV associated dermatoses among patients presenting with skin and mucocutaneous disorders. *Indian J Dermatol Venereol Leprol* 2009;75:283-6.
- Chopra S, Arora U. Skin and mucocutaneous manifestations: useful clinical predictors of HIV/AIDS. *J Clin Diagn Res* 2012;6:1695-8.
- Rigopoulos D, Pappas V, Katsambas A. Cutaneous markers of HIV infection. *Clin Dermatol* 2004;22:487-98.
- Muñoz-Pérez MA, Rodríguez-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.
- Jing W, Ismail R. Mucocutaneous manifestations of HIV infection: a retrospective analysis of 145 cases in a Chinese population in Malaysia. *Int J Dermatol* 1999;38:457-63.

20. Duvic M, Johnson TM, Rapini RP, et al. Acquired immunodeficiency syndrome-associated psoriasis and Reiter's syndrome. *Arch Dermatol* 1987;123:1622-32.
21. Johnson TM, Duvic M, Rapini RP, Rios A. AIDS exacerbates psoriasis. *N Engl J Med* 1985;313:1415.
22. Lazar A, Roenigk HH Jr. AIDS and psoriasis. *Cutis* 1987;39:347-51.
23. Goodman DS, Teplitz ED, Wishner A, et al. Prevalence of cutaneous disease in patients with acquired immunodeficiency syndrome (AIDS) or AIDS-related complex. *J Am Acad Dermatol* 1987;17(2 Pt 1):210-20.
24. Han J, Lun W, Meng Z, et al. Mucocutaneous manifestations of HIV-infected patients in the era of HAART in Guangxi Zhuang Autonomous Region, China. *J Eur Acad Dermatol Venereol*. 2012 Jan 3. doi: 10.1111/j.1468-3083.2011.04429.x. [Epub ahead of print]
25. Chatzikokkinou P, Sotiropoulos K, Katoulis A, et al. Seborrheic dermatitis- an early and common skin manifestation in HIV patients. *Acta Dermatovenerol Croat* 2008;16:226-30.