

# Abstracts from the current global literature: Psoriasis and human immunodeficiency virus

Ipsa Pandya, Sheethal K. Jose, Y. S. Marfatia  
Department of Skin and V.D., Baroda Medical College, Vadodara, Gujarat, India

## Address for correspondence:

Dr. Ipsa Pandya, Department of Skin and V.D., Baroda Medical College, Vadodara, Gujarat, India. E-mail: niip257@yahoo.co.in

## Psoriasis patients are enriched for genetic variants that protect against human immunodeficiency virus-1 disease

Chen H, Hayashi G, Lai OY, Dilthey A, Kuebler PJ, Wong TV, Martin MP, Fernandez Vina MA, McVean G, Wabl M, Leslie KS, Maurer T, Martin JN, Deeks SG, Carrington M, Bowcock AM, Nixon DF, Liao W. *PLoS Genet* 2012;8:e1002514. doi: 10.1371/journal.pgen.1002514. Epub 2012 Feb 16.

An important paradigm in evolutionary genetics is that of a delicate balance between genetic variants that favorably boost host control of infection, but which may unfavorably increase susceptibility to autoimmune disease. Here, we investigated whether patients with psoriasis, a common immune-mediated disease of the skin, are enriched for genetic variants that limit the ability of human immunodeficiency virus (HIV)-1 virus to replicate after infection. We analyzed the human leukocyte antigen (HLA) class I and class II alleles of 1727 Caucasian psoriasis cases and 3581 controls and found that psoriasis patients are significantly more likely than controls to have gene variants that are protective against HIV-1 disease. This includes several HLA class I alleles associated with HIV-1 control; amino acid residues at HLA-B positions 67, 70, and 97 that mediate HIV-1 peptide binding; and the deletion polymorphism rs67384697 associated with high surface expression

of HLA-C. We also found that the compound genotype KIR3DS1 plus HLA-B Bw4-80I, which respectively encode a natural killer cell activating receptor and its putative ligand, significantly increased psoriasis susceptibility. This compound genotype has also been associated with delay of progression to AIDS. Together, our results suggest that genetic variants that contribute to anti-viral immunity may predispose to the development of psoriasis.

## Psoriasis in patients with human immunodeficiency virus infection: From the Medical Board of the National Psoriasis Foundation

Menon K, Van Voorhees AS, Bebo BF Jr, Gladman DD, Hsu S, Kalb RE, Lebwohl MG, Strober BE. *J Am Acad Dermatol* 2010;62:291-9.

Patients with psoriasis and human immunodeficiency virus (HIV) infection often present with more severe and treatment-refractory cutaneous disease. In addition, many of these patients have significant psoriatic arthritis. Many effective drugs for psoriasis and psoriatic arthritis are immunosuppressive. A task force of the National Psoriasis Foundation Medical Board was convened to evaluate treatment options for psoriasis in patients with HIV. Based on a review of the literature, 29 reports were included as evidence. First-line treatment recommended for mild to moderate disease is topical therapy; moderate to severe disease is phototherapy and antiretrovirals, and oral retinoids as second-line treatment. For severe disease, cyclosporine, methotrexate, hydroxyurea, and tumor necrosis factor alpha inhibitors may also be considered. HIV-associated psoriasis is often refractory to traditional treatments. Treatment is challenging and requires careful

### Access this article online

#### Quick Response Code:



#### Website:

www.ijstd.org

### How to cite this article:

Pandya I, Jose SK, Marfatia YS. Abstracts from the current global literature: Psoriasis and human immunodeficiency virus. *Indian J Sex Transm Dis* 2014;35:161-3.

consideration and should be tailored to patients based on disease severity and the input from an infectious disease specialist. Close monitoring for potential adverse events is necessary.

### **Human immunodeficiency virus-associated psoriasis. Clinical and histological observations in 36 patients**

Wölfer LU, Djemadji-Oudjiel N, Hiletework M, Tebbe B, Husak R, Goerdts S, Orfanos CE. *Hautarzt* 1998;49:197-202.

Between 1982 and 1995, over 700 human immunodeficiency virus (HIV)-infected patients with different skin diseases were registered at the Department of Dermatology, Benjamin Franklin Medical Center, The Free University of Berlin. Thirty-six of them (approximately 5%) were diagnosed as having psoriasis. This is clearly a higher prevalence of psoriasis than in the general population (1-2%). If psoriasis lesions are not clinically seen before diagnosis of HIV infection, the disease will preferentially (approximately 80% of these cases) appear during the late stages of the infection (CD4/CD8 ratio <0.4). Six of the 36 patients with HIV-related psoriasis (=16%) were found to have severe disease, showing an exudative clinical picture. In this paper, we report in detail on two representative cases from this group of patients. Histological examination also revealed exudative changes in HIV-infected patients with clinically moderate psoriasis. Immunohistochemically, HIV-related psoriasis showed a moderately decreased number of infiltrating T-cells, in contrast to psoriatic skin from noninfected patients. A marked difference was the reduced expression of the lymphocyte antigen orthophenylenediamine-4 in HIV-related psoriasis. Routine antipsoriatic treatment modalities in combination with systemic retinoids and phototherapy (selective ultraviolet phototherapy/psoralen with ultraviolet A) were successful in the treatment of severe exudative psoriasis in HIV patients, but the course of the disease was prolonged, and exacerbation was more frequent. HIV-related psoriasis was found not to influence the underlying HIV infection.

### **Retroviruses and psoriasis**

Mallon E. *Curr Opin Infect Dis* 2000;13:103-7.

Psoriasis occurs with at least undiminished frequency in human immunodeficiency virus (HIV) infected individuals. The behavior of psoriasis in HIV disease is of interest, both in terms of

pathogenesis and therapy, because of the background of profound immunodysregulation. It is paradoxical that, while drugs that target T lymphocytes are effective in psoriasis, the condition should be exacerbated by HIV infection. Antiretroviral therapy may improve psoriasis in tandem with improvement in the overall clinical and virological condition of the patient. The aetiopathogenesis of psoriasis is unknown, but genetic and environmental factors are thought to be involved. There are controversial issues regarding the immunological basis of psoriasis and the role of CD4<sup>+</sup> versus CD8<sup>+</sup> T lymphocytes. Current opinion favors an autoimmune basis for psoriasis, although the precipitating activating signal (s) within psoriatic plaques remains unknown. The immunodysregulation resulting from HIV infection may trigger psoriasis in those genetically predisposed by the Cw\*0602 allele. Since CD8<sup>+</sup> T-cells recognize antigen in the context of class I molecules, the identification of human leucocyte antigen class I association in HIV-associated psoriasis strengthens the argument for an important role for CD8<sup>+</sup> T lymphocytes in the immunopathogenesis of psoriasis. Human leukocyte antigen-Cw\*0602 could act as a cross-reactive target for cytotoxic T lymphocytes responding to processed peptides from microorganisms. Human retrovirus-5 is a recently described, partially characterized retrovirus and has been implicated in the pathogenesis of psoriatic arthropathy but not psoriasis.

### **Ostraceous and inverse psoriasis with psoriatic arthritis as the presenting features of advanced human immunodeficiency virus infection.**

Castillo RL, Racaza GZ, Roa FD. *Singapore Med J* 2014;55:e60-3.

Knowledge of both the common and atypical presentations of human immunodeficiency virus (HIV)-associated dermatoses may be helpful in arousing suspicion of HIV, especially in patients with no reported risk factors. Herein, we report the case of an otherwise healthy, nonpromiscuous 29-year-old man who presented to our institution with an 8-week history of plaques with oyster shell-like scales on the trunk, extremities and genital area. The plaques were associated with fever, and intermittent knee pain and swelling. Initial diagnostic tests were suggestive of drug hypersensitivity syndrome, and the patient's condition improved with treatment using oral prednisone. However, the lesions recurred when the dose of prednisone was tapered, even after the culprit drug had long been discontinued. Repeat skin punch biopsy and arthrocentesis revealed a diagnosis of psoriasis vulgaris with psoriatic arthritis. Due to

the atypical presentation of psoriasis, the patient was counseled to undergo HIV testing, which came back positive. Clinicians should be attuned to the skin signs heralding HIV/acquired immunodeficiency syndrome, in order to facilitate early diagnosis and treatment.

**Particular clinical presentations of psoriasis in human immunodeficiency virus patients**

Fernandes S, Pinto GM, Cardoso J. *Int J STD AIDS* 2011;22:653-4.

Patients with human immunodeficiency virus (HIV) infection have a higher propensity for infectious,

inflammatory, neoplastic and metabolic disorders. The link with psoriasis vulgaris is explained by well-known pathophysiological phenomena and can be observed at any stage of infection. The aim of our study was to characterize the clinical spectrum of psoriasis in a group of 50 patients with HIV. Our findings showed particular clinical presentations of psoriasis in those patients, suggesting a predilection for scalp lesions, palmoplantar keratoderma and flexural involvement, as well as a trend towards severe immunodeficiency. Psoriasis, a frequent reason for consultation, allows earlier suspicion and diagnosis of HIV in the presence of these particular patterns.