



A CLINICAL STUDY OF CUTANEOUS MANIFESTATIONS IN HIV DISEASE IN RELATION TO CD4 COUNT

Dermatology

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ABSTRACT

Acquired Immunodeficiency Syndrome (AID) was first recognised in the United State of America by U.S Centres for Disease Control & Prevention (CDC). As it is reported the unexplained occurrence of pneumocystis carinii pneumonia in five previously healthy homosexual men in Los Angeles and of Kaposi's Sarcoma in twenty six previously healthy homosexual men in New York and Los Angeles. Within a month the disease became recognised in male and female injection drugs users and soon there after in recipients of blood transfusions and in haemophiliacs. As the epidemiological pattern of the disease unfolded, it became clear that a micro transmissible bisexual contact (homosexual & heterosexual) and blood products was the most likely etiologic agent of the epidemic. Acquired Immunodeficiency Syndrome (AID) is collection of symptoms and sign of infections resulting from specific damage to the immune system caused by Human Immunodeficiency Virus (HIV), transmitted primarily through venereal routes or by exposure to contained blood or blood products resulting in a defect in cell mediated immune response manifested by increased susceptibility to opportunistic infections and to certain unusual malignancies especially Kaposi's sarcoma. The disorder has become greatest challenge to medical world because of its emergence as pandemic in modern times. HIV is a retrovirus that primary infects vital components of human immune system such CD4 + T Cells, macrophages and dendritic cells. It also directly an indirectly destroys CD4 + T Cells, as CD4 + T Cells are required for the proper functioning of the immune system, when enough CD4 + T Cells have been destroyed by HIV, cellular immunity is lost, leading

To AIDS. Acute HIV Infections progresses over time to clinical latent HIV infection and then early symptomatic HIV infection and later to AIDS, which is identified on the basis of the amount of CD4 + T Cells in the blood and presence of certain infections.

KEYWORDS

Acquired Immunodeficiency Syndrome (AID), Human Immunodeficiency Virus (HiV), Cutaneous Manifestations, CD4 + T Cells, macrophages and dendritic cells.

INTRODUCTION:

Acquired Immunodeficiency Syndrome (AID) is collection of symptoms and sign of infections resulting from specific damage to the immune system caused by Human Immunodeficiency Virus (HIV), transmitted primarily through venereal routes or by exposure to contained blood or blood products resulting in a defect in cell mediated immune response manifested by increased susceptibility to opportunistic infections and to certain unusual malignancies especially Kaposi's sarcoma. The disorder has become greatest challenge to medical world because of its emergence as pandemic in modern times. HIV is a retrovirus that primary infects vital components of human immune system such CD4 + T Cells, macrophages and dendritic cells. It also directly an indirectly destroys CD4 + T Cells, as CD4 + T Cells are required for the proper functioning of the immune system, when enough CD4 + T Cells have been destroyed by HIV, cellular immunity is lost, leading To AIDS.

Acute HIV Infections progresses over time to clinical latent HIV infection and then early symptomatic HIV infection and later to AIDS, which is identified on the basis of the amount of CD4 + T Cells in the blood and presence of certain infections.

MATERIALS AND METHODS:

A total number of one hundred and fifty cases of HIV / AIDS were attended to the Department of Dermatology referred from other departments, Shadan Institute Medical Sciences & Research Centre RR. District, Telangana State India. HIV / AIDS cases were diagnosed in the Department of Microbiology according to the National AIDS Controls Organisation (NACO) guidelines. ELISA tests were found positive for the patients to be diagnosed as HIV positive case. Diagnosis of various skin diseases were made clinically and were confirmed for their VDRL, Culture and skin biopsy. The whole blood was collected for the estimation of CD4 + CD8 counts. A mean of CD4 +, CD8 and CD4 + CD8 cell counts were calculated for each dermatological diagnosis and those associated with systemic disease.

P value has been calculated to know the probability of association of systemic disease in HIV positive skin patients with low CD4 + T Lymphocyte counts by Chi Square Test using the formula $X^2 = \frac{(O - E)^2}{E}$ where O = Observed Value.

E = Expected Value. Chi Square Value = 4.40 (p = 0.04). P Value = <0.05 was taken as a conventional level of significance.

Table:1. CD4, CD8, CD4/CD8 IN HIV Positive Individuals With Skin Disease

Parameter	Sex	No. of samples	Cells/mm	Range
CD4	Male	65	151.05	2->2000
	Female	20	158.05	4->526
CD8	Male	65	743.14	120->2000
	Female	20	582.35	120->2000
CD4/CD8 Ratio	Male	65	0.09	0.01 - 0.29
	Female	20	0.16	0.04 - 0.69

The mean CD4 count in HIV positive males skin disease was 151.05 cells/mm, CD8 count was 743.14 cells/mm with CD4 / CD8 ratio 0.09.

Table: 2. Correlation Between Disease Occurrence And CD4 Count

Condition	Cd4 count
Pruritic Papular eruption	500
Seborrheic Dermatitis	500
Onychomycosis	450
Hairy Leukoplakia	400
Herpes Zoster	400
Monilia	300
Molluscum Contagiosum	250

DISCUSSION:

Skin manifestations are seen in all stages of HIV / AIDS. The CD4 cell count is useful measure of a patient's immune competence or by inference disease progression. It is thought that incidence and severity of skin disorders increase as immune function deteriorates. There is a correlation exists between degree of Immunosuppression (measured by CD4 antigen bearing helper/suppressor lymphocytes) and the incidence of specific skin disorders in patients with HIV.

REFERENCES:

- Cohen PR, Grossman ME, et al. Disseminate Herpes Zoster in patients with Human Immunodeficiency virus infection. American Journal of Medicine June 1998; Vol. 1076 -80.
- David S. Goodman, Ellen D. Teplitz, et al. Prevalence of cutaneous disease in patients with Acquired Immunodeficiency Syndrome (AIDS) related complex. J AM ACAD Dermatology 187: 17: 210 -20.
- Eichmann A. Skin manifestations in patients with infection. Z Hautkr. 1990 Jul;65(7):640-45.
- Garry RF. Potential mechanism for the cytopathic properties of HIV / AIDS. 1989;3: 683 -694.
- Lautenschlager S, Eichmann. A, et al. Skin changes in HIV infections. The r Urmsch

- 1995 Apr; 52 (4): 275 – 81.
6. Lim W, Sadick N, Gupta et al. Skin disease in children with HIV infection and their Acquisition with degree of immunosuppression. *Int. J Dermatology* 1990; 29 (1): 24 – 30.
 7. Maggi E, Manetti R, et al. CD8 + T Lymphocytes producing TH2 – TYPE CYTOKINES (TC2) in HIV infected individual. *J Biol Regul Homeost Agents* 1995, Jul – Sep; 9 (3): 78-81.
 8. Rube J, Pardo, Maria A. Bogart. UVB phototherapy of the pruritic papular eruption of the Acquired Immunodeficiency Syndrome. *J AM ACAD Dermatology* 1992; 26: 423 – 28.
 9. Schab N, Gilli L, et al. Epidemiology of skin disease in HIV – infected patients: a prospective cohort study. *Schweiz Rundsch Med prax* 1996 Sep. 17; 85(38): 1162-6.
 10. Shimizu S, Chen KR, et al. Mucocutaneous manifestations in Japanese HIV – positive haemophiliacs. *Dermatology* – 2000; 201 (4): 321-25.