ORAL PRESENTATION



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Relative reduction of plasmacytoid dendritic cells with shift in TH₁ to TH₂ response in HIV-1 infected patients as compared to high risk and healthy north Indians

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Background

Dendritic cells (DCs) are professional antigen presenting cells and play a central role in both innate and adaptive immunity. A decrease in one or both subsets of DC has been reported in HIV-1 infected patients from different populations. The status of DC subsets in subjects at high risk for HIV-1 such as Injecting Drug Users (IDUs) has not been reported so far.

Methods

Blood samples from 15 healthy individuals, 15 IDU and 15 HIV-1 positive patients were collected and informed consent was obtained. Plasmacytoid and myeloid DCs were accessed by four-color flow cytometry. The plasma level cytokines and HIV-1 viral load were determined.

Results

We observed a significant decrease in the total DCs and pDCs population in HIV-1 infected patients (%DCs p = 0.0132, %pDCs p = 0.0281) and IDUs (%DCs p = 0.006, %pDCs (p>0.0001) as compared to healthy individuals. The plasma levels of IFN- γ was significantly lower while level of IL-10 was significantly higher in HIV-1 infected patients as compared to IDUs (p = 0.0062, for IFN- γ and p = 0.0071 for IL-10) and healthy subjects (p = 0.004 for IFN- γ and p = 0.0068 for IL-10).

Conclusions

This is the first study to characterize the dendritic cells subpopulations in IDUs who are at high risk for HIV-1

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¹All India Institute of Medical Sciences, New Delhi 110029, India Full list of author information is available at the end of the article infection. Further longitudinal studies on the status of dendritic cell subpopulations and their correlation with the cytokine profile will enable the elucidation of the precise role of dendritic cells in HIV-1 infection.

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