

EPOSTER PRESENTATION

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Expression of cytokine-mRNA in PBMC of HIV-1 subtype C infected individuals with opportunistic viral infections from South India

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Background

HIV disease progression is associated with marked change in the level of plasma cytokines. The study reported here investigated the level of mRNA expression of different cytokines: TNF alpha, INF-gamma, IL-10 and IL-21 in the peripheral blood mononuclear cells (PBMC) among the HIV infected individuals with viral opportunistic infections.

Methods

We quantified the mRNA levels of 4 cytokines in PBMC directly from the blood of individuals infected with HIV and normal healthy controls using TaqMan based Real-Time PCR.

Results

The mRNA expressions of all the 4 cytokines in HIV-1 infected individuals were significantly higher compared to healthy controls (p value range 0.0004-0.01). The mean level of IL-10, INF-gamma and TNF alpha were higher in HIV infected individuals with low CD4 counts (<300 cells/ μ L). The IL-10 expression showed a significant negative correlation with CD4 counts ($r = -0.25$, $p = 0.04$) while IL-21 showed a positive correlation with CD4 counts ($r = 0.26$, $p = 0.03$). There was significant negative correlation between the CMV viral load and IL-21 expression.

Conclusion

The study showed a significant negative correlation between CD4+ T cell counts and IL-10 mRNA expression

showing a shift towards TH2 profile during the late stages of the HIV disease in subtype C infected individuals. This study on HIV-1 subtype C infected individuals with opportunistic viral infections like EBV and CMV adding new information in such specific opportunistic infections.

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