Retrovirology

BioMed Central

Poster presentation

P16-16. Gag and Nef specific T-cell responses in HIV-1 infected long-term non-progressors in Uganda

J Kyosiimire-Lugemwa*[1], P Pala[1], G Miiro[1], J Todd[1], P Kaleebu[1], N Imami[2] and F Gotch[2]

Address: [1]Immunology, Imperial College, London/MRC/UVRI Uganda Research Unit on AIDS, Entebbe, Uganda and [2]Department of Immunology, Imperial College, London, UK

* Corresponding author

from AIDS Vaccine 2009
Paris, France. 19–22 October 2009

Published: 22 October 2009

Retrovirology 2009, **6**(Suppl 3):P245 doi:10.1186/1742-4690-6-S3-P245

This abstract is available from: http://www.retrovirology.com/content/6/S3/P245

Background

HIV-1-specific T-cell responses are preserved in HIV-1 infected individuals with non-progressing HIV-1 disease. "Long Term Non Progressors" (LTNPs) were defined as ART naive individuals infected with HIV-1 for >8 years, maintaining CD4+ T-cell counts >500, and with minimal CD4+ decline over time. We tested the hypothesis that Gag-specific T-cell responses are inversely correlated to disease progression whereas Nef-specific T-cell responses are not.

Methods

17 ART naïve HIV-1 infected patients from the Entebbe cohort in Uganda were recruited and stratified by CD4+ T-cell count, CD4+ decline slopes, and time of enrolment, into 2 groups – 10 LTNP and 7 Rapid progressors (RP). All patients were women. We measured plasma viral load, current CD4 T-cell count, and IFN-γ, IL-2, IL-4 and perforin ELISpot responses to pools of 22 to 34 peptides (18-mers overlapping by 10 aa) based on consensus sequences of Gag and Nef from HIV-1 clades A1, A2 and D. Medians and inter-quartile ranges were calculated and comparisons between groups were performed using the Mann-Whitney U test. Correlations were presented using Spearmann's linear correlation coefficients.

Results

IFN-γ responses to GagA2 pool1 were significantly higher in the LTNP than in RP (p = 0.02). IL-4 responses to the GagA2 pool2 were higher in LTNP (p = 0.07), whilst perforin responses to the same pool were higher in the RP (p = 0.06). IL-2 responses were low and not significantly different between LTNP and RP. IFN-γ, IL-4 or perforin responses did not correlate with CD4 T-cell counts or viral load. All responses to Nef peptides were not significantly different between the LTNP and RP.

Conclusion

IFN-γ Gag HIV-1 specific responses were higher in LTNPs than in RPs confirming previous results. Higher perforin responses seen in RP perhaps indicate accelerated elimination of infected target cells. Non-specific IL-4 responses were high possibly reflecting TH2 responses to common environmental pathogens in the study population.