Retrovirology

BioMed Central

Oral presentation

HIV-1 Specific CD4 and CD8 T-cell Responses Associated With Low Viral Load in Treatment-Naïve HIV-1 Infected Individuals

Gunnel Biberfeld*‡, K Godoy-Ramirez, B Mäkitalo, R Thorstensson, C Nilsson, B Hejdeman, E Sandström and H Gaines

Address: Swedish Institute for Infectious Disease control and Karolinska Institutet, Stockholm, Sweden

Email: Gunnel Biberfeld* - gunnel.biberfeld@smi.ki.se

* Corresponding author ‡Presenting author

from 2005 International Meeting of The Institute of Human Virology
Baltimore, USA, 29 August – 2 September 2005

Published: 8 December 2005

Retrovirology 2005, **2**(Suppl 1):S62 doi:10.1186/1742-4690-2-S1-S62

In preparation for monitoring of vaccine-induced responses, we determined HIV-specific cell-mediated immune responses in 17 treatment naïve HIV-1 infected individuals with > 400 CD4+ T cells/ml for at least 5 years including 9 patients with low viral load (VL, < 5000 copies/ml) and 8 with high VL (> 5000 copies/ml). HIV-1 specific IFN-γ-production and cytolytic activity were higher in subjects with low VL. The differences between the two groups were statistically significant for CD4+ T-cell responses to Gag and Nef peptides, tested by a long-term (48 h) ICS assay and of border-line significance for the Gag-specific cytolytic responses measured by a flow-cytometry assay and a chromium release assay. We also found a significant inverse correlation between VL and IFN-γ-production by CD8+ T-cells in response to Gag as measured by ICS. The ELISpot IFN-γ response was not significantly different in patients with high and low VL. During a median follow-up period of 2.4 years, 6 of 8 subjects with high VL and 1 of 9 with low VL showed decreasing CD4+ T-cell counts, and ARV treatment was more frequently initiated in the former patient group (5 of 8 versus 1 of 9). The CD4 and CD8 T cell immune responses found to be associated with low VL and stable CD4 counts may be of importance for protection.