Retrovirology



Poster presentation



# Immunodominant Anti-Gag SLYNTVATL Responses in HIV-patients With More Than Five Years of HAART-induced Undetectable Plasma Viremia

Snjezana Zidovec Lepej*‡[1], Anica Remenar[1], Ela Kosor[2], Alenka Gagro[2] and Josip Begovac[3]

Address: [1]Division of Cellular Immunology, University Hospital for Infectious Diseases, Zagreb, Croatia, [2]Department for Research and Development, Institute of Immunology, Zagreb, Croatia and [3]Croatian Refferal Center for AIDS, University Hospital for Infectious Diseases, Zagreb, Croatia

Email: Snjezana Zidovec Lepej* - Snjezana.Zidovec@Lepejbfm.hr

* 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):P1 doi:10.1186/1742-4690-2-S1-P1

## Background

HIV-specific CD8+ T-cells in the peripheral blood diminish in most patients after the initiation of highly active antiretroviral therapy (HAART). However, examples of de novo appearance of HIV-specific CD8+ T-cells in patients with long-term successful therapy have also been described. The aim of our study was to determine the frequency and absolute counts of Gag-specific CD8+ T-cells in the peripheral blood of HIV-patients with more than 5 years of treatment-induced undetectable viremia and compare it with non-symptomatic untreated chronically-infected persons.

## Materials and methods

The study enrolled 15 untreated HIV-patients (median CD4 T-cells count 323.5 cells/μL, median percentage of CD4+ T-cells 17.3%) and 15 HIV-patients who have maintained undetectable plasma viremia (<50 copies of HIV-1 RNA/mL) for more than 5 years (median time on HAART 6.7 years, range 5 to 7 years, median CD4+ T-cell count 544 cells/μL, median percentage of CD4+ T-cells 24.3%). Percentages of Gag-specific CD8+ T-cells in the peripheral blood of our patients were determined by using iTAg™ MHC class I tetramers (A*0201) specific for SLYNTVATL (Beckman Coulter Immunomics Operations, USA) on FC500 flow cytometer (Beckman Coulter, USA). Absolute counts of Gag-specific CD8+ T-cells were determined by using Flow-count Fluorospheres (Beckman Coulter, USA).

## Results

Gag-specific CD8+ T-cells were detected in 12/15 (80%) of untreated HIV-patients and in 9/15 (66%) of treated HIV-patients with > 5 years of undetectable viremia. Percentages of Gag-specific CD8+ T-cells in ranged between 0.1 and 1.1% in untreated patients and between 0.1–0.7% in treated patients. Untreated HIV-patients had between 1 and 9 Gag-specific CD8 T-cells/μL of blood. HIV-patients with more than 5 years of undetectable viremia had between 1–6 Gag-specific CD8+ T-cells/μL of blood.

## Conclusion

Gag-specific CD8+ T-cells are detectable in some patients who have been successfully treated with HAART for more than 5 years. The frequency and absolute counts of Gag-specific CD8+ T-cells in patients with more than 5 years of successful HAART are different compared with untreated patients. These findings are relevant for the analysis of immune reconstitution following long-term successful HAART.