Abstract

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Project Title : Analysis of factors contributing to immune reconstitution in HIV-infected patients during combination of antiretroviral therapy

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Abstract: Combination antiretroviral therapy (cART) can lead to viral suppression and increase of $CD4^+$ T-cells in HIV-infected patients; however, not all patients fully respond to cART. Identifying factors contributing to different immune responses among HIV-infected patients receiving cART will help to define the most effective treatment strategy. We analyzed, among HIV-infected patients with full reponse (FR, CD4 cell count ≥500 cells/μL and confirmed HIV RNA load undetectable) or partial immune response (PR, CD4 cell count < 500 cells/μL and confirmed HIV RNA load undetectable) after at least 5 years cART, the relationship between interleukin-7 (IL-7), a cytokine playing a major role in T-cell generation, and other molecules related to its function. Plasma and peripheral blood mononuclear cells collected from HIV-infected patients on cART were measured for levels of IL-7, soluble IL-7Rα (s IL-7Rα or sCD127), using ELISA technique and thymic output so-called T cell receptor excision circles (TRECs) by real-time quantitative PCR. Additionally, levels of CD127 expression on PBMCs, lymphocytes, T-helper and cytotoxic T cells isolated from EDTA blood were analyzed by flow cytometry. Older Age and percentage of PBMC expressing CD127 were associated with partial response to ART. Levels of IL-7, sIL-7Rα and TRECs were not statistically significant different among patients with full response (FR) and those with partial response (PR) to cART.

Keywords : IL-7, TRECs, HIV-1