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Poster presentation

P18-14 LB. Vacc-4x HIV p24-like peptide vaccine-associated increase of CD4 T-cells in chronically infected HIV-1 patients on antiretroviral therapy

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Background

Since its implementation more than a decade ago combination Antiretroviral Therapy (ART) has had a dramatic effect on HIV-1 induced mortality and morbidity. However, 15-20% of the patients initiating ART do not regain CD4 T-cells despite an effective suppression of HIV1-mRNA levels in blood. The incomplete therapeutic effect leaves these patients at elevated risk of disease complications and death. Attempts to reduce clinical events through IL-2 induced stimulation of CD4 T-cells in the ESPRIT and SILCAAT studies have not proven to be successful. Until further research has given better opportunities for a successful direct induction of functional CD4 cells a logical alternative may be to increase CD4 counts indirectly by improving anti-HIV effect while on ART using antigen-specific immune stimulation with an effective HIV-vaccine.

Methods

In a Phase II trial with Vacc-4x, a synthetic and specific peptide vaccine to HIV-1 p24Gag, the increase of CD4 cells was studied in 37 chronically infected HIV patients on ART and with varying baseline CD4 T-cell counts. The median duration of ART prior to Vacc-4x immunization was 4.5 years and preART CD4 counts were median 295 cells/uL.

Results

The average increase of CD4 counts was 9% ($P < 0,05$) above baseline at 585 cell/uL (mean) 6 weeks after immunization. For patients with baseline CD4 level <500 cells/uL (n = 11) the increase was 25% ($P < 0,05$) or 105 cells/uL. Only a few patients had a baseline CD4 count <400 (n = 3) with an average increase of 32% (NS).

Conclusion

Patients on ART immunized with Vacc-4x experienced increased CD4 counts. The effect appeared more pronounced in patients with lower baseline CD4 counts (<400-500). In a previous study (ACTG 384) CD4 increase for patients (preART CD4<300) was minimal after 120 weeks on ART (RobbinsCID 2009,48, 350-61).