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Impact of antiretroviral and tuberculosis therapies on CD4$^+$ and CD8$^+$ HIV/M. tuberculosis-specific T-cell in co-infected subjects

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Short title: Restoring of HIV/Mtb-specific T-cell after therapies

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Highlights:

- ART and TB therapies increase the CD4$^+$T-cells
- ART and TB therapies increase the Mtb-specific CD4$^+$T-cells in HIV-LTBI
- ART and TB therapies increase the number of CD8$^+$ T-cells responders to Mtb

Abstract

BACKGROUND: Human Immunodeficiency Virus (HIV) infection is a risk factor for tuberculosis (TB). Antiretroviral therapy (ART) changed HIV clinical management but it is still unclear how pre-existing HIV/Mycobacterium tuberculosis (Mtb)-specific CD4$^+$ and CD8$^+$ T-cells are restored.

AIM: to evaluate the impact of ART and TB therapies on the functional and phenotypic profile of Mtb-specific antigen-response of CD4$^+$ and CD8$^+$ T-cells in prospectively enrolled HIV-TB co-infected patients.

METHODS: ART-naïve HIV-infected patients, with or without active TB or latent TB infection (LTBI), were enrolled before and after starting ART and TB therapies. Peripheral blood mononuclear cells (PBMC) were stimulated overnight with Mtb and HIV antigens (GAG). Cytokine expression and phenotype profile were evaluated by flow cytometry. Cytomegalovirus (CMV) and staphylococcal enterotoxin B (SEB) were also used.

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