

Impact of Tuberculosis Co-infection on Cytokine Expression in HIV-Infected Individuals

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Abstract : HIV and Tuberculosis (TB) infections each speed the other's progress. HIV-infection increases the risk of TB disease. At the same time, TB infection is associated with clinical progression of HIV-infection. HIV+TB co-infected patients are also at higher risk of acquiring new opportunistic infections. An important feature of disease progression and clinical outcome is the innate and acquired immune responses. HIV and TB, however, have a spectrum of dysfunctions of the immune response. As cytokines play a crucial role in the immunopathology of both infections, it is important to study immune interactions in patients with dual infection HIV+TB. Plasma levels of proinflammatory cytokines IL-2, IFN- γ ; and immunoregulating cytokines IL-4, IL-10 were evaluated in 75 patients with dual infection HIV+TB, 58 patients with HIV monoinfection and 50 patients with TB monoinfection who were previously naïve for HAART. The decreased levels of IL-2, IFN- γ , IL-4 and IL-10 were observed in patients with dual infection HIV+TB in comparison with patients who had only HIV or TB which means the profound suppression of Th1 and Th2 cytokine secretion. Thus, those cytokines could possibly serve as immunological markers of progression of HIV-infection in patients with TB.

Keywords : HIV, tuberculosis (TB), HIV associated with TB, Th1/ Th2 cytokine expression

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