

TH1/TH2 Cytokine Levels in Human Immunodeficiency Virus Type 1 Infected Patient

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Abstract

Background and objective: Human immunodeficiency virus (HIV) is the etiological agent of AIDS in humans. The infection is usually accompanied by changes in the synthesis and secretion of several cytokines, and dysregulation of these cytokines has an important role in HIV infected individuals. A switch from a T helper 1 (Th1) to a Th2 cytokine has been proposed as an important factor in progression of HIV infection to AIDS. The aim of the present study was to assess the levels of Th1 and Th2 cytokines in HIV infected individuals in order to identify the switch from Th1 to Th2 cytokines.

Materials and methods: This study was carried out in 140 HIV infected patients and 35 matched healthy controls. The serum samples were checked with ELISA for interleukin (IL)-2, IL-4, IL-10 and interferon (IFN)-gamma.

Results: IL-2 level was relatively higher and IL-10, IL-4 and IFN-gamma levels were relatively lower in the treatment naïve group than the under treatment group. Except for IL-2, all of the other cytokines exhibited a negative correlation with the CD4 cell counts and IFN-gamma levels showed the strongest negative correlation.

Conclusion: Our observations did not demonstrate switching of the type 1 to type 2 T helper cells cytokine profile in HIV infected patients and suggested more complex changes in Th1 to Th2 cytokine patterns in HIV infection.

Key words: T helper 1 (Th1), T helper 2 (Th2), Cytokine, Human immunodeficiency virus (HIV)