

RELATIONSHIP BETWEEN PLASMA CYTOKINE LEVELS AND CD4 T CELL COUNTS DURING ACUTE HIV INFECTION AMONG HIV/AIDS PATIENTS ATTENDING NAKURU PROVINCIAL GENERAL HOSPITAL, KENYA

Jane N. Mugwe
Laikipia University
KENYA

Michael M. Gicheru
Kenyatta University
KENYA

Joseph Mwatha
Department of Biotechnology
Kenya Medical Research
Institute, KENYA

ABSTRACT

Cytokines play an important role in immunity, inflammation and hematopoiesis. They are rapidly produced by a variety of cell types and secreted in response to specific and non-specific stimuli. They play a central role in the pathogenesis of many diseases including Human Immunodeficiency Virus and Acquired Immunodeficiency Disease Syndrome (HIV and AIDS). HIV most often infects CD4 cells, which are important part of the immune system. The aim of this study was to determine the relationship between cytokines measurable in plasma and CD4 T cell counts during acute HIV infection. Eighty individuals were recruited for this study that comprised of forty newly diagnosed with HIV-1; twenty HIV negative individuals; and twenty HIV positive individuals currently on highly active antiretroviral therapy (HAART). Cytokines were measured using multiplex cytokine immunoassay while CD4 T cell counts were done by flowcytometry. Data analyses were performed using Graph Pad Prism 6. Spearman Rank tests were used to test for correlations. Statistical analysis were done using SPSS version 17. The study showed that CD4 T cell counts and all detected plasma cytokines were negatively correlated among the treatment naïve HIV patients.

Keywords: Plasma Cytokines, Human Immunodeficiency Virus, CD4 T cell counts.