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Data Article

Data on pro-inflammatory cytokines IL-1 β , IL-17, and IL-6 in the peripheral blood of HIV-infected individuals

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ABSTRACT

Our most recent data indicate differences in the levels of pro-inflammatory cytokines (IL-1 β , IL-17, and IL-6) and malondialdehyde (MDA), a stable end-product of lipid peroxidation in the plasma samples between HIV positive individuals with low CD4 T cell counts < 200 mm³ and HIV positive individuals with CD4 T cell counts between 200 and 300 mm³ (ee). The data lend support and provide valuable correlation between CD4 T cell counts and the levels of inflammatory cytokines in HIV positive individuals.

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Specifications Table

Subject area	Biology
More specific subject area	Immunology, Infectious disease, oxidative stress

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Type of data	Figures
How data was acquired	Data were obtained by using the Microplate Reader Instrument (Bio-Tek Multi-mode Instrument, VT, USA), KC4 Data Collection Software, and analyzed with Graph Pad Prism.
Data format	Raw and analyzed
Experimental factors	Whole blood from HIV-1 subjects with CD4 T cell counts $< 200 \text{ mm}^3$ [$n=15$] and CD4 T cell counts $200\text{--}300 \text{ mm}^3$ will be referred as CD4 > 200 [$n=15$] were obtained from the Riverside County Regional Medical Center in Moreno Valley, CA.
Experimental features	Whole blood specimen was processed using density gradient centrifugation in order to obtain plasma samples. ELISA and colorimetric kits were used for determining the levels of pro-inflammatory cytokines (IL-1 β , IL-17, and IL-6) and MDA in the plasma obtained from individuals with HIV-1 infection.
Data source location	Department of Basic Medical Sciences, College of Osteopathic Medicine of the Pacific and Graduate College of Biological Sciences Western University of Health Sciences, Pomona, CA 91766.
Data accessibility	Data are in this article

Value of the data

- The data is important as it can provide researchers and medical practitioners a better understanding of the changes in the levels of pro-inflammatory cytokines and free radicals in HIV positive subjects with CD4 T cell counts $< 200 \text{ mm}^3$ [$n=15$] and those with CD4 T cell counts $> 200 \text{ mm}^3$ [$n=15$].
 - The data shown in this article compares the levels of IL-1 β , IL-17, IL-6 and MDA in the peripheral blood from HIV-1 positive individuals to the levels in healthy subjects [4,5]. The findings may help understand the consequence of CD4 T cell decline in the pathophysiology of the disease process.
 - Redox imbalance and exacerbated inflammation in HIV-1 positive individuals contribute to increased susceptibility for opportunistic infections [1–3]. These data could help researchers develop novel immunotherapeutics to modulate the host immune responses.
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1. Data

Our data indicates a correlation between diminished CD4 T cell counts and increased levels of pro-inflammatory cytokines (IL-1 β , IL-17, and IL-6) that contribute to systemic inflammation and cell signaling [1,2]. Our methodology for the measurement of these cytokines is colorimetric ELISA detection kits as previously reported [1–3]. The data that we presented here contribute to the understanding of the pathophysiology of the disease process in individuals with HIV-1 infection (Figs. 1 and 2).

2. Experimental design, materials and methods

2.1. Study subjects and blood specimens collection

The Institutional Review Board of Western University of Health Sciences approved the research protocol. Blood specimens were obtained from HIV-1 positive participants recruited at the Riverside County Regional Medical Center, Moreno Valley, CA. Study subjects were under 65 years of age with no preference for gender and ethnicity. Isolation of Plasma from Whole Blood.

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