

# Correlation of Baseline Quantitative Plasma Human Immunodeficiency (HIV) Type 1 RNA Viral Load with Clinical Status and CD4+ T-cell Counts in Treatment-Naïve HIV-Positive Patients in Singapore

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## Abstract

**Introduction:** Quantitative measurement of plasma HIV-1 RNA viral load has been available in Singapore since 30 November 1996. This study investigates the relationship, in antiretroviral-naïve, HIV-positive Singapore residents, between the baseline HIV-1 RNA viral load and clinical status at the time of quantification. The association of HIV-1 RNA viral load with CD4+ T-cell counts was also studied. **Materials and Methods:** HIV-1 RNA viral load was determined using Amplicor HIV-1 Monitor Test. One hundred and eighty subjects had baseline plasma HIV-1 RNA levels quantified during the period 30 November 1996 to 27 July 1998. They were classified into three clinical groups: A for asymptomatic infection (n = 110), B for symptomatic infection (n = 29) and C for AIDS (n = 41). **Results:** The differences between mean HIV-1 RNA levels were statistically significant (P < 0.001) for groups A and B (mean difference = -0.61 log<sub>10</sub>), and for groups A and C (mean difference = -0.75 log<sub>10</sub>). However, there was no statistically significant difference (P = 0.68) between groups B and C (mean difference = -0.13 log<sub>10</sub>). Of those subjects with CD4+ T-cell counts measured within 30 days of viral load quantification, there were statistically significant negative correlations between HIV-1 viral load and CD4+ T-cell counts for groups A (n = 91, r = -0.536, P < 0.01) and C (n = 34, r = -0.446, P < 0.01) but not group B (n = 26, r = -0.297, P > 0.05). **Conclusion:** This suggest that the more advanced the phase of HIV infection, the higher the baseline plasma viral load and the lower the CD4+ T-lymphocyte counts.

Ann Acad Med Singapore 2000; 29:708-13

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