

INTISARI

Latar belakang

Infeksi *human immunodeficiency virus* (HIV) masih menjadi masalah kesehatan yang terus meningkat dari tahun ke tahun di seluruh dunia. Aktivasi sistem imun dan inflamasi kronis merupakan komponen penting dari imunopatogenesis HIV karena pasien akan mengalami perubahan imun dan sekresi sitokin, hal ini akan mendukung replikasi virus sehingga menyebabkan tingginya *viral load* HIV dan juga menurunkan jumlah sel T CD4+. Vitamin D berperan dalam pertahanan terhadap infeksi HIV. Rendahnya kadar vitamin D berhubungan dengan lebih banyak inflamasi dan aktivasi imun, sel T CD4+ yang rendah, progresi penyakit HIV yang lebih cepat, dan meningkatkan mortalitas. Penelitian tentang hubungan kadar vitamin D dan *viral load* HIV memberikan hasil yang bervariasi. Oleh karena itu, hubungan kadar vitamin D dan *viral load* HIV masih perlu diteliti lebih lanjut terutama pada populasi Indonesia.

Tujuan

Tujuan penelitian ini adalah untuk mengetahui ada tidaknya korelasi antara kadar vitamin D dengan *viral load* pada pasien HIV yang belum mendapat terapi antiretroviral.

Metode

Penelitian ini merupakan penelitian observasional analitik dengan desain potong lintang (*cross-sectional*) untuk menilai hubungan antara kadar vitamin D dengan *viral load* pada pasien HIV yang belum mendapatkan terapi anti retroviral (ARV). Subjek penelitian adalah pasien HIV dewasa dari semua stadium yang baru terdiagnosis dan belum mendapatkan ARV, yang menjalani pengobatan di Poliklinik Edelweis RSUP Dr. Sardjito Yogyakarta. Subjek penelitian diambil sampel darah EDTA sebanyak 10 ml. Sampel darah diperiksa di Instalasi Laboratorium Terpadu RSUP Dr. Sardjito dan Laboratorium Departemen Patologi Klinik dan Kedokteran Laboratorium FKMK Universitas Gadjah Mada Yogyakarta. Pemeriksaan vitamin D dikerjakan dengan alat Cobas e 411. Jumlah *viral load* diukur dengan *real time reverse transcription-polymerase chain reaction* (RT-PCR) menggunakan Abbott m2000rt. Analisis statistik dilakukan untuk mengetahui hubungan antara kadar Vitamin D dengan *viral load* menggunakan uji korelasi Pearson.

Hasil

Uji korelasi Pearson antara kadar vitamin D dengan log viral load pada penelitian ini mendapatkan nilai r sebesar 0,110 dengan nilai $p = 0,380$ yang menunjukkan tidak adanya hubungan antara kadar vitamin D dengan log viral load.

Simpulan

Tidak terdapat korelasi antara vitamin D dengan *viral load* HIV pada pasien HIV yang belum mendapat terapi ARV.

Kata Kunci

human immunodeficiency virus (HIV), vitamin D, *viral load*

ABSTRACT

Background

Human immunodeficiency virus (HIV) infection is still a health problem that continues to increase from year to year throughout the world. Immune system activation and chronic inflammation are important factors of HIV immunopathogenesis because patients will encounter changes in immune and cytokine secretion, this will promote viral replication, causing high HIV viral loads and also lowering the number of CD4⁺ T cells. Vitamin D plays a role in defense against HIV infection. Low levels of vitamin D are associated with more inflammation and immune activation, lower CD4⁺ T cells, faster HIV disease progression, and increased mortality. Studies on the relationship between vitamin D levels and HIV viral load has given varying results. Therefore, the relationship between vitamin D levels and HIV viral load still needs to be studied further, especially in the Indonesian population.

Aim

The aim of this study was to determine whether there was correlation between vitamin D levels and viral load in HIV patients who had not received antiretroviral therapy.

Methods

This study was an analytical observational study with a cross-sectional design to assess the relationship between vitamin D levels and viral load in HIV patients who had not received anti-retroviral therapy (ARV). This research subjects were all stage HIV adult patients who had not received antiretroviral therapy in Edelweis clinic Dr. Sardjito hospital Yogyakarta. The research subjects were drawn 10 ml of EDTA blood sample. Blood samples were examined at integrated laboratory installation Dr. Sardjito hospital and clinical pathology and laboratory medicine department laboratory, FKMK Universitas Gadjah Mada Yogyakarta. Vitamin D was measured by Cobas e 411. Viral load was measured by real time reverse transcription-polymerase chain reaction (RT-PCR) of Abbott m2000rt. Statistical analysis was performed to determine the relationship between Vitamin D levels and viral load using the Pearson correlation test.

Result

The Pearson correlation test between vitamin D levels and log viral load in this study obtained an r value of 0.110 with p value of 0.380 which indicates that there was no relationship between vitamin D levels and log viral load.

Conclusion

There was no correlation between vitamin D and HIV viral load in HIV patients who had not received antiretroviral therapy.

Keywords:

Human immunodeficiency virus (HIV), vitamin D, viral load