



POSTER PRESENTATION

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# Vitamin D and HIV: implications for chronic disease management

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## Background

To investigate implications for management of Vitamin D deficiency in HIV disease. Vitamin D, the prohormone, is important in bone metabolism, renal disease, immune function and recently has been studied for its relationship to cardiovascular disease and cancer. Various reports have noted the prevalence of Vitamin D deficiency among HIV infected individuals.

## Methods

Case studies of 17 HIV/AIDS patients in two community-based private practices in San Francisco caring for nearly 1000 HIV patients were initiated in 2009. Charts were reviewed for serum 25-(OH) Vitamin D, ionized calcium (Ca), parathyroid hormone (PTH), CD4 cell count, viral load, and lipid levels. Age, race, gender, current antiretroviral treatment, significant concomitant diseases and results of bone mineral density by DEXA scans were noted. We defined Vitamin D insufficiency or suboptimal levels as <30 ng/dl, deficiency as <20 ng/dl and severe deficiency as <10 ng/dl. Levels of 25-(OH) Vitamin D after at least 3 months of replacement with 800 IU of Vitamin D were noted when available.

## Results

65% were older than 50, 29% were between 40 and 50, and 6% were younger than 40. 76% were White, 12% were Hispanics, 6% were African-American and 6% were Pacific Islander. All were male except for one male to female transgender patient. All patients except one (Elite Controller on no meds) were on antiretroviral therapy and 100% were virologically suppressed at <75. CD4 counts ranged from 174 to 1058 with 69% > 350. All were on well balanced diets. Overall, 76% had 25-(OH) Vitamin D levels of less than 30 with 12% severely deficient, and with the

lowest level of 8.9 in a 37 year old patient. 2 patients, both over 60 years of age had normal levels.

## Discussion

A significant number of these patients (76%) had insufficient or suboptimal levels of Vitamin D. It is clear that Vitamin D is obtained from sun exposure, the diet or from supplements. What is unclear is what are the causes of the deficiency and what is the association of this deficiency with HIV itself, antiretroviral treatment or perhaps, premature aging in a chronically infected population.

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