Journal of the International AIDS Society

Poster presentation

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Vitamin D deficiency in the in-patient HIV population: cause or affect?

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from Ninth International Congress on Drug Therapy in HIV Infection
Glasgow, UK. 9–13 November 2008

Published: 10 November 2008

Journal of the International AIDS Society 2008, **11**(Suppl 1):P116 doi:10.1186/1758-2652-11-S1-P116

This abstract is available from: http://www.jiasociety.org/content/11/S1/P116

Background

Vitamin D has a role in bone metabolism, immunity and possibly in the prevention of some cancers. There have been varying reports of vitamin D deficiency in the HIV population, as well as the possibility of deficiency being caused by the HIV virus or HAART. Vitamin D deficiency may also have an affect on the progression of HIV.

Methods

25 (OH) Vitamin D levels were taken between 8 am and 10 am on all the HIV-positive patients admitted over a 2-month period (May & June) to Chelsea & Westminster Hospital.

Summary of results

74 patients (17 women, 57 men) had their 25(OH)VitD levels measured. Vitamin D deficiency is defined as <15 nmol/L, insufficiency as 15–50 nmol/L and normal >50 nmol/L. Sixteen (21.6%) patients were deficient, 33 (44.6%) insufficient and 25 (33.7%) were normal. Vitamin D deficient patients, mean CD4 cell count 237, median 179.5; Vitamin D insufficient patients, mean CD4 cell count 368, median 289; and patients with normal Vitamin D levels had a mean CD4 cell count of 348, median 340. Of the Vitamin D deficient patients, two (12.5%) were not on HAART, 13 (81.2%) were on NRTI's, eight (50%) were on NNRTI's, seven (43.7%) were on PI's, and one (6.2%) was on raltegravir. Of the insufficient patients, 12 (36.3%) were not on HAART, 19 (57.5%) were on NRTI's, seven (21.2%) on NNRTI's, 13(39.3%) on PI's, and two (6%) on raltegravir. The normal Vitamin D group had 10 (40%) patients not on HAART, 14 (56%) on NRTI's, 6 (24%) were on NNRTI'S, nine (36%) were on PI's, and none were on raltegravir.

Conclusion

A significant number, 49 (66.2%), of our patients had either vitamin D deficiency or insufficiency. There also appears to be lower CD4 counts in the Vitamin D deficient group of patients. Whether specific antiretrovirals contribute to Vitamin D deficiency can not be confirmed from these figures, however, further investigation into the relationship between HIV, HAART and Vitamin D needs to be undertaken.