

ORAL PRESENTATION

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Vitamin D and clinical disease progression in HIV infection: results from the EuroSIDA study

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Purpose of study

Since 25-hydroxy vitamin D (25(OH)D) deficiency has been associated with higher risk of morbidity and mortality in different settings, this study examined the association between 25(OH)D level and disease progression

in HIV-infected patients with prospective follow-up in the EuroSIDA study.

Methods

A group of 2000 patients were randomly selected from those with stored samples after stratification by region.

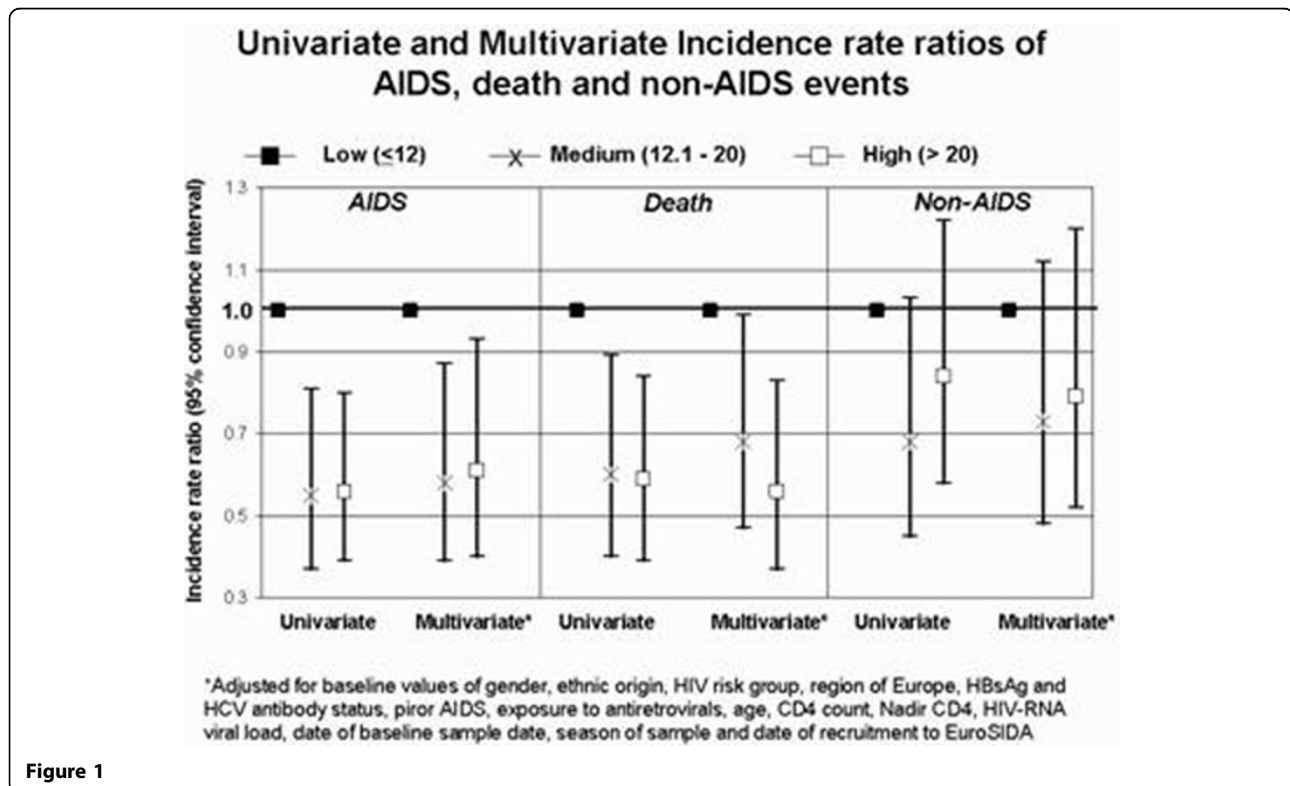


Figure 1

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25(OH)D levels were measured in a single laboratory from stored plasma samples. The 1985 available 25(OH)D results were stratified into tertiles. Factors associated with 25(OH)D levels and associations of 25(OH) levels with subsequent risk of all-cause mortality, AIDS and non-AIDS events were analysed, using Poisson regression.

Results

Thirty-six percent of patients had 25(OH) levels below 12 ng/ml, 31.3% between 12.1 and 20 ng/ml, and 32.7% above 20 ng/ml. In a cross sectional analysis, older persons, patients of Black ethnic origin, living outside Southern Europe and Argentina, sampled during winter, and infected with HIV through non-homosexual exposure were at higher risk of having low 25(OH)D levels, while patients receiving protease inhibitors were at a lower risk. Compared to those in the lowest 25(OH)D tertile, those in the medium and high tertiles had a significantly lower risk of clinical progression. Adjusted incidence rate ratios (IRR; see figure 1) for all-cause mortality were 0.68 (95%CI : 0.47-0.99, P=0.045) and 0.56 (95%CI : 0.37-0.8, P=0.009), and for AIDS events were 0.58 (95%CI : 0.39-0.87, P=0.0086) and 0.61 (95%CI : 0.40-0.93, P=0.020), for the medium and high tertiles, respectively. There was a non-significant reduced incidence of non-AIDS defining events in the medium and high tertiles, and a significant lower IRR of non-AIDS related death in the highest 25(OH)D tertile : 0.60 (95%CI : 0.37-0.98, P=0.043).

Conclusions

This observational study demonstrated that 25(OH)D deficiency is frequent in HIV-infected patients, and is independently associated with a variety of outcomes, reflected by a higher risk of mortality and AIDS events. Whether the relationship between vitamin D deficiency and clinical events is causal should be addressed because of potentially major consequences in terms of public health.

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