Poster presentation

Frequency of bone abnormalities and associated factors in a Spanish cohort of HIV-infected patients

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Background

Bone demineralization is an emergent problem in HIV-1 infected patients for which the mechanism is multifactorial. This increase raises the necessity of identifying the predisposing factors in order to provide strategies of treatment and prevention.

Methods

This is a cross-sectional study to evaluate the bone mineral density (BMD) in HIV-infected patients from a HIV unit of a Spanish university hospital. All patients with at least one evaluation of BMD of total body, lumbar spine and femoral neck measured by dual-energy X-ray absorptiometry (DEXA) were included in the analysis. The Mann-Whitney U test was used to compare two populations (normal and abnormal bone mineralization), and the Kruskal Wallis test to compare normal, osteopenia and osteoporosis populations (based on the World Health Organization criteria). A uni- and multivariant logistic regression were used to analyse the association between HIV disease status, demographics and antiretroviral treatments with the frequency of bone abnormalities.

Summary of results

A total of 676 subjects were analysed. Median age was 45 years (interquartile range, IQR: 40–49); 72% were male; median (IQR) time with HIV infection was 14 years (9; 17); 15% patients had reached AIDS; 95% were treated with HAART. Patients were on antiretroviral therapy a median of 8 years (IQR: 4.4; 11.2). Prevalence of osteopenia/osteoporosis was in 76% of the patients; 25% had osteoporosis (75% male). Overall, subjects with bone abnormalities exhibited less CD4 lymphocyte count nadir, low body mass index (BMI), older age, and more time on HAART (Kruskal Wallis test, p < 0.001). All parameters that showed relation with bone abnormalities in the univariant analysis (older age, being male, low CD4 count nadir, time on antiretroviral treatment, use of and time on PIs regimens, exposition to TDF, and low BMI) were included in the multivariant analysis. Results of them showed a relation between bone abnormalities and being male (OD: 3.9, 95% CI 2.3; 6.5, p < 0.001) and BMI <20 kg/m2 (OD: 4.25, 95% CI 1.8; 9.8, p = 0.001).

Conclusion

The results from this cross-sectional study showed a high prevalence of osteopenia and osteoporosis in the HIV-1+ population. It was related with being male and a low BMI in our cohort. These results demonstrate the high frequency of these abnormalities and the need for an early detection and prevention of them.