

Poster presentation

Traditional risk factors do not predict osteoporosis in HIV patients

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Purpose of the study

Infection with HIV has changed from a fatal condition to a chronic process made manageable by effective antiretroviral therapy (ART). Thus much of the emphasis in managing patients with chronic HIV infection has changed from treating and preventing opportunistic infections to dealing with the consequences of life-long HIV treatment and associated toxicities including osteoporosis.

We recently reported a prevalence of decreased BMD (both osteopenia and osteoporosis) of 54.7%, and actual osteoporosis (hip and/or spine) of 9.5% in a cohort of 148 patients attending two Dublin HIV clinics. This is in keeping with reported prevalence rates of osteopenia/osteoporosis at other HIV centres. We extended the aims of the above study to examine both HIV and non-HIV associated risk factors for osteopenia/osteoporosis in this cohort.

Methods

A prospective, cross-sectional study conducted in two HIV outpatient centres between January 2005 and May 2008. Patients recruited into the Dublin City HIV Cohort Study in the Mater and Beaumont Hospitals were eligible for this study, subject to additional inclusion and exclusion criteria. The study was approved by the ethics review committee of both participating hospitals.

Information on patient demographics, osteoporosis risk factors, immune function status, co-infections and HIV disease were obtained by patient interview and chart review. Bone mineral density (BMD) of the hip and spine (L2-4) was measured using dual-energy X-ray absorptiom-

etry (DXA) bone scan (GE Lunar) at Cappagh National Orthopaedic Hospital, Dublin.

Summary of results

There was no correlation between BMD and increasing age, female gender, ethnicity and cigarette smoking. A body mass index (BMI) < 19 was associated with a 4-fold increased odds of low BMD, while BMI > 24 was associated with reduced odds for low BMD ($p < 0.01$). CD4 or HIV viral load in ART-naïve patients also did not affect BMD. Patients on ART had a 2-fold increased odds for low BMD. We were unable to confirm previous associations between PI- and TFV- containing regimens with osteoporosis.

Conclusion

Traditional risk factors for osteoporosis were poor predictors of bone demineralization in our HIV cohort. Screening for osteoporosis with DXA should be considered for all HIV-positive patients.