

Oral presentation

## **O322 Bone disease and HIV – together for the long term**

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With more effective antiretroviral therapy (ART) providing opportunities for better long-term control of HIV-1 infection, there has been a shift in emphasis towards reducing non-AIDS related morbidity and mortality. Conditions affecting the cardiovascular system, central nervous system, kidneys and bone are particularly important in maintaining long-term health in HIV-infected patients. In the general population bone disease, such as osteoporosis and accompanying bone fractures, increases in prevalence with age and causes significant morbidity, with high costs associated with its management. Unlike other long-term morbidities associated with HIV and ART, effective treatment options, such as bisphosphonates, can improve bone mineralisation. Descriptions of abnormalities in bone metabolism and mineralisation predate the widespread introduction of combination ART and studies have demonstrated high prevalence of low bone mineralization in HIV-infected patients with consistent associations between the length of HIV infection and decreased bone mineralization. However, both *in vitro* research and evidence from clinical trials also show effects on bone metabolism with exposure to both nucleoside reverse transcriptase inhibitors and protease inhibitors with emerging clinical data suggesting that most bone loss occurs within the first year after initiation of therapy. Despite these data, numerous questions remain to be answered in relation to bone loss in HIV including the natural history of bone loss in this clinical setting, when maximum bone loss occurs, the nature of the underlying pathology, the principal factors influencing bone loss, what loss of bone mineralization is considered clinically relevant, when and how often to monitor bone mineralization and the appropriate thresholds for instituting therapy to limit bone loss. These questions can only be answered by large scale prospective studies from which HIV-specific, evidence-based guidelines can be derived. In order to appropriately manage long-term bone health in

HIV-infected patients, research strategies and sufficient access to monitoring are needed to address the deficits in our knowledge and enable appropriate monitoring of this condition in the HIV setting so that this challenge to the long-term health of HIV-infected patients is effectively managed and the potential resulting morbidity limited.