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Abstract (poster session)

Correlation between inflammatory markers and bone mineral density in treatment experienced HIV-seropositive patients

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Objectives: HIV infection induces a chronic inflammatory syndrome, even when the viral replication is suppressed under combined antiretroviral therapy (cART). The immune activation leads to a variety of comorbidities, including the loss of bone mineral density and increased risk of fractures. Our aim was to evaluate the correlation between inflammatory markers and bone mineral density (BMD) in young HIV-positive patients under cART. Methods: We conducted a cross-sectional study on HIV-infected patients undergoing stable cART for at least 6 months, in a tertiary care hospital – INBIMB, during a period of 6 months. Patients aged more than 50 years were excluded. Patients were evaluated by CD4, HIV viral load, TNF-a, IL-6, MCP-1, hs-PCR and DEXA scan. We used BioSource EASIA for inflammatory markers and Lunar DEXA scanner for bone mineral density. Spearman correlation was performed for statistical analysis. This study was part of an ongoing prospective Romanian research grant (SLD ART - PNCDI2 no.62077/2008) on experienced HIV positive patients. Results: We included 56 patients, with median age of 29,5 years and mode age of 20 years, sex ratio M/F 1,43, median CD4 cell count 536/mmc, undetectable viremia in 76% of cases. A quarter (23,6%) of patients had a T-score less then -1, the majority of them being osteopenic. There were no sex statistical significant differences of the T-score. The T-score and total BMD were correlated with plasma levels of MCP-1 (p=0,022, r=0,4 respectively p=0,038, r=0,36) and with hs-PCR (p=0,006, r=0,525 respectively p=0,002, r=0,6). There were no correlation found between TNF-a, IL-6 and T-score or total BMD. Conclusions: In our study the plasma levels of MCP-1 and hs-PCR were correlated with total bone mineral density and T-score and could predict disturbances in bone metabolism in HIV seropositive patients undergoing cART, being a useful tool in the patients` follow-up.