

## ORAL ABSTRACTS

**645. Structural Bone Deficits in HIV/HCV, HCV-Monoinfected, and HIV-Monoinfected Women**

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**Background.** HIV/hepatitis C virus (HCV) coinfection is associated with reduced bone mineral density (BMD) and increased fracture rates, particularly in women. However, the structural underpinnings for the skeletal fragility in coinfecting women have not been characterized. We used peripheral quantitative computed tomography (pQCT) and whole-body dual X-ray absorptiometry (DXA) to evaluate musculoskeletal parameters in HIV/HCV women.

**Methods.** We conducted a cross-sectional study in 50 antiretroviral therapy (ART)-treated HIV/HCV-coinfecting, 51 HCV-monoinfected, and 50 ART-treated HIV-monoinfected women. Tibial trabecular and cortical volumetric BMD (vBMD) and cortical dimensions were determined by pQCT. Whole-body fat mass and appendicular lean mass were measured by DXA. Age- and race-specific Z-scores were generated using data from 263 women without HIV or liver disease recruited as a reference group. Linear regression was used to evaluate differences in mean pQCT Z-scores between HIV/HCV and comparator groups, adjusted for fat and lean mass Z-scores.

**Results.** Coinfecting participants had lower mean trabecular Z-scores for vBMD (-0.85), cortical vBMD (-0.67), cortical area (-0.61), and cortical thickness (-0.77) compared to the reference group ( $p < 0.001$ ), which remained after adjustment for fat and lean mass. The decreased cortical dimensions were due to greater mean endosteal circumference (0.67;  $p < 0.001$ ), with comparable periosteal circumference (0.04), Z-scores. Coinfecting patients had lower mean trabecular vBMD Z-scores than HCV-monoinfected (-0.85 vs. -0.21;  $p = 0.004$ ) and HIV-monoinfected (-0.85 vs. 0.06;  $p < 0.001$ ) participants. Among all chronic HCV patients ( $n = 101$ ), those with stage 3 or 4 liver fibrosis (advanced fibrosis/cirrhosis) had lower trabecular vBMD (-0.90 vs. -0.44;  $p = 0.04$ ) and cortical thickness (-1.1 vs. -0.36;  $p = 0.02$ ) Z-scores than those with stage 0-2 fibrosis.

**Conclusion.** ART-treated HIV/HCV-coinfecting women had lower tibial trabecular vBMD, diminished cortical dimensions, and significant endocortical bone loss compared to healthy reference participants. Tibial trabecular vBMD was also lower in coinfecting than HCV- and HIV-monoinfected women. Future studies should evaluate the mechanisms for these structural abnormalities and explore if successful HCV therapy can reverse bone loss in HIV/HCV patients.

**Disclosures.** All authors: No reported disclosures.