

1603. Increased Risk of Hip Fracture Associated with Dually-Treated HIV/Hepatitis B Virus Coinfection

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Background. HIV and hepatitis B virus (HBV) infection are each associated with reduced bone mineral density, but it is unclear whether HIV/HBV coinfection is associated with an increased risk of fracture. We determined whether dually-treated HIV/HBV patients have a higher incidence of hip fracture compared to treated HBV-monoinfected, antiretroviral therapy (ART)-treated HIV-monoinfected, and HIV/HBV-uninfected patients.

Methods. We conducted a population-based cohort study among 4,156 dually-treated HIV/HBV-coinfected, 2,053 treated HBV-monoinfected, 96,253 ART-treated HIV-monoinfected, and 746,794 randomly sampled uninfected persons within the U.S. Medicaid populations of California, Florida, New York, Ohio, and Pennsylvania

(1999-2007). Coinfected patients were matched on propensity score to persons in each comparator cohort. Weighted survival models accounting for competing risks were used to estimate cumulative incidences and hazard ratios (HRs) with 95% confidence intervals (CIs) of incident hip fracture for dually-treated coinfecting patients compared to: 1) HBV-monoinfected receiving nucleos(t)ide analogue or interferon alpha therapy, 2) HIV-monoinfected on ART, and 3) randomly selected uninfected persons.

Results. Dually-treated coinfecting patients had a higher cumulative incidence of hip fracture compared to ART-treated HIV-monoinfected (at 5 years: 1.49% vs 1.07%; adjusted HR, 1.40 [95% CI, 1.05-1.87]) and uninfected (at 5 years: 1.48% vs 0.83%; adjusted HR, 1.83 [95% CI, 1.33-2.51]) persons. The cumulative incidence of hip fracture was higher among coinfecting than treated HBV-monoinfected patients (at 5 years: 0.70% vs 0.27%), but this difference was not statistically significant in competing risk analysis (adjusted HR, 2.62 [95% CI, 0.92-7.51]). At five years, dually-treated HIV/HBV coinfection was associated with 4.3 additional hip fractures per 1,000 compared to both treated HBV-monoinfected and ART-treated HIV-monoinfected persons, and 6.6 additional hip fractures per 1,000 compared to uninfected persons.

Conclusion. Among U.S. Medicaid enrollees, the risk of hip fracture was significantly higher among dually-treated HIV/HBV-coinfecting patients compared to ART-treated HIV-monoinfected and uninfected persons.

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