HIV and Hep C Coinfection Increases Risk of Bone Fracture

March 1, 2011 By Tim Horn

Coinfection with HIV and the hepatitis C virus (HCV) is a double whammy when it comes to fracture risk, according to a five-state Medicaid study reported on Monday, February 28, at the 18th Conference on Retroviruses and Opportunistic Infections (CROI) in Boston. The authors note that the increased risk of fracture in coinfected patients is particularly significant in females.

HIV and chronic HCV are both associated with reduced bone mineral density. While previous data have indicated that individuals infected with either HIV or HCV are at an increased risk of a serious bone fracture, data have been limited with respect to the fracture risk in patients living with both infections. In turn, Jessica Volk, MD, and her colleagues set out to determine whether antiretroviral (ARV)–treated HIV/HCV coinfected patients have an increased risk for fracture, compared with patients infected with only one of these viruses or neither HIV or HCV.

Volk's group analyzed the records of thousands of U.S. Medicaid patients residing in California, Ohio, Florida, New York and Pennsylvania who had at least six months of follow-up care between January 1999 and December 2005. Records were reviewed for HIV infection status, HCV infection status and reports of either hip or spine fractures.

Included in the analysis were nearly 37,000 individuals coinfected with HIV and HCV, nearly 277,000 people infected only with HCV, more than 95,000 people infected only with HIV and nearly 367,000 people not infected with either virus. Coinfected patients tended to be the youngest included in the analyses, averaging 39 years old, whereas those infected with neither virus tended to be the oldest, averaging 48 years old. Between one third and nearly one half of the study participants in each group were women.

According to the researchers, HIV/HCV-coinfected patients were significantly more likely to experience a fracture during the period in which they were followed. Among men, for example, there was nearly a 40 percent increase in the risk of hip fracture among those coinfected with HIV and HCV compared with those only infected with HIV, and a doubling of the risk when compared with men not infected with either virus. The risk of spinal fractures among coinfected men increased 37 percent and 24 percent, compared with men not infected with either virus and men infected only with HIV, respectively.

The increased risk of fracture was even more pronounced among HIV/HCV-coinfected women. Compared with women not infected with either virus, the risk of hip fracture was more than doubled. Compared with women infected only with HIV, the risk of fracture increased 77 percent.

The risk of spinal fractures increased by about 65 percent, compared with women not infected with either virus or women infected only with HIV.

The risk of fractures to the hip—but not the spine—was also higher when comparing HIV/HCV-coinfected men and women with those infected with HCV only.

“HIV/HCV-coinfected patients, particularly females, are at an increased risk for hip fracture than HCV-monoinfected patients and are at a higher risk for hip and spine fractures than HIV-monoinfected and HIV/HCV-uninfected persons,” Volk’s team concluded. “Mechanisms for bone disease, as well as interventions and therapies to prevent fracture among HIV/HCV-coinfected patients should be explored.”

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