HIV/HCV Coinfection Further Increases Risk of Bone Fractures

July 20, 2010 By Tim Horn

Compared with people living with HIV, people coinfected with HIV and hepatitis C virus (HCV) appear to face an even higher risk of bone fractures, according to new data reported Tuesday, July 20, at the XVIII International AIDS Conference in Vienna.

Decreased bone mineral density is increasingly reported in the aging HIV-positive population, explained Roger Bedimo, MD, of the VA North Texas Health Care System in his introductory remarks. The risk of fractures has also been found to be increased among people living with HIV, compared with non-HIV-infected patients.

The overall prevalence of fragility fractures—a broken vertebrae, hip or wrist after falling from standing height or less—is higher among women, but men face a greater risk of death associated with fractures and they account for the majority of HIV cases in the United States. According to Bedimo, the overall mortality is about 20 percent in the first 12 months after a hip fracture and is higher in men than women.

Bedimo also noted that 15 to 30 percent of people living with HIV are coinfected with HCV, which by itself is associated with osteoporosis.

To determine whether or not HCV coinfection adds to the risk of osteoporotic fractures among people living with HIV, Bedimo and his colleagues analyzed data from the Veterans Affairs' Clinical Case Registry. Included in the analysis were patient data collected before the widespread use of combination ARV therapy (1988 to 1995) and the contemporary era of combination treatment (1996 to 2009).

More than 56,500 patients were included in the analysis; 98 percent were male, and about a third were HIV/HCV coinfected. The average age at entry was 45.

Patients were followed in the cohort for an average of 5.4 years. About 64 percent of those included in the analysis had been on antiretroviral therapy for at least one month, with an average treatment duration of four years.

According to the analysis, 951 patients sustained at least one osteoporotic fracture, including 106 vertebral factures, 451 wrist fractures and 308 hip fractures. The rate, per 1,000 patient-years of follow-up, was 2.54 among those only infected with HIV, compared with 3.25 among those

coinfected with HIV and HCV.

Several known osteoporotic risk factors were echoed in the VA study, including older age, white race, tobacco use, diabetes and a low body mass index (less than 20). Bedimo also reported that while people with HCV coinfection only made up 31.2 percent of the study population, they accounted for more than 50 percent of the reported osteoporotic fractures.

Looking only at data collected between 1996 and 2006, the fracture rate—per 1,000 patient-years—was 2.86 among those with HIV monoinfection, compared with 4.06 among those with HIV/HCV coinfection. During the entire study period—1988 through 2009—the fracture rates were 2.54 and 3.35, respectively.

In conclusion, Bedimo reiterated that HCV coinfection is associated with a higher risk of osteoporotic fractures among people living with HIV. He added that the risk of osteoporotic fractures appears to be increasing in the modern-day treatment era among HIV/HCV-coinfected patients.

Bedimo also noted that, contrary to increasing rates of osteoporotic fractures in recent years, exposure to ARV therapy may be protective against bone breaks. The lower rates of fractures in the pre-combination ARV therapy era can likely be chalked up to premature death due to AIDS-related illnesses, which ultimately occurred before an osteoporotic fracture could be documented. Then again, he said, combination ARV therapy might not be protective, adding that a VA analysis exploring the positive—or potentially negative—effects of modern-day HIV treatment on osteoporotic fracture risk is in progress.

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