Truvada as PrEP Leads to Small Initial Decrease in Bone Density

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Truvada (tenofovir/emtricitabine) as pre-exposure prophylaxis (PrEP) causes a small decrease in bone mineral density (BMD) during the first six months of use. Publishing their findings in Clinical Infectious Diseases, researchers studied a subgroup of 498 HIV-negative transgender women and men who have sex with men (MSM) in the randomized, double-blind, placebo-controlled iPrEx trial, which first proved PrEP's efficacy in 2010.

A total of 247 of the participants in the subgroup were assigned to take Truvada and the remaining 251 a placebo.

The researchers used DEXA scans to measure BMD at the outset of the study and at 24-week intervals thereafter.

After the initial 24 weeks, BMD among those in the Truvada group dropped 0.91 percent in the spine and 0.61 percent in the hip. The changes after that point were not statistically significant, meaning they could have occurred by chance. Detection of Truvada within the cells of the participant was correlated with a drop in BMD after 24 weeks. Fifty-three percent of those assigned to take Truvada had detectable drug in their cells. Among those whose tests indicated they were taking Truvada consistently, the BMD in the spine and hip dropped 1.42 percent and 0.85 percent, respectively. After people stopped taking Truvada, they tended to experience a rebound, albeit not a complete one, in their spinal BMD. The drop in BMD was not linked to bone fractures.

The researchers concluded that the "relatively small bone loss associated with [Truvada] is offset by the prevention of HIV infection, which requires combination [antiretroviral therapy] that is associated with relatively greater loss of BMD."

To read the study abstract, click here.