Is Bone Density Loss on PrEP Higher Than Previously Believed?

Previous research on bone loss during the first year on PrEP may have failed to consider poor adherence to the regimen.

September 28, 2016

A small study of Australian men who have sex with men (MSM) taking Truvada (tenofovir/emtricitabine) as pre-exposure prophylaxis (PrEP) has seen higher rates of bone mineral density (BMD) loss than previous studies have, the National AIDS Treatment Advocacy Project (NATAP) reports.

Researchers theorize that previous studies found lower BMD loss during men's first year on PrEP because they failed to account for high rates of individuals adhering poorly to the daily regimen.

Such previous research has found that men experience about a 1 percent drop in BMD during the first months on PrEP. Investigators have also found that this drop is reversible after stopping Truvada after up to a year. It is not known whether such a reversal occurs following longer use of PrEP. Additionally, a recent study found that PrEP may stunt the bone growth of young men who have yet to hit their peak BMD, which typically occurs in the late teens or twenties.

Researchers in this new study presented their findings at the 18th International Workshop on Comorbidities and Adverse Drug Reactions in HIV in New York City. They looked at the DXA bone density scans of 34 HIV-negative MSM in the PRELUDE PrEP demonstration project when individuals first started daily Truvada and at 12 months. The men were 38 years old on average and had taken PrEP for an average of 6.4 months.

All those who had a DXA scan at the 12-month point had filled their Truvada prescriptions on time, suggesting they adhered well to the regimen. However, no lab testing data was available in time for the conference presentation to back this up.

After a year on PrEP, the men saw an average 2.2 percent drop in BMD at the lumbar spine, 2.1 percent at the hips and 2.5 percent at the femoral neck. The respective proportions of men experiencing a greater than 3 percent drop at these three sites was 44 percent, 34 percent and 46 percent. The respective proportions of those who saw a greater than 5 percent drop at those three sites was 27 percent, 16 percent and 25 percent.

Eighty-two percent of the men had a greater than 3 percent BMD loss at the spine or at one or both hips, and 53 percent had a greater than 5 percent loss at one of those two sites. Thirty-two percent had a greater than 3 percent BMD loss at both the spine and at one or both hips.

The limitations of the study include its small study population, lack of a control group, that the data was not controlled for the effects of aging and that there was no available data on any other potential causes of bone loss (however, none of the men had diabetes, chronic liver disease or chronic kidney disease) and the fact that the follow-up lasted for only a year.

To read the NATAP report, click here.

http://www.natap.org/2016/AdverseReactComor/AdverseReactComor_01.htm

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