Vorinostat Treatment Helps Expose the HIV Reservoir

However, the drug does not reduce the size of the reservoir.

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Given in 72-hour intervals, the drug vorinostat helps reveal HIV that is harbored in unreplicating cells, but on its own, at least, it does not apparently deplete the volume of such reservoir cells.

Made up of unreplicating, or latent, cells infected with HIV, the viral reservoir frustrates attempts to cure the virus because these cells remain under the radar of standard antiretroviral (ARV) treatment, which works only when cells are replicating.

Publishing their findings in the Journal of Clinical Investigation, researchers studied the HDAC inhibitor vorinostat in 16 people on fully suppressive ARV treatment for HIV. The participants received doses of the drug every 48 or 72 hours as the investigators sought to determine the optimal dosing interval.

The study authors found that vorinostat more effectively revealed unreplicating HIV-infected cells when dosed every 72 hours. Despite the fact that vorinostat is used to spur the replication of latently infected cells, its use in these participants did not cause a rise in viral load.

After more than a month of vorinostat treatment, participants experienced few side effects and no serious toxicities. However, the size of the viral reservoir apparently did not taper.

The researchers are now conducting two small studies in which they are pairing vorinostat with one of two other agents—an anti-HIV vaccine or an infusion of antiviral immune cells—in hopes that the combined effects will help shrink the viral reservoir. The investigators are not expecting immediate success but hope to build on the knowledge they gain from such research, with the ultimate goal of eventually clearing HIV from the body.

To read a press release about the study, click here.

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