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HIV Rebounds Similarly With New vs. Old Regimens After Antiretroviral Break

An analysis looked at the way HIV rebounds during treatment interruptions based on the age of the antiretrovirals used.

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Regardless of the type of antiretroviral (ARV) regimen taken—specifically whether the ARVs hit the market recently or further back in time—HIV rebounds similarly when treatment for the virus is interrupted.

This finding comes from a new study, published in the Journal of Infectious Diseases, that was led by Anthony S. Fauci, MD, director of the National Institute of Allergy and Infectious Diseases (NIAID), and Tae-Wook Chun, PhD, chief of the HIV Immunovirology unit at NIAID's Laboratory of Immunoregulation.

During studies for HIV cure therapies or therapeutic vaccines, participants are often put through what's known as an analytical treatment interruption (ATI), during which their ARV treatment is interrupted and they are closely monitored. The purpose of the ATI is to determine how the experimental treatment may have affected the virus, looking at how the virus rebounds during this period as a benchmark.

The investigators conducted the study out of concern that historical data regarding how the virus rebounds during an ATI was based on ARVs that were approved further back in time. This could mean that participants in older studies experienced greater levels of resistance to ARVs, which in turn could affect their viral rebound patterns.

Additionally, the studies providing those data amounted to a patchwork, using unstandardized intervals for monitoring an individual's immune system and a variety of criteria for when participants should restart their ARVs, thus ending their ATIs.

The authors of the new study sought to establish an updated data set for use as a new effective control group—one that would allow a comparison of viral rebound during an ATI among people in HIV cure or therapeutic vaccine studies with others who interrupted their ARVs but did not use such an experimental therapy.

To that end, the investigators put 22 people with HIV through an ATI. The participants had taken

only ARVs approved more recently. They had sustained an undetectable viral load for a median of 7.7 years prior to their ATI.

The participants were slated to restart their ARVs if they experienced a viral load higher than 1,000 for four weeks or longer, a defined decrease in their CD4 count, any HIV-related illness or pregnancy.

HIV rebounded in all the participants during their ATI. Half of them restarted their ARVs because of a decline in their CD4 count, 35% did so because their viral load increased too much, and 1% (two people) because of a low platelet count.

The median length of the ATI was nearly five weeks.

The study authors wrote that these findings suggest that more recently approved ARVs do not lead to a difference in the rate of viral rebound during an ATI compared with older HIV medications.

The findings also back up previous findings that ATIs are safe when conducted in a controlled research setting. Further, taking people with HIV off their ARVs for a relatively short period of time while closely monitoring them is, according to the study authors, an effective means of assessing how well experimental cure or therapeutic vaccine treatments can control viral load when standard ARVs are interrupted.

Fauci's team further stressed that their findings underline the importance of adhering to standard ARV regimens, which helps promote long-term health as well as longevity among people living with HIV.

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

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