What We Can Learn from Briefly Pausing HIV Medications: A Call for Research Volunteers

An update from co-chairs of the A5345 study conducted by AIDS Clinical Trials Group Network.

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Jonathan Li, MDCourtesy of AIDS Clinical Trials Group Network

In people living with HIV, we know that effective antiretroviral therapy (ART) can reduce viral loads to undetectable levels. However, if ART is paused, HIV replication will restart and viral loads will increase again in the blood.

What has surprised researchers though is the variability in the timing of viral return in the blood. It ranges from just a few weeks for most people, to months or even years for a small number of people. When viral loads remain undetectable for a prolonged period after ART is paused, we say that “post-treatment control” has been achieved. This is tantalizingly close to what we call a “functional cure” or “HIV remission.”

Davey Smith, MDCourtesy of AIDS Clinical Trials Group Network

Unfortunately, there is no current laboratory test that can predict when a person's viral load will become detectable following an ART pause. Having such a test would enhance our patients' knowledge about their own disease and could help HIV researchers devise strategies to induce HIV remission.

The A5345 study that is being conducted by the AIDS Clinical Trials Group (ACTG) Network is taking the first step in developing the tests that can help us predict when HIV will return to detectable levels in those pausing ART.

Under carefully controlled conditions, which include very close clinical and laboratory monitoring, study participants of A5345 will pause their ART. As soon as HIV becomes detectable above a

certain level, their ART will be immediately restarted and participants will be monitored until their virus has become suppressed again in the blood. We expect that most participants will be pausing their ART for only a few weeks, but there may be rare individuals who will be able interrupt their ART for much longer.

The A5345 study team, under the oversight of the National Institutes of Health's Division of AIDS, have worked closely with the laboratories and research sites to ensure that participants are pausing ART for the shortest possible time. Although there are always risks associated with ART interruption, this strategy of very close monitoring and rapid ART re-start has proven safe in several recent studies.

The blood samples and data collected in this study will be made available to researchers from around the world who are working towards the goal of an HIV remission. We hope that the results of this study will bring us closer to finding a strategy that could free our patients of daily HIV medications and have a profound impact on those parts of the world where access to ART medications remains challenging.

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Davey Smith, MD, MAS, is professor of medicine at University of California San Diego and chief of Infectious Diseases and Global Public Health. Dr. Smith directs the San Diego Center for AIDS Research (CFAR) Translational Virology Core, and co-directs the overall San Diego CFAR. In 2010, Dr. Smith was named HIV Researcher of the Year by the HIV Medical Association, and in 2015 he was elected as a fellow to the American Society of Clinical Investigation and American College of Physicians.

The AIDS Clinical Trials Group (ACTG) Network is the largest HIV/AIDS clinical trials organization in the world and is sponsored by the Division of AIDS within the National Institute of Allergy and Infectious Diseases.
