Concerns Arise Over Blood Donated by People on Antiretrovirals

Whether the donor uses antiretrovirals for HIV treatment or as PrEP, the drugs could mask the presence of the virus in a blood donation.

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Given that a small number of people donating blood in the United States are taking antiretrovirals (ARVs), researchers have expressed concern that such medication use, whether as HIV treatment or pre-exposure prophylaxis (PrEP), could mask the presence of HIV and allow the virus into the blood supply, Healio reports.

The Food and Drug Administration (FDA) already bans people living with HIV from donating blood. That said, people who have the virus but do not know it could wind up giving blood, only to be diagnosed through the process. All blood is screened for the presence of HIV before it enters the U.S. blood supply.

The FDA recently reduced from 12 months to three months the deferral period that men must wait to give blood after having had sex with another man. (For decades, there was a lifetime ban on donations from men who had ever had sex with a man.) Some blood donation centers may also require that a donor be off PrEP for 30 days before donating.

Research has solidly proved that if people with HIV maintain a fully suppressed viral load thanks to ARV treatment, they cannot transmit the virus sexually.

However, according to Brian Custer, PhD, MPH, vice president of research and scientific programs at Vitalant Research Institute in San Francisco and the author of the new study on blood donation, it remains theoretically possible that an HIV-positive person with an undetectable viral load could transmit the virus to an individual who receives a blood donation from them. The sheer volume of blood transfused could give rise to transmission, Custer suggests. More research is needed on this topic.

Publishing their findings in the journal Blood, Custer and his colleagues conducted blind testing for ARVs in blood donation samples drawn from a group of individuals identified as having HIV through routine blood-donation screening and another group of donors who tested negative for the virus through screening. The researchers also screened samples from the blood donations of HIV-negative men 18 to 45 years old who gave blood at six U.S. locations, testing for the presence of

the two components of Truvada (tenofovir disoproxil fumarate/emtricitabine), the first drug approved for use as PrEP.

The investigators also analyzed data on self-reported use of PrEP around the time of giving blood among men who have sex with men from five U.S. cities who participated in the 2017 Centers for Disease Control and Prevention National HIV Behavioral Surveillance (NHBS) survey.

Among the 300 samples from HIV-negative people that were tested for the presence of ARVs, no such medications were detected. However, 46 (15%) of the samples from the HIV-positive individuals showed evidence of ARVs. Of those samples, 94% came from people who were donating blood for the first time, and 74% were from men.

Among the donors identified as having HIV, first-time donors and those 45 to 54 years old were more likely to test positive for ARVs compared with repeat donors or younger donors.

Out of the 1,494 samples from the first-time male donors who were screened for the drugs in Truvada, nine (0.6%) tested positive for those two ARVs.

Of the 591 men who have sex men who responded to the NHBS survey, 27 (4.8%) reported using PrEP around the time they donated blood.

Custer and his colleagues are concerned that if blood donations come from people with HIV who are taking ARVs or people who have recently taken PrEP and yet contracted the virus, the ARVs in their bloodstream could suppress the virus such that the HIV testing used to screen the blood supply could fail to detect the virus's presence. Furthermore, it remains at least theoretically possible that such a blood donation could transmit the virus to its recipient.

That said, there is no direct evidence that any HIV transmissions have ever occurred under these circumstances.

"Persons who are HIV positive and taking [ARV treatment] and persons taking PrEP to prevent HIV infection are donating blood," the study authors concluded. "Both situations could lead to increased risk of HIV transfusion transmission if blood screening assays are unable to detect HIV in donations from infected donors."

To read the Healio article, click here.

To read the study abstract, click here.

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