Dolutegravir Trumps Other HIV Meds in Cutting Viral Load—Even With Missed Doses

Compared to other common HIV treatments, dolutegravir-based regimens maintained viral suppression even without perfect adherence.

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With antiretroviral (ARV) drugs for HIV, it's best never to miss a dose. And in the past, missing doses could lead to blips in detectable viral load and even drug-resistance mutations. But research published in Open Forum Infectious Diseases suggests that this may not as common with dolutegravir.

Dolutegravir is sold by itself as Tivicay and is part of the two-drug combination pills Juluca and Dovato and the three-drug Triumeq.

Jean-Jacques Parienti, MD, PhD, of the Department of Infectious Diseases at University Hospital in Caen, France, and fellow investigators with the multinational DOLUTECAPS study recruited 399 people living with HIV on antiretroviral treatment in France and Switzerland. The participants stayed on their current ARV regimen and were tracked for six months using electronic drug monitoring systems that alerted researchers when they took their pills.

Of the nearly 400 participants, 102 were on a dolutegravir-containing regimen; 90 were on a raltegravir-based regimen, 100 were taking non-nucleoside reverse transcriptase inhibitor (NNRTI) and 107 were on a boosted protease inhibitor.

The dolutegravir recipients were divided into three groups, chosen in part because of difficulty remembering to take their regimen every day. A quarter were new to treatment and started dolutegravir as a first-line regimen, nearly half (46%) switched to dolutegravir even though they already had an undetectable viral load on their current medications and another 29% switched to dolutegravir because their previous regimen had stopped working.

At six months, 17% of people on a dolutegravir regimen still had a detectable viral load compared with 20% of people taking raltegravir, 12% of those taking a NNRTI and 24% of those taking a boosted protease inhibitor. Notably, in the dolutegravir group, detectable viral load was most common among people whose previous regimen had stopped working.

However, no one on dolutegravir with detectable HIV showed evidence of mutations conferring resistant to integrase inhibitors, the class of drugs to which dolutegravir belongs. Meanwhile, four of the 18 people taking raltegravir, an older integrase inhibitor, showed evidence of resistance.

What's more, the median viral load among people on dolutegravir (132 copies) was lower than it was among those taking other regimens. By comparison, the median viral load was 362 among those with detectable HIV in the raltegravir group, 854 in the NNRTI group and 11,000 in the boosted protease inhibitor group.

Parienti and colleagues then looked at how often participants took their medication and compared that to lab work showing their viral loads. The findings were telling: People on dolutegravir, regardless of how adherent they were to their treatment, were more likely to maintain a low viral load.

And when they missed a single pill in a week, people taking raltegravir were 46 times more likely to experience a detectable viral load than those on dolutegravir. People on boosted protease inhibitors were 28 times more likely and those on NNRTIs were 25 times more likely to have a detectable viral load if they missed a dose.

"Dolutegravir therapy outperformed all other ARV strategies in terms of virological suppression below the limit of detection among [people with HIV] in the lower adherence subgroup in the multivariate analysis, adjusting for age, sex, CD4 cell count, group (starting, switching and failing) and baseline HIV RNA," wrote Parienti and colleagues. "Taken together, these results suggest that dolutegravir-based ARV therapies are more forgiving to missed doses (either by average adherence or treatment interruptions) than the other investigated ARVs regarding the risk of HIV RNA replication."

Click here to read the study abstract.

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