Twice-Daily ARV Treatment Better than Once-Daily for Some

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Even though people living with HIV may be more likely to adhere to a Kaletra (lopinavir/ritonavir)-based treatment regimen taken once a day compared with twice a day, those with high pre-treatment viral loads may experience virologic failure faster using Kaletra's once-daily dosing option, according to a study published in the April 1 issue of *Clinical Infectious Diseases*.

Research—both inside and outside the world of HIV—has confirmed that people are generally better able to take their medication as prescribed (in other words, to maintain better adherence) if they take treatments once per day compared with multiple times per day.

With HIV, however, the consequence of a missed dose on once-daily treatment can be more significant than missing a twice-a-day dose. This is because the time spent with diminishing levels of antiretroviral (ARV) therapy while waiting for the next dose is twice as long with once-daily treatment, and persistently low levels of ARV drugs in the blood is the recipe for developing drug resistance. There have been questions, therefore, about whether twice-daily treatment might actually help people maintain control of HIV better than once-daily treatment, despite an adherence advantage for the latter.

To determine both adherence rates and maintenance of viral suppression among patients using once- or twice-daily regimens containing Kaletra—a protease inhibitor that is approved using either dosing strategy for first-time treatment takers—Charles Flexner, MD, from Johns Hopkins University in Baltimore and his colleagues enrolled 321 people into the AIDS Clinical Trials Group (ACTG) 5073 study. In all, 160 people took Kaletra twice daily, while 161 took Kaletra once daily. People in both arms combined their Kaletra with Emtriva (emtricitabine) plus either Zerit (stavudine) or Viread (tenofovir).

Once-daily treatment trumped twice-daily treatment in terms of adherence. People taking once-daily treatment took their ARV doses properly 91 percent of the time, while people on twice-daily treatment took their doses as prescribed 80 percent of the time. The difference in adherence didn't translate into better control of the virus, however. Maintenance of a viral load less than 200 copies was almost identical between both groups.

In the analysis of people starting treatment with viral loads in excess of 100,000 copies, those taking twice-daily treatment had an edge. Among those with high viral loads, 89 percent of those

on twice-a-day treatment achieved and maintained a viral load of less than 200 copies during 48 weeks, compared with only 76 percent of those on once-a-day treatment.

“This study demonstrates that although [once-daily] administration improves adherence, the risk of [lower blood level concentrations of the drug between doses] may offset the benefit for selected patients,” the authors concluded.

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