

New Integrase Inhibitor Is Effective for First-Time Treatment

Gilead Sciences' bictegravir-containing combo also has fewer side effects.

August 8, 2017 By [Liz Highleyman](#)

A combination pill containing the next-generation integrase inhibitor bictegravir worked as well as a widely used first-line treatment regimen and caused fewer side effects, researchers reported at the 9th International AIDS Society Conference on HIV Science (IAS 2017), which took place late last month in Paris.

About 90 percent of people who took bictegravir combined with two other antiretrovirals in a single-tablet regimen reached an undetectable viral load in a pair of Phase III studies. This was similar to the response rates for people taking Tivicay (dolutegravir) or the Triumeq combination pill (dolutegravir/abacavir/lamivudine).

After preclinical studies showed that bictegravir has potent antiviral activity, a high barrier to resistance and a low potential for drug-drug interactions, Gilead Sciences developed a coformulation containing bictegravir, emtricitabine (also known as FTC) and tenofovir alafenamide or TAF (the latter two drugs are sold together as Descovy). Researchers are calling the new combination "B/F/TAF" until it gets a brand name.

Earlier this year Paul Sax, MD, of Brigham and Women's Hospital in Boston reported that [bictegravir worked as well as Tivicay](#) for first-line treatment when both were paired with Descovy, with 97 percent and 91 percent, respectively, having HIV RNA below 50 copies per milliliter at week 48.

At IAS 2017, Sax presented data from a follow-up trial pitting the new bictegravir coformulation against the same Tivicay plus Descovy regimen. To keep the study blinded—meaning neither participants nor researchers knew who was taking which regimen—the participants received matching placebos for their unassigned drug so that everyone took the same number of pills.

This study enrolled 645 participants. Most were men, nearly a third were Black and the median age was 34. The median CD4 count was 440 cells per millimeter³, and they had normal kidney function at baseline.

After 48 weeks of treatment, 89 percent of people taking the bictegravir combo pill and 93 percent

of those taking Tivicay plus Descovy had an undetectable viral load, showing that the new coformulation was noninferior, or equivalent, to the older one. Virological failure was rare (4 percent versus 1 percent, respectively), and no one developed resistance to any of the study drugs, Sax reported.

Joel Gallant, MD, of the Southwest CARE Center in Santa Fe reported findings from another Phase III trial that compared the bictegravir combination pill with the Triumeq coformulation. This study more closely reflects current practice because single-tablet regimens—as opposed to multi-pill regimens—are preferred for initial HIV treatment.

This study included 629 participants. Most were men, the median age was about 32 and the median CD4 count was about 450 cells/mm³. Just over a third were Black and about 20 percent were Latino. Because they could be randomly assigned to take either regimen, they could not have hepatitis B and had to be HLA B*5701 negative (those who test HLA B*5701 positive are likely to be hypersensitive to abacavir, one of the drugs in Triumeq, and should not take it).

After 48 weeks, 92 percent of participants taking the bictegravir combo pill and 93 percent of those taking Triumeq had an undetectable viral load, again demonstrating noninferiority. Here too, virological failure was rare, and no one developed drug resistance.

Treatment was generally safe and well tolerated in both studies. Few participants stopped therapy early because of adverse events (2 percent or less in all study arms). The most common adverse events in Gallant's study were headache, diarrhea and nausea. Changes in kidney function and bone density were similar in the bictegravir and Triumeq arms, providing more evidence that regimens containing TAF are as safe as regimens that don't contain tenofovir.

Looking at “patient-reported outcomes,” people who took the bictegravir combo pill reported significantly fewer gastrointestinal side effects and neuropsychiatric symptoms, such as dizziness, memory problems, anxiety and depression. On a sleep-quality questionnaire, people taking bictegravir were less likely to report sleep disturbances or using sleeping medications. (Though usually associated with Sustiva [efavirenz], some research has also shown a link between [Tivicay and central nervous system side effects](#).)

Following these studies of the bictegravir coformulation for first-time treatment, two trials now under way are testing whether it can maintain viral suppression in people who switch regimens. A study of B/F/TAF for women and one for adolescents and children are ongoing. Gilead [filed for Food and Drug Administration approval](#) of the new combination pill in June.