Broadly Neutralizing Antibody Helps Maintain Viral Suppression

People who received lotivibart, a specialized antibody, with long-acting cabotegravir kept HIV under control for at least a year.

March 3, 2026 By Liz Highleyman

A broadly neutralizing antibody from ViiV Healthcare, now named lotivibart, could potentially be paired with cabotegravir injections for long-acting HIV treatment, according to the latest results from the EMBRACE study presented at the Conference on Retroviruses and Opportunistic Infections (CROI 2026) last week in Denver.

Building on results presented at last year's CROI, Charlotte-Paige Rolle, MD, of the Orlando Immunology Center reported that 94% of people who switched from a standard oral antiretroviral regimen to IV infusions of lotivibart every four months plus monthly injections of the integrase inhibitor cabotegravir injections maintained viral suppression at one year. ViiV is now testing twice-yearly IV lotivibart plus cabotegravir given every four months.

"Long-acting and ultra-long-acting therapy has the ability to improve adherence and suppression for our patients, enhance quality of life—especially for those struggling with daily oral therapy—and improve public health efforts by expanding our HIV armamentarium," Rolle said. "We all know that when we offer our patients more options, they have better outcomes, and that can have a significant community benefit."

Injectable cabotegravir and rilpivirine (Cabenuva), administered by a health care provider once monthly or every other month, is now the longest-acting complete antiretroviral regimen. But other durable partners for cabotegravir would be welcome, especially for people who have developed resistant to non-nucleoside reverse transcriptase inhibitors (NNRTIs) such as rilpivirine. Broadly neutralizing antibodies (bnAbs) could potentially fill that role.

People living with HIV normally produce HIV-specific antibodies, but these mostly target parts of the virus that are hidden or highly variable. However, a small proportion of individuals naturally make broadly acting antibodies that target conserved parts of the virus that don't change much. Lotivibart is an engineered version of a natural bnAb that targets the gp120 protein on HIV's surface, which the virus uses to bind to CD4 T cells. HIV can develop resistance to bnAbs, however, so they are best used in combination therapy.

The Phase IIb EMBRACE trial (NCT05996471) is evaluating the safety, efficacy and tolerability of lotivibart (formerly known as N6LS or VH3810109) plus cabotegravir as a maintenance regimen for people currently on stable antiretroviral therapy.

In the earlier Phase I SPAN study, ViiV researchers showed that lotivibart had a favorable safety profile in HIV-negative volunteers when given by either IV infusion or by subcutaneous injection in combination with hyaluronidase, an enzyme that aids absorption. The Phase IIa BANNER study found that a single infusion or injection of lotivibart as monotherapy substantially reduced viral load in HIV-positive people who had not yet started antiretroviral treatment.

EMBRACE, conducted at 45 sites in the United States and Puerto Rico, enrolled 125 adults who were on stable antiretroviral therapy for at least six months with an undetectable viral load (below 50). At the start of the study, they were screened to ensure that their HIV was sensitive to lotivibart. They had no prior history of virological failure, had a CD4 count of at least 350 (median 647) and did not have active hepatitis B. More than 80% were men, and the median age was 53 years; 63% were white, 28% were Black and 43% were of Latino ethnicity.

In Part 1 of the study, participants were randomly assigned to receive 400 milligrams of cabotegravir given as an intramuscular injection every month plus either 60 milligrams/kilogram of lotivibart given by IV infusion or 3000 mg lotivibart with hyaluronidase given as a subcutaneous injection every four months. A third group stayed on their existing oral regimen.

As reported last year, 96% of people randomized to lotivibart infusions and 88% of those who received lotivibart injections maintained viral suppression at six months, as did 96% of those who stayed on their baseline oral regimen.

Rolle presented updated results showing that lotivibart plus cabotegravir continued to control HIV at one year, with 94% of participants in the infusion group having an undetectable viral load. The 12-month viral suppression rate fell to 82% for those who received lotivibart injections and 88% for those who stayed on standard oral therapy.

Three people (6%) who received lotivibart infusions, five people (10%) who got lotivibart injections and one person (4%) who stayed on standard treatment had a viral load above 50 at one year. Two people in the infusion group had met the criteria for confirmed virological failure (two consecutive viral load measurements of at least 200 copies) at six months, but no additional participants did so between six and 12 months. There were two cases at six months plus one additional case with longer follow-up in the injection group.

Two people in the lotivibart injection group, but none in the infusion group, had evidence of cabotegravir resistance mutations. Two people in the infusion group and one in the injection group developed reduced sensitivity to the bnAb. They all tested highly sensitive to lotivibart at baseline however, indicating that “phenotypic sensitivity alone does not explain confirmed virological failure,” Rolle noted.

Lotivibart was generally safe when given by either IV infusion or subcutaneous injection, with no

treatment-related serious adverse events, including immune reactions such as anaphylaxis or cytokine release syndrome.

However, lotivibart infusions were better tolerated than injections. Just four of the 50 infusion recipients (8%) reported any infusion/injection site reactions, compared with 25 of the 49 people in the injection group (51%). Three people in the injection group, but none in the infusion group, stopped treatment due to side effects. People in both groups reported very low pain and said lotivibart was “very acceptable” to “totally acceptable.” However, the pain rating rose and acceptability fell slightly in the injection group between six and 12 months, while staying about the same in the infusion group.

Based on these findings, the researchers concluded that lotivibart infusions “demonstrated a more favorable safety and tolerability profile” than injections, and the IV formulation was selected to move forward. Part 2 of the EMBRACE trial, testing lotivibart infusions every six months plus cabotegravir injections every other month, is now fully enrolled, according to Rolle.

Ultimately, however, ViiV aims to develop long-acting regimens that could be administered every six months or less. This will likely be necessary to compete with regimens in the pipeline from Gilead Sciences, including an experimental twice-yearly combination of its HIV capsid inhibitor lenacapavir (Sunlenca) plus two bnAbs dubbed teropavimab and zinlirvimab.

Click here for more news about HIV treatment.
Click here for more news from CROI 2026.
