

Broadly Neutralizing Antibodies for HIV Treatment and Cure

Several studies evaluated whether bnAbs can maintain viral suppression without antiretrovirals.

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Broadly neutralizing antibodies (bnAbs) could be potential partners for long-acting injectable antiretrovirals and might play a role in long-term remission, according to studies presented at the Conference on Retroviruses and Opportunistic Infections.

In one ongoing Phase II trial, 96% of people who switched from a standard antiretroviral regimen to twice-yearly IV infusions of teropavimab and zinlirvimab—two bnAbs from Gilead Sciences—plus lenacapavir (Sunlenca) injections maintained viral suppression at 26 weeks. The most common side effect was mild injection site reactions.

A second study evaluated ViiV Healthcare's bnAb N6LS, given by either IV infusion or injection every four months, plus monthly cabotegravir injections. After six months, 96% of people who switched from standard therapy to N6LS infusions and 88% who received N6LS injections maintained viral suppression. The infusion formulation was better tolerated, and ViiV will now test N6LS infusions every six months plus cabotegravir injections every other month.

Two other studies evaluated whether bnAbs can maintain viral suppression without antiretrovirals. In the RIO trial, which enrolled men in Europe, 75% of those who received infusions of the bnAbs 3BNC117-LS and 10-1074-LS did not experience viral rebound five months after discontinuing antiretroviral therapy, and a third were still in remission at 18 months. In the FRESH study, which enrolled women in Africa, 30% of those who received two other bnAbs, VRC07-523-LS and CAP256V2-LS, plus the immune modulator vesatolimod maintained viral suppression for a year, including four who remained off antiretrovirals without viral rebound for up to 2.4 years.

BnAbs “can maintain viral control for a long time after stopping treatment,” and “they seem to be working to reduce the size of the [viral] reservoir through an immune-boosting mechanism,” says RIO investigator Sara Fidler, MBBS, PhD, of Imperial College London.

