Cure: Immunotherapy

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Monkeys with HIV-like simian immunodeficiency virus (SIV) that were treated with a combination of antiretrovirals (ARVs) and immune-based therapy started generating specialized immune cells that may be able to hunt down and eliminate the virus from long-lived latent cells. This so-called viral reservoir is a major barrier to curing HIV. French researchers infected 16 macaque monkeys with SIV and, 35 days later, started them on a three-drug regimen of dolutegravir, tenofovir disoproxil fumarate and emtricitabine. Nine of the monkeys then received four weekly doses of interleukin 21 (IL-21) followed by weekly interferon alpha. Monkeys that received ARVs plus IL-21 and interferon generated highly functional natural killer (NK) cells that recognize SIV. In contrast, the monkeys treated with only ARVs had less specialized NK cells that didn't target SIV. What's more, the monkeys that received the immunotherapy had lower SIV levels in their lymph nodes and took longer to experience viral rebound after stopping treatment.

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