

In a landmark achievement for Africa, a clinical trial in South Africa has produced what may be the continent's first HIV cure. Anele, a 32-year-old woman from Umlazi township in KwaZulu-Natal, has lived more than two years HIV-free without treatment, offering hope to millions in a region hardest hit by the epidemic.

Her journey began in 2016 when she tested positive at age 23 through **FRESH (Females Rising through Education, Support and Health)**, a program combining frequent HIV testing with empowerment and life skills classes for young women. KwaZulu-Natal has one of the world's highest infection rates: more than 60% of women there are infected before age 23.

"This is the first long-term viral remission we've seen in African women," said Prof. Thumbi Ndung'u of the University of KwaZulu-Natal, who led the laboratory work. "If a cure is to have global impact, it must work here in Africa, where the epidemic is most severe."

Until now, all confirmed HIV cures came from Europe, where patients with cancer underwent risky stem cell transplants. These procedures replaced patients' immune systems with donor cells carrying a rare genetic mutation, Delta 32, which blocks HIV from entering cells. While successful for a handful of patients in Germany, London, and Spain, such transplants are impractical in Africa. The mutation is almost nonexistent among Africans, and the procedure carries life-threatening risks, typically attempted only when patients face another deadly disease.

By contrast, the South African trial, launched in 2022 with 20 women, used a "kick and kill" drug-based approach. Vesatolimod, a medication, forced HIV out of its hidden reservoirs, followed by an infusion of **broadly neutralizing antibodies** engineered for clade C, the most common HIV strain in southern Africa. Participants then paused antiretroviral therapy under close supervision.

Sixteen women saw the virus return and resumed treatment. Four remained in remission, and Anele is the only participant still virus-free.

Women account for more than half of global HIV infections but fewer than 20% of participants in cure research. Experts say including African women is critical, as biological responses differ from those studied in predominantly male Western populations. "A cure designed for African women is a historic step," said Dr. Krista Dong, clinical director of FRESH.

Africa is home to nearly 27 million of the world's 40.8 million people living with HIV, according to UNAIDS. Researchers hope the trial's success will inspire similar studies across the continent, including trials addressing co-infections such as tuberculosis and hepatitis B, which can affect the immune system and the persistence of HIV.

While scientists caution it is too early to declare her fully cured, the trial represents a milestone: Africa may not only bear the heaviest burden of HIV but also lead the search for a cure that is practical, scalable, and relevant for the populations most affected.