Personalized Therapeutic Vaccine Shows Promise

October 26, 2009

An experimental treatment strategy involving a vaccine that is tailor-made from an HIV-positive person's virus and immune system cells can reduce viral load and improve the function of the immune system, according to a presentation at the AIDS Vaccine 2009 conference in Paris on October 21 that was announced by the vaccine's developer, Argos Therapeutics.

Preventive vaccines work by stimulating the immune system so that when it encounters an infectious pathogen, it will quickly respond and keep the infection from taking hold. A therapeutic vaccine is also designed to provoke an immune response, but in people already infected with a virus or bacteria. Its aim is to help the body better control the infection. A number of therapeutic vaccines have been tried in HIV disease, but have not proved successful until now.

AGS-004, a therapeutic vaccine being developed by North Carolina–based Argos, customizes immune system cells from each individual, using HIV fragments known as messenger RNA, to maximize an HIV-positive person's immune response to the virus. To do this, dendtritic cells are removed from the body and combined with mRNA taken from the same individual's HIV.

Jean-Pierre Routy, MD, from McGill University Health Centre in Montreal, gave one of two presentations at the AIDS Vaccine 2009 conference on AGS-004. Routy presented data on 16 people with HIV who interrupted their antiretroviral (ARV) therapy for 12 weeks after achieving undetectable viral loads and then receiving the vaccine.

Thirteen of the 16 patients had a viral load at the end of their 12-week treatment interruption that was lower than their viral load before starting ARV treatment. The average reduction in virus was about 80 percent. No signs of significant side effects were reported.

"The level of viral load control in response to AGS-004 has been unexpectedly strong compared to what has been reported for other immunotherapies tested in similar patient populations," Routy said.

A second presentation involving the same group of study participants showed strengthened CD8 cell responses—long believed to be vital to the immune system's response to HIV—after vaccination.

A larger Phase IIb study is planned to start in 2010 based on funding from the National Institutes of Health.

Editor's note: An AIDSmeds web exclusive on therapeutic vaccines will be published on November 3.

© 2026 Smart + Strong All Rights Reserved.
http://beta.docker.poz.com/article/hiv-therapeutic-vaccine-17480-9668