Public-Private Partnerships (PPP)

David M. Margolis MD
The University of North Carolina at Chapel Hill
Key partnerships in HIV Cure: Academic & Private Sector

Finding a cure for HIV may require more than academic investment alone. Collaboration will be key – between academic groups and with the private and community sectors. Over the past 5 years we have seen multiple initiatives to facilitate partnerships with an increasing number of stakeholders.
The Challenge of Finding a Cure for HIV Infection
Richman et al 2008
Martin Delaney Collaboratories

Collaboratory of AIDS Researchers for Eradication
Expanding Collaborations and Programs

amfAR Announces $100 Million Investment Strategy Aimed at Curing HIV

Plan Includes $20 Million, Five-Year Grant to Establish and Fund a Cure-Focused HIV/AIDS Research Institute

NEW YORK, N.Y., Feb. 19, 2015 - amfAR, The Foundation for AIDS Research, today announced that it has created a $100 million investment strategy in support of its Countdown to a Cure for AIDS initiative, launched last year with the aim of developing the scientific basis of a cure by 2020. The establishment of the amfAR Institute for HIV Cure Research within a major academic research institution with a grant of $20 million will be the centerpiece of the investment strategy.

Funding Opportunity Title

Martin Delaney Collaboratories for HIV Cure Research (UM1)

Funding Opportunity Announcement (FOA) Number

RFA-AI-15-029

Application Due Date(s)

December 7, 2015, by 5:00 PM

National Institute for Health Research

C H E R U B
AIDS Patient Is Reported Cured in Berlin
With a Rare Treatment

By DONALD G. McNEIL Jr.

Doctors in Berlin are reporting that they cured a man of AIDS by giving him transplanted blood stem cells from a person naturally resistant to the virus.

But while the case has novel medical implications, experts say it will be of little immediate use in treating AIDS. Top American researchers called the treatment unthinkable for the millions infected in Africa and impractical even for insured patients in top research hospitals.

“It’s very nice, and it’s not even surprising,” said Dr. Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases. “But it’s just off the table of practicality.”

The patient, a 42-year-old American resident in Germany, also has leukemia, which justified the high risk of a stem-cell transplant. Such transplants require wiping out a patient’s immune system, including bone marrow, with radiation and drugs; 10 to 30 percent of those getting them die.

“Frankly, I’d rather take the medicine,” said Dr. Robert C. Gallo, director of the Institute of Human Virology at the University of Maryland School of Medicine, referring to antiretroviral drugs.

Moreover, the chances of finding a donor who is a good tissue match for the patient and also has the rare genetic mutation that confers resistance to H.I.V., the virus that causes AIDS, are extremely small. Nonetheless, the man has been free of the virus for 20 months even though he is not using antiretroviral drugs, and the success in his case is evidence that a long-dreamed-of therapy for AIDS — injecting stem cells that have been genetically re-engineered with the mutation — might work.

The cure was announced Wednesday by Dr. Gero Hütter and Dr. Eckhard Thiel, blood-cancer specialists at Charité Hospital in Berlin. The case was described last week in The Wall Street Journal.

Attempts to use bone-marrow transplants in AIDS treatment have been made since the 1980s. In one case, a patient with both AIDS and lymphoma died of the cancer two months later, but was found to harbor no H.I.V.; it was not known if something in the transplant had protected him.

And in a famous 1995 case, Jeff Getty, a prominent San Francisco advocate for AIDS patients, received bone marrow from a baboon, which is resistant to the human virus. He survived 11 years, but died of AIDS and cancer; the transplant had not protected him but antiretroviral triple therapy had been invented in time to help.

Dr. Hütter said one of the 80 potential donors who matched his patient closely enough for leukemia treatment also happened to have the mutation.

That mutation, discovered in a few gay men in the 1990s and known as Delta 32, must be inherited from both parents. With it, the white blood cells produced in the marrow lack the surface receptors that allow H.I.V. to invade the immune system.

Even if it is prevented from replicating by drugs, the H.I.V. can lie dormant in lymph and nerve cells for years. But without the necessary receptors, any virus coming out of dormancy has no way to infect them.

Doctors say the case gives hope for therapies that artificially induce the Delta 32 mutation.

For example, Dr. Irvin S. Y. Chen, director of the AIDS Institute at U.C.L.A., is working on using RNA “hairpin scissors” to cut out the bits of genetic material in blood stem cells that code for the receptors. The concept is working in monkeys, he said. Eventually, he hopes, it will be possible to inject them into humans after wiping out only part of the immune system with drugs. “I think that would carry no risk of death,” he said.
Challenges

- Multidisciplinary science
- High-risk
- Long horizon requires durable funding/investment
- Translational, therapeutic goal requires drug development tools

Still searching for new models in which to work
One style may not fit all
Thanks to participants