



Reuters

U.S. company Virxsys says using AIDS to fight AIDS

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By Maggie Fox

WASHINGTON (Reuters) - A company using genetically engineered versions of the AIDS virus says its unusual approach is getting some results, both for treating and perhaps as a vaccine against the virus.

Maryland-based Virxsys Corp said tests on monkeys showed its HIV-based vaccine might at least treat infections, if not prevent them, and it is now seeking permission to try it in people.

And the privately held company is encouraged by some early results of a gene therapy approach to controlling HIV infection in people.

Neither result, presented to the Conference on Retroviruses and Opportunistic Infections in San Francisco, suggests any immediate change in treating the fatal and incurable virus.

But AIDS research has reached a plateau, with little progress toward making a vaccine that can prevent infection and drugs providing new ways to control the virus coming on the market, but nothing remotely close to a cure.

"I think the vaccine is more the interesting one because it is far more doable in the end," said Dr. Joep Lange, who heads the Amsterdam Institute for Global Health and Development and who is a member of the company's medical advisory board.

"It doesn't prevent infection, but it does give good reduction in viral load," Lange, a former president of the International AIDS Society, told Reuters in a telephone interview.

The vaccine, called VRX1023, was tested in 15 monkeys at three different doses, said Gary McGarrity, who heads science at Virxsys. The vaccine is made using a crippled AIDS virus -- an approach that has been rejected as unworkable in the past.

While it did not protect the monkeys from infection, it did reduce how much virus circulated in the blood after they were infected, a measure called viral load.

In humans, the lower the viral load, usually the healthier the patient is.

McGarrity believes it may work as a so-called therapeutic vaccine -- one used to treat people who are already infected, as opposed to one that can prevent infection.

The second product is a gene therapy treatment called VRX496 that involves taking out a patient's immune cells called CD4 T-cells -- which are the cells that HIV infects.

These were treated with an RNA antisense product. RNA is the genetic material used by retroviruses such as HIV and antisense approaches use a type of mirror image of the genetic sequence to block genetic activity.

A crippled HIV virus genetically engineered with the antisense sequence is used to infect these T-cells.

"VRX496 lies inactive in a patient's white blood cells (specifically the CD4 cells), waiting for HIV to enter that cell. When HIV does enter, replication of HIV within that cell activates VRX496, which then binds to and destroys the HIV," the company said in a statement.

A team at the University of Pennsylvania School of Medicine is testing this in a phase I/II trial in 65 volunteers who are HIV infected and taking breaks in the regimen of AIDS drugs.

While on the breaks, they are treated with VRX496. Final data are not complete, but an interim study shows a strong effect in at least one patient, McGarrity said.

After treatment with VRX496, it took four months for the virus to return in the patient's blood. McGarrity said.

One patient does not make a case for a product, but he said the results were encouraging although very preliminary.

"The treatment does look expensive if you look at it as a one-shot deal," McGarrity said.

But he estimates a lifetime of taking AIDS drugs costs \$700,000 to \$750,000 in the United States.

"There are still some patients who don't like to take that cocktail of drugs every day," he added.

And there are toxic side-effects.

"This looks like a much more attractive alternative, while it may seem more cumbersome in the beginning," he said.

McGarrity added the approach is still too experimental to even begin to estimate cost.

(Reporting by Maggie Fox; editing by [Andre Grenon](#))