Once-A-Day HIV Meds Improve Quality Of Life And Hold Promise For Developing Countries

Emory University

Not so long ago, HIV sufferers took 10 to 15 pills a day and still the outcome was often bleak. Today, more than 80 percent of HIV patients take at least one of the drugs developed by Emory scientists in a single tablet, once a day. Although it’s not a cure, the treatment restores life as it lowers the daily drug regimen burden, diminishes side effects, relieves disease symptoms, and adds longevity.

“They are what we call DNA chain terminators,” explains Liotta. “Think of viral DNA as a line of rail boxcars, the drugs destroy the hitch so no more cars are added. The virus accepts the compounds and mistakes them for normal nucleotides, but they lack a function group necessary to copy the RNA to DNA.”

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Typically, HIV sufferers take a three-drug combination, with Emtriva being one of the three.
“That’s the thing, thousands of people make contributions to the ultimate success of this drug,” says Liotta. Indeed, many people have persevered at getting the drugs to patients around the globe. Gilead and Bristol-Myers Squibb gained FDA approval in 2006 for the first once-a-day, single tablet regimen for adults with HIV called Atripla®. Atripla contains three drugs—efavirenz (Sustiva®), emtricitabine (Emtriva®), and tenofovir disoproxil fumarate (Viread®), combined in one tablet and hence can be used as a stand-alone therapy in patients. Atripla reduces pill burden and simplifies dosing schedules, which not only makes things easier and more tolerable for patients, but also greatly eases storage, transport and distribution of the drug to places with less than ideal conditions.

“Gilead did a tremendous amount of work in stability studies to increase the shelf stability of the drugs in hot, humid climates and poor storage conditions typical in third world countries,” says Liotta.
Although these results are very gratifying, this is far from the end of the story. Emory researchers are expanding their search for more lifesaving drugs.

The new Emory Institute for Drug Discovery will open either late fall or early winter of 2009. Within its walls, scientists will attack several diseases with an unfailing determination to stop their trek across human lives.

“We may not make a fortune, but we will make a difference,” said Liotta.

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