Imagine an Enema That Protects Against HIV

Scientists have made progress developing such a microbicide, with promising results in tests among monkeys.

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Researchers have made progress in developing a microbicide enema that protects against HIV, with promising results in tests conducted among monkeys, aidsmap reports.

Researchers developed various forms of an anti-HIV enema and presented the results of their primate-based tests at the HIV Research for Prevention Conference (HIVR4P) in Chicago.

Their experimental enemas came in four formulations, two of which had the same balance of salts as primate cells, so they have a neutral effect on water moving in either direction between the enema and human cells. The other two had a lower salt concentration, so cells drew water out of the enema. The enemas were formulated with either 1.76 or 5.28 milligrams per milliliter of Viread (tenofovir disoproxil fumarate, or TDF).

Each monkey was given one enema dose.

The drug levels in monkey cells reached a peak faster in the enemas that led cells to absorb water.

The higher dose of the enema that led to water absorption yielded concentrations of the drug in the monkeys' blood and their cells that were five to 11 times greater than the other three formulations. Three days after the dose there was no significant difference in these measures, however.

The researchers biopsied cells from the monkeys' rectums an hour after the microbicide dose and found that those that received the water-absorption enema with the higher dose were completely protected against the introduction of two types of SIV, HIV's simian cousin. As for cells biopsied 24 hours after this particular enema, two out of six monkeys' cells were infected after being exposed to SIV compared with all the cell samples from monkeys that received the other forms of the microbicide.

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