Vaginal Microbiome Differences Likely Lower Anti-HIV Gel's Efficacy

A vaginal microbicide against HIV worked much less well among those with a certain dominant type of bacteria.

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In a major trial of a Viread (tenofovir disoproxil fumarate, or TDF)-based anti-HIV vaginal microbicide, women benefitted from much lower protecting against the virus if they had a less healthy vaginal microbiome, the Associated Press reports. This means that a certain type of unhealthy, inflammation-causing bacteria predominated in their vaginas and likely caused Viread to break down too quickly.

Publishing their findings in the journal Science, researchers analyzed vaginal samples from 688 women who participated in the CAPRISA 004 vaginal microbicide study in South Africa.

The women's vaginal microbiomes fell into two camps: 59.2 percent of the women had a dominant population of Lactobacillus, while 40.8 percent had a dominant population of Gardnerella vaginalis, plus other anaerobic bacteria. The women in the G. vaginalis group have what is considered a less healthy vaginal microbiome, one associated with inflammation in the form of bacterial vaginosis.

The vaginal microbicide protected those with the healthy vaginal microbiome against HIV at a rate of 61 percent, while those with the less healthy vaginal microbiome were protected at a rate of just 18 percent.

After conducting laboratory tests of the microbicide in the contexts of different types of vaginal bacteria, the researchers found that Viread persisted longer when combined with lactobacilli. Drug levels fell off swiftly when combined with G. vaginalis because that type of bacteria instigated a faster metabolism of the drug.

To read the study abstract, click here.

To read the AP article, click here.

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