More PrEP Needed To Prevent HIV Via Vaginal Than Anal Sex

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Greater dosing of Viread (tenofovir) or Truvada (tenofovir/emtricitabine) as pre-exposure prophylaxis (PrEP) is needed to reach effective levels in vaginal and cervical tissue than in rectal tissue, HIVandHepatitis.com reports. These findings help shed light on why two trials of PrEP among women, VOICE and FEM-PrEP, which tested both Viread and Truvada, had such poor efficacy in preventing HIV.

Presenting their work at the HIV Research for Prevention meeting in Cape Town, South Africa, researchers determined the necessary ratios of active tenofovir and emtricitabine to the DNA molecules the drugs work against to prevent HIV from replicating. Then they drew data from a Phase I clinical trial examining how tenofovir, emtricitabine and other antiretrovirals are absorbed into women's vaginal, cervical and rectal tissue. The researchers used this data to create a mathematical model that predicted the ratios of active drug to DNA molecules in a theoretical study population that took either Viread or Truvada two to seven days a week.

According to the model, two doses of Truvada per week or daily dosing of Viread would maintain the necessary ratio in rectal tissue throughout a population. On the other hand, a daily dose of Truvada would yield this ratio in vaginal tissue in more than 75 percent of a cohort of women, and in the cervical tissue of only half of the women. Daily Viread would yield the target ratio in cervical and vaginal tissues in half of a population of women.

Not only is the concentration of tenofovir higher in rectal tissues, but the concentration of DNA molecules it targets is also lower when compared with vaginal and cervical tissues.

The iPrEx open-label extension (OLE) http://www.aidsmeds.com/articles/iPrEx_OLE_results_1667_25922.shtml study recently estimated that men who have sex with men and who take Truvada an average of two to three times a week reduce their risk of contracting HIV by 84 percent. A previous analysis of the iPrEx study estimated that taking Truvada an average of twice a week reduces the risk of contracting HIV by 76 percent.

All these findings notwithstanding, the Centers for Disease Control and Prevention guidelines still stress the importance of adhering to PrEP's daily dosing. IPrEx OLE estimated that PrEP is 100 percent effective among MSM when taken daily, and an analysis of iPrEx estimated that daily dosing's efficacy is 99 percent.

To read the HIVandHepatitis story, click here.

To read a press release about the research, click here.

To read the study abstract, click here.

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http://beta.docker.poz.com/article/PrEP-vaginal-tissue-26358-8511