HIV Combo Pill Less Toxic Thanks to New Form of Tenofovir

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An investigational single-tablet combination regimen to treat HIV has comparable efficacy to and is less toxic than a similar regimen of individual tablets, thanks to the new form of tenofovir in the combo pill, MedPage Today reports. Reporting their findings at the Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) in Washington, DC, researchers conducted a Phase II, placebo-controlled, randomized trial of 153 treatment-naive people with HIV who were assigned to take either the single-tablet or multiple-pill regimen for 48 weeks. Each of the regimens included placebos so that the regimens matched one another.

Both of the regimens contained the protease inhibitor Prezista (darunavir), boosted with cobicistat, and Emtriva (emtricitabine). The multiple-pill regimen also included Viread (tenofovir disoproxil, or TDF), while the single-tablet regimen contained the investigational tenofovir alafenamide (TAF).

A respective 75 percent and 74 percent of the participants in the single-tablet and multiple-pill regimens achieved an undetectable viral load after 24 weeks of treatment. Those taking TAF had a 6.5-fold higher level of tenofovir in their peripheral blood mononuclear cells when compared with those taking TDF. Those taking TAF also had a 91 percent lower level of tenofovir in the plasma when compared with those on TDF. This indicates that TAF should be less harmful to the kidneys and to bone density, because less of it winds up the blood and more is delivered to the cells that the drug targets. Another benefit of TAF is that less drug is needed to achieve the same therapeutic effect, which is why it can be combined with others into a single pill.

Sure enough, when compared with the participants taking TDF, those taking TAF had a lower increase in creatinine (although this difference was not quite statistically significant, meaning it could have occurred by chance) and significantly less renal tubular proteinuria—both results of which indicate that those taking TAF likely experienced mitigated kidney damage when compared with those taking TDF. In addition, those taking the single-tablet regimen had a significantly lower shift in bone mineral density at both the hip and the spine.

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