Tenofovir May Raise Risk of Kidney Damage, but Effect Tapers Over Time

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The commonly prescribed antiretroviral (ARV) tenofovir raises the risk of kidney dysfunction among people with HIV, but the adverse effect occurs mostly within the first two years after beginning the therapy and then tapers in the years following. Furthermore, it appears that while tenofovir may increase the risk of renal damage, the actual effect in terms of a rise in cases of kidney disease may prove modest. Following on the heels of other research studies that have identified tenofovir's adverse effects on the kidneys, Canadian researchers looked to establish the magnitude of the effect; they published their findings in the journal Clinical Infectious Diseases.

The active ingredient in Viread (tenofovir disoproxil fumarate) and a component of Atripla (efavirenz/emtricitabine/tenofovir), tenofovir is currently prescribed to about half of all people with HIV taking antiretrovirals.

The non-randomized study included 1,043 people with HIV taking tenofovir, who were followed up for 10 years; it examined the loss in what is known as the glomerular filtration rate (eGFR), an indicator of kidney function. Researchers compared the cohort's eGFR to people with HIV who were exposed to other ARVs.

The study found that tenofovir increased the risk of kidney dysfunction by 63 percent and that the drop in eGFR was weighted toward the first two years. The respective eGFR, measured in mL/min/1.73 m2, for years 1, 2, 3 and 4 was -3.05, -4.05, -2.42 and -3.09.

The findings are buffered by the study's size as well as the long follow-up period. However, the researchers were not able to effectively speculate the drop in eGFR beyond year four of exposure to tenofovir.

The study's authors write, "Our study shows that the association was not of a high magnitude and that the quantified loss in eGFR attributable to [tenofovir] is relatively modest after many years of exposure.... [I]t is highly plausible that [tenofovir] exposure, although associated with reduced kidney function, has no severe adverse effects over the long term for most HIV-positive patients."

To read the study, click here.

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http://beta.docker.poz.com/article/tenofovir-kidney-23468-4189