Truvada or Descovy for PrEP? Your Lab Work May Tell You

Sometimes the older formulation of tenofovir is a better choice for HIV prevention.

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Are you one of 12% of people who switched from Truvada to Descovy for HIV pre-exposure prophylaxis (PrEP)? If so, a study published in Open Forum Infectious Diseases suggests that it might not have been medically necessary and, in fact, the switch could be harmful to some people's health.

The Food and Drug Administration (FDA) approved Truvada (tenofovir disoproxil fumarate/emtricitabine, or TDF/FTC, which is now also available in generic versions) for PrEP in 2012. In 2019, the FDA approved a second PrEP option, Descovy (tenofovir alafenamide/emtricitabine, or TAF/FTC), for prevention of HIV acquisition via anal sex. Ever since, people hooking up, dating or loving in the context of HIV have contemplated whether to stay on TDF/FTC or switch to Descovy. PrEP prescribers have wondered about this too.

What's clear is that both PrEP pills are generally safe and extremely effective at keeping HIV-negative people negative. Since TDF/FTC went generic in October 2020, it's also clear that this option is cheaper for the health care system—though not necessarily for individuals, since the Affordable Care Act mandates complete coverage of PrEP, including doctor visits and lab work, at no cost to consumers.

However, there are some medical reasons people might want to take TDF/FTC or Descovy. For instance, TDF/FTC has been associated with changes in lab tests associated with lower bone mineral density and worsened kidney function, which improve after switching to Descovy. On the other hand, tenofovir alafenamide in Descovy has been associated with weight gain and elevated cholesterol. For both medications, these changes in lab values haven't translated into actual illness.

So Julia Marcus, PhD, of Harvard Medical School, and colleagues gathered data on 2,892 adults assigned male at birth and who started PrEP using TDF/FTC during the 12 months before the FDA approved Descovy for PrEP in October 2019. Then the researchers followed the participants from their first prescription through one year after the approval of Descovy, looking to see who switched, which health conditions made the switch medically necessary and how many people acquired HIV.

Participants received care at Fenway Health, an LGBTQ health center in Boston. Forty-two participants (1.5%) were women of trans experience, 34 (1.2%) identified as nonbinary and 40 (1.4%) identified as another gender. The rest were cisgender men. Almost all the participants (80%) were white, but 14% were Latino, 6% were Black, 6% were multiracial, 6% were Asian and 1% were American Indian. All participants were at least 18, with a median age of 38. The vast majority had private insurance (85%). When they started the study, 11% had high blood pressure, 3% had diabetes and 1% had reduced bone density. Notably, mean levels of both low-density lipoprotein (LDL), or bad cholesterol, and high-density lipoprotein (HDL), or good cholesterol, had edged into unhealthy territory for the entire study cohort.

Of the 2,892 people who started on TDF/FTC, 343 (12%) switched to Descovy after its approval. Of those, 80% had no medically relevant conditions that PrEP choice could impact. Just 7% (24 people) had kidney, bone or cardiovascular risk factors that made Descovy a medically important switch. But 14% switched to Descovy despite conditions, such as high cholesterol levels or high body mass index (a measure of obesity), that suggested that TDF/FTC might actually be a better choice. On the flip side, only 1% of people who stayed on TDF/FTC had kidney function and bone mineral density levels that could have been better managed by switching to Descovy.

However, the proportion of people who could have benefited from switching to Descovy rose to 27% if the researchers added in conditions like diabetes and hypertension. While these conditions themselves aren't helped or hurt by TDF/FTC, both can be associated with kidney problems. That could make Descovy the better medical choice.

People over 60 were three times more likely to switch to Descovy than people under 30—an important consideration since older age is a risk factor for both declining kidney function and bone loss. Latino people were 40% more likely to switch than their white counterparts.

"Ideally, prescribing decisions would be driven primarily by clinical indications and patient preferences," wrote Marcus and colleagues. "[B]ut the high cost of branded PrEP medications is likely to influence decisions about which medication to use, just as it has influenced PrEP uptake, adherence and persistence over the past nine years."

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